REPORT

OF

THE NATIVE PASSENGER SHIPS COMMISSION,

APPOINTED IN NOVEMBER 1890,

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UNDER THE ORDERS OF

HIS EXCELLENCY THE GOVERNOR GENERAL IN COUNCIL.

WITH PROCEEDINGS AND APPENDICES.

CALCUTTA:
OFFICE OF THE SUPERINTENDENT OF GOVERNMENT PRINTING, INDIA,
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No. 4940.

GOVERNMENT OF INDIA.

FINANCE AND COMMERCE DEPARTMENT.

STATISTICS AND COMMERCE.
Commerce and Trade.
Native Passenger Ships.

RESOLUTION.

Simla, the 16th October 1890.

READ the correspondence mentioned below raising certain questions connected with the working of the Native Passenger Ships Act, 1887 :—

I.—Regarding the treatment of vessels with three decks (between deck, main-deck, and upper or shade deck), the number of passengers to be carried by such vessels, and the allotment of space in vessel carrying native passengers :

From the Government of Bengal, No. 830 (Marine), dated the 25th March 1890, and enclosures.
To the Government of Bengal, No. 1782, dated the 15th April 1890.
From the Government of Bengal, No. 1386 (Marine), dated the 26th May 1890, and enclosures.
From the Government of Bengal, No. 2317, dated the 29th August 1890.
Proceedings of the Government of Madras, No. 300—1, dated the 12th August 1890.
From the Government of Madras, No. 336, dated the 16th September 1890.

II.—Regarding the provision of medical officers on board native passenger ships carrying large numbers of passengers :

From the Government of Madras, No. 33, dated the 28th January 1889, and Nos. 104 and 105, dated the 19th March 1889.
To the Governments of Bombay and Bengal and the Chief Commissioner of Burma, No. 1151, dated the 6th March 1889.
From the Chief Commissioner of Burma, No. 125—22-M.S., dated the 7th May 1889.
From the Government of Bombay, No. 3257, dated the 13th August 1889, and No. 2523, dated the 28th June 1889.
From the Government of Bengal, No. 2168, dated the 21st September 1889.
From the Government of Bengal, No. 1047, dated the 23rd April 1890.

III.—Proposals made by the local authorities in Bombay arising out of the foundering of the S.S. *Vaitarna* in November 1888 :

Report of the Court of Enquiry, dated the 13th December 1888.
Report of the Port Officer of Bombay, dated the 2nd February 1889.
To the Government of Bombay, No. 1578, dated the 25th March 1889.
From the Government of Bombay, No. 3214, dated the 9th August 1889.
From the Government of Bombay, No. 2383, dated the 16th June 1890, and enclosures, and No. 2657, dated the 15th July 1890.

IV.—Regarding the provision of life-saving appliances on native passenger ships :

Despatch from the Secretary of State for India, No. 8 (Statistics), dated the 23rd January 1890.
To the local Maritime Governments, No. 986, dated the 26th February 1890.
From the Government of Madras, No. 159, dated the 25th April 1890.
From the Government of Bengal, No. 117-T., dated the 11th July 1890.
From the Chief Commissioner of Burma, No. 362—27-M.S., dated the 14th July 1890, and enclosures.
From the Government of Bombay, No. 206, dated the 30th August 1890, and enclosures.

RESOLUTION.—The question raised by the Government of Bengal in the correspondence included under the first of the heads mentioned above extends over a wider range than the treatment of three-decked vessels of the type described. That question may be thus stated. Vessels with a lower deck (between-deck) and upper deck (poop and main decks) have been altered by running a covering (or shade deck) over the main deck, and shutters have been attached to the sides of the main deck for the purpose, as stated by the owners, of sheltering the passengers on that deck in rough weather. As the vessels stood originally, the main deck was an upper deck, and the owners contended that the attachment of shutters to it made no material difference, and that they should be allowed to continue to treat it as an upper deck, the shade deck being regarded as an additional upper deck.

2. The Government of Bengal considered that this contention was inadmissible and that the closing in of the sides with shutters practically converted the main deck into a between-deck. Thus whereas the owners claimed that such a vessel should be treated as one with two upper decks and one between-deck, the Government of Bengal ordered that it should be treated as a vessel with one upper deck and two between-decks.

3. The order in the case issued by the Government of Bengal was withdrawn on the advice of the Advocate-General that it was not legally competent for the local Government to issue such an order under the terms of the Native Passenger Ships Act. The case is now referred for decision by the Government of India, and in referring it the Government of Bengal expresses the opinion that, if the main deck and the shade deck are both treated as upper decks, the vessels will be able to carry more passengers than they should be allowed to carry; that, in fact, the law and the rules now in force permit of the carriage of an excessive number of passengers; and that they should be amended in such manner as to provide more space for passengers carried on each deck.

4. The questions thus raised are of the first importance alike to the owners of the vessels engaged in this extensive trade and to the Government whose duty it is to require that suitable provision shall be made for the safety and reasonable comfort of native passengers. As regards the classification of the main deck, the Government of Madras has already given a decision contrary to the decision proposed by the Government of Bengal, and such a large proportion of the native passenger traffic is carried on from and to Madras ports that the opinion of the Government of that presidency is entitled to great consideration in all matters affecting the traffic. Only the Government of Bengal has as yet complained that the law and rules as to the allotment of space permit overcrowding.

5. The question of the treatment of a main deck when covered by a roof and closed at the sides can only be decided after actual investigation of the facts and conditions. Is it the fact that the attachment of shutters deprives the passengers on the main deck of light and air to such an extent as practically to make that deck a between-deck, and to require that additional space on the awning deck should be allotted to the main deck passengers? Or, on the other hand, do the shutters merely improve the conditions of the main deck, giving the passengers additional shelter, while they retain all the advantages of an upper deck? The question has given rise to so much controversy between the Government of Bengal and the managing agents of the British India Steam Navigation Company that it is expedient that it should be fully investigated by competent and impartial authorities. His Excellency in Council has accordingly come to the conclusion that the most satisfactory way of dealing with the two questions at issue will be to refer them to a special Commission of Enquiry for consideration. It is proposed that the Commission should consist of a member or members to be nominated by each of the local Governments which are concerned with the native passenger traffic, namely, the Governments of Madras, Bombay, and Bengal, and the Chief Commissioner of Burma. With them should be associated three or four non-official members, representatives of the large shipping companies indentified with the same traffic. These companies have their head-quarters at Calcutta and Bombay respectively, and the Chamber of Commerce of each city should be invited to nominate

the gentlemen whom it considers most representative of the interests concerned. The Commission will be presided over by Surgeon-Major A. S. Lethbridge, M.D., C.S.I., Inspector-General of Jails in Bengal.

6. The Commission will enquire into the facts at such ports as it considers necessary, and will invite and receive evidence from witnesses. It will probably not be necessary that the non-official members of the Commission should travel with the Commission to any places outside the limits of the presidency in which they are nominated, but the same facilities for doing so should be given to them as will be given to the official members if they wish to accompany the Commission on its tour. The President will decide, in communication with each local Government, whether or not it will be necessary for any local official member to travel beyond the limits of the administration by which he is nominated.

7. The Commission, after making all needful local enquiries, will return to Calcutta, where it will hear such further evidence as may be placed before it and settle its report for presentation to Government.

8. The Governor-General in Council considers that it is expedient to take advantage of the appointment of a Commission to refer to it for consideration the other questions touching the operation of the Native Passenger Ships Act which are now before the Government of India.

Of these, the first is a proposal to require the attendance of a medical officer on board native passenger ships. This proposal has been more than once pressed on the Government of India, but has been set aside on the grounds that a medical officer is not required for the passenger traffic beyond Indian limits, this being quite trifling, except in regard to pilgrims and emigrants, for which classes the law requires the appointment of a medical officer; and that for passenger traffic within Indian limits there is no real need of a medical officer, the longest voyages being between the Madras and Burman coasts, occupying more than five days only at certain seasons of the year. Most of the traffic is conducted on what are termed in the Act "short voyages," being voyages of not greater duration than 120 hours. The Government of Madras now proposes that a medical officer should be required on every vessel, irrespective of the duration of the voyage, when the number of passengers carried exceeds 200; the Chief Commissioner of Burma would require one only on a long voyage when the vessel carries more than 300 passengers; the Government of Bombay would also require one only on a long voyage, but would fix the minimum number of passengers at 100; and the Government of Bengal proposes that a medical officer should be required on every vessel proceeding on a voyage of greater duration than 48 hours, irrespective of the number of passengers.

It will be left to the Commission to endeavour to reconcile these conflicting proposals, and make a recommendation which shall be acceptable alike to the Government and the carrying Companies. It should consider whether a medical officer is required or not; if required, what class of medical officer should be employed, and in what classes of vessels.

9. With these three questions, the Commission may also expediently consider the other less important questions raised in the correspondence. These are (1) whether the passenger space in the between-decks of a vessel should be divided by a rail or rope in order to prevent such a calamity as occurred on board the steamer *Bhandara*, when a number of passengers were killed and wounded by being hurled from side to side of the vessel as she rolled heavily in the trough of the sea; (2) whether a luggage rack should be required in such spaces, the space so assigned for luggage to be deducted from the space measured for passengers; (3) whether boats and life-saving appliances should be required in accordance with requirements of the Board of Trade for passenger vessels; and, if not, whether any, and what, modifications are required in the existing rules. The suggestions of the Port Officer of Bombay made in connection with the foundering of the *Vaitarna* may also be considered.

10. The Commission will also enquire into any other cognate matters that may be brought before it, or which it may itself consider proper to be examined. In dealing

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with all these questions, the Commission will bear in mind that the Government is not desirous of imposing on the traffic any restriction which is not essentially required to secure for the passengers the minimum space and quality of accommodation which are necessary for comfort, health, and safety, or which will involve increased expenditure in the form of higher fares in excess of the means of the persons who ordinarily use the vessels in question.

11. On intimation from the local Governments and the Chambers of Commerce at Calcutta and Bombay of the names of the gentlemen whom they propose to serve on the Commission, it will be formally constituted.

ORDER.—Ordered, that copy of the Resolution and of the papers read in the preamble be forwarded to the Governments of Madras, Bombay, and Bengal, and the Chief Commissioner of Burma, with the request that their nominations may be made at an early date.

Ordered also, that copy be forwarded to the Chambers of Commerce at Calcutta and Bombay.

E. J. SINKINSON,
Secretary to the Government of India.

No. 5605.

GOVERNMENT OF INDIA.

FINANCE AND COMMERCE DEPARTMENT.

RESOLUTION.

Calcutta, the 29th November 1890.

READ—

Resolution No. 4940, dated the 16th October 1890.

RESOLUTION.—In the Resolution read above, the Governor General in Council decided to appoint a Special Commission to consider and report on certain questions which have arisen in connection with the working of the Native Passenger Ships Act, 1887. His Excellency in Council is now pleased to direct that the Commission to be styled "The Native Passenger Ships Commission," be constituted as follows :—

President.

SURGEON-MAJOR A. S. LETHBRIDGE, M.D., C.S.I.

Members.

W. B. BESTIC, Esq., *Under-Secretary to the Government of Bengal in the Marine Department.*

SURGEON-MAJOR D. W. D. COMINS, *Superintendent of Emigration, Calcutta.*

JAMES L. MACKAY, Esq., *of Messrs. Mackinnon, Mackenzie & Co. (British India Steam Navigation Company).*

CAPTAIN SIR HENRY MORLAND. KT., H.M.I.M., *Port Officer, Bombay.*

CAPTAIN H. A. STREET, H.M.I.M., *Presidency Port Officer, Madras.*

H. B. H. TURNER, Esq., *of Messrs. Turner, Morrison & Co. (Asiatic Steam Navigation Company).*

H. W. ULOTH, Esq., *Superintendent, Peninsular and Oriental Steam Navigation Company.*

CAPTAIN G. WILSON, H.M.I.M., *Port Officer, Rangoon.*

ORDER.—Ordered, that copy of the Resolution be forwarded to Dr. Lethbridge and to each of the Members of the Commission; to the Governments of Madras, Bombay, and Bengal, and the Chief Commissioner of Burma, and to the Chambers of Commerce, Calcutta and Bombay.

Also, that this Resolution, as well as the Resolution read in the preamble, be published in the *Gazette of India*.

G. H. R. HART,
Offg. Asstt. Secy. to the Govt. of India.

No.

To

THE SECRETARY TO THE GOVERNMENT OF INDIA,
FINANCE AND COMMERCE DEPARTMENT.

Calcutta, the 28th February 1891.

SIR,

IN accordance with the instructions contained in Resolution No. 4940, dated 16th October 1890, and Resolution No. 5605, dated 29th November 1890, copies of which are given in the preceding pages, we, the undersigned Commissioners, appointed by His Excellency the Governer General in Council, having completed our enquiry, have the honour to report as follows.

2. The Commission began its work in Calcutta on the 1st December, and at that port held 17 meetings, examined 11 witnesses, visited 4 vessels, and made certain experiments in regard to the placing of native passengers within measured areas.

3. The Commission having Captain J. H. Atkinson, of the British India Steam Navigation Company, as a member in the place of Messrs. Mackay and Turner, left Calcutta for Rangoon on the 3rd January, and during the voyage examined 5 witnesses. All of these, with one exception, were native 3rd class passengers. Experiments were made in regard to the placing of native passengers with their baggage in measured deck areas. The arrangements regarding latrines, cooking-places, and screened bathing places for females, were also examined. Considerable experience was gained as to the life on board of 3rd class deck passengers, the arrangements made for their comfort, and the inconveniences they experience.

4. The Commission arrived in Rangoon on the 7th January, and was joined by Captain G. Wilson. At that port the Commission held five meetings and examined 9 witnesses. The S.S. *Rasmara*, trading between Rangoon and Moulmein, was visited and examined. Her Majesty's Indian Marine vessel *Dalhousie* was visited, and notes were made of the arrangements for converting mess tables into sleeping platforms, of the means employed for ventilating decks occupied by troops, and of the life-saving appliances carried on board troopships.

5. The Commission left Rangoon on the 14th January 1891 for Madras, calling at the following ports on the Coromandel Coast:—Calingapatam, Bimlipatam, Vizagapatam, Coconada, and Masulipatam. During the voyage, which occupied eight days, 15 witnesses were examined. The majority of these were native 3rd class passengers returning from Burma to their homes in the Madras Presidency. Further experiments were made in regard to the placing of native passengers with and without their baggage in measured deck areas. The Commission also enquired into the question of the shelter afforded by tented awnings and side-screens in bad weather.

6. We arrived at Madras on the 22nd January, and on that and the following day examined 7 witnesses.

7. The Commission arrived by train in Bombay on the 26th January, and during a stay of 9 days examined 24 witnesses. We visited 5 vessels engaged in the native passenger trade on the western coast. Of these, 3 belonged to the Bombay Steam Navigation Company, and the others were British India steamers. A short memo-

randum of our visits to these vessels will be found in the appendix. We were joined in Bombay by Mr. H. W. Uloth, the representative of the Bombay Chamber of Commerce. He attended our meetings at Bombay, but was unable to accompany us to Calcutta or to take part in the drawing up of this report. Mr. J. A. Shepherd, of the Bombay Steam Navigation Company, who is very largely interested in the native passenger trade, was present at our meetings, and was allowed to cross-examine the witnesses through the President. Whenever it was possible he was furnished beforehand with a copy of the evidence that was to be given, and was thus able to prepare his cross-examination before the evidence was taken. The records of the Bombay evidence will show that he took full advantage of this privilege.

8. The Commission returned to Calcutta on the 9th February, when Messrs. Mackay and Turner resumed their places on it. We concluded our labours by holding four meetings and taking the evidence of three native passengers who had been sent from Dumraon by Rai Jaiprakash Lall Bahadur, a gentleman who is much interested in encouraging emigration from Behar to Burma.

9. In the following pages will be found the proceedings of each meeting and the evidence in detail of each witness examined. It will be seen that the Commission held altogether 46 meetings, examined 74 witnesses, and visited 11 vessels engaged in the native passenger trade.

10. The points which we were required to enquire into and report upon may be briefly summarized as follows :—

(1) The treatment of vessels with three decks—'tween deck, main deck, and upper or shade deck—the number of passengers to be carried by such vessels, and the allotment of space in vessels carrying native passengers.

(2) The provision of medical officers on board native passenger vessels carrying a large number of passengers.

(3) The provision of life-saving appliances on native passenger ships.

(4) The protection of passengers in the 'tween deck of vessels of large beam by means of fore and aft railings to prevent accidents in bad weather.

(5) The disposal of heavy baggage belonging to native passengers.

(6) Certain proposals made by the local authorities in Bombay arising out of the foundering of the S.S. *Vaitarna* in November 1888.

(7) The Commission was also required to consider any other cognate matters that might be brought before it, or which it might consider proper to be examined.

(8) The Commission was further required to report on the advisability of allowing native passenger vessels to carry gunpowder and other explosives beyond the amount required for the ship's purposes.

11. It is, in our opinion, unnecessary to prepare an analysis of the evidence obtained in regard to each of the points above mentioned, or to report in detail the considerations which have led us to the conclusions we have arrived at. We venture to hope that in the following recommendations will be found answers to all the questions we have been asked to examine. In them will also be found our views on other matters connected with the subject of native passenger ships, to which we desire to draw the attention of Government.

Recommendations—

(1) That Government be advised to consult the Meteorological Department with a view to framing a revised schedule of fair and foul seasons.

(2) That voyages be divided into—

(*a*) *Excursion voyages*, limited to the hours of daylight and to the fair season only. On these voyages passengers are not to be embarked before daylight or kept on board after dark.

(*b*) *Shelter-port voyages* to be limited to 12 hours between two ports of shelter. A schedule of shelter-ports to be prepared by Government. Vessels engaged on shelter-port voyages should hold valid Board of Trade Certificates or certificates of equal value granted by a British, Indian or Colonial Government as Home Trade passenger ships, or certificates of a higher grade. For sea-going vessels holding certificates as Foreign Trade passenger ships, as described in the next paragraph, shelter-port voyages may be extended to 16 hours between two ports of shelter.

(*c*) *Short voyages* to be limited to 120 hours on a direct voyage from one port to another, and on passages when the same passengers are on board for not over 240 hours calling at intermediate ports. A voyage from India to the port of Aden, whether going direct or calling at intermediate port or ports, should be deemed a long voyage. Vessels engaged in long and short voyages to be sea-going ships holding valid Board of Trade Certificates or certificates of equal value granted by a British, Indian or Colonial Government as Foreign Trade passenger ships.

(*d*) *A long voyage* to mean a direct voyage from one port to another extending over 120 hours, or to voyages where the same passengers are more than 240 hours on board calling at intermediate ports.

(3) *Ventilation* to be the same as that provided in the Emigration service, not less than 10 inches per passenger, exclusive of hatches. The foul air of each deck to be carried up in separate shafts above the uppermost deck. If passengers are carried on two decks below the tonnage deck, the lowermost deck to be ventilated by artificial ventilation, such as Blackman's ventilator, or a thermantidote of approved design.

(4) We recommend that, wherever possible, arrangements be made by which passengers should be embarked and disembarked alongside of piers.

(5) Alley-ways or fore and aft passages on the main or tonnage deck, which are less than 8 feet in width, are not suitable places for passengers, and should not therefore be measured. Alley-ways which are not less than 8 feet in width and free from obstruction, can be measured, provided a 4-feet gangway is kept clear, and divided off when occupied by passengers by a fore and aft 3-inch cant-piece.

(6) That hatches are desirable places for passengers, and should be measured, except in so far as they form gang-ways betwean passenger-carrying decks, provided—

(*a*) that suitable protection is provided to prevent passengers falling into the hold;

(*b*) that the hatches, while required by measurement for the accommodation of passengers, shall not be opened at an intermediate port, or till the end of the voyage;

(*c*) that the hatches are sufficiently strong to carry passengers.

(7) That the topgallant forecastle, or what represents it in a flushdeck vessel, shall not be measured until airing space at the rate of 3 square feet for each member of the crew has been deducted and marked off at the after end thereof by an athwart-ship cantpiece. That in no case shall the deck forward of the capstan or windlass be measured for passengers, but the space shall, where clear, be measured for the crew.

(8) That double awnings, weather-cloths, and curtains shall not be considered permanent shelter in foul weather, but shall be provided in all seasons for all exposed decks for the convenience of native passengers. And such decks, or portions thereof, shall, in foul weather, be reserved for the use of the passengers under permanent shelter in proportion to the numbers carried.

Example.—Supposing a vessel has permanent shelter for 1,200 passengers, and there are only 600 on board, then half the uppermost or unprotected deck area (excluding the 1st and 2nd class and crew airing spaces) is to be kept clear for the

use of the passengers under permanent shelter in the foul season.

(9) No 'tween deck or permanently covered-in deck, which is less than 6 feet in height to the deck, to be measured for passengers.

(10) The 'tween deck shall be lighted by day by sufficiently large side-ports or scuttles at suitable intervals, and not, as a rule, more than 15 feet apart. Orlop decks not provided with scuttles should be lighted by artificial means at all hours. All decks shall be lighted at night by not less than two electric or police lamps for each compartment.

(11) Space for each passenger on any deck in the fair season :—

(*a*) for excursion voyages, 6 square feet;

(*b*) for shelter-port voyages, 7 feet;

(*c*) for short voyages, 9 feet;

(*d*) for long voyages, we make no change in the rules in force at the present time.

(12) The 5-feet rule now in force between the Coromandel Ports of the Madras Presidency and Burma to be cancelled.

(13) For shelter-port voyages in the foul season and for short voyages in the foul season, there should be permanent shelter at the rate of 7 square feet for every passenger carried. A deck having solid bulwarks and a permanent wooden or iron deck over it to be considered permanent shelter. In the foul season if passengers are carried on more than one permanently-covered deck, below the tonnage deck, the space required on such extra decks shall be 14 superficial feet for each passenger.

(14) The lower hold must not be considered proper accommodation for passengers; neither are spaces which consist of temporary accommodation on cargo, to be considered suitable accommodation.

(15) It is recommended that, whenever practicable, a running fore and aft gangway, raised sufficiently from the main deck connecting the poop with the bridge and the latter with the topgallant forecastle, be fitted fore and aft to permit of free passage by the officers and crew of the ship.

(16) Waterways, provided they are covered with a plank or wooden grating, and the fall home of the ship's side does not interfere with the cubic space of the deck, should be measured for passengers. In cases where the fall home is considerable, the cross measurement should be taken where a plumb, dropped at half the height of side between the decks, falls on the waterway or deck.

(17) The bridge deck, in the fair season, excluding such portion as is required for purposes of navigation, can be measured as deck area for passengers, if the boats, when not carried at the davits, are stowed on chocks raised at least 2½ feet from the deck by standards.

(18) Separate female accommodation, though desired by Mahomedans from motives affecting their dignity as men, is not necessary, nor would it be used by the Hindus, who form the bulk of the passengers, and who prefer to keep their women with them.

The spaces for Hindus and Mahomedans should be separate and distinct. Some simple temporary contrivance, such as a rope or bamboo rail, would be sufficient to define the area for each.

(19) Midship rails and stanchions should be fitted in the 'tween or orlop decks, which would also be useful for hanging clothes and securing personal luggage, and additional thwart-ship lifelines should be rigged if necessary.

(20) Heavy baggage, including boxes and articles likely to injure passengers during the rolling of the ship in heavy weather, should be stowed in the hold or placed in railed-off space on each deck in the case of shelter-port voyages at the commencement of the voyage.

Excess baggage that has been paid for shall not be allowed to be carried in the space allotted to passengers.

(21) *Closet Accommodation.*—The evidence is almost unanimous as to the insufficiency of the present scale, and the advantage to be derived if there were urinals in addition. The following scale is therefore proposed :—Three privies for the first 100 passengers or part of 100, and 3 privies for every additional 200, and 2 urinals for the whole number. The latrines should be provided with the means for continuously flushing them during the whole time the passengers are on board. The bathing screen for women to be erected at the beginning of the voyage.

(22) *Medical Officer.*—A medical officer should be required on steamers carrying over 400 native deck-passengers between the Coromandel Coast and Rangoon and between Calcutta and Rangoon direct, and *vice versâ*. He should be a Hindu, if possible, and well acquainted with the language of the people forming the bulk of passengers to be carried. In addition to his own proper medical duties, he should act as the representative of the passengers to the Captain of the ship in all representations or complaints made by them.

(23) Cargo, if carried in the same compartment with the passengers, should be effectively secured, so as not to prove a source of injury or annoyance to the passengers.

(*a*) When cattle are carried *on the open deck* and are not under cover, the space occupied by them must be effectually shut off from the passenger space by bulkheads, wooden partitions or otherwise. The partitions need not be close; but efficient washboards must be fitted to prevent the dung or urine of the cattle from getting to the passenger space.

(*b*) If cattle are carried *under cover* on the same level deck as passengers, they are to be separated from the passenger space by a movable close bulkhead running athwart-ship, across the deck and extending from the deck to the covering above or must be otherwise efficiently separated.

(*c*) If cattle are carried either in the *'tween deck or holds*, then the passenger space must be effectually shut off from the cattle space and separately ventilated, so that no effluvia from the cattle space can escape into the passenger space.

(24) Hay and straw, when in loose bundles, to be stowed on deck, and to be properly covered over. Compressed bales may be stowed below.

(25) The Board of Trade Rules, which provide the means of saving the life of every person on board, should be adopted.

We recognize that the new rules under the Merchant Shipping Life-saving Appliances Act, would class the Indian short voyage as a foreign-going voyage; but in our opinion, having regard to all the circumstances of the traffic, it should be ruled that the Indian short voyages and the proposed excursion and shelter-port voyages should come under the scale applicable to English Home Trade voyages. But for long voyages the English foreign-going scale should apply. It is represented by our colleagues, who are interested in the native passenger traffic, that as the Board of Trade Rules are at present the subject of much discussion and criticism, these rules should not be enforced in India until they have been practically worked in England for two or three years.

(26) *Hospital Accommodation.*—In vessels carrying a medical officer under paragraph 22 there should be a permanent hospital fitted in a deck-house or suitable cabin or cabins. Bunks 6′×2′ should be provided at the rate of 1 per cent. of the total number of passengers to be carried, but the total number of bunks need in no case exceed six. A portion of these should be reserved and screened off for the use of women.

Cases of small-pox, cholera, yellow fever, and plague, should not be treated in this permanent hospital, but in a separate tent, the materials of which should be carried.

In the measurement of deck area for the purpose of determining the number of passengers to be carried, the space for the temporary hospital should be included.

A suitable medicine chest and a sufficient supply of medicines and necessaries should be provided.

(27) Definite instructions should be given to surveyors at all ports in India, so as to secure uniformity in surveys and measurements for passengers. A list should be framed of all obstructions to be deducted from the latter. The Captain of the vessel should be furnished by the officer granting the native passenger certificate with a statement showing the measurements, deductions and calculations made for each space separately and also a plan of the same, and to and from what fixed point the measurements were made, and this might be attached to the certificate, and therefore made available for officers working the Act. The capacity of each space should be plainly and permanently marked in some prominent place in that space in English.

(28) The saloons and cabins set apart for 1st and 2nd class passengers are reserved for them and for the officers of the ship, and although in a cyclone a Captain, from motives of humanity, or to prevent passengers on the upper decks being washed overboard, might allow them to temporarily occupy the saloons, in ordinary bad weather, when shelter for upper-deck passengers is necessary, they would *not* be allowed to do so; therefore 1st or 2nd class saloons and cabins should not be measured as space or shelter for 3rd class passengers, even if no 1st or 2nd class passengers are carried.

The airing space for 1st class passengers shall be clearly specified in the certificate. This airing space for 1st class passengers shall be measured for 3rd class passengers, but shall only be availed of for 3rd class passengers when no 1st class passenger is on board. The same applies in every respect to 2nd class passengers and their airing space.

(29) There should be more facilities for the distribution of fresh water to the passengers, and some arrangement made for distributing water by a Hindu for caste passengers.

(30) In allotting space for passengers, two children under 12 should count as one adult.

(31) Each compartment of the 'tween deck in which there are more than 300 passengers, should have two ladders each 2½ feet wide and provided with hand-rails for up-and-down traffic.

(32) On the back of the ticket issued to passengers should be printed in the Vernacular the conditions and bye-laws which the passengers are not likely to know.

(*a*) Food can be purchased on application to the ship's officers, or from the shop-keeper on board.

(*b*) Firewood is supplied gratis.

(*c*) Boxes and heavy luggage must be properly secured before coming on board for storage in the hold.

(33) *Fastening of life-buoys.*—Life-buoys with lines attached shall be secured by toggle and becket, or by any other similar method allowing of their ready release. They shall not be lashed or seized to the vessel.

(34) The inspecting officer appointed under section 7 of the Act at an intermediate port should, whenever it is practicable, be required to board passenger vessels calling at the port to ascertain the number of passengers carried, and to inspect and note the general sanitary condition of the vessel, especially the state of the latrines and decks.

(35) The Port Authorities should provide at all ports suitable shelter for passengers waiting to embark. With regard, to infectious cases landed for passenger vessels, we recommend temporary hut shelter formed of materials available on the spot, and which can be destroyed after use.

(36) We recommend that gunpowder should only be carried in passenger vessels fitted with properly constructed and approved magazines, which are air-tight and capable of being flooded with water. But gunpowder and other explosives should not be carried in vessels unless arrangements can be made for shipping and discharging it while the ship is clear of passengers.

(37) We recommend that, in the interest of passengers embarking and disembarking, there should be a penalty attached to weighing the anchor or moving the engine of a vessel while passengers are in the act of embarking or disembarking at any port; and further, that there should be a port rule prohibiting boats with passengers going alongside a vessel approaching an anchorage until such vessel has anchored and a flag has been displayed at the masthead of such vessel as a signal that boats can approach.

(38) We recommend that section 20 of the Native Passenger Ships Act, X of 1887, should be so altered as to cause the death of every passenger dying on board to be reported to the Port Authority at the first port called at after the death has occurred, whether the vessel is on a long or a short voyage; but enquiry, if any, shall be made at the terminal port.

(39) The Commander of a vessel under the Native Passenger Ships Act calling at intermediate ports, should be required to inform the inspecting officer appointed under section 7 of the Act of the number of cattle, sheep, horses, or other live animals which may be occupying passenger space. For calculating the accommodation required for animals, a horse shall be taken as equivalant to 3 passengers, a bullock to 2½ passengers, a pony to 2 passengers, a pig to 2 passengers, and 2 sheep to 1 passenger.

(40) We recommend that the supplementary Certificate B should be done away with in the case of excursion voyages, shelter-port voyages, and short voyages, provided—

(*a*) that the native passenger certificate (now called Certificate A) shall show the full number of passengers which the vessel is capable of carrying during each season and on each description of voyage when fully equipped in accordance with the Act and Rules. If at the time of survey all the prescribed equipments are not on board, the deficiency shall be noted in the certificate, and the passengers corresponding to such deficiency shall not be carried until the deficiency has been made good and the certificate endorsed to that effect by an officer appointed under the Act;

(*b*) that the certificate shall show the number of passengers which each division of a deck is capable of carrying in each season and on each description of voyage, sketches showing each division and number of passengers for which each is measured being given on the face of the certificate;

(*c*) that the Master is made responsible under a penalty for carrying food, fuel, water, and medical stores according to the scale laid down in the rules and for having awnings over all decks at sea whenever the weather permits;

(*d*) that a list of prohibited cargo, *e.g.*, petroleum, explosives, &c., is added to the rules;

(*e*) that on arrival at each port the Master shall furnish the officer appointed under the Act with a statement in a prescribed form of the number of

native passengers—men, women, and children—carried from the last port, the number to be landed, and the number for whom space is available to the next port; and

(*f*) that no native passengers shall be carried from any port until the Master has furnished the officer appointed under the Act with a statement of the number for whom space is available to the next port.

(41) We consider that that portion of clause (*c*) of section 11 of the Native Passenger Ships Act, which refers to food, fuel, and water, should be certified to by the Master of the vessel, and that the inspecting officer should not be required to see personally to these matters.

(42) The majority of the Commission recommend that in order to ensure one of the principal objects arrived at in the appointment of this Commission, *viz.*—uniformity in working the Act—that at Bombay and at all out-ports of that presidency the working of the Native Passenger Ships Act should be under the Port Authorities, as in the Madras and Bengal Presidencies and in Burma; and further, that the principal Port Officer of each Presidency and Administration should be appointed the intermediate authority referred to in clause (3) of section 15 of the Native Passenger Ships Act, X of 1887.

(43) Ship-owners should be recommended to employ a high caste Brahmin, who should be placed in charge of the distribution of fresh water to Hindu passengers. He should also, under the orders of the medical officer, cook food for those unable to cook for themselves.

(44) We recommend ship-owners carrying native passengers to have a shop for food on board each ship. The shop to be kept by a Hindu of good caste, who will prepare and sell sweetmeats and preparations of grain ordinarily used by natives when travelling. We find that such a shop has been provided for the last ten years in the British India Company's steamers trading between Bombay and Kurrachee. The Commission found such a shop on board the S. S. *Karagola*, and learnt from the native passengers on board that it had been a great boon to Hindus as well as Mahomedans.

(45) Cooking places and cabooses shall be provided on the scale now laid down under the rules, but one or two of these should be reserved exclusively for Hindus, and should be separate from the others.

12. It will be seen that in regard to the case of the *Vaitarna* the proposals made by the local officers of Bombay have been almost entirely accepted in our recommendations.

(1) We provide that only vessels holding valid Board of Trade Certificates or certificates of equal value, or certificates granted by a British, Indian or Colonial Government as a Home Trade passenger ship, or certificates of a higher grade, should be allowed to trade on shelter-port voyages. This will include voyages on the Konkan coast. The *Rajapuri* class of vessels, of the Bombay Steam Navigation Company, are well suited for these shelter-port voyages, in which a vessel is never more than six hours from a port of safety.

(2) For the passenger trade to Cutch and the north we require sea-going vessels holding Board of Trade certificates as Foreign Trade passenger ships, or certificates of equal value, or certificates granted by the Indian Government for short voyages. The Bombay Steam Navigation Company, we are informed, are building vessels suitable for this trade.

(3) If our recommendations as to class of vessels are carried out, it will not be necessary to apply further tests to vessels engaged in shelter-port or

short voyages. Messrs. Shepherd & Co. handed in to the Commission a tracing of the midship section of the *Vaitarna*. We have had this tracing examined and reported on by the Constructors of the Government Dockyards of Calcutta and Bombay, and by the Engineer and Shipwright Surveyor to the Government at Calcutta. The reports of these gentlemen, who must be considered competent authorities on this subject, will be found in the appendix.

(4) The shelter-port voyage provides 7 feet for each passenger on all decks in the fair seasons.

(5) Recommendation No. 27 provides the recording of the passenger-carrying capacity of all parts of a vessel.

(6) Great improvements have been made in the storm signals on the west coast.

(7) We found that Messrs. Shepherd & Co. have, as recommended in the *Vaitarna* report, provided in their office a standard barometer and an anëroid, which is used for comparing and correcting the anëroids carried in their steamers.

(8) We have suggested in recommendation No. 42 that the working of the Passenger Ships Act in the Bombay Presidency might be improved by making the duties connected with it over to the Port Authorities.

13. During our stay in Bombay we received a large number of replies to certain questions prepared by the Collector of Customs at the suggestion of the President, and circulated among the native community of Bombay. The time at our disposal being too short to allow us to call all these witnesses before us, we contented ourselves with examining only the gentlemen whose evidence is recorded in our proceedings. The evidence of Mr. Madgavakar will show how the replies were obtained. If we may judge from the number of answers received, the numerously-signed petition from the inhabitants of Rewadanda, and the evidence of the native gentlemen who were examined before us, there appears to be a strong feeling of dissatisfaction prevailing among the better classes of the native community of Bombay in regard to the accommodation provided on board the Bombay Steam Navigation Company's steamers, and the management of these vessels. Sea voyages must necessarily have certain discomforts for native passengers; but if our recommendations are carried out, most of the inconveniences which have been referred to will, we believe, be removed. We recommend that the answers submitted by native gentlemen, together with the petition from the inhabitants of Rewadanda, should be sent to the Bombay Government for such action as it may be pleased to take.

14. The grievance which appears to be causing the greatest discontent among the better classes, *viz.*—the want of proper 1st and 2nd class accommodation on board the Bombay Steam Navigation Company's steamers—is not, however, one which can be remedied by any suggestions from us. Mr. J. A. Shepherd has repeatedly declared to us that he would rather not have 1st and 2nd class passengers on board his steamers; that these steamers are essentially designed and intended for the carriage of the labouring classes; and that it is unreasonable to expect that he should make any pecuniary sacrifices for passengers who wish to travel in greater comfort. Under these circumstances, it only remains for native gentlemen to come to terms with the Company, and to make it worth the Company's while to provide better accommodation. The Bombay Government, in making contracts with the Company for the carriage of mails and Government passengers, might stipulate that a certain proportion of the accommodation should be set apart for 1st and 2nd class passengers. But whatever is done in this direction, it should, we think, be made perfectly clear that under no circumstances can space, which has been measured for 3rd class passengers, be

allowed to be taken up for 1st or 2nd class passengers unless the number of 3rd class passengers that would occupy such space is deducted from the total number the vessel is capable of carrying.

15. Our attention was drawn by the Health Officer of the port of Bombay to certain points connected with the pilgrim traffic between Bombay and Jeddah. Dr. McCarty was asked to favour the Commission with a memorandum on the subject. His memorandum will be found in the appendix.

16. It is due to the leading Companies engaged in carrying native passengers in India, and especially to the British India Steam Navigation Company, that we should place on record our high opinion of the great benefits that they have conferred on the people of this country by constantly endeavouring to improve the vessels engaged in this trade in regard to their size, safety, speed, and comfort. The Government and the commercial public are also indebted to these Companies for the supply of cheap labour where it is most wanted, and for the regularity and precision with which the passenger traffic is worked.

17. Taking into consideration the fact that a large amount of capital is invested in passenger vessels, and that great expense has to be incurred when structural changes in them are required, we are of opinion that if our recommendations meet with the approval of His Excellency the Governor General in Council, and it is decided to give effect to them, either by fresh legislation or by the framing of new rules, under the present Act, some assurance should be given to owners of vessels that the proposed changes will be worked for a definite period without further material alteration.

18. We regret that our colleague, Mr. H. B. Turner, was obliged to leave for England before this report was ready for signature. It was also unfortunate that Mr. H. W. Uloth was unable to accompany us to Calcutta to take part in the preparation of this report. We would especially mention here the services rendered by Captain Atkinson, Marine Superintendent of the British India Steam Navigation Company, who was a member of the Commission during the whole of its tour. His intimate practical knowledge of the subject was of the greatest assistance to us, and we feel that the interests of the commercial members during their absence were ably represented by him. We are indebted to Mr. W. A. Willock, C.S., Collector of Vizagapatam, and to Mr. James McN. Campbell, C.S., Collector of Bombay, for the valuable assistance they rendered the Commission at those ports in obtaining native witnesses and getting their evidence translated.

19. In conclusion, we beg to offer our hearty acknowledgments to the British India Steam Navigation Company and its agents at the different ports for the great and cordial assistance we have received from them during our enquiry. Our thanks are also due to the Asiatic Steam Navigation Company and to Messrs. Shepherd & Co. for placing their steamers at our disposal for the enquiries we wished to make.

We have the honour to be,

SIR,

Your most obedient Servants,

A. S. LETHBRIDGE, *President.*
W. B. BESTIC.
D. W. D. COMINS.
JAS. L. MACKAY.
HENRY MORLAND.
H. A. STREET.
GEORGE WILSON.

Proceedings of the First Meeting of the Native Passenger Ships Commission, held in the Bengal Office at noon, on the 1st December 1890.

Present :

SURGEON-MAJOR A. S. LETHBRIDGE, C.S.I.	*President.*
W. B. BESTIC, ESQ.	*Members.*
SURGEON-MAJOR D. W. D. COMINS	
JAMES L. MACKAY, ESQ.	
H. B. H. TURNER, ESQ.	
CAPTAIN H. A. STREET, H.M.I.M.	

1. The Resolutions of the Government of India, in the Department of Finance and Commerce, Nos. 4940 and 5605, dated 16th October 1890 and 29th November 1890, respectively, appointing the Native Passenger Ships Commission, having been placed in the hands of the members, it was considered unnecessary to read them.

2. The President informed the Commission that the members nominated by the Governments of Bombay and Burma had not arrived. The following telegram was read from Captain G. Wilson, H.M.I.M. :—"Unable to come to Calcutta to attend meetings."

3. The following programme of work was suggested and approved. The Commission will hold meetings in Calcutta on 4th, 6th, 8th, 11th, 13th, 15th, 18th, 20th, and 22nd December. The Commission will leave Calcutta for Rangoon on the 3rd January, and, after taking evidence there, will sail for Madras, calling at some of the principal coast ports. From Madras to Bombay the members of the Commission will travel by train. From Bombay the Commission will visit one or two of the neighbouring coast ports in one of Messrs. Shepherd & Co.'s steamers. Early in February the members will return to Calcutta by train, when such further evidence as is required will be recorded and the report submitted to Government.

4. Mr. Mackay informed the President that he was afraid his engagements would not allow him to accompany the Commission to the other ports. He would, however, give the subject further consideration.

5. Mr. Turner also stated that he would be unable to leave Calcutta. He further informed the Commission that he would be leaving for England on the 17th or 18th February.

6. The President explained at some length his proposal regarding the procedure to be followed in taking evidence. It was finally resolved to adopt a set of questions which could be sent to each witness some days previous to his examination. The witness would be allowed to select the questions on which he is prepared to give evidence, and he should, on the day of examination, hand in his written answers, and be prepared to reply to any further questions regarding his answers which may be put to him by the members of the Commission.

7. The President then laid on the table a printed copy of some questions which had been suggested, and asked the members to favour him with any additions or alterations to these questions which may occur to them. When these suggestions have been received, a complete selection of the questions to be asked will be made and adopted. This will, however, in no way prevent any member of the Commission from having other questions that may be considered necessary added to the list as the enquiry proceeds.

8. It has been arranged to print the proceedings of the Commission after each meeting, together with the evidence taken at such meeting, and to send a copy to each member. This will allow the members who are not able to travel with the Commission to follow the work as it proceeds, and to make suggestions. A printed copy of the evidence recorded will also be sent to each witness for his verification and signature.

9. The President next brought forward the question of the publicity that should be given to the proceedings of the Commission. It was resolved that press reporters should be admitted to the meetings.

10. The members were asked to send in the names of the gentlemen who were to be examined as soon as possible, so as to allow of arrangements being made for their attendance.

11. Captain Street suggested, and it was agreed to by the Commission, that Captain Petley, the Port Officer of Calcutta, should be invited to give evidence.

12. The President informed the Commission that he had been unable to obtain a copy of the work Keel to Truck, by Paasch, for their information. Mr. Mackay kindly offered to lend the Commission a copy.

13. The Commission approved of Mr. Bestic's suggestion that Mr. Eliot's work on the cyclonic storms in the Bay of Bengal should be obtained.

14. The President remarked that it was essential at the outset of this enquiry that there should be some uniform system of naming the various decks of a steamer so as to avoid any misunderstanding which may be caused by two or more names being used for the same deck.

Resolved—That for the purposes of this enquiry the decks be known as (1) the between deck, (2) upper deck, (3) hurricane deck.

15. The President suggested that the Commission should see a vessel of the *Kistna* class. Mr. Mackay kindly offered to show the Commission a steamer of this class and to let it be examined with the weather fittings for the protection of the upper deck let down, and this deck provided with a full complement of native passengers that can be carried on it. A tracing of the plan of these steamers will also be made available.

16. It was also arranged that a visit should be paid by the Commission to the S. S. *Seagull*, which carries native passengers to the Orissa ports.

17. Mr. Turner remarked that he had read the papers forwarded with the Resolution, but was unable to discover from them the reason why this subject had been re-opened so shortly after the passing of the Act of 1887. The President explained that the question was apparently re-opened by the Government of Bengal on the advice of the officers of the Marine Department. As the Commission would have an opportunity of examining both the Port Officer and the Engineer Surveyor, it will, no doubt, be possible for Mr. Turner to obtain this information from these advisers of the Local Government.

18. Mr. Mackay enquired if any information had reached the Government in regard to excessive mortality, the result of overcrowding, that had led to this unnecessary re-opening of a subject which had only been settled three years ago. He would like the Commission to examine the statistics of deaths among native passengers caused by diseases contracted on the voyages made in the Bay of Bengal since 1887. Mr. Bestic remarked that he was not aware there were any returns prepared on this subject, but that the work of the Commission was not limited to this question of overcrowding of passengers; there were other subjects on which it was important that the Government should receive information. For instance, the question of the adoption or otherwise of the recent legislation in England in regard to "life-saving apparatus" for passenger ships was of the first importance. Captain Street desired to inform the Commission that, as far as the Government of Madras was concerned, there were several other questions in connection with passenger ships which it was anxious to see settled. The President hoped to be able to get the statistics asked for by Mr. Mackay from the Government of India.

19. Mr. Bestic suggested, and it was agreed to by the Commission, that the Government of India should be asked to favour the Commission with the returns and reports of the Local Governments from which the statement of the number of native passengers who sailed from Indian ports in 1888-89—1889-90 was compiled.

20. It was decided that the evidence of Mr. R. Bushby, the Engineer Surveyor to the Marine Department, should be taken at the next meeting.

Proceedings of the Second Meeting of the Native Passenger Ships Commission, held at the Bengal Office at noon, on the 4th December 1890.

Present:

Surgeon-Major A. S. Lethbridge, C.S.I.	*President.*
Captain H. A. Street, H.M.I.M.	*Members.*
Captain Sir Henry Morland, Kt., H.M.I.M.	
H. B. H. Turner, Esq.	
James L. Mackay, Esq.	
Surgeon-Major D. W. D. Comins	
W. B. Bestic, Esq.	

1. The President proposed that the proceedings of the last meeting, a printed copy of which had been circulated for information, be passed. A letter was read from Mr. Bestic in regard to paragraph 14. After discussion it was resolved that the terms between deck, upper deck, and hurricane deck should be used by the Commission, but that the witnesses should be allowed to use their own terms, and, if necessary, should be asked to explain what the terms meant in each case.

2. In regard to paragraph 15 of the proceedings, it was resolved to visit the S. S. *Mombassa*, which leaves on Saturday, and also to visit other outgoing and incoming steamers. In the examination of a ship of the *Kistna* class it was determined, if possible, to see it with its full complement of passengers and luggage on board.

3. It was decided that Captain Street should afford the Commission information on the points he desires the Commission to enquire into, in connection with the working of the Act in the Madras Presidency. Captain Street explained what these points were.

4. Sir H. Morland suggested that the Commission should take up and enquire into the question of the load line. He considered that, under paragraph 10 of the Resolution appointing the Commission, it was a cognate matter which could be examined by the Commission. Resolved that a reference should be made to the Government of India on this subject, and that, pending further instructions, the Commission include this among the subjects for enquiry.

5. With reference to the draft of the questions that had been supplied to the members, the President informed the Commission that he had received a number of other questions that had been suggested by the members. It was resolved to adopt these additional questions and to make certain modifications in the original ones.

6. The President read a letter from Captain Petley, the Port Officer of Calcutta, in which he suggests that the evidence of the Engineer Surveyor might be considered sufficient. It was agreed that Captain Petley could give valuable evidence before the Commission and that he should be invited to attend at his own convenience. The Pilot of the *Ethiopia* will also be asked to appear as a witness.

7. The President informed the Commission that Mr. Alexander Pedler, the Meteorological Reporter to the Government of Bengal, had, in reply to certain questions put to him, given very valuable information, which would be printed and placed in the hands of the members to-morrow. It was resolved that Mr. Pedler be invited to give evidence before the Commission.

8. The President handed in printed copies of Mr. Bushby's replies to the original draft of questions. He was asked to favour the Commission with replies to the additional questions that had been framed and to let the Commission have these replies at the next meeting.

9. The following works and papers have been placed at the disposal of the Commission for reference:—

Keel to Truck by Paasch.
Lloyds Register.
Board of Trade Instructions to Surveyors.
Hand Book of Cyclonic Storms in the Bay of Bengal, by Eliot.

Letter No. 34-I., dated 17th January 1890, from Surgeon-General Sir James A: Hanbury, to the Government of Madras, reporting cases of cholera on the S. S. *Lalpoora*.

10. Mr. Mackay asked that the proposed draft rules drawn up by the Bengal Government for passenger accommodation in inland steamers may be obtained.

Proceedings of the Third Meeting of the Native Passenger Ships Commission, held at the Bengal Office at noon, on the 6th December 1890.

Present:

Surgeon-Major A. S. Lethbridge, C.S.I.	*President.*
Captain Sir Henry Morland, Kt., H.M.I.M.	*Members.*
Captain H. A. Street, H.M.I.M.	
James L. Mackay, Esq.	
Surgeon-Major D. W. D. Comins	
H. B. H. Turner, Esq.	
W. B. Bestic, Esq.	

1. The President proposed that the proceedings of the last meeting, which had been circulated for information, should be approved. This was agreed to.

2. The President observed that as it was necessary for one of the members to act as secretary, Captain Street be invited to act as secretary. Captain Street accepted the appointment.

3. The President proposed to facilitate the answering of the questions by dividing them under the following heads: (1) General questions, (2) Passenger accommodation, (3) Hurricane-deck vessels, (4) Special fittings, (5) Life-saving appliances, (6) Relating to the surveying of ships for passengers, (7) Medical, (8) Load line; and suggested that Sir Henry Morland should be asked to draft the questions under the last head. These proposals were accepted.

4. Mr. Mackay objected to the proposal to send the printed questions to intending witnesses. It was explained by the President that this was the procedure usually adopted for enquiries made by Commissions, and it would be impossible to get evidence without it. It was decided that the present arrangement of sending printed questions to witnesses should be adhered to, and that the answers the witness proposed to give should be circulated among the members. These answers were only to be published after the witness had attended the meeting, and replied to any other questions that may have been asked with reference to those answers. The answers of a witness should only form part of the proceedings when the cross-examination was completed.

5. It was resolved that questions could only be asked to witnesses on written slips of paper; the witness will then give his verbal reply, and hand in his answer in writing.

6. The following papers were placed at the disposal of the Commission.

(1) Mr. Mackay's plan of the S. S. *Kistna*.

(2) Government of India Financial Department file giving the information asked for in paragraph 19 of the first day's proceedings.

(3) Memo. No. 5626, dated 3rd December 1890, for the Government of India, forwarding for the information of the Commission, certain correspondence regarding the S. S. *Rasmara*.

7. Mr. Bestic proposed that Surgeon-General Hanbury's letter, No. 34-I., dated 17th January 1890, should be attached to the papers of the Commission as an appendix. This was agreed to.

8. Mr. R. Bushby, Engineer Surveyor to the Government of Bengal, was called and examined.

9. Before adjourning the meeting, the President asked the members to re-consider the question of the days of meeting, in consequence of the excessive amount of work involved by the form of cross-examination. He suggested that the Commission should

in future meet daily. It was decided that meetings should be held daily from 3 P.M. to 5 P.M., except on Mondays and Fridays, when the hours should be 12 to 2 P.M.

Proceedings of the Fourth Meeting of the Native Passenger Ships Commission, held at the Bengal Office at noon, on the 8th December 1890.

Present:

Surgeon-Major A. S. Lethbridge, C.S.I.	*President.*
Captain Sir Henry Morland, Kt., H.M.I.M.	*Members.*
Captain H. A. Street, H.M.I.M.	
James L. Mackay, Esq.	
W. B. Bestic, Esq.	
Surgeon-Major D. W. D. Comins	
H. B. H. Turner, Esq.	

1. Mr. Mackay handed to the President a copy of a letter he had sent to Captain Anderson of the S. S. *Vienna* on certain points connected with the matter before the Commission. Captain Anderson being present, the President gave to him a copy of the questions to which replies are required, and requested that he would be good enough to furnish the necessary information if possible at the next meeting.

2. The proceedings of the third meeting were approved.

3. The President said that he desired to add to the proceedings of the third meeting that the members of the Commission visited on the 6th instant the S. S. *Mombassa*, which was about to sail for Rangoon. This is a vessel of 4,661 tons gross and 3,039 tons net tonnage, of recent construction. She is measured to carry a total number of about 2,400 native passengers. At the time of the visit there were 1,003 native passengers on board, including native troops, 247 sheep and a pony. Compartments 1 and 2 of the 'tween decks were occupied by the native passengers and troops, compartment 3 by cargo, and compartment 4 by sheep. There seemed to the members of the Commission ample room for all those that were on board this fine steamer. The area given up to the native passengers according to the vessel's certificate is for 1,367 passengers. The attention of the Commission was drawn to the fact that the gratings covering the upper deck hatchways, which are, as usual, evidently considered favourite positions by the passengers, had not been measured as space for passengers.

4. The President then read the following memorandum which he had drawn up for the information of the members who were absent from Calcutta before the first meeting, and asked that he might be favoured with the sense of the meeting on the proposals suggested by him. Since there appears to be some misunderstanding as to the procedure adopted in drawing up the questions which are to be used by the Commission, it is necessary that I should explain for the benefit of Sir Henry Morland and Captain Street and the two absent members of the Commission the steps that were taken to draw up these questions. As soon as I became aware demi-officially of the names of the gentlemen who had been appointed to the Commission, I sent them a copy of the papers which the Government had circulated with the Resolution, and asked each gentleman to favour me with questions which might be used in our enquiry. The first meeting of the Commission was to be held on the 1st December. On the 14th November Mr. Mackay, in reply to my enquiry, wrote to say—"I shall be happy to draw up a set of questions and will send them to you as soon as possible." On the 28th November Mr. Mackay wrote as follows: "I have been reading through the papers, with a view to trying to formulate some questions, but it seems to me that it will be very difficult to frame a number of questions until we find out what witnesses are to be examined." On the 28th November Mr. Turner, in reply to my original request, said—"It will be easier to formulate questions when we know the witnesses and the nature of the evidence they are called to give." Dr. Comins had no questions to suggest. Mr. Bestic proposed to call Mr. R. Bushby, the Engineer Surveyor, at the first meeting. I informed him that it would be more in accordance with the wishes of the members if I got the questions which Mr. Bushby was prepared to answer. These, together with some that Mr. Bestic suggested should be put to the Meteorological Reporter, were examined by me on the 30th November, and sent at once to the Press,

so that the members should be able to see what questions had so far been proposed. Now, if you will turn to paragraph 7 of the first day's proceedings, you will find the following entry: "The President then laid on the table a printed copy of some questions which had been suggested, and asked the members to favour him with any additions and alterations to those questions which may occur to them. When these suggestions have been received, a complete selection of the questions to be asked will be made and adopted. This will, however, in no way prevent any member of the Commission from having other questions that may be considered necessary added to the list as the enquiry proceeds." The additional questions and alterations suggested by Messrs. Mackay, Turner, and Bestic, and Captain Street, have, in accordance with the minutes of the second meeting, paragraph 5, been adopted. With these facts before me I was not a little surprised to hear Mr. Mackay at the third meeting object altogether to the questions which had been prepared between Mr. Bestic and the President. (Mr. Mackay here interposed that he had not objected on that score.) Mr. Mackay subsequently withdrew this objection, but a wrong impression had been created, and I am anxious that the Commission should have these facts placed before it. In regard to this subject I would propose that each member should name to the President the witnesses to whom he considers the questions should be sent. The questions should then be forwarded by the President with the following printed letter:—

"I have the honour to forward herewith a set of questions framed for the purpose of obtaining evidence before the Native Passenger Ships Commission, and to invite you to attend as a witness. You are at liberty to select any questions on which you may desire to furnish information. The answers should be given in writing, and should be forwarded to my address as soon as it is convenient for you to do so. You will then be asked to attend a meeting of the Commission, and as each answer is read out by you at the meeting, the members of the Commission who desire to ask you further questions on your answers will do so in writing. After your verbal reply is given you will be asked to write it in pencil on the paper containing the question.

"If there are any additional points on which you consider you have information to give which is not brought out by these questions, I shall feel much obliged by your writing to me on the subject. If the points you mention are considered within the scope of our enquiry, I will furnish you with questions bearing on these points which you may answer and add to the printed list of questions now sent to you."

5. Mr. Mackay said he would like to say that the procedure adopted in giving questions to Mr. Bushby was not that agreed upon at the first meeting in term of paragraph 7 of the proceedings of the first meeting. He said that it is there laid down that when these suggestions had been received, a complete selection of the questions to be asked will be made and adopted. Instead of this being done, the original questions, as prepared by Mr. Bestic and the President, were given to Mr. Bushby, and printed replies to these questions only were tendered to the Commission at the second meeting, and these questions, together with the replies, were given to the Press for publication. There was no time, Mr. Mackay added, at the second meeting to look into the replies which Mr. Bushby had given to the questions, and at the third meeting, held on the 6th instant, objection was then taken by him to the procedure which had been adopted, and he had now to hand in the following protest to the President of the Commission, *viz.*:—

"At this stage of the proceedings of the Commission we, the undersigned, desire to record our protest against the evidence which has been put in by Mr. Bushby, because it has been disclosed that the questions and the answers were drawn up by Mr. Bushby and Mr. Bestic conjointly, the latter being the representative on this Commission of the Government of Bengal, and the former being a subordinate of Mr. Bestic, who is Under-Secretary to the Government of Bengal in the Public Works Department.

"We also desire to put on record the fact that the questions put to Mr. Bushby to which he handed in printed replies were given to him before they had been adopted by the Commissioners.

"With these protests recorded, as the evidence tendered by Mr. Bushby as his own has already been published in the newspapers, we consider it necessary to proceed with the examination and cross-examination of Mr. Bushby, although in our opinion a number of uncalled and irrelevant enquiries have been opened up, which will prolong the sittings of this Commission to an inordinate and unnecessary length, involving the undersigned in a great amount of inconvenience and great pecuniary loss.

JAS. L. MACKAY.

8th December 1890. H. B. H. TURNER."

6. Mr. Turner said that he would like to remark that one question to which he objected as likely to cause a wrong impression was answered by Mr. Bushby in its original form, and not in the form in which it was agreed the question should take; the questions having reference to the space allotted to each 'tween-deck passenger, the answer implying that each passenger had only 6 feet space and not pointing out that he had a further 4 feet on the upper deck. The President then said that Mr. Bushby subsequently sent him the information that the 'tween-deck passengers had the extra upper deck space allowed.

7. The President said that he has been reminded by Mr. Bestic that he (the President) sent Mr. Bushby a copy of the printed questions on the 1st instant.

8. Mr. Bestic then read a statement to the Commission with reference to the above subject:—

"The construction which some of the statements that have been made attempt to put on the proceedings is that Mr. Bushby was instructed by me to give the opinions contained in his answers to the questions put to him. I think it right to say at once that there is not the slightest foundation for this, and I may at the same time add that I have never known an officer of the Government to be told what opinions he was to express before a Commission of enquiry or elsewhere.

"When it was arranged that an enquiry should be made into the working of the Act, the President asked me to assist in drawing up questions, and I drew some up and obtained Mr. Bushby's answers to them. About half the answers were simple statements of fact or explanations of existing rules. In some cases I asked Mr. Bushby to explain his meaning more clearly, and he did so. He also added some questions which he wished to answer, and gave the answers to them. It had been suggested at that time that each witness should be allowed to frame his own questions, but the President decided that one general list of questions should be prepared; and in preparing the list he made what use he thought fit of the questions which had been answered by Mr. Bushby and of his answers." Other questions were put by Captain Street and myself, and the evidence of Mr. Bushby now before the Commission consists of the answers given by him to all these questions: "I need hardly say that I am in no way responsible for any one of his answers, and it is my intention to put at the proper time a number of questions to him as to his facts and his opinions." Mr. Bestic also begged to remark that he was appointed by the Government of India, and that he had no instructions from the Bengal Government.

9. Sir H. Morland here proposed that the questions as now revised and laid before the Commission this day be accepted. Captain Street seconded the proposal. The President explained that there is no new question in the revised printed copies which has not been placed previously before the Commission. Mr. Bestic proposed that the questions should be asked in the order in which they stand in the revised printed copy. Mr. Mackay saw no objection to this course, provided that questions previously answered could be afterwards referred to with the consent of the President. Sir H. Morland's proposal with the amendment as proposed by Mr. Mackay was adopted.

10. The President then read the following letter he had received from Mr. Bushby:—

"Dated 7th December 1890.

"From—R. BUSHBY, Esq.,

To—SURGEON-MAJOR A. S. LETHBRIDGE, C.S.I., President of the Commission on Native Passenger Ships.

"I see from the report in to-day's *Statesman* of the preliminary proceedings of yesterday's meeting of the Commission that the object of certain questions which were put to me by some of the members was to attempt to make it appear that the answers given by me to the questions sent me by yourself had been "*concocted*" for me. I thought at the time that the questions were somewhat irregular, but not wishing to delay the proceedings and not knowing what had passed before I entered the room, I did not raise objections at the time. I now write to you to say that having seen the full proceedings I think the questions were such as should not have been put to an officer of my standing, that having regard to what I now see to have been the object of the questions, I must decline to confirm my answers to them as complete or sufficient, and that I must also decline to offer any evidence to the Commission other than what I have already submitted until I have an assurance that you, the President, will not allow any improper questions imputing want of *bonâ fides* to be put to me.

"2. With regard to the questions which were put to me yesterday, I think it due to myself to state clearly the facts of the case. Some time ago before the Commission

was actually appointed, Mr. Bestic sent for me and informed me that an enquiry was about to be made, and requested me to consider the matter and let him know the points regarding which I considered enquiry was necessary. I named the points in due course, and he then drew up a set of questions which I answered. I altered some of the questions with his permission and I added some new ones. My object in doing so was to make the questions and answers as clear and concise as possible. Mr. Bestic suggested that some of the answers should be made fuller, so as to state all the facts in a simple form, and I made what addition I thought desirable. Last Monday afternoon I was furnished by you with a printed set of questions, some of which were the same as those I had already answered. I handed you my answers to these questions on Thursday. On that day I was given a further set of questions. I sent you my answers to them the same evening. These two sets of answers have been printed by you as one paper, and they form the evidence which was before the Commission yesterday. I beg now to state that these answers are my own, and that where they contain opinions the opinions are my own and are the results of my experience of some years on board steamers carrying passengers in the China Seas and to Jeddah in the Red Sea, and of my experience of the last 17 years as a Marine Surveyor to the Board of Trade and to the Bengal Government, and I respectfully but firmly deny the right of any member of the Commission to insinuate that an officer of my standing in the service of the Government in England and in India would give evidence that had been "*concocted*" for him, or opinions that were not his own.

"3. As a Marine Surveyor in the service of the Government, I am ready to assist the Commission by explaining any facts connected with the subjects under enquiry. As a disinterested individual, who has had long experience of these matters, I have formed the opinion stated in my answers to the questions sent to me by you, and should you or any member of the Commission require any further explanations of those opinions, I shall be happy to furnish them. But I beg that it may be clearly understood from the outset that the opinions are my own, that I have no authority to commit the Government or any person, whether connected with the Government or not, to them, and that if I appear as a witness before the Commission, I expect to be treated with the courtesy due to an officer of my standing, whose sole wish is to assist the Commission, so far as lies in his power, to arrive at the proper conclusion in regard to the subjects under enquiry."

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11. The President remarked—"In regard to the letter which I have just received from Mr. Bushby, I would remind the members of the Commission that the witnesses who will appear before them do so voluntarily. They came before us to give their opinions and their experience in regard to certain points connected with our enquiry. In order to see what value can be placed on their opinions and their experience, the members of the Commission have the privilege of cross-examining them. This cross-examination, if it is to serve any useful purpose, must be strictly limited to the question under consideration, and be so made as not to give offence. Any departure from these general rules will frustrate the object for which the Commission has been appointed, and make it impossible to obtain the experience and opinions of those gentlemen whom it might be considered necessary to invite before us."

12. Sir H. Morland said that he observed that Mr. Bushby referred to a certain paragraph which had appeared in the daily papers, and he presumed that the Commission did not intend to notice editorial articles on the proceedings of the Commission, but that any error in the published proceedings might be corrected by the President. He also thought that, in view of the statement now furnished by Mr. Bushby, the answers already given by him should be accepted as his own, and moved a resolution to the above effect.

13. Mr. Turner said that he was quite prepared, as Mr. Bushby made the statement that these were his own opinions, to accept it; but with what has just fallen from the President, there were several questions which he felt he must ask which might seem to cast a doubt on Mr. Bushby's evidence. In asking those questions it might be difficult to avoid giving offence. He would instance the very next question in the order of Saturday's questions. Mr. Bushby says that in the English foreign trade, assuming the height of the 'tween to be 6 feet, each passenger is allowed 12 superficial feet of space. It would seem to a person who knew nothing about this question that at home 12 superficial feet were allowed, whereas here the coolies are allowed only 3, but there are very few ships the height of whose 'tween decks is 6 feet only. He further said—"I don't think there are any in the Indian passenger trade. Now the ship we saw on Saturday, I am told, that the height of the 'tween decks is

either 8 feet 3 inches or 8 feet 6 inches, so that by the English rules a passenger would not be allowed 12 superficial feet, but something under 9 feet. The impression abroad in Calcutta resulting from the answer given by Mr. Bushby to question 9 is that the coolies are shamefully treated on board native passenger ships. Had the answer gone out with the necessary explanation, such an impression would have been avoided, and for this reason I have taken up the matter."

14. Mr. Mackay said that he would like to say with reference to the remarks the President had just made on the subject of the necessity of refraining from putting questions to witnesses likely to give them offence, and also with regard to the letter from Mr. Bushby which had been read by the President, and which is to form part of these proceedings, he had looked through the questions which were put to Mr. Bushby when he was before the Commission on Saturday last, by Mr. Turner and himself, and, having read the following questions and replies, he submitted that there is nothing improper in any of the questions put by Mr. Turner and himself to cause a witness any annoyance or to give him offence.

Q. (*By Mr. Turner*).—Are these answers, as printed, those that were originally made, or have they been revised by any one but yourself, or have you been assisted in them?

A. (*By Mr. Bushby*).—They are originals. I have since made corrections in them. I have been assisted by Mr. Bestic.

Q. (*By Mr. Mackay*).—Did you help in drawing up the question?

A. (*By Mr. Bushby*).—To some extent; I took very little part.

Q. (*By Mr. Turner*).—Have you the original draft papers including the revised one from which these answers were printed?

A. (*By Mr. Bushby*).—No.

Q. (*By Mr. Mackay*).—Where are they?

A. (*By Mr. Bushby*).—Destroyed.

15. The President remarked that from Mr. Bushby's letter it would appear that he had obtained his information regarding the word "concocted" as having been used by one of the members from a report which had appeared in the *Statesman*, a reporter of which paper was present on Saturday. Mr. Mackay said that he would like to draw attention to the fact that any questions put to Mr. Bushby were put through the President, and that the responsibility, if any improper questions were put, rested with the President.

16. Mr. Bestic wished to call attention to the fact that, according to the *Statesman*, the word "concocted" was used by two members with reference to Mr. Bushby's evidence, but not in Mr. Bushby's presence.

17. Mr. Turner mentioned that he was not aware that he had used the word "concocted," and did not believe that he had; in fact, he had not seen the report referred to in the *Statesman*, and that he had no intention of insulting Mr. Bushby, or using any word likely to give him offence; regretted if he had done so, but he adhered to the questions he had actually put to Mr. Bushby.

18. Sir Henry Morland proposed that Mr. Bushby be informed that the word "concocted" was used in his absence in a desultory conversation, not with reference to him personally, but with respect to evidence generally.

This was approved, as also was the proposal that the answers already given by Mr. Bushby should be accepted as his own.

19. Sir Henry Morland put forward certain questions he desired to have asked with reference to the *load line*. It was agreed that these questions shoud be adopted and included in the questions to be put by the Commission. The President asked, with reference to the question which he had sent to Mr. Pedler, whether the Commission had any objection to these questions being adopted as suitable.

Resolved—That the questions be adopted.

20. The President then said that the Commission would meet at 3 P.M. on the 9th instant.

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Proceedings of the Fifth Meeting of the Native Passenger Ships Commission, held at the Bengal Office, on the 9th December 1890, at 3 p.m.

Present:

Surgeon-Major A. S. Lethbridge, C.S.I.	*President.*
Captain Sir Henry Morland, Kt., H.M.I.M.	*Members.*
Captain H. A. Street, H.M.I.M.	
Surgeon-Major D. W. D. Comins	
James L. Mackay, Esq.	
W. B. Bestic, Esq.	
H. B. H. Turner, Esq.	

1. The proceedings of the fourth meeting were placed on the table, but as they comprise several pages of printed matter, it was decided to leave them for consideration until the next meeting.

2. The President stated that he had received intimation that the "load line question" was under the consideration of the Government of India, and he therefore thought that the matter should not be discussed by the Commission. This view was accepted.

3. The President brought to notice that all the questions which the Commission had decided should be sent to each person to be examined had been printed, and requested that he might be furnished with the names of the different persons each individual member of the Commission desired to have examined. He added that, as Captain Wilson had not been able to leave Rangoon to attend the meetings of the Commission at Calcutta, he proposed furnishing that officer with a few copies of the printed questions for distribution to persons at Rangoon willing to come forward to give evidence. No objection was taken to this proposal. The President was then furnished by Mr. Bestic, Captain Sir Henry Morland, Captain Street, and Surgeon-Major Comins with a list of the persons they respectively wished to be asked to give evidence. Mr. Mackay said he required a little time for consideration, but promised to submit in due course a list of the persons he desired to have examined.

4. The President said that in view of the necessity of adhering to the date fixed for the departure of the Commission for Rangoon, he proposed that daily meetings, from 10 A.M. to 5 P.M., should be held, except on mail days, when the hours of attendance might be from 3 P.M. to 5 P.M. Mr. Mackay said that he would take time to consider the proposal. Mr. Turner remarked that, owing to his duties as Sheriff, he could not possibly attend during the hours specified.

Sir Henry Morland suggested that the question should be considered at the next meeting, and this was finally agreed to.

5. Mr. Mackay requested that the following memorandum, signed by Mr. Turner and himself, be recorded with the proceedings, *viz*:—

"The suggestion that improper questions had been put to Mr. Bushby is without foundation, and should not have been made, and we therefore desire that, while recording Mr. Bushby's letter of the 7th instant, it should be clearly understood that it is still open to every member of the Commission to show by proper cross-examination the value of his evidence."

No exception having been taken to the memorandum, the President decided that it should be incorporated with these proceedings.

6. Captain Anderson, Master of the S. S. *City of Vienna*, was called, and handed in his replies to the different written questions given to him by the President at the meeting held on the 8th instant. With respect thereto, the President remarked that, as Captain Anderson had to leave Calcutta the next day, he proposed that Captain Anderson's evidence be accepted, though the course was not in accordance with the procedure regarding evidence which had been agreed to by the Commission. No exception was taken to this proposal. Captain Anderson having replied to a few verbal questions put to him by Mr. Mackay and Dr. Comins, and no other member having any questions to ask, he was thanked by the President for the evidence only. [illegible]d given, and withdrew.

Now the. Mr. Bushby was then called and his examination continued.

8. At 5 P.M. it was decided to close the proceedings for the day, and to re-assemble at 3 P.M. on the following day.

Captain Anderson.

1. *Q.*—Will you please inform the Commission of the nature of your present occupation?

A.—I am at present Master of the S.S. *City of Vienna*, 4672 gross register tonnage.

2. *Q.*—What qualifications or experience do you possess in regard to the subjects under enquiry?

A.—I hold an Extra Master's certificate of competency from the Board of Trade, and have been in command of sailing ships and steamers in the Indian trade for 26 years.

31. *Q.*—Is it within your knowledge that 1st class passengers travelling about the Bay of Bengal and coasts of India as a rule prefer to sleep on deck under the same conditions as to awnings and curtains as the 3rd class native passengers?

A.—Many of the 1st class passengers who have sailed with me have preferred sleeping on the deck under the awnings in the Bay of Bengal—even on board of steamers I have commanded which had their saloon and sleeping cabins in deck-houses.

In the hot season they mostly all prefer sleeping on deck.

31(*a*). *Q.* (*By Dr. Comins*).—Are your remarks confined to fine weather?

A.—To south-west monsoon weather as well as in the north-east monsoon. In bad weather, when the ports have to be closed, they often want to come on deck.

32. *Q.*—Have you had any personal experience of the weather round the coast of United Kingdom, and in the Bay of Bengal, and on the coast of India?

A.—I have traded round all the coasts of the United Kingdom every voyage, with a few exceptions which I have made to India and back. I have sailed from London to Glasgow, a distance of about 750 miles, then back to Liverpool, from which port we sail for India. I have made altogether 57 voyages to India from the United Kingdom—13 in sailing ships—and this is my 44th voyage in steamers.

33. *Q.*—Do you consider that there is such similarity as to warrant a comparison between the weather experienced on the coast of the United Kingdom or between the river Elbe and Brest (English Home Trade voyage) and that experienced in the Bay of Bengal and coasts of India?

A.—There can be no comparison made between the weather experienced on the coasts of the United Kingdom and the weather experienced on the coasts of India and the Bay of Bengal. There is probably an average difference of temperature about 25° between that of the English Channel and the Bay of Bengal. I find from my observations of the thermometer noted in my Abstract Logs for all those voyages that in the winter months in the English Channel, the thermometer showed at noon from 48° to 54°, and in the summer months 60° to 73°. The English Channel is the warmest sea round the coasts of the United Kingdom; the uncertain and variable weather on the coast of the United Kingdom is proverbially boisterous. Cold and stormy weather is often experienced in the middle of summer. I have experienced hard gales in the months of July and August. It is admitted by meteorologists that the weather predictions in the United Kingdom cannot be depended on for more than 24 hours. In the winter season severe storms come on with little warning. In India, unless in the cyclone seasons, there are long periods of settled weather with smooth seas which can be depended on.

34. *Q.*—Do you consider the conditions of English and Indian passenger traffic to be similar in any other way than that the traffic under discussion is by sea?

A.—The conditions of the English passenger are to have as much shelter as can be got, and the conditions of the Indian passenger traffic are to have as much air and coolness as can be got.

34(*a*). *Q.* (*By Mr. Mackay*).—Are steamers carrying deck passengers round the coasts of England protected by double awnings and side curtains as they are in India?

A.—No.

Proceedings of the Sixth Meeting of the Native Passenger Ships Commission, held at the Bengal Office on Wednesday, the 10th December 1890, at 3 p.m.

Present:

Surgeon-Major A. S. Lethbridge, C.S.I.	*President.*
Captain Sir Henry Morland, Kt., H.M.I.M.	*Members.*
H. B. H. Turner, Esq.	
Captain H. A. Street, H.M.I.M.	
James L. Mackay, Esq.	
Surgeon-Major D. W. D. Comins	
W. B. Bestic, Esq.	

1. The proceedings of the fourth meeting having been read, were eventually approved, but Mr. Mackay desired that it might be recorded that in his remarks in

paragraph 5 of the Proceedings with reference to the procedure adopted in giving questions to Mr. Bushby, he is under the impression that he had stated that the original questions had been prepared by Mr. Bestic and Mr. Bushby, and not by the former, and the President as recorded in the rough copy of these proceedings. Mr. Bestic desired that it might also be recorded that the questions referred to by Mr. Mackay had been prepared by the President and himself.

2. The proceedings of the fifth meeting were approved.

3. The President made the following remarks:—

"Since I brought up the question of the hours of work that the Commission should adopt, it has become evident that we are likely to make greater progress than I first anticipated. Under these circumstances, and considering the extreme inconvenience which any larger demands on the time of our colleagues, Messrs. Mackay and Turner, would cause them, I propose that we should continue the arrangement made at third meeting, *viz.*, that we sit daily from 3 to 5, except on Mondays and Fridays, when the meetings will be held from 12 to 2.

"I would suggest that members who have the evidence of the witness already before them should try and frame their first questions on the answers before coming to the meeting. If larger slips were used for these questions, it would be a convenience."

4. Mr. Bushby's examination was continued.

5. At 5 P.M. the meeting was adjourned until 3 P.M. on the 11th instant; but before separating, the President asked the members of the Commission to meet on board the British India Steam Navigation Company's Steamer *Kasara*, sister ship to the *Kistna*, on which vessel Mr. Mackay had kindly arranged to have a sufficient number of coolies to represent, as nearly as possible, the passengers which under existing rules could be accommodated under different circumstances.

Proceedings of the Seventh Meeting of the Native Passenger Ships Commission, held at the Bengal Office on Thursday, the 11th December 1890, at 3 p.m.

Present:

SURGEON-MAJOR A. S. LETHBRIDGE, C.S.I.	*President.*
SURGEON-MAJOR D. W. D. COMINS	*Members.*
CAPTAIN H. A. STREET, H.M.I.M.	
JAMES L. MACKAY, ESQ.	
CAPTAIN SIR HENRY MORLAND, KT., H.M.I M.	
H. B. H. TURNER, ESQ.	
W. B. BESTIC, ESQ.	

1. The proceedings of the sixth meeting were approved.

2. The Commission visited the S. S. *Kasara* at 8 A.M. and found on board 316 coolies representing the maximum number of native passengers the vessel would be allowed to carry on the middle (upper) deck. These coolies being simply Calcutta labourers had no luggage with them. A memorandum is in course of preparation, which will be retained for reference when drawing up the report.

3. Mr. Bushby's examination was continued.

4. After question No. 132 had been asked and replied to, Mr. Mackay said that he desired to hand in a copy of the certificate A of the steamers *Chupra*, *Simla*, and *Chanda*, issued in Bombay and also a copy of the plan of the *Chupra*. These were ordered to be placed among the records of the Commission.

5. At 5-20 P.M. the Commission adjourned until noon on 12th instant.

Now

Proceedings of the Eighth Meeting of the Native Passenger Ships Commission, held at the Bengal Office on Friday, the 12th December 1890, at noon.

Present:

SURGEON-MAJOR A. S. LETHBRIDGE, C.S.I.	*President.*
CAPTAIN SIR HENRY MORLAND, KT., H.M.I.M.	*Members.*
SURGEON-MAJOR D. W. D. COMINS	
JAMES L. MACKAY, ESQ.	
CAPTAIN H. A. STREET, H.M.I.M.	
W. B. BESTIC, ESQ.	
H. B. H. TURNER, ESQ.	

1. The Proceedings of the seventh meeting were approved.

2. Mr. Bestic proposed that a statement should be prepared showing the percentage of the full licensed number of passengers carried by each vessel on each voyage on the important lines of traffic in each Presidency, and stated that he would furnish the Commission with a specimen of the form filled up for one line of traffic.

3. Mr. Bushby's examination was continued.

4. Mr. Bushby put in papers relating to the measurement of the S. S. *Commilla*, in 1882, giving his opinion on the measurement of the middle deck for passengers and also the Board of Trade Passengers certificate for Foreign Trade for the S. S. *Kistna*.

5. At 1-50 P.M. the Commission adjourned until 11-30 A.M. on the 13th instant.

Proceedings of the Ninth Meeting of the Native Passenger Ships Commission, held at the Bengal Office on the 13th December 1890, at 11-30 a.m.

Present:

SURGEON-MAJOR A. S. LETHBRIDGE, C.S.I.	*President.*
W. B. BESTIC, ESQ.	*Members.*
CAPTAIN SIR HENRY MORLAND, KT., H.M.I.M.	
SURGEON-MAJOR D. W. D. COMINS	
CAPTAIN H. A. STREET, H.M.I.M.	
H. B. H. TURNER, ESQ.	
JAMES L. MACKAY, ESQ.	

1. The proceedings of the eighth meeting were approved.

2. Mr. Bushby's examination continued.

In connection with Mr. Bushby's reply to question 280, Captain Street stated that the Madras Government had lately issued an executive order to the following effect:—"Boxes and heavy packages shall be stowed in the hold, and native passengers shall be permitted to keep with them, on the deck on which they may be accommodated, only two packages of a size which can be conveniently carried by hand."

Mr. Mackay stated that he had heard from the Captains of the British India steamers trading along the Madras coast and Burma that this order had worked well.

3. Mr. Bestic put in the following copy of the orders of the Bengal Government with reference to vessels carrying native passengers being fitted with a middle line bulkhead, *viz.*:—

No. 2521 (Marine), dated Calcutta, the 15th September 1890.

From—W. B. BESTIC, ESQ., Under-Secy. to the Govt. of Bengal, Marine Dept.,

To—The Port Officer of Calcutta.

I am directed, with reference to the correspondence ending with your letter

No. 674, dated the 26th of February 1890, to inform you that it has been decided that it is not necessary to make a rule under section 53 of the Native Passenger Ships Act, 1887, on the subject of providing life-lines.

2. The certificate A granted under that Act has to state that the ship is properly equipped, fitted, and ventilated, and the number of passengers which she is capable of carrying. In future, before granting certificate A to a vessel having a beam of over 30 feet, and carrying passengers on her between decks, you will require her either to be fitted with a middle line bulkhead, not less than 3 feet 6 inches high, or, if it is proposed to carry passengers only occasionally on the between decks, to have on board the materials required for such a bulkhead, or to have suitable lines ready to be fastened to the midship stanchions in lieu of such bulkhead.

3. Before granting certificate B to such a ship carrying native passengers on her between decks, you will see that either the bulkhead has been fixed, or that the lines have been secured to the stanchions in such a manner as to provide for the safety of the passengers.

Proceedings of the Tenth Meeting of the Native Passenger Ships Commission, held at the Bengal Office on Monday, the 15th December 1890, at noon.

Present:

Surgeon-Major A. S. Lethbridge, C.S.I.	*President.*
Captain H. A. Street, H.M.I.M.	*Members.*
James L. Mackay, Esq.	
Captain Sir Henry Morland, Kt., H.M.I.M.	
H. B. H. Turner, Esq.	
W. B. Bestic, Esq.	
Surgeon-Major D. W. D. Comins	

1. The proceedings of the ninth meeting were approved.

2. Mr. Bushby's examination was continued and completed.

3. With reference to a question as to how many passengers a vessel can carry without coming under the Native Passenger Ships Act, Captain Street stated that, under a Notification of the Government of Madras, the Act applied to steamships leaving the Madras ports for the Straits Settlements, and carrying as passengers more than thirty natives of Asia or Africa.

4. With regard to a question respecting sea-cocks made by the Court appointed to enquire into the circumstances attending the loss of life on board of the S. S. *Bhandara* during the cyclone of 31st October and 1st November 1888, Mr. Bestic handed in a copy of the instructions issued by the Government of Bengal on the subject, which are as follows:—

"When these sea-cocks are placed in a recess, it is desirable that arrangements should be made so that the cocks can be shut even if the stoke-hold plates and platform should be washed up."

5. Mr. Bushby was asked to supply a statement showing the number of passengers that could be carried in a vessel of the *Kistna* type under the different orders that have been issued by the Government of Bengal on the subject, and also giving the number of passengers if his recommendations as regards space for passengers and sleeping platforms are adopted.

6. The President suggested that the rules in regard to space allowed to Chinese passengers in force at Hongkong and Singapore should be obtained. This was agreed to.

7. The Commission adjourned at 2-15 P.M. until 3 P.M. on 16th instant.

Mr. BUSHBY.

1. *Q.* (*Mr. Bushby*).—Will you please inform the Commission the nature of your present occupation?

A.—I am Engineer and Shipwright Surveyor to the Government of Bengal.

2. *Q.*—What qualifications or experience do you possess in regard to the subjects under enquiry?

A.—I have been in my present appointment for upwards of eight years, and previous to that time I was for upwards of eight years Engineer and Shipwright Surveyor to the Board of Trade. I am also Marine Surveyor to the Government under the Emigration Act, and Surveyor of Tonnage under the Merchant Shipping Acts.

3. *Q.* (*By Mr. Turner*).—Are these answers, as printed, those you originally made, or have they been revised by any one but yourself, or have you been assisted in them?

A.—They are original. I have since made corrections in them. I have been assisted by Mr. Bestic.

4. *Q.* (*By Mr. Bestic*).—Do the answers represent your own opinions in all cases?

A.—They do.

5. *Q.* (*By Mr. Mackay*).—What part did you take in drawing up the questions?

A.—I took very little part.

6. *Q.* (*By Mr. Mackay*).—Did you help in drawing up the questions?

A.—To some extent.

7. *Q.*—(*By Mr. Bestic*).—I understand that you did not draw up the original questions, but that you suggested additional questions to illustrate your answers to the original ones?

A.—Yes.

8. *Q.* (*By Mr. Turner*).—Have you had any practical experience in conveyance of passengers—whether troops, emigrants or free passengers?

A.—Yes; I was Chief Engineer in a China Line for about four-and-a-half years, and we used to carry large numbers of deck passengers, also Hadjees to and from Jeddah.

9. *Q.* (*By Mr. Mackay*).—Have you had any experience beyond that acquired while you were Chief Engineer of a steamer running to China?

A.—No; except what I have in my present position.

10. *Q.* (*By Mr. Mackay*).—Have you ever travelled in a steamer across the Bay of Bengal carrying a large number of native passengers?

A.—No; not across the Bay of Bengal.

11. *Q.* (*By Mr. Mackay*).—How often have you been to Chandbally?

A.—Once.

12. *Q.* (*By Mr. Bestic*).—I understand that you have during the last eight years seen large numbers of these vessels with or without passengers?

A.—Yes.

13. *Q.*—Do you take any part, either directly or indirectly, in the administration or observance of any of the provisions of the Native Passenger Ships Act, 1887?

A.—It is part of my duty to inspect the passenger accommodation, ventilation, and equipments of vessels coming under the operation of the Act, and to determine the number of passengers they are capable of accommodating.

14. *Q.* (*By Mr. Mackay*).—Are your duties simply those of a Surveyor to measure space and see that equipments as required by the Act are provided?

A.—Yes.

15. *Q.*—Into what classes do the Board of Trade divide sea-going vessels for the purpose of determining the number of passengers they are capable of carrying?

A.—They divide them into four classes, *viz.*, vessels coming under the Passengers Act, 1855, and vessels engaged in the Foreign Trade, Home Trade, and Excursion Trade, respectively.

16. *Q.*—What is a Foreign Trade voyage?

A.—A Foreign Trade voyage is a voyage to any place outside the English Home Trade limits.

17. *Q.* (*By Mr. Mackay*).—Would a vessel going from Aberdeen to the Black Sea, be on a Foreign voyage?

A.—Yes.

18. *Q.* (*By Mr. Mackay*).—Is crossing the Atlantic a Foreign voyage?

A.—Yes.

19. *Q.*—What is a Home Trade voyage?

A.—A Home Trade ship is a ship employed in trading within the following limits, that is, the United Kingdom, the Channel Islands, the Isle of Man, and the Continent of Europe, between the rivers Elbe and Brest.

20. *Q.*—What is an Excursion voyage?

A.—An Excursion voyage is a voyage made within specified limits which can be completed during daylight.

21. *Q.* (*By Mr. Mackay*).—Would a voyage such as that from Calcutta to Oolobariah be an Excursion voyage?

A.—No; it would be a smooth-water voyage.

22. *Q.* (*By Mr. Mackay*).—Under which of the four classifications which you have mentioned would it come?

A.—Under none of them.

23. *Q.* (*By Sir Henry Morland*).—State the distance Excursion voyages extend to, and the time of day or night.

A.—The longest distance is about sixty-four miles, *viz.*, between Liverpool and the Isle of Man. They get the excursion numbers in daylight.

24. *Q.* (*By Sir Henry Morland*).—Add the circumstances of weather, and whether in open sea.

A.—The certificate states: "In fine weathers and during daylight."

25. *Q.* (*By Mr. Mackay*).—Is there ever any bad weather experienced between Liverpool and the Isle of Man?

A.—Frequently; but the excursion season only lasts during the six months ending on the 31st October.

26. *Q* (*By Mr. Turner*).—Have you the original Draft papers, including the revised ones from which these answers were printed?

A.—No.

27. *Q.* (*By Mr. Mackay*).—Where are they?

A.—Destroyed.

28. *Q.*—What vessels come under the Passengers Act, 1855?

A.—Vessels carrying passengers other than cabin passengers to places out of Europe, and not being within the Mediterranean Sea.

29. *Q.*—How is the number of passengers, which a vessel is capable of carrying, calculated in each case?

A.—In the Foreign trade the upper weather deck and the upper surface of the poop, forecastle and spar deck being exposed to the weather are never included in the measurement for passengers. The number of passengers a steamer can carry in this trade is arrived at by multiplying the net area of the deck (that is, after deducting all

hatches and incumbrances) by the height between decks and dividing the product by 72. Thus, assuming the height beween decks to be 6 feet, each passenger is allowed 12 superficial feet of space in the 'tween decks.

In the Home Trade, passengers are allowed to be carried on the main and lower decks only, and each passenger has to be provided with 9 spare feet of space; also there must be, in the case of passengers carried on the main deck, shelter either in a house on deck or in a cabin below deck for one-sixth of the number of passengers carried on the main deck. If the number of passengers obtained by this method exceed the number representing the gross tonnage of the vessel, then the number of passengers must be reduced until the number does not exceed the number denoting the gross tonnage of the vessel.

In the case of excursion steamers making short voyages during daylight, this reduction is not insisted on, and the top surface of the poop, quarter-deck or midship-house may be included in the measurements, provided they are substantially built and the vessel is sufficiently stable. In other respects the space check is the same as in the Home Trade.

In vessels to which the Passengers Act, 1855, applies, no passengers may be carried on the main or upper deck, and in the 'tween decks each passenger is allowed 15 square feet on the upper 'tween deck, or 18 square feet on the lower.

30. *Q.* (*By Mr. Bestic*).—Where were you stationed when you were an Officer of the Board of Trade?

A.—Two years at Hull, six years at Liverpool, and occasionally, for special duty, in London, Barrow, Shields, and Newcastle.

31. *Q.* (*By Mr. Bestic*).—What class or classes of vessels did you survey?

A.—All classes.

32. *Q.* (*By Mr. Bestic*).—Have you had any special experience outside the ordinary duties of a Marine Surveyor in regard to the measurement of passenger accommodation on board any of these vessels?

A.—While in Liverpool I made reports and sketches of the passenger accommodation of nearly all the Home Trade steamers plying to Liverpool.

33. *Q.* (*By Mr. Bestic*).—Under the scale of accommodation applicable to the Foreign Trade. does a passenger get less than 12 square feet in the 'tween decks if the height 'tween decks is greater than 6 feet?

A.—Yes, if the height be sufficient the limit would be 9 square feet.

34. *Q.* (*By Mr. Bestic*).—Why did you refer to the height of 6 feet?

A.—Because in no case is the height to be less than 6 feet, from deck to deck.

35. *Q* (*By Mr. Bestic*).—Have you ever known of or heard of any large 3rd class or deck passenger traffic from or to ports in the United Kingdom to or from Mediterranean ports?

A.—No.

36. *Q.* (*By Mr. Bestic*).—Or to or from Spanish or Portuguese ports?

A.—No.

37. *Q.* (*By Mr. Bestic*).—Or to or from French ports south of Brest?

A.—No.

38. *Q.* (*By Mr. Bestic*).—Or to or from ports in Europe east or north of the Elbe?

A.—Yes; there is a large trade to Gottenburg, Christiansand, and Copenhagen.

39. *Q.* (*By Mr. Bestic*).—Does the Foreign Trade scale apply to the traffic between the United Kingdom and any ports other than those within the Mediterranean or on the Continent of Europe?

A.—No; the Passengers Act of 1855 covers any vessel carrying more than 30 passengers not being saloon, 2nd class, or intermediate passengers.

40. *Q.* (*By Mr. Bestic*).—So far as 3rd class or deck passengers are concerned, are we to understand that, so far as you know, the Foreign Trade scale is practically inoperative, except in regard to voyages to the Baltic?

A.—Yes.

41. *Q.* (*By Mr. Bestic*).—Under what regulations as to the measurement of passenger space do vessels come which carry 3rd class or deck passengers from or to ports in the United Kingdom to or from ports which are neither in Europe nor the Mediterranean Sea?

A.—If they carry more than 30 passengers not being saloon, 2nd class, or intermediate, they come under the Passengers Act, 1855.

42. *Q.* (*By Mr. Bestic*).—Are large numbers of passengers carried to and from the ports referred to in the previous question?

A.—No.

43. *Q.* (*By Mr. Bestic*).—Are not large numbers of passengers carried across the Atlantic?

A.—Yes; but they are carried under the provisions of the Passengers Acts.

44. *Q.* (*By Mr. Bestic*).—What are the chief lines on which the traffic which comes under the Passengers Acts is conducted.

A.—About 10 or 12 different lines of steamers.

45. *Q.* (*By Mr. Bestic*).—What is the minimum space given to each passenger 'tween decks on voyages to which the Passengers Act, 1855, applies?

A.—See para. 21 of Memorandum on the Passengers Act, 1855, page 11, Board of Trade Regulations.

46. *Q.* (*By Mr. Bestic*).—Are any decks which are exposed to the weather measured for passengers on such voyages?

A.—No.

47. *Q.* (*By Mr. Bestic*).—In addition to the accommodation on 'tween decks, what airing space does the Passengers Act, 1855, require to be provided on the upper deck?

A.—Five square feet each.

48. *Q.* (*By Mr. Bestic*).—Do the Regulations require that all passengers shall be provided with properly constructed sleeping berths?

A.—See sections 49 and 50 of Memorandum on the Passengers Act, 1855, Board of Trade.

49. *Q.*—Is any distinction made in regard to the amount of accommodation required by the Act between a voyage from Liverpool to New York, and a voyage from Liverpool to Australia?

A.—No.

50. *Q.* (*By Mr. Bestic*).—May we understand that no passenger can be carried from Liverpool to New York unless there is provided for him at least 15 square feet in the 'tween decks with a sleeping berth, and 5 square feet of airing space on the upper deck?

A.—If the vessel come under the provisions of the Passengers Act, 1855, 15 feet is the minimum, but if the vessel carry less than thirty steerage passengers, 9 superficial feet would be the minimum.

51. *Q.* (*By Mr. Mackay*).—If the 'tween decks were 8 feet high, what would be the superficial area each passenger would get on Foreign voyages under Board of Trade Rules?

A.—Nine square feet.

52. *Q.* (*By Mr. Mackay*).—Were your duties at the Ports in England simply to measure steamers and see to their equipments according to the rules?

A.—My duties were the general survey of any vessel under any of the various Acts relating to Merchant Shipping.

53. *Q.* (*By Mr. Mackay*).—Is it not on account of the coldness of the weather, combined with the length of the voyages, that the Board of Trade prohibit the upper weather deck, and the upper surface of the poop, forecastle, and spar deck from being included in the passenger carrying area of vessels making Foreign voyages?

A.—See para. 7, page 9 of the Instructions to Surveyors, Board of Trade, passenger accommodation, and crew spaces.

54. *Q.* (*By Mr. Mackay*).—Do you know of any vessels at Home in the Home Trade, which have hurricane decks like the *Kistna*.

A.—Not quite similar.

55. *Q.* (*By Mr. Mackay*).—You say that, in vessels to which the Passengers Act, 1855, applies, no passengers may be carried on the main or upper deck, and in the 'tween decks; each passenger is allowed 15 square feet on the upper 'tween deck, and 18 square feet on the lower. Do you adhere to this statement, or, on looking at it again, will you admit that passengers are entitled to only 15 square feet on the one deck or 18 on the other?

A.—It should read or.

56. *Q.* (*By Dr. Comins*).—What do you think should be the minimum height of a 'tween deck carrying passengers?

A.—Six feet.

57. *Q.* (*By Dr. Comins*).—Are there any vessels from this port carrying passengers on their 'tween decks on which those decks are less than 6 feet high?

A.—No.

58. *Q.*—What would be the maximum duration of a Home Trade voyage?

A.—I should say forty-eight to sixty hours, but there would not ordinarily be many passengers carried on a voyage of that duration.

59. *Q.*—What is the average duration of a Home Trade voyage?

A.—I should say well inside a day, but it is difficult to estimate the average.

60. *Q.*—Will you give instances of such voyages?

A.—London to Leith, Liverpool to Dublin, Glasgow to Belfast, Liverpool to Cork, Liverpool to Belfast, Harwich to Antwerp and Rotterdam, Grimsby to Hamburg. These are all typical voyages.

63. *Q.*—Into what classes are sea-going vessels in India divided for the purpose of determining the number of passengers they are capable of carrying?

A.—Emigrant vessels, pilgrim vessels, passenger vessels making long voyages and those making short voyages.

64. *Q.*—What is an emigrant voyage?

A.—A voyage on which emigrants are carried to or from places out of British India.

65. *Q.*—What is a pilgrim voyage?

A.—A voyage on which pilgrims are carried to or from Red Sea ports.

66. *Q.*—What is a long voyage?

A.—A voyage lasting more than five days.

67. *Q.*—What is a short voyage?

A.—A voyage that is ordinarily completed within five days.

68. *Q.* (*By Sir Henry Morland*).—Can you suggest a better classification of voyages; if so, what division of voyages would you propose?

A.—For the reason that on the coast of India there are few ports or places where a steamer on a voyage of over 24 hours' duration can run into for shelter in case of a sudden storm arising, and in addition to which there are many steamers of a class not fit for a longer voyage, I would recommend the following:—

Class (1)—Local Coasting Trade.
„ (2)—General „ „
„ (3)—Foreign Trade.

Class (1) meaning voyages not exceeding 24 hours, only 12 of which at sea.

Class (2) meaning steamers engaged in General Coasting Trade.

Class (3) meaning Foreign Trade, including the Pilgrim Trade to Jeddah.

69. *Q.*—To what vessels do the Native Passenger Ships Act or the Emigrant Act not apply?

A.—Only to vessels which do not carry as passengers more than sixty natives of Asia or Africa.

70. *Q.*—In regard to what voyages is there a distinction made between fair and foul seasons?

A.—Only in regard to voyages which are called short voyages.

71. *Q.*—How is the number of passengers which a vessel is capable of carrying determined in each case?

A.—It is difficult, within the limits of a brief answer, to describe exactly how the number of passengers is determined, and I find from my experience that widely different systems prevail at different ports. Leaving out details, which are more or less important, the Acts and rules lay down that the number of passengers should be determined as follows in each case:—Coolie emigrants are allowed 12 square feet in the 'tween deck. No emigrants may be carried on the main or upper decks, except in substantial deck-houses.

Ordinary passengers, not being emigrants, making what are called long voyages, that is, voyages extending over more than five days, are allowed 9 square feet in the 'tween decks on steamers and 12 square feet in sailing vessels. None are carried on main or upper decks.

There are two sets of rules for the measurement of vessels making what are called short voyages—one set for fair weather and one set for foul.

For fair weather, under the existing rules and orders of the Government, all decks are measured for passengers. On the upper decks each passenger is allowed 6 square feet and in the 'tween decks each passenger is also allowed 6 square feet; but in addition to this space he has to be given 4 square feet on the upper deck. For voyages at certain seasons between Burma and the Coromandel Coast, the rules require only 5 square feet to be allotted to each passenger in the 'tween decks, provided the upper deck is kept free.

In the foul season the upper decks are not measured for passengers, unless they are provided with substantial bulwarks and a double awning, or with other sufficient protection against the weather. Subject to this condition, each passenger is allowed 9 superficial feet, and passengers in the 'tween decks are allowed an additional 4 feet of airing space on the upper deck.

72. *Q.* (*By Mr. J. Mackay*).—Is it the case that passengers on the 'tween decks of steamers making short voyages of five days' duration in foul weather are allowed under present Indian Rules a total deck area of 13 superficial feet for each passenger?

A.—Yes.

75. *Q.* (*By Captain Street*).—State the seasons when the rules require only 5 square feet to be allowed to each passenger?

A.—This is governed by a special Notification issued by the Government of Madras.

74. *Q.* (*By Captain Street*).—Is it not optional with the owner or agents of the vessel to work under the 5-foot rule, irrespective of season?

A.—I cannot say without a perusal of the Notification on the point.

75. *Q.* (*By Captain Street*).—Will you state your authority for the statement that it is only at certain seasons vessels work under the 5-foot rule between Burma and the Coromandel ports?

A.—I will look up the Notification and reply to this later on.

76. *Q.* (*By Captain Street*).—Have you made yourself acquainted with clauses (*a*) and (*b*) of Government of India Resolution No. 1356, dated 14th March 1889? The former clause relates entirely to the space of 5 superficial feet to be allotted to each passenger.

A.—I see on perusal of the Notification that it is at the option of the owner to take either the old rule or the 5-foot rule during the fair season.

77. *Q.* (*By Captain Street*).—Then your statement that for voyages at certain seasons between Burma and the Coromandel Coast, the Regulations require only 5 square feet to be allotted to each passenger in the 'tween decks, provided the upper deck is kept free, is not correct so far as seasons are concerned?

A.—My statement is practically correct.

78. *Q.* (*By Captain Street*).—Are you certain that on voyages between Madras ports and Burmah the space to be allotted to each passenger depends on the season?

A.—It does depend upon the season, because a different rule may be adopted in different seasons.

79. *Q.* (*By Captain Street*).—Can you explain in what way the method of determining the number of passengers at Calcutta differs from that at other ports, say, Madras or Rangoon, for instance?

A.—I frequently observe that vessels coming from Bombay have a less number of passengers than I give, and some from Burma have more than I would give. I cannot give the reason.

80. *Q.* (*By Captain Street*).—Then your statement that widely different systems prevail at different ports is not founded on personal knowledge of the different systems of measurement?

A.—No; it is founded upon the widely different numbers that may be and are given to the same vessel.

81. *Q.* (*By Sir Henry Morland*).—Are you aware whether Bombay measurements and allotments of space are made under the same rules as are in force in Calcutta?

A.—I think the same rule is observed; but where a ship has not bulwarks, the Bombay Surveyors do not give the main deck in the foul season. In a recent case, the *Chupra* came to this port with a Bombay certificate for about 635. I gave her 1,039. These figures are not supposed to be exact.

82. *Q.* (*By Mr. J. Mackay*).—Will you please state if the difference in the two certificates in the *Chupra's* case was, in your opinion, owing to this reading of the rules in Bombay?

A.—I think so, but I cannot say for certain.

83. *Q.* (*By Mr. J. Mackay*).—How do you explain this, when the *Chupra* is a vessel with solid bulwarks?

(Mr. Bushby declined to answer this question.)

84. *Q.* (*By Mr. Mackay*).—Do you know of any authentic case showing that the rule under which the passenger capacity of steamers crossing the Bay of Bengal from Burma to Madras, and *vice versâ*, in the foul season, may be calculated at the rate of one person to every 5 feet of 'tween deck area, provided the whole of the upper and 'tween decks are kept clear for their use, permits of more passengers being carried than is compatible with their comfort, health and safety?

A.—This is a matter of opinion.

85. *Q.* (*By Mr. Mackay*).—Do you think the rule in question is a good one?

A.—No.

86. *Q.* (*By Mr. Mackay*).—Are you aware that the 5-foot rule was introduced by the Government of India at the suggestion of the Government of Burma as far back as 1884; that instructions were given to the Government of Madras and Burma to watch carefully the working of the rule and to report upon it in October 1885, and that the results were so satisfactory that the Government of India, by Notification No. 1356 of 14th March 1889, under Act X of 1887, confirmed the rule and made it applicable to voyages from the Madras coast to Rangoon, as well as from Rangoon to the Madras coast, also applicable to the fair season as well as the foul?

A.—I have never seen any correspondence on the subject.

87. *Q.* (*By Mr. Mackay*).—Are you aware that since the year 1869 no less than five new Acts have been passed in India on the subject of carrying native passengers by sea—one in 1870, one in 1872, one in 1876, one in 1883, and the last in 1887?

A.—I have not followed up the various Acts previous to my arrival in India in 1882.

88. *Q.*—Is the Board of Trade rule, under which the number of passengers carried must not, whatever the deck measurements may give, exceed the number denoting the gross tonnage of the vessel, enforced in India?

A.—No. The number carried in Indian waters sometimes exceeds by several hundreds the number denoting the gross tonnage.

89. *Q.* (*By Mr. Mackay*).—Was there ever a rule in force in India limiting passengers by tonnage; if so, was it repealed?

A.—Not to my knowledge.

90. *Q.* (*By Mr. Mackay*).—Have you seen the report by the Government of Bengal for the year 1889-90 which shows the passengers carried by steamers in India?

A.—No; not till now.

91. *Q.* (*By Mr. Mackay*).—Does it show the nett tonnage or the gross, as the tonnage of the steamers?

A.—The nett tonnage.

92. *Q.*—What would be the effect if, assuming all other existing Indian rules to remain intact, this rule were enforced?

A.—The number carried by some of the steamers under 1,000 tons would be greatly reduced.

93. *Q.* (*By Mr. Mackay*).—What steamers?

A.—The *Seagull* class.

94. *Q.*—Are you of opinion that the conditions justify a distinction being made between fair and foul weather in the case of voyages which may extend to five days?

A.—I have doubts as to whether it is advisable to make any distinction. None is made by the Board of Trade in the case of vessels carrying passengers in the Home Trade limits.

95. *Q.* (*By Sir Henry Morland*).—You say you have doubts? State them.

A.—There is no saying that, during any five days throughout the year, a vessel may not encounter a gale on some part of the coast.

96. *Q.* (*By Mr. Mackay*).—Do you think the seasons are as clearly marked in England as in India?

A.—They are not from a meteorological point of view. The Home Trade steamers have no different numbers of passengers for different seasons.

97. *Q.* (*By Mr. Mackay*).—Do you think that may be because there is practically little reliance to be placed on the weather at Home for more than 24 hours at a time?

A.—Yes.

98. *Q.*—In your opinion, do the conditions justify passengers being carried across the Bay of Bengal at any season on decks, such as are commonly called hurricane decks, which are not protected from the weather except by overhead awnings, assuming that no accommodation is reserved for these passengers on the lower decks, which are crowded with other passengers?

A.—No. I do not think that passengers should be carried under such conditions.

99. *Q.* (*By Mr. Mackay*).—Do you know of any vessels with hurricane decks, whether or not protected from the weather except by overhead awnings, which are licensed to carry passengers across the Bay of Bengal?

A.—Any vessel with an A certificate in force, say of the *Kistna* class, may carry passengers across the Bay of Bengal.

100. *Q.* (*By Captain Street*).—Not even during the fine weather season?

A.—No.

101. *Q.* (*By Mr. Mackay*) —On what do you base your opinion? What statistics of death and sickness have you to support it?

A.—I base my opinion upon my practical knowledge of the subject. I have no statistics.

102. *Q.* (*By Mr. Mackay*).—Are you aware that the Rangoon authorities have reported to the Government of India that among 81,000 people come across the Bay of Bengal in the last six months the death-rate has been practically *nil?*

A.—No.

103. *Q.* (*By Mr. Mackay*).—I have handed you the report in question and will be glad if you will look at it and say whether the report I refer to has been made or not?

A.—Yes.

104. *Q.* (*By Mr Mackay*).—How many deaths have occurred in the Chandbally steamers? How many passengers do they carry per annum?

A.—I have no statement on the subject.

105. *Q.* (*By Mr. Mackay*).—Are steamers in the English Home Trade obliged to have their main decks covered with double awnings and have they to be provided with side curtains?

A.—No. Bulwarks are the only protection required beyond the provision as regards permanent deck shelter.

106. *Q.*—In your opinion, are the provisions of the Emigration Act, and the rules made under it in regard to the accommodation to be provided for Native emigrants suitable?

A.—I think the rules are suitable, and that the accommodation they provide for the passengers is suitable.

107. *Q.* (*By Captain Street*).—Are there any of the provisions of the Emigration Act and the rules made under it, in regard to the accommodation to be provided for native emigrants, which you would recommend as necessary for native passengers under the Native Passenger Ships Act? If so, specify them.

A.—The emigration rules would be too severe to apply to native passenger ships on the coast.

108. *Q.*—In your opinion, are the provisions of the Native Passenger Ships Act, and the rules made under it, in regard to the accommodation to be provided for native passengers on long voyages and short voyages, suitable?

A.—In my opinion, the accommodation allowed by the Act and rules is insufficient in the case of both long and short voyages, especially the latter.

109. *Q.* (*By Captain Street*).—Will you state the reasons which have caused you to arrive at this opinion?

A.—I have arrived at this conclusion from observation and from my practical knowledge of the subject.

110. *Q.* (*By Mr. Mackay*).—Have you statistics of sickness or deaths, or a record of any complaints made about present rules?

A.—No.

111. *Q.*—How does an Indian Home Trade voyage compare with an English Home Trade voyage?

A.—You cannot make any comparison between them. An Indian Home Trade voyage, to take an extreme case, may extend from Calcutta to Kurrachee, and may last for a month.

112. *Q.* (*By Mr. Mackay*).—Would you say that the voyage from Calcutta to Kurrachee was a typical Indian Home Trade voyage?

A.—No; it would be an unusual voyage.

113. *Q.* (*By Mr. Mackay*).—Have you ever heard of a single deck passenger travelling by steamer from Calcutta to Kurrachee?

A.—No.

114. *Q.*—Do you think that the five-day limit puts an Indian short voyage on a footing similar to an English Home Trade voyage?

A.—No. I do not think so. The conditions are entirely different.

115. *Q.* (*By Captain Street*).—With respect to Indian voyages *versus* English Home Trade voyages, in what way are the conditions different?

A.—As regards the length and duration of the voyage.

116. *Q.*—Do you consider that, if there is to be a line dividing short from long voyages, it should be drawn at five days?

A.—No. I would draw the line at 12 hours at sea.

117. *Q.* (*By Mr. Mackay*).—What trades would this exclude from short voyage rules?

A.—Madras to Burma, Calcutta to Burma, and voyages of that description.

118. *Q.* (*By Mr. Mackay*).—Would it exclude the Calcutta Chandbally trade?

A.—No.

119. *Q.* (*By Mr. Mackay*).—Would you leave the Calcutta Chandbally rules as at present?

A.—I would leave them to be dealt with by the local authorities. As there are so many different classes of steamers, it becomes obvious that a rule that might be fair to one would possibly unnecessarily hamper another in regard to her carrying capacity.

120. *Q.* (*By Mr. Mackay*).—Do you mean that the Local Government should make a special order as to each separate vessel in every Indian port?

A.—Yes; there are so many different classes of vessels that it is practically impossible to frame a rule or set of rules that would apply fairly to all.

121. *Q.* (*By Mr. Mackay*).—In any case, will you not be further than ever from attaining uni-

formity not only as between vessels in different ports, but as between vessels in the same port?

A.—I do not think so.

122. *Q.* (*By Mr. Mackay*).—With reference to question 103, and your answer to it, is it not the fact that the *Kistna* is furnished with side curtains, canvas screens in addition to double awnings, and are not licensed vessels of that class holding A certificates so furnished?

A.—Yes; all the British India steamers of that class are.

123. *Q.* (*By Mr. Mackay*).—Can you mention any hurricane deck vessel which can carry passengers on her hurricane deck across the Bay of Bengal without being protected with side screens and curtains?

A.—There are no hurricane deck vessels in the trade except the B. I. Company's, and I have already said that they have curtains and side screens.

124. *Q.* (*By Mr. Mackay*).—Am I right when I understand you to say that passengers are allowed to be carried on upper decks at Home with only 9 superficial feet of deck area allotted to each passenger across the German Ocean round the coast of England, Scotland, and Ireland at all seasons of the year in steamers which have no awnings or side curtains to protect those on deck from the weather, provided the steamers are able to show that they have houses on deck or room below to shelter one-sixth of the deck passengers for which they may be licensed in the event of their encountering bad weather.

A.—Yes.

125. *Q.* (*By Mr Mackay*).—Of what does the permanent shelter consist?

A.—Generally a *whaleback* or space in the steerage.

126. *Q.* (*By Mr. Mackay*).—Now the *Kistna* is licensed to carry 783 passengers on her hurricane deck, do you think that, in the event of bad weather coming on, necessitating that the hurricane deck passengers should have greater protection than that offered by the double awning and canvas screens with which her hurricane deck is fitted, she could, in an emergency, afford a shelter in her 1st and 2nd class saloons and elsewhere without utilizing the 'tween decks for 130 native passengers, which would be one-sixth of the number she is licensed to carry on the hurricane deck in the fine season of the year on a short voyage?

A.—Yes.

127. *Q.*—Take an ordinary type of steamer, 1,000 tons gross, say with poop bridge and top gallant forecastle and solid bulwarks, what height would her upper or main deck be from the water when loaded to her draft? I mean steamers such as those employed in the English Home Trade crossing the German Ocean and running between London, Leith, Dundee, and Aberdeen.

A.—Approximately 3 feet 6 inches.

128. *Q.* (*By Mr. Mackay*).—What height from the water would the *Kistna* hurricane deck be if she were loaded down to her deep loaded draft; and what if her lower hold only had cargo of rice on board?

A.—I have not received either plan or displacement scale; hence have no data upon which to base a calculation.

129. *Q.* (*By Mr. Mackay*).—Now do you give it as your opinion that a deck passenger having 9 feet of space allotted to him, as required by the present rules in the foul season, would be worse off in a steamer making a run of 24 hours in Indian waters, protected as he would be from the wind, the sun, the rain, and the spray by double awnings and curtains, than he would be while crossing the German Ocean, or going from Aberdeen to London in the winter time on the deck of a steamer where he is entitled to only exactly the same deck area, and where he is not sheltered by awnings and curtains from the weather, and where he is only entitled to have permanent shelter for one-sixth part of his body or for his whole body during one-sixth of the time he is on board?

A.—This is putting a case that has no foundation in actual practice or fact. Besides, the passengers in the United Kingdom generally know what kind of accommodation they will get, and choose their ships accordingly.

130. *Q.* (*By Captain Street*).—Do vessels trading between ports on the English coast, or from an English port to a German port, or from a German port to an English port, carry their full number of deck passengers at all times of the year, or only during the fine season?

A.—Yes; they frequently bring from the German ports their full numbers.

131. *Q.* (*By Mr. Bestie*).—Would the Board of Trade measure the hurricane deck of the *Kistna* or *Kasara* for passengers in the Home Trade?

A.—No.

132. *Q.* (*By Mr. Mackay*).—You said yesterday that you believed that the Bombay authorities did not permit steamers to carry passengers on the upper decks in the foul season unless the steamers had solid bulwarks; you are aware that the *Chanda* is a steamer without bulwarks and with a netting and a rail, and I hand you a true copy of a Bombay certificate granted to this steamer, dated 29th March 1889, at which please look and tell me if it authorizes the vessel to carry upper deck passengers in the foul season?

A.—Yes.

Mr. Mackay, decided to put in the following memorandum:—

"With reference to the evidence tendered by Mr. Bushby yesterday regarding the diversity between the practices of measuring steamers for passengers in Bombay and Calcutta and to such diversity being attributable to a rule in Bombay whereby upper decks of non-bulwark steamers measured, these are excluded from carrying passengers on short voyages in the foul season, I desire, with leave of the President, to put in true copies of Bombay certificates of two steamers, the *Chanda* and *Simla*, which are not fitted with bulwarks but with rails, nettings, and the usual canvas screens, dated 26th March 1889 and 1st July 1889, respectively, from which it will be seen that these steamers were permitted by the Bombay authorities to carry passengers on short voyages in the foul season on the upper decks.

With regard to the disparity between the Bombay and Calcutta numbers of *Chupra* to which Mr. Bushby referred yesterday, and which he said he believed resulted from a different reading of the rules in Bombay, I desire, with the permission of the President, to put in a true copy of a long voyage certificate of the *Chupra* granted in Bombay, dated 1st July 1889, authorising the conveyance of 583 passengers on a long voyage (the alleyways on the voyage in question being full of cargo and given up to passengers). In support of my statement made yesterday that *Chupra* is a steamer fitted with bulwarks, I desire, with the permission of the Prsident, to put in plan of the steamer, and I desire to say that I believe the disparity between the Calcutta and Bombay numbers, to which Mr. Bushby yesterday referred, was due to the Bombay certificate which he said being for a 'long' instead of for a 'short' voyage, and not to any difference in

the modes of measuring steamers in Bombay and Calcutta. Should the President think it necessary, I am prepared to prove the documents I have put in."

[Mr. Bushby desired to state here that the measurement of the *Chupra* on which certificates are granted was done before he joined his present appointment. This measurement is accepted for all future certificates.]

133. *Q.*—Do you think that a passenger on a voyage lasting 10 or 12 hours requires as much room as one on a voyage lasting five days?

A.—No. I think that when a voyage can be complete within 12 hours, a passenger can do with less room.

134. *Q.*—(*By Dr. Comins*).—What is the minimum amount of space you would allow to a native passenger on a voyage lasting 10 or 12 hours?

A.—I am of opinion that the least space allowed for a 12-hour voyage should be 6 square feet.

135. *Q.*—How do you account for the differences between the English and the Indian rules, and between the Indian rules for emigrants and those for ordinary passengers?

A.—I cannot account for them at all. The differences are so very large and important, that I can only say that some of the rules require modification. The conditions certainly do not, in my opinion, justify such wide differences.

136. *Q.* (*By Captain Street*).—Can you point out the rules which in your opinion require modification?

A.—The rules regarding short voyages.

137. *Q.*—What class of people travel as deck passengers in the United Kingdom on vessels which frequently carry their full complement?

A.—Only those who cannot afford to pay for better accommodation, or, on some lines, those who cannot afford third class railway fares—that is to say, harvesters and labourers of that class. The heaviest I know is the traffic from Dublin to Liverpool of Irish harvesters. There are also the Germans, Belgians, and Poles, who cross over to the East Coast ports to join the emigrant ships at Liverpool.

138. *Q.* (*By Captain Street*).—Have you ever travelled in a vessel trading between Dublin and Liverpool with the full complement of deck passengers on board?

A.—Yes.

139. *Q.*—Do you think that native passengers can do with less space than Europeans?

A.—I think that they can do with rather less space; but having regard to the temperature and general conditions under which they travel, I would not take the responsibility of making any very large reduction.

140. *Q.*—What proportion do you consider that the space allotted to natives should bear to the space allotted to Europeans?

A.—I am not prepared to state a definite proportion, but I doubt if in any case the reduction should exceed 25 per cent.

141. *Q.* (*By Sir Henry Morland*).—Would the stability of any vessel plying from Calcutta be affected to any dangerous extent in heavy weather, the largest number of passengers under present rules being carried on the lower and upper decks?

A.—They are all vessels of large beam, and no question of stability could possibly arise if properly laden.

142.—Do you know that the Transport Regulations give native troops 6 feet and Europeans 9 feet of space on voyages of five days or so?

A.—I do not know anything about the Transport Regulations.

143. *Q.*—Do you consider that on a voyage which may extend to five days, native passengers can be accommodated in the 'tween decks of a steamer at the rate of one passenger to each 6 square feet of area, without prejudicing their health and safety?

A.—No. I do not think that any passenger should be limited to 6 square feet of deck area on such a voyage, even if he is allowed 4 feet of airing space on the upper deck. Six superficial feet is not sufficient for sleeping room.

144. *Q.* (*By Mr. Mackay*).—With reference to the question which has just been put to you, as a matter of fact, do the rules, as they at present exist, provide for 'tween deck passengers having a total deck area of only 6 feet?

A.—The total deck area is 10 feet including airing space.

145. *Q.* (*By Mr. Mackay*).—You say 6 superficial feet is not sufficient for sleeping room for a native. Have you ever tried to see whether twenty natives can stretch themselves out and sleep on a superficial area of 120 square feet, which would be giving them 6 feet each.

A.—No.

146. *Q.*—Do you think it necessary for the health and safety of the passengers that there should be on a voyage which may extend to five days permanent shelter for each passenger either 'tween decks or in cabins on the upper deck?

A.—Yes. I do not think that the number of passengers carried on such voyages should exceed the number for which there is permanent shelter.

147. *Q.* (*By Mr. Mackay*).—Do I understand that you recommend that the Government of India should prohibit the upper decks of steamers in India from being licensed to carry passengers, say, from Calcutta to Chittagong, from Chittagong to Akyab, from Bombay to the Kattyawar coast and Kurrachee, from Negapatam and Tuticorin across to Colombo, from Bombay to Goa, at all seasons of the year, whether fair or foul, unless they have permanent shelter below for all?

A.—Yes.

148. *Q.* (*By Dr. Comins*).—You have said that in the Home Trade shelter is provided either in a deck house or below deck for one-sixth of the passengers carried on the main or exposed deck, and you recommend that, on voyages in these waters extending to several days, there should be permanent shelter for each passenger so carried on an exposed deck. Why do you think so much more shelter should be provided in the latter case?

A.—Because in the Home Trade a vessel, if she encounter a heavy gale, can easily run into some harbour or under a headland for shelter, whereas a vessel encountering a gale in the Bay of Bengal must weather it out.

149. *Q.*—Do you think that on a voyage which may extend to five days, there should be separate accommodation for female passengers?

A.—I think that arrangements should be made to separate married people and women from the rest of the passengers, as is done on the emigrant vessels.

150. *Q.* (*By Mr. Mackay*).—Do unmarried women ever travel alone in India by sea?

A.—Perhaps some of the very low class.

151. *Q.* (*By Mr. Mackay*).—Would you propose to give each married couple a separate closed-up cabin or compartment? If so, what would you do where a man has two wives travelling with him?

A.—I would separate the single men from the married people and women by temporary division in the form of a wire netting or other suitable material.

152. *Q.* (*By Mr. Mackay*).—Would it be more decent, do you think, to have, say, two hundred

married men with their wives in a separate compartment altogether but open to each other's view than as now arranged?

A.—I base my opinion upon the emigrant rules, which are on this point very good and inexpensive to carry out.

153. *Q.* (*By Mr. Mackay*).—Have you any records or statistics of immorality having arisen among the native passengers travelling round the coasts of India owing to present arrangements?

A.—I have no records on this point.

154. *Q.*—Do you know of any steamers which carry native passengers on two upper decks?

A.—Yes. There are a number of such steamers.

155. *Q.* (*By Captain Street*).—Are any of these steamers in the port at the present time? If so, can you name any of them?

A.—*Kasara, Pachumba.*

156. *Q.*—Do you consider, from the wording of the Native Passenger Ships Act and your experience of this question, that the Legislature, when it passed the Act, contemplated the existence of vessels with more than one upper deck?

A.—No. The Act refers to the 'tween decks and the upper deck, and I do not think that it was intended that there should be more than one upper deck.

157. *Q.* (*By Mr. Mackay*).—With reference to the question which has just been put to you, are you aware that there were a number of vessels like the *Kistna* with 'tween decks, main or upper deck and hurricane deck, trading in India for years before the Act was framed and while it was being framed and it was framed?

A.—I refer, in my answer, to the vessels which were on the coast at the time the rules were framed in 1876, and I do not think there were any three-deck steamers on the coast then.

158. *Q.* (*By Mr. Mackay*).—Are you aware that the Act, under which the existing rules are framed, was passed in 1887, and that all former Acts (Native Passenger Ships Acts) were repealed by that Act and old rules were cancelled over a year ago?

A.—Yes; but the space check remains the same.

159. *Q.*—Are you acquainted with the design of the steamers of the *Kistna* class?

A.—Yes.

160. *Q.*—What is the distinguishing feature of these steamers?

A.—The *Kistna* and other steamers of the same class have three passenger decks. Regarding the lowermost of these, there is no doubt that it is a 'tween deck within the meaning of the Act. The uppermost deck is a hurricane deck, and has no bulwarks. The middle deck is the main deck of the vessel. The steamer is so constructed that this deck may be converted into what is practically a closed-in deck. The space between the two decks is enclosed partly by fixed iron plates and partly by substantial iron shutters, suspended on hinges and bolted to angle irons carried up from the ship's frame to the hurricane deck. When these shutters are closed, the middle deck practically becomes a 'tween deck, with the disadvantage that, if the ship is fully laden, the scuppers would in bad weather allow the water to flood the deck. The lowermost of the three decks is small in area, and as airing space for the passengers on it has to be provided on the upper deck, the number of passengers which the vessel can carry is not greatly increased by appropriating the lowermost deck for passengers. This tends to encourage the loading of cargo on this deck.

161. *Q.* (*By Captain Street*).—Will you state your authority for terming the middle deck a "main deck."

A. Lloyds' Rules.

162. *Q.* (*By Dr. Comins*).—The Captain of the *Kasara* has stated that the hatchways on the hurricane deck need never be closed in any weather. As there are no booby hatches,—do you think that passengers sleeping under the open forward hatch in rough weather would be drenched with spray or in other way wetted?

A.—Yes.

163. *Q.* (*By Mr. Mackay*).—Even with the hurricane deck awnings spread, the curtains down, and the grating hatches on with a tent over them?

A.—So long as the awnings could be carried they would not be wetted.

164. *Q.* (*By Mr. Mackay*).—The Captain of the *Kasara* has sailed his vessel all through the monsoon, and says that water does never find its way down the hatch. Have you more experience of what steamers of that class can do than the Captain has had?

A.—No.

165. *Q.* (*By Dr. Comins*).—With hatches shut, would there be sufficient ventilation on this the middle deck?

A.—I think not.

166. *Q.* (*By Mr. Mackay*).—Would there be less ventilation on the middle deck than on the 'tween decks which are passed as being sufficiently ventilated and in accordance with prescribed scale?

A.—Yes.

167. *Q.* (*By Mr. Mackay*).—Do you know how much cargo the *Kistna* carries in her lower holds and 'tween decks combined?

A.—No.

168. *Q.* (*By Mr. Mackay*).—Do you know how much rice cargo the 'tween decks carry?

A.—No; I could not tell without taking measurement and making a computation.

169. *Q.* (*By Mr. Mackay*).—Are you aware that the *Kistna* was built on the Clyde, and that she came from home with foreign trade, Board of Trade Passenger Certificate, and that she obtained the highest class which Lloyds could give her?

A.—I do not know what class at Lloyds the *Kistna* has.

170. *Q.* (*By Mr. Mackay*).—Have you ever known the *Kistna* loaded down to her draft, and filled with passengers on the main and upper decks and hurricane deck?

A.—No.

171. *Q.* (*By Mr. Mackay*).—If the 'tween decks were given up to passengers, what would be the draft of the steamer supposing her lower holds were full of heavy cargo like rice?

A.—I cannot say.

172. *Q.* (*By Mr. Mackay*).—How far would her main or upper deck be from the water then?

A.—I cannot say.

173. *Q.*—How far would her hurricane deck be from the water then?

A.—I cannot say.

174. *Q.* (*By Mr. Mackay*).—Are you aware that the Government of India, on the recommendation of high transport authorities, like Captain Hext, R. N., Director of Indian Marine, purchased from the British India Company about a year ago the steamer *Kavlana*, a sister ship to the *Kistna*, for use as a transport in Indian waters, and that she is at the present time engaged in transport work in Indian waters?

A.—I have heard something about the British India Company having sold the vessel to Government. Beyond this I know nothing of the vessel.

175. *Q.*—In your opinion, are the middle passenger decks of these steamers 'tween decks or upper decks within the meaning and intention of the Native Passenger Ships Act?

A.—I am of opinion that they are 'tween decks.

176. *Q.*—Are the passengers on these middle decks as well protected in rough weather as the passengers on the lowermost of the three passenger decks?

A.—No; because of the scuppers, which may admit some water and wet the deck; also there would be leakage at the joints of the shutters, as they are not perfectly water-tight.

177. *Q.* (*By Mr. Mackay*).—Do you still hold this opinion, in spite of the fact that the Hon'ble the Advocate General, Sir Charles Paul, has given an opinion to the Government of Bengal that the middle deck must be treated as an upper deck under the Act?

A.—Yes. Notwithstanding the opinion quoted, I cannot consider it an upper deck, for the reason that there is a deck above it, and it can be closed in.

178. *Q.* (*By Mr. Mackay*).—Am I right when I say that in surveying the *Kistna* when she first came out from Home, you treated the main or upper deck as an upper deck?

A.—I must refer to my records before replying to this.

179. *Q.* (*By Mr. Mackay*).—Am I right when I say that you had similarly treated the main or upper deck of the *Pachumba* and *Commilla* vessels, similar in construction to *Kistna*, for years before?

A.—Yes.

180. *Q.* (*By Mr. Bestic*).—Did you class these decks as upper decks under orders from superior authority or of your own notion?

A.—The question was discussed with the Port Officer and with the Vice-Chairman, with the result that I allowed the old measurements to stand on the written guarantee that on all occasions when full numbers were carried the 'tween decks would be kept clear for passengers.

181. *Q.* (*By Mr. Mackay*).—Were it not for the shutters, as I understand you, there would be no objection to treating the main deck of a vessel like the *Kistna* as an upper deck?

A.—No; it would then be an open main or upper deck.

182. *Q.* (*By Mr. Mackay*).—Were there no shutters, would the passengers in your opinion be better or worse off upon the middle deck?

A.—They would be more exposed in bad weather.

183. *Q.* (*By Mr. Mackay*).—The Captain of the *Kasara* has stated that he has never had all the shutters of the *Kasara* closed. Do you know of any instance when all the shutters of a steamer of the *Kistna* class have been closed?

A.—I never receive any reports as to what takes place on these steamers.

184. *Q.* (*By Dr. Comins*).—Would not the ventilation forward of the middle deck of the *Kasara* be very imperfect, even if the after-shutters were opened?

A.—Yes, it would.

185. *Q.* (*By Mr. Mackay*).—Were you shown the plans of the *Kistna* before she was built, and did you not approve of them and make some suggestions which were carried out?

A.—Yes; I was shown the plans, and I then expressed the opinion that such a vessel would afford very good accommodation for a large number of passengers. But I never said that I would recommend the two upper decks to be computed as a total for *upper deck* passengers.

186. *Q.* (*By Mr. Mackay*).—Do you have a high opinion of steamers of the *Kistna* class as regards their seaworthiness and general arrangements for conveyance of native passengers round the coast of India?

A.—Yes; they are the best for the trade.

187. *Q.* (*By Mr. Mackay*).—What are the present rules for ventilation for 'tween decks for short voyages, and do you consider them sufficient? If not, what in your opinion would be sufficient?

A.—Yes; the present rule of 5 square inches, exclusive of all hatches per adult for steamers, is, in my opinion, sufficient,—that is cowls or air shaft.

188. *Q.* (*By Mr. Mackay*).—Even if hatches are closed, you consider 5 square inches per adult consisting of cowl head or air shaft or approved companion may be sufficient?

A.—Yes.

189. *Q.* (*By the President*).—Is the companion leading to the main 'tween deck of the *Kistna* class which opens into a covered middle deck compartment recognized as a ventilation?

A.—No; the 'tween deck is ventilated separately.

190. *Q.* (*By Mr. Mackay*).—Have you ever known the B. I. Company object to provide what you considered proper and sufficient ventilation?

A.—No.

191. *Q.* (*By Mr. Mackay*).—Is your objection to the main or middle deck of the *Kistna* or *Kasara* being closed as an *upper* deck for conveyance of passengers due to your belief that it would not be sufficiently ventilated if the shutters were closed and the hatches on?

A.—My objection to the middle deck being classed as an *upper* deck is, that if the middle deck and the uppermost deck are allowed to count as one upper deck within the meaning of the Act, it must inevitably result in the middle deck being overcrowded in bad weather.

192. *Q.* (*By Mr. Mackay*).—Have you ever suggested to the B. I. Company that the ventilation of the *Kistna's* middle deck should be increased?

A.—No; I never make a suggestion or an order that I cannot enforce.

193. *Q.* (*By Mr. Mackay*).—If the shutters were never closed and the hatches never on, would there be ample ventilation on the middle deck?

A.—Yes.

194. *Q.* (*By Mr. Mackay*).—If the shutters were closed only on one side, and the hatches on, would there be ample ventilation? If not, what proportion would have to be left open?

A.—Yes.

195. *Q.* (*By Mr. Mackay*).—If all the shutters were closed and the hatches left open, would there be ample ventilation?

A.—I do not think so. The air at the ends away from the hatches would soon become vitiated.

196. *Q.* (*By Mr. Mackay*).—Do you know how many inches of ventilation per hundred passengers there would be, if the hatches were on and the shutters shut on the middle deck?

A.—I do not think there is any beyond the ventilators to the forecastle and officers' cabins.

197. *Q.* (*By Mr. Mackay*).—How many inches per hundred passengers do you think should be given on the middle deck to make the passengers perfectly comfortable when the hatches are on and the shutters shut?

A.—Five hundred square inches.

198. *Q.* (*By Dr. Comins*).—Do you mean that if the shutters and hatches of the *middle* deck were closed there would be no direct ventilation, but

merely what was adventitiously obtained by circuitous routes through the officers' cabins?

A.—Yes.

199. *Q.* (*By Mr. Mackay*).—Have you ever known the *lowermost* of the decks filled with cargo, and the two *upper* decks filled with passengers?

A.—I never go on board after the vessels are laden, and cannot say.

200. *Q.* (*By Mr. Mackay*).—Assuming that the *Kistna* had only her lower holds filled with cargo, say, with two or three hundred tons or so, and that she was drawing only 3 feet instead of 16·9″, would you say that her *middle* deck should still be classed as a "*'tween*" deck for the conveyance of passengers, or would you say that she would be so well out of the water that it would be fair in these circumstances to count it as an *upper* deck because she would be able to carry her shutters open and her *hurricane* deck hatches off?

A.—I agree that in this trim she would be a very comfortable ship for passengers, but I do not, in my survey, provide for a vessel on a voyage in a specially selected trim, but for any trim in which the owners may choose to send her to sea, having regard to the official position of the load line.

201. *Q.* (*By Dr. Comins*).—Do you think that passengers on the *middle* decks of vessels of the *Kistna* class, laden to an ordinary depth, and without the shutters down, would be exposed to the sea in moderately rough weather?

A.—Yes; if not to actual sea they would be exposed to heavy spray.

202. *Q.* (*By Sir Henry Morland*).—Could this admission of water and leakage be obviated by the shutters and scuppers being fitted so as to be water-tight when closed?

A.—Yes.

203. *Q.* (*By Mr. Mackay*).—Do you think the passengers on the *middle* deck of the *Kistna*, when she is loaded to a moderate depth, would be more exposed than on the upper deck of a steamer of, say, 1,500 to 2,000 tons gross without a hurricane deck?

A.—No; I do not think so.

204. *Q.* (*By Captain Street*).—Are the waterways and scuppers on the *middle* deck sufficiently large to keep the deck free of water?

A.—The vessel is classed in Lloyds, and no vessel is so classed unless sufficient provision of this kind is provided.

205. *Q.* (*By Captain Street*).—Would the passengers on this deck have any dry place to sit on in bad weather, except on the top of the hatches?

A.—It is very doubtful; some would probably have to sit in the wet.

206. *Q.* (*By Mr. Mackay*).—Would they have less opportunity for keeping dry on the middle deck than on the upper deck of a steamer without a hurricane deck in the same conditions, or more?

A.—No; they would probably experience the same discomfort.

207. *Q.* (*By Sir Henry Morland*).—Is the fore 'tween deck of the *Kasara* fully ventilated according to the present rules?

A.—I cannot say.

208. *Q.* (*By Sir Henry Morland*).—In fitting the ventilators, is any regard had to the positions of the *down draughts* and the *uptakes* of fresh and foul air? In what position and at what height above the deck do the *down draughts* deliver and where do the *uptakes* extend to?

A.—Yes; the cowls are arranged for *down draught* and generally air shafts are fitted at the extreme after end of a space, to take up the foul air. They extend to a safe height above the deck with means of closing in extreme bad weather.

209. *Q.*—What is the height of the middle deck above the load line?

A.—Something under 2 feet.

210. *Q.*—Classing the middle deck as an upper deck within the meaning of the Act, how many passengers can the *Kistna* carry on her three decks on voyages up to five days in fair and foul weather?

A.—In the fair season 1,229; in the foul 963.

211. *Q.*—Assuming that the lowermost of the three passenger decks is used for cargo, how many passengers can be carried on the two remaining decks?

A.—In the fair season 1,166; in the foul 777.

212. *Q.*—Will you give the corresponding numbers, classing the middle deck as a 'tween deck within the meaning of the Act?

A.—In the fair season 998 on the three decks; in the foul season 857; or assuming the lower deck to be used for cargo, in the fair season 910, and in the foul 663.

213. *Q.*—How are these decks now classed at Calcutta?

A.—As upper decks.

214. *Q.*—Have they always been so classed?

A.—No. Last year the Government issued orders under which the middle decks of these steamers were classed as 'tween decks. The orders were, however, modified during the present year.

215. *Q.* (*By Mr. Mackay*).—Was not the middle deck of the *Kistna* treated in Calcutta as an upper deck until the Government of Bengal issued the order No. 1114 of 14th May 1889, to the Port Officer, directing that it should in future be treated as a 'tween deck?

A.—Yes.

216. *Q.* (*By Mr. Mackay*).—Was that order subsequently cancelled?

A.—Yes.

217. *Q.* (*By Mr. Mackay*).—Have you any statistics or records of deaths or sickness or casualties which have arisen through the *middle* deck of steamers of *Kistna* class having been treated as *upper* decks under the Native Passenger Act?

A.—No; I have no statistics on the subject.

218. *Q.*—Will you furnish the Commission with your opinion as to the sufficiency or otherwise of the space allowed by the Act and rules generally?

A.—As regards long voyages, I do not see why ordinary passengers should fare worse than emigrants. Calcutta, however, is not much concerned with the long voyage trade, and I have not examined its conditions very closely.

Short voyages, as defined in the Act, may extend to five days, that is nearly the time which a good steamer takes to cross the Atlantic. In my opinion either the allowance of space on these so-called short voyages is insufficient, or the time allowed to count as a short voyage is too long.

The Board of Trade draw the line between Foreign Trade and Home Trade, and a Home Trade ship is a ship employed in trading within the following limits, that is, the United Kingdom, the Channel Islands, the Isle of Man, and the Continent of Europe between the River Elbe and the Brest. Now, an ordinary Home Trade voyage would be, say, from London to Leith, or from Liverpool to Dublin, and very few of the steamers carrying large numbers of passengers would take more than 24 hours from port to port. In this trade the Board of Trade require 9 square feet to be provided for every passenger, and allow passengers to be carried only on the main and the lower decks. Making every allowance for

the difference in the conditions, it seems to me that the Indian passenger requires more protection than the existing Act affords. I would do away with the present definition of a short voyage. A short voyage is, in my opinion, one which can be made in daylight—not one which may occupy five days. I am unable in this connection to make any important distinction between five days and ten days, and I think that, if passengers have to pass a night on board a vessel at sea, they should have room to turn round. When the full number allowed by the existing rules is carried, it must be practically impossible to get the passengers to move about to allow of the decks being washed, and they cannot but be in a filthy state towards the end of a five days' voyage.

Then, again, I doubt whether in the case of voyages which may extend to several days, the conditions justify a distinction being made between different seasons. On this point the Commission will no doubt obtain the advice of experts, but I may remark that the cyclone which swept over False Point in 1885 occurred in September, which the rules declare to be the fair season.

In the third place, I do not think that, for voyages which may extend to several days, hurricane or shade decks should be measured for passengers. These decks are very useful as airing space, but in bad weather the passengers should not be forced to remain on them, and bad weather may be encountered in any season.

I would then measure the poop and the main and lower decks at 9 square feet for each passenger, but I would require also that there should be 6 square feet of permanent shelter for each passenger in case of bad weather.

For voyages not exceeding 10 or 12 hours in duration, I would give the local authorities power to increase the number according to local conditions.

219. *Q.* (*By Mr. Mackay*).—Did you hold these opinions prior to the passing of the existing Act in 1887. If so, did you press them upon Government?

A.—I have all along held these opinions. I have not pressed my views upon Government on any subject.

220. *Q.*—Have you any special suggestions to make in regard to voyages similar to those classed as excursions by the Board of Trade, that is, voyages during which a vessel is not more than 10 or 12 hours at sea?

A.—I think discretion should be left to the local authorities to deal according to circumstances with cases in which a vessel is not more than 12 hours at sea. For such voyages it might be desirable to make a difference between fair weather and foul. In some cases I would allow passengers to be carried at 6 square feet each. The only traffic of this class, of any dimensions in Bengal, is that between Calcutta and the Orissa ports. It would probably be brought within the limit. Some of the steamers engaged in this trade are undoubtedly overcrowded under the existing regulations, and the space should be increased. My suggestion is that, subject to the control of the Government, the local authorities should determine the number of passengers to be carried, it being understood that the number shall in no case be less than what is allowed on the longer voyages. If some such discretion is not allowed, it will be impossible to do justice to the steamers in all cases that may arise.

221. *Q.* (*By Captain Street*).—You have stated with reference to voyages not exceeding 12 hours that, in your opinion, the local authorities should determine the number of passengers to be carried. Do you mean, that on each occasion of a vessel intending to make a voyage not exceeding 12 hours the local authorities should be applied to, to determine the number of passengers to be carried?

A.—I mean that special local rules for each different locality should be framed by the local authorities, who, having all details before them, could better deal with them than could the Government of India in laying down rules for all ports and places.

222. *Q.* (*By Mr. Mackay*).—You say your suggestion is that "*subject to the control of the Government* the local authorities should determine the number of passengers to be carried." I presume, by the local authorities, you mean the Surveyor and the Port Officer, that is, that the Port Officer should sign the certificate on the statement of the Surveyor?

A.—No; I do not mean that at all. I mean that, the rules should be laid down by the local Government.

223. *Q.* (*By Sir Henry Morland*).—Would you allow vessels, the voyages of which extend to two or three days, to carry a larger number of passengers for the *first* and *last few hours*—say, for the *first 50 miles going* and the *last 50 returning?* If so, what space should be allowed for these short distances for each passenger?

A.—I would in no case allow passengers to be carried outside river-limits at less than 6 square feet each.

224. *Q.* (*By Sir Henry Morland*).—Would you require separate vessels to make the short 12-hour voyages as distinct from those making the longer five days' voyages; or would you allow vessels touching at the 12-hour port to take passengers when on the longer voyages?

A.—There is a special notification on this point which I think is still in force. I do not think it fair to passengers on the longer voyage to be crowded up at intervals during the voyage by short voyage passengers.

225. *Q.* (*By Sir Henry Morland*).—Would such differences in the allowance of space lead to complications in ascertaining at the port of destination the actual number of passengers travelling from the more distant ports?

A.—I think this could and should be met by a provision or notification to the effect that passengers proceeding on a voyage beyond the prescribed limit for a short voyage, shall at all times have the required space they are entitled to for the voyage upon which they embark.

226. *Q.*—Is it necessary to adopt any special precautions for the safety of passengers in vessels of large beam?

A.—I have advised that in steamers having a beam of 30 feet or over, there should be either a permanent or temporary middle line bulkhead, so that passengers may not, in very rough weather, be thrown from one side of the vessel to the other.

227. *Q.* (*By Dr. Comins*).—If this bulkhead formed a complete division between the two sides of the deck, would it not interfere with the ventilation and also confine the freedom of passengers?

A.—It is intended that the bulkhead should be 3 feet 6 inches high.

228. *Q.* (*By Dr. Comins*).—Would not a rope netting, which could also be used as a separation from women, be better?

A.—Yes.

229. *Q.* (*By Mr. Mackay*).—Is the rule you mention not already in force?

A.—Yes; so far as I know the officer granting certificate B is supposed to see this.

230. *Q.*—Is it necessary for the comfort or safety of the passengers that provision should be made for the accommodation of luggage not stored in the hold?

A.—This is a difficult question. At present it is, I believe, the practice for passengers to keep their luggage with them, and I understand they object strongly to parting from it. I think we must recognize their objections to a certain extent, and let them keep hand baggage, using the term in a wide sense to include bundles, &c.; but heavy articles and boxes should be securely stowed away in some place specially appropriated for the purpose. In recommending that 9 square feet should be allowed to each passenger, I assume that suitable arrangements will be made for stowing away passengers' baggage.

231. *Q.* (*By Dr. Comins*).—What would you say is the average amount of baggage as to bulk and weight taken by native passengers on short voyages like that from Calcutta to Rangoon?

A.—I should say half a maund, but this may be wide of the actual amount on some voyages.

232. *Q.* (*By Dr. Comins*).—What place would you recommend to be especially appropriated for stowing passengers' heavy articles of luggage and boxes?

A.—Sufficient space bulkheaded off for the baggage in a temporary luggage room in any suitable part of the ship. I do not think that we should order a permanent luggage room.

233. *Q.* (*By Mr. Mackay*).—You say that the five days' limit for short voyages is almost as long a time as a good steamer now takes to cross the Atlantic. Have you had any experience of the weather usually encountered in the North Atlantic, and do you not consider the conditions as to weather are much more unfavourable to passengers across the Atlantic compared with the conditions as to weather under which passengers from Calcutta to Rangoon are carried?

A.—No; the present North Atlantic steamers and the steerage accommodation on them are very good. Being large heavy vessels, a gale that would be felt severely by the ordinary coasting steamers would hardly be felt on an Atlantic steamer.

234. *Q.* (*By Mr. Mackay*).—Are you aware that it is a frequent occurrence for North Atlantic passengers to be battened down below owing to the severity of the weather?

A.—I am aware that they have frequently to be battened down.

235. *Q.* (*By Mr. Mackay*).—You say your experience is that Surveyors at the ports in India do not make their surveys on the same lines. Is it your opinion that if they had no rules to guide them they would more nearly do so?

A.—I cannot say.

236. *Q.*—Will you explain to the Commission what rules are in force in India on the subject of life-saving appliances?

A.—There are at present four sets of rules in force, *viz.*:—

Rules under the Indian Steam-ships Act, 1884;
Rules under the Native Passenger Ships Act, 1887;
Rules under the Indian Emigration Act, 1883; and
Rules under the Inland Steam-vessels Act, 1884.

The scales under the Native Passenger and the Emigration Acts, though apparently different, are, in reality, precisely the same, and they both correspond with the scale formerly laid down under the "English Passengers Act of 1855."

237. *Q.*—Do the new regulations of the Board of Trade, made under the Merchant Shipping (Life-saving Appliances) Act, 1888, apply to India?

A.—The Act contains no limitation as regards the locality within which the rules, as far as British ships are concerned, are to operate, and most of the vessels which carry native passengers are British, but the rules have not yet been enforced in India.

238. *Q.*—What, in your opinion, is the object of these revised regulations?

A.—The object of the rules is to ensure the provision of sufficient life-saving appliances for all persons on board in case of shipwreck.

239. *Q.*—Do the revised regulations require more appliances than were necessary under the old rules, and why was the change found necessary?

A.—In some cases they do, but not in all. The old rules, like those still in force in India, were based on an incorrect principle. The scales of boat accommodation were fixed with reference to the tonnage of the vessels only, instead of depending upon the number of persons carried.

240. *Q.* (*By Mr. Turner*).—You say the scale of boat accommodation was fixed with reference to the tonnage of the vessels only, but you said before that the number of passengers was limited to one to each gross ton. If this is so, did not the scale bear some proportion to the passengers?

A.—No.

241. *Q.*—Are the revised regulations suitable, in your opinion, for vessels engaged in the native passenger trade?

A.—I think they are quite suitable. I may point out that, for the purpose of preparing and advising on the rules, the Board of Trade were bound by the Act of Parliament to appoint a Consultative Committee, representing ship-owners, ship-builders, seamen, and under-writers. The rules have been framed accordingly, and I do not think we can pretend to improve on them. In all such matters I think that the regulations in India should be in substantial agreement with those of the Board of Trade. Vessels trading between India and the United Kingdom are already subject to the revised regulations.

242. *Q.*—In your opinion is there no difference of conditions which would justify a difference in the regulations on this subject?

A.—The only difference is the colour of the passengers, and I do not suppose that any one would claim that a native of Asia or Africa has any less right than a European to have his life protected. I would make no difference in the regulations.

243. *Q.* (*By Mr. Mackay*).—Are natives as a rule the same weight and do they occupy the same space as Europeans?

A.—No; but I do not see that the weight of a man in the water has much to do with the life-saving appliance that should be provided for him.

244. *Q.*—Do you think that the natives of India require as much space in boats as Europeans?

A.—The space allowed by the Board of Trade has, I think, been cut down to the lowest limit possible, and I would not make any further reduction. If there is any difference, it would not be sufficient to justify a modification of the regulations.

245. *Q.* (*By Captain Street*).—Do you think that any good end is obtained by causing a vessel to be provided with more boats than can be efficiently manned and kept in order by the crew of the vessel?

A.—This is criticising the rules which have been

determined by the Home authorities as necessary and I would rather express no opinion on the subject.

246. *Q.*—(*By Captain Street*).—Would the crew of the *Mombassa*, for instance, be sufficient to man all the boats which, under the revised rules, that vessel would have to carry?

A.—There is nothing in the rules requiring the crew to be sufficient to man all the boats, rafts, &c., required.

247. *Q.*—Would you adopt the Board of Trade Regulations in regard to life-buoys and life-belts?

A.—Yes; they are as necessary for natives as for Europeans. Their lives are as valuable as any one else's.

248. *Q.* (*By Captain Street*).—Would not circular life-buoys be preferable to life-belts where native deck passengers are concerned?

A.—Yes, I think so; but I make no recommendation on the point.

249. *Q.* (*By Dr. Comins*).—What would be the space required to store, say, 1,000 life-belts or cork jackets?

A.—Five hundred cubic feet.

250. *Q.* (*By Sir Henry Morland*).—Have life-belts any superiority over life-buoys as to length of time they will sustain in the water?

A.—The advantage is in favour of the life-belt, because, if once properly put on, it would support the man probably long after he had lost the power to cling to the buoy and possibly save his life.

251. *Q.*—Do you think the existing rules in regard to hospital accommodation are suitable?

A.—No; it is anomalous that the same hospital accommodation should be required whether the vessel carries two hundred or two thousand passengers. I would give permanent hospital accommodation in the ratio of three bunks for every two hundred adults, 24 square feet of deck area, and 144 cubic feet of air space being allowed for each bunk. I would also provide temporary hospital accommodation at the rate of 18 square feet for every two hundred adults, but this is a question for medical authorities.

252. *Q.* (*By Mr. Mackay*).—Have you any thing to show that the hospital accommodation provided by the present Act has proved insufficient and led to loss of life and sickness in passenger steamers trading in India?

A.—I have no records on the point.

253. *Q.* (*By Mr. Mackay*).—Would you object to certain cabin accommodation being set aside for hospitals when necessary instead of building deck cabins?

A.—No.

254. *Q.* (*By Dr. Comins*).—What is the hospital accommodation required by the Emigration Act for voyages lasting about 16 days in steamers to Mauritius?

A.—Two berths for every hundred passengers in a permanent deck house, and a space of 18 superficial feet for each berth.

255. *Q.*—When decks are measured for passengers, is any allowance made for passages for the officers and men working in the ship? If no allowance is at present made, is it desirable to forbid Surveyors to measure narrow alleyways for passengers?

A.—No special provision could be made for keeping clear spaces on the decks, but it is very desirable that a special ruling should be given, forbidding surveyors to measure narrow alleyways for passengers. These should be reserved for the purposes for which they are intended. I believe that the practice in regard to measuring these alleyways varies at different ports.

256. *Q.* (*By Sir Henry Morland*).—You state to measure *narrow* alleyways, what width do you refer to? What practice is followed in Calcutta? What width should alleyways have, to be measured for passengers?

A.—I should say not less than 3 feet 6 inches. They are included, except where the firemen carry the ashes to the side of the ship.

257. *Q.* (*By Mr. Mackay*).—In fact, you never measure anything that you do not think ought to be measured?

A.—No.

258. *Q.* (*By Mr. Mackay*).—Don't you think that the extra area which the passengers get through the hatches not being measured as a general rule compensates for anything they may lose through alleyways being measured?

A.—I have hitherto gone upon that.

259. *Q.* (*By Captain Street*).—With respect to alleyways, do you also mean the alleyways on the *'tween* decks or only the alleyways on the *middle* deck of vessels like the *Kistna*, for instance?

A.—No; only on the *main* decks.

260. *Q.* (*By Mr. Mackay*).—If there are alleyways on the *'tween* decks properly ventilated, do you measure them?

A.—Yes; there is no question about them.

261. *Q.* (*By Sir Henry Morland*).—Do you allow the full area of alleyways over 3 feet 6 inches wide to count for passenger space?

A.—Yes; I think so, except where the stokers have to carry the ashes to the side of the vessels.

262. *Q.* (*By the President*).—Would it not be better then to measure the hatches and not measure the alleyways?

A.—No; I would object to measure the hatches in any cases. The question of alleyways should be determined by the Commission.

263. *Q.* (*By Captain Street*).—With passengers in alleyways over 3 feet 6 inches, is there space left for the officers and crew to walk along the alleyways?

A.—They would have to pick their way between the passengers in the same way as on any other part of the deck.

264. *Q.* (*By Captain Street*).—Do you consider that during the foul weather seasons a vessel in ballast trim should carry the full number of passengers allotted to her? If not, in what manner would you make a deduction.

A.—I do not think we could interfere with the manner in which a company load or trim their ships. It would be difficult,—I may say impossible—to lay down a rule as to how a vessel may go safely to sea in ballast trim.

265. *Q.* (*By Captain Street*).—The court appointed to enquire into the circumstances attending the loss of life on board the *Bhundara* during the cyclone of 31st October and 1st November 1888 made the following recommendation, *viz.*: "That the closing gear of seacocks in steamers should be made to work beyond the reach of the wash of bridge water, and that some means should be taken to fasten down the flooring plates of stokeholes." Will you state whether these suggestions have been acted on by you, or whether you, in your capacity as Engineer Surveyor, insist on such arrangements being made in vessels at Calcutta?

A.—As regards the seacocks, yes, in vessels of that class. As regards the flooring plates, no. I do not know of any sea-going steamers where the flooring plates in the stokehold are permanently fastened down.

266. *Q.* (*By Sir Henry Morland*).—Are the several areas on the decks in which passengers are carried marked for the number to be accommodated

therein? If not, is it desirable that this information should be conspicuously notified in such space, and in what language—English or Hindustani, or in both?

A.—The areas are not marked in steamers in India. It is in my opinion desirable and necessary. I think the number each space can accommodate should be marked up in English and Hindustani.

267. *Q.*—How many passengers can a steamer carry without coming under the provisions of the Native Passenger Ships Act?

A.—Sixty.

268. *Q.* (*By Mr. Mackay*).—Can a steamer in India carry more than twelve passengers without having a survey certificate?

A.—No.

269. *Q.*—How many passengers can a steamer carry without a certificate of survey under the Indian Steam-ships Act, or a corresponding certificate from the Board of Trade?

A.—Twelve.

270. *Q* (*By Mr. Mackay*).—Do you know of any reason why the precedent set by the Board of Trade as to the limitation of survey to vessels carrying over twelve passengers should not be followed in India?

A.—The practice here is the same as the Board of Trade Merchant Shipping Act provides in the United Kingdom.

271. *Q.* (*By Mr. Mackay*).—Are tug steamers carrying twelve passengers or under liable to survey under Board of Trade Rules?

A.—Not unless they carry more than twelve passengers.

272. *Q.* (*By Mr. Mackay*).—Are such steamers liable to survey under Indian Rules?

A.—Yes, because the Advocate General has ruled that they come under Act VI of 1884 as regards survey.

273. *Q.* (*By Mr. Mackay*).—Are you in favour of assimilating Indian Rules with Board of Trade Rules in the case of inland steamers and tug steamers?

A.—I have no reply to give.

274. *Q.*—Do you know of any instances in which passengers not exceeding sixty in number have been carried in vessels having no suitable accommodation for them?

A.—Yes, there have been instances; but so far as Calcutta is concerned, the Government have issued orders to meet such cases.

275. *Q.*—In your experience, do the Surveyors at all ports in India make their surveys on the same lines?

A.—My experience is that they do not.

276. *Q.*—Do you think it necessary that there should be a set of definite instructions as to the survey of passenger accommodation and crew spaces similar, so far as may be, to those issued by the Board of Trade?

A.—Yes; it is very necessary that the same rules should obtain at all Indian ports, and they should be, as far as the conditions admit, the same as those of the Board of Trade.

277. *Q.*—Do you think the existing regulations in regard to the lighting and ventilation of the passenger accommodation suitable?

A.—In regard to lighting there are no regulations. The orders of Government regarding ventilation require 5 square inches for each adult, exclusive of the hatches. These and suitable instructions in regard to lighting should be embodied in the general regulations.

278. *Q.* (*By Captain Street*).—Do you know what arrangements are at present adopted on board of vessels carrying native passengers for lighting the decks at night?

A.—Some have electric light, and some have oil lamps.

279. *Q.* (*By Captain Street*).—Have you any recommendations to make in respect to the lighting of native passenger accommodation both by day and night?

A.—They should always have side scuttles spaced not less than 14 feet apart and not less than 6 inches in diameter during the day, and not less than two good globe-lamps in each compartment during the night.

280. *Q.* (*By Mr. Mackay*).—Are not all the recent steamers brought out by the B. I. Company lighted throughout with electric light, with a view of improving the conditions under which native passengers travel, and so adding to their comfort at sea?

A.—Yes; all the recent steamers are fitted with electric light.

281. *Q.* (*By Dr. Comins*).—Do you think the natural ventilation of the *'tween* decks of an emigrant vessel (steamer or sailing vessel) excessive?

A.—No; I do not think so.

282. *Q.* (*By Dr. Comins*).—The amount of ventilating space per passenger under the Passenger Act is 5 inches; what is the amount of ventilating space allowed to each emigrant under the Emigration Act?

A.—It is 10 square inches per adult.

283. *Q.*—Would you make the regulations in regard to the equipments of vessels similar in all respects to those of the Board of Trade?

A.—Yes; I think it is very desirable that the regulations should be similar. I may mention that the Bengal Chamber of Commerce have, in a recent letter referring to the equipments of a steamer, represented that there should be agreement with the orders of the Board of Trade affecting the equipment of the British vessels, and I hold the same view.

284. *Q.* (*By Mr. Mackay*).—Does this recommendation of the Bengal Chamber of Commerce apply to equipments of steamers under the Native Passenger Act?

A.—Yes.

285. *Q.* (*By Mr. Mackay*).—Do you mean that the Bengal Chamber of Commerce has recommended that the rules for steamers coming under the Native Passenger Ships Act should be made similar to those of the Board of Trade, and you will kindly quote the number and date of the letter to which you refer?

A.—I cannot say that the letter referred to the provisions of the Native Passengers Act. I will produce the letter.

286. *Q.*—Do you think that, on a voyage which may extend to five days, sleeping platforms should be provided for the passengers?

A.—Yes; it would greatly relieve the deck, and it would promote cleanliness if sleeping platforms were provided similar to those provided for emigrants.

287. *Q.* (*By Captain Street*).—Do you consider that sleeping platforms are absolutely necessary, or do you only recommend them for the reason that they would enable the deck to be kept clean and sweet?

A.—I do think it necessary and desirable that where passengers have to sleep on a vessel for three or four days sleeping platforms should be provided.

288. *Q.* (*By Captain Street*).—Have you ever noticed whether under present arrangements the decks of passenger steamers on the Calcutta and Burma line, when passengers are on board, can be kept clean and sweet?

A.—I have never boarded a steamer arriving from Burma.

289. *Q.* (*By Sir Henry Morland*).—Please describe the platform you would require? Would these platforms be provided without material inconvenience to the ship when not carrying passengers?

A.—A plain deal platform, 6 feet wide along the side of the ship, 3 feet above the deck. These might be laid upon movable iron stanchions and the planks might be used for dunnage, or even if stowed away they will not take up much room.

290. *Q.* (*By Dr. Comins*).—What proportion of the passengers could be carried on sleeping platforms?

A.—I should say 28 to 30 per cent.

291. *Q.* (*By Dr. Comins*).—Do you think a larger number of passengers could be carried on a deck having sleeping platforms? If so, what proportionately larger number?

A.—Yes; but I would not undertake without experiment to say what per cent. I would increase the number if the platforms were supplied. I may also add that I would not require platforms to be supplied on voyages of less than three days' duration.

292. *Q.*—What closet accommodation do the rules require on these native passenger vessels?

A.—Two closets for the first hundred passengers and one more for each additional hundred.

293. *Q.*—What accommodation of this kind is provided for emigrants?

A.—Four closets for every hundred passengers.

294. *Q.*—And what accommodation do the Board of Trade Rules require?

A.—Three closets for every two hundred passengers.

295. *Q.*—Which scale do you consider the most suitable?

A.—I think that the Board of Trade scale might be adopted with advantage. The present scale under the Native Passenger Act is, I think, insufficient.

296. *Q.*—What spaces are left unmeasured for passengers when a vessel is being measured for certificate A?

A.—The main deck from the windlass forward and the main deck or poop, as the case may be, abaft, and including the steering wheel aft. When the bridge is included, room for the officers to con the ship, say, 10 feet from the front of bridge and the whole width of vessel.

297. *Q.*—How are the hatches treated when a vessel is being so measured, *i.e.*, is the whole space of a hatch deducted or not; is any difference made on account of long and short voyages?

A.—Generally speaking, half the hatch is deducted, except in very large hatches, when the width by the length to the first hatch beam only is deducted. No difference is made between long and short voyages in this respect.

The above applies to 'tween decks.

The whole of the hatches are deducted from the main deck measurement.

298. *Q.* (*By Captain Street*).—Is any exception made in the case of coasting steamers carrying passengers?

A.—No.

299. *Q.*—Are the spaces which would be required for the deck water-tanks, latrines, and cooking ranges, necessary for use of native passengers, deducted from the passenger space, even if such articles should not be in position at the time vessel is being measured?

A.—Every fixed incumbrance on the deck space is deducted from the gross area; but no deduction is made for what may be put on board subsequently.

300. *Q.* (*By Mr. Mackay*).—But if anything is put on board subsequent to the vessel being measured, the space that this may occupy has to be deducted from the passenger area, and the number of passengers reduced accordingly. Has it not?

A.—Yes.

301. *Q.* (*By Dr. Comins*).—Who makes this deduction, and is any alteration made subsequently in the certificate?

A.—I have occasionally made an alteration When an important alteration in the space has been made, the owners are responsible for the space which has been measured being kept clear if the full number of passengers is carried.

302. *Q.*—After a vessel has been measured for certificate A, is the Captain supplied with a copy of the Surveyor's calculations? If not, do you think it necessary that he should be?

A.—No; it is not done at this port, nor in the United Kingdom. I doubt whether he would take the trouble to go over the computation. In the United Kingdom the owner states upon the form of application the spaces he wishes to have included in the measurements.

303. *Q.*—Would it not be advantageous if a copy of all measurements and calculations of passenger space, as determined in original measurement, be supplied to the commander of the vessel? If so, would you recommend that the calculations should show clearly the name of the various obstructions which have been deducted from the gross area, their dimensions, and the proportional area deducted?

A.—I think it would be advantageous to have a plate or board setting forth the clear deck area of each particular space on either the 'tween decks, the main deck, or poop, and the number of passengers each such space can accommodate when free from cattle, cargo, and other incumbrances in the manner shown in paragraph 16 of Board of Trade Instructions to Surveyors regarding the survey of passenger accommodation.

304. *Q.*—In ships with large water-ways in the 'tween decks extending inside the battens on the ship's side, is the deck measurement to the inside edge of the water-ways or to the battens? Which would you recommend?

A.—If the water-way is covered with a grating or a board covering, then the measurement is taken to the spar battens, if not to the inner edge of the water-way. I recommend that this practice be adhered to.

305. *Q.* (*By Captain Street*).—For each square yard measured for passengers, occupied by cattle or other animals, or by cargo, how many passengers are deducted?

A.—There is nothing in the Act or Rules.

306. *Q.* (*By Captain Street*).—Is each and every section or part of a ship intended for the conveyance of passengers under the Native Passenger Ships Act whether on deck or below, described in the application for survey?

A.—No.

307. *Q.* (*By Captain Street*).—When cattle are carried in the 'tween decks or holds of vessels under the Native Passenger Ships Act, is there any rule which requires the passengers' space to be effectually shut off from the cattle space and to be separately ventilated?

A.—I do not know of any rule on this point. The officer granting certificate B may have some instructions referring to such cases.

308. *Q.*—In vessels *not* of the *Kistna* class,

should the spaces set apart for the boats in the vicinity of the bridge be utilized for passengers when the boats are carried at the davits? If so, state whether during both fair and foul season, or only during the fair season.

A.—Certainly not during the foul season; and I would not recommend its being allowed at all, as the boats are always, or nearly always, swung inboard coming in and going out of harbour.

309. *Q.* (*By Mr. Mackay*).—Because the passenger space had to be curtailed a little coming in and going out of harbour by the boats being swung in on one side, would you cut out the space thus temporarily occupied by the boats from the measurable passenger area?

A.—Where boats are likely to be swung inboard in bad weather the space they occupy should not be included.

310. *Q.* (*By Mr. Mackay*).—Do you know that your general recommendation as to space and hurricane decks, &c., if carried out, would reduce the carrying capacity of the *Kistna* class of steamer from about 1,229 to about 733?

A.—In regard to the previous fair season numbers, it would.

311. *Q.*—Is allowance made in Board of Trade Rules for height of 'tween decks,—in fact, do not Board of Trade Surveyors, when berths are not fitted for third class passengers, calculate the number that may be carried, on the basis of a cubic measurement of 72 cubic feet per statute adult, after deducting all hatches and encumbrances?

A.—In regard to the Foreign Trade the Board of Trade Rules take account of the height of the 'tween decks, the minimum cubic capacity being 72 cubic feet for each passenger, but in the Home Trade the number of passengers is determined by the amount of deck space available. The clear area of the deck in square feet is divided by 9 to obtain the number of passengers. No account is taken of the height between decks, except that if it is less than 6 feet the deck would not be measured.

312. *Q.*—If so, would you consider it proper to allow for height of 'tween deck as an element in the health and comfort of third class native passengers?

A.—The greater the height, the better for the passengers, but whatever the height, I think a passenger requires 9 superficial feet of deck area if he has to sleep on board, but should sleeping platforms be adopted the passengers' space might be reduced.

313. *Q.* (*By Dr. Comins*).—What space is allowed on *'tween* decks for Chinese passengers from Hongkong and other Chinese ports?

A.—Some three years ago it was 9 square feet each. I am not quite certain what it is at present.

314 *Q.* (*By Mr. Mackay*).—On what length of voyages would that be?

A.—Say two to three and six days.

315. *Q.* (*By Mr. Mackay*) —What space is required per passenger, Singapore to Hongkong, in north-east monsoon?

A.—I would prefer to have a perusal of the Straits and Hongkong Rules before answering this.

316. *Q.* (*By Mr. Mackay*).—Are they entitled to any upper deck area in addition?

A.—I am not certain what airing space is required.

317. *Q.*—Are you acquainted with the ordinary conditions of native life amongst the class that form the bulk of the native passengers who travel by sea?

A.—I have no special knowledge of the subject.

318. *Q.*—Are you aware that it is a common practice for natives of India to sleep at night in the open air?

A.—I do not know of any who sleep in the open air during bad weather.

319. *Q.*—Do you consider a double awning overhead with side curtains and bulwark screens, as required by the Native Passenger Act, equal to the ordinary tent in which troops are accommodated?

A.—I do not think that the conditions are sufficiently similar for a comparison of any value to be made.

320. *Q.*—Do you know that 6 superficial feet on the upper deck under double awnings and curtains is considered sufficient accommodation for native troops making voyages under five days' duration?

A.—I do not know what the rules are on the subject.

321. *Q.*—Being acquainted with the class of natives who form the bulk of those who travel by sea, do you consider they require better accommodation for their health and comfort than native troops?

A.—I think that the ordinary passengers require rather more space. They are not under discipline like troops, and their baggage is not stowed away. Moreover, the troops being strong and healthy men, are better able to rough it.

322. *Q.* (*By Mr. Mackay*).—Are you aware that second class or first class accommodation can always be had in the steamers for Rangoon for those who choose to pay for it?

A.—Yes; I suppose a native might charter a special steamer for himself if he choose to pay for it.

323. *Q.*—Is it within your knowledge that first class passengers travelling about the Bay of Bengal and coasts of India, as a rule, prefer to sleep on deck under the same conditions as to awnings and curtains as the third class native passengers?

A.—They do prefer to sleep on deck in fine weather, but if it is rough they have a cabin to go to. Also they can in a great measure choose their places on deck without being huddled up together.

324. *Q.*—Do you consider that there is such similarity as to warrant a comparison between the weather experienced on the coast of the United Kingdom or between the river Elbe and Brest (English Home Trade voyage) and that experienced in the Bay of Bengal and coasts of India?

A.—It is sometimes perfectly fine in both localities, and sometimes very rough. The average temperature is higher in Indian waters than in English, and this makes the upper deck better for passengers than it is in England and the lower deck worse.

325. *Q.*—Do you consider the conditions of English and Indian passenger traffic to be similar in any other way than that the traffic under discussion is by sea?

A.—Yes; they are practically similar in all respects excepting temperature. I refer to deck passengers, who in the United Kingdom are given no more accommodation than the Board of Trade consider essential.

326. *Q.*—Who pays the passage of emigrants from India to Mauritius and elsewhere?

A.—I have no doubt that either directly or indirectly the passenger himself pays for his passage in all cases.

327. *Q.*—Do you think the ordinary native passenger would be prepared to pay more for better accommodation?

A.—I should say a number of them would. We see them doing it by travelling intermediate

instead of third class on railways; but I think that the rules should provide only for health, comfort, and safety.

328. *Q.*—Is it not a fact that very well-to-do native merchants are satisfied with the usual deck accommodation?

A.—I believe that among these native passengers the well-to-do man generally gets more space and better accommodation than the poor man, although he may have paid the same price for his passage ticket. If the ship is full, what he gains, others must lose.

329. *Q.*—Are these passengers on the middle deck not better protected than on ordinary upper decks?

A.—They are certainly better protected. I think that the decks are very suitable for passengers, provided that the number put on them is not too great.

330. *Q.*—During inclement weather do you consider that the upper deck passengers are sufficiently protected by canvas awnings? If not, what would you recommend.

A.—I do not think that canvas awnings are a sufficient protection in rough weather, and on voyages which may extend to a few days there should be permanent shelter for all passengers. In saying this I do not refer so much to the *Kistna* type of vessels but to those vessels which fill up with a full cargo and then carry passengers on the main deck.

331. *Q.*—Do you consider that sufficient protection from the sea is afforded to upper deck passengers by the "reasonably stout screen" which, under existing rules (*see* Government of India letter No. 430, dated 27th August 1878) is held as coming within the definition of a substantial bulwark? If not, state what you would recommend in lieu.

A.—I recommend that there should be permanent shelter for all passengers.

332. *Q.*—In rough weather, would any water get on to the middle deck through the scuppers Could this be prevented?

A.—The scuppers on the main decks of vessels of the *Kistna* class might be plugged up and then very little water would get in; or the scuppers might be fitted with automatic valves to exclude the water. There would always be a little leakage in rough weather through the joints of the shutters.

333. *Q.*—Do you consider that cargo, horses, cattle, sheep, and live-stock should be carried on the same deck with passengers? If so, is any fitting necessary to prevent the passengers from being inconvenienced by the urine and dung of the horses, cattle, and sheep, and, if any such fitting is requisite, state what you would recommend?

A.—They should never be carried in the same 'tween deck with passengers, but may be carried on the same upper deck. If they are carried they should be securely penned off and washboards fitted to prevent the urine and dung from getting on the passenger space.

334. *Q.*—In vessels which, under existing rules, are permitted to carry horses, cattle, and sheep with native passengers, are sufficient precautions adopted to prevent the hay and straw provided for the use of such animals from catching fire either from a spark from the ship's funnel or lighted matches? If not, state what extra precautions you would recommend?

A.—I do not know that any special precautions are needed. It is the business of the ships' officers to look after matters of this kind.

335. *Q.*—Are not alleyways additional shelter, and, therefore, desirable for passengers?

A.—They do afford shelter, but in the case of a heavy head sea the passengers might be washed out of them. That they afford shelter on some occasions is no reason for blocking them up with passengers at all times. The fact of their being used illustrates the necessity for providing permanent shelter.

Proceedings of the Eleventh Meeting of the Native Passenger Ships Commission, held at the Bengal Office, at 3 p.m., on the 16th December 1890.

Present:

Surgeon-Major A. S. Lethbridge, C.S.I.	*President.*
Captain Sir Henry Morland, Kt., H.M.I.M	*Members.*
Captain H. A. Street, H.M.I.M.	
H. B. H. Turner, Esq.	
James L. Mackay, Esq.	
Surgeon-Major D. W. D. Comins	
W. B. Bestic, Esq.	

1. The Proceedings of the tenth meeting were approved.

2. Mr. Alexander Pedler, Meteorological Reporter to the Government of Bengal, was called and examined.

3. Mr. Pedler's examination having been completed, Messrs. Mackay and Turner stated that they would be glad to supply the Commission with the information required by Mr. Pedler, to enable the Meteorological Department to prepare a revised schedule of the fair and foul seasons.

4. Dr. R. MacLeod, Health Officer of the port, was called and examined.

5. Dr. MacLeod's examination having been completed, the President asked him to favour the Commission with a memorandum giving his opinion in regard to the accommodation, ventilation, &c., of the British India Steam Navigation Company's *Kasara*.

6. At 4-20 the Commission adjourned until 3 P.M. on the 17th instant.

Mr. ALEXANDER PEDLER.

1. *Q.*—You are Meteorological Reporter to the Government of Bengal?

A.—I am.

2. *Q.*—And it is part of your duty to prepare the Bay of Bengal weather chart which is issued daily?

A.—It is.

3. *Q.*—On this chart you show, so far as the observations made at the Meteorological Observatories along the coast line enable you to do so, the state of the weather at sea from 4° N. latitude to the head of the Bay of Bengal and as far east as Tavoy?

A.—Yes.

4. *Q.*—In the event of your observations indicating the existence of stormy weather in the Bay of Bengal, are you required to take any action in the matter of issuing storm warnings?

A.—The whole of the coast line of the Bay of Bengal from Tavoy, on the south-east round to Tuticorin, inthe south of the Peninsula of India, is under my charge in the matter of storm warnings. I have to warn all the important ports in this area of the existence of any storms in their neighbourhood which are likely to approach the coast. These warnings are communicated to the shipping lying in the various ports by means of signals.

5. *Q.*—Has the experience of the Meteorological Department in India generally, and your individual experience, shown that the Meteorological changes over the Bay of Bengal and over India generally are of a regular nature?

A.—Yes.

6. *Q.*—Is it therefore possible for you to state, with any amount of certainty, what the general weather in any particular month will be in any part of the Bay of Bengal?

A.—It is possible to do so.

7. *Q.* (*By Sir Henry Morland*).—How long previously?

A.—The general weather which may be expected over the Bay of Bengal may be stated with approximate accuracy for months before.

8. *Q.*—Does this statement apply to the general weather conditions only, or can you also state in what months storms are likely to occur and also when the Bay is almost certain to be free from storms?

A.—The conditions necessary for the formation of storms in the Bay of Bengal have been worked out with considerable accuracy, and the storms which have occurred during the past fourteen or fifteen years have been fully investigated. The probability of stormy weather in the various months of the year and the parts of the Bay which such storms will probably affect are now understood fairly well. The standard authority on this subject is a work recently published by Mr. J. Eliot, Meteorological Reporter to the Government of India, entitled "Hand-book of Cyclonic Storms in the Bay of Bengal."

9. *Q.*—The Native Passenger Ships Act empowers the Governor General in Council to declare what shall be deemed to be for the purposes of the Act "Seasons of fair weather" and "Seasons of foul weather," and the Act provides that in the fair weather seasons large numbers of passengers may be carried on hurricane decks.

Will you please state what in your opinion is meant by the phrases "Seasons of fair weather" and "Seasons of foul weather?"

A.—I presume by a season of fair weather, as applied to such an area as the Bay of Bengal, is meant one during which it is practically certain there will be no storm of any importance, and during which there will usually be light winds, calm sea and little or no rainfall, while during a season of foul weather storms may probably occur and there would be usually stronger winds with more or less rough sea, and probably more or less heavy rainfall.

10. *Q.*—The declaration contemplated by the Native Passenger Ships Act, alluded to in the previous question, was made by the Governor General in Council on the 14th of March 1889, and is as follows:—

I.—That for the purposes of the Act, the seasons specified in the second column of the following schedule shall, as specified in the third column of that schedule, be deemed to be "seasons of fair weather" and "seasons of foul weather" on the coasts specified opposite to them in the first column of that schedule, respectively:—

SCHEDULE.

Column 1. *Coasts.*	Column 2. *Seasons.*	Column 3. *Fair or foul weather.*
(1) Sind, Bombay and Malabar (as far south as Karwar).	1st January to 15th May	Fair.
	16th May to 31st August	Foul.
	1st September to 31st December	Fair.
(2) Western India (south of Karwar).	1st January to 15th May	Fair.
	16th May to 15th September	Foul.
	16th September to 31st December	Fair.
(3) Ceylon (Gulf of Manaar)	1st January to 15th April	Fair.
	16th April to 31st August	Foul.
	1st September to 31st October	Fair.
	1st November to 31st December	Foul.
	Note.—The whole year shall be deemed to be a season of fair weather for ships plying between the ports of Devipatam and Pesalai and between Paumben and Venakalai, provided they make the passage north of Adam's Bridge in the south-west, and south of it in the north-east, monsoon.	
(4) Madras (Coromandel)	1st January to 15th April	Fair.
	16th April to 31st July	Foul.
	1st August to 15th October	Fair.
	16th October to 31st December	Foul.
(5) Bengal (including Orissa and Arakan).	1st January to 31st March	Fair.
	1st April to 15th August	Foul.
	16th August to 30th September	Fair.
	1st October to 15th November	Foul.
	16th November to 31st December	Fair.
(6) Rest of Burma	1st January to 30th April	Fair.
	1st May to 31st August	Foul.
	1st September to 31st December	Fair.

Will you please explain to the Commission what justification there is for the system of division adopted in the declaration so far as it concerns the Bay of Bengal?

A.—So far as the Bay of Bengal area is concerned, the Meteorological Reporter to the Government of Bengal was not consulted as to the seasons of fair and foul weather. The Meteorological Reporter to the Government of India has informed me that he also was not consulted in the preparation of this schedule of fair and foul weather seasons. I am not aware on whose authority these seasons were determined.

11. *Q.*—In your opinion do the periods shown as the fair and foul seasons in the Bay of Bengal properly represent when fine, and more or less stormy weather, may be expected to occur?

A.—No. I am of opinion that the periods given are not correctly chosen, and that the schedule, at least in so far as it concerns the Bay of Bengal, requires revision.

12. *Q.*—Can you give any definite instances where the schedule is clearly incorrect as regards the weather in the Bay of Bengal?

A.—Yes; one of the periods of *fair* weather for the Bengal, Orissa and Arakan coasts is from the 16th August to 30th September. One of the most intense cyclones of recent years was a storm which existed from September 19th to 25th, 1885, and which struck the coast at False Point on September 22nd, causing a very disastrous storm wave. This cyclone did a considerable amount of damage to shipping. Again in 1887 there was a severe cyclonic storm from September 21st to 26th, which struck the coast of the Sunderbuns. Again, in 1888, there was a rather severe cyclone from September 13th to 28th, which struck the Orissa coast on September 16th. In August also storms rather frequently occur. Thus in 1888 a severe storm generated at the head of the Bay towards the end of August, the storm existing from 21st to 28th, and passing inland, close to Saugor Island on the 23rd August. These facts are probably sufficient to prove the necessity for a revision of the schedule.

13. *Q.*—Can you state approximately the number of days in 1888 and 1889 when stormy weather existed in the Bay and when the sea was rough?

A.—Yes; the information required is given in the following table:—

Table shewing the dates on which cyclonic storms were present and the parts of the Bay affected during 1888 and 1889.

Period of depression or storm.	Coast affected.
1888.	
May 11th and 12th	South Coromandel coast on the evening of the 11th.
June 2nd to 5th	Orissa on the morning of the 5th.
Do. 10th	North Orissa coast.
July 1st to 4th	Bengal and Orissa coasts.
Do. 12th to 14th	Ganjam coast on the evening of the 14th.
Do. 19th and 20th	Saugor Island on the afternoon of the 19th.
August 4th	North Orissa coast.
Do. 19th to 24th	Coast near Saugor Island on the 24th.
September 5th to 7th	Balasore coast on the 7th.
Do. 13th to 16th	Tenasserim, South Pegu, and afterwards Orissa coast on the morning of the 16th.
October 1st to 7th	Orissa coast and then the coast of the Sunderbuns about midnight of the 6th.
Do. 30th and 31st	Near Madras on the night of the 31st.
November 24th and 25th	South Madras coast on the night of the 24th.
December 12th to 14th	Madras coast near Negapatam.
1889.	
May 21st and 22nd	Orissa coast.
June 9th to 11th	North Orissa coast on the 11th.
Do. 17th	North-East Coast of the Bay.
Do. 24th to 27th	North Orissa coast on the evening of the 26th.
July 12th to 20th	Coast between Balasore and Saugor Island on the morning of the 20th.
August 5th and 6th	Orissa coast.
Do. 15th to 17th	Sunderbuns.
Do. 25th and 26th	Orissa coast.
September 16th to 19th	Ganjam coast.
Do. 25th to 27th	Bengal coast through Sunderbuns.
October 4th to 11th	Circars coast.
Do. 18th to 16th	Madras coast.
Do. 21st to 27th	Coast east of Saugor Island passing through Sunderbuns on the 27th.
November 2nd and 3rd	Lower Burma coast.
Do. 13th to 20th	Circars and South Orissa coasts passing near Gopalpur on the 20th.
December 16th to 18th	Madras coast south of Negapatam on the morning of the 18th.
Do. 23rd to 26th	Coast near Nellore.

14. *Q.*—Will you also inform the Commission as to what may be taken as the average rainfall on the Bay in each month at—

(*a*) the head of the Bay,
(*b*) off Akyab,
(*c*) off Diamond Island,
(*d*) off Coconada,
(*e*) off Madras?

A.—Rainfall is not measured over any portion of the sea area of the Bay of Bengal, but the fall can be approximately judged by the statistics of the coast stations themselves. The rainfall measured at the coast stations selected is here given, the ports selected to represent the head of the Bay being Saugor Island, False Point, and Chittagong.

Average monthly and annual rainfall of the following Stations:—

Stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Saugor Island	0·34	0·53	0·53	0·77	0·30	0·23	0·23	0·23	0·23	0·23	0·23	0·23	3·71
False Point	0·53	0·53	1·16	0·19	0·15	0·23	0·23	0·23	0·23	0·23	0·23	0·23	5·27
Chittagong	0·53	1·16	2·04	0·49	0·01	0·18	0·23	0·23	0·23	0·23	0·23	0·23	5·41
Akyab	1·17	1·16	2·04	1·90	1·36	0·23	0·23	0·23	0·23	0·23	0·23	0·23	8·31
Diamond Island	0·34	0·53	0·53	0·77	0·30	0·23	0·23	0·23	0·23	0·23	0·23	0·23	3·71
Coconada	0·53	1·16	2·04	0·49	0·01	0·18	0·23	0·23	0·23	0·23	0·23	0·23	5·41
Madras	1·17	1·16	2·04	1·90	1·36	0·23	0·23	0·23	0·23	0·23	0·23	0·23	8·31
Total.	4·61	6·33	10·84	6·06	3·52	1·31	1·39	1·39	1·39	1·39	1·39	1·39	40·05

15. *Q.*—In your opinion, do the conditions justify passengers being carried across the Bay, say, from Calcutta or Madras to Rangoon, at any season on decks, such as are commonly called hurricane decks, which are protected from the weather by overhead awnings, canvas screens, and, if so, can the seasons during which you would allow the traffic to be conducted under such conditions be defined?

A.—Assuming that my answer is confined to the meteorological aspect of the case, there are in my opinion certain periods when this might be done, and a new schedule could be prepared if necessary indicating the seasons in question. This should be prepared jointly by the Meteorological Reporter to the Government of India and the Meteorological Reporter to the Government of Bengal.

16. *Q.*—At present the coasts of the Bay of Bengal are divided into three sections for the purpose of defining the periods of fair and foul weather, would it be possible to have one general fair season and a general foul season for the whole of the Bay?

A.—If this were done it would be necessary to unduly limit the period of the fair season. For instance, December is a month in which practically no storms generate or pass into the northern part

of the Bay, while severe storms are occasionally met with in the southern half of the Bay.

17. *Q.*—(*By Captain Street*).—Assuming that it is possible to have one general fine season and a general foul season for the whole of the Bay, would not steamers on the direct line between Madras and Rangoon, and those which call at Port Blair *en route*, occasionally find that, what might be the *fine* season at Rangoon for instance, was the *foul* at Madras, or *vice versâ*; and would not the steamers on the line between Negapatam and Rangoon, and *vice versâ*, calling at Madras, Coconada, Bimlipatam or Gopalpur, be affected in the same way?

A.—A steamer leaving Negapatam at a certain season of the year, which would be called a *foul* season, might undoubtedly in her voyage northwards to Gopalpur pass into an area when the season would be *fair*. The differences in the seasons would not be so great between Rangoon and Madras as between Negapatam and Gopalpur.

18. *Q.*—Would it be possible to make any smaller number of divisions of the coast line than at present to define the fair or foul seasons?

A.—If it is considered very desirable to have as small a number of sub-divisions as possible, it might be arranged to divide the Bay into a northern and southern section only, the line of demarkation being, for instance, latitude 17° N.

19. *Q.* (*By Captain Street*).—Do the storms which are occasionally met with during December in the southern half of the Bay affect the weather on the coast between Negapatam and Bimlipatam to such an extent as would render it necessary to place that portion of the coast between these ports and within the foul season area during that month?

A.—Occasionally they do. For instance, there was a severe cyclonic storm which struck the coast near Negapatam in 1884 between December 12th and 19th, and there was again a severe cyclonic storm from 7th to 9th December 1886, which struck the Coromandel coast near Madras. The coast between Madras and Bimlipatam is not so likely to be affected in December.

20. *Q.*—Would it then be necessary for the most suitable division of the Bay area for the purpose of working this Act to be decided on before preparing a schedule of fair and foul seasons?

A.—Yes; it would probably be best for the parties interested to say what division of the Bay would suit them, when a schedule could be prepared by the Meteorological Department. The division of the coast line should be made as simple as possible.

21. *Q.* (*By the President*).—Would it be possible to have a *fair* and *foul* season fixed for the whole of the India and Burma coasts and seas—say *fair* from 15th December to 14th May, and *foul* from 15th May to 14th December?

A.—The limit of the *fair* season would be too long, and it could not be longer than from 20th December to early in April—say the 7th or 15th of April.

22. *Q.* (*By Mr. Bestic*).—Will you tell us what degree of intensity you have assumed as your limit in preparing the storm tables for 1888 and 1889?

A.—When the stormy weather was sufficient to give about a gale of wind and with very rough sea.

Dr. R. MacLEOD.

1. *Q.*—Will you please inform the Commission of the nature of your present occupation?

A.—I am Health Officer of the Port of Calcutta.

2. *Q.*—What qualifications or experience do you possess in regard to the subjects under enquiry?

A.—I have held my present appointment for a year, and it is my duty to inspect the sanitary arrangements and crew spaces of vessels carrying passengers to and from this port.

3. *Q.*—Do you take any part, either directly or indirectly, in the administration or observance of any of the provisions of the "Native Passenger Ships Act, 1887"?

A.—It is part of my duty to inspect pilgrims going to and returning from ports in the Red Sea.

4. *Q.*—What is a pilgrim voyage?

A.—A voyage on which pilgrims are carried to and from the Red Sea.

5. *Q.*—What is a long voyage?

A.—A voyage usually lasting more than five days.

6. *Q.*—What is a short voyage?

A.—A voyage usually completed within five days.

7. *Q.*—In regard to what voyages is there a distinction made between fair and foul seasons?

A.—To short voyages.

8. *Q.*—Do you consider that, if there is to be a line dividing short from long voyages, it should be drawn at five days?

A.—Yes. It seems a reasonable limit.

9. *Q.*—To what vessels do the Native Passenger Ships Act or the Emigrant Act not apply?

A.—To ships of war, transport or other ships belonging to the Royal Navy or the Indian Marine Service; to ships of war belonging to foreign countries, and to ships not carrying as passengers more than sixty natives of this country.

10. *Q.*—How many passengers can a steamer carry without coming under the provisions of the Native Passenger Ships Act?

A.—Sixty.

11. *Q.*—Do you know of any instances in which passengers not exceeding sixty in number have been carried in vessels having no suitable accommodation for them?

A.—No.

12. *Q.*—Are you acquainted with the ordinary conditions of native life amongst the class that forms the bulk of the native passengers who travel by sea?

A.—Yes.

13. *Q.*—Are you aware that it is a common practice for natives of India to sleep at night in the open air?

A.—Yes.

14. *Q.*—Is it within your knowledge that first class passengers, travelling about the Bay of Bengal and coasts of India, as a rule, prefer to sleep on deck under the same conditions as to awnings and curtains as the third class native passengers?

A.—I have no personal knowledge of the practice, but I should think it extremely probable from what I know of the habits of all classes of natives.

15. *Q.*—If such accommodation were provided, would it be used? Will native passengers allow

their luggage to be parted from them under any circumstances?

A.—I don't think it would. Natives will not part with their luggage except under compulsion.

16. *Q.*—Do you think that, on a voyage which may extend to five days, sleeping platforms should be provided for the passengers?

A.—Not necessary, if the decks are kept dry.

17. *Q.* (*By Captain Street*).—

(*a*) With a full short voyage complement of native passengers on board, can the decks of a vessel be kept as clean and sweet as in an emigrant vessel, for instance where platforms are fitted?

(*b*) Have you ever seen the state of the decks of a vessel after native passengers have been on board a day or two?

A.—I have never seen a passenger ship after the completion of her voyage, but I should think that with moveable platforms it would be easier to keep the surroundings of passengers clean.

18. *Q.* (*By Dr. Comins*).—Do you think that, with the object of giving the *'tween* deck passengers additional accommodation, sleeping platforms would be useful?

A.—Yes.

19. *Q.*—What closet accommodation do the rules require on native passenger vessels?

A.—Two closets for the first 100 passengers, and one for each additional 100.

20. *Q.*—What accommodation of the kind is provided for emigrants?

A.—Four for every 100 passengers.

21. *Q.*—And what accommodation do the Board of Trade Rules require?

A.—Three closets for every 200 passengers.

22. *Q.*—Which scale do you consider the most suitable?

A.—That of the Board of Trade.

23. *Q.*—Do you think the existing rules in regard to hospital accommodation are suitable?

A.—Yes.

24. *Q.* (*By Mr. Bestic*).—Do you think it right that the same amount of hospital accommodation should be provided on a vessel which carries 200 passengers as on a vessel which carries 2,000?

A.—Certainly not.

25. *Q.* (*By Mr. Bestic*).—Then for what number is the existing scale suitable?

A.—For any number under 1,000.

26. *Q.*—Do you consider that cargo, horses, cattle, sheep, and live-stock should be carried on the same deck with passengers? If so, is any fitting necessary to prevent the passengers from being inconvenienced by the urine and dung of the horses, cattle, and sheep, and, if any such fitting is requisite, state what you would recommend?

A.—I don't see any objection to the practice if proper means are taken to segregate the horses, cattle, &c., and to prevent passengers from being inconvenienced by the urine and dung of the live-stock.

27. *Q.* (*By Dr. Comins*).—Would you allow horses, cattle, sheep, and live-stock to be carried in the *'tween* decks occupied by passengers?

A.—My answer refers to cattle carried on the upper deck: I would not allow cattle or horses to be carried on the *'tween* decks with passengers.

28. *Q.* (*By Mr. Mackay*).—Have you ever known a case where passengers were put into the same compartment of the *'tween* decks with sheep, horses or cattle?

A.—No.

29. *Q.*—Do you consider that passengers carried in vessels working under clause (*a*) of Government of India Notification No. 1356, dated 14th March 1889, have sufficient space? If not, state what space would suffice?

A.—Yes; assuming that the 'tween decks are properly ventilated..

30. *Q.* (*By Captain Street*).—Are you aware that, under clause (*a*) of the Notification quoted in the previous question, the space allotted to each passenger is only 5 feet on the *'tween* decks?

A.—Yes.

31. *Q.* (*By Captain Street*).—Do you consider that during foul weather five superficial feet per adult is sufficient space for native passengers?

A.—Yes, with a properly protected upper deck.

32. *Q.* (*By Dr. Comins*).—Have you ever seen a compartment or *'tween* deck occupied by the full complement of passengers allowed under this Act?

A.—No.

33. *Q.*—In the case of voyages the duration of which does not exceed five days, what distinction is made between seasons of fair and foul weather?

A.—For seasons of fair weather each passenger is allowed 6 superficial feet, and 4 superficial feet of airing space on the upper deck. For seasons of foul weather, each passenger is allowed 9 superficial feet.

34. *Q.*—Do you consider a double awning overhead with side curtains and bulwark screens, as required by the Native Passenger Act, equal to the ordinary tent in which troops are accommodated?

A.—Yes.

35. *Q.*—Being acquainted with the class of natives, who form the bulk of those who travel by sea, do you consider they require better accommodation for their health and comfort than native troops?

A.—No.

36. *Q.*—Do you consider that native passengers ships should carry a Medical Officer? If this was made compulsory, would you make any difference for the numbers carried, or for the duration of the voyage?

A.—Yes to both questions.

37. *Q.*—What grade of Medical Officer would you consider best suited for these vessels?

A.—Vessels making short voyages should carry an Hospital Assistant of experience when the number of passengers exceeds 200. All vessels making long voyages should carry a Medical Officer. When the number of passenger does not exceed 500, an Hospital Assistant would suffice, but when there are more than that number, an Assistant Surgeon should be carried.

38. *Q.*—Give any instances which have come to your knowledge in which a Medical Officer would have been of service on board a native passenger vessel.

A.—I don't know of any instance.

39. *Q.* (*By the President*).—You were asked by the Commission to visit the S. S. *Kasara* before she sailed and to examine the accommodation provided for native passengers. Can you now give your opinion on this subject?

A.—When I visited the *Kasara* she was on the point of sailing for Chittagong, and my inspection was necessarily a hurried one.

Proceedings of the Twelfth Meeting of the Native Passenger Ships Commission, held at the Bengal Office, on Wednesday, the 17th December 1890, at 3 p.m.

Present:

Surgeon-Major A. S. Lethbridge, C.S.I.	*President.*
Captain Sir Henry Morland, Kt., H.M.I.M.	*Members.*
Captain H. A. Street, H.M.I.M.	
Surgeon-Major D. W. D. Comins	
James L. Mackay, Esq.	
H. B. H. Turner, Esq.	
W. B. Bestic, Esq.	

1. The proceedings of the eleventh meeting were approved.

2. The President informed the Commission that the Government of India Resolution No. 5794, dated 15th December 1890, which had been circulated among the members of the Commission for perusal, would be recorded with other papers relating to the same subject.

3. The President stated that with reference to paragraph 6 of the tenth meeting, the Government of India had been asked to obtain from the Government of Hong-Kong and the Straits Settlements the rule relating to the conveyance of passengers by sea in those colonies.

4. Mr. Allen C. Stewart, Emigration Agent for Mauritius, was called and examined.

With reference to question No. 75, Mr. Stewart said that he would let the Commission have a memorandum affording information as to certain experiments made by him in his Emigration Depôt in respect to space required by adult coolies.

5. Mr. Stewart's examination having been completed, the Commission adjourned until 3 P. M., on the 18th instant.

Mr. ALLEN C. STEWART.

1. *Q.*—Will you please inform the Commission of the nature of your present occupation?

A.—I am a member of the Colonial Service, and am at present Emigration Agent for Mauritius and several other Colonies.

2. *Q.*—What qualifications or experience do you possess in regard to the subjects under enquiry?

A.—I have been inspecting emigrant vessels both here and in the West Indies for nearly nine years, and previous to that had a great deal to do with sailing vessels while residing in Scotland.

3. *Q.* (*By Mr. Mackay*).—How many voyages have you made in emigrant ships and what were they?

A.—I have never made a voyage in an emigrant ship.

4. *Q.*—Do you take any part, either directly or indirectly, in the administration or observance of any of the provisions of the "Native Passenger Ships Act, 1887"?

A.—No.

5. *Q.*—What is an emigrant voyage?

A.—I presume that by this is meant a voyage undertaken by a vessel carrying emigrants under Act XXI of 1883.

6. *Q.*—What is a long voyage?

A.—One which will, under average conditions, last over 120 hours.

7. *Q.*—What is a short voyage?

A.—One which will, under ordinary conditions, last less than 120 hours.

8. *Q.*—In regard to what voyages is there a distinction made between fair and foul seasons?

A.—In regard to short voyages.

9. *Q.*—Do you consider that, if there is to be a line dividing short from long voyages, it should be drawn at five days?

A.—I should put the limit for a short voyage at *four* days, but think that in the case of a voyage, the average duration of which is under 24 hours, regulations should be different.

10. *Q.*—In your opinion, do the conditions justify passengers being carried across the Bay at any season on decks, such as are commonly called hurricane-decks, which are not protected from the weather except by overhead awnings, assuming that no accommodation is reserved for these passengers on the lower decks, which are crowded with other passengers?

A.—In my opinion, they do not.

11. *Q.* (*By Mr. Mackay*).—Have you crossed the Bay of Bengal to Burma, and, if so, at what season of the year, and how often?

A.—I have not.

12. *Q.*—Are you acquainted with the ordinary conditions of native life amongst the class that form the bulk of the native passengers who travel by sea?

A.—Yes, to a very considerable extent.

13. *Q.*—Are you aware that it is a common practice for natives of India to sleep at night in the open air?

A.—Only for men, I think, and in their case only in the hot weather, or at such times during the rains as it may be fine.

14. *Q.*—Is it within your knowledge that 1st class passengers, travelling about the Bay of Bengal and coasts of India, as a rule, prefer to sleep on deck under the same conditions as to awnings and curtains as the 3rd class native passengers?

A.—I should say that this was not the case.

15. *Q.*—Have you had any personal experience of the weather round the coast of United Kingdom, and in the Bay of Bengal and on the coast of India?

A.—Yes.

16. *Q.*—Do you consider that there is such similarity as to warrant a comparison between the weather experienced on the coast of the United Kingdom or between the river Elbe and Brest (English Home Trade voyage) and that experienced in the Bay of Bengal and coasts of India?

A.—No; I should say that the climatic conditions were entirely different.

As far as I can see, the only comparison which could be made would be between a voyage here during the cold weather and an English summer voyage.

17. *Q.*—Do you consider the conditions of English and Indian passenger traffic to be similar in any other way than that the traffic under discussion is by sea?

A.—I consider that the conditions differ widely.

18. *Q.*—Do you know what amount of passage-money is paid for an emigrant, say, to Mauritius, distance to Mauritius from Calcutta being 3,290 miles, and also who pays the passage of emigrants from India to Mauritius and elsewhere?

A.—It varies from ₹35 to ₹70 for Government emigrants.

Natives, however, go down in Arab ships on their own account paying from ₹25 to ₹35, and providing their own food.

In the case of Government emigrants the passage-money is paid by the respective Colonial Governments.

19. *Q.* (*By Mr. Mackay*).—What is the distance from Calcutta to Mauritius? What is the usual passage money paid by the Colonial Government for the passage of an emigrant by steamer from Calcutta to Mauritius?

A.—I do not know the distance from Calcutta to Mauritius in miles. The voyage usually takes from 17 to 21 days by steamer.

From Calcutta the usual passage-money by steamer is from ₹60 to ₹70 per statute adult.

20. *Q.* (*By Mr. Mackay*).—Are you aware that passengers are carried across the Bay of Bengal from Negapatam and other ports to Rangoon, a distance of over 1,000 miles, for the sum of ₹10?

A.—I am not.

21. *Q.*—Do you think the ordinary native passenger would be prepared to pay more for better accommodation?

A.—No; he would sooner pay little money and get bad accommodation.

22. *Q.* (*By Mr. Mackay*).—Do you know that the coolie class of passengers prefer travelling 3rd class by rail rather than intermediate class, because the latter is more expensive?

A.—No coolie knows what intermediate class means. He goes 3rd class as a matter of course.

23. *Q.* (*By Mr. Mackay*).—Do you think if Government were to compel Railway Companies to abolish 3rd class carriages and to insist upon all passengers travelling intermediate or higher class, so as to ensure their being always quite comfortable and paying the higher fares, that a number of poorer classes who now travel by rail would be compelled either to abandon travelling altogether or make their journeys by road?

A.—In my opinion the ordinary coolie or 3rd class passenger is quite contented with 3rd class accommodation. It does not occur to him to complain or to ask for better accommodation. If the expense of travelling were increased it would certainly in some cases cause the lower class of passengers to abandon travelling when distances were great and the fares high. For short distances as a matter of necessity the passenger would have to pay the higher fare asked, or walk.

24. *Q.* (*By Sir Henry Morland*).—Is your last reply intended to convey that, whatever discomfort has to be encountered, the ordinary native passengers would travel at the cheapest rate by sea?

A.—I think that this is practically the case.

25. *Q.* (*By Mr. Bestic*).—Can the two cases of travelling by rail and travelling by sea be compared as to the space that should be afforded for passengers?

A.—I do not think so. A passenger by rail travelling in a 3rd class train has frequent opportunities of leaving the carriage at wayside stations.

26. *Q.* (*By Mr. Mackay*).—Have you ever heard any comparison made between the space allotted to coolies in 3rd class carriages and that allotted at sea?

A.—No, never.

27. *Q.*—Is it not a fact that very well-to-do native merchants are satisfied with the usual deck accommodation?

A.—Not that I am aware of. They do travel as deck-passengers; but as far as I have seen they are usually specially accommodated under awnings on the tops of the hatches.

28. *Q.* (*By Captain Street*).—Do you know if any extra charge is made for a place on top of a hatch?

A.—I think not. My experience is that the better class of passenger has a quasi-right and proceeds to make himself comfortable by spreading a screen of some description.

29. *Q.*—Have you any special suggestions to make in regard to voyages similar to those classed as excursions by the Board of Trade, that is, voyages during which a vessel is not more than 10 or 12 hours at sea?

A.—I think that in the case of voyages of such brief duration passengers require very much less space than where arrangements have to be made for their sleeping.

30. *Q.*—If so, would you consider it proper to allow for height of 'tween deck as an element in the health and comfort of 3rd class native passengers?

A.—I consider that high 'tween decks are of very great advantage, increasing as they do the amount of available air. This would be particularly the case should it be necessary at any time to batten down hatches.

31. *Q.*—Do you know the height of the 'tween-decks in the B. I. steamers?

A.—Considerably over 7 feet 6 inches in all

cases with which I have had to do. I have despatched or received the undernoted steamers:—

Warora.	*Nuddea.*
Wardha.	*Mombassa.*
Chilka.	*Landaura.*
Lawada.	

32. *Q.*—Should alleyways, used as a means of communication by the crew, be considered as deck area for passengers, *i.e.*, the narrow passages between the officers' cabins and the engine-room casing? If so, would it not be advisable to give a minimum breadth before allowing the area to count for passengers?

A.—I do not think that alleyways should be measured as forming part of the deck area for passengers.

33. *Q.*—Are not these alleyways additional shelter and therefore desirable for passengers?

A.—Yes, but I doubt their being available for passengers.

34. *Q.*—For ships with large water-ways in the 'tween decks extending inside the battens on the ship's side, is the deck measurement made to the inside edge of the water-ways or to the battens? Which would you recommend?

A.—I think that measurements should be made to the battens only, provided the ways are covered.

35. *Q.*—In your opinion, are the provisions of the Native Passenger Ships Act, and the rules made under it, in regard to the accommodation to be provided for native passengers on long voyages and short voyages, suitable?

A.—I have nothing to add to the answers made here.

36. *Q.*—Do you think that a passenger on a voyage lasting 10 or 12 hours requires as much room as one on a voyage lasting five days?

A.—Certainly not. He does not require to sleep.

37. *Q.* (*By Dr. Comins*).—What space would you allow a passenger on a 10 or 12 hours' voyage?

A.—Five superficial feet for smooth water on a voyage corresponding to an excursion voyage.

38. *Q.*—Do you think that native passengers can do with less space than Europeans?

A.—Yes.

39. *Q.*—What proportion do you consider that the space allotted to natives should bear to the space allotted to Europeans?

A.—Where passengers are required to lie together on the deck without bunks being provided, I think that natives could safely be allotted one-sixth less space than Europeans, subject to any exceptions which I mention further on.

40. *Q.*—Assuming that this proportion is adopted, would it, in your opinion, affect the health, comfort, and safety of native passengers in any way?

A.—Not otherwise than favourably, adopting the minimum spaces given by me.

41. *Q.*—Do you consider that on a voyage which may extend to five days, native passengers can be accommodated in the 'tween decks of a steamer at the rate of one passenger to each 6 square feet of area, with 4 square feet of airing space on the upper deck, without prejudicing their health and safety?

A.—I do not think so.

42. *Q.*—Do you think it necessary, for the health and safety of the passengers, there should be on a voyage which may extend to five days permanent shelter for each passenger either 'tween decks or in cabins on the upper deck?

A.—Not if there be sufficient space allowed in the 'tween decks to permit of upper deck passengers being temporarily accommodated there in the event of the weather being exceptionally severe.

43. *Q.*—Do you think that on a voyage which may extend to five days there should be separate accommodation for female passengers?

A.—No, they prefer to stay with the male members of their family. The number of *single* women travelling alone must, I think, be extremely small.

Parda-nashin women would, of course, require to secure special accommodation at special rates.

44. *Q.*—During the inclement weather do you consider that the upper deck passengers are sufficiently protected by canvas awnings? If not, what would you recommend.?

A.—If the spaces for each passenger, suggested by me in my reply to question No. 75, be reserved (for short voyages), there would be space for upper deck passengers in the 'tween decks temporarily during exceptional weather when they would not be sufficiently protected by canvas awnings. During ordinary rainy weather I think the reduced number to be carried with the increased area mentioned by me, and during the shortened voyage, would be sufficiently protected by the requirements of section 18 (*4*).

45. *Q.*—Are any special fittings required under the Native Passenger Ships Act on the passenger decks for the reception of the bundles, boxes, and other articles usually carried by native passengers? If so, state what you would recommend.?

(*a*) Is it necessary for the comfort or safety of the passengers that provision should be made for the accommodation of luggage not stored in the hold?

(*b*) If it is necessary, what would you provide?

(*c*) If such accommodation were provided, would it be used? Will native passengers allow their luggage to be parted from them under any circumstances?

A.—*Boxes* and all heavy packages should be stowed in the hold. I do not think it would be right to take away *bundles* from passengers. These usually contain the only bedding and extra clothing that the people possess and also their food for the voyage. This is one reason why I think extra space should be allowed to passengers. A very small bundle will take up 2 square feet, and there is not much room left for a passenger excepting he sits upon his bundle. It would certainly require force to separate passengers from their luggage in the majority of cases.

46. *Q.*—Do you think that on a voyage which may extend to five days, sleeping platforms should be provided for the passengers?

A.—No. They would be a great improvement if properly constructed, but I do not consider them necessary.

47. *Q.* (*By Dr. Comins*).—In what way would there be an improvement?

A.—They would give more room for the people to lie in. The people sleeping on them would also be out of the way of any water getting into the 'tween decks and would also have rather better air to breathe.

48. *Q.* (*By Dr. Comins*).—Would the use of sleeping platforms allow space for the decks to be cleaned at intervals which could not otherwise be done?

A.—It would certainly.

49. *Q.*—What closet accommodation do the rules require on native passenger vessels?

A.—Two *privies* for the first 100 passengers and one for every additional 100.

50. *Q.*—What accommodation of the kind is provided for emigrants?

A.—Two compartments for every 50 emigrants up to 700; after that one to every 50.

51. *Q.*—Which scale do you consider the most suitable?

A.—I do not consider that any provision less than that provided under the Emigration Rules can be satisfactory.

52. *Q.*—Do you think the existing rules in regard to hospital accommodation are suitable?

A.—No; I think that for long voyages space should be provided for at least 2 per cent. of the number carried, as laid down in the Emigration Rules.

53. *Q.* (*By Dr. Comins*).—How much for a voyage of five days?

A.—I consider a permanent hospital necessary. There should be accommodation for one per cent., I think.

54. *Q.*—Do you consider that cargo, horses, cattle, sheep, and live-stock should be carried on the same deck with passengers? If so, is any fitting necessary to prevent the passengers from being inconvenienced by the urine and dung of the horses, cattle, and sheep, and if any such fitting is requisite, state what you would recommend?

A.—Certainly not, excepting pens are constructed against the bulwarks with an arrangement for conducting the dung and urine directly over the ship's side, similar to the latrine shoots.

55. *Q.* (*By Captain Street*).—Is it the usual practice for vessels carrying native passengers to have such an arrangement fitted, should cattle, sheep or horses be on board at the same time?

A.—I think not.

56. *Q.*—In vessels which, under existing rules, are permitted to carry horses, cattle, and sheep with native passengers, are sufficient precautions adopted to prevent the hay and straw provided for the use of such animals from catching fire either from a spark from the ship's funnel or lighted matches? If not, state what extra precautions you would recommend?

A.—I do not think that there is any actual risk of a fire occurring from these causes. I consider, however, that the use of naked lights should absolutely be forbidden.

57. *Q.* (*By Captain Street*).—Do you think that hay and straw should be in loose bundles or not?

A.—I do not think that it should be in loose bundles, such as are sold in the bazar.

58. *Q.*—Do you think that the natives of India require as much space in boats as Europeans?

A.—No; they are smaller and lighter men in every way.

59. *Q.* (*By Dr. Comins*).—What boat accommodation should in your opinion be provided in native passenger vessels?

A.—I am not competent to answer this question, which is a professional one.

60. *Q.* (*By Sir Henry Morland*).—Would you require that accommodation according to the number of passengers a vessel is certified to carry? or to the tonnage, or the type of vessel? or on what would you have the number of boats a ship should carry?

A.—According to the size of the ship.

61. *Q.* (*By Dr. Comins*).—What life-saving apparatus do you consider necessary in native passenger vessels?

A.—Rafts and cork jackets.

62. *Q.* (*By Captain Street*).—Which would you recommend, life-buoys or life-belts?

A.—Life-belts or jackets.

63. *Q.* (*By Sir Henry Morland*).—Are you acquainted with the recent legislation in the United Kingdom with regard to life-saving apparatus for passenger ships? State the principle upon which they have to be supplied?

A.—I am not acquainted with this legislation.

64. *Q.*—Do you think it necessary that there should be a set of definite instructions as to the survey of passenger accommodation and crew space similar, so far as may be, to those issued by the Board of Trade?

A.—There should undoubtedly be clear and definite instructions laid down so as to ensure uniformity.

65. *Q.* (*By Captain Street*).—Will you inform the Commission why you think it advisable that there should be uniformity in the instructions to the Surveyors?

A.—So as to render it unlikely that two Surveyors measuring the same ship should give different measurements, as in my experience has happened between Colonial and Indian measurements.

66. *Q.*—In your opinion, are the provisions of the Emigration Act, and the rules made under it, in regard to the accommodation to be provided for native emigrants, suitable?

A.—On the whole, yes.

67. *Q.*—After a vessel has been measured for certificate A, is the Captain supplied with the Surveyor's calculations? If not, do you think it necessary that he should be?

A.—I think that he should be supplied.

68. *Q.*—Would it not be advantageous if a copy of all measurements and calculations of passengers' space, as determined on the original measurement, is supplied to the Commander of the vessel?

A.—Yes.

69. *Q.*—If so, would you recommend that the calculations should show clearly the names of the various obstructions which have been deducted from the gross area, their dimensions and the proportional area deducted?

A.—Yes. I think the Captain of a vessel should know exactly how the figures given in his "certificate A" are obtained.

70. *Q.*—Do you consider that passengers carried in vessels working under clause (*a*) of Government of India Notification No. 1356, dated 14th March 1889, have sufficient space? If not, state what space would suffice.

A.—I refer to answer given to question No. 75.

71. *Q.* (*By Captain Street*).—In vessels carrying passengers under the clause specified in the previous question, the whole of the upper deck has to be made available for passengers. When the full number of passengers are not carried, should any portion of the upper deck be considered as available for cattle, sheep or horses?

A.—I see no objection, provided proper precautions are taken and sufficient space is available for the passengers.

72. *Q.* (*By Sir Henry Morland.*)—Should the several spaces for the accommodation of passengers be each marked to show the numbers to be carried therein? And what language—in English only or in the vernacular also?

A.—Yes. In English.

73. *Q.*—Being acquainted with the class of natives, who form the bulk of those who travel by sea, do you consider they require better accommodation for their health and comfort than native troops?

A.—I do, because troops are composed of specially selected adult males and are well-fed and clothed, while the ordinary native is insufficiently clothed and badly nourished.

74. *Q.*—How do you account for the differences between the English and the Indian rules, and between the Indian rules for emigrants and those for ordinary passengers?

A.—As regards the first part of the question, it is, I presume, because the conditions are so entirely different.

As regards the second part, it is, I believe, because both the Indian and the Colonial Governments have consistently tried to do everything possible for the welfare of the emigrant.

75. *Q.*—Will you furnish the Commission with your opinion as to the sufficiency or otherwise of the space allowed by the Act and Rules generally?

A.—Short voyages.—As regards 'tween deck passengers, I consider that 9 square feet is the minimum that should be allowed for an adult passenger as defined in section 5 of the Act in all cases when the passengers require to be on board over 24 hours, with, in the 'tween decks, a minimum cubic space of 72 cubic feet, and on the upper deck a minimum airing space of 4 square feet. As regards upper deck passengers, I think that 9 square feet is the minimum that should be allowed for a fair weather passage and 12 square feet for a foul weather passage. I do not see how an adult can sleep in less than 9 square feet, bearing in mind that a certain allowance has to be made for bundles, and children for which there is no special area assigned under the Act.

Should the average duration of a voyage be under 24 hours, these areas might, I think, be safely reduced.

76. *Q.* (*By Dr. Comins*).—Have you made any tests of the space required for adults and children with bundles under various conditions as to lying, sitting, &c.?

A.—I have done so and will submit a written memorandum.

77. *Q.*—Do you consider that native passenger ships should carry a Medical Officer? If this was made compulsory, would you make any difference for the numbers carried or for the duration of the voyage?

A.—They should certainly carry a Medical Officer.

During a short voyage I think one man could look after 500 passengers; above that number he would require an assistant.

For long voyages I think the Emigration Rule would work well, that is, one Medical Officer and one assistant to any number up to 500 passengers; if above that number, a second assistant to be carried.

78. *Q.*—What grade of Medical Officer would you consider best suited for these vessels?

A.—The Medical Officer should not be under the grade of Assistant Surgeon, though naturally the preference should be given to a man fully qualified.

79. *Q.* (*By Dr. Comins*).—The term Assistant Surgeon applies only to Government servants. Do you mean that the Medical Officers should possess similar medical qualifications to those required for the Assistant Surgeons of the Subordinate Medical Service?

A.—I do.

80. *Q.* (*By Dr. Comins*).—The allowance of ventilating space for emigrants under the Act is exclusive of hatches, 10 inches. Do you think the ventilation of the *'tween* decks of an emigrant vessel, steamer or sailing vessel, excessive?

A.—Certainly, not in Indian seas. In cold weather, outside the tropics, I do.

81. *Q.* (*By Dr. Comins*).—Do you think that any smaller space would be sufficient in native passenger vessels? If so, what lesser space would be sufficient.

A.—I do not consider that any smaller ventilating space would be sufficient in Indian or tropical seas.

82. *Q.* (*By Dr. Comins*).—In the case of steamers chartered by you for the conveyance of emigrants, has any large alterations as to ventilating space been necessary to qualify them for such service?

A.—They have.

Proceedings of the Thirteenth Meeting of the Native Passenger Ships Commission, held at the Bengal Office, on Thursday, the 18th instant, at 3 p.m.

Present:

Surgeon-Major A. S. Lethbridge, C.S.I.	*President.*
Captain Sir Henry Morland, Kt., H.M.I.M.	*Members.*
Captain H. A. Street, H.M.I.M.	
W. B. Bestic, Esq.	
Surgeon-Major D. W. D. Comins	
H. B. H. Turner, Esq.	
James L. Mackay, Esq.	

1. The Proceedings of the Twelfth Meeting were approved.

2. The President read to the Commission a copy of Government of India letter No. 5853, dated 18th December, addressed to the Secretary to the Bengal Chamber of Commerce, in reply to a letter No. 1162, dated the 5th December 1890, from the Secretary, suggesting the desirability of adding to the Native Passenger Ships Commission a representative of the seaborne trade between Calcutta and Orissa, which

had been sent to the President with reference to paragraph 2 of the letter. The President then read a letter which he proposed to send to Messrs. Kilburn & Co., Messrs. MacNeil & Co. and A. and R. Mackintosh, on this subject. This was approved.

3. The President read a letter which he had received from Mr. Bushby in respect to his evidence regarding a communication received by him from the Bengal Chamber of Commerce as to the desirability of securing an agreement with the orders of the Board of Trade in regard to the equipment of British vessels.

4. Mr. Bestic handed in a copy of the draft of the "Instructions as to the survey of passenger accommodation of inland steam vessels" referred to in Government of Bengal letter No. 3359 (Marine) dated 15th December 1890.

5. It was decided that after Meeting on Saturday, the 20th, the Commission should adjourn until Monday the 29th instant at noon.

6. It was resolved to visit the Asiatic Steam Navigation Company's steamer *Kohinur* at 7 A.M. on the 19th instant, and afterwards to proceed to the Emigrant ship *Erne* and then to the West Indian Emigration Depôts for the purpose of carrying out experiments to ascertain the space occupied by natives under different conditions.

7. Captain Hillcoat, Master of the Anchor Line Steamer *Arabia*, was called and examined.

8. Captain Hillcoat's examination having been completed, the Commission adjourned.

Captain C. B. H. Hillcoat.

1. *Q.*—Will you please inform the Commission of the nature of your present occupation?

A.—Master of the Anchor Line S. S. *Arabia* of Glasgow; gross tonnage 3,387.

2. *Q.*—What qualifications or experience do you possess in regard to the subjects under enquiry?

A.—I have carried native passengers in the B. I. S. N. Co.'s steam-ships on nearly all their runs. I have been engaged in the pilgrim trades. I have also been on the Atlantic service between New York, Glasgow, and the Mediterranean. I have carried emigrants to Australia, and have also been on the Australian coasting trade. In all about 25 years.

3. *Q.* (*By Captain Street*).—Have you ever been in command of a native passenger vessel on the Madras and Rangoon line, and if so, during what seasons?

A.—Not in command, but as an officer in the B. I. Steamer *Arabia* during the south-west monsoon and part of the north-east monsoon.

4. *Q.*—Do you take any part, either directly or indirectly, in the administration or observance of any of the provisions of the "Native Passenger Ships Act, 1887"?

A.—As master of a passenger steamer, I have had to observe the rules as laid down by former Acts, but have not had any experience of the Act of 1887.

5. *Q.*—Into what classes do the Board of Trade divide sea-going vessels for the purpose of determining the number of passengers they are capable of carrying?

A.—I only know of two—*Home* and *Foreign* trade passenger vessels.

6. *Q.*—What is a Foreign Trade voyage?

A.—This term is generally understood to apply to vessels going beyond certain limits on the coasts of the United Kingdom.

7. *Q.*—What is a Home Trade voyage?

A.—Applies to every vessel employed in trading or going within certain limits.

8. *Q.*—What would be the maximum duration of a Home Trade voyage?

A.—I have known a Home Trade voyage last 37 days.

9. *Q.* (*By the President*).—Could you mention an instance of this?

A.—I have a 3rd officer, who was on board a steamer going round the coast of the United Kingdom from Glasgow. The *Penguin* was the vessel's name, I believe, and she carried passengers.

10. *Q.*—What is the average duration of a Home Trade voyage?

A.—For steamers, I should say, five days to seven days round the United Kingdom.

11. *Q.*—Will you give instances of such voyages?

A.—Glasgow to London.

12. *Q.*—How does an Indian Home Trade voyage compare with an English Home Trade voyage?

A.—Rather longer, as the Act, I believe, extends to all ports in the Indian Empire.

13. *Q.*—What is an Excursion voyage?

A.—A short passage for pleasure, not extending over 10 to 12 hours, as a rule.

14. *Q.*—What is an Emigrant voyage?

A.—One undertaken by a vessel containing passengers migrating from any British port to any Foreign port, excepting Europe or the Mediterranean and *vice versâ*.

15. *Q.*—What is a Pilgrim voyage?

A.—One undertaken by a vessel for the purpose of conveying passengers to or from certain places, such as Calcutta to Jeddah; Mexico to Rome, &c.

16. *Q.*—What is a long voyage?

A.—One occupying over five days.

17. *Q.*—What is a short voyage?

A.—One occupying under five days.

18. *Q.*—In regard to what voyages is there a distinction made between fair and foul seasons?

A.—Atlantic winter voyages; Indian south-west monsoons; Australia during the winter months from June to September, inclusive.

19. *Q.*—Do you consider that, if there is to be a line dividing short from long voyages, it should be drawn at five days?

A.—As understood out here, it seems fair enough.

20. *Q.* (*By Sir Henry Morland*).—Would you have special short or excursion voyages say of 10 or 12 hours?

A.—Yes for the purpose of doing excursions.

21. *Q.*—Do you think that the five-day limit

puts an Indian short voyage on a footing similar to an English Home Trade voyage?

A.—Yes.

22. *Q.*—To what vessels do the Native Passenger Ships Act or the Emigrant Act not apply?

A.—To vessels not carrying native passengers to or from ports in British India.

23. *Q.*—How many passengers can a steamer carry without coming under the provisions of the Native Passenger Ships Act?

A.—Sixty passengers (natives).

24. *Q.*—Do you know of any instances in which passengers, not exceeding sixty in number, have been carried in vessels having no suitable accommodation for them?

A.—Yes; I have done so on many occasions some years ago.

25. *Q.*—What are, under the rules, the seasons of fair weather in the Bay of Bengal?

A.—North-east monsoon in my opinion should be considered the fair-weather season. The Act states 1st of January to 31st March, 16th August to 30th September, 16th November to 31st December.

26. *Q.* (*By Captain Street*).—What kind of weather in your experience is generally met with on the Coromandel coast between the 16th October and the 31st December?

A.—Fine; generally wit hsqualls of wind and rain.

27. *Q.* (*By Captain Street*).—In the notification specifying the seasons of foul and fair weather, the period between the 16th October and the 31st December is described as a foul season. Do you consider that this is incorrect?

A.—Yes, I think the weather, so far as my experience goes, can only be called fine.

28. *Q.*—Are you of opinion that the conditions justify a distinction being made between fair and foul weather in the case of voyages which may extend to five days?

A.—Yes; during the south-west monsoon out here.

29. *Q.* (*By Captain Street*).—On voyages from ports on the Coromandel coast to Rangoon, between the 16th October and the 31st December, would native deck passengers be likely to experience undue discomfort from the weather usually experienced during such voyages?

A.—Not on large vessels not deeply laden and protected by awnings.

30. *Q.*—Are you of opinion that the seasons of fine weather defined in the rules are judiciously chosen with reference to the prevailing conditions?

A.—I should say between June and September should be the foul season.

31. *Q.*—If not, what alterations would you suggest?

A.—I should only include June to September as winter voyages or bad-weather voyages.

32. *Q.*—Will you mention instances of foul weather occurring during the seasons which are by rule declared to be seasons of fair weather?

A.—Occasional cyclones.

33. *Q.*—In your opinion, do the conditions justify passengers being carried across the Bay at any season on decks, such as are commonly called hurricane-decks, which are not protected from the weather except by overhead awnings, assuming that no accommodation is reserved for these passengers on the lower decks, which are crowded with other passengers?

A.—I see no objection if they are all protected by awnings.

34. *Q.* (*By Captain Street*).—During the foul season in the Bay of Bengal have you ever experienced weather of a nature rendering it necessary to keep the uppermost deck of any native passenger vessel you may have commanded clear of native passengers?

A.— I have not.

35. *Q.*—Are you acquainted with the ordinary conditions of native life amongst the class that form the bulk of the native passengers who travel by sea?

A.—I have had 20 years experience, off and on.

36. *Q.*—Are you aware that it is a common practice for natives of India to sleep at night in the open air?

A.—I never knew them sleep below if they could get on deck, unless in very bad weather.

37 *Q.* (*By Dr. Comins*).—Is that because they find themselves inconveniently crowded below?

A.—No; for in some instances we have had empty *'tween* decks and crowded *upper* decks.

38. *Q.*—Is it within your knowledge that 1st class passengers, travelling about the Bay of Bengal and coasts of India, as a rule, prefer to sleep on deck under the same conditions as to awnings and curtains as the 3rd class native passengers?

A.—Yes.

39. *Q.*—Have you had any personal experience of the weather round the coast of United Kingdom, and in the Bay of Bengal, and on the coast of India?

A.—I have been sailing in all these parts for many years.

40. *Q.*—Do you consider that there is such similarity as to warrant a comparison between the weather experienced on the coast of United Kingdom or between the river Elbe and Brest (English Home Trade voyage) and that experienced in the Bay of Bengal and coasts of India?

A.—Looking at it from a native point of view I should say there might be a slight comparison during the south-west monsoon months, June to September.

41. *Q.*—Do you consider the conditions of English and Indian passenger traffic to be similar in any other way than that the traffic under discussion is by sea?

A.—There is a great difference between the two trades.

42. *Q.* (*By Captain Street*).—Can you explain the difference?

A.—The weather out here is so much finer, as to render a comparison difficult.

43. *Q.*—Do you know what amount of passage money is paid for an emigrant say to Mauritius, distance to Mauritius from Calcutta being 3,290 miles, and also who pays the passage of emigrants from India to Mauritius and elsewhere?

A.—No.

44.—Do you know what amount of passage money is paid for an ordinary passenger, say from Madras to Rangoon, 1,009 miles, and who pays?

A.—No.

45. *Q.*—Do you think the ordinary native passenger would be prepared to pay more for better accommodation?

A.—No; I feel sure he would not.

46. *Q.*—Is it not a fact that very well-to-do native merchants are satisfied with the usual deck accommodation?

A.—Yes.

47. *Q.* (*By Captain Street*).—Do not the well-to-do native merchants referred to in the previous question generally manage to secure the best available accommodation on the upper deck, such as the top of a hatch for instance?

A.—No; sometimes they may do so.

48. *Q.* (*By Captain Street*).—Assuming that a "well-to-do native merchant" could not get what may be termed a comparatively comfortable place on any of the decks, do you think it likely he would try to obtain accommodation in the 2nd class cabin?

A.—I have rarely known them to do so.

49. *Q.*—What class of people travel as deck passengers in the United Kingdom on vessels which frequently carry their full complement?

A.—Those who have no means of travelling otherwise.

50. *Q.*—Have you any special suggestions to make in regard to voyages similar to those classed as excursions by the Board of Trade, that is, voyages during which a vessel is not more than 10 or 12 hours at sea?

A.—No.

51. *Q.*—How is the number of passengers which a vessel is capable of carrying calculated in each case?

A.—By measurement according to season of the year.

52. *Q.*—Is allowance made in Board of Trade Rules for height of 'tween decks,—in fact do not Board of Trade Surveyors, when berths are not fitted for 3rd class passengers, calculate the number that may be carried, on the basis of a cubic measurement of 72 cubic feet per statute adult, after deducting all hatches and encumbrances?

A.—Yes.

53. *Q.*—Do you know the height of the 'tween decks in the B. I. steamers?

A.—I have commanded several, and they had 6½ to 7 feet.

54. *Q.*—What is the maximum height between deck in these steamers carrying native passengers? What is the average height?

A.—Don't know.

55. *Q.*—Into what classes are sea-going vessels in India divided for the purpose of determining the number of passengers they are capable of carrying?

A.—I only know of Home and Foreign Trade in long and short voyages.

56. *Q.*—What spaces are left unmeasured for passengers when a vessel is being measured for certificate A?

A.—Hatchways.

57. *Q.*—Are the spaces which would be required for the deck water-tank, latrines, and cooking ranges necessary for use of native passengers deducted from the passengers' space, even if such articles are not in position at the time a vessel is being measured?

A.—In some instances.

58. *Q.* (*By Captain Street*).—Can you specify any instances where no deduction has been made?

A.—No.

59. *Q.*—Are any spaces deducted so as to admit of the officers and crew moving fore and aft the vessel with facility and their getting with ease at the boats and boats' gear; if not, have you any recommendations to make on this head?

A.—I never allowed any particular space nor found any difficulty in the matter.

60. *Q.*—For ships with large water-ways in the 'tween decks extending inside the battens on the ship's side, is the deck measurement made to the inside edge of the water-ways or to the battens? Which would you recommend?

A.—To inside edge of water-ways.

61. *Q.* (*By Captain Street*).—Even if there should be a grating over the water-ways?

A.—No; in that instance I might include them

62. *Q.*—In vessels of the *Kistna* class, should the spaces set apart for the boats in the vicinity of the bridge be utilized for passengers when the boats are carried at the davits? If so, state whether during both fair and foul season or only during the fair season.

A.—Only during the fair season.

63. *Q.*—In your opinion, are the provisions of the Native Passenger Ships Act, and the rules made under it, in regard to the accommodation to be provided for native passengers on long voyages and short voyages, suitable?

A.—Yes; I have found them so.

64. *Q.* (*By Captain Street*).—On the different voyages which you may have made between ports on the Coromandel coast and Rangoon, had any vessel you may have commanded while on this line the full complement of native passengers on board as specified in her certificate A; and if so had the passengers sufficient space in your opinion?

A.—I do not remember; but I never heard any complaints as to want of space.

65. *Q.*—Do you think that a passenger on a voyage lasting 10 or 12 hours requires as much room as one on a voyage lasting five days?

A.—Hardly.

66. *Q.*—Do you think that native passengers can do with less space than Europeans?

A.—Yes.

67. *Q.* (*By Sir Henry Morland*).—In what proportion?

A.—I think 6 cubic feet for a native and 9 for a European.

68. *Q.*—Assuming that this proportion is adopted, would it, in your opinion, affect the health, comfort, and safety of native passengers in any way?

A.—No; certainly not.

69. *Q.*—Do you consider that on a voyage which may extend to five days native passengers can be accommodated in the 'tween decks of a steamer at the rate of one passenger to each 6 square feet of area, with 4 square feet of airing space on the upper deck, without prejudicing their health and safety?

A.—Seems to be little enough, but I think it sufficient for a native.

70. *Q.* (*By Captain Street*).—In your experience could the *'tween* decks set apart for native passengers be kept clean and sweet on all occasions when the full number of native passengers were on board?

A.—Yes, we never found any difficulty.

71. *Q.* (*By Mr. Bestic*).—Have you ever seen a deck filled at the rate of one passenger to each 6 square feet of deck?

A.—Yes, I have had passengers in less space. I have had 1,300 pilgrims on the *Sir John Lawrence*.

72. *Q.*—Do you think it necessary for the health and safety of the passengers, that there should be on a voyage which may extend to five days permanent shelter for each passenger either 'tween decks or in cabins on the upper deck?

A.—Not in fine weather.

73. *Q.*—Do you think that on a voyage which may extend to five days there should be separate accommodation for female passengers?

A.—Questionable whether they would use it.

74. *Q.*—Do you know of any steamers which carry native passengers on two upper decks?

A.—Yes; I have had command of one carrying passengers on two upper decks.

75. *Q.* (*By Sir Henry Morland*).—And in three decks?

A.—I believe she had, but I do not remember.

76. *Q.*—Do you consider, from the wording of

the Native Passenger Ships Act and your experience of this question, that the Legislature, when it passed the Act, contemplated the existence of vessels with more than one upper deck?

A.—Cannot say.

77. *Q.*—Are you acquainted with the design of the steamers of the *Kistna* class?

A.—Yes; some time ago I had command of one.

78. *Q.*—What is the distinguishing feature of these steamers?

A.—Open 'tween decks.

79. *Q.*—Are the passengers on these middle decks as well protected in rough weather as the passengers on the lowermost of the three passenger decks?

A.—Yes; provided they are closed in and the ship not too deeply laden.

80. *Q.* (*By Mr. Bestic*).—Have you found that these shutters can be made nearly water-tight, and have you had them closed all round in rough weather?

A.—On one occasion we came over from Aden to Kurrachee in August deeply laden and had them shut and water-tight.

81. *Q.* (*By Dr. Comins*).—Were the hatches of the hurricane-deck closed during the rough weather you speak of?

A.—As we had no passengers on the lower deck I think they were, that is, on the 'tween decks, but the *upper deck* hatches were probably off.

82. *Q.* (*By Mr. Mackay*).—I suppose if you had had a number of passengers on the *middle deck* you could always have kept some of the shutters open and the hatches also for ventilation, if required, when in bad weather?

A.—In most instances I should say yes, but I do not remember on that occasion whether we had opened any or not.

83. *Q.* (*By Captain Street*).—Has the middle deck been perfectly dry during weather when the shutters had to be closed?

A.—We always found the middle deck dry in ordinary weather; but no doubt in bad weather it would be necessary to close the weather side if not the lee side as well.

84. *Q.* (*By Sir Henry Morland*).—In measuring these decks for passenger space, would you treat them as *'tween* or *upper* decks?

A.—I think for passengers they could be used for either.

85. *Q.* (*By Captain Street*).—During weather necessitating keeping the shutters closed, would the *middle deck* passengers be inconvenienced by the water coming through the shutters?

A.—Yes, if they were not carefully shut, especially on the weather side.

86. *Q.* (*By Mr. Mackay*).—On the voyage in question from Aden to Kurrachee, in the hurricane-decked steamer *Patiala* in the month of August in the south-west monsoon, during the bad weather you had when the middle deck was clear, did the deck passengers remain on the hurricane-deck or go down on the middle deck?

A.—So far as I remember, the passengers stayed on the upper deck. As we had all over awnings spread, I do not, however, remember the number we had. We never take in over awnings as a rule unless we go against the monsoon, and then we take the forecastle awning off.

87. *Q.* (*By Sir Henry Morland*).—Your voyage was with the monsoon. Would you have carried passengers similarly if going against it?

A.—I think had I been going against it, with a full complement of passengers, I should have gone south, and in other instances it would have been much the same.

88. *Q.* (*By Captain Street*).—Was the vessel under the Native Passenger Ships Act?

A.—No; I think she had only a Board of Trade certificate.

89. *Q.*—Are these passengers on the middle deck not better protected than on ordinary upper decks?

A.—Yes; I should say they were.

90. *Q.*—During the inclement weather do you consider that the upper deck passengers are sufficiently protected by canvas awnings? If not, what would you recommend.

A.—If awnings and screens are properly fitted, and the ship not too deep, passengers can be made snug enough on deck.

91. *Q.* (*By Captain Street*).—Have you ever been in command of a native passenger vessel with native passengers on board during periods of wet weather of any duration? If so, had all the *upper* deck passengers sufficient dry space for sleeping, or had they to lie on the wet deck?

A.—I think in most instances they had dry spaces, but no doubt some may have got wet.

92. *Q.*—Do you consider that sufficient protection from the sea is afforded to upper deck passengers by the "reasonably stout screen" which, under existing rules (*see* Government of India letter No. 430, dated 27th August 1878) is held as coming within the definition of a substantial bulwark? If not, state what you would recommend in lieu.

A.—I do not approve of bulwarks. I prefer the open rail with canvas screens.

93. *Q.* (*By Captain Street*).—But do you consider that the *stout screen* referred to in the previous question affords sufficient protection to *upper deck* passengers from the sea during heavy or rough weather? If not, what would you substitute.

A.—I think on deep vessels the protection would not be sufficient. I should say on vessels with a good side, canvas screens would be sufficient in most instances.

94. *Q.*—In rough weather would any water get on to the middle deck through the scuppers and shutters? If so, could this be prevented?

A.—I think it could be prevented without much trouble.

95.—Under existing rules are the arrangements to prevent injury to passengers by the rolling of the ship sufficient for the purpose?

A.—The B. I. Company are always very careful about the comfort and safety of native passengers.

96. *Q.* (*By Captain Street*).—In the different vessels you may have commanded, did any arrangements to prevent injury to passengers by the rolling of the vessel exist? If so, will you state what these arrangements were like and if they proved sufficient for the purpose?

A.—In the event of bad weather we always had life lines stretched across the deck and also from stanchion to stanchion for the passengers to hold on to or steady themselves by.

97. *Q.*—Is it necessary for the comfort or safety of the passengers that provision should be made for the accommodation of luggage not stored in the hold?

A.—I do not think, as a rule, it is necessary.

98. *Q.*—If such accommodation were provided, would it be used? Will native passengers allow their luggage to be parted from them under any circumstances?

A.—Natives will not part with their baggage.

99. *Q.*—Do you think that, on a voyage which

may extend to five days, sleeping platforms should be provided for the passengers?

A.—No; they would only harbour dirt and breed vermin, and passengers would sleep under them, not on them.

100. *Q.* (*By Dr. Comins*).—How can a sleeping platform 6 feet broad and 3 feet from the deck, and the uprights of which are of iron, and the bottom boards separate and removeable, harbour dirt or vermin?

A.—In many instances there would be small openings or cracks which, unless very carefully closed, would prove objectionable.

101. *Q.* (*By Dr. Comins*).—Are you aware that on an emigrant vessel the first places chosen for sleeping by the emigrants are the platforms, and that the rest are accommodated under them?

A.—I have had no experience of platforms.

102. *Q.*—Do you think the existing rules in regard to hospital accommodation are suitable?

A.—Yes; I have never had any trouble in the matter.

103. *Q.*—Do you consider that cargo, horses, cattle, sheep, and live-stock should be carried on the same deck with passengers? If so, is any fitting necessary to prevent the passengers from being inconvenienced by the urine and dung of the horses, cattle, and sheep, and, if any such fitting is requisite, state what you would recommend?

A.—I have carried both. With a little care on the part of the Officers, no inconvenience need arise.

104. *Q.* (*By Captain Street*).—Then you consider that, in a native passenger vessel, no special arrangement of the nature referred to in the previous question is at all necessary?

A.—I think on vessels carrying a large number of passengers and animals, there should be certainly some arrangements.

105. *Q.*—In vessels which, under existing rules, are permitted to carry horses, cattle, and sheep with native passengers, are sufficient precautions adopted to prevent the hay and straw provided for the use of such animals from catching fire either from a spark from the ship's funnel or lighted matches? If not, state what extra precautions you would recommend?

A.—There is little or no danger if the place is swept up after feeding the animals.

106. *Q.* (*By Captain Street*).—In native passenger vessels, working under the clause by which each adult native passenger has to be provided with 6 superficial feet of space on the *'tween decks*, cattle may be carried on the uppermost deck on short voyages during seasons of *fine* weather. Would you recommend cattle being carried also on such voyages during seasons of foul weather?

A.—I think when passengers are carried they should be on the second deck and the animals on the *upper* deck.

107. *Q.* (*By Captain Street*).—In native passenger vessels working under the clause by which each adult native passenger is allowed 5 superficial feet of space on the *'tween decks*, provided that the whole of the *uppermost deck* is available for passengers, do you consider that, when the full number of passengers are not on board, the whole of the *uppermost deck* should be kept available for the number embarked or that any portion of it may be given up for other passengers, such as for cattle for instance, and if so, how many superficial feet on the uppermost deck should there be set apart for each *'tween deck* passenger? In vessels working under the clause requiring each passenger to have 6 superficial feet, a space of 4 square feet has also to be available on the *upper deck* for each *'tween deck* passenger?

A.—In the event of two-thirds of the entire complement of passengers being on board, I should say that the *upper deck* be available for their use to the extent of 4 cubic feet each; if more than this number, the entire *upper deck* might perhaps be given up for their use with certain exceptions; for instance, it would be unfair to prevent regular liners from carrying live-stock in the ordinary course of every-day business.

108. *Q.*—Will you explain to the Commission what rules are in force in India on the subject of life-saving appliances?

A.—Four life-buoys and a certain number of cork belts, &c., also signals of distress and Holmes' patent lights.

108*a*. *Q.*—Do the new regulations of the Board of Trade, made under the Merchant Shipping (Life-saving Appliances) Act, 1888, apply to India?

A.—Do not know sufficiently about it as yet.

109. *Q.*—What, in your opinion, is the object of these revised regulations?

A.—Increased facilities for saving life.

110. *Q.*—Do you think that the natives of India require as much space in boats as Europeans?

A.—No; they are smaller and lighter and take less space.

111. *Q.*—Would you adopt the Board of Trade Regulations in regard to life-buoys and life-belts?

A.—I am not prepared to say. Am of opinion that efficient means for saving life should be available, but do not think we have it at present in life-buoys, life-belts, &c.

112. *Q.* (*By Captain Street*).—For native passengers is a cork life-belt or a circular cork buoy the best apparatus—that is, as regards simplicity, bearing in mind that, to an ordinary native passenger, the manner of using either apparatus is probably unknown?

A.—I think the life-belt, if the man is told how to use it.

113. *Q.* In your experience, do the Surveyors at all ports in India make their surveys on the same lines?

A.—Yes; much the same, so far as I have seen.

114. *Q.*—Do you think it necessary that there should be a set of definite instructions as to the survey of passenger accommodation and crew space similar, so far as may be, to those issued by the Board of Trade?

A.—Yes; I think it would be beneficial.

115. *Q.*—After a vessel has been measured for certificate A, is the Captain supplied with the Surveyor's calculations? If not, do you think it necessary that he should be?

A.—Yes; he should be supplied with such information for his guidance.

116. *Q.*—Would it not be advantageous if a copy of all measurements and calculations of passengers' space, as determined on the original measurement, is supplied to the Commander of the vessel?

A. Yes; certainly.

117. *Q.*—If so, would you recommend that the calculations should show clearly the names of the various obstructions which have been deducted from the gross area, their dimensions, and the proportional area deducted?

A.—Yes; it would be beneficial for his future reference.

118. *Q.*—Do you consider a double awning overhead with side curtains and bulwark screens, as

required by the Native Passenger Act, equal to the ordinary tent in which troops are accommodated?

A.—Yes; if properly fitted.

119. *Q.*—Do you consider that native passenger ships should carry a Medical Officer? If this was made compulsory, would you make any difference for the numbers carried or for the duration of the voyage?

A.—A Medical Officer would be, at all times, an advantage.

120. *Q.*—What grade of Medical Officer would you consider best suited for these vessels?

A.—A duly qualified medical man.

121. *Q.*—Give any instances which have come to your knowledge in which a Medical Officer would have been of service on board a native passenger vessel?

A.—I have had several cases amongst pilgrims where a medical man would, in all probability, have saved life.

Proceedings of the Fourteenth Meeting of the Native Passenger Ships Commission, held at the Bengal Office, on Saturday, the 20th December 1890, at noon.

Present:

Surgeon-Major A. S. Lethbridge, C.S.I.	*President.*
Captain Sir Henry Morland, Kt., H.M.I.M. . . .	*Members.*
Surgeon-Major D. W. D. Comins	
Captain H. A. Street, H.M.I.M.	
W. B. Bestic, Esq.	
James L. Mackay, Esq.	
W. B. H. Turner, Esq.	

1. The proceedings of the Thirteenth Meeting were approved.

2. The President circulated a letter he had received from Captain A. Campbell, H. M. I. M., D. S. O., Deputy Director of the Indian Marine, with reference to his replies to the general questions which had been sent to him. It was resolved that Captain Campbell should be asked to appear before the Commission, selecting his own day between the 29th instant and the 2nd January 1891, inclusive.

3. Mr. Watson, the Constructor of the Indian Marine Dockyard at Calcutta, was called and examined.

4. Mr. Watson was asked to favour the Commission with a statement showing how many inches of ventilation could be given to the middle deck of the S S. *Kasara* type of steamer under certain conditions, without interfering with the ventilation of the 'tween decks. This Mr. Watson promised to furnish. He was also asked to give his opinion in respect to life-saving appliances, and their applicability to vessels trading in Indian waters.

5. Mr. Watson's examination having been completed, the Commission adjourned.

Mr. R. WATSON.

1. *Q.*—Will you please inform the Commission of the nature of your present occupation?

A.—Constructor, Government Dockyard, Kidderpore.

2. *Q.*—What qualifications or experience do you possess in regard to the subjects under enquiry?

A.—The qualification and experience of being an Admiralty trained Naval Architect and Constructor.

3. *Q.*—Do you take any part, either directly or indirectly, in the administration or observance of any of the provisions of the "Native Passenger Ships Act, 1887"?

A.—None whatever.

4. *Q.*—Into what classes do the Board of Trade divide sea-going vessels for the purpose of determining the number of passengers they are capable of carrying?

A.—Foreign-going and Home Trade.

5. *Q.*—What is a Foreign Trade voyage?

A.—A voyage between some place in the United Kingdom and some other place beyond the limits of a Home Trade voyage.

6. *Q.*—What is a Home Trade voyage?

A.—A voyage within the limits of the United Kingdom, Channel Islands, Isle of Man, and north coast of France, Belgium, Holland and part of Germany.

7. *Q.*—What is an Excursion voyage?

A.—Generally a daylight voyage.

8. *Q.*—What is a long voyage?

A.—According to the Act, as I understand it, a voyage on which a vessel would ordinarily be not less than 120 hours continuously out of port.

9. *Q.*—What is a short voyage?

A.—The reverse of the above, that is, a voyage during which a vessel under ordinary circumstances would never be 120 hours out of port continuously.

10. *Q.*—In regard to what voyages is there a distinction made between fair and foul seasons?

A.—For short voyages only.

11. *Q.*—Do you consider that, if there is to be a line dividing short from long voyages, it should be drawn at five days?

A.—I consider it immaterial where the line is drawn, as it is possible for a legal short voyage to be considerably protracted so far as the ultimate port of destination is concerned.

12. *Q.*—To what vessels do the Native Passenger Ships Act or the Emigrant Act not apply?

A.—To any Royal Navy or Indian Marine vessels, to vessels hired by Government, to any Foreign ships of war, or to ships not carrying natives as passengers between Indian ports.

13. *Q.*—How many passengers can a steamer carry without coming under the provisions of the Native Passenger Ships Act?

A—Sixty.

14. *Q.*—Are you acquainted with the ordinary conditions of native life amongst the class that form the bulk of the native passengers who travel by sea?

A.—No, other than native troops and followers.

15. *Q.*—Are you aware that it is a common practice for natives of India to sleep at night in the open air?

A.—Yes.

16. *Q.*—Do you know what amount of passage money is paid for an emigrant, say, to Mauritius, distance to Mauritius from Calcutta being 3,290 miles, and also who pays the passage of emigrants from India to Mauritius and elsewhere?

A.—No.

17. *Q.*—Do you know what amount of passage money is paid for an ordinary passenger, say, from Madras to Rangoon, 1,009 miles, and who pays?

A.—No.

18. *Q.*—How is the number of passengers which a vessel is capable of carrying calculated in each case?

A.—For long voyages the available space is in sailing ships divided by 12 square feet or 72 cubic feet, and in steamers by 9 square feet or 54 cubic feet.

For short voyages, fair season, the 'tween deck space is divided by 6 square feet and each passenger given 4 square feet of airing space on upper deck; the remaining space of latter is divided by 6 also.

Foul season, the 'tween deck space is divided by 9 with 4 square feet each on upper deck and the remaining space on latter divided by 9.

19. *Q.*—Is allowance made in Board of Trade Rules for height of 'tween decks,—in fact do not Board of Trade Surveyors, when berths are not fitted for 3rd class passengers, calculate the number that may be carried, on the basis of a cubic measurement of 72 cubic feet per statute adult, after deducting all hatches and encumbrances?

A.—I believe so.

20. *Q.*—If so, would you consider it proper to allow for height of 'tween deck as an element in the health and comfort of 3rd class native passengers?

A.—Not necessarily, provided a minimum height was fixed.

21. *Q.* (*By Captain Street*).—What is the minimum height you would recommend?

A.—Six feet.

22. *Q.*—Do you know the height of the 'tween decks in the B. I. steamers?

A.—Yes, many of them.

23. *Q.*—What is the maximum height between deck in these steamers carrying native passengers? What is the average height?

A.—In those that have come under my cognizance an average height of 7½ and 8 feet.

24. *Q.*—Are you aware that there was an old rule in India which allowed ships to carry three passengers for two tons?

A.—No; neither do I see the analogy between passengers and tons.

25 *Q.*—Is the Board of Trade Rule, under which the number of passengers carried must not, whatever the deck measurements may give, exceed the number denoting the gross tonnage of the vessel, enforced in India?

A.—I believe so; but, as in the last question, I cannot see how the gross tonnage of a ship can possibly have any constant relation to the space available for carrying passengers.

26. *Q.*—Should alleyways, used as a means of communication by the crew, be considered as deck area for passengers, *i.e.*, the narrow passages between the officers' cabins and the engine-room casing? If so, would it not be advisable to give a minimum breadth before allowing the area to count for passengers?

A.—I would consider them as deck area for passengers. I do not consider it advisable that any part where a passenger can obtain shelter in case of necessity should be omitted.

27. *Q.* (*By Mr. Bestic*).—Do you consider that alleyways 3 feet wide should be filled with passengers under ordinary conditions?

A.—Yes, certainly; although I am of opinion they would never be utilized in these circumstances.

28. *Q.* (*By Captain Street*).—Even if the space is unsuitable for passengers, and could not be used for passengers without seriously interfering with the free movement of the officers and crew through such confined space?

A.—No.

29. *Q.* (*By Mr. Mackay*).—I understand you to say that you would measure the alleyways because you consider that 6 square feet is more than a native would ordinarily occupy, is this so?

A.—Yes.

30. *Q.* (*By Sir Henry Morland*).—What circumstances would render an alleyway unfit for passengers?

A.—A minimum of 2 feet, and the spaces absolutely required for getting rid of ashes.

My reason for the above answer is, that I have measured alleys of 4 feet in width and carried native troops and followers in them and still found no difficulty in passing through them, the space allowed each man being 6 square feet.

31. *Q.* (*By Captain Street*).—Was this when the vessel was in port or while she was at sea?

A.—I have never been to sea in a transport.

32. *Q.* (*By Mr. Mackay*).—You are aware that the hatchways on upper decks are never included in the measurements for passengers. Do you consider that the accommodation, which they afford in excess of what is measured, more than compensates for any room that may have to be given up in alleyways which are measured for the passage of the ship's officers?

A.—Without doubt.

33. *Q.* (*By Mr. Bestic*).—Will you explain to the Commission what the regulations as to space are regarding the transport of native troops on short voyages in Indian waters?

A.—All space available below decks either in *orlops*, *'tween* or *main*, provided it is considered suitable by the Inspecting officer, is measured and the area divided by 6 square feet. To this number is added 25 per cent. of the same which are to be carried on the upper deck, and so far as I am aware no distinction is made between fair and foul weather. I have never made any distinction.

34. *Q.* (*By Mr. Bestic*).—Do you think these regulations suitable in all cases?

A.—I see no reason to think otherwise, but I believe the addition of the 25 per cent. is discretionary.

35. *Q.*—Are not these alleyways additional shelter and therefore desirable for passengers?

A.—I consider them so.

36. *Q.*—For ships with large water-ways in the 'tween decks extending inside the battens on the ship's side, is the deck measurement made to the inside edge of the water-ways or to the battens? Which would you recommend?

A.—In measuring for troops I invariably take the inside edge of the water-way, and this course I would recommend.

37. *Q.* (*By Sir Henry Morland*).—Supposing the sunk water-way to be covered with an efficient wooden grating, would you allow any portion to be included in the space measured for native passenger accommodation? If so how much?

A.—I would have no objection to measure a water-way under these conditions, provided the rail or battens plumbed clear of it; if not altogether I would measure that part outside the plumb or toward the middle line.

38. *Q.*—In vessels of the *Kistna* class, should the spaces set apart for the boats in the vicinity of the bridge be utilized for passengers when the boats are carried at the davits? If so, state whether during both fair and foul season or only during the fair season.

A.—I see no reason why these spaces, which I take to be under the skid beams, should not be utilized for passengers so far as the boats are concerned, either when the latter are carried at davits or turned in. But if the space referred to is on the skid beams my answer would be "no."

39. *Q.*—Do you think that a passenger on a voyage lasting 10 or 12 hours requires as much room as one on a voyage lasting five days?

A.—I think it makes very little difference, but should be inclined to give him less.

40. *Q.*—Do you think that native passengers can do with less space than Europeans?

A.—I think so, if their habits on shore are any criterion.

41. *Q.*—What proportion do you consider that the space allotted to natives should bear to the space allotted to Europeans?

A.—About as 2 to 3.

42. *Q.*—Assuming that this proportion is adopted, would it, in your opinion, affect the health, comfort, and safety of native passengers in any way?

A.—Not at all.

43. *Q.* (*By Mr. Mackay*).—What space do European soldiers get under Transport Regulations on short voyages?

A.—Seven and-a-half square feet for a voyage under seven days.

44. *Q.* (*By Mr. Bestic*).—Have you heard of any recent complaints of European troops being overcrowded on troopships?

A.—No.

45. *Q.* (*By Mr. Bestic*).—Do you think that a native in the 'tween decks of a vessel in Indian waters requires one-third less air space than a European requires on a vessel in English waters?

A.—I should be inclined to say "yes" to this, for I am sure in their homes on shore they have even less than this.

46. *Q.* (*By Mr. Mackay*).—Does the 6 feet allowed to natives and 7½ feet allowed to Europeans include the space occupied by their arms, accoutrements and kit?

A.—Yes; but accoutrement pegs and arm-racks are always provided, and these are generally secured to the battens round the sides or to the stanchions at the middle line. Nothing is usually either placed or allowed on deck. The troops, however, as a rule carry blankets and *lotas*.

47. *Q.*—Do you consider that on a voyage, which may extend to five days, native passengers can be accommodated in the 'tween decks of a steamer at the rate of one passenger to each 6 square feet of area, with 4 square feet of airing space on the upper deck, without prejudicing their health and safety?

A.—Certainly. I think this is ample, and moreover think very few would avail themselves of the airing space.

48. *Q.* (*By Mr. Bestic*).—Have you ever seen the 'tween decks of a steamer filled at the rate of one passenger to each 6 superficial feet of deck area?

A.—Yes, native troops.

49. *Q.* (*By Dr. Comins*).—If as you say 6 feet is more space than would be required by a native passenger, would you increase the number of passengers to be carried?

A.—No.

50. *Q.* (*By Mr. Bestic*).—Do you think that the Transport Regulations allow more space than is absolutely necessary?

A.—No.

51. *Q.*—Do you think it necessary for the health and safety of the passengers, that there should be on a voyage, which may extend to five days, permanent shelter for each passenger either 'tween decks or in cabins on the upper deck?

A.—I do not consider it necessary to provide permanent shelter for each and every individual passenger, for I am of opinion they would not all avail themselves of it. I however think shelter of some sort might be easily found for the majority in case of emergency.

52. *Q.* (*By Dr. Comins*).—Where would this shelter be found?

A.—Many places are available for this purpose, *viz.*, the saloon, 1st and 2nd class cabins, mess room, &c., &c.

53. *Q.*—Do you think that on a voyage which may extend to five days there should be separate accommodation for female passengers?

A.—I hardly think they would avail themselves of it, if provided, unless compelled to.

54. *Q.*—Do you know of any steamers which carry native passengers on two upper decks?

A.—Yes, many inland steamers; also yes as regards sea-going steamers if the term "upper deck" is to be taken literally and as understood structurally.

55. *Q.*—Are you acquainted with the design of the steamers of the *Kistna* class?

A.—Yes.

56. *Q.*—What is the distinguishing feature of these steamers?

A.—That they are between *shade* and *shelter* deck vessels, better than *shade* but not quite *shelter*.

57. *Q.*—In your opinion, are the *middle* passen-

ger decks of these steamers *'tween* decks or *upper* decks, within the meaning and intention of the Native Passenger Ships Act? Give your reasons for this opinion?

A.—For all purposes of measurement for passengers I should consider the middle or main deck as an upper deck, for I cannot see the necessity of providing additional airing space when a deck is already partly open or even when, to all intents closed, fairly well ventilated.

58. *Q.* (*By Mr. Bestic*).—If the shutters are closed, where is the ventilation?

A.—Main hatchways, I think about five staircases or ladderways, the openings over galley-house, the windows through engine-room casing, besides the ordinary ventilating trunks and cowls.

59. *Q.* (*By Mr. Bestic*).—Is this ventilation better than that of an ordinary *'tween deck* which is provided with suitable ventilating arrangements?

A.—Not better, but equal to, so far as ventilation for troops is concerned; but it has to be borne in mind that the *main deck* runs from forward to aft and has the benefit of the additional side scuttles and openings in alleyways.

60. *Q.*—Classing the middle deck as an upper deck within the meaning of the Act, how many passengers can the *Kistna* carry on her three decks on voyages up to five days in fair and foul weather?

A.—Taking the three following questions together; I give these figures simply as illustrations, approximately . . . . . { 1060 fair. 774 foul.

61. *Q.*—Assuming that the lowermost of the three passenger decks is used for cargo, how many passengers can be carried on the two remaining decks?

A.—Approximately . . { 885 fair. 590 foul.

62. *Q.*—Will you give the corresponding numbers, classing the *middle* deck as a *'tween* deck within the meaning of the Act?

A.—Approximately . . { 842 fair. 687 foul.

63. *Q.*—Are the passengers on these *middle* decks as well protected in rough weather as the passengers on the lowermost of the three passenger decks?

A.—No.

64. *Q.*—Are these passengers on the *middle* deck not better protected than on ordinary *upper* decks?

A.—Yes.

65. *Q.* (*By Mr. Bestic*).—Are they as well protected as the passengers on an ordinary *'tween* deck?

A.—Practically so.

66. *Q.*—During the inclement weather do you consider that the *upper* deck passengers are sufficiently protected by canvas awnings? If not, what would you recommend.

A.—For a tropical climate I think they are fairly well protected.

67. *Q.*—Do you consider that sufficient protection from the sea is afforded to *upper* deck passengers by the "reasonably stout screen" which, under existing rules (*see* Government of India letter No. 430, dated 27th August 1878) is held as coming within the definition of a substantial bulwark? If not, state what you would recommend in lieu.

A.—Unless the reasonably stout screen is round a deck considerably higher above water than the deck to which the legal freeboard of a vessel is calculated, I consider it is not to be compared with a substantial bulwark for protection from the sea.

68. *Q.*—What is the height of the *middle* deck above the load line?

A.—If this refers to the *Kistna* class, the middle or main deck would be nearly 2 feet above the load line.

69. *Q.*—In rough weather would any water get on to the *middle* deck through the scuppers and shutters? If so, could this be prevented.

A.—There is no doubt but what some water would get on to the *middle* deck through the scuppers and shutters; the latter could be easily prevented by fitting a sufficient number of clips as usually fitted to water-tight doors, and there is no difficulty in securing a clearing port or plugging a scupper if any one wished to do so.

70. *Q.*—How could you provide this protection?

A.—I think *hand-hold* is all that is necessary, and this could be provided by passing lines round the stanchions to the side, &c.

71. *Q.*—Is it necessary for the comfort or safety of the passengers that provision should be made for the accommodation of luggage not stored in the hold?

A.—So far as the comfort of a native is concerned, I think the more lumber they have about them the better they like it, but for their safety in bad weather it would probably be advisable to provide a place for boxes or big bundles.

72. *Q.*—If it is necessary, what would you provide?

A.—An ordinary bag rack.

73. *Q.* (*By Dr. Comins*).—Where would this bag rack be best placed?

A.—Down in the hold would be the best place, but there could be no objection in fitting one up on the same deck with the passengers, say between the engine-room casing and the saloon galley if on *main deck*.

74. *Q.* (*By Captain Street*).—Would not this bag rack take off space set apart for passengers? If so, by how much.

A.—It would, but not much, say 50 square feet.

75. *Q.*—If such accommodation were provided, would it be used? Will native passengers allow their luggage to be parted from them under any circumstances?

A.—I am of opinion it would not be used voluntarily, for from what I have seen of native troops and followers they will not part with any of their bundles unless compelled to.

76.—Do you think that, on a voyage which may extend to five days, sleeping platforms should be provided for the passengers?

A.—No. I am of opinion they would not be used to any extent, and I do not see how they could be conveniently arranged.

77. *Q.* (*By Dr. Comins*).—Are you aware that in emigrant vessels, sleeping platforms are always selected by the emigrants as the most comfortable places?

A.—No; but I am aware that native troops and followers prefer the deck.

78. *Q.* (*By Dr. Comins*).—Allowing that they can be made readily removeable, what is the difficulty as to their arrangement?

A.—I do not say there is any difficulty in arrangement, but I consider they would be inconvenient and not likely to be largely patronised.

79. *Q.* (*By Captain Street*).—Have you ever fitted a transport with sleeping platforms?

A.—Yes, for European troops; these are formed by dropping one end of the mess-tables on to the deck. I have never fitted sleeping platforms for native troops, only so far as the hospital and prisons are concerned.

80. *Q.* (*By Mr. Mackay*).—Can you explain

why sleeping platforms for native troops have never been fitted in any Indian Marine or hired transport?

A.—Because the general opinion is that they would never be used and would be more of a nuisance than a convenience.

81. *Q.* (*By Mr. Bestic*).—Are the Indian Marine Transport Regulations regarding the space allowed to European Troops the same as the Admiralty Regulations?

A.—Practically so.

82. *Q.* (*By Mr. Bestic*).—How much deck space do the Admiralty Regulations allow between, say, Southamptom and Gibraltar?

A.—Ten and-a-half square feet I believe.

83.—Do you consider that cargo, horses, cattle, sheep, and live-stock should be carried on the same deck with passengers? If so, is any fitting necessary to prevent the passengers from being inconvenienced by the urine and dung of the horses, cattle, and sheep, and, if any such fitting is requisite, state what you would recommend?

A.—I do not see any particular objection, provided the animals are carried where the dung and urine can be easily localised and carried or washed away.

84. *Q.* (*By Captain Street*).—But do you not consider that some special arrangement is necessary to keep the urine from inconveniencing passengers, and should be fitted before horses, cattle, and sheep are placed on the same deck with passengers?

A.—*Yes*, if the *'tween* decks are referred to, but *no* wherever there is a scupper leading outside the vessel, or a port handy where it can be thrown out.

85. *Q.*—Will you explain to the Commission what rules are in force in India on the subject of life-saving appliances?

A.—So far as I am aware, the rules in force are practically analogous to the recent Board of Trade rules on the subject.

86. *Q.* (*By Mr. Bestic*).—I presume you mean the old Board of Trade Regulations which have recently been superseded by those made under the Merchant Shipping (Life-saving Apparatus) Act?

A.—I mean those that were in force up to the 31st October 1890.

87. *Q.*—Do the new regulations of the Board of Trade made under the Merchant Shipping (Life-saving Appliances) Act, 1888, apply to India?

A.—Not at present, I believe.

88. *Q.*—What, in your opinion, is the object of these revised regulations?

A.—The better arrangement of ships into divisions and classes so as to admit of a more graduated scale of equipment of boats and other life-saving appliances being assigned.

89. *Q.*—Do the revised regulations require more appliances than were necessary under the old rules, and why was the change found necessary?

A.—Under certain circumstances, yes. The change was probably found necessary owing to the increase of passenger accommodation compared with the gross tonnage.

90. *Q.*—Are the revised regulations suitable, in your opinion, for vessels engaged in the native passenger trade?

A.—Not altogether.

91. *Q.*—In your opinion, is there no difference of conditions which would justify a difference in the regulations on the subject?

A.—It is my opinion there are differences.

92. *Q.*—Do you think that the natives of India require as much space in boats as Europeans?

A.—No.

93. *Q.*—Would you adopt the Board of Trade Regulations, in regard to life-buoys and life-belts?

A. Not altogether; I should be inclined to provide more life-buoys and less life-belts.

94. *Q.*—Do you think it necessary that there should be a set of definite instructions as to the survey of passenger accommodation and crew space similar, so far as may be, to those issued by the Board of Trade?

A.—I do, if only to ensure uniformity.

95. *Q.*—Would you make the regulations in regard to the equipments of vessels similar in all respects to those of the Board of Trade?

A.—Not necessarily.

96. *Q.*—After a vessel has been measured for certificate A, is the Captain supplied with the Surveyor's calculations? If not, do you think it necessary that he should be.

A.—I think the Captain should be furnished with all calculations.

97. *Q.*—Would it not be advantageous if a copy of all measurements and calculations of passengers' space, as determined on the original measurement, was supplied to the Commander of the vessel?

A.—I think so, and to any one concerned.

98. *Q.*—If so, would you recommend that the calculations should show clearly the names of the various obstructions which have been deducted from the gross area, their dimensions and the proportional area deducted?

A.—Yes; the calculations should be complete.

99. *Q.*—Do you consider a double awning overhead with side curtains and bulwark screens, as required by the Native Passenger Act, equal to the ordinary tent in which troops are accommodated?

A.—Ordinarily so.

100. *Q.*—Do you know that 6 superficial feet on the upper deck under double awnings and curtains is considered sufficient accommodation for native troops making voyages under five days' duration?

A.—Yes.

In continuation of my answers to questions 99 and 100, the revised regulations appear practically to require < cubic foot of boat capacity under davits for every ton gross in vessels up to 1,700 tons, then decreasing gradually to about 58 cubic feet in the largest vessels, but in addition, if this is insufficient, as would generally be the case in India, supplementary boats or rafts are required, so as to bring the maximum compulsory boat capacity up to $> (1 + \frac{3}{4})$ for emigrants and Foreign Passenger Steam Ships, and to $>(1 + \frac{1}{2})$ for Home Trade and coasting Passenger ships, where > is the boat capacity required for tonnage, so that the vessels up to 1,250 tons gross are but little affected by the alterations in the matter of boats, and it is only when the gross tonnage of passenger steamers goes above this that extra deck encumbrance need be feared; so as regards the vessels in Division A, classes one and two, I think, it would be an advantage to the native passengers trade were paragraph (*c*) of the rules for Division A, class 3, made applicable to them as well.

There is another condition in the native passenger trade that I think would justify some difference in the regulation on the subject, and that is the question of manning the boats required by the rules, for from what I have seen of the generality of native passengers, they would appear to be utterly incapable of even assisting themselves in cases of danger and emergency, and unless provision is made for the proper clearing, lowering, and manning the boats, they would, no matter how many are available, be worse than useless.

The rules in the revised regulations relating to the provision of life-belts and life-buoys, in my opinion, likewise require modifying to meet the requirements of the native passenger trade, as I

certainly think in times of emergeney there would not be one native passenger in twenty who would manage to put on and secure a cork life-belt or jacket to his person in manner that would tend to the safety of his own life, while on the other hand, natural instinct would lead a drowning man to clutch a life-buoy if it was available; my idea on this subject is that a larger provision of life-buoys and a much less provision of life-belts are required where native passengers are concerned.

I also think some definite instructions are necessary as regards the rule relating to water-tight compartments, so that owners may know exactly what will be considered efficient in this respect to enable them to claim the exemption allowed of a portion of the supplementary life-saving appliances; and in the rule relating to appliances for lowering boats, I think, some such words as the following should be added to the paragraph dealing with davits, falls, blocks, eyebolts, &c., after the word "strength" would make it more explicit:—"to carry the boat with the number of persons it is certified to hold."

R. WATSON.

Proceedings of the Fifteenth Meeting of the Native Passenger Ships Commission, held at the Bengal Office on the 29th December 1890, at noon.

Present:

Surgeon-Major A. S. Lethbridge, C.S.I.	*President.*
Captain H. A. Street, H.M.I.M.	*Members.*
W. B. H. Turner, Esq.	
James L. Mackay, Esq.	
Captain Sir Henry Morland, Kt., H.M.I.M.	
W. B. Bestic, Esq.,	
Surgeon-Major D. W. D. Comins	

1. The Proceedings of the Fourteenth Meeting were approved.

2. Captain Alexander Campbell, D. S. O., H. M. I. M., Deputy Director of the Indian Marine, was called and examined.

3. Captain Campbell's examination having been completed, Mr. Clarence Lidstone, Senior Master Pilot, Bengal Pilot Service, was called and examined.

4. Mr. Lidstone's examination having been completed, the Commission adjourned until 3 P.M. on the 30th instant.

Captain *CAMPBELL, H.M.I.M.*

1. *Q.*—Will you please inform the Commission of the nature of your present occupation?

A.—Deputy Director of the Indian Marine.

2. *Q.*—What qualifications or experience do you possess in regard to the subjects under enquiry?

A.—My experience of ships and matters connected with them goes back thirty-six years; of this about twenty-six has been spent in India and Indian waters.

3. *Q.*—Do you take any part, either directly or indirectly, in the administration or observance of any of the provisions of the "Native Passenger Ships Act, 1887?"

A.—No.

4. *Q.*—Into what classes do the Board of Trade divide sea-going vessels for the purpose of determining the number of passengers they are capable of carrying?

A.—The rules give this information.

5. *Q.*—How does an Indian Home Trade voyage compare with an English Home Trade voyage?

A.—No comparison whatever in my opinion.

6. *Q.*—Do you consider that, if there is to be a line dividing short from long voyages, it should be drawn at five days?

A.—Not necessarily.

7. *Q*—Do you think that the five-day limit puts an Indian short voyage on a footing similar to an English Home Trade voyage?

A.—Do not see how a five-day limit can make any difference.

8. *Q.*—(*By Sir Henry Morland.*) Do you think it desirable that there should be any difference in space, &c., between a long and a short voyage?

A.—I consider the space on a short voyage, as specified in the Native Passenger Ships Act, ample for all purposes of coasting voyages.

9. *Q.*—Do you know of any instances in which passengers, not exceeding sixty in number, have been carried in vessels having no suitable accommodation for them?

A.—No.

10. *Q.*—What are, under the rules, the seasons of fair weather in the Bay of Bengal?

A.—See Notification No. 1355 of the 14th March 1889.

11. *Q.*—Are you of opinion that the conditions justify a distinction being made between fair and foul weather in the case of voyages which may extend to five days?

A.—The question is not clear. I do not see what a limit of five-day and weather conditions have to do with each other.

12. *Q.*—Are you of opinion that the seasons of

fine weather defined in the rules are judiciously chosen with reference to the prevailing conditions?

A.—No doubt the seasons are defined from experience.

13. *Q.*—If not, what alterations would you suggest?

A.—Not prepared to say.

14. *Q.*—Will you mention instances of foul weather occurring during the seasons which are by rule declared to be seasons of fair weather?

A.—These may be found in the meteorological records.

15. *Q.*—In your opinion, do the conditions justify passengers being carried across the Bay at any season on decks, such as are commonly called hurricane-decks, which are not protected from the weather except by overhead awnings, assuming that no accommodation is reserved for these passengers on the lower decks, which are crowded with other passengers?

A.—This question is based on a condition of things that should never occur. If the rules are carried out, a ship can never be so crowded on her lower decks as not in an emergency to also afford shelter to the complement of passengers she could by rule carry on her upper deck.

16. *Q.*—(*By Mr. Bestic.*) Taking a vessel with one *between-deck* and two *upper decks*, where would the passengers on the *upper* decks, who might be double the number of those on the *between-deck*, find shelter?

A.—In *'tween-deck*, on *main deck*, in *saloon* and *deck-houses* in cases of urgency.

17. *Q.*—(*By Mr. Bestic*). Supposing a vessel has no *between*-deck available for passengers, do the conditions in your opinion justify her in carrying passengers on a voyage which may extend to five days?

A.—It depends entirely on the trim of the vessel under ordinary circumstances. Yes, if well protected by awnings.

18. *Q.*—Are you acquainted with the ordinary conditions of native life amongst the class that form the bulk of the native passengers who travel by sea?

A.—Only a superficial knowledge, like most other Europeans, of the domestic life of natives.

19. *Q.*—Are you aware that it is a common practice for natives of India to sleep at night in the open air?

A.—Yes.

20. *Q.*—Is it within your knowledge that 1st class passengers, travelling about the Bay of Bengal and coasts of India, as a rule, prefer to sleep on deck under the same conditions as to awnings and curtains as the 3rd class native passengers?

A.—I can answer, "yes," for myself.

21. *Q.*—Have you had any personal experience of the weather round the coast of the United Kingdom, and in the Bay of Bengal and on the coast of India?

A.—Yes, considerable.

22. *Q.*—Do you consider that there is such similarity as to warrant a comparison between the weather experienced on the coast of the United Kingdom or between the river Elbe and Brest (English Home Trade voyage) and that experienced in the Bay of Bengal and coasts of India?

A.—None whatever.

23. *Q.*—Do you consider the conditions of English and Indian passenger traffic to be similar in any other way than that the traffic under discussion is by sea?

A.—A matter I have not thought about.

24. *Q.*—Do you know what amount of passage money is paid for an emigrant, say, to Mauritius, distance to Mauritius from Calcutta being 3,290 miles, and also who pays the passage of emigrants from India to Mauritius and elsewhere?

A.—See British India Company's hand-book.

25. *Q.*—Do you know what amount of passage money is paid for an ordinary passenger, say, from Madras to Rangoon, 1,009 miles, and who pays?

A.—See British India Company's hand-book.

26. *Q.*—Do you think the ordinary native passenger would be prepared to pay more for better accommodation?

A.—No; most certainly not.

27. *Q.*—Is it not a fact that very well-to-do native merchants are satisfied with the usual deck accommodation?

A.—I presume so.

28. *Q.*—What class of people travel as deck passengers in the United Kingdom on vessels which frequently carry their full complement?

A.—All who cannot afford better accommodation.

29. *Q.*—Have you any special suggestions to make in regard to voyages similar to those classed as excursions by the Board of Trade, that is, voyages during which a vessel is not more than 10 or 12 hours at sea?

A.—No.

30. *Q.*—How is the number of passengers which a vessel is capable of carrying calculated in each case?

A.—By the conditions laid down in the Act and rules under the Act.

31. *Q.*—Is allowance made in Board of Trade rules for height of 'tween decks,—in fact do not Board of Trade Surveyors, when berths are not fitted for 3rd class passengers, calculate the number that may be carried, on the basis of a cubic measurement of 72 cubic feet per statute adult, after deducting all hatches and encumbrances?

A.—I presume they do; instructions to Surveyors will give the information.

32. *Q.*—If so, would you consider it proper to allow for height of 'tween deck as an element in the health and comfort of 3rd class native passengers?

A.—I am of opinion that height of deck has much to do with ventilation, and consequently affects health and comfort.

33. *Q.*—Do you know the height of the 'tween decks in the B. I. steamers?

A.—Yes, generally.

34. *Q.*—What is the maximum height between deck in those steamers carrying native passengers? What is the average height?

A.—Maximum about 8'-3", average about 7' 3".

35. *Q.*—Are you aware that there was an old rule in India which allowed ships to carry three passengers for two tons?

A.—This might apply if passengers were carried in bulk.

36. *Q.*—Is the Board of Trade rule, under which the number of passengers carried must not, whatever the deck measurements may give, exceed the number denoting the gross tonnage of the vessel, enforced in India?

A.—I don't know the rule referred to, but I am of opinion it should not be enforced in regard to ships built specially to meet the requirements of the Indian native passenger trade.

37. *Q.*—What would be the effect if, assuming all other existing Indian rules to remain intact, this rule were enforced?

A.—To make use of an old metaphor, it would be putting a round plug into a square hole.

38. *Q.*—What spaces are left unmeasured for passengers when a vessel is being measured for certificate A?

A.—Cannot say what procedure Surveyors go upon. To judge by reports, every Port Surveyor has his own ideas as to how he should apply the rules on the subject.

39. *Q.*—How are the hatches treated when a vessel is being so measured, *i.e.*, is the whole space of a hatch deducted or not? Is any difference made on account of long and short voyages?

A.—See above.

40. *Q.*—Are the spaces which would be required for the deck water-tank, latrines, and cooking ranges necessary for use of native passengers, deducted for the passengers' space, even if such articles are not in position at the time a vessel is being measured?

A.—See above.

41. *Q.*—Are any spaces deducted so as to admit of the officers and crew moving fore and aft the vessel with facility and their getting with ease at the boats and boats' gear; if not, have you any recommendations to make on this head.

A.—See above.

42. *Q.*—Should alley-ways, used as a means of communication by the crew, be considered as deck area for passengers, *i.e.*, the narrow passages between the officers' cabins and the engine-room casing; if so, would it not be advisable to give a minimum breadth before allowing the area to count for passengers?

A.—See answer to question 38.

43. *Q.*—Are not these alley-ways additional shelter and therefore desirable for passengers?

A.—See answer to question 38.

44. *Q.*—For ships with large waterways in the 'tween decks extending inside the battens on the ship's side, is the deck measurement made to the inside edge of the waterways or to the battens? Which would you recommend?

A.—See answer to question 38.

45. *Q.*—In vessels of the *Kistna* class, should the spaces set apart for the boats in the vicinity of the bridge be utilized for passengers when the boats are carried at the davits; if so, state whether during both fair and foul season, or only during the fair season?

A.—Yes, if boats (when in) are berthed on the shade decks, but not if boats are berthed on skids with platforms on bridge deck level.

46. *Q.*—(*By Captain Street.*) In vessels where the boats, when in, are berthed on the *shade decks* would you allow the spaces in question to be available for passengers during all seasons or only during the fine season?

A.—I would allow space to be available only when boats were in the davits in both seasons.

47. *Q.*—In your opinion, are the provisions of the Native Passenger Ships Act, and the rules made under it, in regard to the accommodation to be provided for native passengers on long voyages and short voyages, suitable?

A.—The time they have been in force and the safety with which native passengers have been conveyed, would lead me to infer they were.

48. *Q.*—Do you think that a passenger on a voyage, lasting 10 or 12 hours, requires as much room as one on a voyage lasting five days?

A.—Yes, in both cases I should think, and the accommodation should be equivalent to the fare charged.

49. *Q.*—(*By Mr. Bestic*). Do you not consider that it is the duty of the Government to fix the *minimum* space that should be allowed to each deck passenger?

A.—I understand this is already fixed by the rules under the Native Passenger Act.

50. *Q.*—(*By Mr. Bestic*). In your opinion should the space be what is essential for the health and safety of the passengers?

A.—I am of opinion that the Act provides for this, and experience of the past working would confirm me in this idea.

51. *Q.*—(*By Mr. Bestic*). Will you tell us what experience you have had of the working of the Act?

A.—As Port Officer in different ports for a considerable time.

52. *Q.*—(*By Mr. Mackay*). Have you ever heard of a case where the rules, as they at present exist, have prejudiced either the health or safety of native passengers?

A.—No; I can call none such to memory.

53. *Q.*—(*By Mr. Mackay*). Have you had any experience of transport work by sea in the way of filling, despatching and receiving transports carrying native troops, followers, &c.?

A.—Yes.

54. *Q.*—Do you think that native passengers can do with less space than Europeans?

A.—Yes.

55. *Q.*—What proportion do you consider that the space allotted to natives should bear to the space allotted to Europeans?

A.—Do not consider this calls for an opinion, as conveyance of Europeans is not a factor in the native passenger trade.

56. *Q.*—Assuming that this proportion is adopted, would it, in your opinion, affect the health, comfort, and safety of native passengers in any way?

A.—See above.

57. *Q.*—Do you consider that on a voyage which may extend to five days, native passengers can be accommodated in the 'tween decks of a steamer at the rate of one passenger to each 6 square feet of area, with 4 square feet of airing space on the upper deck, without prejudicing their health and safety?

A.—Yes, for five days, or even longer, with perfect comfort and safety.

58. *Q.*—(*By Mr. Bestic*). Do you think that 6 feet is sufficient for *upper deck* passengers in fair weather on 5-day voyages when there are no *between-decks* available?

A.—Yes.

59. *Q.*—(*By Mr. Bestic*). Have you ever seen a space filled with passengers at the rate of one to each 6 square feet of area available?

A.—I believe I have.

60. *Q.*—(*By Mr. Bestic*). Were the people able to lie down freely?

A.—They were disposed of without any appearance of discomfort.

61. *Q.*—(*By Mr. Bestic*). Will you tell us whether they were all able to lie down, and whether they had their bundles with them?

A.—I have no further answer to give.

62. *Q.*—(*By Mr. Mackay.*) Will you be so good as to collect some natives at the Government Dockyard or elsewhere and put them with their bundles into a superficial area of six feet each and report to the Commission whether they were able to lie down?

A.—I do not consider it necessary. I have often put public followers on board with less space.

63. *Q.*—Do you think it necessary for the health and safety of the passengers there should be on a voyage which may extend to five days permanent shelter for each passenger, either 'tween decks or in cabins on the upper deck?

A.—Yes, if they travel as 1st or 2nd class passengers; if they travel as deck, I consider they should have the accommodation they are entitled to and have paid for.

64. *Q.*—(*By Mr. Bestic*). But do you not consider that, apart from the question of fares, the Government should require such accommodation to be provided as essential for the health and safety of the passengers?

A.—I consider 6 feet per man, as allowed under the present Act, as ample deck space for a native passenger.

65. *Q.*—Do you think that on a voyage which may extend to five days, there should be separate accommodation for female passengers?

A.—No; native passengers generally like to have their women with them and would object to their families being separated.

66. *Q.*—Do you know of any steamers which carry native passengers on two upper decks?

A.—Yes.

67. *Q.*—Do you consider from the wording of the Native Passenger Ships Act and your experience of this question that the Legislature, when it passed the Act, contemplated the existence of vessels with more than one upper deck?

A.—Yes.

68. *Q.*—Are you acquainted with the design of the steamers of the *Kistna* class?

A.—Yes.

69. *Q.*—What is the distinguishing feature of these steamers?

A.—Most comfortable vessels for passenger traffic.

70. *Q.*—In your opinion, are the middle passenger decks of these steamers' 'tween decks or upper decks within the meaning and intention of the Native Passenger Ships Act? Give your reasons for this opinion?

A.—In my opinion the middle passenger deck is the main deck of the ship and as such cannot by any ingenuity be treated under the Act as a 'tween deck. It should be treated as upper deck space.

71. *Q.*—Are the passengers on these middle decks as well protected in rough weather as the passengers on the lowermost of the three passenger decks?

A.—Very nearly, if the 'tween deck is also given up to passengers.

72. *Q.*—Are these passengers on the middle deck not better protected than on ordinary upper decks?

A.—Taking fine and ordinary rough weather, comfort and protection are about equal.

73. *Q.*—During the inclement weather, do you consider that the upper deck passengers are sufficiently protected by canvas awnings; if not, what would you recommend?

A.—Under ordinary conditions of weather, yes. Under exceptional conditions, discomfort must be expected.

74. *Q.*—Do you consider that sufficient protection from the sea is afforded to upper deck passengers by the "reasonably stout screen" which, under existing rules (*see* Government of India letter No. 430, dated 27th August 1878) is held as coming within the definition of a substantial bulwark; if not, state what you would recommend in lieu.

A.—See above.

75. *Q.*—What is the height of the middle deck above the load line?

A.—Depends entirely on the size of the vessel and the cargo she carries.

76. *Q.*—In rough weather would any water get on to the middle deck through the scuppers and shutters; if so, could this be prevented?

A.—See answer to 71.

77. *Q.*—Under existing rules, are the arrangements to prevent injury to passengers by the rolling of the ship sufficient for the purpose?

A.—Yes.

78. *Q.*—How could you provide this protection?

A.—Do not see that any is required.

79. *Q.*—Are any special fittings required under the Native Passenger Ships Act on the passenger decks for the reception of the bundles, boxes, and other articles usually carried by native passengers; if so, state what you would recommend?

A.—No; none are required.

80. *Q.*—Is it necessary for the comfort or safety of the passengers that provision should be made for the accommodation of luggage not stored in the hold?

A.—This is a matter that may be well left to the officers of the ship.

81. *Q.*—If it is necessary, what would you provide?

A.—See above.

82. *Q.*—If such accommodation were provided, would it be used? Will native passengers allow their luggage to be parted from them under any circumstances?

A.—Doubtful. Native passengers will not part with luggage if they can help it.

83. *Q.*—Do you think that on a voyage which may extend to five days, sleeping platforms should be provided for the passengers?

A.—No; they would only harbour dirt.

84. *Q.*—(*By Dr. Comins*). Have you had any experience of the use of sleeping platforms?

A.—Yes; mess tables are sometimes used for this purpose in transports.

85. *Q.*—(*By Dr. Comins*). Then your experience is confined to the use of mess tables in transports?

A.—Yes, it is. As a sailor, I would say the idea would not be a good one.

86. *Q.*—(*By Sir Henry Morland*). Do you think it would be possible to provide sleeping platforms for native passengers on short voyages without great inconvenience to the ship?

A.—No.

87. *Q.*—Do you think the existing rules in regard to hospital accommodation are suitable?

A.—Yes.

88. *Q.*—(*By Mr. Bestic*). Do you think it right that the same hospital accommodation should be required, whether a vessel carries 100 or 2,000 passengers?

A.—I think that a reasonable sized hospital for the ship should be sufficient for any number of passengers that a vessel can carry.

89. *Q.*—(*By Mr. Mackay*). During the period when you held the office of Port Officer, Rangoon, it was your duty to watch the working of the Native Passenger Ships Act. Did you ever hear of a single case in which the hospital accommodation required under present rules was reported or found to be insufficient?

A.—No.

90. *Q.*—(*By Mr. Bestic*). When did you relinquish the appointment of Port Officer of Rangoon, and was it the last appointment held by you in which you had anything to do with the working of the Native Passenger Ships Act?

A—In 1884. Yes.

91. *Q.*—Do you consider that cargo, horses, cattle, sheep, and live stock should be carried on the same deck with passengers? If so, is any fitting necessary to prevent the passengers from being inconvenienced by the urine and dung of the horses, cattle, and sheep, and if any such fitting is requisite, state what you would recommend?

A.—There are generally places on deck where these can be carried without materially affecting the comfort of passengers.

92. *Q.*—(*By Captain Street*). Then you consider that no special fittings are necessary?

A.—No permanent fittings. The matter can be arranged for by the ship's people.

93. *Q.*—In vessels which, under existing rules, are permitted to carry horses, cattle and sheep with native passengers, are sufficient precautions adopted to prevent the hay and straw provided for the use of such animals from catching fire, either from a spark from the ship's funnel or lighted matches? If not, state what extra precautions you would recommend?

A.—This may well be left to the owners and officers, whose interests are at stake; if the law does every thing for a man, he is often apt to do too little for himself.

94. *Q.*—What, in your opinion, is the object of the revised regulations relating to life-saving apparatus?

A.—Have not considered them in this connection.

95. *Q.*—(*By the President*). Have there been any recent alterations in the rules regarding the carriage of life-saving appliances on board troopships?

A.—I am not aware of any rules, but extra life-saving gear has been supplied to the Marine troopships lately.

96. *Q.*—(*By the President*). Will you favour the Commission with a copy of the orders of Government in regard to the supply of life-saving appliances to troopships and transports?

A.—I would refer you to the Director of Marine for this information.

97. *Q.*—(*By the President*). Do you think that Government should adopt the Board of Trade rules in regard to life-saving appliances to transports in Indian waters?

A.—No.

98. *Q.*—Do you think that the natives of India require as much space in boats as Europeans?

A.—One man will take about as much room as another.

99. *Q.*—In your experience, do the Surveyors at all ports in India make their surveys on the same lines?

A.—Cannot say, but think not.

100. *Q.*—Do you think it necessary that there should be a set of definite instructions as to the survey of passenger accommodation and crew space similar, so far as may be, to those issued by the Board of Trade?

A.—I believe there are instructions. The native passenger trade is not a new enterprise, and existing rules have run it very fairly hitherto.

101. *Q.*—Do you think the existing regulations in regard to the lighting and ventilation of the passenger accommodation suitable?

A.—Yes.

102. *Q.*—Would you make the regulations in regard to the equipments of vessels similar in all respects to those of the Board of Trade?

A.—No.

103. *Q.*—In your opinion, are the provisions of the Emigration Act, and the rules made under it, in regard to the accommodation to be provided for native emigrants, suitable?

A.—I presume they are.

104. *Q.*—Would it not be advantageous if a copy of all measurements and calculations of passengers' space, as determined on the original measurement, was supplied to the Commander of the vessel? If so, would you recommend that the calculations should show clearly the names of the various obstructions which have been deducted from the gross area, their dimensions, and the proportional area deducted?

A.—I consider ships should be measured by a committee and that the owners should be represented on it. Once a ship is so measured that measurement to stand, unless alterations necessitated a fresh measurement, which would be done in the same way.

105. *Q.*—Do you consider that passengers carried in vessels working under clause (*a*) of Government of India Notification No. 1356, dated 14th March 1889, have sufficient space? If not, state what space would suffice.

A.—Yes.

106. *Q.*—Do you consider a double awning overhead with side curtains and bulwark screens, as required by the Native Passenger Act, equal to the ordinary tent in which troops are accommodated?

A.—See answer to question 73.

107. *Q.*—Being acquainted with the class of natives, who form the bulk of those who travel by sea, do you consider they require better accommodation for their health and comfort than native troops?

A.—No.

108. *Q.*—How do you account for the differences between the English and the Indian rules, and between the Indian rules for emigrants and those for ordinary passengers?

A.—Rules can scarcely be similar when circumstances differ; emigrants, I presume, pay more.

109. *Q.*—Will you furnish the Commission with your opinion as to the sufficiency or otherwise of the space allowed by the Act and rules generally?

A.—See answer to question 47.

110. *Q.*—Give any instances which have come to your knowledge in which a Medical Officer would have been of service on board a native passenger vessel?

A.—None.

Mr. C. LIDSTONE.

1. *Q.*—Will you please inform the Commission of the nature of your present occupation?

A.—Licensed Senior Master Pilot.

2. *Q.*—What qualifications or experience do you possess in regard to the subjects under enquiry?

A.—I was for many years special Pilot in the employ of the B. I. S. N. Co. and have crossed the Bay of Bengal between Calcutta and Burma over 550 times on board their mail steamers, carrying native passengers.

3. *Q.*—Do you take any part, either directly or indirectly, in the administration or observance of any of the provisions of the "Native Passenger Ships Act, 1887?"

A.—No.

4. *Q.*—Are you of opinion that the conditions justify a distinction being made between fair and foul weather in the case of voyages which may extend to five days?

A.—Yes.

5. *Q.*—Are you of opinion that the seasons of fine weather defined in the rules are judiciously chosen with reference to the prevailing conditions?

A.—I do not know what the seasons of fine weather defined in the rules are. In my opinion the seasons of fine weather should commence on the 1st of November and continue until the 30th of April. October and May are both months in which cyclones are likely to occur in the Bay.

6. *Q.*—Will you mention instances of foul weather occurring during the seasons which are by rule declared to be seasons of fair weather?

A.—I have known cyclones to occur in the Bay in the months of November and December, but they are rare.

7. *Q.*—In your opinion do the conditions justify passengers being carried across the Bay at any season on decks, such as are commonly called hurricane-decks, which are not protected from the weather except by over-head awnings, assuming that no accommodation is reserved for these passengers on the lower decks, which are crowded with other passengers?

A.—Only during the fine weather months.

8. *Q.*—Are you acquainted with the ordinary conditions of native life amongst the class that form the bulk of the native passengers who travel by sea?

A.—I believe so.

9. *Q.*—Are you aware that it is a common practice for natives of India to sleep at night in the open air?

A.—Yes. When it is not too cold or wet.

10. *Q.*—Is it within your knowledge that 1st class passengers travelling about the Bay of Bengal and coasts of India as a rule prefer to sleep on deck under the same conditions as to awnings and curtains as the 3rd class native passengers?

A.—Yes, gentlemen rarely sleep below unless compelled to do so through inclemency of weather.

11. *Q.*—Do you know what amount of passage-money is paid for an ordinary passenger, say, from Madras to Rangoon, 1,009 miles, and who pays?

A.—Rs. 10 to Rs. 12.

12. *Q.*—Do you think the ordinary native passenger would be prepared to pay more for better accommodation?

A.—No; in fact, I believe he would prefer to travel by the cheapest vessel, irrespective of the class of vessel, or accommodation.

13. *Q.*—Is it not a fact that very well-to-do native merchants are satisfied with the usual deck accommodation?

A.—Yes, I have often asked well-to-do natives who were travelling as deck passengers why they did not take 2nd class passages, and they invariably replied that a deck passage was quite good enough for them; as a rule, this class take on board with them a verandah chair, and remain in it the whole passage.

14. *Q.*—Do you know the height of the 'tween-decks in the B. I. steamers?

A.—Not less than 7 feet, and in many cases higher.

15. *Q.*—Are any spaces deducted so as to admit of the officers and crew moving fore and aft the vessel with facility and their getting with ease at the boats and boats' gear; if not, have you any recommendations to make on this head?

A.—I believe not. I am of opinion that in flush-deck vessels a clear passage to admit of the officers and crew passing fore and aft is necessary; for vessels with a poop and forecastle, I would suggest that the poop and bridge and the bridge and forecastle be connected with narrow moveable gangways; this would admit of a clear passage fore and aft the vessel, over the heads of deck passengers and without interfering with them in any way. A few of the B. I. steamers have these gangways.

16. *Q.*—Should alley-ways, used as a means of communication by the crew, be considered as deck area for passengers, *i.e.*, the narrow passages between the officers' cabins and the engine room casing; if so, would it not be advisable to give a minimum breadth before allowing the area to count for passengers?

A.—No. I do not consider it fair to the officers from a sanitary point to permit native deck passengers to obstruct the principal means of ventilation to their cabins; then, again, the noise made by the natives outside the doors of the officers' cabins prevents them from sleeping and obtaining proper rest after having been up at night keeping their watches.

17. *Q.*—Are not these alley-ways additional shelter and therefore desirable for passengers?

A.—They are of course additional shelter, but they were not made for that purpose.

18. *Q.*—In vessels of the *Kistna* class, should the spaces set apart for the boats in the vicinity of the bridge be utilized for passengers when the boats are carried at the davits; if so, state whether during both fair and foul season, or only during the fair season?

A.—I have not been on board the *Kistna*, but I understand that she is like the *Commilla* and *Coconada* class, and has a hurricane and upper between deck.

19. *Q.*—Do you think that a passenger on a voyage lasting 10 or 12 hours requires as much room as one on a voyage lasting five days?

A.—Certainly not.

20. *Q.*—Do you think that native passengers can do with less space than Europeans?

A.—Yes.

21. *Q.*—What proportion do you consider that the space allotted to natives should bear to the space allotted to Europeans?

A.—About one-half.

22. *Q.*—Assuming that this proportion is adopted, would it, in your opinion, affect the health, comfort, and safety of native passengers in any way?

A.—No; my experience is that native deck passengers prefer huddling together.

23. *Q.*—Do you consider that on a voyage, which may extend to five days, native passengers can be accommodated in the 'tween-decks of a steamer at the rate of one passenger to each six square feet of area, with four square feet of airing space on the upper deck, without prejudicing their health and safety?

A.—I do not consider that six square feet is sufficient area in the 'tween decks. I take it that six square feet implies six feet in length, and one foot in breadth; the breadth in my opinion is insufficient. Four square feet on the upper deck for airing space I consider sufficient, as it is improbable they would all be on deck at one time.

24. *Q.*—Do you think it necessary for the health and safety of the passengers that there should be on a voyage, which may extend to five days permanent shelter for each passenger, either 'tween-decks or in cabins on the upper deck?

A.—I think that during the foul weather seasons there should be shelter of some sort that would insure protection from cold and wet.

25. *Q.*—Do you think that on a voyage which may extend to five days, there should be separate accommodation for female passengers?

A.—No; the women generally separate themselves from the men, and in my experience get on very well as at present arranged.

26. *Q.*—Do you know of any steamers which carry native passengers on two upper decks?

A.—Yes.

27. *Q.*—Are you acquainted with the design of the steamers of the *Kistna* class?

A.—See answer to 57.

28. *Q.*—What is the distinguishing feature of these steamers?

A.—An upper 'tween-deck and a hurricane deck for passengers, *i.e.*, as I understand it.

29. *Q.*—Are the passengers on these middle decks as well protected in rough weather as the passengers on the lowermost of the three passenger decks?

A.—Not quite, but nearly so.

30. *Q.*—Are these passengers on the middle deck not better protected than on ordinary upper decks?

A.—Yes.

31. *Q*—During the inclement weather do you consider that the upper deck passengers are sufficiently protected by canvas awnings; if not what would you recommend?

A.—Yes; under ordinary conditions.

32. *Q.*—Do you consider that sufficient protection from the sea is afforded to upper deck passengers by the "reasonably stout screen" which, under existing rules, *see* Government of India letter No. 430, dated 27th August 1878, is held as coming within the definition of a substantial bulwark; if not, state what you would recommend in lieu?

A.—Yes; under ordinary conditions.

33. *Q.*—In rough weather would any water get on to the upper deck through the scuppers and shutters; if so, could this be prevented?

A.—Yes; by blocking the scuppers and securing the shutters, always provided they were in a proper condition to be secured.

34. *Q.*—Under existing rules are the arrangements to prevent injury to passengers by the rolling of the ship sufficient for the purpose?

A.—Not in heavy S.-W. monsoon weather.

35. *Q.*—How could you provide this protection?

A.—By life lines.

36. *Q.*—Is it necessary for the comfort or safety of the passengers that provision should be made for the accommodation of luggage not stored in the hold?

A.—No.

37. *Q.*—If such accommodation were provided, would it be used? Will native passengers allow their luggage to be parted from them under any circumstances?

A.—No; as a rule, a native uses his bundle as a pillow, and if he has a box, he lies down by it. I believe he would be quite unhappy the whole passage if he were separated from his goods and chattels, for they constitute (nearly always) all he possesses in the world.

38. *Q.*—Do you think that on a voyage which may extend to five days sleeping platforms should be provided for the passengers?

A.—No, it would, in my opinion, be the means of breeding vermin and accumulating dirt.

39. *Q.*—(*By Dr. Comins*). Have you had any experience of the use of sleeping platforms.

A.—I have had practical experience with them in emigrant vessels, but have only seen them in coolie vessels while going up and down the river.

40. *Q.*—(*By Dr. Comins*). The emigrant vessels you refer to are for Europeans and the sleeping platforms you refer to are bunks. Is this the case?

A.—Yes.

41. *Q.*—Do you consider that cargo, horses, cattle, sheep, and live-stock should be carried on the same deck with passengers? If so, is any fitting necessary to prevent the passengers from being inconvenienced by the urine and dung of the horses, cattle, and sheep, and, if any such fitting is requisite, state what you would recommend?

A.—They should be carried at the end of the vessel, away from the deck passengers, and temporary combings placed across the deck in such a manner as to make it absolutely impossible for the urine and dung to inconvenience them.

42. *Q.*—In vessels which, under existing rules, are permitted to carry horses, cattle, and sheep with native passengers, are sufficient precautions adopted to prevent the hay and straw, provided for the use of such animals, from catching fire, either from a spark from the ship's funnel or from lighted matches? If not, state, what extra precautions you would recommend?

A.—I have always seen the utmost vigilance exercised by the Chief Officer to prevent accidents of this kind, and one has never occurred on any British India steamer while I have been on board.

43. *Q.*—Do you think that the natives of India require as much space in boats as Europeans?

A.—No; natives can always huddle themselves together in much smaller spaces than Europeans, and they are, as a rule, much lighter in weight.

44. *Q.*—After a vessel has been measured for certificate A, is the Captain supplied with the surveyor's calculations; if not, do you think it necessary that he should be?

A.—Yes, a Captain of a vessel should, in my opinion, be made acquainted with as much information as possible regarding his vessel.

45. *Q.*—Would it not be advantageous if a copy of all measurements and calculations of passengers' space, as determined on the original measurement, was supplied to the Commander of the vessel?

A.—Most certainly.

46. *Q.*—If so, would you recommend that the calculations should show clearly the names of the various obstructions which have been deducted from the gross area, their dimensions and the proportional area deducted?

A.—Yes, the information would be useless unless it was complete.

47. *Q.*—Give any instances which have come to your knowledge, in which a Medical Officer would have been of service on board a native passenger vessel.

A.—I do not remember an instance.

Proceedings of the Sixteenth Meeting of the Native Passenger Ships Commission, held at the Bengal Office, on the 30th December 1890, at 3 p.m.

Present :

SURGEON-MAJOR A. S. LETHBRIDGE, C.S.I.	*President.*
W. B. BESTIC, ESQ.	*Members.*
CAPTAIN SIR HENRY MORLAND, KT., H.M.I.M.	
JAS. L. MACKAY, ESQ.	
SURGEON-MAJOR D. W. D. COMINS	
H. B. H. TURNER, ESQ.	
CAPTAIN STREET, H.M.I.M.	

1. The proceedings of the Fifteenth Meeting were approved.

2. Mr. Hassumbhoy Visram, of the firm of Visram, Ebraim & Co. of Bombay and Calcutta, was called and examined.

3. Mr. Visram's examination having been completed, the Commission adjourned until noon on the 2nd January 1891.

MR. HASSUMBHOY VISRAM.

1. *Q.*—Will you please inform the Commission of the nature of your present occupation?

A.—I am a merchant and ship owner.

2. *Q.*—What qualifications or experience do you possess in regard to the subjects under enquiry?

A.—I am a ship owner and often ship pilgrims on board our vessels, and have also some experience in seeing natives shipped for short voyages in steamers.

3. *Q.*—Do you take any part, either directly or indirectly, in the administration or observance of any of the provisions of the "Native Passenger Ships Act, 1887"?

A.—Yes.

4. *Q.* (*By Captain Street*).—Will you be good enough to state in what way?

A.—Generally our Captain and Chief Officer attend to these things.

5. *Q.*—Into what classes do the Board of Trade divide sea-going vessels for the purpose of determining the number of passengers they are capable of carrying?

A.—As far as I understand, the Board of Trade allows one passenger for every hundred tons for steamers and thirty deck passengers for sailing vessels *without a special certificate*. If they require to carry beyond the above number, a certificate is necessary.

6. *Q.*—What is a Foreign Trade voyage?

A.—Any voyage performed beyond British India, Burma, Ceylon, and Straits Settlements, &c.

7. *Q.*—What is a Home Trade voyage?

A.—Any voyage performed beyond the Suez Canal.

8. *Q.*—What would be the maximum duration of a Home Trade voyage?

A.—About thirty-five days by steamers.

9. *Q.*—What is the average duration of a Home Trade voyage?

A.—About thirty days by steamers.

10. *Q.*—Will you give instances of such voyages?

A.—I don't recollect, but I can do so by referring to my papers in Bombay.

11. *Q.*—What is an Excursion voyage?

A.—Short trips by steamers not exceeding 10 to 12 hours.

12. *Q.*—What is an Emigrant voyage?

A.—Voyage performed by ships or steamers with emigrants on board.

13. *Q.*—What is a Pilgrim voyage?

A.—Voyage performed by steamers with pilgrims on board for Jedda.

14. *Q.*—What is a long voyage?

A.—I consider it a long voyage for natives of India when it extends over three days by vessels, without calling at any port.

15. *Q.*—What is a short voyage?

A.—As above.

16. *Q.*—In regard to what voyages is there a distinction made between fair and foul season?

A.—When a voyage is performed within three days or 72 hours.

17. *Q.*—Do you consider that, if there is to be a line dividing short from long voyages, it should be drawn at five days?

A.—A line should be drawn at three days dividing a short from a long voyage.

18. *Q.* (*By Captain Street*).—Will you give your reasons for considering that the line should be drawn at three days?

A.—I should consider it a long voyage for the natives of India when it extends three days, because they are greatly inconvenienced in matter of food and water, and the sea sickness occasioned by such hardships.

19. *Q.*—Do you think that the five-day limit puts an Indian short voyage on a footing similar to an English Home Trade voyage?

A.—No.

20. *Q.*—To what vessels do the Native Passenger Ships Act or the Emigrant Act not apply?

A.—To steamers carrying one deck passenger for

every hundred tons and to sailing vessels carrying thirty deck passengers.

21. *Q.*—How many passengers can a steamer carry without coming under the provisions of the Native Passenger Ships Act?

A.—She can carry sixty deck passengers under the Board of Trade certificate.

22. *Q.*—How many passengers can a steamer carry without a certificate of survey under the Indian Steam Ships Act or a corresponding certificate from the Board of Trade?

A.—One deck passenger for every hundred tons.

23. *Q.*—Do you know of any instances in which passengers not exceeding sixty in number have been carried in vessels having no suitable accommodation for them?

A.—The steamer *Pongola* had to land several passengers out of 60 on account of having no accommodation for them on board.

24. *Q.* (*By Captain Street*).—When and where did this occur, and were the passengers *upper* deck or *'tween* deck passengers? To what port was the *Pongola* about to proceed?

A.—I believe the passengers were *upper* deck, and she was bound from Calcutta to Natal. I speak this from information.

25. *Q.*—Are you of opinion that the conditions justify a distinction being made between fair and foul weather in the case of voyages which may extend to five days?

A.—Distinction should be made between fair and foul weather for a voyage of five days.

26. *Q.*—If not, what alterations would you suggest?

A.—I believe from the 1st May to the middle of September should be considered foul weather for India and Burma except for the Coromandel Coast, where, from the middle of December to the end of February, the weather is unsettled.

27. *Q.*—Will you mention instances of foul weather occurring during the seasons which are by rule declared to be seasons of fair weather?

A.—Instances have occurred, but I do not recollect particular dates at the present moment.

28. *Q.*—In your opinion, do the conditions justify passengers being carried across the Bay at any season on decks, such as are commonly called hurricane-decks, which are not protected from the weather except by overhead awnings, assuming that no accommodation is reserved for these passengers on the lower decks, which are crowded with other passengers?

A.—No.

29. *Q.* (*By Captain Street*).—Will you give your reasons for this opinion?

A.—In my opinion in case of foul weather the passengers on the *hurricane decks* will either be drenched with water or be easily carried away by the sea; they will also be exposed to the weather.

30. *Q.*—Are you acquainted with the ordinary conditions of native life amongst the class that form the bulk of the native passengers who travel by sea?

A.—Yes.

31. *Q.*—Are you aware that it is a common practice for natives of India to sleep at night in the open air?

A.—Yes; in fine weather.

32. *Q.*—Is it within your knowledge that 1st class passengers, travelling about the Bay of Bengal and coasts of India, as a rule, prefer to sleep on deck under the same conditions as to awnings and curtains as the 3rd class native passengers?

A.—Yes, in hot and fine weather.

33. *Q.*—Have you had any personal experience of the weather round the coast of the United Kingdom, and in the Bay of Bengal and on the coast of India?

A.—Yes.

34. *Q.*—Do you consider that there is such similarity as to warrant a comparison between the weather experienced on the coast of United Kingdom or between the river Elbe and Brest (English Home Trade voyage) and that experienced in the Bay of Bengal and coasts of India?

A.—No.

35. *Q.*—Do you consider the conditions of English and Indian passenger traffic to be similar in any other way than that the traffic under discussion is by sea?

A.—No.

36. *Q.* (*By Captain Street*).—During which season of the year is the native passenger traffic between Calcutta and Burma at its height?

A.—I am not acquainted with the traffic. I only know of the Bombay side as regards passenger traffic.

37 *Q.*—Do you know what amount of passage money is paid for an emigrant say to Mauritius, distance to Mauritius from Calcutta being 3,290 miles, and also who pays the passage of emigrants from India to Mauritius and elsewhere?

A.—Between Rs. 40 and 70 to Mauritius and £8 to 10 for West Indies, and the respective Governments for whom the emigrants are intended pays the passage money, which includes provision and medicine.

38. *Q.*—Do you think the ordinary native passenger would be prepared to pay more for better accommodation?

A.—Yes.

39. *Q.*—Is it not a fact that very well-to-do native merchants are satisfied with the usual deck accommodation?

A.—No.

40. *Q.*—What class of people travel as deck passengers in the United Kingdom on vessels which frequently carry their full complement?

A.—Generally poor people or emigrants.

41. *Q.*—Have you any special suggestions to make in regard to voyages similar to those classed as excursions by the Board of Trade, that is, voyages during which a vessel is not more than 10 or 12 hours at sea?

A.—I cannot make any suggestion, not having the Board of Trade Rules before me.

42. *Q.*—How is the number of passengers which a vessel is capable of carrying calculated in each case?

A.—By measuring the space on board the vessels in the 'tween decks and the space in the saloon for long voyages.

43. *Q.*—Is allowance made in the Board of Trade Rules for height of 'tween decks, in fact do not Board of Trade Surveyors, when berths are not fitted for 3rd class passengers, calculate the number that may be carried, on the basis of a cubic measurement of 72 cubic feet per statute adult, after deducting all hatches and encumbrances?

A.—I believe an allowance is made.

44. *Q.*—If so, would you consider it proper to allow for height of 'tween deck as an element in the health and comfort of 3rd class native passengers?

A.—Yes.

45. *Q.*—Do you know the height of the 'tween decks in the B. I. steamers?

A.—No.

46. *Q.*—Into what classes are sea-going vessels in India divided for the purpose of determining the number of passengers they are capable of carrying?

A.—As far as I know, vessels having no 'tween decks, scuttles, ventilators, and other conveniences, are not allowed to take 'tween deck passengers.

47. *Q.*—What spaces are left unmeasured for passengers when a vessel is being measured for certificate A?

A.—I believe space over the hatches and alley-ways, &c.

48. *Q.*—How are the hatches treated when a vessel is being so measured, *i.e.*, is the whole space of a hatch deducted or not? Is any difference made on account of long and short voyages?

A.—I am not aware of that.

49. *Q.*—Are the spaces which would be required for the deck water tank, latrines, and cooking ranges, necessary for use of native passengers, deducted for the passengers' space, even if such articles are not in position at the time a vessel is being measured?

A.—I believe they are deducted, and if not, they should be deducted.

50. *Q.*—Are any spaces deducted so as to admit of the officers and crew moving fore and aft the vessel with facility and their getting with ease at the boats and boats gear? If not, have you any recommendations to make on this head?

A.—I am not aware whether sufficient space is omitted from measurement to allow officers and crew to move to and fro conveniently, but if such is not the case, I am of opinion that sufficient space should be allowed for the above purpose.

51. *Q.*—Should alley-ways, used as a means of communication by the crew, be considered as deck area for passengers, *i.e.*, the narrow passages between the officers' cabins and the engine-room casing? If so, would it not be advisable to give a minimum breadth before allowing the area to count for passengers?

A.—No.

52. *Q.*—Are not these alley-ways additional shelter and therefore desirable for passengers?

A.—I don't think so, because that would interfere with the passage of officers and crew; and the passengers would be greatly inconvenienced by people passing over them, as also the heat on account of the proximity of the engine-room would be unbearable during hot weather.

53. *Q.*—In vessels of the *Kistna* class, should the spaces set apart for the boats in the vicinity of the bridge be utilized for passengers when the boats are carried at the davits? If so, state whether during both fair and foul seasons or only during the fair season.

A.—I have not seen the *Kistna* and cannot form my opinion.

54. *Q.*—The question has reference to spaces on the *bridge deck level* of a vessel, which are set apart for boats when carried on board, and which spaces in many vessels are measured for passengers, on the supposition that the boats during the voyage will be carried at the davits. In your opinion should native passengers be carried in such places when the boats are hung at the davits?

A.—In my opinion the spaces on the bridge intended for boats should not be measured for passengers.

55. *Q.*—In your opinion, are the provisions of the Native Passenger Ships Act, and the rules made under it, in regard to the accommodation to be provided for native passengers on long voyages, suitable?

A.—They are suitable, as far as fair weather is concerned for short voyages. As for long voyages, the rules are reasonable in all cases. Coasting in small steamers during foul weather should be prohibited.

56. *Q.*—Do you think that a passenger on a voyage lasting 10 or 12 hours requires as much room as one on a voyage lasting five days?

A.—No.

57. *Q.*—Do you think that native passengers can do with less space than Europeans?

A.—No.

58. *Q.*—What proportion do you consider that the space allotted to natives should bear to the space allotted to Europeans?

A.—Equal or more space should be allowed to native passengers as most of them carry their eatables, and in case of Hindus eatables and water with them.

59. *Q.*—Assuming that this proportion is adopted, would it, in your opinion, affect the health, comfort, and safety of native passengers in any way?

A.—If less space than to European is allowed, the health of native passengers would be affected.

60. *Q.*—Do you consider that on a voyage, which may extend to five days, native passengers can be accommodated in the 'tween decks of a steamer at the rate of one passenger to each 6 square feet of area, with 4 square feet of airing space on the upper deck, without prejudicing their health and safety?

A.—I don't think so. The space should be increased, taking it as a long voyage; but taking it as a short voyage, the space is sufficient.

61. *Q.* (*By Captain Street*).—That is, assuming that a short voyage is one not extending over 72 hours?

A.—I regard a three days' voyage by steamers to be a short voyage when no port is made on the way during the time.

62. *Q.* (*By Mr. Mackay*).—Do your steamers make long voyages or short voyages?

A.—Our steamer makes long voyages generally as far as the present steamer is concerned.

63 *Q.* (*By Mr. Mackay*).—You own only one steamer, do you not? Has this steamer ever made a short voyage while in your possession?

A.—She has not made any as far as I remember.

64. *Q.*—Do you think it necessary for the health and safety of the passengers there should be on a voyage which may extend to five days permanent shelter for each passenger either 'tween decks or in cabins on the upper deck?

A.—Yes, it is necessary.

65. *Q.* (*By Captain Street*).—Do you recommend permanent shelter for passengers on a voyage not exceeding 72 hours?

A.—I think some provision should be made for all voyages for the contingencies of the weather.

66. *Q.*—Do you think that on a voyage which may extend to five days, there should be separate accommodation for female passengers?

A.—Yes; it should be made compulsory to protect the modesty of native female passengers.

67. *Q.*—Do you know of any steamers which carry native passengers on two upper decks?

A.—Yes.

68. *Q.*—Do you consider from the wording of the Native Passenger Ships Act and your experience of this question that the Legislature, when it passed the Act, contemplated the existence of vessels with more than one upper deck?

A.—No.

69. *Q.*—Are you acquainted with the design of the steamers of the *Kistna* class?

A.—No.

70. *Q.*—What is the distinguishing feature of these steamers?

A.—I don't know.

71. *Q.*—In your opinion, are the middle passenger decks of these steamers 'tween decks or upper decks, within the meaning and intention of the Native Passenger Ships Act? Give your reasons for this opinion?

A.—No. Because the upper deck should, under no circumstances, be regarded as a 'tween deck, also because the bulwarks of the upper deck are not so strong as the sides of 'tween decks, and in case of foul weather it is liable to be flooded.

72. *Q.*—Are the passengers on these middle decks as well protected in rough weather as the passengers on the lowermost of the three passenger decks?

A.—They cannot be.

73. *Q.*—Are these passengers on the middle deck not better protected than on ordinary upper decks?

A.—I think they are better protected.

74. *Q.*—During the inclement weather, do you consider that the upper deck passengers are sufficiently protected by canvas awnings? If not, what would you recommend.

A.—No. I would not recommend any passenger to be carried on the upper deck in foul weather.

75. *Q.*—Do you consider that sufficient protection from the sea is afforded to upper deck passengers by the "reasonably stout screen" which, under existing rules (*see* Government of India, letter No. 430, dated 27th August 1878), is held as coming within the definition of a substantial bulwark? If not, state what you would recommend in lieu.

A.—No.

76. *Q.*—What is the height of the middle deck above the load line?

A.—About 6 feet.

77. *Q.*—In rough weather would any water get on to the upper deck through the scuppers and shutters? If so, could this be prevented?

A.—Yes; it cannot be prevented.

78. *Q.*—Under existing rules are the arrangements to prevent injury to passengers by the rolling of the ship sufficient for the purpose?

A.—I am not aware of the rules.

79. *Q.*—How could you provide this protection?

A.—By keeping the vessel in proper trim and stiffening her more than sufficiently, and by providing them with projecting side plates as are in the *Pongola*.

80. *Q.*—Are any special fittings required under the Native Passenger Ships Act on the passenger decks for the reception of the bundles, boxes and other articles usually carried by native passengers? If so, state what you would recommend.

A.—Yes. I would recommend temporary platforms to be fitted as in the case of emigrants.

81. *Q.* (*By Mr. Mackay*).—Would you recommend it being made compulsory to fit vessels carrying pilgrims to Jeddah and from Jeddah with sleeping platforms as in emigrant ships?

A.—I would not object to their being made under any new regulations.

82. *Q.*—Is it necessary for the comfort or safety of the passengers that provision should be made for the accommodation of luggage not stored in the hold?

A.—It is necessary.

83. *Q.*—If it is necessary, what would you provide?

A.—*Vide* answer 84.

84. *Q.*—If such accommodation were provided, would it be used? Will native passengers allow their luggage to be parted from them under any circumstances?

A.—Yes. They would not like to part with their luggage under any circumstances.

85. *Q.*—Do you think that, on a voyage which may extend to five days, sleeping platforms should be provided for the passengers?

A.—Yes.

86. *Q.*—What closet accommodation do the rules require on native passenger vessels?

A.—I believe two closets are allowed for every hundred native passengers.

87. *Q.* (*By Mr. Bestic*)—The allowance is two closets for the first one hundred, and one for each additional hundred, giving for, say, 1,500 passengers sixteen closets. Do you consider this sufficient?

A.—I should like to see them increased.

88. *Q.*—What accommodation of the kind is provided for emigrants?

A.—I believe the same.

89. *Q.*—And what accommodation do the Board of Trade Rules require?

A.—I am not aware.

90. *Q.*—Do you think the existing rules in regard to hospital accommodation are suitable?

A.—Yes.

91. *Q.*—Do you consider that cargo, horses, cattle, sheep, and live-stock should be carried on the same deck with passengers? If so, is any fitting necessary to prevent the passengers from being inconvenienced by the urine and dung of the horses, cattle, and sheep, and, if any such fitting is requisite, state what you would recommend?

A.—No; separate partitions should be made between passengers, cargo and cattle; and proper drainage should be provided to carry off the urine and dung of the cattle.

92. *Q.*—In vessels which, under existing rules, are permitted to carry horses, cattle, and sheep with native passengers, are sufficient precautions adopted to prevent the hay and straw provided for the use of such animals from catching fire either from a spark from the ship's funnel or lighted matches? If not, state what extra precautions you would recommend?

A.—I am not aware whether sufficient precaution is being taken to keep hay and straw at a distance, but if they are not, it should be.

93. *Q.*—Will you explain to the Commission what rules are in force in India on the subject of life-saving appliances?

A.—I am not aware of any.

94. *Q.*—Do the new regulations of the Board of Trade made under the Merchant Shipping (Life-saving Appliances) Act, 1888, apply to India?

A.—I am not aware of any.

95. *Q.*—In your opinion, is there no difference of conditions which would justify a difference in the regulations on this subject?

A.—I think so.

96. *Q.*—Do you think that the natives of India require as much space in boats as Europeans?

A.—Yes.

97. *Q.*—In your experience, do the Surveyors at all ports in India make their surveys on the same lines?

A.—Yes.

98 *Q.*—Do you think it necessary that there should be a set of definite instructions as to the survey of passenger accommodation and crew space similar, so far as may be, to those issued by the Board of Trade?

A.—No; there should be separate rules for India and England as regards passenger traffic.

99. *Q.*—Do you think the existing regulations in regard to the lighting and ventilation of the passenger accommodation suitable?

A.—I think they are suitable.

100. *Q.*—Would you make the regulations in regard to the equipments of vessels similar in all respects to those of the Board of Trade?

A.—No.

101. *Q.*—In your opinion, are the provisions of the Emigration Act, and the rules made under it, in regard to the accommodation to be provided for native emigrants, suitable?

A.—I think they are suitable.

102. *Q.*—After a vessel has been measured for certificate A, is the Captain supplied with the Surveyor's calculations? If not, do you think it necessary that he should be?

A.—No; proper certificate with calculations should be given.

103. *Q.*—Would it not be advantageous if a copy of all measurements and calculations of passengers' space, as determined on the original measurement, was supplied to the Commander of the vessel?

A.—Yes.

104. *Q.*—If so, would you recommend that the calculations should show clearly the names of the various obstructions which have been deducted from the gross area, their dimensions and the proportional area deducted?

A.—I would recommend.

105. *Q.*—Do you consider that passengers carried in vessels working under clause (*a*) of Government of India Notification No. 1356, dated 14th March 1889, have sufficient space? If not, state what space would suffice.

A.—I cannot say in the absence of a copy of the Government Notification in question before me.

106. *Q.* (*By Captain Street*).—Under this clause, vessels running between the Coromandel Coast and Burma are permitted to carry passengers on the *'tween deck*, at 5 superficial feet per adult, provided that the *upper deck* is wholly available for passengers. Do you consider this space sufficient, bearing in mind that the *upper deck* is available for the 'tween deck passengers under ordinary circumstances during both fine and foul seasons?

A.—I believe the space in the *'tween decks* should be increased to 6 superficial feet, but if the whole of the *upper decks* are free from passengers and can be made available for them for airing and exercise, then the five superficial feet in the *'tween decks* is, I think, sufficient.

107. *Q.*—Do you consider that a double awning overhead with side curtains and bulwark screens, as required by the Native Passenger Act, equal to the ordinary tent in which troops are accommodated?

A.—Not in case of foul weather.

108. *Q.*—Do you know that 6 superficial feet on the upper deck under double awnings and curtains is considered sufficient accommodation for native troops making voyages under five days' duration?

A.—I don't think it is sufficient.

109. *Q.*—Being acquainted with the class of natives who form the bulk of those who travel by sea, do you consider they require better accommodation for their health and comfort than native troops?

A.—Yes, they do.

110. *Q.*—How do you account for the differences between the English and the Indian rules, and between the Indian rules for emigrants and those for ordinary passengers?

A.—I cannot form my opinion as to the difference between English and Indian rules. The emigrants are better provided for than ordinary passengers.

111. *Q.*—Will you furnish the Commission with your opinion as to the sufficiency or otherwise of the space allowed by the Act and rules generally?

A.—For long voyages the space allowed to steamers is in my opinion sufficient, but some provision for space should be made for upper deck passengers in the 'tween decks for foul weather during short voyages.

112. *Q.*—Do you consider that native passenger ships should carry a Medical Officer? If this was made compulsory, would you make any difference for the number carried or for the duration of the voyages?

A.—I would recommend a Medical Officer and an Assistant to be carried for passengers exceeding sixty on a voyage exceeding three days.

113. *Q.*—What grade of Medical Officer would you consider best suited for these vessels?

A.—A doctor having a proper diploma.

114. *Q.*—Give any instances which have come to your knowledge in which a Medical Officer would have been of service on board a native passenger vessel?

A.—I don't recollect any such instance at present.

Proceedings of the Seventeenth Meeting of the Native Passenger Ships Commission, held at the Bengal Office, on the 2nd January 1891, at noon.

Present:

Surgeon-Major A. S. Lethbridge, C.S.I.	*President.*
Surgeon-Major D. W. D. Comins, I.M.S.	*Members.*
Captain H. A. Street, H.M.I.M.	
W. B. Bestic, Esq.	
H. B. H. Turner, Esq.	
James L. Mackay, Esq., C.I.E.	
Captain Sir Henry Morland, Kt., H.M.I.M.	

1. The proceedings of the Sixteenth Meeting were approved.

2. The President read the following extracts from a letter he had received from Mr. H. Graham Tayler, Assistant Commissioner at the Andamans, who was in charge of a batch of convicts lately despatched to Port Blair in the S.S. *Kohinur*,

giving information respecting certain experiments carried out on board that vessel during the voyage in regard to space required for convicts on boardship.

"In a division measuring 27′ 9″ × 18′ = 499½ sq. ft., we first packed 83 men, *i.e.*, allowing 6′ × 1′ or 3′ × 2′ per man, and the result showed very much too much over-crowding; the men in some places overlapping each other, and all lying down on their sides.

"In the same spaces (499½ sq. ft.) we then arranged 55 men, *i.e.*, allowing 6′ × 1½′ or 3′ × 3′ per man.

"They lay in three rows, close up to each other on their backs; 18 men in two rows and 19 in the other without overlapping. I consider this allowance (6′ × 1½′) sufficient. When it is absolutely necessary to send a larger number of convicts than usual in fair weather, with open ports, the allowance should certainly never be less than 6′ × 1½′ per man. With the allowance of 6′ × 2′ per man, they are of course as comfortable as can be expected under the circumstances."

3. In considering this opinion it should be remembered that the convicts experimented with were fettered and had handcuffs attached to their wrists.

There being no witnesses present, the Commission adjourned, and decided to meet again on their return from visiting Rangoon, Madras, and Bombay.

Proceedings of the Eighteenth Meeting of the Native Passenger Ships Commission, held on board the B. I. S. N. Co.'s Steamer "Purnea," at anchor in Diamond Harbour, on the 3rd January 1891.

Present:

Surgeon-Major A. S. Lethbridge, C.S.I.	*President.*
Captain Sir Henry Morland, Kt., H.M.I.M.	*Members.*
„ H. A. Street, H.M.I.M.	
Surgeon-Major D. W. D. Comins, I.M.S.	
Captain I. H. Atkinson, B. I. S. N. Co.'s Service	

1. The Commission assembled at 8 P.M.

2. Mr. Oliver Lash, Branch Pilot in the Bengal Service, was called and examined

3. Mr. Lash's examination having been completed, the Commission adjourned until the 5th instant.

Mr. OLIVER LASH.

1. *Q.*—Will you please inform the Commission of the nature of your present occupation?

A.—I am a Branch Pilot in the Bengal Pilot Service.

2. *Q.*—What qualifications or experience do you possess in regard to the subjects under enquiry?

A.—I have a knowledge of the weather which prevails in the head of the Bay of Bengal during the different seasons of the year and have occasionally to pilot vessels having native passengers on board.

3. *Q.*—Do you take any part, either directly or indirectly, in the administration or observance of any of the provisions of the "Native Passenger Ships Act, 1887"?

A.—I have had occasionally to inspect vessels for the purpose of granting the B certificate.

4. *Q.*—Do you consider that, if there is to be a line dividing short from long voyages, it should be drawn at five days?

A.—I consider that five days is the utmost length of time for a short voyage.

5. *Q.*—Do you think that the five-day limit puts an Indian short voyage on a footing similar to an English Home Trade voyage?

A.—I think the Indian voyage is the longer.

6. *Q.*—How many passengers can a steamer carry without coming under the provisions of the Native Passenger Ships Act?

A.—Sixty, I believe.

7. *Q.*—Do you know of any instances in which passengers not exceeding sixty in number have been carried in vessels having no suitable accommodation for them?

A.—No.

8. *Q.*—Are you of opinion that the conditions justify a distinction being made between fair and foul weather in the case of voyages which may extend to five days?

A.—Yes.

9. *Q.*—Are you of opinion that the seasons of fine weather defined in the rules are judiciously chosen with reference to the prevailing conditions?

A.—I think so. It would be difficult to limit a season of perfectly fair weather.

10. *Q.*—Will you mention instances of foul weather occurring during the seasons which are by rule declared to be seasons of fair weather?

A.—I have known instances in September, October, and December in the upper part of the Bay.

11. *Q.*—In your opinion, do the conditions justify passengers being carried across the Bay at any season on decks, such as are commonly called hurricane-decks, which are not protected from the weather except by overhead awnings, assuming that no accommodation is reserved for these passengers on the lower decks, which are crowded with other passengers?

A.—I consider that, so long as double awnings can be carried tented, and side curtains, the protection would suffice, but passengers would suffer discomfort in heavy weather.

12. *Q.*—(*By Captain Street*).—During inclement weather, would upper-deck passengers have any dry place to sit or sleep on, if the awnings were tented?

A.—I think not.

13. *Q.*—Are you acquainted with the ordinary conditions of native life amongst the class that form the bulk of the native passengers who travel by sea?

A.—No.

14. *Q.*—Are you aware that it is a common practice for natives of India to sleep at night in the open air?

A.—Yes.

15. *Q.*—Is it within your knowledge that 1st class passengers, travelling about the Bay of Bengal and coasts of India, as a rule, prefer to sleep on deck under the same conditions as to awnings and curtains as the 3rd class native passengers?

A.—In hot fine weather.

16. *Q.*—Have you had any personal experience of the weather round the coast of the United Kingdom, and in the Bay of Bengal, and on the coast of India?

A.—In the Bay of Bengal, yes.

17. *Q.*—Do you consider that there is such similarity as to warrant a comparison between the weather experienced on the coast of the United Kingdom or between the rivers Elbe and Brest (English Home Trade voyage) and that experienced in the Bay of Bengal and coasts of India?

A.—No; on account of the difference of temperature.

18. *Q.*—Do you consider the conditions of English and Indian passenger traffic to be similar in any other way than that the traffic under discussion is by sea?

A.—No.

19. *Q.*—Do you think the ordinary native passenger would be prepared to pay more for better accommodation?

A.—No.

20. *Q.*—Is it not a fact that very well-to-do native merchants are satisfied with the usual deck accommodation?

A.—I believe that the well-to-do native who could afford to pay for better accommodation prefers to travel as a deck passenger.

21. *Q.* How is the number of passengers which a vessel is capable of carrying calculated in each case?

A.—By measurement.

22. *Q.*—Should alleyways, used as a means of communication by the crew, be considered as deck area for passengers, *i.e.*, the narrow passages between the officers' cabins and the engine-room casing? If so, would it not be advisable to give a minimum breadth before allowing the area to count for passengers?

A.—If alleyways have to be used by the crew, only a minimum number of passengers should be placed in them.

23. *Q.*—(*By Captain Street*).—To arrive at their minimum number, how should the alleyway space be measured. That is, what space would you recommend for the accommodation of each passenger in an alleyway?

A.—I think that when the alleyway is so narrow, passengers should not be placed there, if a space for traffic is not left, but that the alleyways should be occupied by passengers in bad weather for shelter.

24. *Q.*—(*By Dr. Comins*).—What minimum number of passengers would you allow in alleyways of 3 feet 6 inches in width?

A.—I think the passengers might be allowed to the extent of one man lying fore and aft, but I think it would be advisable to carry no passengers in so narrow a width.

25. *Q.*—(*By Sir Henry Morland*).—What is the narrowest width of alleyways you would allow passengers to be accommodated in?

A.—Four feet six, passengers lying fore and aft.

26. *Q.*—(*By Captain Atkinson*).—Would you state what width in an alleyway should be left clear as a passage?

A.—At least two feet six.

27. *Q.*—(*By Captain Street*).—Do you consider that alleyways were ever intended to be treated as space for *deck passengers*?

A.—No.

28. *Q.*—(*By Captain Atkinson*).—Are you aware that, as a fact, the passengers for whom the alleyways were measured are comfortably accommodated on the hatches, which are not measured as space for passengers?

A.—I am aware of that circumstance.

29. *Q.*—(*By the President*).—Would you be disposed to recommend that the hatchways on the upper-deck should in future be measured in lieu of the alleyways which are not now usually occupied, though measured?

A.—I think if the alleyways are not measured for passengers, the upper hatchways might be measured for accommodation of passengers—that is, that portion of the hatchway which is closed.

30. *Q.*—Are not these alleyways additional shelter and therefore desirable for passengers?

A.—Yes, as shelter for passengers in bad weather.

31. *Q.*—For ships with large waterways in the 'tween decks extending inside the battens on the ship's side, is the deck measurement made to the inside edge of the waterways or to the battens? Which would you recommend?

A.—Inside the battens, if the waterways are covered by gratings, and at half height of *'tween decks*.

32. *Q.*—Should the spaces set apart for the boats on the bridge deck be utilized for passengers when the boats are carried at the davits? If so, state whether during both fair and foul season or only during the fair season?

A.—Yes, during fair weather.

33. *Q.*—(*By Dr. Comins*).—I presume that your reply does not include vessels where the boats, when in, are berthed on skids on the platforms on bridge deck level?

A.—No, it does not; I would utilize these spaces in fair and foul weather if they had proper awnings over them.

34. *Q.*—Do you think that a passenger on a voyage lasting 10 or 12 hours requires as much room as one on a voyage lasting five days?

A.—No.

35. *Q.*—(*By Captain Street*).—What space would you give a native passenger on a voyage not exceeding 12 hours?—

(*a*) on the *'tween deck*,

(*b*) on the *upper deck* for *'tween deck* passengers,

(*c*) on the *upper deck* for *upper-deck* passengers.

A.—I think the 4-feet space on *upper deck* might be done away now; with reference to (*c*), I would allow the space as it is at present.

36. *Q.*—Do you think that native passengers can do with less space than Europeans?

A.—Yes.

37. *Q.*—What proportion do you consider that the space allotted to natives should bear to the space allotted to Europeans?

A.—One-third less.

38. *Q.*—Assuming that this proportion is adopted, would it, in your opinion, affect the health, comfort, and safety of native passengers in any way?

A.—It would increase their comfort, but would not ensure their safety to any greater extent.

39. *Q.*—Do you consider that on a voyage which may extend to five days, native passengers can be accommodated in the 'tween decks of a steamer at the rate of one passenger to each 6 square feet of area, with 4 square feet of airing space on the upper deck, without prejudicing their health and safety?

A.—Yes, in ordinary weather.

40. *Q.*—(*By Dr. Comins*).—Would you limit this measurement to fair weather as now defined?

A.—Yes.

41. *Q.*—Do you think it necessary, for the health and safety of the passengers, that there should be on a voyage, which may extend to five days, permanent shelter for each passenger either 'tween decks or in cabins on the upper deck?

A.—No, not in fair weather.

42. *Q.*—Do you think that in case of bad weather it should be possible to accommodate all the passengers on the upper decks in some place of shelter?

A.—Yes. In any bad weather when the vessel is shipping heavy seas.

43. *Q.*—(*By Captain Atkinson*).—Are you aware that the Board of Trade limit that shelter in the inclement weather on the English coast (Home Trade voyage) to one-sixth of the number of passengers for which the *upper deck* is measured?

A.—No; I am not aware of it.

44. *Q.*—Do you know of any steamers which carry native passengers on two upper decks?

A.—Yes.

45. *Q.*—Are you acquainted with the design of the steamers of the *Kistna* class?

A.—Yes.

46. *Q.*—What is the distinguishing feature of these steamers?

A.—They have two upper decks.

47. *Q.*—In your opinion, are the middle passenger decks of these steamers 'tween decks or upper decks, within the meaning and intention of the Native Passenger Ships Act? Give your reasons for this opinion?

A.—I cannot tell.

48. *Q.*—Are the passengers on these middle decks as well protected in rough weather as the passengers on the lowermost of the three passenger decks?

A.—Yes, with the shutters closed, provided that they are water-tight.

49. *Q.*—Are these passengers on the middle deck not better protected than on ordinary upper decks?

A.—Yes.

50. *Q.*—During the inclement weather, do you consider that the upper deck passengers are sufficiently protected by canvas awnings? If not, what would you recommend.?

A.—So long as the awnings keep out the rain, and side screens are properly fitted.

51. *Q.*—Under existing rules, are the arrangements to prevent injury to passengers by the rolling of the ship sufficient for the purpose?

A.—Yes, if properly erected.

Proceedings of the Nineteenth Meeting of the Native Passenger Ships Commission, held on board the B. I. S. N. Co.'s Steamer "Purnea," while at sea between Calcutta and Rangoon, on the 5th January 1891, at 10 a.m.

Present:

Surgeon-Major A. S. Lethbridge, C.S.I.	*President.*
Captain Sir Henry Morland, Kt., H.M.I.M.	*Members.*
„ H. A. Street, H.M.I.M.	
Surgeon-Major D. W. D. Comins, I.M.S.	
Captain J. H. Atkinson, B. I. S. N. Co.'s Service	

1. The Proceedings of the eighteenth meeting were approved.

2. The Commission first proceeded to visit the different compartments of the 'tween deck on which passengers were accommodated, and also the spaces on the upper deck occupied by passengers. The result of this inspection forms the subject of the following memorandum.

(1) It was noticed that the fourth hatchway, which is 12′×10′, was half occupied by passengers, the remainder being taken up by a ladder which is temporarily placed there for the convenience of the passengers occupying the fourth 'tween deck compartment. If the two doors in the bulk-head separating the third from the fourth compartment were closed, there would be no other means of getting to the fourth compartment except by this hatchway. Under these circumstances only half of the top of this hatchway could be measured for passengers. Allowing that one half is kept open for a ladder, this opening will always be extremely useful for ventilation. Sir Henry

Morland remarked that when ladders are fitted in hatchways there should always be two ladders, one on either side. Captain Atkinson suggested that in that case the ladders might be narrower than they are. To this suggestion, Sir Henry Morland and Captain Street did not agree.

(2) The fourth compartment of the 'tween deck was measured and found to be 52′ 3″×37′ 6″×7′ 8″ high. From deck to beam the height was 6′ 11″. Besides half the fourth hatchway already referred to, the ventilation consisted of four cowlhead ventilators of 1 foot diameter each. There were 12 side scuttles having a diameter of 10 inches, which are not considered as forming part of the permanent ventilation.

(3) The third compartment was measured, and found to be 58′ 6″×40′ 5″×7′ 8.″ From this space should be deducted the following obstructions:—

(*a*) Two baggage rooms for 1st class passengers 7′×8′×2′=112 square feet. Mast 7′ 3″. Hold ventilation 7′ 6″-9″ for each of the 14 stanchions, 1′ 8″ ×10″×2 for two pipes leading to the hold, 5″×5″ for an obstruction, and lastly 14″×12″×4 for four projections; also a deduction for one ladder in the third hatchway. The Commission in this part of their work would have found it very convenient to have had the Surveyor's measurements to refer to. They hope that their recommendations will remedy this defect, and allow each vessel to carry with it the measurements and capacity for passengers either permanently marked on the compartment or deck, or that the Captain, should be furnished with a statement showing this attached to the A certificate.

(4) The ventilation provided for the third compartment consisted of four bitts or bollard ventilators (two on each side), three cowl-heads 12 inches in diameter in use, one cowlhead which was ventilating the hold, but was in a few minutes converted into a ventilator for this compartment. In regard to this subject, the Commission noticed the danger of having the same ventilation pipe used for either the 'tween passenger deck or hold ventilation at will. The Commission would advise that the ventilation for the hold should be entirely separate from the 'tween-deck ventilation. There is a companion 4′×3′=12 square feet. Besides this there were 12 scuttles, 10″ in diameter.

(5) The third hatchway, deducting the space which is given up to the ladder, measured 14′×12′ 6.″ This is occupied by passengers, and the Commission is of opinion that the upper and 'tween deck hatchways, when permanently closed, should in this ship be included in the space measured for passengers.

(6) The alleyways on the upper deck on one side were measured and found to be 4′ 1″ wide with the doors open, and 34 feet long opposite the officers' cabins and 45′ 8″ long opposite the 2nd class accommodation. The total length, excluding the space occupied for the discharge of ashes, was 79′ 8″. On both sides a deduction would have to be made for the steam pipe and coverings leading to the donkey engines. Under ordinary circumstances these alleyways are not occupied by passengers, nor does the Commission think that they could be so occupied. They are entirely taken up as thoroughfares. With the steamer carrying its full complement of passengers, these thoroughfares would be required for 653 persons passing backwards and forwards to the latrines and cook-shops. There is no other passage to the latrines, &c., the bridge deck being measured for its full complement of 414 passengers. If the poop was measured for deck passengers, these alleyways would be used as thoroughfares by 1,026 persons in the fair season.

(7) In fair weather the 'tween-deck is supposed to have space for 1,573 persons at 6 superficial feet per adult. Allowing airing space of 4 feet for each 'tween-deck passenger on the upper deck, the whole of the upper deck is required as airing space for these 1,573. The upper deck in fair weather, when no 'tween-deck passengers are carried, is measured for 911. The poop, if given up to 3rd class passengers, can accommodate in fair weather 373, the forecastle 107, and the bridge deck 414. It is, therefore, possible for this steamer, with the present allowance of space, to carry 1,573+373+107+414=2,467 3rd class passengers. Her registered tonnage is 2,156 tons. She is now carrying 434.

(8) In foul weather she can carry:—

'Tween deck	1,048
Upper deck	142
Poop	248
Bridge	276
	1,714 total for foul weather.

(9) If the owners selected the 5-feet rule for the Madras passengers, this steamer would accommodate 1,886 when running between Burma and the Coromandel

Coast. It will thus be seen that while the vessel under the usual measurement in the fair season can carry 2,467, it is open to the agents to work this vessel between the Coromandel Coast and Burma in the foul season, and to carry 1,886 instead of 1,714 under the six feet rule.

(10) The latrine accommodation is as follows:—

Three compartments with one seat each and four moveable compartments. The native passengers, who gave evidence before the Commission on the 5th instant, complained of the insufficiency of the latrine accommodation, and suggested the provision of urinals, which would relieve them considerably from the discomfort they now experience in this respect.

(11) The Commission found many of the passengers engaged in cooking. The arrangements for this purpose appear suitable, and some of the native passengers, who have travelled previously in other steamers, say that there is much improvement in this respect, especially in regard to the supply of fuel gratis.

(12) There are a few female passengers, and these are accommodated with their male friends. It would appear that Hindus are generally in favour of having their women with them, while Mahomedans would prefer to have all females collected together behind a screen on the deck.

(13) A Brahmin native passenger who gave evidence before the Commission suggested the advisability of trying to separate Hindus from Mahomedans. The former had to carry their food with them, and this was liable to pollution if they had Mahomedans near them. When asked what could be done to prevent pollution by low caste Hindus being on the same deck, he said a low caste Hindoo would respect the prejudices of the higher caste and keep to one side, whereas Mahomedans had no wish to accommodate them in this matter.

(14) The steamer has on the upper deck eight horses, three dogs, six goats, and fifteen sheep not accommodated in any special fittings or boxes. These animals do not in the least inconvenience the 3rd class passengers in this voyage. But it is possible, if the ship encountered heavy weather, and the remainder of the deck was taken up by passengers, that they would be inconvenienced by the dung and urine being washed from side to side if no special fittings were used to prevent it.

(15) There were several large boxes belonging to passengers which were in the 'tween-decks, which would prove a source of danger in heavy weather. These could not have been carried if the steamer had its full complement of passengers. There being no necessity for taking away these boxes, they have been left there for the convenience of the passengers.

3. Certain questions to be put to native passengers willing to give evidence on the native passenger traffic having been drawn up by the President with the assistance of all the members of the Commission now on board of the *Purnea*, were read and approved.

(1) Mahmoorjee Ibrahim, a Mahomedan trader of Calcutta.
(2) Nund Kishore (Hindu), a durwan in the employ of Messrs. Steel & Co. of Rangoon.
(3) Yusuf Ali, a mistry in the Government Telegraph Department.

4. The native deck passengers marginally-named were called and examined during the day.

5. At 5-50 P. M., the Commission adjourned until 10 A. M. on the 6th instant.

Evidence of MAHMOORJEE IBRAHIM, a 3rd class passenger by the British India Steam Navigation Company's steamer "Purnea," taken on board that vessel by the Native Passenger Ships Commission, at a meeting held on the 5th January 1891.

The witness stated that he was a native of Surat, and is at present engaged in business as a merchant on his own account at Calcutta. That during the last 30 years he had frequently travelled by sea between Calcutta and Burma, and always by a steamer of the British India Steam Navigation Company. Occasionally he had travelled either as a first or a second class passenger, but as a rule he travelled as a deck passenger; sometimes he had been able to obtain a free passage. He preferred the upper deck in fair weather, and the 'tween deck during the foul season. In really bad weather, he would take a first or second class ticket. It would depend on a man's position whether he would pay more for better accommodation. When his (the witness's) women had travelled with him, he sometimes obtained a second class cabin for them. He would like his women to be accommodated behind a *purdah* or a canvas screen, if travelling as deck passengers, and he thought all Mahomedans would be of the same opinion. He had never travelled in a vessel with too many passengers, and thought that, if too many came on board, the excess number would be sent on shore again. He had never seen the hatches closed on account of bad weather, and had never suffered any discomfort when the 'tween-deck scuttles had been closed. Native passengers, as a rule, carried with them *one* maund of luggage,

and occasionally as much as *three* maunds. If they have to pay extra for their luggage, he could not say whether they would be willing to do so. More baggage is carried by native passengers when travelling by sea than by rail, because they are not charged for what they bring with them. Some passengers have boxes; others baskets; and all have bedding, cooking-pots, water-vessels and food, but as a rule they do not have articles of merchandise amongst their personal baggage. The witness's boxes had often been stowed in the hold, and he had never lost anything in consequence. He was unable to say whether passengers would object to loose bundles and articles not packed being placed in the hold. For himself and his own baggage he would require a space equal to 5½ feet × 3 feet, as he was "rather fat," and weighed about 2¾ maunds. A thin man would want only 5½ feet of space in length by 2 feet in breadth.

NOTE.—The witness was then shown the space he was entitled to under the Act on the 'tween decks (6 superficial feet), and on this space he marked off the places that would be occupied by his boxes, cooking-pots, food, &c., and then said that "the available space was insufficient, and would not admit of his lying down therein."

The witness, on being further questioned, said that, in his opinion, if passengers were given the option of putting up with the space now allowed them under the Act, or of paying more for additional space, they might possibly pay, but probably they would trust to the generosity of the Company. Every one prefers a hatch to sit and sleep on, and in his case he obtained permission to occupy a hatch. He himself usually used the second class closets. (Captain Atkinson here remarked that there was latrine accommodation for 800 persons on board the *Purneah*, and that there were only 500 passengers now on board.) He had never experienced any difficulty about getting his food cooked. On the present occasion, he and some of his friends, who were with him, had brought a servant who cooked their food in the ship's galley. He had brought his own food and always did so when travelling as a deck passenger. When he had run short of food, he had bought some on board from out of the ship's stock. He had never required medical attendance while on board ship. If he felt ill he drank a bottle of lemonade and got well. Deck passengers are exposed to the rain, wind and sea, but as a rule, in bad weather, the Captain finds a place below for the upper deck passengers; but if there is no room below, upper deck passengers suffer considerable inconvenience from the wet: the water comes in from the sides of the ship, and all, even those on the hatches, get wet. He had never heard of native passengers' health having been permanently impaired by the insufficiency of space or the inconvenience or exposure endured whilst on any voyage similar to any he had made.

About 12 years ago he had been in a big storm on board of a ship on the coast of Aracan. The storm lasted about 4 or 5 hours. He was a 'tween-deck passenger. There were only ten passengers, and no discomfort was experienced. He had never seen any one injured by the rolling of the ship and the shifting of boxes, and he had no suggestions to offer in regard to preventing passengers' boxes being kept from moving about when the ship rolled. If animals are kept on one side of the upper deck, no inconvenience would be experienced by upper deck passengers. Any dirt caused by the animals is generally swept away at once by the ship's sweepers.

Evidence of YUSUF ALI, a 3rd class passenger, taken on board of the S. S. "Purnea," on the 5th January 1891.

The witness, a Mahomedan, stated that he was a telegraph mistry working at Government expense, and that he had made five voyages to and from Calcutta and Rangoon. He had also made one voyage on the Arakan coast and had been once to Coconada, and had just come from Madras in the *Golconda*. He stated that the voyage between Calcutta and Rangoon lasted 4½ days. His voyages had been made in the cold weather about December, the telegraph work being only done at that time. He being a Government servant, had always travelled by the British India Steam Navigation, with which the Government had a contract. He preferred the 'tween decks to the upper deck in the cold weather. He never took any female relations with him, but thought women would be much more comfortable behind a purdah; and that all women, both Mahomedans and Hindus, should be kept together behind a screen. On one occasion, when returning from Rangoon about two years ago, he experienced great inconvenience from the crowding of the passengers. Both decks were full and he did not get enough room to lie down in.

He also stated that it was difficult to move backwards and forwards among the passengers, and this difficulty was not owing to the rolling of the ship but was from the crowded state of the ship. As regards the purity of the air at this time in the 'tween decks, no inconvenience was experienced except some increase of heat. He considered that each passenger usually carried from 24 to 30lb of baggage, which consisted of food, water, clothes, cooking-pots and bedding; but he did not know if they carried merchandise. He had no objection to his boxes being placed in the hold. He thought that he would require for himself and his baggage a space equal to about 18 superficial feet, and he would pay more than the ordinary fare for a place on a hatch, as it was a place of comfort. He thought there were too few latrines and that a separate urinal would be a great convenience.

He had noticed that in some ships the cooking ranges were too small, but on this ship, the *Purnea*, they were large enough and there was no inconvenience. He had sometimes noticed that passengers required medicines, but he got his medicines from Government. He thought it would be advisable to have a Native Doctor on passenger steamers. He had seen passengers on the upper deck suffer from the rain and spray, but he had never been in a storm. On one occasion the *Ellora* shipped some water. She had awnings and bulwarks, but no screens. He had never known any one get ill from insufficient space. He remembered one woman dying between Chittagong and Akyab, but she was ill before she came on board. He had never seen any one injured from the rolling of the ship and the shifting of boxes, nor any inconvenience from the carrying of animals. The place they occupied was always kept clean. When the decks were fouled the topaz always cleaned the place at once. On one occasion he was inconvenienced by many passengers coming on board at Chittagong, an interemdiate port between Calcutta and Akyab.

Evidence of NANDA KISHORE, a third class deck passenger, taken on board of the S. S. "Purnea," on the 5th January 1891.

The witness—a Hindu—stated that he resided at Agra, and that he had made five voyages, lasting each five days, by British India steamer between Calcutta and Rangoon. In the fair weather he had no preference of deck, and his only difficulty was that Hindus and Mahomedans were mixed together. His party now consisted of one woman and four men, besides himself. He would suggest a separate compartment for each sect, and said that if he were travelling by train, and represented that they were a party and one a woman, the guard would have given them a separate compartment. In the train too they could get food on the platform from their caste brethren, whereas on board ship they had to bring it with them; but he had never made this a subject of complaint to the officers of the ship. He would prefer his women to remain with him, and they would certainly prefer to remain with him rather than be placed in a separate place. He would not object to having low caste Hindus with him, as they would listen to him and respect his prejudices, but Mahomedans would not. In one voyage he made in the month of April, there were so many passengers on board, that there was room to sit, but not to lie down, and it was very hot in the 'tween decks; the upper deck being occupied by soldiers, they had no option but to go below. On that occasion the scuttles of the 'tween deck being left open for ventilation, the water came in through them.

He said that the usual amount of luggage taken by men of his class, including food and water, weighed about 82lbs.

He would have no objection, and knew it would be safe to send his box below, but must be allowed to keep his food, water, and clothing with him. He had a lotah and water tin with him, but no cooking utensils. He said that 6 feet space was not sufficient for him, and that he would require for himself and baggage a space measuring about 15 feet. He paid ₹10 for his passage from Calcutta to Rangoon and could not afford more, but if he were richer, he would pay for extra space, and he thought passengers would be willing to give ₹1 or ₹2 extra for a place on a hatch, if it was entered on their tickets. There was a difficulty in getting to the latrines on account of too many men wanting to go at the same time, and there ought to be a separate latrine for women and a place for urinating. Being a Brahmin, he did not cook on board, but the food he took with him was liable to contamination from Mahomedans near him. He also stated that Brahmins do not take medicine while on board ship.

On one occasion, when there was a storm, he said the upper deck passengers got wet from the sea but not from the rain, and when the sun came out they got dry again. There was no place below where the passengers could have taken shelter, as the 'tween decks were too full. He had never known any one injured by the rolling of the ship, nor had he been inconvenienced from the carriage of animals, as they are kept on one side of the deck. When the decks were fouled, they were always cleaned at once by a topaz.

Proceedings of the Twentieth Meeting of the Native Passenger Ships Commission, held on Boardthe B. I. S. N. Co.'s Steamer "Purnea," on the 6th January 1891, at 10 a.m.

Present.

SURGEON-MAJOR A. S. LETHBRIDGE, C. S. I. . . .	*President.*
CAPTAIN SIR HENRY MORLAND, KT., H.M.I.M. . . .	*Members.*
„ H. A. STREET, H.M.I.M.	
SURGEON MAJOR D.W.D. COMINS, I.M.S.	
CAPTAIN J. H. ATKINSON, B.I.S.N. Co.'s SERVICE . .	

1. The Proceedings of the nineteenth meeting were approved.

2. The Commission first proceeded to No. 3 compartment on the 'tween decks and there measured off a space of 772 superficial feet, representing 19 feet in length from the fore end of the compartment with the full width of the deck (40 feet 8 inches). The accommodation was for 128 passengers at 6 superficial feet per adult, but as the projections, &c., came to 3·8 feet, one adult was removed, thus making a total of 127 adults. These passengers were asked to lie down with the ordinary baggage they were travelling with, which baggage, in the opinion of the Commission, they could not be expected to part with for stowage in the hold. In the opinion of the Commission, this space did not admit of each passenger lying down, although they were arranged so as to occupy the least possible space.

From 127 were removed 43 adults, as representing the one-third, and the remaining 84 were then made to lie down in the 772 superficial feet, thus giving each passenger 9·2 superficial feet. In this space, the Commission found that the passengers, with their personal baggage as before, could lie down comfortably without being huddled. In this instance the Commission came to the conclusion that the

number of passengers could not be materially increased within the above space, without interfering with the comfort and convenience of the passengers.

3. Captain M. England, Commander of the S.S. *Purnea*, was called and examined in respect to Life-Saving Appliances.

4. Ram Bux, a petty native merchant, and a deck passenger, was called and examined as to the accommodation provided for him, and on other points connected with the native passenger traffic.

5. Ram Bux's examination having been completed, the Commission adjourned until their arrival at Rangoon.

Evidence of CAPTAIN ENGLAND, Commander of B. I. S. N. Co.'s S. S. "Purnea."

1. *Q.*—Will you explain to the Commission what rules are in force in India on the subject of life-saving appliances?

A.—Subject to the regulations of the Board of Trade.

2. *Q.*—Do the new regulations of the Board of Trade, made under the Merchant Shipping (Life-saving Appliances) Act, 1888, apply to India?

A.—Not yet decided.

3. *Q.*—What, in your opinion, is the object of these revised regulations?

A.—To have more life-saving appliances on board.

4. *Q.*—Do the revised regulations require more appliances than were necessary under the old rules, and why was the change found necessary?

A.—Yes; but I cannot say why they were found necessary.

5. *Q.*—Are the revised regulations suitable, in your opinion, for vessels engaged in the native passenger trade?

A.—No; I do not think they are.

6. *Q.*—In your opinion, is there no difference of conditions which would justify a difference in the regulations on this subject?

A.—There is a great difference in conditions. A European in the water in the English Channel, for instance, fully dressed, is a very different thing to a native in the Bay of Bengal with scarcely any clothing.

7. *Q.*—Do you think that the natives of India require as much space in boats as Europeans?

A.—No.

8. *Q.*—Would you adopt the Board of Trade Regulations, in regard to life-buoys and life-belts?

A.—With regard to life-belts, no; as very few natives would know their use, and life-buoys would take up too much space.

9. *Q.*—(*By Dr. Comins*).—What is your opinion about life-saving rafts for natives as compared with boats?

A.—I think boats are best.

10. *Q.*—(*By Dr. Comins*).—What moveable fittings of the *upper decks* could be readily adapted as rafts?

A.—Seats of all descriptions. These are the only ones I would use.

11. *Q.*—(*By Captain Atkinson*).—When the natives are put afloat on the rafts what would become of them? Could a raft be navigated?

A.—(1) They would simply drift where wind or sea took them.

(2) Not except under very exceptional circumstances, such as fine smooth weather.

12. *Q.*—(*By Captain Street*).—Do you consider that vessels engaged in the Indian country trade require as many life-saving appliances as those on direct routes?

A.—No; I think the smaller description of life-saving appliances would be enough.

13. *Q.*—(*By Captain Street*).—Is the crew of a country steamer in the Indian trade sufficient to man all the boats which such vessels would be required to carry under the revised regulations?

A.—Yes.

14. *Q.*—(*By Captain Street*).—Do you think that the crew of the ordinary coasting vessel is sufficient to keep in working order the different life-saving appliances which, under the revised regulations, such vessel is required to carry?

A.—Yes.

15. *Q.*—(*By Sir Henry Morland*).—Is it usual for all minor ships' fittings to be put in order by the shore establishments at the different ports?

A.—Always.

16. *Q.*—(*By Sir Henry Morland*).—For sustaining life during protracted immersion in the water, would you prefer life-buoys or life-belts?

A.—Life-belts.

Evidence of RAHIM BUX, a 3rd class deck passenger, taken on board of the S. S. "Purnea," on the 6th January 1891.

Witness stated that he was a petty cloth merchant by trade, and that he had made five voyages in the fine weather between Calcutta and Moulmien *viâ*, Rangoon. He prefers the 'tween decks, but has also travelled on the upper deck. He considered that women should be separated from the men by a curtain. He never noticed any over-crowding and has always had as much room as he wanted. The baggage usually carried by a 3rd class passenger weighs about 30lb. He would have no objection to his baggage being sent below if he were allowed to keep his food and clothing with him. If he had only 6 feet of space allowed him, he would prefer to pay for more room, and would also pay extra if provided with a place on a hatch. He has never seen any one injured by the shifting of boxes during the rolling of the ship.

He does not think the latrines are sufficient in number, as those wishing to use them have often to wait a considerable time. A separate urinal would be a convenience, but the ordinary urinal of the European pattern could not be used by Mussulmans, as the *Koran* enjoins them to urinate while in the sitting position. He never saw any one sufficiently ill to require medicine. The decks are always kept clean by a topaz.

MR. MACLURCAN.

1. *Q.*—Will you please inform the Commission of the nature of your present occupation?

A.—Assistant Port Officer, Rangoon.

2. *Q.*—What qualifications or experience do you possess in regard to the subjects under enquiry?

A.—Six years in the B. I. S. N. Co. as an officer, and 3¾ years as Inspecting Officer under the Native Passenger Act in Rangoon.

3. *Q.*—Do you take any part, either directly or indirectly, in the administration or observance of any of the provisions of the "Native Passenger Ships Act, 1887"?

A.—Directly as Inspecting Officer.

4. *Q.*—How does an Indian Home Trade voyage compare with an English Home Trade voyage?

A.—As far as distances go, about the same; as regards the weather, an Indian Home Trade voyage is the more favourable.

5. *Q.*—In regard to what voyages is there a distinction made between fair and foul seasons?

A.—All short voyages round the coast between Kurrachee and Moulmein, and all voyages to or from Coromandel and Burma.

6. *Q.*—Do you consider that, if there is to be a line dividing short from long voyages, it should be drawn at five days?

A.—I think the limit is fair, as in short voyages, if not fine weather, the passengers get extra space allowed them.

7. *Q.*—Do you think that the five-day limit puts an Indian short voyage on a footing similar to an English Home Trade voyage?

A.—Yes; when it is taken into consideration that there is only one line consisting of a steamer a week each way which at all approaches this limit, *viz.*, the line from Rangoon to Coromandel coast and back. The other voyages, say from Kurrachee to Bombay, Bombay to Carwar, Calcutta to Orissa, Calcutta to Chittagong, are very much shorter indeed.

8. *Q.*—Are you of opinion that the conditions justify a distinction being made between fair and foul weather in the case of voyages which may extend to five days?

A.—Yes; if the fair and foul seasons were differently defined.

9. *Q.*—Are you of opinion that the seasons of fine weather defined in the rules are judiciously chosen with reference to the prevailing conditions?

A.—No; I do not think the seasons are general enough. For instance, a vessel leaving Madras for Rangoon on 14th May receives a fair weather certificate, although after that date it is foul on the Burma coast, *vice versâ*. She leaves here with a foul weather certificate when it is fair on the Madras side. Again, August is fair on the other side and foul here. November and December are foul one side, and fair the other. The foul weather in the north-east monsoon on the Madras coast is not really bad weather, at least not compared with the south-west monsoon. Although it blows fresh, no heavy sea gets up, as a rule, and the weather is fine and dry. I can only imagine that these months are foul there because of the possibilities of a cyclone, but it seems to me rather strained to make fine weather foul for only a possibility.

10. *Q.*—If not, what alteration would you suggest?

A.—I would make only the rainy season in the Bay to be foul weather, *i.e.*, during the whole extent of the south-west monsoon, say from 1st May to 31st October. Moreover this period takes in all the present seasons on both coasts with the exception of November and December on the Madras coast, which two months are not actually bad weather, because, as I have stated above, the same sea does not run nor is there rain as in the south-west monsoon. Another thing, it gives on the Madras coast the same length of seasons, *viz.*, six months of each, while it will add two months foul to the Burma side, *viz.*, September and October, which I think is wanted very much.

11. *Q.*—Will you mention instances of foul weather occurring during the seasons which are by rule declared to be seasons of fair weather?

A.—I cannot mention instances, but generally I know that September and October, which are fair on the Burma coasts, are very often unpleasant months, both as to sea and rain. I don't say always, because the back of the monsoon has broken by the end of August, but a long rolling sea and frequent showers are left.

12. *Q.*—In your opinion, do the conditions justify passengers being carried across the Bay at any season on decks, such as are commonly called hurricane-decks, which are not protected from the weather except by overhead awnings, assuming that no accommodation is reserved for these passengers on the lower decks, which are crowded with other passengers?

A.—Provided that there are good side curtains in addition to the overhead awnings mentioned in the question, I am of opinion that passengers can be carried very comfortably. This arrangement makes a very much better tent than soldiers would have in similar weather, and is certainly preferable in every respect to the sodden, leaky mat huts many of them live in on shore.

13. *Q.* (*By Sir Henry Morland*)—Where no permanent bulwarks are fitted, is it desirable to have strong canvas side screens fixed between the rail and the deck as well as the ordinary side curtain between the ridge-chain and the rail for protection of deck passengers from spray and wet?

A.—Yes.

14. *Q.*—Are you acquainted with the ordinary conditions of native life amongst the class that form the bulk of the native passengers who travel by sea?

A.—Yes.

15. *Q.*—Are you aware that it is a common practice for natives of India to sleep at night in the open air?

A.—Yes; all office, shop, and godown durwans may be seen all over India sleeping on the steps of or outside their charge at night. Syces frequently the same, whilst in public gardens where there are benches or good grass, or where the gates are not shut at night, it is common to see them asleep.

16. *Q.*—Is it within your knowledge that 1st class passengers, travelling about the Bay of Bengal and coasts of India, as a rule, prefer to sleep on deck under the same conditions as to awnings and curtains as the 3rd class native passengers?

A.—It is well known to me.

17. *Q.*—Have you had any personal experience of the weather round the coast of United Kingdom, and in the Bay of Bengal, and on the coast of India?

A.—Round the coast of the United Kingdom only as much as may be gained by occasional ar-

rivals and departures as an officer of ships and a few tourist trips about 16 years in the Bay of Bengal and coasts.

18. *Q.*—Do you consider that there is such similarity as to warrant a comparison between the weather experienced on the coast of United Kingdom or between the river Elbe and Brest (English Home Trade voyage), and that experienced in the Bay of Bengal and coasts of India?

A.—There is no similarity at all in my opinion. In India many officers do not trouble to put on waterproofs in the rain. I have known it a common practice to go on duty in ordinary serge or even white suits, getting wet through in a few minutes, and remaining so till the watch is over. Bare feet and wet trousers even with a waterproof is rather the rule than the exception, and this sort of thing going on day after day. This could not be done in the coasts of the United Kingdom. Even when wet through one's teeth do not chatter with cold as at home. There is no misery in it.

19. *Q.*—Do you consider the conditions of English and Indian passenger traffic to be similar in any other way than that the traffic under discussion is by sea?

A.—No; neither in the dangers of navigation, risk to life, nor the requirements of the passengers themselves.

20. *Q.*—Do you think the ordinary native passenger would be prepared to pay more for better accommodation?

A.—I don't think he would. They would rather pay less for worse.

21. *Q.*—Is it not a fact that very well-to-do native merchants are satisfied with the usual deck accommodation?

A.—It is.

22. *Q.*—What class of people travel as deck passengers in the United Kingdom on vessels which frequently carry their full complement?

A.—In three trips that I have made out of London, they were mostly tourists doing cheap trips. In a trip from London to Dundee, there were some graziers and cattle-dealers.

23. *Q.*—Have you any special suggestions to make in regard to voyages similar to those classed as excursions by the Board of Trade, that is, voyages during which a vessel is not more than 10 or 12 hours at sea?

A.—No.

24. *Q.*—How is the number of passengers which a vessel is capable of carrying calculated in each case?

A.—Measure the gross area of the deck, omitting alleyways and spaces in alleyways (for ash shoots, &c.), spaces between masts and winches, winches and hatchways, and any other similar spaces which may be in a vessel according to her deck plan. Then measure all deductions, such as hatchways, wind-sails and mast, winches, sheep-pens, fowl-coops, latrines, galleys, &c., &c.,&c. Subtract these deductions from gross area and divide by 9 or 6 according to the season; off an upper deck also has to come 4 feet for each 'tween deck passenger and the 72 square feet for the temporary hospital.

25. *Q.*—Is allowance made in Board of Trade Rules for height of 'tween decks; in fact, do not Board of Trade Surveyors, when berths are not fitted for 3rd class passengers, calculate the number that may be carried, on the basis of a cubic measurement of 72 cubic feet per statute adult, after deducting all hatches and encumbrances?

A.—It appears so by the Board of Trade Rules.

26. *Q.*—If so, would you consider it proper to allow for height of 'tween deck as an element in the health and comfort of 3rd class native passengers?

A.—Yes. It is allowed for now by implication to a certain extent; as in fair weather the Act states each passenger must have 36 cubic feet and 54 cubic feet in foul weather. This, with the deck measurements of 6 square feet and 9 square feet, implies that a 'tween deck height of 6 feet is required.

27. *Q.*—Do you know the height of the 'tween decks in the B. I. steamers?

A.—Generally I do.

28. *Q.*—What is the maximum height 'tween deck in these steamers carrying native passengers? What is the average height?

A.—Not under 8 feet; about 7 feet 3 inches.

29. *Q.*—Are you aware that there was an old rule in India which allowed ships to carry three passengers for 2 tons?

A.—No.

30. *Q.*—Is the Board of Trade Rule, under which the number of passengers carried must not, whatever the deck measurements may give, exceed the number denoting the gross tonnage of the vessel, enforced in India?

A.—Not enforced that I am aware of.

31. *Q.*—What would be the effect if, assuming all other existing Indian rules to remain intact, this rule were enforced?

A.—Many steamers that have really good extra accommodation would be unable to carry passengers to utilize that space.

32. *Q.*—What spaces are left unmeasured for passengers when a vessel is being measured for certificate A?

A.—Alleyways, ash shoot spaces, 'tween masts and winches, winches and hatchways, gangways into forecastle one each side of windlass and many others according to the deck plan of the vessel.

33. *Q.*—How are the hatches treated when a vessel is being so measured, *i.e.*, is the whole space of a hatch deducted or not? Is any difference made on account of long and short voyages?

A.—Many of the large steamers have very large hatches in No. 2 and 3 holds, much larger than are ever required for the ordinary cargo work, and when these have an iron thwartship beam bolted to the coamings half way across the hatch, I count the half which is never used as deck space.

34. *Q.*—Are the spaces which would be required for the deck water-tank, latrines, and cooking ranges, necessary for use of native passengers, deducted for the passengers' space, even if such articles are not in position at the time a vessel is being measured.

A.—Yes, always. Even if not in position they still take up space.

35. *Q.*—Are any spaces deducted so as to admit of the officers and crew moving fore and aft the vessel with facility and their getting with ease at the boats and boats' gear. If not, have you any recommendations to make on this head?

A.—No; I don't think there is ever much chance of not being able to get the boats *out* if they are easily got *at*, and to enable them to be quickly reached, all that is required is to have fore and aft bridges connecting the forecastle, bridge and poop. This will enable the officers and crew to reach all parts of the ship with ease without going amongst the passengers. Some of the vessels are fitted with these bridges aft, but they should be forward as well.

36. *Q.*—Should alleyways, used as a means of communication by the crew, be considered as deck area for passengers, *i.e.*, the narrow passages between the officers' cabins and the engine-room

casing? If so, would it not be advisable to give a minimum breadth before allowing the area to count for passengers?

A.—I never measure in these spaces, as I do not consider them as deck area; my reason for this being that all the doors in them open outwards, apart from the fact of their being the only means of communication for the crew between the fore and aft parts of the vessel.

37. *Q.* (*By the President*).—In a steamer which can carry over 600 passengers in the after 'tween decks, should not the upper deck alleyways be kept clear to allow the passengers to go to and from the latrines and cook-houses when there is no other way of getting to these places?

A.—Yes.

38. *Q.*—Are not these alleyways additional shelter and therefore desirable for passengers?

A.—True; but I am of opinion that they should be kept as additional shelter only and not measured in. They would then serve for shelter, in the event of there being any water dripping through the awnings or coming on deck through mast holes, &c., to those passengers whose area was so made uncomfortable through wet.

39. *Q.*—For ships with large water-ways in the 'tween decks extending inside the battens on the ship's side, is the deck measurement made to the inside edge of the water-ways or to the battens? Which would your recommend?

A.—To the inside edge of the water-ways, unless they are covered in with gratings, then to the battens.

40. *Q.*—Should the spaces set apart for the boats, on the deck of the bridge be utilized for passengers when the boats are carried at the davits? If so, state whether during both fair and foul season or only during the fair season?

A.—I see no objection whatever during the fair weather, and if there is a railing round as if the boats are wanted, there is nothing required to be done on deck except to lower away, and for this room only is required for one man and the boat's fall at each davit, a space which can be obtained at any time and under any circumstances.

41. *Q.*—In your opinion, are the provisions of the Native Passenger Ships Act, and the rules made under it, in regard to the accommodation to be provided for native passengers on long voyages and short voyages, suitable?

A.—Yes. The native passengers are better off on board these vessels than they are ashore in the dens and filthy chawls they live in, and they have as much room on board as inside these chawls, which are divided up into rooms the size of an officer's cabin, in each of which a whole family will live amongst the accumulated filth of years and a stench indescribable.

42. *Q.*—Do you think that a passenger on a voyage lasting 10 or 12 hours requires as much room as one on a voyage lasting five days?

A.—No.

43. *Q.*—Do you think that native passengers can do with less space than Europeans?

A.—Yes.

44. *Q.*—What proportion do you consider that the space allotted to natives should bear to the space allotted to Europeans?

A.—About a third less.

45. *Q.*—Assuming that this proportion is adopted, would it, in your opinion, affect the health, comfort, and safety of native passengers in any way?

A.—No.

46. *Q.*—Do you consider that on a voyage, which may extend to five days, native passengers can be accommodated in the 'tween decks of a steamer at the rate of one passenger to each 6 square feet of area, with 4 square feet of airing space on the upper deck, without prejudicing their health and safety?

A.—Yes; judging by the death reports we have received here.

47. *Q.* (*By Captain Street*).—Have you ever seen a vessel with the whole number of passengers on board that she is allowed to carry under certificate A at 6 square feet per adult?

A.—No; I have seen one under the 5-feet rule.

48. *Q.* (*By Captain Street*).—With 5 square feet per adult, had the whole number of passengers sufficient space to lie down in on the *'tween deck?* Did you see the passengers on the 'tween deck itself?

A.—Half of them on the upper deck.

49. *Q.* (*By Captain Street*).—Have you ever seen the full number of passengers actually located on the *'tween deck* in a vessel working under the 5-feet rule?

A.—No, never.

50. *Q.* (*By Captain Atkinson*).—In case of bad weather would not the whole number under the 5-feet rule find shelter on the lower deck?

A.—I think so, until bad weather is over. Moreover there is actually more than 5 feet available, as the hatches which would be on would be available.

51. *Q.* (*By Captain Street*).—Could the full number remain on the 'tween deck for the full period of a short voyage without suffering from the effects of overcrowding?

A.—No; I do not think they could.

52. *Q* (*By Captain Atkinson*).—Does not the five-feet rule provide that the whole upper deck is available in addition to the 'tween deck?

A.—Yes.

53. *Q.* (*By Dr. Comins*).—For how long do you think natives could be kept in the 'tween decks at 5 feet per man without injury to their health?

A.—I have never seen it tried.

54 *Q.* (*By Captain Wilson*).—In your knowledge does it often occur that vessels carry either in fair or foul seasons the full number of passengers they are entitled to?

A.—I have only known one such case in 3½ years.

55. *Q.*—Do you think it necessary for the health and safety of the passengers, there should be on a voyage, which may extend to five days, permanent shelter for each passenger either 'tween decks or in cabins on the upper deck?

A.—No; not if there are good overhead awnings and side screens.

56. *Q.* (*By Dr. Comins*).—Do you think that in storms, such as may occur at any time of the year, there should be a temporary place of shelter for upper deck passengers?

A.—There is; the saloon and 2nd class cabins. I remember three instances where all the passengers that could not get below with comfort were put into the saloon, spare 2nd class cabins and mess-room, once in the *Ethiopia*, once in the *Busheer* and once in the *Goa*.

57. *Q.* (*By Dr. Comins*).—Were these instances in the fair season or the foul season?

A.—I cannot remember this. It was during boisterous weather.

58. *Q.*—Do you think that on a voyage which may extend to five days there should be separate accommodation for female passengers?

A.—No; I don't think they would avail themselves of it if separated from their male relatives.

59. *Q.* (*By Captain Street*).—Have you ever obtained an opinion from any Mahomedan on this subject?

A.—No; but I have noticed that where there are women of different families in a 2nd class cabin that all the men of each family make themselves at home, and if this is done there might as well be no separate accommodation.

60. *Q.* (*By Captain Street*).—Do not Mahomedans desire to have their females when travelling with them secluded from the public view on boardship as well as on shore?

A.—Only the better classes round the Indian coast. The Arabs and Persians up the Gulf are the more particular, and I have only known them to express any wish for privacy.

61. *Q.*—Do you know of any steamers which carry native passengers on two upper decks?

A.—Yes; many such.

62. *Q.*—Do you consider from the wording of the Native Passenger Ships Act and your experience of this question that the Legislature, when it passed the Act, contemplated the existence of vessels with more than one upper deck?

A.—I don't think it was contemplated, nor at the same time do I think any particular class was; as even before 1875 there were three distinct classes of vessels in the B. I. Company alone, and the Act does not particularize in any way. As a matter of fact, before the Act came into force some two or three years ago the *Calcutta* and *Coconada* were running with half-shade decks and other vessels were altered similarly.

63. *Q.*—Are you acquainted with the design of the steamers of the *Kistna* class?

A.—Yes.

64. *Q.*—What is the distinguishing feature of these steamers?

A.—They have a shade-deck extending fore and aft over their main deck, instead of the usual awnings. This deck can be closed in with shutters when necessary for the comfort of passengers.

65. *Q.*—In your opinion, are the middle passenger decks of these steamers 'tween decks or upper decks, within the meaning and intention of the Native Passenger Ships Act? Give your reasons for this opinion?

A.—Upper decks. I do not see how a deck which is open on both sides, just as much as if awnings only were spread, can be called a 'tween deck. The substitution of a wooden deck or roof for the awnings cannot alter the character of the deck. Take the *Sirdhana* class of vessels as an example: their main deck is the upper deck and above this and level with the bridge fok'sle and poop are the awnings spread fore and aft over this main deck. Now instead of these awnings, connect the bridge with fok'sle and poop by a wooden deck and she is turned into a shade-deck vessel, with a main deck as before just as open as when awnings are spread and far more comfortable.

66. *Q.*—Are the passengers on these middle decks as well protected in rough weather as the passengers on the lowermost of the three passenger decks?

A.—Yes; except in very extraordinary bad weather, in which case they would be neither better nor worse off than in any other vessel, as in no class is the protection so good as on the lowest deck; under all ordinary circumstances, passengers on the middle deck are better off than those below them, as having more light and air.

67. *Q.*—Are these passengers on the middle deck not better protected than on ordinary upper decks?

A.—Yes; a deck above is better than an awning.

68. *Q.*—During the inclement weather do you consider that the upper deck passengers are sufficiently protected by canvas awnings? If not, what would you recommend.

A.—Yes; if the awnings are tented, as is always done over the passengers.

69. *Q.* (*By Captain Street*).—But have upper deck passengers during inclement weather any dry place to sit or sleep on?

A.—Yes; if the side curtains are brought well down, the whole of the deck should not be wet.

70. *Q.* (*By Dr. Comins*).—Would you measure for passengers the forepart of this deck in the foul season?

A.—Not what would constitute the forecastle in another class of vessels.

71. *Q.*—Do you consider that sufficient protection from the sea is afforded to upper deck passengers by the "reasonably stout screen" which, under existing rules, (*see* Government of India, letter No. 430, dated 27th August 1878), is held as coming within the definition of a substantial bulwark? If not, state what you would recommend in lieu.

A.—It is sufficient protection against rain under ordinary circumstances up to the time it is necessary to tent the awnings when they would not be required any more. They are not much of a protection against the sea, which might come in underneath them. To obviate this, I would suggest a canvas cloth laced to the middle rail and also to a jackslay on the covering board outside. This cloth to extend fore and aft. This would make a good practical bulwark and is easily removed or fitted as may be required. The lower end of the curtains should be secured outside of this cloth.

72. *Q.* (*By Captain Street*).—When is the passenger traffic between Rangoon and Madras ports at its height and *vice versâ*.

A.—The greatest number appear to me to arrive here before the rice season or between December and May, and to leave after the end of August.

73. *Q.*—What is the height of the middle deck above the load line?

A.—By Lloyds' register { 1′ 9″ in summer. / 1′ 11½″ in winter.

I have not seen her register or articles, so do not know what her freeboard is by Board of Trade Rules?

74. *Q.* (*By Captain Atkinson*).—If the *'tween deck* was given up entirely to passengers, would the vessel be deeply laden with the ordinary cargo carried on the passenger lines?

A.—No; certainly not.

75. *Q.*—In rough weather would any water get on to the middle deck through the scuppers and shutters? If so, could this be prevented?

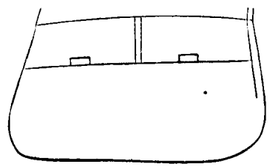
A.—Nothing to speak of through the shutters if they are fitted properly, and if it did, it would only fall into the guller ways. The scuppers can be plugged from inside. I have had considerable experience of these vessels extending over two years as Chief Officer of the *Pachumba* and *Akola* and junior officer in the *Vingurla* running between Bombay and Kurrachee during the south-west monsoon.

76. *Q.*—Under existing rules are the arrangements to prevent injury to passengers by the rolling of the ship sufficient for the purpose?

A.—Yes; I think that spars secured fore and aft to the midship stanchions and to those round the hatchways fairly well. The Board of Trade have not any rules to prevent passengers rolling about, so there is nothing to refer to. I think, however, that in addition to the spars amidships stout battens should be laid down fore and aft on each side, midway between the side of the ship and the midship stanchions. This would prevent the baggage shifting about, and would afford a support to passengers by enabling them to lean against the baggage without fear of its fetching away. The battens would not be in the way of cargo if no passengers, or if they were, could easily be removed as they would be fixed with screws only.

77. *Q.*—How could you provide this protection?

A.—Thus:



78. *Q.*—Are any special fittings required under the Native Passenger Ships Act on the passenger decks for the reception of the bundles, boxes and other articles usually carried by native passengers? If so, state what you would recommend.

A.—No. Native passengers do not like to be parted from their baggage. Most of them carry their food for the voyage in their baggage. If they have baskets, they might be made to put their food in them and the box put below. All big boxes should be put below if possible, to do so, even if a little pressure is brought to bear on the owners.

79. *Q.*—Is it necessary for the comfort or safety of the passengers that provision should be made for the accommodation of luggage not stored in the hold?

A.—I think it is for their safety, and for this reason it should only be big boxes put below, or if bad weather is expected and if the family supply of food is not in them and they have nowhere else to keep it.

80. *Q.*—If it is necessary, what would you provide?

A.—The battens suggested in No. 76, and only put below boxes not actually required for the voyage.

81. *Q.*—If such accommodation were provided, would it be used? Will native passengers allow their luggage to be parted from them under any circumstances?

A.—The battens would be used perforce. They like to keep their luggage with them. It contains their food and their savings.

82. *Q.*—Do you think that, on a voyage which may extend to five days, sleeping platforms should be provided for the passengers?

A.—No.

83. *Q.* (*By Dr. Comins*).—Will you state your objections to sleeping platforms?

A.—I think they would take up space unless they were high enough for people to move about under. They would also be in the way of cargo if the deck was ever used for it.

84. *Q.*—What closet accommodation do the rules require on native passenger vessels?

A.—Two for the first hundred and one more for each extra hundred or part of a hundred.

85. *Q.*—What accommodation of the kind is provided for emigrants?

A.—I do not know.

86 *Q.*—And what accommodation do the Board of Trade Rules require?

A.—Three for every two hundred. In no case must there be less than two, nor need there ever be more than six.

87. *Q.*—Which scale do you consider the most suitable?

A.—That under the Native Passenger Act. It gives more accommodation.

88. *Q.*—Do you think the existing rules in regard to hospital accommodation are suitable?

A.—Yes, I have never yet known of a case where such accommodation was fully required.

89. *Q.*—Do you consider that cargo, horses, cattle, sheep, and live-stock should be carried on the same deck with passengers? If so, is any fitting necessary to prevent the passengers from being inconvenienced by the urine and dung of the horses, cattle, and sheep, and, if any such fitting is requisite, state what you would recommend?

A.—No objection to it amongst native passengers. They live at home, under or inside what cover they have, mixed up with fowls, goats, dogs and cattle. They do not mind it a bit. I have been inside many of these cultivators' huts and it is always as I have just stated. But I consider that the live-stock should be so carried as to be clear of the passengers, and this could easily be done by not allowing them to be carried elsewhere than on the after side of the fore deck against the fore side of the bridge, with their heads in board. No urine could then come amongst the passengers.

90. *Q.* (*By Captain Street*).—In ships working under the 5-feet rule, should any portion of the upper deck be made available for cattle or horses if the whole number of *'tween deck* passengers are not on board?

A.—A part of the deck space might be retained in proportion to the number of passengers short.

91. *Q.* (*By Captain Street*).—How would you calculate the space to be given up to cattle, horses, and sheep? Should it not be laid down by the Government how the space is to be calculated?

A.—When they are carried under the 5-feet rule it is foul weather, and I think in view of the fact that there is very little space on the *upper deck* for passengers, it would be reasonable to take off six passengers for every horse carried.

92. *Q.*—In vessels which, under existing rules, are permitted to carry horses, cattle, and sheep with native passengers, are sufficient precautions adopted to prevent the hay and straw, provided for the use of such animals, from catching fire either from a spark from the ship's funnel or lighted matches? If not, state what extra precautions you would recommend?

A.—If the hay is kept below, and only sufficient kept in front of them for their occasional needs, there is no danger.

93. *Q.* (*By Dr. Comins*).—Are there any vessels from this port which, if they were to carry their full number of passengers on the *'tween decks* at 6 feet, would not have sufficient room on their upper decks to allow of 4 feet airing space? If so, how many?

A.—I do not know of any.

94. *Q.* (*By the President*).—Have you any idea why the 5-feet rule was introduced?

A.—I suppose it was so as to provide shelter for every one below.

95. *Q.* (*By the President*).—Then it is now left to the ship-owners to select this measurement or not at their own convenience, and not for the shelter of the passengers?

A.—It is optional for them to work under either class of certificates under the orders of the Government of Innia.

96. *Q.* (*By Captain Street*).—Would you have the hay stowed below even if in loose bundles?

A.—Yes; I see no objection.

97. *Q.*—Will you explain to the Commission what rules are in force in India on the subject of life-saving appliances?

A.—Under the Native Passenger Act, boat accommodation similar to that under the Passsngers Act, 1855, and not less than four life buoys with signals of distress and inextinguishable lights fitted to each.

98. *Q.*—Do the new regulations of the Board of Trade made under the Merchant Shipping (Life-saving Appliances) Act, 1888, apply to India?

A.—No.

99. *Q.*—What, in your opinion, is the object of these revised regulations?

A.—To provide for more passengers being saved in case of accident.

100. *Q.*—Do the revised regulations require more appliances than were necessary under the old rules, and why was the change found necessary?

A.—Yes.

101. *Q.*—Are the revised regulations suitable, in your opinion, for vessels engaged in the native passenger trade?

A.—With the exception of the life-belt for each passenger, there would be great difficulty with these articles amongst the natives and might, if not properly put on, be a source of danger, though I don't think they would put them on at all.

102. *Q.*—In your opinion, is there no difference of conditions which would justify a difference in the regulations on this subject?

A.—Yes, the conditions are all different. Natives would not use the life-belts as they are meant to be used. Not one in a hundred would be able to put one on right (easy as it is) in an emergency, even if they were self-possessed enough to do so.

103. *Q.*—Do you think that the natives of India require as much space in boats as Europeans?

A.—They are smaller and lighter, but I would not recommend decreasing the boat space allowed to each man.

104. *Q.*—Would you adopt the Board of Trade Regulations in regard to life-buoys and life-belts?

A.—For life-buoys, yes. Life-belts, no; for reasons given in questions 99-100.

105. *Q.*—In your experience, do the Surveyors at all ports in India make their surveys on the same lines?

A.—Practically, yes; though for want of a uniform method and a dissimilarity between the form of certificates it is hard sometimes to find out what the different areas are.

106. *Q.*—Do you think it necessary that there should be a set of definite instructions as to the survey of passenger accommodation and crew space similar, so far as may be, to those issued by the Board of Trade?

A.—Yes, with the form in use also.

107. *Q.*—Do you think the existing regulations, in regard to the lighting and ventilation of the passenger accommodation, suitable?

A.—Yes.

108. *Q.* (*By Sir Henry Morland*).—Is there any rule under the Native Passenger Ships Act as to the amount of lighting and ventilation to be provided for any special number of people or for any one compartment? What amount would you fix? or how would you specify what particular ventilation you think necessary? On what basis would you fix the ventilation?

A.—No rules that I know of. If a vessel is provided with side scuttles along her *'tween* decks and has two ordinary windsails to each compartment along with the open hatches, I think, this would be sufficient.

109. *Q.* (*By the President*).—Do you think that the ventilation which is sufficient for the English seas sufficient for the tropics?

A.—No.

110 *Q.* (*By the President*).—Do you think that the air required for breathing by a passenger on a five-day voyage should be less than that which is considered necessary for a passenger on a long voyage?

A.—No; I think that ventilation should be the same for all. This ventilation to be provided would reduce the *'tween* deck passenger space.

111. *Q.* (*By Captain Street*).—What are the regulations in regard to lighting,—I mean the lighting of the decks at night?

A.—There are none.

112. *Q.*—Would you make the regulations in regard to the equipments of vessels similar in all respects to those of the Board of Trade?

A.—Not in all respects—some of the rules and portions of others are not applicable in India, 12, 14, 18, 24, for instance.

113. *Q.*—After a vessel has been measured for certificate A, is the Captain supplied with the Surveyor's calculations? If not, do you think it necessary that he should be?

A.—Not that I am aware of. Yes.

114. *Q*—Would it not be advantageous if a copy of all measurements and calculations of passengers' space, as determined on the original measurement, were supplied to the Commander of the vessel?

A.—Yes.

115. *Q*—If so, would you recommend that the calculations should show clearly the names of the various obstructions which have been deducted from the gross area, their dimensions and the proportional area deducted?

A.—Yes.

116. *Q.*—Do you consider that passengers carried in vessels working under clause (*a*) of Government of India Notification No. 1356, dated 14th March 1889, have sufficient space? If not, state what space would suffice.

A.—Yes, as they have the whole of the upper deck kept clear for them.

117. *Q.* (*By Captain Street*).—Under the 5-feet rule what space has each passenger on the upper deck, *i.e.*, has he as much as 4 square feet?

A.—Not on a great many vessels. I will furnish some examples in a day or two.

118. *Q.*—In the case of voyages the duration of which does not exceed five days, what distinction is made between seasons of fair and foul weather?

A.—Passengers get 6 feet instead of 9 feet.

119. *Q.*—Do you consider a double awning head with side curtains and bulwark screens, as required by the Native Passenger Act, equal to the ordinary tent in which troops are accommodated?

A.—Yes, and better, as there is no sodden wet ground underneath the passengers.

120. *Q.*—Do you know that 6 superficial feet on the upper deck under double awnings and curtains is considered sufficient accommodation for native troops making voyages under five days' duration?

A.—I only know that native troops are constantly going backwards and forwards between here and Madras under the same conditions as the coolies.

121. *Q.*—Being acquainted with the class of natives who form the bulk of those who travel by sea, do you consider they require better accommodation for their health and comfort than native troops?

A.—No; I don't see why they should.

122. *Q.*—Will you furnish the Commission with your opinion as to the sufficiency or otherwise of the space allowed by the Act and Rules generally?

A.—I think the spaces allowed under the Act are ample for natives. They are used all their lives to being crowded. Even if a native builds a house in the middle of a jungle where he is not cramped for house room, he will always contrive to build it so that there is barely lying-down room for his family and standing room for the live-stock that live in the house with him. A native seems to have no appreciation of room. The *Sirsa* left on the 31st December last with only a very few passengers, and although all the 'tween decks were opened to them, they all crowded into one compartment only and were about as close as possible. Of course more space would be better, so would a great many other things; but it would not make the native more comfortable. If he was, he would not know it, and if 12 feet were given them, they would all crowd up together just the same.

123. *Q.* (*By the President*).—Have you ever tried the experiment of putting native passengers with their baggage into a measured space allowing 6 feet for each passenger?

A.—I have never seen the experiment tried.

124. *Q.*—Do you consider that native passenger ships should carry a Medical Officer? If this was made compulsory, would you make any difference for the numbers carried or for the duration of the voyage?

A.—Of course it would be better; but here again I don't think it would be worth troubling about, so little would be the gain. In all outlying districts, there is no medical attendance to be got, nor does Government provide many of its own stations with such. And the death-rate is so small in vessels arriving here,—about 1 in 3,000 or on an average 1 in every six ships, that it appears to me hardly worth while to compel six vessels to carry Medical Officers for the chance of a man's dying in one, and this one the doctor might not be able to save.

125. *Q.*—Give any instances which have come to your knowledge, in which a Medical Officer would have been of service on board a native passsenger vessel?

A.—I do not remember any deaths at all in any native passenger vessel I have ever been in.

Proceedings of the Twenty-First Meeting of the Native Passenger Ships Commission, held at Rangoon on the 8th January 1891, at 11-30 a.m.

Present:

Surgeon-Major A. S. Lethbridge, C.S.I.	*President.*
Captain Sir Henry Morland, Kt., H.M.I.M.	*Members.*
„ H. A. Street, H.M.I.M.	
„ George Wilson, H.M.I.M.	
Surgeon-Major D. W. D. Comins, I.M.S.	
Captain J. H. Atkinson, B.I.S.N.Co.'s Service	

1. Mr. Walter W. G. Beatson, a partner in Messrs. Bullock Brothers & Co., of Rangoon, was called and examined.

2. Mr. Beatson's examination having been completed, Mr. Thomas Maclurcan, Assistant Port Officer, was called and examined.

3. Mr. Maclurcan's examination having been completed, the proceedings of the twentieth meeting were read and approved.

4. Mr. Maclurcan promised to supply the Commission with witnesses in which passengers travelling under the 5-feet rule had less than 4 feet of space for adults on the upper deck. Captain Wilson stated that he would supply the Commission with the correspondence relating to the introduction of the 5-feet rule.

5. The commission adjourned until the 9th instant.

Mr. WALTER W. G. BEATSON.

1. *Q.*—Will you please inform the Commission of the nature of your present occupation?

A.—Partner in Bullock Brothers & Company, Rice Millers and Shippers, and Agents of the British India Steam Navigation Company, Limited.

2. *Q.*—What qualifications or experience do you possess in regard to the subjects under enquiry?

A.—Have been in charge of the British India Steam Navigation Company's Agency for the past year.

3. *Q.* (*By Dr. Comins*).—How long have Messrs. Bullock Brothers been Agents for the British India Steam Navigation Company?

A.—I believe ever since the British India Company commenced running steamers to and from Burma.

4. *Q.*—Do you take any part, either directly

or indirectly, in the administration or observance of any of the provisions of the "Native Passenger Ships Act, 1887"?

A.—Indirectly.

5. *Q.*—In regard to what voyages is there a distinction made between fair and foul seasons?

A.—Short voyages.

6. *Q.*—Do you consider that, if there is to be a line dividing short from long voyages, it should be drawn at five days?

A.—Such a limit seems reasonable.

7. *Q.* (*By Dr. Comins*).—Excluding the question of the time ordinarily taken by steamers on the voyage between Calcutta and Madras to Rangoon, what are the reasons which would induce you to fix the limit of a short voyage at five days?

A.—Caste restriction regarding the cooking of food would doubtless bear on the subject.

8. *Q.*—Are you of opinion that the seasons of fine weather defined in the rules are judiciously chosen with reference to the prevailing conditions?

A.—I think the fair and foul seasons should commence and end on the same respective dates throughout the Bay of Bengal.

9. *Q.* (*By Captain Atkinson*).—Would you consider the successful working of the five-day limit during the last 19 years an argument in its favour?

A.—Certainly.

10. *Q.*—In your opinion, do the conditions justify passengers being carried across the Bay at any season on decks, such as are commonly called hurricane-decks, which are not protected from the weather except by overhead awnings, assuming that no accommodation is reserved for these passengers on the lower decks, which are crowded with other passengers?

A.—Yes; if side curtains and bulwark screens be provided.

11. *Q.* (*By Captain Street*).—Have you ever travelled in a vessel with a hurricane-deck during inclement weather in the Bay of Bengal?

A.—Yes, between Akyab and Chittagong in the S. S. *Commilla*.

12. *Q.* (*By Dr. Comins*).—Do side curtains and screens keep out the wet from rain and sea?

A.—To a very great extent.

13. *Q.*—Are you acquainted with the ordinary conditions of native life amongst the class that form the bulk of the native passengers who travel by sea?

A.—Fairly so.

14. *Q.*—Are you aware that it is a common practice for natives of India to sleep at night in the open air?

A.—Yes.

15. *Q.*—Is it within your knowledge that 1st class passengers, travelling about the Bay of Bengal and coasts of India, as a rule, prefer to sleep on deck under the same conditions as to awnings and curtains as the 3rd class native passengers?

A.—Yes; it is very usual.

16. *Q.* (*By Dr. Comins*).—I presume only in the fine weather and when it is not raining or blowing heavily and only on a sky-light?

A.—The majority sleep on the deck itself, and probably fewer do so during inclement weather than in fine weather.

17. *Q.*—Have you had any personal experience of the weather round the coast of United Kingdom and in the Bay of Bengal and on the coast of India?

A.—Not as regards the coast of the United Kingdom. Have made several voyages in the Bay of Bengal between Calcutta and Burmah, direct and coasting, and two between Calcutta and Ceylon.

18. *Q.*—Do you consider that there is such similarity as to warrant a comparison between the weather experienced on the coast of United Kingdom or between the river Elbe and Brest (English Home Trade voyage) and that experienced in the Bay of Bengal and coasts of India?

A.—Certainly not; I don't consider they can be at all compared.

19. *Q.*—Do you consider the conditions of English and Indian passenger traffic to be similar in any other way than that the traffic under discussion is by sea?

A.—No.

20. *Q.* (*By Captain Street*).—Will you give your reasons for this opinion?

A.—Their general tendency is to live as cheaply as possible.

21. *Q.*—Do you think the ordinary native passenger would be prepared to pay more for better accommodation?

A.—No.

22. *Q.* (*By Captain Street*).—Will you give your reasons for this statement?

A.—Many of them travel in that manner.

23. *Q.* (*By Captain Street*).—Do not well to-do native merchants sometimes try to obtain accommodation on the top of the ship's hatches?

A.—Yes; occasionally.

24. *Q.* (*By Captain Street*).—Would you not then consider that they are not quite satisfied with the upper deck accommodation?

A.—Not necessarily.

25. *Q.* (*By Captain Atkinson*).—Is it not a fact that very well-to-do native merchants are satisfied with the usual deck accommodation?

A.—Yes.

26. *Q.*—How is the number of passengers which a vessel is capable of carrying calculated in each case?

A.—By taking the superficial area of passenger decks, deducting obstructions, and dividing balance by the superficial feet given to each passenger under the Act.

27. *Q.*—Do you know the height of the 'tween decks in the British India steamers?

A.—Believe they vary from 6½ to 9 feet.

28. *Q.*—Are you aware that there was an old rule in India which allowed ships to carry three passengers for 2 tons?

A.—No.

29. *Q.*—Is the Board of Trade Rule, under which the number of passengers carried must not, whatever the deck measurements may give, exceed the number denoting the gross tonnage of the vessel, enforced in India?

A.—Not to my knowledge.

30. *Q.*—Are the spaces which would be required for the deck, water-tank, latrines, and cooking ranges, necessary for use of native passengers, deducted for the passengers' space, even if such articles are not in position at the time a vessel is being measured.

A.—I presume they are.

31. *Q.* (*By the President*).—In a steamer which can carry over 600 passengers in the after 'tween decks, should not alleyways on the upper deck be kept clear to allow the passengers to go to and from the latrines and cook-houses when there is no other way of getting to these places?

A.—Possibly.

32. *Q.* (*By Dr. Comins*).—How would the officers and crew move fore and aft if the alleyways were occupied by passengers?

A.—I presume they would pass between some of the passengers.

33. *Q.* (*By Dr. Comins*).—Do you not think there should be an unobstructed passage for the officers and crew from one end of the deck to the other for the working of the vessel?

A.—I think they should have ready means of communication.

34. *Q.* (*By Sir Henry Morland*).—Would it be objectionable to have a proportion of latrines and cabooses fitted up abaft the bridge for the use of the passengers at the other end of the vessel?

A.—I should think not, if the ship be carrying native passengers only.

35. *Q.*—Are any spaces deducted so as to admit of the officers and crew moving fore and aft the vessel with facility and their getting with ease at the boats and boats' gear; if not, have you any recommendations to make on this head?

A.—I don't consider any particular space should be deducted for the purpose, as that ordinarily available when passengers are accommodated proves quite sufficient.

36. *Q.* (*By Captain Atkinson*).—If the suggestion of Sir Henry Morland was carried out, would it then be possible or proper to measure the upper deck alleyways for native passengers, as thereby the traffic of passengers through the alleyways would be very much reduced?

A.—I think so; certainly partially.

37. *Q.*—Are not these alleyways additional shelter and therefore desirable for passengers?

A.—Undoubtedly.

38. *Q.*—For ships with large water-ways in the 'tween decks extending inside the battens on the ship's side, is the deck measurement made to the inside edge of the water-ways or to the battens? Which would you recommend?

A.—I understand to the edge of the water-ways. The water-way space might be occupied if the water-way be covered over.

39. *Q.*—In your opinion are the provisions of the Native Passenger Ships Act, and the rules made under it, in regard to the accommodation to be provided for native passengers on long voyages and short voyages, suitable?

A.—About as much so as possible.

40. *Q.*—(*By Captain Street*).—Then during such voyages the provisions of the Act for short voyages are not suitable?

A.—I consider that the space at present allowed under the Act might be reduced in regard to voyages of 10 or 12 hours.

41. *Q.* (*By Dr. Comins*).—Have you had personal experience of a deck fully occupied by passengers and baggage at 6 feet per passenger?

A.—I cannot say I have.

42. *Q.*—Do you think that a passenger on a voyage lasting 10 or 12 hours requires as much room as one on a voyage lasting five days?

A.—No; too much is allowed for the shorter (10 or 12 hours) voyage.

43. *Q.*—Do you think that native passengers can do with less space than Europeans?

A.—Certainly.

44. *Q.*—(*By Captain Street*)—Have you ever travelled by a native passenger vessel which has had the whole number of native passengers on board that she is allowed by her certificate A for a short voyage?

A.—No. It is comparatively seldom that a vessel leaves this port with as full a complement of passengers on board as allowed under the Act.

45. *Q.* (*By Captain Street*).—On what grounds have you formed the opinion that 6 square feet of area with 4 square feet of airing space on the upper deck is sufficient for a native passenger?

A.—Because it has hitherto appeared to be sufficient and has not been productive of complaints.

46. *Q.* (*By Captain Atkinson*).—Has not your experience been principally with passengers under the 5 feet rules?

A.—Yes.

47. *Q.*—Do you consider that on a voyage, which may extend to five days, native passengers can be accommodated in the 'tween decks of a steamer at the rate of one passenger to each 6 square feet of area, with 4 square feet of airing space on the upper deck, without prejudicing their health and safety?

A.—Yes.

48. *Q.* (*By Dr. Comins*).—Do you think that in case of storms, such as may be encountered at all times of the year, there should be a place below where upper deck passengers may take refuge temporarily?

A.—It has not been considered necessary hitherto.

49. *Q.* (*By Captain Atkinson*).—Are you aware that the Board of Trade only require shelter for ⅙ of the upper deck passengers in the inclement weather experienced on the coast of United Kingdom?

A.—I am not acquainted with the Board of Trade Rules on the subject.

50. *Q.*—Do you think it necessary for the health and safety of the passengers, that there should be on a voyage, which may extend to five days, permanent shelter for each passenger either 'tween decks or in cabins on the upper deck?

A.—No.

51. *Q.* (*By Captain Street*).—Do not Mahomedans like to have their females secluded from the public view on boardship as well as on shore?

A.—I presume they do, and they can have it by paying for the necessary accommodation.

52. *Q.*—Do you think that on a voyage which may extend to five days there should be separate accommodation for female passengers?

A.—No; the majority of female passengers are escorted by relatives or friends.

53. *Q.*—Do you know of any steamers which carry native passengers on two upper decks?

A.—Yes.

54. *Q.* (*By Captain Atkinson*).—Are you aware that the British Indian Steam Navigation Company had six vessels answering to this description in 1875, and that all these vessels worked under the Act of 1876?

A.—I believe so.

55. *Q.*—Do you consider from the wording of the Native Passenger Ships Act and your experience of this question that the Legislature, when it passed the Act, contemplated the existence of vessels with more than one upper deck?

A.—Can't say.

56. *Q.*—Are you acquainted with the design of the steamers of the *Kistna* class?

A.—Tolerably.

57. *Q.*—What is the distinguishing feature of these steamers?

A.—One is that they have three passenger decks.

58. *Q.*—In your opinion are the middle passenger decks of these steamers between decks or upper decks within the meaning and intention of the Native Passenger Ships Act? Give your reasons for this opinion.

A.—I should call the middle deck the main deck, which is of course an *upper deck*, because its material and construction is more substantial

than an ordinary 'tween or lower deck, or either of the decks above and below it. It is the strongest deck in the ship.

59. *Q.*—Are the passengers on these middle decks as well protected in rough weather as the passengers on the lowermost of the three passenger decks?

A.—Very nearly so.

60. *Q.*—Are these passengers on the middle deck not better protected than on ordinary upper decks?

A.—Yes; but they are not charged extra for this.

61. *Q.*—During the inclement weather do you consider that the upper deck passengers are sufficiently protected by canvas awnings? If not, what would you recommend.

A.—Quite sufficiently, if side curtains and bulwark screens be provided.

62. *Q.*—Do you consider that sufficient protection from the sea is afforded to upper deck passengers by the "reasonably stout screen" which, under existing rules (*see* Government of India letter No 430, dated 27th August 1878), is held as coming within the definition of a substantial bulwark? If not, state what you would recommend in lieu.

A.—Yes.

63. *Q.*—In rough weather would any water get on to the upper deck through the scuppers and shutters? If so, could this be prevented?

A.—Perhaps a little, but so trifling that prevention is scarcely necessary.

64. *Q* (*By the President*).—You have heard of the loss of life on board the S.S. *Bhandara*. To what causes were these deaths attributed?

A.—I have heard casual reference made to the matter, but know no definite particulars.

65. *Q.*—Under existing rules are the arrangements to prevent injury to passengers by the rolling of the ship sufficient for the purpose?

A.—I believe they are.

66. *Q.*—Are any special fittings required under the Native Passenger Ships Act on the passenger decks for the reception of the bundles, boxes and other articles usually carried by native passengers? If so, state what you would recommend.

A.—Not to my knowledge.

67. *Q.*—Is it necessary for the comfort or safety of the passengers that provision should be made for the accommodation of luggage not stored in the hold?

A.—I don't think so.

68. *Q.*—If such accommodation were provided, would it be used? Will native passengers allow their luggage to be parted from them under any circumstances?

A.—Very doubtful. Native passengers are at all times averse to parting with their luggage.

69. *Q.* (*By Captain Street*).—Is it not the practice for native passengers, when returning from Rangoon to the Madras ports, to take with them large boxes?

A.—Some do.

70. *Q.*—Do you think that, on a voyage which may extend to five days, sleeping platforms should be provided for the passengers?

A—No.

71. *Q.* (*By Dr. Comins*).—Have you any experience of the use of sleeping platforms for native passengers?

A.—I have not seen any.

72. *Q.*—What closet accommodation do the rules require on native passenger vessels?

A.—Two privies for the first 100 passengers, and one for every additional 100 or part thereof.

73. *Q.*—Do you think the existing rules in regard to hospital accommodation are suitable?

A.—Yes.

74. *Q.*—Do the new regulations of the Board of Trade made under the Merchant Shipping (Life-saving Appliances) Act, 1888, apply to India?

A.—I believe they do not.

75. *Q.*—Do the revised regulations require more appliances than were necessary under the old rules, and why was the change found necessary?

A.—I believe they do. Don't know.

76. *Q.*—Are the revised regulations suitable, in your opinion, for vessels engaged in the native passenger trade?

A.—No.

77. *Q.* (*By the President*).—Are you aware that the Board of Trade rules are primarily based on the idea that every man has a right to have his life saved if possible?

A.—I am not acquainted with the Board of Trade rules.

78. *Q.* (*By the President*)—Can the Government of India do less than provide for the safety of every native passenger?

A.—Scarcely in some form.

79. *Q.*—Do you think that the natives of India require as much space in boats as Europeans?

A.—No.

80. *Q.*—Would you adopt the Board of Trade regulations, in regard to life-buoys and life-belts?

A.—No.

81. *Q.* (*By Captain Street*)—What would you adopt then?

A.—The regulations at present are considered sufficient.

82. *Q.*—Do you think it necessary that there should be a set of definite instructions as to the survey of passenger accommodation and crew space similar, so far as may be, to those issued by the Board of Trade?

A.—It seems desirable.

83. *Q.*—Do you think the existing regulations in regard to the lighting and ventilation of the passenger accommodation suitable?

A.—Yes.

84. *Q.* (*By the President*).—Would you make no difference in regard to the ventilation required for vessels in the tropics and that required for a colder climate?

A.—I presume some difference should be allowed.

85. *Q.*—After a vessel has been measured for certificate A, is the Captain supplied with the Surveyor's calculations. If not, do you think it necessary that he should be?

A.—I believe not; but either he or the Agents should be furnished with such data.

86. *Q.*—Would it not be advantageous if a copy of all measurements and calculations of passengers' space, as determined on the original measurement, was supplied to the Commander of the vessel?

A.—Yes.

87. *Q.*—If so, would you recommend that the calculations should show clearly the names of the various obstructions which have been deducted from the gross area, their dimensions and the proportional area deducted?

A.—Yes.

88. *Q.*—In the case of voyages, the duration of which does not exceed five days, what distinction is made between seasons of fair and foul weather?

A.—The mode in which their passenger accommodation is calculated.

89. *Q.*—Do you consider a double awning overhead with side curtains and bulwark screens, as

required by the Native Passenger Act, equal to the ordinary tent in which troops are accommodated.

A.—Fully so.

90. *Q.*—Do you know that 6 superficial feet on the upper deck under double awnings and curtains is considered sufficient accommodation for native troops making voyages under five days' duration?

A.—I believe so.

91. *Q.*—Being acquainted with the class of natives who form the bulk of those who travel by sea, do you consider they require better accommodation for their health and comfort than native troops?

A.—No.

92. *Q.*—Will you furnish the Commission with your opinion as to the sufficiency or otherwise of the space allowed by the Act and Rules generally?

A.—So far as my experience goes, I believe the Act in its present form sufficiently meets all requirements and would not be improved by the introduction of any radical changes.

93. *Q.* (*By the President*).—Have you ever tried the experiment of putting native passengers with their ordinary baggage into a space which has been previously measured off at the rate of 6 superficial feet per adult?

A.—No.

94. *Q.*—Do you consider that native passenger ships should carry a medical officer? If this were made compulsory, would you make any difference for the numbers carried or for the duration of the voyage?

A.—I do not consider a medical officer necessary.

Proceedings of the Twenty-second Meeting of the Native Passenger Ships Commission held at Rangoon on the 9th January 1891.

Present:

SURGEON-MAJOR A. S. LETHBRIDGE, C.S.I.	*President.*
CAPTAIN SIR HENRY MORLAND, H.M.I.M.	*Members.*
„ H. A. STREET, H.M.I.M.	
„ GEORGE WILSON, H.M.I.M.	
SURGEON-MAJOR D. W. D. COMINS, I.M.S.	
CAPTAIN J. H. ATKINSON, B. I. S. N. Co.'s Service	

1. The Members of the Commission, with the exception of Captain Wilson, who was too unwell to attend, visited the B. I. S. N. Co.'s Steamer *Rasmara* at 8 A. M., and inspected the passenger space on that vessel. The Commission afterwards went on board the I. M. S. *Dalhousie* for the purpose of looking at the life-saving appliances on board that vessel, and then adjourned until 11-30 A. M. A memorandum prepared by the President of the morning's proceedings will be put on the records of the Commission.

2. At 11-30 A. M. the Commission re-assembled and proceeded to take evidence offered, respectively, by Mr. Orme, an Assistant in Messrs. Bullock Bros. & Co., Mr. Madavrao Pillay, a Native Merchant and ships agent, and Mr. D. Eagleson, a Marine Surveyor, residing at Rangoon.

3. On the completion of Mr. Eagleson's examination, the Commission adjourned until 11-30 A. M. on Monday the 12th instant.

MR. A. A. ORME.

1. *Q.*—Will you please inform the Commission of the nature of your present occupation?

A.—Assistant in firm of Messrs. Bullock Bros. & Co.

2. *Q.*—What qualifications or experience do you possess in regard to the subjects under enquiry?

A.—I have been for eight years in the B. I. S. N. Coy. Agency Department of the firm.

3. *Q.*—Do you take any part, either directly or indirectly, in the administration or observance of any of the provisions of the "Native Passengers Ships Act, 1887"?

A.—This Act having to be observed in the booking of native passengers, I have some acquaintance with it.

4. *Q.*—In regard to what voyages is there a distinction made between fair and foul seasons?

A.—Short voyages.

5. *Q.*—Do you consider that, if there is to be a line dividing short from long voyages, it should be drawn at five days?

A.—Five days has proved suitable.

6. *Q.*—If not, what alterations would you suggest?

A.—Would suggest that the seasons of foul and fair weather should commence and terminate on same dates on the Coromandel and Burma coasts.

7. *Q.*—(*By Sir Henry Morland*).—What leads you to conclude that five days is suitable for a short voyage?

A.—It being the established custom.

8. *Q.*—(*By Captain Street*).—Have you formed this opinion from personal experience while on boardship?

A.—No.

9. *Q.*—In your opinion, do the conditions

justify passengers being carried across the Bay at any season on decks, such as are commonly called hurricane-decks, which are not protected from the weather except by over head awnings, assuming that no accommodation is reserved for these passengers on the lower decks, which are crowded with other passengers?

A.—Yes.

10. *Q.*—Are you acquainted with the ordinary conditions of native life amongst the class that form the bulk of the native passengers who travel by sea?

A.—I am, to some extent.

11. *Q.*—Are you aware that it is a common practice for natives of India to sleep at night in the open air?

A.—I am.

12. *Q.*—Is it within your knowledge that 1st class passengers, travelling about the Bay of Bengal and coasts of India, as a rule, prefer to sleep on deck under the same conditions as to awnings and curtains as the 3rd class native passengers?

A.—My experience is that they do prefer to sleep on deck.

13. *Q.*—Have you had any personal experience of the weather round the coast of United Kingdom, and in the Bay of Bengal, and on the coast of India?

A.—I have travelled along the Coromandel and Burma Coasts and also those of United Kingdom.

14. *Q.*—Do you consider that there is such similarity as to warrant a comparison between the weather experienced on the coast of United Kingdom or between the river Elbe and Brest (English Home Trade voyage) and that experienced in the Bay of Bengal and coasts of India?

A.—No.

15. *Q.*—Do you think the ordinary native passenger would be prepared to pay more for better accommodation?

A.—He would not.

16. *Q.*—Is it not a fact that very well-to-do native merchants are satisfied with the usual deck accommodation?

A.—I have known many so satisfied.

17. *Q.*—How is the number of passengers which a vessel is capable of carrying calculated in each case?

A.—By measuring unoccupied superficial area of decks, and dividing by the number of feet allowed under the Act to each passenger.

18. *Q.*—If so, would you consider it proper to allow for height of 'tween deck as an element in the health and comfort of 3rd class native passengers?

A.—I understand it is already allowed for.

19. *Q.*—Do you know the height of the 'tween decks in the B. I. steamers?

A.—Six to nine feet.

20. *Q.*—What is the maximum height between deck in these steamers carrying native passengers? What is the average height?

A.—Uncertain; think 8 feet average.

21. *Q.*—How are the hatches treated when a vessel is being so measured, *i.e.*, is the whole space of a hatch deducted or not? Is any difference made on account of long and short voyages?

A.—I understand the whole hatch is at times deducted; some times only part, as appears necessary in the opinion of Surveyor.

22. *Q.*—Are the spaces which would be required for the deck water-tank, latrines, and cooking ranges necessary for use of native passengers deducted for the passengers' space, even if such articles are not in position at the time a vessel is being measured.

A.—I presume so.

23. *Q.*—Are any spaces deducted so as to admit of the officers and crew moving fore and aft the vessel with facility, and their getting with ease at the boats and boats' gear; if not, have you any recommendations to make on this head?

A.—I consider the space allotted to passengers sufficient to allow of officers moving about freely, even when all passengers are accommodated.

24. *Q.*—Should alley-ways, used as a means of communication by the crew, be considered as deck area for passengers, *i.e.*, the narrow passages between the officers' cabin and the engine-room-casing? If so, would it not be advisable to give a minimum breadth before allowing the area to count for passengers?

A.—Think that main deck alley-ways are not at present measured for passengers. If such is the case, it would perhaps be advisable to allot a portion of the space for the purpose of moving back and forward, surplus area being allowed to passengers.

25. *Q.*—(*By the President*).—In a steamer carrying from 600 to 1,000 passengers in the after-decks would it not be necessary to provide sufficient room for their passing to and from the latrines and cook-houses?

A.—I think it would.

26. *Q.*—Are not these alley-ways additional shelter, and, therefore, desirable for passengers?

A.—Perhaps so, but probably not anticipated as such by the Act.

27. *Q.*—For ships with large water-ways in the 'tween decks extending inside the battens on the ship's side, is the deck measurement made to the inside edge of the water-ways or to the battens? Which would you recommend?

A.—I understand it is at present made to the edge of water-way. I consider that when covered over, these water-ways should be measured for passengers.

28. *Q.*—In your opinion, are the provisions of the Native Passenger Ships Act, and the rules made under it, in regard to the accommodation to be provided for native passengers on long voyages and short voyages, suitable?

A.—They are, except in very minor details.

29. *Q.*—(*By the President*).—Which are some of the minor details in which some improvement is necessary?

A.—Over-crowding of passengers, and making the seasons on the two coasts the same.

30. *Q.*—Do you think that a passenger on a voyage lasting ten or twelve hours requires as much room as one on a voyage lasting five days?

A.—No.

31. *Q.*—(*By Captain Street*).—In this case would it not be necessary to have the provisions of the Native Passenger Ships Act made suitable to voyages not exceeding twelve hours?

A.—Yes. By reducing the space given to each passenger on such a voyage.

32. *Q.*—Do you think that native passengers can do with less space than Europeans?

A.—Certainly.

32. *Q.*—Do you consider that on a voyage, which may extend to five days, native passengers can be accommodated in the 'tween decks of a steamer at the rate of one passenger to each 6 square feet of area, with 4 square feet of airing space on the upper deck, without prejudicing their health and safety?

A.—Experience, I think, has proved conclusively that they can be.

34. *Q.*—(*By Captain Street*).—Have you ever witnessed any experiments in placing natives in an area giving only 6 square feet to each adult?

A.—I have seen several ships with full complements on board.

35. *Q.*—(*By Captain Street*).—Had the native passengers on the occasions to which you refer ample space to lie down in, and did you see them lying down?

A.—I did not see the entire complement lying down, but I, and others, could move about among them freely.

36. *Q.*—Do you think it necessary for the health and safety of the passengers that there should be on a voyage which may extend to five days permanent shelter for each passenger, either 'tween decks or in cabins on the upper deck?

A.—No.

37. *Q.*—Do you think that on a voyage which may extend to five days there should be separate accommodation for female passengers?

A.—No; I don't think they pay much attention to such matters living ashore.

38. *Q.*—Do you know of any steamers which carry native passengers on two upper decks?

A.—Several.

39. *Q.*—Do you consider from the wording of the Native Passenger Ships Act and your experience of this question that the Legislature, when it passed the Act, contemplated the existence of vessels with more than one upper deck?

A.—Cannot say, but think those who framed the Act would, with their knowledge of ships, generally anticipate such vessels.

40. *Q.*—Are you acquainted with the design of the steamers of the *Kistna* class?

A.—Slightly.

41. *Q.*—What is the distinguishing feature of these steamers?

A.—One distinction is that they have three passenger decks.

42. *Q.*—In your opinion, are the middle passenger decks of these steamers between decks or upper decks, within the meaning and intention of the Native Passenger Ships Act? Give your reasons for this opinion?

A.— They are upper decks. The corresponding deck in several other older steamers trading under the Act is described and treated by the Act as an upper deck.

43. *Q.*—Are the passengers on these middle decks as well protected in rough weather as the passengers on the lowermost of the three passenger decks?

A.—Almost so.

44. *Q.*—Are these passengers on the middle deck not better protected than on ordinary upper decks?

A.—They are.

45. *Q.*—During the inclement weather do you consider that the upper deck passengers are sufficiently protected by canvas awnings. If not, what would you recommend?

A.—I do.

46. *Q.*—Do you consider that sufficient protection from the sea is afforded to upper deck passengers by the "reasonably stout screen" which, under existing rules (*see* Government of India letter No. 430, dated 27th August 1878) is held as coming within the definition of a substantial bulwark. If not, state what you would recommend in lieu?

A.—Quite sufficient.

47. *Q.*—What is the height of the middle deck above the load line?

A.—Cannot say exactly.

48 *Q.*—In rough weather would any water get on to the upper deck through the scuppers and shutters? If so, could this be prevented?

A.—So very little; I think steps to prevent it hardly necessary.

49. *Q.*—Under existing rules are the arrangements to prevent injury to passengers by the rolling of the ship sufficient for the purpose?

A.—Those adopted on board B. I. S. N. Co.'s boats are.

50. *Q.*—How could you provide this protection?

A.—It is already provided by placing bars of wood fore and aft amid ships, and also attaching them to the stanchions at the hatchways.

51. *Q.*—Are any special fittings required under the Native Passengers Ships Act on the passenger decks for the reception of the bundles, boxes, and other articles usually carried by native passengers? If so, state what you would recommend?

A.—None; don't think it is absolutely necessary to provide such.

52. *Q.*—(*By Captain Street*).—Has it ever come to your knowledge that passengers have been injured by their boxes during heavy weather?

A.—No.

53. *Q.*—(*By Captain Atkinson*).—If such accommodation were provided, would it be used? Will native passengers allow their luggage to be parted from them under any circumstances?

A.—Don't think so; not willingly.

54. *Q.*—(*By Captain Street*).—Are you aware that under instructions issued lately by the Madras Government, the commanders of vessels carrying native passengers between Madras ports and Rangoon are required to have large boxes belonging to passengers placed in the hold?

A.—I have heard that there is such an order. I think it is a judicious order as far as I can form an opinion.

55. *Q.*—Do you think that on a voyage which may extend to five days sleeping platforms should be provided for the passengers?

A.—No. Don't think they would be used.

56. *Q.*—Do you think the existing rules in regard to hospital accommodation are suitable?

A.—They appear to have proved suitable up till now.

57. *Q.*—(*By Captain Street*).—Are any precautions taken by you as Agents for the B. I. S. N. Co. steamers to prevent native passengers suffering from infectious disease embarking?

A.—Yes. They are carefully passed on board by me at the gangway, but are not examined by a medical officer; we have frequently rejected passengers suffering from disease.

58. *Q.*—(*By the President*).—If you had a Native Doctor on board, would you use him for the examination of native passengers who were about to embark?

A.—I do not think a native doctor could examine properly 600 to 800 coolies as they embark?

59. *Q.*—(*By Captain Street*).—But would not the native doctor's examination be of more value than that which now takes place?

A.—I think it certainly would be, if allowed, and could be done in time.

60. *Q.*—(*By Captain Street*).—Have you ever heard of any instances of passengers suffering from small-pox being found on board of a British India steamer proceeding to Madras ports after the vessel had sailed?

A.—I have heard from commanders on their return of cases of small-pox having appeared some days after leaving Rangoon.

61. *Q.*—Do you consider that cargo, horses, cattle, sheep, and live-stock should be carried on the same deck with passengers? If so, is any fitting necessary to prevent the passengers from being inconvenienced by the urine and dung of the horses, cattle, and sheep, and, if any such fitting is requisite, state what you would recommend?

A.—I do. The precautions usually taken when they are carried are quite sufficient to prevent inconvenience to passengers.

62. *Q.*—In vessels which, under existing rules, are permitted to carry horses, cattle, and sheep with native passengers, are sufficient precautions adopted to prevent the hay and straw provided for the use of such animals from catching fire either from a spark from the ship's funnel or lighted matches? If not, state what extra precautions you would recommend.

A.—Don't think any additional precautions necessary.

63. *Q.*—Do you think that the natives of India require as much space in boats as Europeans?

A.—No.

64. *Q.*—In your experience, do the Surveyors at all ports in India make their surveys on the same lines?

A.—Cannot say; think they should.

65. *Q.*—Do you think it necessary that there should be a set of definite instructions as to the survey of passenger accommodation and crew space similar, so far as may be, to those issued by the Board of Trade?

A.—I think there should.

66. *Q.*—Do you think the existing regulations in regard to the lighting and ventilation of the passenger accommodation suitable?

A.—Yes.

67. *Q.*—(*By the President*).—Would you make no difference in regard to ventilation between vessels carrying passengers in the tropics and those carrying passengers in coldest climates? Do you know what ventilating space is allowed to each passenger in the British India steamers.

A.—No. I think more ventilation would be advisable.

68. *Q.*—In your opinion, are the provisions of the Emigration Act, and the rules made under it, in regard to the accommodation to be provided for native emigrants, suitable?

A.—I am of opinion that the Native Passengers Act as at present in force is quite suitable, except in some very small details.

69. *Q.*—After a vessel has been measured for certificate A, is the captain supplied with the surveyor's calculations; if not, do you think it necessary that he should be?

A.—He is not; I think he and the agent should be.

70. *Q.*—Would it not be advantageous if a copy of all measurements and calculations of passengers space, as determined on the original measurement were supplied to the commander of the vessel?

A.—I think, it would be.

71. *Q.*—If so, would you recommend that the calculations should show clearly the names of the various obstructions which have been deducted from the gross area, their dimensions and the proportional area deducted?

A.—I would.

72. *Q.*—Do you consider that passengers carried in vessels working under clause *(a)* of Government of India Notification No. 1356, dated 14th March 1889, have sufficient space. If not, state what space would suffice.

A.—I consider that they have quite sufficient space.

73. *Q.*—(*By the President*).—Have you seen a full complement of passengers under the 5 feet rule and all of them between decks?

A.—Not all in the between decks.

74. *Q.*—(*By the President*).—Is it optional with the owners to select this 5 feet rule at their own convenience, and not with reference to any question relating to the passengers?

A.—It is optional on owners part.

75. *Q.*—In the case of voyages the duration of which does not exceed five days, what distinction is made between seasons of fair and foul weather?

A.—In the matter of space allowed each passenger.

76. *Q.*—Do you consider a double awning overhead, with side curtains and bulwark screens, as required by the Native Passenger Act, equal to the ordinary tent in which troops are accommodated?

A.—Rather better I think.

77. *Q.*—Do you know that 6 superficial feet on the upper deck under double awnings and curtains is considered sufficient accommodation for native troops making voyages under five days' duration?

A.—I believe it is.

78. *Q.*—Being acquainted with the class of natives who form the bulk of those who travel by sea, do you consider they require better accommodation for their health and comfort than native troops?

A.—About the same; not better.

79. *Q.*—Will you furnish the Commission with your opinion as to the sufficiency or otherwise of the space allowed by the Act and rules generally?

A.—I consider the space allowed at the different seasons, and other provisions of the Act now in force, sufficient. The fact also of such large numbers of natives being carried with so very few accidents and deaths, is about the best evidence of the sufficiency of the Act. I think that it should also be borne in mind that those most interested in the working of the Act, the passengers carried, and those providing means of conveyance, appear quite satisfied with the Act as it stands.

80. *Q.*—(*By Captain Street*).—Have you ever questioned any natives who have travelled by Native Passenger Ships as to whether the space allowed is sufficient?

A.—I do not recollect enquiring.

81. *Q.*—(*By Captain Street*).—As a rule do vessels proceeding to Calcutta or the Coromandel ports carry the full number of passengers allowed them?

A.—No.

Mr. MADAVRAO PILLAY.

1. *Q.*—Will you please inform the Commission of the nature of your present occupation?

A.—Merchant, Ship's Agent, Dubash, and Stevedore.

2. *Q.*—What qualifications or experience do you possess in regard to the subjects under enquiry?

A.—My occupation as ships' agent and stevedore for 15 years past has given me sufficient experience to enable me to be well conversant with the subject under enquiry, and more so because I myself not only repeatedly imported passengers for my work, but have been an eye-witness on board many a time on my way to and from Madras.

3. *Q.*—Do you take any part, either directly or indirectly, in the administration or observance of any of the provisions of the "Native Passenger Ships Act, 1887"?

A.—Yes; not beyond what I have stated in my answer No. 2

4. *Q.*—Do you know of any instances in which passengers, not exceeding sixty in number, have been carried in vessels having no suitable accommodation for them?

A.—No.

5. *Q.*—Are you of opinion that the conditions justify a distinction being made between fair and foul weather in the case of voyages which may extend to five days?

A.—My humble opinion is that they do so.

6. *Q.*—In your opinion, do the conditions justify passengers being carried across the Bay at any season on decks, such as are commonly called hurricane-decks, which are not protected from the weather except by overhead awnings, assuming that no accommodation is reserved for these passengers on the lower decks, which are crowded with other passengers?

A.—My humble opinion is that the conditions do not justify passengers being carried across the Bay at any season on decks, such as are commonly called hurricane-decks, which are not protected from the weather except by overhead awnings.

7. *Q.*—Are you acquainted with the ordinary conditions of native life amongst the class that form the bulk of the native passengers who travel by sea?

A.—Of course. I am fully acquainted, being of the same nationality as the class that forms the bulk of the passengers who travel by sea.

8. *Q.*—Are you aware that it is a common practice for natives of India to sleep at night in the open air?

A.—I am aware that the natives of India do sleep in open air, provided there is no damp overhead.

9. *Q.*—Is it within your knowledge that 1st class passengers, travelling about the Bay of Bengal and coasts of India as a rule prefer to sleep on deck under the same conditions as to awnings and curtains as the 3rd class native passengers?

A.—Yes I am; but they do so only when it is too hot to sleep down below in their cabin.

10. *Q.*—Have you had any personal experience of the weather round the coast of United Kingdom, and in the Bay of Bengal, and on the coast of India?

A.—Although I have had the pleasure of paying United Kingdom a visit, I have not had so much sea voyage there as to acquire the experience necessary to answer this question.

11. *Q.*—(*By Captain Atkinson*).—If the average native passenger was offered the present space for ₹10, and double the space for ₹20, which space would he take a ticket for?

A.—Well-to-do passengers would pay ₹20, and the ordinary passenger ₹10.

12. *Q.*—(*By Captain Atkinson*).—Of what class are the bulk of the travelling native passengers?

A.—Working people.

13. *Q.*—Do you know what amount of passage money is paid for an ordinary passenger, say, from Madras to Rangoon, 1,009 miles, and who pays?

A.—Yes; ₹10 for deck passage from Madras to Rangoon; for 2nd class ₹45; and ₹90 for 1st class.

14. *Q.*—Do you think the ordinary native passenger would be prepared to pay more for better accommodation?

A.—Why not; if they get the money's worth in return.

15. *Q.*—Is it not a fact that very well-to-do native merchants are satisfied with the usual deck accommodation?

A.—Certainly not to my knowledge; they go by first and second class according to their means.

16. *Q.*—Do you think that native passengers can do with less space than Europeans?

A.—Yes; provided the Company allotted them separate places to lodge their luggage and cooking utensils.

17. *Q.*—Do you consider that on a voyage which may extend to five days native passengers can be accommodated in the 'tween decks of a steamer at the rate of one passenger to each 6 square feet of area, with 4 square feet of airing space on the upper deck, without prejudicing their health and safety?

A.—I consider for a short voyage, within five days, that 6 square feet is quite enough, provided the baggage is kept elsewhere.

18. *Q.*—If such accommodation were provided, would it be used? Will native passengers allow their luggage to be parted from them under any circumstances?

A.—Yes; provided some one guarantees to deliver it to them in the same condition as it is deposited.

Additional questions answered by Mr. MADAVRAO PILLAY on the 9th January 1891.

1. *Q.*—By what line of steamers have you made voyages?

A.—British India and Asiatic Cos.' steamers.

2. *Q.*—Which deck do you prefer—

(*a*) In fair weather?

(*b*) In foul weather?

A.—In fair weather *main* deck, and in foul weather *'tween* deck.

3. *Q.*—Would the male passengers prefer to have separate accommodation for their women as in trains, or not?

A.—They prefer to have their women along with them.

4. *Q.*—Have the steamers in which you have travelled at any time been very full. On these occasions did you and your fellow passengers suffer any great inconvenience?

A.—I have several times travelled in crowded steamers, and have noticed that the deck passengers were much inconvenienced.

5. *Q.*—In the 'tween decks, when the ports are closed in the hot weather, are you fairly cool and comfortable?

A.—To my knowledge the passengers were supplied with wind sails.

6. *Q.*—How much baggage do passengers of your class bring with them?

A.—One cwt. when they go back to their country, and hardly 56lb from their country to here.

7. *Q.*—Do they often have boxes or baskets, and what does their luggage generally consist of?

A.—They will have to wait, I think, but I never heard any complaints from them.

8. *Q.*—Have you experienced any material inconvenience in regard to food or cooking?

A.—I never heard any complaints about cooking.

9. *Q.*—Have you or your fellow passengers required medicine on these voyages?

A.—They always get it.

10. *Q.*—If you have travelled in bad weather, have the upper deck passengers suffered from the rain, wind, or sea?

A.—For heavy rain, the protection is insufficient.

11. *Q.*—Has your health been permanently impaired, or have you heard of any other pasengers' health having been permanently impaired, by the insufficiency of space, or the inconveniences or exposure endured whilst on a voyage similar to any you have made?

A.—No.

12. *Q.*—Do the awnings and screens keep out the wet and wind?

A.—Not very heavy rain; but sufficiently for showery weather.

13. *Q.*—Did you experience any, and what amount of bad weather, on any of your voyages?

A.—I was on board the S. S. *Asia*, on my way from Madras, when a cyclone occured. Captain Belwood, the commander of the vessel, accommodated all the deck passengers very well.

14. *Q.*—In bad weather are 'tween deck passengers liable to be injured by the rolling of the ship and shifting of boxes? How would you prevent this?

A.—This is liable to all passengers, 1st as well as 3rd class.

15. *Q.*—Have you known any inconvenience from the carriage of animals in the same deck as passengers without special appliances?

A.—No.

16. *Q.*—Have you experienced any inconvenience from accumulation of dirt or filth on the 'tween decks? What kind of dirt was it? Are the 'tween decks ever cleaned during a voyage?

A.—They are cleaned immediately.

17. *Q.*—During a voyage of five days or more, have you been greatly inconvenienced by any influx or increase of passengers only travelling between the intermediate ports for shorter distances?

A.—I have not found any inconvenience.

Mr. D. EAGLESON.

1. *Q.*—Will you please inform the Commission of the nature of your present occupation?

A.—I am a Surveyor in the port of Rangoon.

2. *Q.*—What qualifications or experience do you possess in regard to the subjects under enquiry?

A.—Having been in the employ of the British India Steam Navigation Company, Limited, I possess some experience in this matter.

3. *Q.*—Do you take any part, either directly or indirectly, in the administration or observance of any of the provisions of the "Native Passenger Ships Act, 1887"?

A.—No.

4. *Q.*—In regard to what voyages is there a distinction made between fair and foul seasons?

A.—For short voyages.

5. *Q.*—Do you consider that, if there is to be a line dividing short from long voyages, it should be drawn at five days?

A.—Yes.

6. *Q.*—Do you think that the five-day limit puts an Indian short voyage on a footing similar to an English Home Trade voyage?

A.—I do not think so.

7. *Q.*—Are you of opinion that the conditions justify a distinction being made between fair and foul weather in the case of voyages which may extend to five days?

A.—Yes.

8. *Q.*—Are you of opinion that the seasons of fine weather defined in the rules are judiciously chosen with reference to the prevailing conditions?

A.—I have casually looked at the rules defining fair and foul seasons, and take them to be correct.

9. *Q.*—If not, what alterations would you suggest?

A.—None.

10. *Q.*—Will you mention instances of foul weather occurring during the seasons which are by rule declared to be seasons of fair weather?

A.—I cannot give instances, but they have occurred to my knowledge.

11. *Q.*—In your opinion, do the conditions justify passengers being carried across the Bay at any season on decks, such as are commonly called hurricane decks, which are not protected from the weather except by overhead awnings, assuming that no accommodation is reserved for these passengers on the lower decks, which are crowded with other passengers?

A.—Passengers could be carrried on the upper deck provided she had a bulwark and not netting for the foul weather.

12. *Q.*—(*By Captain Atkinson*).—Are you aware that a stout canvas screen stretched outside the netting has been sanctioned by Government as a substitute for bulwarks?

A.—No.

13. *Q.*—(*By Captain Street*).—Do you consider that the stout canvas screen would answer the purpose instead of a bulwark?

A.—No.

14. *Q.*—(*By Captain Wilson*).—What is your definition of bulwark?

A.—One made of wood or iron.

15. *Q.*—(*By the President*).—Would you then recommend that hurricane decks which have no bulwarks should not be measured for passengers in foul season?

A.—No.

16. *Q.*—(*By Captain Atkinson*).—What is the difference between a hurricane deck without bulwarks but provided with a canvas screen, and the upper deck of a flush decked vessel also fitted with nettings and canvas screen?

A.—The one would be equal to the other.

17. *Q.*—(*By Captain Wilson*).—Would you measure the hurricane deck during a foul season if the bulwarks were of iron or wood walled in?

A.—Yes.

18. *Q.*—Are you acquainted with the ordinary conditions of native life amongst the class that form the bulk of the native passengers who travel by sea?

A.—Yes.

19. *Q.*—Are you aware that it is a common practice for natives of India to sleep at night in the open air?

A.—Yes.

20. *Q.*—Is it within your knowledge that 1st class passengers, travelling about the Bay of Bengal and coasts of India as a rule prefer to sleep on deck under the same conditions as to awnings and curtains as the 3rd class native passengers?

A.—Yes, during fine weather.

21. *Q.*—Have you had any personal experience of the weather round the coast of United Kingdom, and in the Bay of Bengal and on the coast of India?

A.—Yes, only in the Bay of Bengal and the coasts of India.

22. *Q.*—Do you consider that there is such similarity as to warrant a comparison between the weather experienced on the coast of United Kingdom or between the river Elbe and Brest (English Home Trade voyage) and that experienced in the Bay of Bengal and coasts of India?

A.—There is a great difference between the places named.

23. *Q.*—Do you think the ordinary native passenger would be prepared to pay more for better accommodation?

A.—No.

24. *Q.*—Is it not a fact that very well-to-do native merchants are satisfied with the usual deck accommodation?

A.—Yes.

25. *Q.*—Have you any special suggestions to make in regard to voyages similar to those classed as "excursions" by the Board of Trade, that is, voyages during which a vessel is not more than ten or twelve hours at sea?

A.—No; I do not think this will apply to India.

26. *Q.*—(*By the President*).—Would you consider a voyage to Moulmein as equivalent to an excursion voyage?

A.—Yes.

27. *Q.*—*By* (*Captain Wilson*).—What class of waters should in your opinion excursion steamers run on? Open seas, rivers, lakes, all or any?

A.—Excursion voyage, ten or twelve hours, at sea or in rivers.

28. *Q.*—(*By Captain Street*).—Do you consider that in the Native Passenger Act an excursion voyage should be defined?

A.—Yes.

29. *Q.*—Is allowance made in Board of Trade Rules for height of 'tween-decks. In fact, do not Board of Trade surveyors, when berths are not fitted for 3rd class passengers, calculate the number that may be carried on the basis of a cubic measurement of 72 cubic feet per statute adult, after deducting all hatches and encumbrances?

A.—Yes.

30. *Q.*—If so, would you consider it proper to allow for height of 'tween-deck as an element in the health and comfort of 3rd class native passengers?

A.—Yes.

31. *Q.*—Do you know the height of the 'tween-decks in the British Indian steamers?

A.—Seven to eight feet.

32. *Q.*—What is the maximum height between deck in these steamers carrying native passengers? What is the average height?

A.—Seven to eight feet.

33. *Q.*—Are you aware that there was an old rule in India which allowed ships to carry three passengers for 2 tons?

A.—I believe there was such a rule.

34. *Q.*—Is the Board of Trade rule, under which the number of passengers carried must not, whatever the deck measurements may give, exceed the number denoting the gross tonnage of the vessel, enforced in India?

A.—I understand it is enforced in India.

35. *Q.*—What would be the effect if, assuming all other existing Indian rules to remain intact, this rule were enforced?

A.—I cannot speak positively on this point.

36. *Q.*—(*By the President*).—Should alley-ways be kept free for the use of passengers when large numbers are accommodated in the after decks?

A.—Yes.

37. *Q.*—Should the spaces set apart for the boats in the vicinity of the bridge be utilized for passengers when the boats are carried at the davits? If so, state whether during both fair and foul season or only during the fair season?

A.—Only in fair weather.

38. *Q.*—(*By Captain Street*).—Should the spaces set apart for boats on the bridge deck be measured for passengers when the boats are carried at the davits and swing out?

A.—Yes; but only in fair weather.

39. *Q.*—Do you think that a passenger on a voyage lasting ten or twelve hours requires as much room as one on a voyage lasting five days?

A.—No.

40. *Q.*—Do you think that native passengers can do with less space than Europeans?

A.—Yes.

41. *Q.*—What proportion do you consider that the space allotted to natives should bear to the space allotted to Europeans?

A.—Just half.

42. *Q.*—Assuming that this proportion is adopted, would it, in your opinion, affect the health, comfort, and safety of native passengers in any way?

A.—No.

43. *Q.*—Do you consider that on a voyage, which may extend to five days, native passengers can be accommodated in the 'tween-decks of a steamer at the rate of one passenger to each 6 square feet of area, with 4 square feet of airing space on the upper deck, without prejudicing their health and safety?

A.—Yes.

44. *Q.*—(*By Captain Street*).—Have you ever been on board of a vessel which has had her full complement of native passengers under the 6 feet rule?

A.—No.

45. *Q.*—(*By Captain Street*).—Do you consider that under the 6 feet rule native passengers can lie down on the 'tween-deck of a vessel carrying her full complement of passengers, assuming that the upper deck airing space allowed to such passengers is not available?

A.—Yes.

46. *Q.*—(*By the President*).—Have you ever tried the experiment of putting adults in a measured space with their baggage, on the allowance of 6 feet per adult?

A.—No.

47. *Q.*—Do you think it necessary for the health and safety of the passengers that there should be, on a voyage which may extend to five days, permanent shelter for each passenger either 'tween-decks or in cabins on the upper deck?

A.—Only in foul weather.

48. *Q.*—Do you think that on a voyage which

may extend to five days there should be separate accommodation for female passengers?

A.—Yes.

49. *Q.*—Do you know of any steamers which carry native passengers on two upper decks?

A.—Yes.

50. *Q.*—Are you acquainted with the design of the steamers of the *Kistna* class.

A.—I have seen several vessels of the S. S. *Kistna* class.

51. *Q.*—What is the distinguishing feature of these steamers?

A.—They have an upper and main deck.

52. *Q.*—In your opinion are the middle passenger decks of these steamers' 'tween decks or upper decks within the meaning and intention of the Native Passenger Ships Act? Give your reasons for this opinion?

A.—I consider the middle deck the main deck, the one over this the upper deck. The 'tween deck is in the hold.

53. *Q.*—Are the passengers on these middle decks as well protected in rough weather as the passengers on the lowermost of the three passenger decks?

A.—Yes.

54. *Q.*—Are these passengers on the middle deck not better protected than on ordinary, upper decks?

A.—Yes.

55. *Q.*—During the inclement weather, do you consider that the upper deck passengers are sufficiently protected by canvas awnings, curtains, and screens? If not, what would you recommend?

A.—Certainly not, unless protected by bulwark, in addition to awnings overhead.

56. *Q.*—Do you consider that sufficient protection from the sea is afforded to upper deck passengers by the "reasonably stout screen" which, under existing rules (*see* Government of India, letter No. 430, dated 27th August 1878) is held as coming within the definition of a substantial bulwark? If not, state what you would recommend in lieu.

A.—I consider a bulwark (wood or iron) more suitable than the existing wire netting now in use.

57. *Q.*—What is the height of the middle deck above the load line?

A.—Three feet.

58. *Q.*—In rough weather would any water get on to the upper deck through the scuppers and shutters? If so, could this be prevented?

A.—Yes.

59. *Q.*—Are any special fittings required under the Native Passenger Ships Act on the passenger decks for the reception of the bundles, boxes and other articles usually carried by native passengers? If so, state what you would recommend?

A.—No special fitting necessary, but heavy baggage should be stowed below.

60. *Q.*—Is it necessary for the comfort or safety of the passengers that provision should be made for the accommodation of luggage not stored in the hold?

A.—Not necessary.

61. *Q.*—If it is necessary, what would you provide?

A.—Not necessary.

62. *Q.*—If such accommodation were provided, would it be used? Will native passengers allow their luggage to be parted from them under any circumstances?

A.—No; but heavy baggage should be stowed below.

63. *Q.*—Do you think that on a voyage which may extend to five days, sleeping platforms should be provided for the passengers?

A.—No.

64. *Q.*—What closet accommodation do the rules require on native passenger vessels?

A.—I do not know, but I would recommend one water closet for every 100 passengers.

65. *Q.*—Do you think the existing rules in regard to hospital accommodation are suitable?

A.—Yes.

66. *Q.*—Do you consider that cargo, horses, cattle, sheep, and live-stock should be carried on the same deck with passengers? If so, is any fitting necessary to prevent the passengers from being inconvenienced by the urine and dung of the horses, cattle, and sheep, and, if any such fitting is requisite, state what you would recommend?

A.—There should be a separate place allotted for cattle.

67. *Q.*—In vessels which, under existing rules, are permitted to carry horses, cattle, and sheep with native passengers, are sufficient precautions adopted to prevent the hay and straw provided for the use of such animals from catching fire either from a spark from the ship's funnel or lighted matches? If not, state what extra precautions you would recommend.

A.—See answer No. 66. I should recommend that the hay should be well packed and well covered during the voyage.

68. *Q.*—Will you explain to the Commission what rules are in force in India on the subject of life-saving appliances?

A.—As far as I am aware there is none in force.

69. *Q.*—Do you think that the natives of India require as much space in boats as Europeans?

A.—No.

70. *Q.*—Would you adopt the Board, of Trade regulations in regard to life-buoys and life-belts?

A.—Yes; certainly.

71. *Q.*—In your experience do the Surveyors at all ports in India make their surveys on the same lines?

A.—Yes; as far as I know.

72. *Q.*—Do you think it necessary that there should be a set of definite instructions as to the survey of passenger accommodation and crew space similar, so far as may be, to those issued by the Board of Trade?

A.—Yes; a very good suggestion.

73. *Q.*—Do you think the existing regulations in regard to the lighting and ventilation of the passenger accommodation suitable?

A.—I cannot say, but I am aware that several steamers coming to Rangoon are fitted with the electric light.

74. *Q.*—(*By the President*).—Would you make any difference in regard to the ventilation of vessels carrying passengers in the tropics and those carrying passengers in colder climates?

A.—Yes.

75. *Q.*—Would you make the regulations in regard to the equipments of vessels similar in all respects to those of the Board of Trade?

A.—Yes.

76. *Q.*—After a vessel has been measured for certificate A is the Captain supplied with the surveyor's calculations; if not, do you think it necessary that he should be?

A.—No; but this may be supplied to the Captain.

77. *Q.*—Would it not be advantageous if a copy of all measurements and calculations of passengers' space, as determined on the original measurement, were supplied to the Commander of the vessels?

A.—Copy might be supplied.

78. *Q.*—If so, would you recommend that the calculations should show clearly the names of the various obstructions which have been deducted from the gross area, their dimensions and the proportional area deducted?

A.—Not necessary.

79. *Q.*—Do you consider a double awning overhead with side curtains and bulwark screens, as required by the Native Passenger Act, equal to the ordinary tent in which troops are accommodated?

A.—Yes, in fair seasons, but not suitable for foul weather.

80. *Q.*—Do you know that six superficial feet on the upper deck under double awnings and curtains is considered sufficient accommodation for native troops making voyages under five days' duration?

A.—Yes.

81. *Q.*—Being acquainted with the class of natives who form the bulk of those who travel by sea, do you consider they require better accommodation for their health and comfort than native troops?

A.—No.

82. *Q.*—Will you furnish the Commission with your opinion as to the sufficiency or otherwise of the space allowed by the Act and rules generally?

A.—I am not aware of the space allowed by the Act, but I think 6 superficial feet in fair weather and 9 in foul quite sufficient.

83. *Q.*—Do you consider that native passenger ships should carry a medical officer. If this was made compulsory, would you make any difference for the numbers carried or for the duration of the voyage?

A.—I consider that a medical officer should be attached to each steamer carrying over, say, 300 passengers.

84. *Q.*—What grade of medical officer would you consider best suited for these vessels?

A.—A passed apothecary.

85. *Q.*—Give any instances which have come to your knowledge in which a medical officer would have been of service on board a native passenger vessel.

A.—Yes. In the cases of the steamers *Mombassa* and *Patiala*, on board of which several deaths occurred on the voyage from Calcutta to Rangoon.

86. *Q.*—*By Dr. Comins.*—From what cause?

A.—I believe cholera.

Proceedings of the Twenty-third Meeting of the Native Passenger Ships Commission, held at Rangoon on the 12th January 1891, at 11-30 a.m.

Present:

Surgeon-Major A. S. Lethbridge, C.S.I.	*President.*
Captain Sir Henry Morland, H.M.I.M.	*Members.*
„ H. A. Street, H.M.I.M.	*Members.*
Surgeon-Major D. W. D. Comins, I.M.S.	*Members.*
Captain J. H. Atkinson, B. I. S. N. Co.'s Service	*Members.*

1. The President informed the Commission that Captain Wilson had written that he was too unwell to attend the Meeting.

2. The President laid before the Commission certain papers he had received from the Government of India relating to the conveyance in Native Passenger Ships of gunpowder and explosives.

3. Deputy Surgeon General Sibthorpe, I.M.S., Administrative Medical Officer, Rangoon District, was called and examined.

4. Dr. Sibthorpe's examination having been completed, Mr. G. Ransom, Deputy Conservator of the Port of Rangoon, was called and examined.

5. Mr. Ransom's examination having been completed, the Commission adjourned until the 13th instant at 11-30 A.M.

Deputy Surgeon General SIBTHORPE, I.M.S.

1. *Q.*—Will you please inform the Commission of the nature of your present occupation?

A.—Administrative Medical Officer, Rangoon District.

2. *Q.*—What qualifications or experience do you possess in regard to the subjects under enquiry?

A.—I was Port and Marine Medical Officer in Madras from 1882 to 1888, and have made many voyages in the Indian seas, both on duty and for pleasure since 1870.

3. *Q.*—Do you take any part, either directly or indirectly, in the administration or observance of any of the provisions of the "Native Passenger Ships Act, 1887"?

A.—While Port Medical Officer at Madras, I had to make several inspections.

4. *Q.*—How does an Indian Home Trade voy-

age compare with an English Home Trade voyage?

A.—Principally a question of climate and weather.

5. *Q.*—Do you consider that, if there is to be a line dividing short from long voyages, it should be drawn at five days?

A.—Five days appears to be rather too long. The great discomfort on board a good ship after three days of bad weather is enough to try the staying power of passengers who have not the comfort of 1st or 2nd class passengers.

6. *Q.*—(*By Captain Atkinson*).—Is it not a fact that the ordinary Native of India, from constitutional inertness, and from his manner of living in his home, is much better able to bear the five days' voyage under any conditions as to weather than the more active-minded and restless European?

A.—I only think it is the weakly who would be likely to suffer from such exposure.

7. *Q.* (*By Captain Atkinson*).—Are not the bulk of the native passengers who travel in fairly good health?

A.—The larger proportion are probably in good health, but as far as I know there is no selection at present.

8. *Q.*—Do you think that the five-day limit puts an Indian short voyage on a footing similar to an English Home Trade voyage?

A.—I know of no Home Trade voyages extending over five days in which deck passengers are exposed in the same way they are in a five-days' voyage during the monsoon time. If they were, the exposure to the cold in home voyages without proper food would kill many.

9. *Q.*—(*By Sir Henry Morland*).—How many days would you fix the short voyage at? Would you have excursion trips of, say, 24 hours, or a shorter time provided for?

A.—I consider the question depends on the state of season. In fine weather five days are not too long for a "short voyage;" in foul weather three days would be long enough. I think an excursion voyage should not exceed 24 hours at sea.

10. *Q.*—Are you of opinion that the conditions justify a distinction being made between fair and foul weather in the case of voyages which may extend to five days?

A.—There certainly should be a distinction. In fine weather overcrowding simply means discomfort; in foul weather it means risk to life, and the propagation of epidemic diseases.

11. *Q.*—Are you of opinion that the seasons of fine weather defined in the rules are judiciously chosen with reference to the prevailing conditions?

A.—The seasons can be fixed by the monsoons.

12. *Q.*—In your opinion, do the conditions justify passengers being carried across the Bay at any season on decks, such as are commonly called hurricane-decks, which are not protected from the weather except by overhead awnings, side screen and curtains, assuming that no accommodation is reserved for these passengers on the lower decks, which are crowded with other passengers?

A.—Such exposure I consider means death to weakly and badly-fed passengers.

13. *Q.*—(*By Captain Atkinson*).—Can you give any statistics regarding the death-rate on board steamers carrying native passengers under Act X of 1887, which have led you to form the opinion now expressed?

A.—I have never seen such statistics; my opinion is only formed from what I have seen.

14. *Q.*—(*By Captain Atkinson*).—Would you be so good as to state what special circumstances have led you to form this opinion?

A.—The opinion is a general one I have formed.

15. *Q.*—Are you acquainted with the ordinary conditions of native life amongst the class that form the bulk of the native passengers who travel by sea?

A.—I have seen a great deal of their life travelling.

16. *Q.*—Are you aware that it is a common practice for natives of India to sleep at night in the open air?

A.—I have noted in my travels that this practice varies with the climate and season of the year.

17. *Q.*—Is it within your knowlege that 1st class passengers, travelling about the Bay of Bengal and coasts of India as a rule prefer to sleep on deck under the same conditions as to awnings and curtains as the 3rd class native passengers?

A.—Yes; I nearly always do so myself, and prefer, in health, the chance of a wetting to any attempt to sleep in a close cabin.

18. *Q.*—Have you had any personal experience of the weather round the coast of United Kingdom, and in the Bay of Bengal and on the coast of India?

A.—Yes; I have crossed from Ireland to England and Scotland, and from England to France and Belgium by different routes on many occasions, and have made voyages in the Bay of Bengal and along the coasts of India in all weathers.

19. *Q.*—Do you consider that there is such similarity as to warrant a comparison between the weather experienced on the coast of United Kingdom, or between the rivers Elbe and Brest (English Home Trade voyages) and that experienced in the Bay of Bengal and coasts of India?

A.—I do not think any comparison can be made. The cold in the Home Trade voyages is unknown here, and the heat experienced here is unknown there. The feeding habits of the people are very different.

20. *Q.*—Do you consider the conditions of English and Indian passenger traffic to be similar in any other way than that the traffic under discussion is by sea?

A.—I consider the habits of the people make a vast difference.

21. *Q.*—Do you think the ordinary deck native passengers would be prepared to pay more for better accommodation?

A.—I think they would, but not much more.

22. *Q.*—Is it not a fact that very well-to-do native merchants are satisfied with the usual deck accommodation?

A.—I have seen many of them travelling.

23. *Q.*—What class of people travel as deck-passengers in the United Kingdom on vessels which frequently carry their full complement?

A.—The labouring and poorer classes, but they provide their own food, or there is both food and stimulants which they can purchase.

24. *Q.*—Have you any special suggestions to make in regard to voyages similar to those classed as excursions by the Board of Trade, that is, voyages during which a vessel is not more than ten or twelve hours at sea?

A.—None, except two general ones which affect all such passengers, especially embarking during the monsoons.

1st.—That shelter and latrine arrangements should be provided for them while waiting to embark.

2nd.—That some order and regularity should be observed while they are embarking and disembarking; they now rush on board hustling each other like a flock of sheep. This the French arrange far better than we do

25. *Q.*—Should alley-ways, used as a means of communication by the crew, be considered as deck area for passengers, *i.e.*, the narrow passages between the officers' cabins and the engine room-casing? If so, would it not be advisable to give minimum breadth before allowing the area to count for passengers?

A.—I think they ought not to count at all.

26. *Q.*—(*By the President*).—Should measures be taken to provide passages to the latrines and cook-shops?

A.—There should be some provided.

27. *Q.*—(*By Captain Street*).—In the native passenger vessels you have travelled in, would the number of passengers on board have admitted of clear passages being kept for them to the latrines?

A.—No; it is sometimes most difficult to pick one's way fore and aft.

28. *Q.*—(*By Captain Atkinson*).—If the alley-way was sufficiently wide, say five to six feet, would it not be sufficient to provide a minimum passage way, and let the extra space be occupied by passengers?

A.—I think a clear passage way is all that is necessary.

29. *Q.*—Are not these alley-ways additional shelter and, therefore, desirable for passengers?

A.—They certainly are.

30. *Q.*—Do you think that a passenger on a voyage lasting ten or twelve hours requires as much room as one on a voyage lasting five days?

A.—No; he does not.

31. *Q.*—Do you think that native passengers can do with less space than Europeans?

A.—Yes.

32. *Q.*—What proportion do you consider that the space allotted to natives should bear to the space allotted to Europeans?

A.—About a third less as is fixed for the barrack accommodation in the plains.

33. *Q.*—Assuming that this proportion is adopted, would it, in your opinion, affect the health, comfort, and safety of native passengers in any way?

A.—This depends on how long the standard was used.

34. *Q.*—Do you consider that on a voyage, which may extend to five days, native passengers can be accommodated in the 'tween decks of a steamer at the rate of one passenger to each 6 square feet of area, with 4 square feet of airing space on the upper deck, without prejudicing their health and safety?

A.—Six square feet of area is too small for a man to lie down in, and carry his baggage on at the same time.

35. *Q.*—(*By Captain Atkinson*).—Do you take into account the fact that each 'tween deck passenger has 6 feet on the upper deck, making 10 square feet for each passenger, and thus in a way freeing the 'tween deck?

A.—I did consider it.

36. *Q.*—Do you think it necessary for the health and safety of the passengers there should be on a voyage, which may extend to five days, permanent shelter for each passenger either 'tween decks, or in cabins on the upper deck?

A.—I consider they should be so sheltered during foul weather.

37. *Q.*—(*By Captain Atkinson*).—You have mentioned in your answer to question 19 the cold experienced on the coast of United Kingdom. Are you aware that under such inclement conditions the Board of Trade only require shelter for one-sixth of the number of passengers carried on the upper deck on English Home Trade voyages?

A.—I consider that during foul weather they should be sheltered.

38. *Q.*—Do you think that on a voyage, which may extend to five days, there should be separate accommodation for female passengers?

A.—There certainly should be a separate latrine accommodation, but otherwise the large majority of the women would prefer to travel with their families.

39. *Q.*—Are any special fittings required under the Native Passengers Ships Act on the passenger decks for the reception of the bundles, boxes and other articles usually carried by native passengers? If so, state what you would recommend?

A.—It would make a great difference in comfort if these articles could be kept off the deck.

40. *Q.*—Is it necessary for the comfort or safety of the passengers that provision should be made for the accommodation of luggage not stored in the hold?

A.—They should not be allowed to have anything but soft bundles on the deck. I have seen large boxes which are liable to be knocked about in foul weather.

41. *Q.*—If such accommodation were provided, would it be used? Will native passengers allow their luggage to be parted from them under any circumstances?

A.—They would certainly object to it.

42. *Q.*—Do you think that on a voyage, which may extend to five days, sleeping platforms should be provided for the passengers?

A.—Not necessary.

43. *Q.*—What closet accommodation do the rules requires on native passenger vessels?

A.—Should be the same as for emigrant ships.

44. *Q.*—What accommodation of the kind is provided for emigrants?

A.—I have seen them, and they are very good.

45. *Q.*—Do you think the existing rules in regard to hospital accommodation are suitable?

A.—I have never seen any proper hospital accommodation on board these ships.

46. *Q.*—(*By Captain Atkinson*).—Are you aware that the rules under the Native Passenger Act require a canvas tent, with platform, for which 72 superficial feet of space are deducted from the deck space which has been measured for passengers, and the object of this expensive provision is that if the tent and platforms have been used for treatment of a case of infectious disease there may be no scruple about throwing the whole thing over board, thereby minimising the risk of passing on infection?

A.—I was not aware that it was required by law.

47. *Q.*—Do you consider that cargo, horses, cattle, sheep, and live-stock should be carried on the same deck with passengers? If so, is any fitting necessary to prevent the passengers from being inconvenienced by the urine and dung of the horses, cattle, and sheep; and if any such fitting is requisite, state what you would recommend?

A.—I have seen the decks in a dreadful state on this account.

48. *Q.*—(*By Captain Street*).—The Board of Trade rule in respect to cattle when carried on the open deck, and are not under cover, is that the space occupied by them must be effectually shut

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off from the passenger space by bulk-heads, wooden partitions or otherwise, and that efficient wash-boards must be fitted to prevent the dung or urine of cattle from getting on the passenger space. Do you consider that this rule should be followed in Native Passenger Ships to the same extent?

A.—What I consider necessary is that provision should be made to keep the excreta from the cattle washing amongst the passengers.

49. *Q.*—In vessels which, under existing rules, are permitted to carry horses, cattle, and sheep with native passengers, are sufficient precautions adopted to prevent the hay and straw provided for the use of such animals from catching fire either from a spark from the ship's funnel or lighted matches? If not, state what extra precautions you would recommend?

A.—They are generally left about on the decks and no precaution taken. I consider that covering from chance of fire would be the only precaution necessary.

50. *Q.*—Do you know that 6 superficial feet on the upper deck, under double awnings and curtains, is considered sufficient accommodation for native troops making voyages under five days' duration?

A.—Yes, but this is done in spite of experience, as may be seen on reference to pages 33 and 98 of Surgeon A. Duncan's work on "Prevention of Disease in Tropical Campaign."

51. *Q.*—Being acquainted with the class of natives who form the bulk of those who travel by sea, do you consider they require better accommodation for their health and comfort than native troops?

A.—I do not; the troops should, if anything, be better provided, as it is in the interests of Government that they should be landed in as good health as possible.

52. *Q.*—How do you account for the differences between the English and the Indian rules, and between the Indian rules for emigrants and those for ordinary passengers?

A.—The circumstances are different.

The rules regarding emigrants were passed under pressure from home after many unfavourable experiences.

53. *Q.*—Will you furnish the Commission with your opinion as to the sufficiency or otherwise of the space allowed by the Act and rules generally?

A.—I consider the 6 square feet rule is never thoroughly carried out even under present circumstances. I consider each ship ought to be dealt with separately, a reasonable amount of superficial space being allowed to each adult passenger, say, not less than 12 square feet in fine weather, and 18 in foul weather. That two children under ten should count as one adult. That sufficient provision be made either between decks or in any closed place or cabin for free ventilation.

54. *Q.*—(*By the President*).—Do you think that there should be a difference in the allowance of ventilating space for cold climates and for the tropics?

A.—There is a good deal more ventilation required in the tropics.

55. *Q.*—Do you consider that native passengers ships should carry a medical officer. If this was made compulsory, would you make any difference for the numbers carried or for the duration of the voyage?

A.—I consider it should depend on the duration of the voyage, say, being over five days.

56. *Q.*—(*By Captain Street*).—Do you consider that a medical officer is required in vessels running between Madras ports and Rangoon?

A.—If carried at all, they should be required on these voyages.

57. *Q.*—(*By the President*).—Do you think it would be a wise precaution and practicable to have the passengers before they embark examined by a medical subordinate, to prevent cases of infectious disease from being taken on board with the passengers?

A.—I think it would be a most difficult thing to carry out, though very desirable.

58. *Q.*—What grade of medical officer would you consider best suited for these vessels?

A.—The same rules as under the Emigrants Act.

59. *Q.*—Give any instances which have come to your knowledge in which a medical officer would have been of service on board a native passenger vessel.

A.—From a medical point of view I have known of several instances where cholera and other epidemic diseases have appeared. It is now the custom for the Chief Officer to give them some medicines judged to the best of his ability.

As a sanitary officer the medical officer should be required to report direct to the Sanitary Commissioner for the information of Government, giving a copy of his report to the Captain for the information of the owners. Unless his position was independent in some way, he would be useless, and, therefore, an unnecessary expense.

Captain G. RANSON.

1. *Q.*—Will you please inform the Commission of the nature of your present occupation?

A.—Deputy Conservator of the Port of Rangoon.

2. *Q.*—What qualifications or experience do you possess in regard to the subjects under enquiry?

A.—Five years' Deputy Port Officer.

3. *Q.*—Do you take any part, either directly or indirectly, in the administration or observance of any of the provisions of the "Native Passenger Ships Act, 1887"?

A.—Yes.

4. *Q.*—(*By Captain Street*).—In what way do you take part in the administration of the Native Passenger Ships Act?

A.—I have, as Government Marine Surveyor, to survey all steamers whose certificates have expired; to see the hold is in good condition; also sails, ground tackle, &c.; in fact, all but the hospital arrangements, extra water closets, and cabooses required under the Native Passenger Ships Act.

5. *Q.*—How does an Indian Home Trade voyage compare with an English Home Trade voyage?

A.—Much longer distances, as a rule.

6. *Q.*—Do you consider that, if there is to be a line dividing short from long voyages, it should be drawn at five days?

A.—The present system is fair.

7. *Q.*—Do you think that the five-day limit puts an Indian short voyage on a footing similar to an English Home Trade voyage?

A.—No.

8. *Q.*—Are you of opinion that the conditions justify a distinction being made between fair and foul weather in the case of voyages which may extend to five days?

A.—Yes.

9. *Q.*—Are you of opinion that the seasons of fine weather defined in the rules are judiciously chosen with reference to the prevailing conditions?

A.—Yes.

10. *Q.*—If not, what alterations would you suggest?

A.—None.

11. *Q.*—Will you mention instances of foul weather occurring during the seasons which are by rule declared to be seasons of fair weather?

A.—I can only remember one cyclone, 3rd September 1818, at the Sandheads.

12. *Q.*—In your opinion, do the conditions justify passengers being carried across the Bay at any season on decks, such as are commonly called hurricane-decks, which are not protected from the weather except by overhead awnings, side screens and curtains, assuming that no accommodation is reserved for these passengers on the lower decks, which are crowded with other passengers?

A.—Not in foul weather.

13. *Q.*—Are you acquainted with the ordinary conditions of native life amongst the class that form the bulk of the native passengers who travel by sea?

A.—I am not.

14. *Q.*—Are you aware that it is a common practice for natives of India to sleep at night in the open air?

A.—Yes.

15. *Q.*—Is it within your knowledge that 1st class European passengers, travelling about the Bay of Bengal and coasts of India as a rule prefer to sleep on deck under the same conditions as to awnings and curtains as the 3rd class native passengers?

A.—Many of them do.

16. *Q.*—Have you had any personal experience of the weather round the coast of United Kingdom, and in the Bay of Bengal, and on the coast of India?

A.—At the head of the Bay of Bengal.

17. *Q.*—Do you consider that there is such similarity as to warrant a comparison between the weather experienced on the coast of United Kingdom or between the rivers Elbe and Brest (English Home Trade voyage) and that experienced in the Bay of Bengal and coasts of India?

A.—My experience is limited to Bay of Bengal and Rangoon.

18. *Q.*—Do you consider the conditions of English and Indian passenger traffic to be similar in any other way than that the traffic under discussion is by sea?

A.—No.

19. *Q.*—Do you think the ordinary native passenger would be prepared to pay more for better accommodation?

A.—I doubt it.

20. *Q.*—Is it not a fact that very well-to-do native merchants are satisfied with the usual deck accommodation?

A.—Yes.

21. *Q.*—What class of people travel as deck-passengers in the United Kingdom on vessels which frequently carry their full complement?

A.—I cannot say.

22. *Q.*—Have you any special suggestions to make in regard to voyages similar to those classed as excursions by the Board of Trade, that is, voyages during which a vessel is not more than ten or twelve hours at sea?

A.—No.

23. *Q.*—How is the number of passengers which a vessel is capable of carrying calculated in each case?

A.—By the rules laid down from time to time in the Native Passenger Ships Act for long and short voyages.

24. *Q.*—Is allowance made in Board of Trade Rules for height of 'tween-decks; in fact, do not Board of Trade surveyors, when berths are not fitted for 3rd class passengers, calculate the number that may be carried on the basis of a cubic measurement of 72 cubic feet per statute adult, after deducting all hatches and encumbrances?

A.—Yes; 6 feet minimum height. Yes.

25. *Q.*—If so, would you consider it proper to allow for height of 'tween-deck as an element in the health and comfort of 3rd class native passengers?

A.—No.

26. *Q.*—Do you know the height of the 'tween decks in the British India steamers?

A.—Yes; of some.

27. *Q.*—What is the maximum height between deck in these steamers carrying native passengers? What is the average height?

A.—1st 8 feet; 2nd 7 feet.

28. *Q.*—Are you aware that there was an old rule in India which allowed ships to carry three passengers for 2 tons?

A.—I am not.

29. *Q.*—Is the Board of Trade rule, under which the number of passengers carried must not, whatever the deck measurements may give, exceed the number denoting the gross tonnage of the vessel, enforced in India?

A.—No.

30. *Q.*—What would be the effect if, assuming all other existing Indian rules to remain intact, this rule were enforced?

A.—Vessels would carry more passengers than under the present rules.

31. *Q.*—(*By Captain Street*).—In the *Rasmara* and also in vessels like the *Secundra*, do you measure the forecastle deck? Do you measure the enclosed sponsons in paddle vessels?

A.—No.

32. *Q.*—(*By Captain Atkinson*).—Would you make any difference for a ten hour voyage, *i.e.*, in the *Rasmara* on an excursion voyage? Would you measure the forecastle?

A.—I would make due allowance for the crew and allow the surplus for passengers.

33. *Q.*—(*By the President*).—Have you measured the *Rasmara* for passengers? Do you measure under the Native Passenger Act?

A.—No. I discontinued measuring in June 1887.

34. *Q.*—What spaces are left unmeasured for passengers when a vessel is being measured for certificate A?

A.—Deck houses, engine-room hatch, cargo hatches, companions, sheep and fowl pens, forecastle deck, space abaft the wheel, winches, ventilators and ladders.

35. *Q.*—(*By Captain Street*).—Do you see any reason against the portion of the *upper deck* hatches not required for the ladders from the *'tween deck* being measured?

A.—I see no objection as long as it does not affect ventilation.

36. *Q.*—(*By Dr. Comins*).—Are you aware that under the Board of Trade rules hatches which are used for lighting or ventilating spaces cannot be measured?

A.—They are always deducted.

37. *Q.*—How are the hatches treated when a

vessel is being so measured, *i.e.*, is the whole space of a hatch deducted or not? Is any difference made on account of long and short voyages?

A.—(*1st*) *Main deck.* Whole space deducted for hatches. In *'tween decks* two-thirds of the hatch is allowed if closed and supported by a good strong back.

(*2nd*) Not to the best of my recollection.

38. *Q.*—(*By Captain Street*).—Who is responsible at Rangoon for the deduction in the case of articles not in position at the time the vessel is measured?

A.—The officer granting certificate B.

39. *Q.*—Are the spaces which would be required for the deck water-tank, latrines, and cooking ranges necessary for use of native passengers, deducted for the passengers' space, even if such articles are not in position at the time a vessel is being measured?

A.—Yes.

40. *Q.*—(*By the President*).—Given a steamer like the *Purnea* which can carry over 1,000 passengers aft, should the alley-ways be kept clear to allow the passengers to get to the latrines and cook-houses?

A.—I have always deducted the alley-ways.

41. *Q.*—Are any spaces deducted so as to admit of the officers and crew moving fore and aft the vessel with facility and their getting with ease at the boats and boats' gear; if not, have you any recommendations to make on this head?

A.—Not in the rules. I think some allowance should be made.

42. *Q.*—(*By Captain Atkinson*).—Would you deduct alley-ways of sufficient width to allow of a passage, and also room for passengers to lie down on?

A.—No. If it was over 5 feet.

43. *Q.*—(*By Sir Henry Morland*).—A vessel having been measured for passengers in Calcutta, is she liable to be remeasured here? If so, after what interval or on what occasions? Is there any fixed rule for measurements at all ports?

A.—No, if her A and B certificates have not expired. A certificate under the Indian Steam Ship Act is required every six months. The measurements are made according to the Act, but no mention is made of any deductions.

44. *Q.*—(*By Sir Henry Morland*).—How have you found your measurements differ from those taken in Bombay?

A.—Upon two occasions I found the Bombay certificate gave fewer passengers.

45. *Q.*—Should alley-ways, used as a means of communication by the crew, be considered as deck area for passengers, *i.e.*, the narrow passages between the officers' cabins and the engine-room-casing? If so, would it not be advisable to give a minimum breadth before allowing the area to count for passengers?

A.—No; as these spaces are generally used by the engine crew and officers.

46. *Q.*—Are not these alley-ways additional shelter and, therefore, desirable for passengers?

A.—No; as a rule they are only of sufficient width for passage to and from, *i.e.*, about 5 feet.

47. *Q.*—For ships with large water-ways in the 'tween decks extending inside the battens on the ship's side, is the deck measurement made to the inside edge of the water-ways or to the battens? Which would you recommend?

A.—Inside edge, whether covered or not.

48. *Q.*—Should the spaces set apart for the boats on the deck of the bridge be utilized for passengers when the boats are carried at the davits? If so, state whether during both fair and foul season or only during the fair season.

A.—Yes, in fair weather.

49. *Q.*—In your opinion are the provisions of the Native Passenger Ships Act, and the rules made under it, in regard to the accommodation to be provided for native passengers on long voyages and short voyages suitable?

A.—Yes; as far as I can judge from perusing them.

50. *Q.*—(*By Captain Street*).—What space would you consider sufficient for a voyage not exceeding twelve hours?

A.—Four and a half superficial feet in the upper deck and from 6 to 9 square feet in the main deck according to fine or foul weather.

51. *Q.*—(*By Captain Street*).—Would you recommend that, in the Native Passenger Ships Act, there should be a clause defining the space to be allotted to each native passenger on each of the following named voyages—

(*a*) River or smooth water?
(*b*) Partially smooth water?
(*c*) Excursion voyage?

A.—Yes. It would materially help the surveyor's calculations and ensure uniformity.

52. *Q.*—(*By Captain Street*).—Would you recommend that the *river* or *smooth water*, the partially *smooth water*, and the *excursion* limits of the various ports on the Indian and Burma coasts should be defined, and a table prepared on the lines specified in page 18 of the Board of Trade Instructions as to the survey of passenger accommodation?

A.—Yes; certainly.

53. *Q.*—Do you think that a passenger on a voyage lasting ten or twelve hours requires as much room as one on a voyage lasting five days?

A.—No.

54. Q.—Do you think that native passengers can do with less space than Europeans?

A.—Yes.

55. *Q.*—(*By Captain Street*).—Have you ever seen a vessel on board of which the full complement of native passengers she is allowed has been embarked?

A.—No.

56. *Q.*—(*By Captain Street*).—Have you ever witnessed any experiments in placing passengers in an area giving 6 square feet to each adult?

A.—No.

57. *Q.*—(*By Sir Henry Morland*).—Do you understand by the space allowed of 6 feet on the 'tween deck and 4 feet airing space on the upper deck that the intended arrangement is for a proportion of the whole number to be always on deck? If so, what proportion would this be?

A.—Yes; about one-third of the passengers.

58. Q.—Do you consider that on a voyage which may extend to five days native passengers can be accommodated in the 'tween decks of a steamer at the rate of one passenger to each six square feet of area, with four square feet of airing space on the upper deck, without prejudicing their health and safety?

A.—Yes, in fine weather.

59. *Q.*—(*By Captain Atkinson*).—Do you know that in the inclement weather experienced on the coast of United Kingdom the Board of Trade rules require shelter to be provided for one-sixth only of the number of passengers for which the upper deck is measured? Would you not consider it more necessary to provide shelter about the English coast than about the coast of India?

A.—I know the Board of Trade rules make

some allowance, but I do not remember how much; I hould say shelter is more necessary at home thu here on account of climate.

60. *Q.*—(*By Captain Atkinson*).—In case of cyclonic weather, would not the 1st and 2nd class saloon and cabins provide the necessary shelter for native deck passengers?

A.—Yes; if not occupied by passengers.

61. *Q.*—Do you think it necessary for the health and safety of the passengers that there should be on a voyage which may extend to five days, permanent shelter for each passenger either 'tween decks or in cabins on the upper deck?

A.—Yes; in foul weather.

62. *Q.*—Do you think that on a voyage which may extend to five days there should be separate accommodation for female passengers?

A.—I do not think it is necessary.

63. *Q.*—(*By Captain Street*).—Not even in the case of Mahomedan females?

A.—Yes; several of the British India vessels have suitable arrangements for females.

64. *Q.*—(*By Captain Street*).—Is not an awning and also a shade-deck likely to be a source of danger should a vessel with a deck of either kind be struck by a heavy squall or encounter cyclonic weather, presuming that passengers are on board at the time?

A.—Yes.

65. *Q.*—(*By Captain Atkinson*).—In your long experience can you name cases in which an awning decked vessel like the *Kistna* class has suffered any damage, or has hurt any passengers during bad weather?

A.—No.

66. *Q.*—Do you know of any steamers which carry native passengers on two upper decks?

A.—Yes.

67. *Q.*—(*By Captain Atkinson*).—Are you aware that the British India Company had several vessels of this class working as passenger vessels from 1875, *i.e.*, before the Native Passenger Act came into force?

A.—Yes.

68. *Q.*—Do you consider, from the wording of the Native Passenger Ships Act and your experience of this question that the Legislature, when it passed the Act, contemplated the existence of vessels with more than one upper deck?

A.—I should say not.

69. *Q.*—Are you acquainted with the design of the steamers of the *Kistna* class?

A.—Yes.

70. *Q.*—What is the distinguishing feature of these steamers?

A.—Shade-decks.

71. *Q.*—Are the passengers on these middle decks as well protected in rough weather as the passengers on the lowermost of the three passenger decks?

A. No.

72. *Q.*—Are these passengers on the middle deck not better protected than on ordinary upper decks?

A.—Yes.

73. *Q.*—During the inclement weather, do you consider that the upper deck passengers are sufficiently protected by canvas awnings, curtains, and screens. If not, what would you recommend?

A.—Yes, in the foul season.

74. *Q.*—Do you consider that sufficient protection from the sea is afforded to upper deck passengers by the "reasonably stout screen" which, under existing rules (*see* Government of India letter No. 430, dated 27th August 1878) is held as coming within the definition of a substantial bulwark? If not, state what you would recommend in lieu.

A.—I do not remember the exact terms of the letter referred to.

75. *Q.*—If the 'tween deck should be given up entirely to passengers, would the vessel be deeply laden with the ordinary cargo carried on the passenger lines of traffic?

A.—No.

76. *Q.*—In rough weather would any water get on to the upper deck through the scuppers and shutters? If so, could this be prevented?

A.—I should say so; might be partly remedied by having valves fitted on the outside of the scupper holes, or shocking them up from inside.

77. *Q.*—Under existing rules are the arrangements to prevent injury to passengers by the rolling of the ship sufficient for the purpose?

A.—I know of no rules to this effect.

78. *Q.*—How could you provide this protection?

A.—By life lines or fore and aft rails.

79. *Q.*—Is it necessary for the comfort or safety of the passengers that provision should be made for the accommodation of luggage not stored in the hold?

A.—Native passengers, as a rule, do not care to part with their luggage, but racks or pegs supplied at a very small outlay might come in useful to hang their bundles on.

80. *Q.*—If such accommodation were provided, would it be used? Will native passengers allow their luggage to be parted from them under any circumstances?

A.—Not as a rule, but they would use racks and pegs to hang bundles on, if the decks happened to be wet at any time.

81. *Q.*—Do you think that on a voyage which may extend to five days, sleeping platforms should be provided for the passengers?

A.—Not necessary; they would add to their comfort.

82. *Q.*—What closet accommodation do the rules require on native passenger vessels?

A.—Not less than two and one extra for every hundred passengers or part thereof; this I think sufficient.

83. *Q.*—What accommodation of the kind is provided for emigrants?

A.—I do not know.

84. *Q.*—And what accommodation do the Board of Trade rules require?

A.—I do not know.

85 *Q.*—Do you think the existing rules in regard to hospital accommodation are suitable?

A.—I do.

86 *Q.*—Do you consider that cargo, horses, cattle, sheep, and live stock should be carried on the same deck with passengers? If so, is any fitting necessary to prevent the passengers from being inconvenienced by the urine and dung of the horses, cattle, and sheep; and if any such fitting is requisite, state what you would recommend?

A.—Horses, cattle and sheep may be safely carried on the same deck as the passengers, but they should be railed off carefully, and means adopted to carry off their filth from spreading among the passengers.

87. *Q.*—(*By Captain Street*).—In fact, you would adopt, as far as practicable, the instructions on the subject laid down in para 13, page 11 of the Board of Trade Instructions as to the survey of passenger accommodation, &c.?

A.—Yes; as far as the instruction board is concerned.

88. *Q.*—In vessels which, under existing rules, are permitted to carry horses, cattle, and sheep with native passengers, are sufficient precautions adopted to prevent the hay and straw provided for the use of such animals from catching fire either from a spark from the ship's funnel or lighted matches? If not, state what extra precautions you would recommend.

A.—Yes, as the fodder is generally carried under hatches.

89. *Q.*—(*By Captain Street*).—When the fodder is carried under hatches is it in loose bundles or in compressed bales? If the former, is there not great danger from fire?

A.—Yes; but certain precautions would have to be taken, such as not allowing the hay to be removed during the night.

90. *Q.*—(*By the President*).—Ought the Government to prohibit the carrying of gunpowder and explosives to any large amount in the same steamer with native passengers?

A.—No; not if it is properly stored in a properly constructed magazine.

91. *Q.*—(*By Captain Street*).—Would you allow dynamite and detonators to be carried in the same vessel with native passengers?

A.—No.

92. *Q.*—In your experience do the Surveyors at all ports in India make their surveys on the same lines?

A.—I believe they do.

93. *Q.*—Do you think it necessary that there should be a set of definite instructions as to the survey of passenger accommodation and crew space similar, so far may be, to those issued by the Board of Trade?

A.—Certainly.

94. *Q.*—(*By Captain Street*).—If from any peculiar construction of any vessel, there should be an unusual amount of accommodation, so as greatly to reduce or increase the passenger accommodation, what course would you recommend the Surveyor to adopt?

A.—In case of doubt I should measure the vessel and give the result to the Port Officer with my views on the subject.

95. *Q.*—(*By Captain Street*).—When cargo, cattle, &c., are carried in the space measured for passengers under the Native Passenger Ships Act, what deductions are now made in vessels

(*a*) proceeding to the coast of India?

(*b*) proceeding to the ports in Burma from Rangoon?

A.—None. The practice has been for 6 square feet for fine weather, and 9 square feet in foul weather, deduct one passenger.

96. *Q.*—(*By Captain Street*).—Is there any reason why the Board of Trade Instructions in respect to the deduction to be made on account of cargo and cattle should not be followed in vessels under the Native Pessenger Act? If so, would you state what deductions you would recommend?

A.—No.

97. *Q.*—(*By Captain Street*).—In the case of sea-going vessels making short voyages in Indian waters not exceeding ten hours, is there any reason why the Board of Trade Regulations respecting such voyages as laid down in para. 20, page 16, of the Board of Trade Instructions as to the survey of passenger accommodation should not be followed? If so, will you state what alteration should be made?

A.—No.

98. *Q.*—Do you think the existing regulations in regard to the lighting and ventilation of the passenger accommodation suitable?

A.—Yes.

99. *Q.*—(*By the President*).—Would you make any difference in regard to ventilation between vessels carrying passengers in the tropics and those carrying passengers in an English climate?

A.—Yes; I would make a difference.

100. *Q.*—Would you make the regulations in regard to the equipments of vessels similar in all respects to those of the Board of Trade?

A.—Yes.

101. *Q.*—After a vessel has been measured for certificate A, is the Captain supplied with the Surveyor's calculations; if not, do you think it necessary that he should be?

A.—No, but I think it as well if the measurements were given to the Captain.

102. *Q.*—Would it not be advantageous if a copy of all measurements and calculations of passengers' space, as determined on the original measurement were supplied to the Commander of the vessel?

A.—I believe it would.

103. *Q.*—If so, would you recommend that the calculations should show clearly the names of the various obstructions which have been deducted from the gross area, their dimensions and the proportional area deducted?

A.—Yes.

104. *Q.*—In the case of voyages (the duration of which does not exceed five days) what distinction is made between seasons of fair and foul weather?

A.—In fair weather 6 superficial feet is allowed, in foul weather 9 feet.

105. *Q.*—Do you consider a double awning overhead with side curtains and bulwark screens, as required by the Native Passenger Act, equal to the ordinary tent in which troops are accommodated?

A.—Yes.

106. *Q.*—Being acquainted with the class of natives who form the bulk of those who travel by sea, do you consider they require better accommodation for their health and comfort than native troops?

A.—No.

107. *Q.*—Do you consider that native passenger ships should carry a Medical Officer? If this were made compulsory, would you make any difference for the numbers carried or for the duration of the voyage?

A.—Not necessary.

Proceedings of the Twenty-fourth Meeting of the Native Passenger Ships' Commission, held at Rangoon, on the 13th January, at 11-30 a.m.

Present:

Surgeon-Major A. S. Lethbridge, C.S.I.	*President.*
Captain Sir Henry Morland, H.M.I.M.	*Members.*
Captain H. A. Street, H.M.I.M.	*Members.*
Surgeon-Major D. W. D. Comins, I.M.S.	*Members.*
Captain J. H. Atkinson, B. I. S. N. Co.'s Service	*Members.*

1. Captain Wilson was too unwell to attend.

2. Rai Bhugwan Das, Bahadur, was called and examined. His examination having been completed, he introduced to the Commission Messrs. H. Suraj Mull, Govind Ram, and Prem Suk Das, merchants and bankers, residents in Rangoon for about 25 years, who had severally made many voyages between India and Rangoon with their respective families, and who had accompanied Rai Bhugwan Das in view of giving evidence. As they stated that what they had to say was similar to the evidence given by Bhugwan Das, they were not examined. They desired, however, that it might be placed on record that they hoped something would be done by the Government of India to improve the existing arrrangements for the conveyance of native passengers, which cause such passengers to suffer great personal discomfort, and affects Hindus in the matter of caste.

3. There being no further witnesses, the Commission adjourned until noon on the 14th instant.

Evidence of RAI BUGWAN DAS, BAHADUR.

Witness stated that he was a contractor, merchant and banker, formerly of Bikanir, Rajputana. He had made 10 or 12 voyages to and from Calcutta and Rangoon direct, and by the Arakan coast. When he first began to travel the voyage lasted 11 days, but it is now reduced to 4 days. He has always travelled by the British India Steam Navigation 1st class, and his servants (30 or 40) 3rd class, and at all seasons of the year. During the cold weather there is equal comfort on the upper 'tween decks, but during the south-west monsoon there is discomfort on both decks. On the upper deck in heavy weather they sometimes take down all the awnings and screens. This is done even when the weather is not stormy.

In the foul weather the 'tween decks are extremely hot from the closing of the hatches which, except for a small portion are entirely closed, whereby the ventilation is shut of. This is the result of his personal experience and also what he has heard. He has 3 or 4 times made personal complaints at the offices of Messrs. Mackinnon Mackenzie. When he first knew this route there were few passengers, but the numbers are now increasing and there is sometimes not room to sit down. This state of things has lasted now 3 years. He has complained of the removal of the awnings on the upper deck to the Captain, and he said that the wind was too strong. The British India Steam Navigation and he have been good friends, and he only gives this evidence so that good rules may be made for the comfort of 3rd class passengers. His object is to get the better class of traders who have money into the country. Now only poor men, who have no money, come. He is not aware that there is any Government rule on the subject of awnings. He has not complained to any of the Government officials because, when he mentioned the subject to Mr. Mackinnon, he said the fault lay with the Captain. In reply to Captain Atkinson, he said the same thing occurs now. When a passenger complains to his Captain he gets abused and kicked. He has seen this with his own eyes. As regards separate female accommodation, his opinion is that both Hindus and Mussalmans prefer to have their women with them, but for those who wish for it, it would be a good thing if there were separate accommodation for married people. Hindus and Mussalman families should have separate places. He is strongly in favour of the separation of accommodation for Hindus and Mussalmans and at one time this was carried out by the British India Steam Navigation, and different coloured tickets were issued. All that would be required would be a rail along the middle of the ship. Low caste Hindus will respect the prejudices of high caste Hindus, but Musalmans will not. As regards food and drink, a large proportion of Hindus carry these with them, and when the decks are being cleaned and washed by the *khalasis* and *mehters*, they are liable to pollution. To remedy this, he would recommend a hanging shelf to be let down from the side of the vessel, on which the food and water might be placed.

If this were done there could be no objection to washing the decks: in fact, washing the decks is very necessary. There is great difficulty for Hindus on boardship; in fact, if there was a railway not one Hindu would go by sea. No one can boast of his Hinduism after having been to sea. A man takes enough dry food for seven or eight days. He himself takes 2 casks of water, contain-

ing 105 gallons, for 40 men. The B. I. steamer will put them anywhere he likes, for he gives them freight to the extent of 7 or 8 lakhs of rupees a year. Each passenger on the voyage from Calcutta takes a small wooden box and his food and water and his bedding on his box; from Rangoon he takes more, including a big box. He is well acquainted with the measurements for passengers, as he has been a contractor and has for many years taken troops and followers to Tounghoo, and 6 feet is not enough, but he thinks 5 feet × 2 feet is enough. He thinks the rate per passenger from Calcutta is too low, and it was only obtained by fighting and competition between rival companies. He thinks ₹15 would not be too much. It would not interfere with the emigration of coolies from India, because Government would pay the ₹10; the other poor people are paid for by their friends who are already in the country. It would not do to have two rates for better and worse accommodation, as Hindus would always take the cheapest. If the rate was fixed at ₹15, the Company ought to give 5 feet by 2 feet, but this could only be done by agreement between the two Companies. The wages for labour in this country are higher than anywhere else. Coolies from the Coromandel coast come under an agreement with a headman, who pays their passage and charges a profit on it of from ₹2 to ₹5. The coolies remain in charge of the headman who feeds them, taking a profit of two pice a day on one-and-a-half annas and charges two annas; he also hires them out for labour and repays himself. The rule for bringing single women is not a good one; the object for which they are brought is not fit to be mentioned to this meeting. There are not enough latrines; the strong men get these, but the weak wait until they soil their clothes. One latrine for each 100 is too little; there ought to be one for each 50. There ought to be a separate urinal. Hindus of his caste cannot go to a latrine for this purpose without necessitating a change of clothes. People of his caste on this account can use the latrine only once a day, but he mentioned (having been directly asked) that they go at night and urinate in different parts of the ship not meant for this purpose. In the day-time this would not be allowed. A passage is kept in transports for persons going to the latrine, and in his opinion he thinks it very necessary. The alleyways are occupied at night by the servants of the ship and the officers, and it is with considerable difficulty that the passengers can pass that way at night, because they are liable to trample on the people and get into trouble. The ventilation in hot weather is not sufficient; it does not matter in the cold; but human beings collected in large numbers make the heat intense. In heavy weather the boxes roll about from one side of the ship to the other and on top of the passengers. He would recommend that the boxes should be lashed to the side of the ship and to a bamboo in the middle of the ship.

There is no fear in sending boxes into the hold that there would be any injury or loss.

Passengers have been inconvenienced by carrying sheep and horses on the same upper deck with them, and there should be a separate place for them. He has seen all kinds of cargo, including hides and fish, carried on the same deck with passengers. He would recommend that a doctor should form a part of the permanent ship's establishment. In 1878 he was coming, and there was a man insensible with high fever near the sheep, and no one would do anything for him. The Captain and officers have no means of knowing when passengers become ill; it is only when they die that they know of it. It is now the custom for Hindus and Mahomedans and every one to take medicine from a doctor, irrespective of his caste.

When a person is travelling alone no one takes any notice of him and he gets no help from the other passengers. When the deck becomes fouled, it is only cleaned in the evening; the dirt lies there all day. There are topazes enough, but they don't attend to what the passengers say: they want somebody to look after them. Some bathe on the sly, and when the decks are being washed they are allowed, but all cannot wash at that time as they cannot all get to the latrines by them. He would wish some of the 1st and 2nd class cabins to be fitted with two berths, so that more privacy might be obtained.

A large number of the officers and crew use violence to the passengers, chiefly to those who have not travelled before and do not understand the usages of the ship.

He had often complained to the Captain of the ship of the officers and *khalasis*; he never lost an opportunity of trying to check this abuse. He has come before the Commission to give his evidence, in the hope that the Commission will induce Government to make such rules as will make it easier for native passengers to travel by sea, but if this cannot be done, he would hope that it may be urged on Government that communication by rail be established, so that this great country may be populated by the poor, who cannot be fed in their own country.

H. Suraj Mull, Govind Ram, and Prem Suk Das, Shroff,

merchants and bankers, residents in Rangoon for 25 years, having made many voyages with their families, were introduced and stated that they had come with Rai Bhugwan Das, Bahadur, to give the same evidence as he had given, in the hopes that something might be done to improve the arrangements for the carriage of native passengers, who, under the present arrangements suffer great discomfort and loss of their religion.

Proceedings of the Twenty-fifth Meeting of the Native Passenger Ships' Commission, held at Rangoon on the 14th January 1891, at noon, on board of the B. I. S. N. Co.'s Steamer "Purnea."

Present:

Surgeon-Major A. S. Lethbridge, C.S.I.	*President.*
Captain Sir Henry Morland, H.M.I.M.	*Members.*
Captain H. A. Street, H.M.I.M.	
Captain George Wilson, H.M.I.M.	
Surgeon-Major D. W. D. Comins, I.M.S.	
Captain J. H. Atkinson, B. I. S. N. Co.'s Service	

1. Mr. Samuel Goddin, at present out of employment and residing at Rangoon, who had travelled as a deck passenger in the B. I. S. N. Co's. Steamer *Sirsa*, from Madras to Rangoon, in June 1889, was called and examined respecting his experiences on that occasion.

2. Mr. Goddin's examination having been completed, the Commission adjourned.

S. S. Purnea, 14th Janury 1891.

Evidence of Mr. SAMUEL GODDIN of Madras, but now residing at Rangoon, and at present out of employment.

Witness said that he wrote a letter to the *Rangoon Times* of the 12th instant, of which the following is a copy:—

THE NATIVE PASSENGERS' SHIPS' COMMISSION.

Sir,—Can I claim your indulgence by having the undermentioned article published in your valuable and wide spread journal, with a hope that it may be of some assistance to the "Commission" as well as a boon to the public. Before going into the details of my experience on one of the B. I. S. N. boats, S. S. *Sirsa*, I will, for obvious reasons, place the matter before you as "Deck Passage Accommodation" with the weals and woes attendant thereon. I embarked from Madras for Rangoon on the above mentioned boat as a deck passenger, for the very modest sum of ₹20-8, which meant that I was to be fed for the voyage too, for the space of 9 days, time occupied from Madras to Rangoon. I went prepared to mess myself; I carried it with me, but the clerk of Binny & Co.'s agents at Madras would not consent, and made me tip out. Remonstrance was useless. If I messed myself, I would not be allowed to proceed. I very reluctantly tipped out and tried to make the best of it. I am on the "European Deck Passengers treatment. The native treatment cannot be said to exist, as they look after themselves. The food is a caution to dead snakes. The best portion consisted of a miscellaneous dish, transhipped from the first class table, remnants, and not unfrequently the scrapings, for I have often had pieces of cold fowl, potatoes, a piece of cake or pudding served to me in the same plate. The meals were very regularly supplied, but, carrambo! the eating of it was rather irksom Sauce, mustard, &c., were very conspicuous by their absence. I got better fed by paying cash down to the steward on one occasion than I did on this, although I paid the same money to the Agent. This, then, will go to show that the services of a European steward and not a native is indispensable if the agents are paid food-money. Native stewards punish their Deck passengers.

The accommodation.—I was posted between decks, and felt, like Robinson Crusoe, "sole monarch of all I surveyed." I thought at the time the officers were very kind and obliging by giving me such ample room to move about in, there being about 150 jars of preserved eggs for Rangoon, with only myself at that time. All went merry as a marriage-bell, till we arrived at Coconada, the great cooly port, when, horror of horrors! before you could say "knife!" about 200 more were brought in to disturb my rest, added to which, about 300 bags of rice, tobacco, chillies, &c., &c., were tumbled in, and as if this was not enough, finding breathing space left, about 30 sheep were thrust in shortly after. You may depict my misery, I never went down between decks once I got up; in fact, there was not room for another man to stand up in. The upper decks were simply swamped, and even there it was difficult to wade through. I really and truly sympathised with my poor ship-mates, to see how contented they were with all this inconvenience and forgetful of hardships.

When the 'tween decks became so thick and lively with human cargo, the place became one stagnated cess-pool of miscellaneous mixtures, and the smell from the live-stock (sheep), coupled with that of the natives, was appalling.

Serving out of water (drinking) and fuel is a sore ordeal for these unfortunate passengers. The way they are buffeted, kicked and ill-used by the ship's crew is really shocking. The poor fellows with the greatest difficulty found their way to the place, but seldom, if ever, they return with a mouthful of water or one stick; they get knocked about. I don't envy any one of them, but a few; and I have known some of them to beg for water from their comrades to satisfy thirst. There is an insufficiency of cooking places. I have seen very many of them eating their rice parched, owing to the above.

Latrine accommodation is a tight fit, for there is sometimes a squabble for places.

The lighting arrangements are by no means creditable, as the one lamp that is put up for the 'tween

deck passengers is so very, very accurately adjusted, that it is lit at 6 and disappears of its own accord at 7, made to last one hour. There was an accident, which I may mention, to a female passenger, which might have turned out seriously had it been something heavier, and that was a couple of rice bags slipped from its place through the movements of the steamer and fell across the woman's legs. She was more frightened than hurt. This will prove that passengers are huddled anywhere and anyhow.

Deck accommodation is not provided for by the steamers plying for poor European women, who are obliged to pay more than they are able so as to travel. Cannot something be done for them as they do on Railways? Separate compartments on deck can be screened, or some such other arrangement made; it would indeed, be a boon. One has to visit the wharves at Rangoon to form a correct estimate of the number of native deck passengers who disembark. It would be a lasting boon to these unfortunates to have an Inspector on board during the trip to see that they are properly treated; also a medical man on board is very essential. I am doubtful now, if two deaths or one occurred on my trip to Madras. I am not prepared to state how they died, but they may have had a chance, if medical help were near. Agents don't care a tinker's curse for all these very necessary items, and it is a "Sham" to have agents' assistants giving their experience as to this, that, and the other, on the Commission. I trust this will catch the eye of the President of the Commission, and serve as a useful hint upon the essential points of the investigation.

"DECK PASSENGER."

RANGOON,
12th January 1891.

As a passenger in the B. I. S. N. steamer *Sirsa* he, the witness, paid R12-8-0 for his passage and R8 for his food. He left Madras on a Wednesday and arrived in Rangoon on Thursday the following week. This was in June 1889. It was raining for about half the voyage. He did not know why the rule was made that *food-money* should be paid in advance. He paid this money to the clerk, and nothing else. It appeared to him that the food supplied was the broken victuals from the 1st class table. He does not remember the name of the Captain. He was sure—almost certain—it was Captain Bellwood. If the Captain had taken the trouble to go down to the 'tween decks to enquire into the state of the deck passengers, he was sure, for humanity's sake, he would have done something to remedy matters. He had heard Captain Bellwood spoken of as a humane man. When the steamer started from Madras, there was not a soul in the 'tween decks. He stated that he was unemployed at present, but at that time he held an appointment as headman in charge of the Susein Works. He had never been employed by the B. I. S. N. Company. There were 3 rows of jars filled with eggs—the whole breadth of the 'tween deck. There was no smell. The eggs were wrapped in straw, and could not roll about. When the vessel arrived at Coconada, his difficulties commenced. About 200 coolies were embarked there. They all came into his compartment. He had no choice of going into another compartment. When this number came in, the compartment was crowded to suffocation. He was in the after-compartment. It was underneath the saloon. If anyone had come to see how they were getting on, and there had been room elsewhere, the difficulty would have been lessened. He had travelled twice as a deck passsnger, and once as 2nd class passenger. He did not suffer nearly so much the other times, still it was a tight fit. He never opened out his bedding as there was not room to open it out. He never opened it out all the voyage, even when he had the whole compartment, as he slept on the upper deck. He slept beside a native, and the upper decks were crowded too. He had seen passengers sleeping on the casing of the steam-pipes in the alleyways. After the coolies were in his compartment, they took in some cargo in gunny bags. The bags were stowed under the hatch, on the same deck with the passengers. The inference he drew is that the hold was full, or why did they put it into his compartment. He could see chillies sticking out of some of the bags. He thought there were some bales of tobacco: he could not see what the other bales contained. About 30 sheep were afterwards thrust in through the cargo-port into their compartment. They were kept there until he came to Rangoon, about four days. The sheep were placed in a corner close to a gutter, but the passengers were in close proximity to them. He thought the side scuttles were open all the voyage, but the smell and air were something abominable. About a quarter of the hatch was open in the vicinity of the ladders. One of the cargo ports was open. At night there was one lamp, but it went out after an hour, and he was told by the other passengers that it was not relighted. He himself slept on deck. There was an Armenian passenger with him who remained in the "between decks" and who told him all that was going on, and corroborated what he (the witness) experienced. He came down occasionally to see that his kit was not tampered with, but it was impossible to remain below. On account of the rolling of the ship, two bags of cargo, which were piled up in the next compartment, fell on the legs of a woman while she was asleep. He saw this happen through the door between the compartment which was open. He was sitting down talking to the Armenian at the time. He had seen passengers hand-cuffed, because they happened to be in the way of the officers and crew. Owing to the crush, there

was some difficulty in getting water. He saw a number of natives waiting to use the latrines. He used the 2nd class accommodation. During the watering time there was difficulty in moving on the upper deck. The awnings were spread, but the water collected in on top as they were not tented. The water leaked through the awnings on to the deck. There were no curtains or weather-cloths. There were so many passengers that if they had waited to cook their food they could not have got a meal until 3 o'clock. The upper deck was crowded with passengers. The upper decks are kept clean, but the 'tween decks were not so, because the visits of the sweepers were few and far between, and there was no one to look after them.

Proceedings of the Twenty-Sixth Meeting of the Native Passenger Ships' Commission, held on board of the B. I. S. N. Co.'s Steamer "Purnea," at Sea, on the 15th January 1891, at 11 a.m.

Present:

SURGEON-MAJOR A. S. LETHBRIDGE, C.S.I.	*President.*
CAPTAIN SIR HENRY MORLAND, H.M.I.M.	*Members.*
CAPTAIN H. A. STREET, H.M.I.M.	
CAPTAIN GEORGE WILSON, H.M.I.M.	
SURGEON-MAJOR D. W. D. COMINS, I.M.S.	
CAPTAIN J. H. ATKINSON, B. I. S. N. Co.'s Service	

1. The Proceedings of the twenty-fourth and twenty-fifth meetings were approved.

2. Lal Mahomed, formerly a sepoy in the 12th Madras Infantry and now a *ghari* contractor in business at Rangoon, a 3rd class passenger proceeding by the *Purnea* to Coconada, was called and examined.

3. Lal Mahomed's examination having been completed, Saraya Swamy a native of Coconada, employed in Rangoon as a mistry by a firm at that port, and a 3rd class passenger, was called and examined.

4. Saraya Swamy's examination having been completed, the Commission adjourned until the 16th instant.

Evidence of LAL MAHOMED.

Witness stated that he had been formerly a sepoy in the Madras Infantry and was now a *ghari* contractor at Rangoon.

Witness said he had been seven trips between Coconada and Rangoon, six of these as a private passenger. The upper deck is a good place to sit on, but not to sleep, on account of the spray. Everyone on the upper deck must go below in the rains. He would recommend that the women be kept behind a curtain. It would be a good thing to have separate compartments for Hindus and Mahomedans. He has travelled in heavy weather but experienced no discomfort. When it is too hot he comes on deck. When it is wet or cold he goes below. Passengers take all manner of luggage with them. He himself had about 15 seers of luggage and has paid extra for luggage—R3 for one box by measurement. It was not placed in the hold. If properly secured there would be no fear of loss or injury in the hold. No one was injured by rolling of the ship and shifting of boxes as the boxes were lashed. He would require a space 5′ × 2′ 3″. Alley-ways are not used for passengers. He could not lie down in 6 feet, but he would not give more for extra space. He would put up with the inconvenience. He gave R15-8 for tickets for steamer and landing at Coconada. The landing charge is 8 annas. He would not prefer a hatch, as the ship's crew are always coming to open the hatches. This custom of taking landing charges is 2 or 3 years old. Before that 10 or 12 men joined together, and it came to 2 annas each. The former practice was best, and he got on shore quicker, but now he is made to take a separate ticket for landing. The cooking and drinking water arrangements on board are very good. The Captain used to give medicines; but for the purpose of taking care of the sick who had no friends there should be some one appointed. There should be a peon to represent their complaints to the Captain. They are pushed by the crew and officers when they are in the way, but not ill-treated or struck. In the wet weather no one can sleep on the upper deck. They all have to go below. But they cannot remain below always or they would die of heat. There is no sickness caused by the ship or conditions of life on board. Has never had animals below on the same deck with him, nor is there any trouble from animals kept on deck. Decks are always kept clean by topazes. They sometimes have to wait at the latrine 10 or 15 minutes. A separate urinal would be desirable. Mahomedans require to sit down to urinate.

Evidence of SARAYA SWAMY.

Witness stated that he was coolie mistry of Messrs. Moore Brothers, of Rangoon. Witness had been going backwards and forwards between Coconada and Rangoon ever since he was a boy. Is now 40 years of age. All his voyages were made between Coconada and Rangoon. It is an eight days' voyage. Has always travelled qy B. I S. N. On one occasion the ship was very full, and when he tried to get on to the forecastle, it was so full that he could not even sit down. This happened two years ago on a voyage from Coconada to Rangoon in the month of June during the monsoon, and they got wet from the rain on the upper deck. The 'tween-decks were full. The sea broke over the upper deck; the awnings were spread. They always are spread. He did not know for certain, but there were perhaps 2,000 or 3,000 people on board. They could not cook as the wind was too strong. He did not know the name of any ship he had travelled in, not even of this ship. It was not hot below on the different voyages he had made as they had wind-sails. The scuttles were open. There was great trouble in going to the latrines, and the sweepers and others used to beat them. This is generally the case. There was such a press of people going to the latrines that the decks were very dirty near them. The *Purnea* is particularly good in that respect. A separate urinal would be a great convenience. It would be better if there was a *purdah* for the women. Hindus and Mahomedans would prefer to be in separate sleeping places. He cannot eat anything touched by a Massulman. He is a Hindu. The baggage carried by native passengers varies in weight, about 80lbs. is the usual thing; most of the baggage consists of boxes. He would require a space for himself and his baggage of 5′ × 2′ 2″. On being shown a space of 6 square feet, he said that it was insufficient, and on being asked to show on the deck the space he required, he marked off a space equal to 12′ 6″ (superficial). He is of opinion that a man who could afford it would pay more for better accommodation, but a poor man would have to be content with the space allowed by the Act, even if it was unsuitable to his wants. He used to give 2 annas for loading at Coconada, but now he has to obtain a boat ticket from the steamer agents at Rangoon, for which he has to pay 8 annas. In addition to this payment a passenger, on landing at Coconada at the wharf, has to pay 2 annas at the Custom House. He has a boat-ticket. If a passenger is ill, the Captain or the Chief Officer gives medicine, and Hindus will take medicine from these officers. If the Government had an officer on board to look after native passengers and to make known their wants to the Captain, it would be a great convenience. He had never had occasion to make any complaints. He has never known of any animals or cargo being placed on the same deck with passengers. Animals are carried on the upper deck, and he himself had never suffered any inconvenience when on the same deck in consequence. The ship's sweepers always clean up the "'tween-decks" every day, and keep the deck free from dirt. There is a lamp placed at night in each compartment of the 'tween-decks, but the light is insufficient. He had never seen anyone accommodated in the alleyways. In strong weather passengers remain outside the alley-ways, as they are not allowed to stay in these places.

Proceedings of the Twenty-seventh Meeting of the Native Passenger Ships' Commission, held on board of the B. I. S. N. Co.'s Steamer "Purnea," at Sea, on the 16th January 1891, at 11 a.m.

Present:

Surgeon-Major A. S. Lethbridge, C.S.I.	*President.*
Captain Sir Henry Morland, H.M.I.M.	*Members.*
Captain H. A. Street, H.M.I.M.	
Captain George Wilson, H.M.I.M.	
Surgeon-Major D. W. D. Comins, I.M.S. . . .	
Captain J. H. Atkinson, B. I. S. N. Co.'s Service . .	

1. Saraya, a cargo-boat owner, both at Coconada and Rangoon, residing at Coconada, and 3rd class passenger in the S. S. *Purnea*, was called and examined.

2. Saraya's examination having been completed, Mallaya (Hindu), residing at Coconada, a Public Works labour contractor, and a 3rd class passenger, was called and examined.

3. Mallaya's examination having been completed, Moulvie Ahmed Sahib, a resident of Masulipatam and a 3rd class passenger, was called and examined.

4. The Proceedings of the twenty-seventh meeting were approved on the completion of this witness's examination, and the Commission after witnessing certain experiments in tenting the awnings and fitting weather cloths, their opinion respecting which is expressed in the following memorandum, adjourned until the 17th instant.

Memorandum.

The Commission examined a portion of the main and bridge-decks which had been fitted with awnings, side-screens, and curtains as used in the foul season in bad weather.

It was noticed that the slope of the awnings, as ordinarily fitted, was not sufficient to allow of rain water readily passing off, and that even when tented, the slope of the awnings would in heavy rain have permitted water to collect and pass through and thereby wet the deck.

On the bridge-deck there being no waterways, the whole of the rain water from the awnings would have fallen on the deck and the side $\frac{\text{curtains}}{\text{screens}}$ provided would not have prevented this water from invading the space to be occupied by passengers.

On the main deck the awnings when tented did not reach to the waterways, and there was a considerable space (about 3 feet) left uncovered between the awning and the bulwark.

The water dropping from the awning would therefore have fallen on the deck, the side $\frac{\text{curtains}}{\text{screens}}$ provided would not have prevented this water from invading the space to be occupied by passengers.

Opposite the latrines and cooking galleys these deck houses prevented the awnings being tented, and there was therefore nothing to prevent the rain from beating under the awning.

The awnings at this place being set at a different angle of slope from the adjoining ones which were tented, there was a considerable interval left between the two, which would, if the awnings had been at the same level, have been partially closed by the lacing. It was noticed that the lacings connecting the awnings together and at the edges of the awnings and curtains could not, with ordinary care, have been accurately adjusted to prevent the rain beating through and wetting the passengers. The large openings in the awnings left for masts, derricks, companion ways, funnels, pipes, and other projections, &c., would have admitted rain in large quantities directly on to the passengers on the upper decks.

The general conclusions arrived at by the inspection of these intended protections from weather were that, though calculated to add much to the comfort of passengers in all weathers, with the exception of passengers on the hatchways on the main deck, there was not sufficient protection from continuous heavy rain, and that the majority of the passengers remaining on these decks would not be able to protect themselves from the wet; and even in moderately showery weather much rain would find its way to the deck through the openings left in and dripping from the awnings.

The protection furnished was by no means equal to that of the ordinary tent supplied to native troops.

Evidence of SARAYA, a cargo-boat owner of Coconada.

Has made 10 voyages at all times of the year between Rangoon and Coconada as a deck passenger. He prefers the 'tween-deck. Once there was a storm, and they had all to go below; they had to stand all the time, and could not lie down to sleep; the awnings were spread all the time. There were about 500 passengers. If there was room he could lie down and those who had not room had to sit up. He had some baggage. It would be better if Hindus and Mahomedans were separated. If the women were kept with them they would prefer it, but they would not object if they had separate accommodation. When they are crowded below, they feel the heat greatly. There were no wind-sails in the rains, but there were in the hot dry weather. From ½ to 1½ maund is the usual baggage for a deck passenger. Once he had to pay ₹2 for a box. They would not object to their boxes being sent below if they kept their food and clothing with them. He would require 5′ 4″ by 2′ 1½″ for self and baggage. Having been shown a space of 4′ × 1′ 6″ he said he could not lie down in it, but he would not give any more for a larger place. He has given ₹15-8 for his passage, including landing fee. Eight annas is not too much for landing fee. He used to have to pay ₹1. When passengers are crowded there is trouble in getting to the latrines. A separate urinal would be a convenience. At present they sometimes have to pass their *stools* in their clothes. When it is fair weather they can cook and get fuel free. It would be a good thing if they had some one to represent them and their complaints to the Captain. The awnings and the side curtains are no protection in wet weather. They could not sleep on deck. No animals are carried with passengers in 'tween-decks. Except for a little smell there is no inconvenience from animals on deck. The decks are cleaned regularly by sweepers. They are pushed about when the officers wish to pass. In strong weather, when they are lying down, they sometimes get a kick if they are in the way.

Evidence of MALAYA, Hindu, Labour Contractor at Coconada.

Witness has made 24 voyages between Rangoon and Madras. He brought from Rangoon on the last voyage 150 coolies, and advanced them ticket money and₹2 or 3 in advance. In three or four bills the coolies settled his advance. Makes a profit of 2 annas in the rupee. He says in the Asiatic Co.'s vessels 3rd class passengers get comfort, but not in the British India Steam Navigation Company's steamers. He chooses the British India steamers because they are always running. There is more space in the Asiatic Co.'s steamers and no trouble about the amount of baggage. In hot weather passengers prefer to remain on deck; in the rains below. In the rains they get wet if they remain on deck, even if the awnings are spread and the curtains down. In the rains if they remain on deck they suffer great hardship from the wet, and he has known people get sick from it—diarrhœa and swelled feet. He was once in the *Sirsa* when there was not even room to sit down. It was in May about two years ago, from Coconada to Rangoon. The ship was full throughout. On these occasions they are ill-treated by the crew, who push them about when they go to the privies. He has never known any complaints against the officers. It would be a very good thing if the passengers had some one to represent their complaints to the Captain. When the scuttles are closed it gets very hot below. When the decks are dirty they are always cleaned in this ship, but in previous voyages may have been kept very dirty. There are sweepers, but when there are a large number of passengers the decks require constant cleaning. A *purdah* for women of the better class would be a very good thing; also a very good thing if there were separate places for Hindus and Mahomedans. He has never been able to cook in any other voyage, but to-day for the first time he has lighted a fire to cook his food. In other ships the passengers were so many that they crowded in the cooking places. If Hindus had a separate cooking place they could all cook, except Brahmins and Chettries. There is discomfort in the distribution of water. There is no deficiency, but owing to caste they cannot drink after pollution by men of other castes. There ought to be a Hindu waterman in attendance to distribute water. Separate urinals would be a comfort. A charge is always made for boxes—₹2 for a box if 3′. He would be satisfied if he got a space 7′ long by 3′ broad. He could not sit or sleep in 6′. In the dry weather the hatches are good places but in the wet weather they are of no use. From Rangoon to Coconada is 7 days. They have no house to go ashore to cook. He can buy provisions from the boats: plantains, pine-apples, &c. He has never known animals kept below. The only inconvenience above is from the smell. For the sick it would be a great thing if they had a doctor. A Hindu would be best. He never got medicine from the Captain. He did not know there was any on board. He has brought many men and they wanted medicine, but did not get any. Most ships in the 'tween decks are insufficiently lighted. This ship is very good. In conclusion, he would say there are four things which require improvement:—

(1) Separate cooking galleys for Hindus and Mahomedans.
(2) Water for Hindus.
(3) Medicine.
(4) Let there be some definite space allowed to each passenger and pointed out to him, and if it is too little, he will either not go or might pay more for better accommodation.

Evidence of MOULVIE AHMED SAHIB, of Masulipatam.

Has made 6 voyages as deck passenger during the fair weather. He prefers the 'tween deck, and in this vessel, the *Purnea*, there being few passengers he is very comfortable, but when there are many passengers they are much crowded. He has travelled in very full ships. Then the sleeping room is limited and there is difficulty in using the cooking galleys and latrines. A separate urinal would be convenient. There is no difficulty in getting to the latrines. In regard to cooking arrangements, on former occasions he always had to pay for fuel. In this ship it is free. This is the first time he has seen a screen put up for washing; it is a great convenience for the women. If Hindus and Mahomedans had separate sleeping places and cooking places there should also be a place set apart for women in the "'tween deck." The 'tween decks are kept clean by sweepers. In regard to separate water distribution, he says it is a matter of religion that Mahomedans should only drink from the hands of their own people. There are no lights in other ships in the 'tween decks at night. He would require a space of 5 *haths* by 4 *haths* for himself and baggage for 7′ 6″ × 6′. The Company should not suffer loss. Some fair arrangement should be made. He paid ₹17 to Masulipatam, but nothing for landing. Each passenger now has to pay ₹2 for landing. He cannot say how long it takes to get to the town. It depends on the wind. A doctor would be very desirable to treat the sick and to act as a representative of the passengers to the Captain. An English doctor would be best. If they had a Hindu he would favour the Hindus, and if a Mahomedan, the Mahomedans.

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Proceedings of the Twenty-eighth Meeting of the Native Passenger Ships Commission held on board of the B. I. S. N. Co.'s Steamer Purnea" on the 17th January 1891.

Present:

Surgeon-Major A. S. Lethbridge, C.S.I.	*President.*
Captain Sir Henry Morland, H.M.I.M	*Members.*
Captain H. A. Street, H.M.I.M.	*Members.*
Captain George Wilson, H.M.I.M.	*Members.*
Surgeon-Major D. W. D. Comins, I.M.S	*Members.*
Captain J. H. Atkinson, B. I. S. N. Co.'s Service	*Members.*

1. During the morning prior to the arrival of the vessel at Calingapatam, the Commission assembled on the fore 'tween deck compartment, and carried out until 9-15 o'clock the following experiments in placing native passengers in measured areas, giving to each adult 6 square feet and 9 square feet of space respectively:—

A space representing the whole width of the deck, 37′ 11″ and 15′ 10″ in length was measured in the fore compartment of the S. S. *Purnea*.

In this space, containing 600 superficial feet, 100 passengers, excluding women and children, or the full number allowed under the Act, at 6 feet each, were placed.

They took with them the luggage which they would ordinarily have with them—luggage, which in the opinion of the Commission, consisting as it does for the most part of their food, water, cooking-pots and bedding, they could not for a five days' voyage be expected to part with.

It was noticed that the heavy baggage of the 3rd class passengers, consisting of large boxes, had been stowed at the commencement of the voyage in another part of the compartment. There was also a considerable amount of personal luggage, consisting of food, water, &c., which was not brought into the space measured, but was left by the passengers, who were brought from another compartment, in the places they originally occupied. These passengers and their baggage, with the exception of sufficient standing room for the Members of the Commission, occupied the whole of the space so measured. On being told to lie down, only 10 or 12 of the whole number, and these in a cramped position, had room to do so.

The Commission having seen them in this position, 34 passengers, with their baggage, were removed from the measured space, leaving 66 passengers with their baggage, each having 9 superficial feet space.

In this space all the 66 passengers were able to lie down.

This experiment tends to show that this is the greatest number of passengers, with their necessary baggage, which a space of this size can, with any comfort, accommodate, and that material increase of this number for any but a very short time would in all probability interfere with the health, cleanliness, and decency of the passengers so carried; or, in other words, that for a compartment or deck full of passengers on any voyage extending over a few hours, 9 superficial feet is the least space in which a passenger and his necessary baggage can be carried.

In continuation of this experiment, the space was cleared and the same 100 passengers without any luggage were admitted and told to lie down. This, with some arranging by the Members of the Commission and the Officers of the ship, they did, and it was then seen that, with the exception of standing room for the Members of the Commission, the space was fully occupied by the men lying closely side by side with their bodies and feet in most cases touching. In the opinion of the Commission, this number, without any baggage whatever, could not, provided that no other space was available for them, have been carried for any but a very short time.

Memorandum by Captain J. H. Atkinson, *Purnea*, at Sea, dated 19th January 1891.

With reference to the experiment made on board the S. S. *Purnea* on the 17th instant, by placing 100 native passengers on a measured space of 600 feet, I desire

to put on record my opinion that any experiment made in such a limited area does not give a correct idea of the position, because with a larger number on the allotted space, there would be a much more apparent gain in the direction of clear spaces after placing the people.

I think the experiment of 17th instant* showed that the average native passenger can be accommodated in 6 superficial feet of space, if his baggage be restricted to a bundle in the form of a pillow and the blanket on which he lies down.

* Made without any luggage. J. H. A.

2. At 10 A.M. the vessel having anchored off Calingapatam, the Commission again assembled. Mr. L. F. Lisley, Port Conservator and Customs Superintendent at Calingapatam, was called and examined.

3. Mr. Lisley's examination having been completed, Mir Bucha, a Mahomedan, in business in the Madura District, and a 3rd class passenger in the *Purnea*, was called and examined.

4. Mir Bucha's examination having been completed, the Commission adjourned at 3 P.M. until the 18th instant.

Evidence of MR. L. F. LISLEY, Port Conservator and Customs Superintendent at Calingapatam.

Was a gunner for 2½ years on the British India steamer *Chinsurah* and 7 months on the *Sirdhana;* was also a gunner in the Indian Marine for 6 months. He carries out in this port "the Native Passenger Ships Act." In his opinion the conditions do not justify passengers being carried on

Hurricane-decks.

hurricane-decks even with screens and awnings during the foul weather. By a hurricane-deck he means an unprotected deck. If carried on these decks, they are liable to get wet from rain. In fine weather he has no objection, provided sufficient space is allowed. He does not think the

Extra payment for more space.

ordinary native passengers would pay more for better accommodation. He would reduce from measurements for

Alley-ways.

passengers alley-ways which are generally included, because they are thoroughfares. Even if they were 6 feet wide, he would not include them, as they are not proper places, if water-closets and officers' cabins open off them. In the case of the *Umballa*, he had travelled in her from Madras to Calingapatam, and she has no alley-ways properly speaking. They are broad enough, but there is no length, only 6 to 10 feet. What Captain Atkinson now shows him on the sketch was occupied by cargo and a carpenter's bench. He has never seen alley-ways occupied by passengers but by the officers' servants—not even in the rains.

He would not measure the tops of hatches for

Hatches.

passengers, because in heavy weather they are dangerous, especially when baggage is carried on them. He has seen the whole roll off in the *Sirdhana* from Negapatam to Rangoon. There were nearly 1,000 passengers on that ship. This was in February 1889. The

Awnings as sufficient protection.

awnings leak at the joinings. If they were new they would stand the rain. Double awnings are not spread fore and aft. Only aft are they double between Negapatam and the other coast-ports and this, but they have double awnings stretched after leaving Calingapatam for Rangoon.

Space under the Act.

Provided that only a limited amount of baggage is carried, he thinks 6 feet is sufficient for each passenger. He has seen the *Sirsa* come in with her full complement of passengers, but they were mostly on the upper deck; the 'tween decks looked comparatively empty.

During boisterous weather the awnings are

Awnings.

generally furled. During his personal experience while serving on British India vessels he has seen the awnings furled. The *Sirsa* called here once in bad weather—23rd December 1889—with her awnings furled. She had passengers on board. The *Secundra* called here working the 6 feet rule, and being full under that rule they asked to be allowed to work under the 5 feet rule. A telegram was received from the Deputy Conservator, Port of Madras, saying that the Agents wished to work under 5 feet rule. He did not allow her, as the certificate had not been altered.

He does not think a passenger requires as much

Excursion voyage.

room on a 10 or 12 hours' voyage as for 5 days. He should have 5 feet. Ships on a 6 or 7 days' voyage should not be allowed to take passengers for intermediate ports at any less space than for the whole voyage.

A native passenger from Rangoon to Negapatam and calling at all these ports would be on board for 13 or 14 days and sometimes more. The run from Rangoon to Negapatam is exactly 12

6 feet space.

days. By 6 feet space he means 6 feet by 3 feet. He has never tried the experiment of measuring men in a space to see how much they occupy.

The upper decks of these vessels are pretty well

Permanent shelter.

sheltered, and he does not think for natives any other shelter is necessary, not even on the bridge-deck, if screens are allowed.

Middle decks of the *Kistna* class.

The middle deck of the *Kistna* class is properly sheltered.

Latrines.

Latrine accommodation is more than sufficient.

In vessels of the *Akola* class the latrine accom-

Urinals.

modation is ample and no urinals are necessary.

In the *Scindia*, which was carrying 400 passen-

Cargo in the 'tween decks.

gers, the after compartment of No. 2 hold was nearly full of cargo. There were also passengers which were divided by a canvas screen from the cargo. There was ample room for the passengers.

Animals.

He has never known animals carried in the 'tween decks.

He thinks there should be some medical assist-

Native Doctors.

ance on board. Perhaps a travelling doctor who would visit all the ships would be best. Two doctors would be sufficient for the whole line.

Brahmins get permission to land here to cook

Breaking voyage at Calingapatam.

food, but no others land for this purpose. There is no guard line for the ships to remain here. The Company wishes to clear them out as soon as possible.

Evidence of MIR BUCHA, a Mussalman, in business at Zillah Madura District, and a 3rd class passenger.

Has made 14 voyages between Madras and

Nine days' voyage without landing.

Rangoon. It is a 9 days' voyage. During that time he has never landed on the shore. He has always travelled by the British India Steam Navigation. In the rains he prefers the 'tween decks; in the fair weather he likes the upper decks. He prefers the lower deck because the upper deck people get wet from sea and rain. In 4 or 5 voyages the number of people has been large. When there is a large number there is inconvenience in remaining in and going to and fro to the latrines, &c.

Mussalmans and Hindus should have separate places, and the former should be sheltered behind a screen. He never had any of his women with him. The amount of luggage is about 37½lb. to each passenger. He once took a box for which he had to pay ₹2-8.

Passage money to Madras from Rangoon used to be ₹19. It is now ₹19. He wants 6 feet by 4 feet=24 feet. Being shown a space of 3 feet 2 inches by 1 foot 10½ inches=6 feet, he says it is too short for him, being a man of 4 hands, and he wants 5 hands in length for himself and baggage =14½ feet.

Extra payment for more space.

He would not pay more for more space.

When there are many passengers, there is inconvenience. The number should be increased.

Latrines.

Urinals.

If separate urinals were provided, it would be a convenience.

The present arrangements are good; if there

Cooking.

were more passengers there would be difficulty. On odd occasions he has got wood free from the Company; sometimes he bought his own.

Somebody to give medicines would be good

Medicines.

and to take care of the sick and represent the case of passengers to the Captain. He never wanted medicines.

When the weather is bad, the awnings are

Awnings.

spread and side curtains arranged, and it is an improvement, but the wind and rain come in.

Animals or cargo in 'tween decks.

Has never seen animals or cargo in 'tween decks.

Cleanliness of 'tween decks.

The 'tween decks are kept clean by the ship's people.

Lighting of 'tween decks was insufficient in two

Lighting.

or three steamers he had travelled in.

Proceedings of the Twenty-ninth Meeting of the Native Passenger Ships Commission held on board of the B. I. S. N. Co.'s Steamer "Purnea," on the 18th January 1891, at Bimlipatam.

Present:

SURGEON-MAJOR A. S. LETHBRIDGE, C.S.I.	*President.*
CAPTAIN SIR HENRY MORLAND, H.M.I.M.	*Members.*
CAPTAIN H. A. STREET, H.M.I.M.	
CAPTAIN GEORGE WILSON, H.M.I.M.	
SURGEON-MAJOR D. W. D. COMINS, I.M.S.	
CAPTAIN J. H. ATKINSON, B. I. S. N. Co.'s SERVICE	

1. The Commission assembled at 10 A.M. Mr. C. Mangaya Nayadu, Port Surgeon at Bimlipatam, was called and examined.

2. Mr. C. Mangaya Nayadu's examination having been completed, Mr. Robert Minto, Port Officer and Customs Superintendent at Bimlipatam, was called and examined.

3. Mr. Minto's examination having been completed, Mr. Morley Woodhouse, Port Officer and Customs Superintendent at Vizagapatam, was called and examined.

4. Mr. Woodhouse's examination having been completed, the Commission adjourned at 4 P.M. until the 19th instant.

Mr. C. MANGAYA NAYADU, Madras Medical Establishment.

1. *Q.*—Will you please inform the Commission of the nature of your present occupation?

A.—Civil Apothecary, Bimlipatam, and Port Surgeon.

2. *Q.*—What qualifications or experience do you possess in regard to the subjects under enquiry?

A.—*Nil.*

3. *Q.*—Do you take any part, either directly or indirectly, in the administration or observance of any of the provisions of the "Native Passenger Ships Act, 1887"?

A.—As Port Surgeon I visit vessels coming in with the quarantine flag flying under instructions from the Port Officer, and visit also those having sickness on board requiring my services and grant bills of health to vessels bound to foreign ports.

4. *Q.*—Are you aware that it is a common practice for natives of India to sleep at night in the open air?

A.—It is not a common practice at all, though some few sleep in open air in hot weather.

5. *Q.*—Is it not a fact that very well-to-do native merchants are satisfied with the usual deck accommodation?

A.—I do not think it is a fact.

6. *Q.*—(*By Captain Atkinson*)—Have you travelled much, or at any time, by British India steamers? If not, on what experience do you base your answer?

A.—I have not travelled much on British India steamers, but some of my friends and acquaintances of the merchant class who have travelled were not satisfied with the usual deck accommodation.

7. *Q.*—In your opinion, are the provisions of the Native Passenger Ships Act, and the rules made under it, in regard to the accommodation to be provided for native passengers on long voyages and short voyages, suitable?

A.—No; the superficial area for each passenger should not be less than nine square feet between decks.

8. *Q.*—(*By Captain Atkinson.*)—On what experience do you form this opinion? You say you have not travelled.

A.—I have travelled sufficiently to justify my statements. Six square feet (*i.e.*) 1×6 feet is scarcely enough for an average adult to lie down on, and there I considered the least would be 9 square feet, (*i.e.*) 1½ by 6 feet.

9. *Q.*—Do you think that a passenger on a voyage lasting 10 or 12 hours requires as much room as one on a voyage lasting five days?

A.—Yes, if the voyage be by night.

10. *Q.*—(*By Captain Street.*)—Should the voyage be by day and the journey only take 10 or 12 hours, what space would you allow to each passenger?

A.—Even by day I would not decrease the space.

11. *Q.*—Do you think that native passengers can do with less space than Europeans?

A.—Yes.

12. *Q.*—What proportion do you consider that the space allotted to natives should bear to the space allotted to Europeans?

A.—Three to four.

13. *Q.*—Assuming that this proportion is adopted, would it, in your opinion, affect the health, comfort and safety of native passengers in any way?

A.—No.

14. *Q.*—Do you consider that, on a voyage which may extend to five days, native passengers can be accommodated in the 'tween-decks of a steamer at the rate of one passenger to each six square feet of area, with four square feet of airing space on the upper deck, without prejudicing their health and safety?

A.—No; each passenger should have at least nine square feet 'tween decks.

15. *Q.*—(*By Captain Street.*)—What space would you give to each upper deck passenger on a short voyage during the fine season and also during the foul?

A.—Nine square feet in fine season and 12 in foul.

16. *Q.*—(*By Captain Atkinson*).—Have you seen or heard of native passengers being prejudiced in health or safety by having six square feet on 'tween deck, four on upper deck?

A.—I have not seen, but heard.

17. *Q.*—Do you think it necessary for the health and safety of the passengers that there should be on a voyage, which may extend to five days, permanent shelter for each passenger either 'tween decks or in cabins on the upper deck?

A.—Yes.

18. *Q.*—Do you think that on a voyage which may extend to five days there should be separate accommodation for female passengers?

A.—Yes, if they are of higher and middle classes.

19. *Q.*—(*By the President.*)—Would you recommend that the Hindus and Mahomedans, male native passengers, should be separated on the decks by bamboo railings or other contrivance?

A.—Yes; it would add materially to the comfort of the Hindus.

20. *Q.*—What closet accommodation do the rules require on native passenger vessels?

A.—Every ship should have two latrines, and one additional such latrine for every 100 passengers, or a part of that number in excess of 100.

21. *Q.*—(*By the President.*)—Would it be a convenience to native passengers if urinals were provided on board passenger ships?

A.—Yes.

22. *Q.*—Do you think the existing rules in regard to hospital accommodation are suitable?

A.—Those in regard to long voyages are suitable, but not those in respect to short voyages.

23. *Q.*—(*By Captain Atkinson.*)—Are you aware that under the present rules, a tent with platform was selected as the best form for short voyages, because its inexpensive form made it less likely to be preserved after treatment of infectious diseases and therefore the danger of passing on the infection lessened?

A.—I am aware of the same, but the temporary arrangement does not afford good shelter.

24. *Q.*—(*By Captain Street.*)—Would you recommend that to meet contingencies of a serious outbreak of cholera and small-pox, there should be some provision at coast-ports in the way of shelter?

A.—Yes.

25. *Q.*—(*By Captain Street*).—Can you give any instances when vessels have arrived with passengers on board suffering from cholera or small-pox?

A.—In February last there were four cases of small-pox landed from S. S. *Secundra*; there was, and is, no contagious dispensary shed attached to the hospital, and therefore they were put in a temporary shed.

26. *Q.*—(*By Sir Henry Morland*).—Provided urinals were provided for native passengers, would they be likely to be used also as latrines? If so, how would you prevent this?

If materials for erecting sheds for contagious or infectious diseases were provided at intermediate ports, say, rafters, bamboos, and mats, &c., what time would be required to erect a temporary shelter for patients which would be burnt after use?

A. 1.—The urinals may not be used as latrines. Some arrangements should be made to prevent this.

2.—Twenty-four hours.

27. *Q.*—(*By the President*).—Should a Hindu cook or attendant be employed for sick passengers unable to cook for themselves or help themselves?

A.—Yes; a caste cook may be employed.

28. *Q.*—(*By the President*).—Do you consider that more ventilation should be provided for vessels in the tropics than for vessels carrying passengers in a cold climate?

A.—Yes.

29. *Q.*—Do you consider that cargo, horses, cattle, sheep, and live-stock should be carried on the same deck with passengers? If so, is any fitting necessary to prevent the passengers from being inconvenienced by the urine and dung of the horses, cattle, and sheep; and if any such fitting is requisite, state what you would recommend?

A.—Separate accommodation should be made for them, so that the passengers may not be inconvenienced by the dung, &c., of the animals.

30. *Q.*—Do you think that the natives of India require as much space in boats as Europeans?

A.—Not quite as much.

31. *Q.*—(*By Captain Street*).—Have you taken into consideration that, under the 5 feet rule, the whole of the upper deck is available for the 'tween deck passengers?

A.—Yes; I have.

32. *Q.*—Do you consider that passengers carried in vessels working under clause (*a*) of Government of India Notification No. 1356, dated 14th March 1889, have sufficient space; if not, state what space would suffice?

A.—No; nine square feet would suffice for each passenger. I would object to the five feet rule.

33. *Q.*—Will you furnish the Commission with your opinion as to the sufficiency or otherwise of the space allowed by the Act and rules generally?

A.—The space allowed for 'tween deck passengers is not enough.

34. *Q.*—Do you consider that native passenger ships should carry a medical officer; if this were made compulsory, would you make any difference for the numbers carried or for the duration of the voyage?

A.—Yes; no difference need be made for the numbers carried or for the duration of the voyage.

35. *Q.*—What grade of medical officer would you consider best suited for these vessels?

A.—Hospital assistant.

36. *Q.*—(*By Captain Street*).—Will Hindu passengers as a rule take the medicine put on board native passenger ships to meet cases of sickness amongst the crew?

A.—As Hindus, they would not object.

37. *Q.*—(*By the President*).—Should Hindu Hospital assistants be preferred, what pay would be sufficient to enlist good Hindu hospital assistants for the native passenger service?

A.—A Hindu on ₹50.

38. *Q.*—(*By the President*).—Do you consider that the hospital assistants you recommend should keep a record of sickness and mortality on boardship?

A.—Yes, I do.

39. *Q.*—(*By the President*).—If the hospital assistant were utilized as a Government protector of native passengers, would it be a useful measure?

A.—It would be a very useful measure; for at present passengers have nobody to look to at all to listen to their complaints.

40. *Q.*—Give any instances which have come to your knowledge in which a medical officer would have been of service on board a native passenger vessel.

A.—*Nil.*

Mr. ROBERT MINTO, Port Officer at Bimlipatam.

1. *Q.*—Will you please inform the Commission of the nature of your present occupation?

A.—I am Port Officer for the Port of Bimlipatam. I have held the same appointment since the 15th January 1877, on which date I retired from sea.

2. *Q.*—What qualifications or experience do you possess in regard to the subjects under enquiry?

A.—In point of fact, I have not had any practical experience in regard to the subject under enquiry, that is, I have never been in command of a vessel carrying passengers under the Native Passenger Ships Act, although I have had upwards of 30 years' experience at sea in the Merchants' service prior to taking over charge of my present Government appointment, 20 years of which I was in command of sundry sailing vessels trading from the United Kingdom to various ports in India, *viâ* the Cape of Good Hope.

3. *Q.*—Do you take any part, either directly or indirectly, in the administration or observance of any of the provisions of the "Native Passenger Ships Act, 1887"?

A.—Yes, I frequently pay official visits of inspection to the Rangoon passenger steamers on arrival at this port, and if, in my opinion, it be necessary for me to make report to the Presidency Port Officer, I do so. I also have the power to grant the required certificates under Act X of 1887. I may mention for your information that I have never been called upon to issue the A certificate, such certificates being granted from the larger ports.

4. *Q.*—How does an Indian Home Trade voyage compare with an English Home Trade voyage?

A.—Taking the many changes of wind and weather into consideration that Home Trade vessels have to contend with, I am inclined to give a favourable preference to the Indian Home Trade voyage.

5. *Q.*—In regard to what voyages is there a distinction made between fair and foul seasons?

A.—I am not quite sure that I understand this question correctly, but there are certain distinctions made between the long and short voyages so far as the space for passengers is concerned.

6. *Q.*—Do you consider that, if there is to be a line dividing short from long voyages, it should be drawn at five days?

A.—Yes.

7. *Q.*—Do you think that the five-day limit

puts an Indian short voyage on a footing similar to an English Home Trade voyage?

A.—Of course it mostly depends upon what part of the United Kingdom the vessel starts from and to what port she is bound to; but even under ordinary circumstances I am of opinion that the Indian Home Trade voyage would have the advantage.

8. *Q.*—Are you of opinion that the conditions justify a distinction being made between fair and foul weather in the case of voyages which may extend to five days?

A.—Yes, as a passenger steamer having her full complement of passengers on board is sometimes in a very crowded condition, more particularly vessels of the Kistna class, I am of opinion that a distinction ought, in justice to the passengers, to be made.

9. *Q.*—(*By Captain Street*).—In what respect would you make a distinction?

A.—I would not permit her to carry the same number of passengers during foul weather as she would in fair weather. I would suggest that not less than 9 square feet should be given.

10. *Q.*—(*By Captain Atkinson*).—Would you make any other distinction than that already provided by the Act, *viz.*, six feet in fine and nine feet in foul? This does not refer to the five feet rule.

A.—No, I would not.

11. *Q.*—(*By Captain Street*).—Do you consider that five square feet in fine weather is sufficient, bearing in mind that the upper deck has, under the Act, to be kept wholly available for passengers?

A.—No, in my opinion it is not sufficient. I would recommend that not less than six feet should be allowed, the upper deck being clear.

12. *Q.*—(*By Captain Wilson*).—When the upper deck has been full, have you ever seen the 'tween decks full as well under clause (*a*)?

A.—I have noticed both decks very nearly full. I have not taken any measurement to verify this.

13. *Q.*—(*By Captain Wilson*).—Have you had any experience under any other rules than those under clause A?

A.—Yes, I have seen the vessels carrying passengers under clause (*b*), that is, at six square feet per adult.

14. *Q.*—(*By Captain Street*).—Is not the clause under which a vessel is working specified in her B certificate?

A.—No, I am of opinion that it is not so.

15. *Q.*—(*By Captain Atkinson*).—If a steamer is working under clause (*a*), what information have you for your guidance as to the full number of native passengers the vessel can carry?

A.—I am guided by her certificates. The certificate A specifies the number of passengers she is to carry at both seasons.

16. *Q.*—(*By Captain Street*).—Has any vessel, in your knowledge, which has been working under clause (*b*), ever worked during the same voyage under clause (*a*)?

A.—No, not to my knowledge. If the vessel has commenced to work under clause (*a*), I am under the impression that she has continued to do so.

17. *Q.*—(*By the President*).—Would you abolish the five feet rule?

A.—Yes, I would do so.

18. *Q.*—(*By Captain Street*).—Have you ever seen a vessel with her full complement of passengers on board according to the six feet rule?

A.—No; this is not the final port of departure.

19. *Q.*—Are you of opinion that the seasons of fine weather defined in the rules are judiciously chosen with reference to the prevailing conditions?

A.—Yes; speaking from experience, I am of opinion that the seasons of fine weather are very judiciously chosen.

20. *Q.*—If not, what alterations would you suggest?

A.—I am of opinion that no change in this direction is necessary.

21. *Q.*—Will you mention instances of foul weather occurring during the seasons which are by rule declared to be seasons of fair weather?

A.—I do not know of any instances.

21*a*. *Q.*—In your opinion, do the conditions justify passengers being carried across the Bay at any season on decks, such as are commonly called hurricane-decks, which are not protected from the weather except by overhead-awnings, side screens and curtains, assuming that no accommodation is reserved for these passengers on the lower decks, which are crowded with other passengers?

A.—I am not in favour of passengers being carried on a hurricane-deck during the foul weather season; it is in my opinion far from being quite safe. I have noticed vessels arriving at this port in a very crowded condition with a full number of passengers and a large quantity of baggage. Had stormy weather been met with during the passage over, it would not have been very surprising if serious accidents had occurred, and I think that sufficient room should be reserved on the main deck for some few of those to retire to in the event of foul weather being encountered. Overhead-awnings are not by any means such good protection as could be desired upon such occasions.

22. *Q.*—(*By Captain Atkinson*).—Is it not a fact that a hurricane-deck is at least 6 feet higher above the water line than the ordinary upper deck, and in consequence the passengers on the hurricane deck must be better protected than those on the ordinary upper deck?

A.—No, they are much more exposed.

23. *Q.*—(*By Captain Atkinson*).—Have you ever known an instance in which passengers travelling on a hurricane-deck have suffered in any special way, that is, other than an occasional wetting?

A.—No, I have not.

24. *Q.*—(*By the President*).—Could passengers on an upper deck, protected by overhead-awnings and side screens, sleep on the deck in foul weather for 5 days without getting wet if it rained?

A.—I do not think so.

25. *Q.*—(*By Captain Wilson*).—Would you carry passengers at all on the hurricane-deck in the foul season?

A.—No, I would not.

26. *Q.*—Are you acquainted with the ordinary conditions of native life amongst the class that form the bulk of the native passengers who travel by sea?

A.—I have not had any board of ship experience with native deck-passengers travelling by sea.

27. *Q.*—Are you aware that it is a common practice for natives of India to sleep at night in the open air?

A.—Yes, I am aware of this practice, and so long as fine weather prevails, it is in my opinion far more healthy for them to sleep in the open air.

28. *Q.*—Is it within your knowledge that 1st class European passengers, travelling about the Bay of Bengal and coasts of India, as a rule, prefer to sleep on deck under the same conditions as to awnings and curtains as the 3rd class native passengers?

A.—No, such is not within my knowledge.

29. *Q.*—Have you had any personal experience of the weather round the coast of United Kingdom, and in the Bay of Bengal and on the coasts of India?

A.—Yes, I have had a good deal of experience of the weather round the coast of the United Kingdom, also in the Bay of Bengal, not any on the west coast of India.

30. *Q.*—Do you consider that there is such similarity as to warrant a comparison between the weather experienced on the coast of United Kingdom or between the rivers Elbe and Brest (English Home Trade voyage) and that experienced in the Bay of Bengal and coasts of India?

A.—No, I do not think that there is the slightest comparison between the weather experienced in the English Home Trade and the weather experienced in the Bay of Bengal.

31. *Q.*—Do you consider the conditions of English and Indian passenger traffic to be similar in any other way than that the traffic under discussion is by sea?

A.—No, there can be no similarity between the two voyages; the English passenger traffic must of necessity differ widely from the Indian Passenger traffic in every particular.

32. *Q.*—Do you think the ordinary native deck passenger would be prepared to pay more than at present for better accommodation?

A.—No, I do not think that the ordinary native passenger would be at all inclined to pay more money for better accommodation.

33. *Q.*—Is it not a fact that very well-to-do native merchants are satisfied with the usual deck accommodation?

A.—Yes; I have noticed this frequently. The amount of extra passage money required to be paid for cabin accommodation is a great consideration to such.

34. *Q.*—What class of people travel as deck-passengers in the United Kingdom on vessels which frequently carry their full complement?

A.—I am of opinion that nearly all classes of people will travel as deck-passengers at times, but certainly not on sea-going vessels; they would do so on a river steamer, so they would on any short excursion voyage such as frequently occurs in summer time.

35. *Q.*—Have you any special suggestions to make in regard to voyages similar to those classed as excursions by the Board of Trade, that is, voyages during which a vessel is not more than 10 or 12 hours at sea?

A.—No; not having had any personal experience of such, I would much prefer not making any suggestions on the subject.

36. *Q.*—How is the number of passengers which a vessel is capable of carrying calculated in each case?

A.—It is customary at this port to first measure the full length of the vessels between decks, afterwards to take the mean breadth and deduct the measurement of all impediments such as hatches, ventilators, &c., and reduce the same to superficial measurement in the usual way, allowing to each passenger 5 superficial feet or 30 cubic, as the case may be.

37. *Q.*—Is allowance made in Board of Trade Rules for height of 'tween-decks; in fact, do not Board of Trade Surveyors, when berths are not fitted for 3rd class passengers, calculate the number that may be carried, on the basis of a cubic measurement of 72 cubic feet per statute adult, after deducting all hatches and encumbrances?

A.—Yes, to the best of my knowledge such allowance is made and the number of 3rd class passengers to be carried when sleeping berths are not fitted is determined by the net area of the deck, that is, after the deducting of all hatches, &c., being multiplied by the height of the 'tween-decks and dividing the product by 72.

38. *Q.*—If so, would you consider it proper to allow for height of 'tween-deck as an element in the health and comfort of 3rd class native passengers?

A.—Yes, taking the health of 3rd class passengers seriously into consideration, I am of opinion that no ship's 'tween-decks should be less in height than 5 feet 6 inches or even 6 feet, particularly in India, where the heat is so great.

39. *Q.*—Do you know the height of the 'tween-decks in the B. I. steamers?

A.—I have not in a general way particularly noticed the height of the 'tween-decks on board a British India steamer, but I am quite of the opinion that 6 feet is the minimum height of the 'tween-decks of those vessels, even the smallest of them.

40. *Q.*—What is the maximum height between deck in these steamers carrying Native passengers? What is the average height?

A.—I am unable to reply to this question correctly, not having measured any of them, but I am quite of the opinion that the largest of those vessels have a height in the 'tween-decks of nearly 7 feet, and I should consider the average height to be not less than 6 feet.

41. *Q.*—Are you aware that there was an old rule in India which allowed ships to carry three passengers for 2 tons?

A.—Yes, I have heard of such a rule in days gone by.

42. *Q.*—Is the Board of Trade Rule, under which the number of passengers carried must not, whatever the deck measurements may give, exceed the number denoting the gross tonnage of the vessel, enforced in India?

A.—I am unable to answer this question with any degree of confidence, but it would seem that no such rule is in force in India, judging from the number of passengers carried by those small hurricane-deck vessels. I am of opinion that the larger vessels do not carry a larger number of passengers than the gross tonnage of the vessel.

43. *Q.*—What would be the effect if, assuming all other existing Indian rules to remain intact, this rule were enforced?

A.—I do not think that it would make much, if any, material change so far as the larger vessels are concerned; the smaller vessels of the Kistna class would not be able to carry, by any means, so many passengers, and the passengers would reap a very much desired benefit by not being so much crowded together.

44. *Q.*—What spaces are left unmeasured for passengers when a vessel is being measured for certificate A?

A.—No A certificates have never been granted at this port, such are generally issued at the larger ports. I am consequently unable to reply from experience, and copies of A certificates are not taken for office record.

45. *Q.*—(*By Captain Street*).—By what rules would you be guided should a vessel require to be measured for certificate A?

A.—I should measure the vessel under the Native Passenger Ships Act and be guided by the Board of Trade rules.

46. *Q.*—(*By the President.*)—Would it be an advantage if the Indian Government issued rules to all Port Officers, similar to the Board of Trade rules for the measurement of passenger accommodation?

A.—Yes, it would.

47. *Q.*—How are the hatches treated when a vessel is being so measured, *i.e.*, is the whole space of a hatch deducted or not? Is any difference made on account of long and short voyages?

A.—B certificates have been granted here occasionally. On such occasions, the whole space of the hatches and all other impediments is deducted from the measurement. We never in such cases make any difference in a long or short voyage.

48. *Q.*—Are the spaces which would be required for the deck water-tank, latrines, and cooking ranges, necessary for use of native passengers, deducted for the passengers space, even if such articles are not in position at the time a vessel is being measured?

A.—Such spaces ought most assuredly to be deducted from the passenger space at the time the vessel is being measured.

49. *Q.*—Are any spaces deducted so as to admit of the officers and crew moving fore and aft the vessel with facility and their getting with ease at the boats and boats' gear? If not, have you any recommendations to make on this head?

A.—No; such space is to not my knowledge ever deducted. I am of opinion that no such deduction is necessary in the event of boats being required. The officers and crew would as a general rule be working in such a position as to be placed over the heads of the passengers.

50. *Q.*—Should alley-ways, used as a means of communication by the crew, be considered as deck area for passengers, *i.e.*, the narrow passages between the officers' cabins and the engine room-casing? If so, would it not be advisable to give a minimum breadth before allowing the area to count for passengers?

A.—I am quite of the opinion that alley-ways used as a means of communication by the crew ought never to be measured as deck area for passengers. As a general rule, such alley-ways are only sufficiently broad to admit of a clear passage through.

51. *Q.*—(*By Captain Atkinson*).—Supposing an alley-way to be 6 to 8 feet broad, would you allow a sufficient passage and allow the remaining space to be measured for passengers?

A.—Yes, if the space were partitioned off by a substantial rail, leaving a clear space for the crew.

52. *Q.*—(*By Captain Wilson*).—What in your opinion is the necessary width for an alley-way?

A.—The foot-path ought not to be less than 2 feet.

53. *Q.*—(*By the President*).—Supposing that there are a thousand passengers aft in this ship who have to go to and from the latrines and cook-houses, what width of passage would you allow for them?

A.—I would allow 2 feet space.

54. *Q.*—Are not these alley-ways additional shelter and, therefore, desirable for passengers?

A.—The alley-ways would most assuredly be additional shelter for a few passengers, but I very much doubt whether deck-passengers would at all times be permitted to assemble there, and so block the way fore and aft.

55. *Q.*—For ships with large waterways in the 'tween-decks extending inside the battens on the ship's side, is the deck measurement made to the inside edge of the waterways or to the battens? Which would you recommend?

A.—I have some reason to believe that the extreme breadth of the vessel's 'tween-decks is measured for passenger space. I would recommend that the measurement be taken from the inside edge of the waterways, leaving the full breadth of the waterways for the different requirements of the passengers and sanitary purposes generally.

56. *Q.*—Should the spaces set apart for the boats stowed in the level on the bridge be utilized for passengers when the boats are carried at the davits? If so, state whether during both fair and foul season, or only during the fair season.

A.—I am sorry to have to say that during my official visits to these vessels, I have not noticed the position of the boats with sufficient exactness to be able to give such reply to this question as I should like to.

57. *Q.*—In your opinion, are the provisions of the Native Passenger Ships Act, and the rules made under it in regard to the accommodation to be provided for native passengers on long voyages and short voyages, suitable?

A.—Yes.

58. *Q.*—Do you think that a passenger on a voyage lasting 10 to 12 hours requires as much room as one on a voyage lasting five days?

A.—The accommodation as at present provided could not well be less than it is; such space might be sufficient for a few hours' journey; passengers could much better afford to be cramped up for 10 or 12 hours, than on a passage lasting five days. This refers to the five feet rule.

59. *Q.*—Do you think that native passengers can do with less space than Europeans?

A.—Yes, I am of opinion that native passengers can do with less room than Europeans; few Europeans can double themselves up in such a manner as the natives do.

60. *Q.*—What proportion do you consider that the space allotted to natives should bear to the space allotted to Europeans?

A.—I am of opinion that a native can make himself fairly comfortable with one-third less space than European.

61. *Q.*—Assuming that this proportion is adopted, would it, in your opinion, affect the health, comfort, and safety of native passengers in any way?

A.—The passages being of short duration, and the weather generally fine, it might not improve the health of passengers speaking in a general way; but I think that I am pretty safe in saying that the passengers would be very much more comfortable than they are under the present ruling, and their safety most certainly would not be impaired.

62. *Q.*—Do you consider that on a voyage, which may extend to five days, native passengers can be accommodated in the 'tween-decks of a steamer at the rate of one passenger to each six square feet of area, with four square feet of airing space on the upper deck, without prejudicing their health and safety?

A.—Yes, for a passage of not more than five days. I am of opinion that each native passenger might be accommodated in the 'tween-decks with six square feet of area, together with four square feet of airing space on the upper deck without prejudicing his health or safety.

63. *Q.*—Do you think it necessary for the health and safety of the passengers, that there should be on a voyage, which may extend to five days, permanent shelter for each passenger either 'tween-decks or in cabins on the upper deck?

A.—It seems to me, judging from my general experience, that on certain occasions it is absolutely necessary for the safety of the passengers to have some permanent shelter, such as in the 'tween-decks even in moderate weather; there must be times when overhead-awnings would provide but very little shelter, and there must be times also when

overhead-awnings must, perhaps, for the safety of the vessel, be taken down altogether. In such a case the upper deck-passengers would be left without protection against the then prevailing stormy weather, and so be exposed to the full blast of wind and rain which would not be likely to be conducive to good health or to the safety of life to persons without warm clothing.

64. *Q.*—(*By Captain Atkinson*).—Are you aware that the Board of Trade for the inclement weather on the coast of the United Kingdom only require one-sixth of the upper deck-passengers to be sheltered?

A.—No, I am not.

65. *Q.*—Do you think that on a voyage which may extend to five days there should be separate accommodation for female passengers?

A.—It would no doubt be most advantageous for the female passengers to have separate accommodation, and such is very earnestly desired by respectable classes of native passengers who are going to travel by sea with their families; the mixing with other male passengers is most objectionable to them.

66. *Q.*—Do you know of any steamers which carry native passengers on two upper decks?

A.—Yes, the S.S. *Akola*, *Kasara*, and *Katoria*. Each of these vessels has been at this port, and each of them is provided with a hurricane-deck and carries passengers on both decks, *i.e.*, hurricane and main deck. I am not prepared to vouch for the number of deck-passengers so carried, no office record of such having been kept.

67. *Q.*—Do you consider from the wording of Native Passenger Ships Act and your experience of this question that the Legislature, when it passed the Act, contemplated the existence of vessels with more than one upper deck?

A.—The Native Passenger Ships Act has no reference to vessels of this description, and I am quite of the opinion that the Legislature could never have contemplated the existence of such a class of vessels trading in India.

68. *Q.*—(*By Captain Atkinson*).—Are you aware that the British India Company had six vessels of this class trading in India and carrying native passengers in 1875, that is, before the Native Passenger Act of 1876 was made?

A.—No, I am not aware of this.

69. *Q.*—Are you acquainted with the design of the steamers of the *Kistna* class?

A.—I have paid short official visits to each of those vessels, the *Akola* excepted, on sundry occasions, and most assuredly ought not to consider myself acquainted with the design of the vessels. In fact, I am very reluctant in expressing an opinion on the subject. I should first like to have the opportunity of having another look at them. Unfortunately I never made any notes bearing on the question.

70. *Q.*—What is the distinguishing feature of these steamers?

A.—To me, so far as I can remember, the most distinguishing feature of the *Kistna* class of steamer is in the having a hurricane-deck only, which to the best of my recollection forms no part of the permanent structure of the vessel.

71. *Q.*—In your opinion, are the middle passenger decks of these steamers between decks or upper decks within the meaning and intention of the Native Passenger Ships Act? Give your reasons for this opinion.

A.—Most assuredly in my opinion the middle passenger deck in these steamers is the vessel's main deck within the meaning and intention of the Native Passenger Ships Act. A shipbuilder would no doubt be able to give a clearer and more important evidence on this question, but to the best of my judgment the hurricane-decks form no part of the solid structure of the vessel, and she is measured for the payment of tonnage dues, &c., under the main deck only.

72. *Q.*—Are the passengers on these middle decks as well protected in rough weather as the passengers on the lowermost of the three passenger decks?

A.—I am unable to reply to this question with any degree of accuracy, for the same reasons as before mentioned. In fine weather I should say that the passengers located on the middle deck have by far the best of it, both for increased shelter and also treating the question in a sanitary point of view; but in rough weather the middle deck must in my opinion be very uncomfortable.

73. *Q.*—Are these passengers on the middle deck not better protected than on ordinary upper decks?

A.—Yes, most assuredly, passengers placed on the middle deck are much better protected than on ordinary upper decks; having a good awning deck covering in the place of canvas awnings, it must necessarily be so.

74. *Q.*—During the inclement weather, do you consider that the upper deck passengers are sufficiently protected by canvas awnings? If not, what would you recommend?

A.—During the prevalence of inclement weather, upper deck passengers must be obliged to suffer much, having no better protection than a canvas awning overhead, and which must of necessity be taken away altogether upon certain occasions; but I do not see what other suitable covering could be made to take the place of the canvas awning with any degree of safety other than leaving a sufficiency of space below for the passengers in the between-decks.

75. *Q.*—(*By Captain Atkinson*).—Does not the 5 feet rule provide the shelter you suggest?

A.—It does, but I am of opinion that this rule has not been sufficiently attended to.

76. *Q.*—(*By Captain Atkinson*).—Will you tell us what you understand by the 5 feet rule, or clause (*a*) of your certificate?

A.—The Act is not difficult to understand, but I am of opinion that passengers have had 5 feet each only on both decks, regardless of airing space.

77. *Q.*—(*By Captain Street*).—Do you form your view from any measurements, or only from the appearance of the decks?

A.—No, only from the appearance of the deck.

78. *Q.*—(*By Captain Street*).—Have you ever been on board of a vessel carrying native passengers when it has been raining?

A.—Yes, I have. I once made a trip to Bombay in one of them and experienced a good deal of rain. Once I found the decks very wet. There were not many deck-passengers.

79. *Q.*—(*By Captain Wilson*).—In your opinion on these occasions could all the passengers have been accommodated on the 'tween-decks?

A.—No, I do not think so.

80 *Q.*—Do you consider that sufficient protection from the sea is afforded to upper deck passengers by the "reasonably stout screen" which under existing rules (*see* Government of India letter No. 430, dated 27th August 1878) is held as coming within the definition of a substantial bulwark? If not, state what you would recommend in lieu.

A.—I have not got this particular letter on record to refer to, but I am quite of opinion that in ordinary times good strong canvas screens might well take the place of substantial bulwarks.

81. *Q.*—What is the height of the middle deck above the load line?

A.—I am not very certain about the position of the load line mark. It is not the same always. I have noticed more than once ships having the load line mark *above* the position of the middle deck, more in particular where vessels of large tonnage, have a high between deck.

82. *Q.*—In rough weather, would any water get on to the middle deck through the scuppers and shutters? If so, could this be prevented?

A.—In rough weather I am of opinion that water must find its way through the ports and scuppers, and most likely from the hurricane-deck also; the scuppers could of course be plugged, but I am not quite sure of the advisableness of such a proceeding, for, if the water should find its way on the main deck by any means, it would of course be necessary to have both ports and scuppers free.

83. *Q.*—Under existing rules are the arrangements to prevent injury to passengers by the rolling of the ship sufficient for the purpose?

A.—Yes, I am of opinion that the existing rules, if carefully attended to, are quite sufficient for the purpose.

84. *Q.*—How would you provide this protection?

A.—I do not consider that anything more is necessary than the carefully fixing of the centre boards well secured to the midship stanchions. But I very much doubt whether in all cases this rule is thoroughly carried out as it should be. If so, this protection is quite sufficient to prevent the passengers from being hurt by the rolling of the vessel.

85. *Q.*—Are any special fittings required under the Native Passengers Ships Act on the passenger decks for the reception of the bundles, boxes and other articles usually carried by native passengers? If so, state what you would recommend.

A.—To the best of my knowledge no special fittings are required by the Act for the reception of bundles and boxes or other articles usually carried by the passengers. I would recommend that a long shelf or bunk be fitted up either side of the 'tween-decks, the full length in each one of the compartments. I am of opinion that such a receptacle would be of great service and much appreciated by the passengers, for the purpose of holding such small packages as may at any moment be required by them.

86. *Q.*—Is it necessary for the comfort or safety of the passengers that provision should be made for the accommodation of luggage not stored in the hold?

A.—Yes, I am of opinion that it is necessary for the comfort, and in some cases for the safety, of the passengers that provision should be made for the accommodation of luggage not stored in the hold, and all heavy baggage should of necessity be put below and not be permitted to remain on deck. I have noticed during my official visits that a large amount of passenger space has been taken up by such baggage as ought in my opinion to have not been permitted to remain on deck.

87. *Q.*—If it is necessary, what would you provide?

A.—I am of opinion that it is absolutely necessary for the general benefit of the passengers that all surplus baggage should be put down the hold and for such small packages as may at any moment be required, I would, as recommended in question No. 84, have a good strong shelf or bunk erected fore and aft at each side of the 'tween-decks and well up above the waterways.

88. *Q.*—If such accommodation were provided, would it be used? Will native passengers allow their luggage to be parted from them under any circumstances?

A.—It is no doubt very difficult to make a certain class of people understand that by far the greater part of their baggage ought for the comfort and safety of all be put below, but this rule should, in my opinion, be insisted upon. The principal objection that such people have for parting with their surplus baggage is that the chances are in favour of their being charged the usual rate of freight on the arrival of the vessel at the final port of destination.

89. *Q.*—Do you think that on a voyage, which may extend to five days, sleeping platforms should be provided for the passengers?

A.—I do not think that on such a voyage in this climate for native passengers a sleeping platform is actually necessary, so far as sleeping accommodation is concerned, but for sanitary reasons such a platform might be necessary.

90. *Q.*—What closet accommodation do the rules require on native passenger vessels?

A.—According to the Native Passenger Ships Act on short voyages every ship is to be fitted with not less than two privies sufficiently screened from public view and with one more such privy for every 100 passengers, or part of that number carried in excess of 100, but no privies are to be allowed in the between-decks.

91. *Q.*—What accommodation of the kind is provided for emigrants?

A.—I am not so sure upon the point, not having had any official experience with emigrant vessels, but I am of opinion that the rules regarding closet accommodation are much about the same as those provided for by the Native Passenger Ships Act.

92. *Q.*—And what accommodation do the Board of Trade rules require?

A.—The Board of Trade rules require for the Home trade that in addition to, and exclusive of, a sufficient number of closets for cabin and saloon passengers, suitable closets are to be provided for the exclusive use of fore cabin and deck passengers, in the ratio of three for every two hundred such passengers allowed by the passenger certificate, and a fair proportion must be allowed for the use of women and children and are to be so marked on the outside.

93. *Q.*—Which scale do you consider the most suitable?

A.—The closet accommodation provided by the Native Passenger Ships Act is in my opinion all that is required for general convenience, if the rules laid down by the Act be effectually carried out by those concerned, and I do not consider that this rule has been sufficiently attended to. Hanging closet accommodation ought not to be permitted, but good strongly made closets ought to be provided, having a continual supply of water running through them.

94. *Q.*—Do you think the existing rules in regard to hospital accommodation are suitable?

The existing rules regarding hospital accommodation for long voyages are in my opinion very suitable, namely, a well-sheltered space affording room for not more than six bunks with a superficial area of not less than 144 feet and not less than 864 cubic feet of air space, if this rule be strictly enforced as it should be. The hospital accommodation provided for short voyages is not in my opinion either so good or so comfortable as it ought to be. I have known a regulation hospital tent erected on the top gallant forecastle deck, which I

should not consider a very comfortable nor a very desirable position for a sick person to be in.

95. *Q.*—(*By Captain Atkinson*).—If the wind was aft, would not the forecastle be the best place for the hospital tent?

A.—I do not approve of hospital accommodation being placed on the forecastle. If the tent be once put in position, I doubt very much whether it would ever be removed.

96. *Q.*—(*By Captain Street*).—In the case of an outbreak of small-pox on board of a native passenger ship, would a boat be the best place for the patient?

A.—Yes, I am of that opinion, if the boat is kept well covered?

97. *Q.*—Do you consider that cargo, horses, cattle, sheep, and live-stock should be carried on the same deck with passengers? If so, is any fitting necessary to prevent the passengers from being inconvenienced by the urine and dung of the horses, cattle, and sheep; and if any such fitting is requisite, state what you would recommend?

A.—Taking the crowded state of the Rangoon passenger vessels' deck into consideration, I am of opinion that neither horses, cattle, nor sheep should be carried on the *same deck* with the *passengers*. I have not seen one of those vessels with suitable accommodation for such, and the Act provides that cattle shall be kept securely penned in so as not to inconvenience the passengers.

98. *Q.*—(*By Captain Street*).—Have you ever seen cattle or sheep on the same between-deck with passengers?

A.—No, never below the main deck.

99. *Q.*—In vessels which, under existing rules, are permitted to carry horses, cattle, and sheep with native passengers, are sufficient precautions adopted to prevent the hay and straw provided for the use of such animals from catching fire either from a spark from the ship's funnel or lighted matches? If not, state what extra precautions you would recommend?

A.—I am of opinion that if when hay or straw is being carried in large quantities for the use of animals it is put down the lower hold as far away from fire as is possible, it is scarcely possible to take extra precautions.

100. *Q.*—Will you explain to the Commission what rules are in force in India on the subject of life-saving appliances?

A.—I regret much not being able to explain this question effectually; in fact, I am not aware that any efficient rules are in force for saving any large number of people; the vessels, I believe, carry a very small number of life-buoys and perhaps very few life-belts.

101. *Q.*—Do the new regulations of the Board of Trade, made under the Merchant Shipping (Life-saving Appliances) Act, 1888, apply to India?

A.—So far as I have heard, I am under the impression that the new regulations of the Board of Trade made under the Merchant Shipping (Life-saving Appliances) Act, 1888, do not apply to India. I am not in possession of the Act in question.

102. *Q.*—What, in your opinion, is the object of these revised regulations?

A.—Not being in possession of a copy of the Act referred to, I regret much being unable to offer an opinion from experience, but of course it must be that the Board of Trade consider that extra facilities are required for saving life.

103. *Q.*—Do the revised regulations require more appliances than were necessary under the old rules, and why was the change found necessary?

A.—For the above-mentioned reasons I am unable to explain.

104. *Q.*—Are the revised regulations suitable, in your opinion, for vessels engaged in the native passenger trade?

A.—All rules for the safety of life in case of accident that are in force in the United Kingdom should, in my opinion, be enforced in India.

105. *Q.*—In your opinion, is there no difference of conditions which would justify a difference in the regulations on this subject?

A.—The only difference that I am aware of at this moment is that the dangers to be met with in Indian navigation are perhaps not so numerous as those in the Home Trade, but even if that should be the case, there seems to be no justification for not having all of the latest improvements for saving life in case of accident on board a vessel carrying a large number of passengers.

106. *Q.*—Do you think that the natives of India require as much space in boats as Europeans?

A.—The natives of India might perhaps do with less space in a boat than Europeans, but I would not on this account recommend that a passenger vessel should be permitted to carry a less number of boats.

107. *Q.*—Would you adopt the Board of Trade regulations in regard to life-buoys and life-belts?

A.—Yes, I would adopt the Board of Trade regulations in regard to the carriage of life-buoys and life-belts.

108. *Q.*—In your experience, do the Surveyors at all ports in India make their surveys on the same lines?

A.—I am not in a position to give an opinion on this question with any degree of confidence.

109. *Q.*—Do you think it necessary that there should be a set of definite instructions as to the survey of passenger accommodation and crew space similar, so far as may be, to those issued by the Board of Trade?

A.—I quite think it very necessary that there should be a set of definite instructions as to the survey of passenger accommodation and crew space, such as those issued by the Board of Trade.

110. *Q.*—Do you think the existing regulations in regard to the lighting and ventilation of the passenger accommodation suitable?

A.—The ventilation of the passenger accommodation is in my opinion fairly good. I am unable to offer an opinion on the matter of lighting.

111. *Q.*—Would you make the regulations in regard to the equipments of vessels similar in all respects to those of the Board of Trade?

A.—Yes, I would make the regulations in regard to the equipments of vessels similar in all respects to those of the Board of Trade.

112. *Q.*—In your opinion, are the provisions of the Emigration Act, and the rules made under it, in regard to the accommodation to be provided for native emigrants, suitable?

A.—I am unable to offer an opinion with reference to the Emigration Act with confidence.

113. *Q.*—After a vessel has been measured for certificate A, is the Captain supplied with the Surveyor's calculations? If not, do you think it necessary that he should be?

A.—A certificates have not at any time been granted at this port, such being generally arranged for at the larger ports, so that I am unable to say whether the Captain is supplied with the Surveyor's calculations. I scarcely think it necessary that he should be, unless he particularly wished for the calculation.

114. *Q.*—Would it not be advantageous if a copy of all measurements and calculations of pas-

sengers' space, as determined on the original measurement, were supplied to the Commander of the vessel?

A.—Yes, it would no doubt be advantageous if all particulars bearing on the original measurement of the vessel were supplied to Commanders.

115. Q.—If so, would you recommend that the calculations should show clearly the names of the various obstructions which have been deducted from the gross area, their dimensions and the proportional area deducted?

A.—Yes, I should recommend that the calculations should show clearly the names of the various obstructions which have been deducted from the gross area, their dimensions and the proportional area deducted.

116. *Q.*—Do you consider that passengers carried in vessels working under clause (*a*) of Government of India Notification No. 1356, dated 14th March 1889, have sufficient space? If not, state what space would suffice.

A.—No, I do not consider that clause (*a*) in the Notification referred to provides sufficient space for the passengers, and under no circumstances should such passengers be provided with less than 6 superficial feet in the between-decks or 36 cubic feet.

117. *Q.*—In the case of voyages the duration of which does not exceed five days, what distinction is made between seasons of fair and foul weather.

A.—In fair weather for vessels performing a short voyage, the Act provides that in the between-decks at least 6 superficial feet and 36 cubic feet of space shall be available for every between deck passenger, and on the upper deck at least 4 superficial feet available for each passenger and 6 superficial feet for each upper deck passenger. For seasons of foul weather a steamer performing a short voyage shall contain in the between decks at least 9 superficial feet and 54 cubic feet of space for every between deck passenger, and on the upper deck at least 4 superficial feet for each such passenger and 9 superficial feet available for each upper deck passenger, but in seasons of foul weather, a ship shall not carry upper deck passengers unless she is furnished with substantial bulwarks and double awnings, or with other sufficient protection against the weather.

118. *Q.*—Do you consider a double awning overhead with side curtains and bulwark screens, as required by the Native Passenger Act, equal to the ordinary tent in which troops are accommodated?

A.—No, I do not consider that a set of double awnings, &c., as required by the Native Passenger Ships Act anything like equal to the ordinary tent in which troops are accommodated. Of course we must take the difference of situations into consideration—in one case the tent is steadily fixed, and in the other case the vessel is perhaps rolling heavily both ways.

119. *Q.*—Do you know that six superficial feet on the upper deck under double awnings and curtains is considered sufficient accommodation for native troops making voyages under five days' duration?

A.—Yes, I do know that six superficial feet on the upper deck is considered sufficient accommodation for native troops on a short voyage, and the Government I believe generally choose the fine weather season for the changing of troops from one part to another, and on such occasions a sufficiency of room is also provided in the hold for a certain amount of baggage.

120. *Q.*—Being acquainted with the class of natives who form the bulk of those who travel by sea, do you consider they require better accommodation for their health and comfort than native troops?

A.—The class of natives who form the bulk of those who travel by sea are in my opinion an inferior class of men to the native troops generally; but I would not on that account consider that they require better accommodation for their health and comfort than native troops.

121. *Q.*—How do you account for the differences between the English and the Indian rules, and between the Indian rules for emigrants and those for ordinary passengers?

A.—Now this is a very important question to answer, and a very difficult one too. The question in my opinion is, why should there be any difference at all; is it because there has been no Mr. Plimsoll, Resident in India, to agitate on behalf of the ordinary native passengers; or it may perhaps have occurred to the Government that the coolies who are in the habit of emigrating to Burma can ill-afford to pay expensive rates of passage money, and so permitted the steamers to carry a larger number of passengers by reducing the superficial space for each person with the understanding that the passage rates are also reduced to the very lowest possible charge.

122. *Q.*—Will you furnish the Commission with your opinion as to the sufficiency or otherwise of the space allowed by the Act and rules generally?

A.—My opinion is that the space allowed by the Act is not sufficient for the between deck passengers. The rules, generally speaking, are not so much to be complained of, but I am also of opinion that the rules laid down in the Act have not been sufficiently well attended to. They have not been enforced in some cases so much as they might have been. If extra shipping accommodation were provided, it would materially alter the conditions, but under any circumstances the between deck passengers ought not to have less than 6 square feet given to them.

123. *Q.*—Do you consider that native passenger ships should carry a medical officer? If this were made compulsory, would you make any difference for the numbers carried or for the duration of the voyage?

A.—Yes, I consider that it is very necessary indeed that the native passenger ships should be compelled by law to carry a medical officer, and almost every Captain and officer employed in the Rangoon passenger trade is of the same opinion. No, I would not make any difference for the numbers carried or for the duration of the voyage.

124. *Q.*—What grade of medical officer would you consider best suited for these vessels?

A.—A person of the grade of a hospital assistant might possibly be sufficiently well suited for vessels performing a short voyage.

125. *Q.*—Give any instances which have come to your knowledge, in which a medical officer would have been of service on board a native passenger vessel.

A.—Unfortunately we have not kept any record of such; deaths only are reported by Commanders. The cause of death is, as a rule, general debility or heart disease.

126. *Q.*—(*By Captain Street*).—Would you allow gun powder or other explosives to be carried as cargo in a vessel carrying native passengers under the Act?

A.—No. No passenger vessel sailing under the Act should be permitted to carry gun powder or other explosives beyond what is required as ship's stores.

127. *Q.*—(*By Captain Wilson*).—Under no circumstances as regards numbers of passengers, say, with 61 passengers?

A.—No passenger ship sailing under the Act should be permitted to carry gun powder in any quantity.

128. *Q.*—(*By Sir Henry Morland*).—Would you exclude gun-powder and explosives from vessels sailing under the Native Passenger Ships Act altogether, even if stowed in properly constructed magazines?

A.—Yes, I would do so.

129. *Q.*—(*By Captain Street*).—When is the passenger traffic at its highest between Bimlipatam and Rangoon?

A.—Vessels leave Bimlipatam with the largest number of passengers in September, October, and November, and return again in March, April, and May.

Mr. MORLEY WOODHOUSE, Madras Port Service.

1. *Q.*—Will you please inform the Commission of the nature of your present occupation?

A.—Port Officer, Vizagapatam; Officer appointed under Section 7 of Act X of 1887; also Protector of Labourers,—No. 2240, August 1st, 1890.

2. *Q.*—What qualifications or experience do you possess in regard to the subjects under enquiry?

A.—Personal experience.

3. *Q.*—Do you take any part, either directly or indirectly, in the administration or observance of any of the provisions of the "Native Passenger Ships Act, 1887"?

A.—Yes. Weekly inspection of the passenger vessels calling at my port; also while in command of a British India Steam Navigation Company vessel for six months, from March to August 1877.

4. *Q.*—How does an Indian short voyage compare with an English Home Trade voyage?

A.—I would not compare them, the conditions being different.

5. *Q.*—In regard to what voyages is there a distinction made between fair and foul seasons?

A.—Short voyages.

6. *Q.*—Do you consider that, if there is to be a line dividing short from long voyages, it should be drawn at five days?

A.—Yes.

7. *Q.*—Do you think that the five-day limit puts an Indian short voyage on a footing similar to an English Home Trade voyage?

A.—No.

8. *Q.*—Are you of opinion that the conditions justify a distinction being made between fair and foul weather in the case of voyages which may extend to five days?

A.—Yes.

9. *Q.*—Are you of opinion that the seasons of fine weather defined in the rules are judiciously chosen with reference to the prevailing conditions?

A.—As nearly as possible.

10. *Q.*—Will you mention instances of foul weather occurring during the seasons which are by rule declared to be seasons of fair weather?

A.—None of my own experience.

11. *Q.*—In your opinion, do the conditions justify passengers being carried across the Bay at any season on decks, such as are commonly called hurricane-decks, which are not protected from the weather except by overhead awnings, side screens, or curtains, assuming that no accommodation is reserved for these passengers on the lower decks, which are crowded with other passengers?

A.—Accommodation should be reserved on the lower decks.

In the fair season, from January 1st to April 15th, accommodation below might be dispensed with.

12. *Q.*—(*By Captain Street*).—Do hurricane-deck vessels running between Madras ports and Burma work under clause (*a*) or clause (*b*)? If the latter, is there sufficient space below for the upper-deck passengers?

A.—To the best of my knowledge the *Kasara* (voyaging June—July 1890) was working under the 5-feet rule, and passengers were carried on the three decks. My opinion is taken from the B certificate. I have undertaken no measurements.

13. *Q.*—(*By Captain Street*).—Are you not aware that under clause (*a*) passengers can only be carried in the 'tween deck, and that the upper deck has to be wholly available for these 'tween-deck passengers?

A.—I am.

14. *Q.*—(*By Captain Street*).—If so, why did you not take exception to passengers being carried in the *Kasara* on the middle and upper decks?

A.—Such decks having been passed or the vessels allowed to sail under an A certificate from Bengal and Burma, I rested content, and reported the matter to the Presidency Port Officer.

15. *Q.*—(*By Captain Atkinson*).—Is it not a fact that the passengers on a hurricane-deck being 6 feet above the ordinary main deck, are better protected from the sea than the passengers on main deck? Have you ever heard of any instance in which Native passengers have suffered in consequence of travelling on a hurricane-deck?

A.—(1) In ordinary weather they would be fairly protected on the hurricane-deck.

(2) I know of no such instance of suffering.

16. *Q.*—Are you acquainted with the ordinary conditions of native life amongst the class that form the bulk of the native passengers who travel by sea?

A.—Yes.

17. *Q.*—Are you aware that it is a common practice for natives of India to sleep at night in the open air?

A.—Yes.

18. *Q.*—Is it within your knowledge that 1st class European passengers, travelling about the Bay of Bengal and coasts of India as a rule prefer to sleep on deck under the same conditions as to awnings and curtains as the 3rd class native passengers?

A.—Not at all seasons.

19. *Q.*—Have you had any personal experience of the weather round the coast of United Kingdom, and in the Bay of Bengal and on the coasts of India?

A.—Yes.

20. *Q.*—Do you consider that there is such similarity as to warrant a comparison between the weather experienced on the coast of United Kingdom or between the rivers Elbe and Brest (English Home Trade voyage) and that experienced in the Bay of Bengal and coasts of India?

A.—No.

21. *Q.*—Do you consider the conditions of English and Indian passenger traffic to be similar in

any other way than that the traffic under discussion is by sea?

A.—No.

22. *Q.*—Do you think the ordinary native deck passenger would be prepared to pay more than at present for better accommodation?

A.—I do not.

23. *Q.*—Is it not a fact that very well-to-do native merchants are satisfied with the usual deck accommodation?

A.—Yes.

24. *Q.*—How is the number of passengers which a vessel is capable of carrying calculated in each case?

A.—Fair Weather—

'Tween decks—
6 superficial feet, 36 cubic feet.

Upper deck—
4 superficial feet for such passengers.
6 superficial feet for each upper-deck passenger.

Foul Weather—

'Tween decks—
9 superficial feet, 54 cubic feet.

Upper deck—
4 superficial feet for such passengers.
9 superficial feet for each upper-deck passenger.

Clause (a), section 7, No. 1356, Not. 5, Calcutta, 14th March 1889. In the 'tween decks 5 superficial feet, 30 cubic feet. Upper and 'tween decks wholly available for the reception of passengers.

25. *Q.*—(*By Captain Street*).—But, in vessels working under clause (*a*), how is the number of passengers calculated?

A.—I know the wording of clause (*a*). I am unaware by practical experience how the number of passengers under the above clause are calculated.

26. *Q.*—Is allowance made in Board of Trade Rules for height of 'tween decks; in fact, do not Board of Trade Surveyors, when berths are not fitted for 3rd class passengers, calculate the number that may be carried on the basis of a cubic measurement of 72 cubic feet per statute adult, after deducting all hatches and encumbrances?

A.—The net area is found by multiplying the length, breadth, and height of the deck, dividing by 72, deducting hatches and encumbrances.

27. *Q.*—If so, would you consider it proper to allow for height of 'tween deck as an element in the health and comfort of 3rd class native passengers?

A.—No. Six feet should be the minimum height, *i.e.*, 5 feet 6 inches between the floor and under side of the beams.

28. *Q.*—Do you know the height of the 'tween decks in the British India steamers?

A.—From 7 to 9 feet.

29. *Q.*—What is the maximum height between deck in these steamers carrying native passengers? What is the average height?

A.—Average height eight feet of the *Scindia* class.

Kistna class, unknown.

30. *Q.*—Are you aware that there was an old rule in India which allowed ships to carry 3 passengers for 2 tons.

A.—No.

31. *Q.*—Is the Board of Trade Rule, under which the number of passengers carried must not, whatever the deck measurements may give, exceed the number denoting the gross tonnage of the vessel, enforced in India?

A.—No.

32. *Q.*—What would be the effect if, assuming all other existing Indian rules to remain intact, this rule were enforced?

A.—Vessels of the *Kistna* class would then carry less, and vessels of the *Sirsa* class could carry more, than they are now by the rules entitled to, *i.e.*—

Kistna, gross Ton. 1115, N. P.—fair 1,229, foul 963.

Sirsa, gross Ton. 2697, N. P.—fair 2,054.

33. *Q.*—(*By Captain Street*).—Do you know what the *Kistna* class carry under clause (*a*).

A.—I do not.

34. *Q.*—What spaces are left unmeasured for passengers when a vessel is being measured for certificate A?

A.—Hatches, cooking ranges, hospital accommodation.

35. *Q.*—How are the hatches treated when a vessel is being so measured, *i.e.*, is the whole space of a hatch deducted or not? Is any difference made on account of long and short voyages?

A.—In short voyages, to the best of my opinion or knowledge, the whole space.

36. *Q.*—Are the spaces which would be required for the deck water-tank, latrines, and cooking ranges, necessary for use of native passengers, deducted from the passengers' space, even if such articles are not in position at the time a vessel is being measured?

A.—Yes.

37. *Q.*—Are any spaces deducted so as to admit of the officers and crew moving fore and aft the vessel with facility, and their getting with ease at the boats and boats' gear? If not, have you any recommendations to make on this head?

A.—No.

38. *Q.*—Should alley-ways, used as a means of communication by the crew, be considered as deck area for passengers, *i. e.*, the narrow passages between the officers' cabins and the engine room-casing? If so, would it not be advisable to give a minimum breadth before allowing the area to count for passengers?

A.—The alley-ways are needful for shelter for passengers. A minimum breadth might be allowed. I would allow 2 feet.

39. *Q.*—Are not these alley-ways additional shelter and, therefore, desirable for passengers?

A.—They are.

40. *Q.*—For ships with large water-ways in the 'tween decks extending inside the battens on the ship's side, is the deck measurement made to the inside edge of the water-ways, or to the battens? Which would you recommend?

A.—To the battens.

41. *Q.*—Should the spaces set apart for the boats stowed on the level of the bridge be utilized for passengers when the boats are carried at the davits? If so, state whether during both fair and foul season, or only during the fair season?

A.—In the fair season. In bad weather the boats are swung inboard, and such space cannot be utilized.

42. *Q.*—In your opinion, are the provisions of the Native Passenger Ships Act, and the rules made under it, in regard to the accommodation to be provided for Native passengers on long voyages and short voyages, suitable?

A.—For short voyages—yes, *i.e.*, 6 square feet of area in the 'tween deck with the airing space on in the upper deck of 4 square feet which the Act orders. No long voyages are made from this port with Native passengers?

43. *Q.*—(*By the President*).—Have you ever seen passengers actually occupying a measured space giving 6 square feet to each passenger?

A.—I have seen a particular compartment in a vessel under the 6-feet rule with its full number

of passengers in it. It was the *Karagola* when at Gopalpore in 1889.

44. *Q.*—Do you think that a passenger on a voyage lasting 10 or 12 hours requires as much room as one on a voyage lasting five days?

A.—No.

45. *Q.*—(*By Captain Street*).—What space would you allow for such passengers during daylight—*i.e.*, to each adult?

A.—Four cubic feet.

46. *Q.*—Do you think that native passengers can do with less space than Europeans?

A.—Yes.

47. *Q.*—What proportion do you consider that the space allotted to natives should bear to the space allotted to Europeans?

A.—Each native should have 6 square feet of area with 4 square feet on the upper deck.

Space allotted to Europeans in the Home Trade is 9 square feet.

48. *Q.*—Do you consider that on a voyage which may extend to five days, native passengers can be accommodated in the 'tween decks of a steamer at the rate of one passenger to each six square feet of area, with four square feet of airing space on the upper deck, without prejudicing their health and safety?

A.—I consider it sufficient.

49. *Q.*—Do you think it necessary for the health and safety of the passengers, that there should be on a voyage, which may extend to five days, permanent shelter for each passenger either 'tween decks or in cabins on the upper deck?

A.—Yes.

50. *Q.*—Do you think that on a voyage, which may extend to five days, there should be separate accommodation for female passengers?

A.—No, the proportion is only 2 per cent. from Vizagapatam. The female passenger embarks with her husband; it would be against their wishes to be separated on board. Other separate accommodation I do not consider necessary.

51. *Q.*—Do you know of any steamers which carry native passengers on two upper deck?

A.—Kistna, Comilla.

52. *Q.*—Do you consider, from the wording of the Native Passenger Ships Act and your experience of this question, that the Legislature, when it passed the Act, contemplated the existence of vessels with more than one upper deck?

A.—I do not.

53. *Q.*—Are you acquainted with the design of the steamers of the *Kistna* class?

A.—Yes.

54. *Q.*—What is the distinguishing feature of these steamers?

A.—Three passenger decks, *viz.*, 'tween decks main decks, hurricane-decks.

55. *Q.*—In your opinion, are the middle passenger decks of the steamers between decks or upper deck within the meaning and intention of the Native Passenger Ships Act? Give your reasons for this opinion.

A.—The Native Passenger Ships Act in no section provides for ships with more than two decks.

56. *Q.*—(*By Captain Street*).—Is there nothing in any of the rules issued under the Native Passenger Act by Government which provides for *two between decks?*

A.—I am aware of the rule, but I have not applied it.

57. *Q.*—Are the passengers on these middle decks as well protected in rough weather as the passengers on the lowermost of the three passenger decks?

A.—No.

58. *Q.*—Are these passengers on the middle deck not better protected than on ordinary upper decks?

A.—Yes.

59. *Q.*—During the inclement weather, do you consider that the upper-deck passengers are sufficiently protected by canvas awnings, screens, and curtains? If not, what would you recommend?

A.—No. Space should be reserved below for the whole number on the upper deck during inclement weather.

In ordinary weather, the canvas screen is protection, *i.e.*, from January 1st to April 15th.

60. *Q.*—(*By Captain Atkinson*).—If you were shown that the Board of Trade only require one-sixth of upper-deck passengers to be sheltered in inclement weather on the coast of England, would you still hold the opinion that all native deck passengers must be sheltered in the wild weather of the Indian coast?

A.—In inclement weather, yes.

61. *Q.*—What is the height of the middle deck above the load line?

A.—About two feet.

62. *Q.*—If 'tween deck is entirely given to passengers, could the vessel be deeply laden with the ordinary cargo carried in the passenger line of traffic?

A.—She could, I am of opinion, be loaded to her load line.

63. *Q.*—In rough weather, would any water get on to the middle deck through the scuppers and shutters? If so, could this be prevented?

A.—On the main deck water would get through the scuppers and edges of the shutters.

64. *Q.*—Under existing rules, are the arrangements to prevent injury to passengers by the rolling of the ship sufficient for the purpose?

A.—Yes.

65. *Q.*—How could you provide this protection?

A.—Presidency Port Officer, in his G. O. No. 200, dated 4th November 1890, has ruled that vessels with more than 30-feet beam should be fitted with a middle line bulkhead, 3 feet 6 inches high, or suitable lines to be fastened in lieu of such bulkhead.

I recommend those vessels which have provided themselves with stout wooden battens lashed along the midship stanchions at the prescribed height, in preference to ropes.

66. *Q.*—Are any special fittings required under the Native Passengers Ships Act on the passenger decks for the reception of the bundles, boxes, and other articles usually carried by native passengers? If so, state what you would recommend?

A.—None.

67. *Q.*—Is it necessary for the comfort or safety of the passengers that provision should be made for the accommodation of luggage not stored in the hold?

A.—No.

68. *Q.*—If such accommodation were provided, would it be used? Will native passengers allow their luggage to be parted from them under any circumstances?

A.—They have no heavy luggage—chiefly food parcels, tied up in cloth or small baskets and which they use as pillows, or tie all along to the battens, on the ship's side and midships.

69. *Q.*—Do you think, that on a voyage which may extend to five days, sleeping platforms should be provided for the passengers?

A.—It would promote comfort and cleanliness.

70. *Q.*—What closet accommodation do the rules require on native passenger vessels?

A.—Two for the first hundred native passengers, and then one for every succeeding hundred.

71. *Q.*—What accommodation of the kind is provided for emigrants?

A.—Two for each 100.

72. *Q.*—And what accommodation do the Board of Trade rules require?

A.—Three for each 200 passengers.

73. *Q.*—Which scale do you consider the most suitable?

A.—The present.

74. *Q.*—Do you think the existing rules in regard to hospital accommodation are suitable?

A.—A permanent wooden structure is required in lieu of the canvas tent.

75. *Q.*—(*By Captain Atkinson*).—What is your objection to the present arrangement of a canvas tent and platform?

A.—It is liable to be blown away. An instance was given me when the weather lashings parted during bad weather about a year ago, causing the canvas hospital to collapse. I am unable to quote any authority.

76. *Q.*—Do you consider that cargo, horses, cattle, sheep, and live-stock should be carried on the same deck with passengers? If so, is any fitting necessary to prevent the passengers from being inconvenienced by the urine and dung of the horses, cattle, and sheep; and if any such fitting is requisite, state what you would recommend?

A.—When sailing upon the 5-feet rule, clause (*a*), Section VII, No. 1356, Not. V, Calcutta, 14th March 1889, cattle cannot be carried on the passenger deck.

December 27th—100 sheep were allowed shipment on the S. S. *Secundra* upon the Commander assuring me they would be struck down the forehold, which is not a passenger deck, and were entered on the B certificate.

She had not her full number of passengers.

77. *Q.*—(*By Captain Street*).—Do you consider that under the 5-feet rule, horses, cattle, and sheep should be carried on the upper deck, should the whole number of passengers not be on board?

A.—In a vessel sailing under the 5-feet rule, I should not allow cattle to be carried on her passenger decks, as upon the Coromandel Coast any vessel may fill up with cargo, or have offered her full number of passengers at her next port of call.

78. *Q.*—In vessels which, under existing rules, are permitted to carry horses, cattle, and sheep with native passengers, are sufficient precautions adopted to prevent the hay and straw provided for the use of such animals from catching fire either from a spark from the ship's funnel or lighted matches? If not, state what extra precautions you would recommend?

A.—All reasonable precautions are taken. The dry fodder is mostly struck below.

78*a*. *Q.*—(*By Captain Atkinson*).—If you were shown that the Board of Trade only require one-sixth of upper-deck passengers to be sheltered in the inclement weather on the Coast of England, would you still hold the opinion that all upper-deck passengers must be sheltered in the mild weather on the Indian coast?

A.—In inclement weather, yes.

79. *Q.*—Will you explain to the commission what rules are in force in India on the subject of life-saving appliances?

A.—No. 1354, Calcutta, 14th March 1889, Not. III under Section 53 of Act X of 1887, Art. XVII. Every ship should be provided with an adequate supply of life-buoys, not less than four per each vessel.

80. *Q.*—Do the new regulations of the Board of Trade, made under the Merchant Shipping (Life-saving Appliances) Act, 1888, apply to India?

A.—No.

81. *Q.*—What, in your opinion, is the object of these revised regulations?

A.—They were needed.

82. *Q.*—Do the revised regulations require more appliances than were necessary under the old rules, and why was the change found necessary?

A.—More; necessary.

83. *Q.*—Are the revised regulations suitable in your opinion for vessels engaged in the native passenger trade?

A.—Yes.

84. *Q.*—In your opinion is there no difference of conditions which would justify a difference in the regulations on this subject?

A.—No.

85. *Q.*—Do you think that the natives of India require as much space in boats as Europeans?

A.—They do.

86. *Q.*—Would you adopt the Board of Trade regulations in regard to life-buoys and life-belts?

A.—(Life-saving Appliance Act 1888, page 5 paragraph *f*). Additional boats or rafts are required. I am doubtful if the average cooly passenger could be made to comprehend the value of a life-belt in the event of disaster occurring and confusion all round.

87. *Q.*—In your experience, do the Surveyors at all ports in India make their surveys on the same lines?

A.—Not in a position to answer.

88. *Q.*—Do you think it necessary that there should be a set of definite instructions as to the survey of passenger accommodation and crew space similar, so far as may be, to those issued by the Board of Trade?

A.—Yes.

89. *Q.*—Do you think the existing regulations in regard to the lighting and ventilation of the passenger accommodation suitable?

A.—Yes.

90. *Q.*—Would you make the regulations in regard to the equipments of vessels similar in all respects to those of the Board of Trade?

A.—Yes, I would.

91. *Q.*—Would it not be advantageous if a copy of all measurements and calculations of passengers' space, as determined on the original measurement, were supplied to the Commander of the vessel?

A.—Yes.

92. *Q.*—If so, would you recommend that the calculations should show clearly the names of the various obstructions which have been deducted from the gross area, their dimensions, and the proportional area deducted?

A.—The different calculations should clearly show the names of the various obstructions, &c., deducted from the gross area.

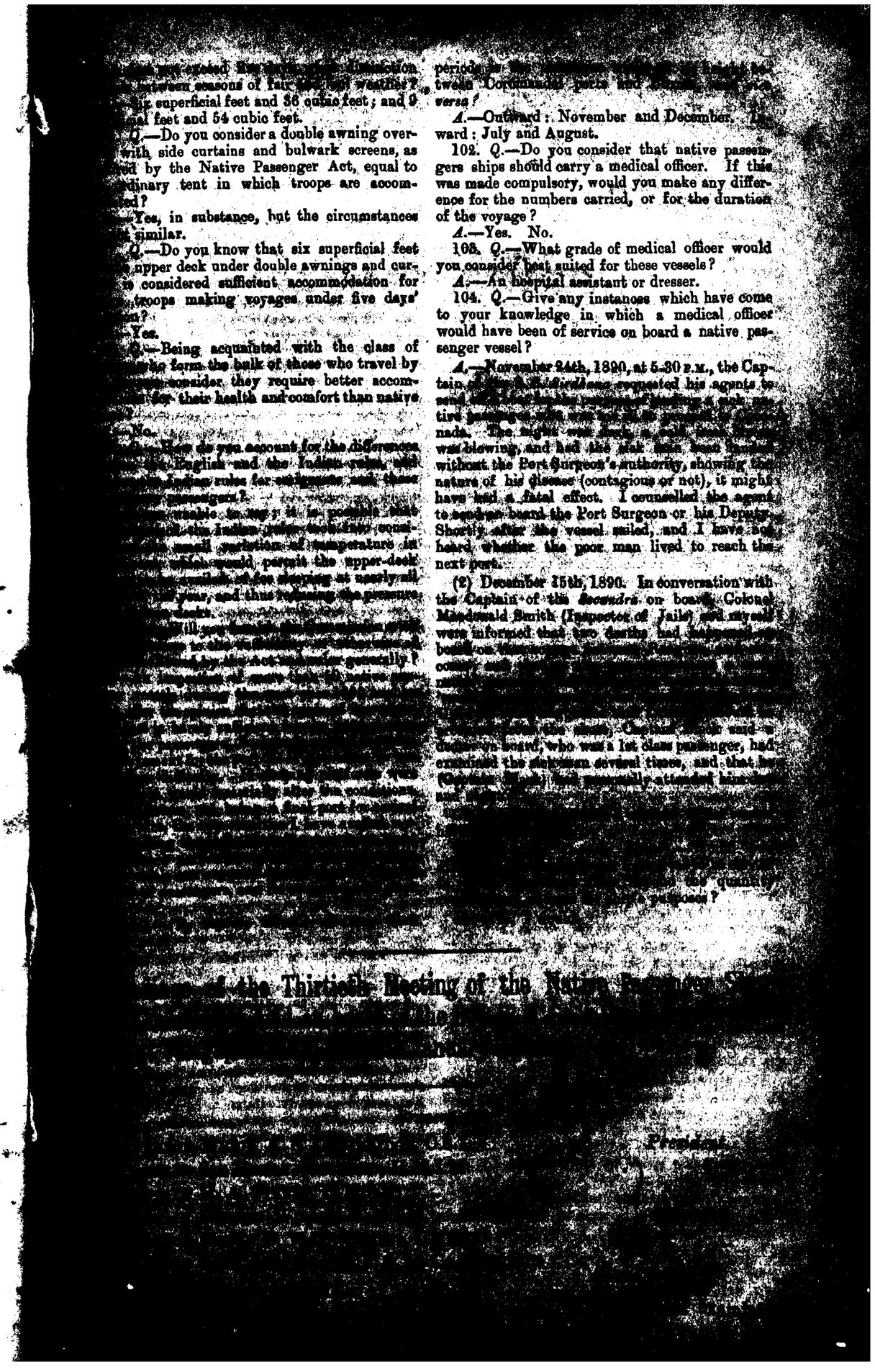
93. *Q.*—Do you consider that passengers carried in vessels working under clause (*a*) of Government of India Notification No. 1356, dated 14th March 1889, have sufficient space? If not, state what space would suffice?

A.—No. Under any circumstances I am of opinion there should not be less than six superficial feet in the decks for each adult.

94. *Q.*—(*By the President*).—Would you therefore abolish the 5-feet rule?

A.—Yes, I would.

95. *Q.*—In the case of voyages the duration of



In the course of his examination, Mr. Willock handed in a copy of Madras Board of Revenue's Proceedings No. 2210, 28th July 1885, and also of Madras Government Order No. 403, Marine, 25th September 1885.

2. Mr. Willock's examination having been completed, Gandati Sataramudu, a petty trader residing at Vizagapatam, was called and examined.

3. Gandati Sataramudu's examination having been completed, Dhoni Banjari, a resident of Vizagapatam, and a member of the Vada Balagi caste, was called and examined.

4. Dhoni Banjari's examination having been completed, the Commission adjourned at 5-30 P.M. until the 20th instant.

Mr. W. A. WILLOCK, C.S., Collector of Vizagapatam.

1. *Q.*—Do you consider that if there is to be a line dividing short from long voyages, it should be drawn at five days?

A.—I think five days is too long. The voyage across the Bay to Rangoon should not be a short voyage.

2. *Q.* (*By Dr Comins*).—What do you think the limit of a short voyage should be, and would you make any difference as regards fair or foul season?

A.—I am unable to say. I merely think that the limitation should not be such as to include a voyage from Vizagapatam to Rangoon.

3. *Q.* (*By Captain Atkinson*).—On what circumstances do you base your opinion? Have any circumstances occurred during the thirteen years the present Act has been in force to warrant your opinion?

A.—In May 1879 I was anchored off Bimlipatam in the *Asia* for three or four days while a small cyclone was developing, and only got ashore with difficulty. Had the Captain started on the third day, as he was much inclined to do, the total duration of the voyage would have been 8 or 9 days. Similar occurrences may happen at any time.

4. *Q.* (*By Captain Atkinson*).—Did the passengers on the occasion mentioned suffer in any way from the detention?

A.—To the best of my recollection there were but few on board and they were well cared for by Captain Bellwood. The weather was only moderately bad at Bimlipatam, the storm being off Nellore.

5. *Q.*—What are, under the rules, the seasons of fair weather in the Bay of Bengal?

A.—1st January to 15th April fair, 16th April to 31st July foul; 1st August to 15th October fair, 16th October to 31st December foul.

6. *Q.*—Are you of opinion that the conditions justify a distinction being made between fair and foul weather in the case of voyage which may extend to five days?

A.—Yes.

7 *Q.*—Are you of opinion that the seasons of fine weather defined in the rules are judiciously chosen with reference to the prevailing conditions?

A.—I do not think that the second fair season, 1st August to 15th October, is judiciously chosen. I have resided in the Vizagapatam District for 17 years of my 20 years' service and have taken much interest in the storms of the Bay on the coast.

8. *Q.*—If not, what alterations would you suggest?

A.—The second fair season should not extend beyond from 1st August to 15th September, and I doubt if even this is advisable.

9. *Q.*—Will you mention instances of foul weather occurring during the seasons which are by rule declared to be seasons of fair weather?

A.—The Vizagapatam cyclone of 1876, 5th October (very severe).

Cyclone	. .	13—16	October	1878
Storm	. .	12—15	„	1880
		2— 9	„	1881
		8—14	„	1887

A nasty cyclonic storm also passed up the coast about the 10th October 1890. I have never seen very bad weather in the month of September, but cyclones do sometimes occur and are exceptionally violent.

10. *Q.* (*By Captain Atkinson*).—If any casualty had occurred to steamers carrying native passengers in consequence of the storms you mention, would you have heard of it? Did you hear of any such?

A.—I might probably not, as I had charge of an inland portion of the district, but I believe that none did occur except that the *Rajputana* rolled her funnel overboard near Coconada and lost her boats.

11. *Q.* (*By the President*).—Have you any correspondence in your office showing the consequences of bad weather on native passengers travelling between Rangoon and the Coromandel coast?

A.—Yes; the correspondence embodied in G.O. No. 403, Marine Department, dated 25th September 1885.

12. *Q.*—In your opinion, do the conditions justify passengers being carried across the Bay at any season on decks, such as are commonly called hurricane-decks, which are not protected from the weather except by overhead-awnings, assuming that no accommodation is reserved for these passengers on the lower decks, which are crowded with other passengers?

A.—Yes; in January, February, March, and the first part of April.

13. *Q.*—Are you acquainted with the ordinary conditions of native life amongst the class who form the bulk of the native passengers who travel by sea?

A.—Yes.

14. *Q.*—Are you aware that it is a common practice for natives of India to sleep at night in the open air?

A.—Yes.

15. *Q.*—Is it within your knowledge that 1st class passengers travelling about the Bay of Bengal and coasts of India as a rule prefer to sleep on deck under the same conditions as to awnings and curtains as the 3rd class native passengers?

A.—The awnings over the native passengers are often taken down at night to the best of my recollection. The native passengers also cannot shift their position with reference to the weather as first class passengers can, are not protected by curtains from drifting rain and sea, and are exposed to any seas which come on board.

16. *Q.*—Do you consider the conditions of English and Indian passenger traffic to be similar in any other way than that the traffic under discussion is by sea?

A.—No; a Home passenger is always more or less protected by clothing; a native not at all.

17. *Q.*—Do you know what amount of passage money is paid for an ordinary passenger, say, from Madras to Rangoon, 1,009 miles, and who pays?

A.—₹10 for voyage to Rangoon.

18. *Q.*—Do you think the ordinary native deck passenger would be prepared to pay more than at present for better accommodation?

A.—No; the question seems to me to be, does he get fair value for his money and does he know the risk he exposes himself to when he embarks.

19. *Q.* (*By Captain Street*).—Have you any information respecting the manner in which native labour for Rangoon is recruited?

A.—I believe that the native passengers are not recruited in any way. They pay their fare themselves through the Agent, but he does not advance money, but merely continues to provide boats at, I believe, 6 annas per head.

20. *Q.*—Is it not a fact that very well-to-do native merchants are satisfied with the usual deck accommodation?

A.—I cannot remember cases to my knowledge. A wealthy native would, however, secure the best position on deck for himself and his followers.

21. *Q.*—Would you consider it proper to allow for height of 'tween deck as an element in the health and comfort of 3rd class native passengers?

A.—In the case of a cyclone, the upper deck passenger would have to be got on the 'tween decks somehow, or would be in great peril. I therefore think extra height in the 'tween deck an important factor.

22. *Q.*—Are any spaces deducted so as to admit of the officers and crew moving fore and aft the vessel with facility and their getting with ease at the boats and boats' gear; if not, have you any recommendations to make on this head?

A.—Some allowance seems necessary. I have seen the deck of the *Kistna* so crowded that it was almost impossible to get aft to the quarter deck from the gangway. With the deck so crowded the movements of the crew in case of an emergency would be dangerously hampered.

23. *Q.* (*By Captain Atkinson*).—To your knowledge were the three decks of the *Kistna* crowded in the same manner?

Is it not common for native passengers to crowd about one part of a vessel?

A.—I was only seeing a friend off, but, as far as I could see, the whole of the upper deck forward of the screen was uniformly crowded. I do not think that large numbers of native passengers mass themselves together, though they form in small groups. I did not see the middle or 'tween decks, as well as I can remember, on the occasion referred to.

24. *Q.*—Should alley-ways, used as a means of communication by the crew, be considered as deck area for passengers, *i.e.*, the narrow passages between the officers' cabins and the engine room-casing? If so, would it not be advisable to give a minimum breadth before allowing the area to count for passengers?

A.—*Vide* my remarks on the last question. According to my recollection, passengers are in practice not allowed to settle themselves in the alley-ways, and if they are not, the space should not be treated as deck area. I do not think it would be well to allow the areas over a minimum breadth to be counted, as I doubt if the passengers would be allowed in practice to use it.

25. *Q.* (*By the President*).—In your opinion should a passage be left for the passengers who are accommodated aft to get to the latrines and cook-houses?

A.—I think a passage is necessary.

26. *Q.*—Are not these alley-ways additional shelter and, therefore, desirable for passengers?

A.—I doubt if they would be allowed to use them largely.

27. *Q.* (*By Dr. Comins*).—In your experience, for what purpose are alley-ways used?

A.—As a passage used by the crew and by officers' servants, &c.

28. *Q.*—Should the spaces set apart for the boats in the vicinity of the bridge be utilized for passengers when the boats are carried at the davits? If so, state whether during both fair and foul season, or only during the fair season.

A.—In foul weather the boats might have to be swung inboard at any time.

29. *Q.*—In your opinion, are the provisions of the Native Passenger Ships Act, and the rules made under it in regard to the accommodation to be provided for native passengers on long voyages and short voyages, suitable?

A.—I do not think that the rules provide sufficient security for upper deck passengers in foul weather between the coast and Rangoon, and that, in consequence, dangerous overcrowding of the 'tween-deck would be unavoidable in case of a cyclone. I also think that passengers by mail steamers require more protection than those by other steamers, as the former must keep up to time unless the weather is very threatening, and are consequently more likely to be caught near the centre of a storm.

30. *Q.* (*By Captain Atkinson*).—Would this opinion hold in view of the provision of the 5 feet rule (Government of India No. 1356, dated 14th March 1889) which requires 5 feet to be provided on the 'tween decks for every passenger on board?

A.—I do not think that I am qualified to express an opinion as to whether 5 feet is a sufficient area for each passenger while below, but I think the rule is a great improvement on the other method of calculation.

31. *Q.*—Do you think it necessary for the health and safety of the passengers, that there should be on a voyage, which may extend to five days, permanent shelter for each passenger either 'tween decks or in cabins on the upper deck?

A.—Yes, very limited accommodation would suffice.

32. *Q.*—Do you think that, on a voyage which may extend to five days, there should be separate accommodation for female passengers?

A.—No; they would not leave their friends and hardly ever travel alone.

33. *Q.*—During the inclement weather, do you consider that the upper deck passengers are sufficiently protected by canvas awnings, screen and side-curtains? If not, what would you recommend?

A. No; a canvas awning, side screen and curtains in bad weather give very poor protection to passengers who are too crowded to have a choice of position under it. Besides, in really bad weather the awnings would have to be taken in.

34. *Q.*—Do you consider that sufficient protection from the sea is afforded to upper deck passengers by the "reasonably stout screen" which under existing rules (*see* Government of India letter No. 430, dated 27th August 1878) is held as coming within the definition of a substantial bulwark? If not, state what you would recommend in lieu?

A.—I think the words are too indefinite.

35. *Q.*—Is it necessary for the comfort or safety of the passengers that provision should be made for the accommodation of luggage not stored in the hold?

A.—No; they, as a rule, carry very little luggage. I think that some supervision might be exercised to reduce the luggage to *bonâ fide* personal effects. I have seen passengers carrying quantities of odds and ends of teak wood with them as luggage.

36. *Q.*—If such accommodation were provided, would it be used? Will native passengers allow their luggage to be parted from them under any circumstances?

A.—I don't think they would part with it under any circumstances. Most of it is in constant use.

37. *Q.*—Do you think the existing rules in regard to hospital accommodation are suitable?

A.—I think that the hospital should be a permanent erection, as I doubt whether it would always be erected when asked for. It must be remembered that there is no one on board qualified to decide whether a passenger is sick or not.

38. *Q.*—Do you consider that cargo, horses, cattle, sheep, and live-stock should be carried on the same deck with passengers? If so, is any fitting necessary to prevent the passengers from being inconvenienced by the urine and dung of the horses, cattle, and sheep; and if any such fitting is requisite, state what you would recommend?

A.—Horses are unobjectionable, I think, if they are placed in proper positions. I have never travelled with cattle.

39. *Q.*—In vessels which, under existing rules, are permitted to carry horses, cattle, and sheep with native passengers, are sufficient precautions adopted to prevent the hay and straw provided for the use of such animals from catching fire either from a spark from the ship's funnel or lighted matches? If not, state what extra precautions you would recommend?

A.—Practically no precautions are taken with horses' fodder to the best of my recollection; but as they are always only under an awning, I don't think the risk of fire is serious.

40. *Q.* (*By the President*).—The Board of Trade has, in framing its rules in regard to life-saving appliances, based its calculations on the idea that every man has a right to have his life saved, if possible. Can the Government of India do less for native passengers?

A.—I certainly think that the Government of India is bound to be as careful of native life as the Home Government is of British.

41. *Q.* (*By the President*).—Would native passengers consider it a hardship if asked to pay annas 2 each for the provision of a medical officer who would act as a protector and represent their complaints to the Captain; also for providing a Hindu cook for passengers who are too ill to look after themselves?

A.—I think that they would certainly object, but I do not think its collection would be any hardship, and they could well pay it. A native will never pay anything before hand to secure him against a contingency which may not occur.

42. *Q.* (*By Captain Street*).—Do you consider that gunpowder and other explosives beyond the quantity required for ship's purposes should be carried in a native passenger ship, even if placed in a properly constructed magazine?

A.—I do not think that there is any risk in carrying gunpowder in the usual sporting tins, provided that not more than two or three tons are carried in one case with other articles. If too great restrictions are placed on transport, the powder will arrive at its destination without being declared. I cannot say anything about the risk of carrying powder in large quantities.

Evidence of GANDATI SITARAMUDU, Petty Trader, in business at Vizagapatam.

Has made 28 voyages between Rangoon and Vizagapatam. The voyage as a rule occupies 5 days altogether. These voyages have been made at all seasons of the year and were made in the British India Steam Navigation Company's steamers. In the hot season he prefers the upper deck, and the rains down below. In a storm and in the rains it is inconvenient being on the upper deck, because it is cold and the sea beats in and the rain comes in from the top and sides, even when the awnings are spread. The awnings are taken down when cargo is being taken in or out; but he has never seen the awnings taken down in bad weather as he went below. It would be very convenient if a screen were provided for women. He would send his own women then. It would be a great convenience if Hindus and Mahomedans had each a place of their own.

In the steamer *Asia* there was a great number of passengers and he suffered very much from the overcrowding. They could not lie down and they were very hot and perspiring. The decks were kept clean at night. Passengers frequently urinate in the 'tween decks, but they do not defecate them. When the scuttles are closed it is very warm. The coolies often open the scuttles themselves.

The weight of the baggage of the ordinary passenger is about 25lb to Rangoon and more coming back. He has been charged R1 or so for boxes. He got a bill of lading for his merchandise as well. Some would object and some would not object to having their baggage taken from them to be put in the hold. They would be afraid they would not get it again. He would require for himself and baggage a space equal to 13½ feet. He paid from R23 down to R10 for various passages, and would not pay any more to obtain greater comfort. There is no landing ticket issued for Vizagapatam. They make their own arrangements. It comes to about 4 annas a head. The latrine accommodation is insufficient. It would be a great convenience to have a separate urinal. He has always been fed by the ship's people. His caste is Pariah. Some people got fuel free and some had to pay the khalasis to give them fuel. He saw the money paid to ship's servants near the cooking place. No food is given by the ship unless in the case of a storm when there are no means of cooking, when the Captain would serve out biscuits, &c. He has never heard of any one applying to the ship's officers for food. It would be a great convenience to have a doctor on board, also a Hindu cook of good caste. He said he would give 2 annas if a doctor and cook were provided; and if there were some one to represent the wants and grievances of the passengers to the Captain, they would be very glad. In his numerous voyages he has seen instances of the beating of passengers by the crew. Captain Bellwood is a very terrible man to his own people, but kind to the passengers; also Captain Morice. The other Captains do not enquire into things to the same extent. Animals are never carried in the 'tween decks. Cargo has been carried in the same compartment with passengers but at one end. It was properly secured. As a general statement, for the convenience of passengers, he wants more space, the passengers' space to be kept cleaner, a space for their luggage with them and more safety against thefts from luggage. The lighting of the 'tween decks is sufficient. He has never seen the lights go out.

Evidence of DHONI BANARI, caste, Veda Baliji, Ship Khalasi.

Has made 3 voyages between Rangoon and Vizagapatam. The voyage lasts 6 days. All the voyages were made in the fair weather by the British India Steam Navegation Co.'s steamers. It is very unpleasant down below. He prefers being on the upper deck, but when it rains, he goes below because some wet comes inside the awnings which leak somewhat. It would be a good thing if Hindu and Mahomedans had separate places, and if there was a Hindu to distribute water; also if women had a separate place. He has been in a vessel very full of passengers, the *Asia*, three years ago. He thinks there were 700 passengers on board. There was great trouble with the water and at the cooking ranges. They were resting one on the other and some were sitting. When the ports were shut it was terribly hot. An ordinary passenger carries about 50 or 60lb of baggage with him. He would object to boxes being placed in the hold, as they might be exchanged. He is aware that women are sent to Rangoon for purposes of prostitution. They do not know for what purpose they are going when they leave here. He would require for himself and his baggage 6 feet by 3=18 feet of space. He would not give more for extra space. He has experienced the greatest inconvenience from insufficient latrines. A separate urinal would be convenient. He suggests that it should be watched to prevent its being used as a latrine. Having been shown the first class urinal, he said there would be no objection to its use by Hindus. Being a Hindu by caste, he does not cook on boardship on account of pollution from lascars and Mahomedans. If there were a separate Hindu cooking range, he would use it. He has never known of any passenger getting food from the ship. They get fuel on asking for it from the ship. The passengers are sometimes beaten and pushed about when they are in the way of working the ship. It would be a great convenience to have some one to represent their wants and grievances to the Captain, and a great help if they had a doctor and a Hindu cook. They would gladly give 2 annas each every voyage to have these. He has never known animals kept in the 'tween decks. They experience no difficulty from animals on the upper deck, as they have their own people to keep them clean. There is plenty of light in the 'tween deck. Generally he complains of the treatment of the passengers by the ship's crew and officers. They should be protected. Passengers should be allowed to purchase from shore-boats without interference. A native doctor and a Hindu cook are necessary; also that the drinking water should be under a Hindu.

Proceedings of the Thirty-first Meeting of the Native Passenger Ships Commission held on board of the B. I. S. N. Co.'s Steamer "Purnea," while at anchor off Coconada, on the 20th January 1891.

Present:

SURGEON-MAJOR A. S. LETHBRIDGE, C.S.I.	*President.*
CAPTAIN SIR HENRY MORLAND, H.M.I.M.	*Members.*
CAPTAIN H. A. STREET, H.M.I.M.	
CAPTAIN GEORGE WILSON, H.M.IM.	
SURGEON-MAJOR D. W. D. COMINS, I.M.S.	
CAPTAIN J. H. ATKINSON, B.I.S.N. Co.'s SERVICE	

1. The Commission assembled at 10-30 A.M. Mr. William James Hadden, Acting Civil Surgeon and Acting Port and Health Surgeon at Coconada, was called and examined.

2. Mr. Hadden's examination having been completed, Mr. George Wicks, Port Officer and Deputy Conservator of the Port of Coconada, was called and examined. In the course of his examination, Mr. Wicks handed in the following statement showing the number of passengers carried by the two sister-vessels *Secundra* and *Sirsa*, respectively, under clauses (*a*) and (*b*), as an instance of the difference which occasionally takes place in the measurements of a vessel when measured for certificate at different ports. Mr. Wicks also promised to furnish a memorandum containing certain proposals he had to make respecting certificate B, and the result of a few

experiments carried out by him when Port Officer at Negapatam in placing native passengers in certain specified areas on board of the S.S. *Meanatchy*.

3. Mr. Wicks' evidence having been completed, the Commission adjourned at 5 P.M. until the 21st instant.

Clause (*a*).

S. S. *Secundra*.		S. S. *Sirsa*.	
FAIR WEATHER.		FAIR WEATHER.	
(1) 'Tween decks and Alley-ways . .	1,282	'Tween decks	1,263
(2) Upper deck, if 'tween deck passengers are carried	603	Upper deck, if 'tween deck passengers are carried	484
(3) Poop and Hurricane-deck, if given to 3rd class passengers . . .	651	Poop and Bridge, if given to 3rd class passengers	514
	2,536		2,261
FOUL WEATHER.		FOUL WEATHER.	
(1)	855	..... .	842
(2)	545	..... .	518
(3)	388	..... .	487
	1,788		1,847

Under clause (*a*).

Secundra . . . . . 1,538 | *Sirsa* 1,515

MR. WILLIAM JAMES HADDEN.

1. *Q.*—Will you please inform the Commission of the nature of your present occupation?

A.—Acting Civil Surgeon and Acting Port Surgeon and Health Officer at Coconada.

2. *Q.*—What qualifications or experience do you possess in regard to the subjects under enquiry?

A.—No special qualification. During the last six years I have occasionally inspected vessels reporting epidemics or deaths on board.

3. *Q.*—Do you take any part, either directly or indirectly, in the administration or observance of any of the provisions of the "Native Passenger Ships Act, 1887"?

A.—Indirectly as Health Officer and Port Surgeon.

4. *Q.*—Are you acquainted with the ordinary conditions of native life amongst the class that form the bulk of the native passengers who travel by sea?

A.—Yes; the majority of them are coolies and ryots.

5. *Q.*—Are you aware that it is a common practice for natives of India to sleep at night in the open air?

A.—It is not so in this district except in the hot weather, and even then very few natives do so.

7. *Q.*—If so, would you consider it proper to allow for height of 'tween deck as an element in the health and comfort of 3rd class native passengers?

A.—Certainly; I should think the higher the 'tween decks are the better.

8. *Q.*—Do you know the height of the 'tween decks in the B. I. steamers?

A.—All those I had occasion to inspect had their 'tween decks between 7 and 8 feet.

9. *Q.*—In your opinion, are the provisions of the Native Passenger Ships Act, and the rules made under it in regard to the accommodation to be provided for native passengers on long voyages and short voyages, suitable?

A.—No, the space is far too little.

10. *Q.*—Do you think that a passenger on a voyage lasting 10 or 12 hours requires as much room as one on a voyage lasting five days?

A.—In the hot weather and on the 'tween deck I think he would require as much room whether it is daylight or not.

11. *Q.* (*By Sir Henry Morland*).—Do you consider that from here to Vizagapatam a passenger during daylight requires as much room as from here to Calcutta?

A.—Yes.

12. *Q.* (*By Dr. Comins*).—Do the majority of the natives take food and water with them on the same deck?

A.—The majority take food but not water.

13. *Q.* (*By Sir Henry Morland*).—For a short voyage of 10 to 12 hours by daylight, would a native passenger require to take with him his bedding and as much baggage as if proceeding on a five days' voyage?

A.—Yes.

14. *Q.*—Do you think that native passengers can do with less space than Europeans?

A.—Yes, under similar conditions, and provided the vessel is in a thorough sanitary condition.

15. *Q.*—Do you consider that, on a voyage which may extend to five days, native passengers can be accommodated in the 'tween decks of a steamer at the rate of one passenger to each six square feet of area, with four square feet of airing space on the upper deck, without prejudicing their health and safety?

A.—No, the least space a native passenger in the 'tween deck of a steamer would require, I think, is 12 square feet; the airing space on the upper deck may be curtailed to a small extent, if it is necessary to do so in order to increase the space below.

16. *Q.* (*By Captain Atkinson*).—On what do you base your opinion? Is it merely your professional opinion as a medical man? Or have you made any experiments to satisfy yourself as to the space required?

A.—On my professional opinion as a medical man, and also on the experience I have had of the vessels I had occasion to inspect, the atmosphere of their 'tween decks was very foul from being overcrowded.

17. *Q.* (*By Sir Henry Morland*).—Does the 12 feet 'tween deck space you consider requisite include space for the baggage a native passenger carries with him? If not, how much extra space should be provided for his baggage? Or, if so, how much of the 12 feet do you assign for the passenger and how much for his baggage?

A.—I consider the 12 feet of space requisite for the passenger alone; the space for his baggage will depend on the amount he is allowed to carry.

18. *Q.* (*By Captain Atkinson*).—You have said previously (question 14) that a native can be accommodated in less space than a European. Do you know that Europeans on an English Home Trade voyage are allowed 9 square feet?

A.—A native in an English Trade voyage will do with less space than 9 feet, but a European on an Indian voyage would, I think, require more than 12 feet.

19. *Q.* (*By Captain Atkinson*).—With reference to your previous answer in which you say the 'tween deck of the steamer you visited was "foul," will you please say whether it was foul because of defective ventilation. Will you name the steamer and date?

A.—The vessel in question was chiefly foul from defective ventilation and overcrowding, and to a small extent from excreta having been present on it—the S. S. *Lalpoora* in November 1889. The overcrowding was not due to her having had more passengers than the Act allows.

20. *Q.* (*By Captain Wilson*).—What was the condition of the weather at the time?

A.—It was not cold.

21. *Q.* (*By Captain Street*).—What was the state of the passenger decks as a rule in the different native passenger vessels you have visited?

A.—I cannot exactly remember, as the last vessel I inspected was over a year ago. The state of the *Lalpoora* I recollect, as I had to thoroughly disinfect her owing to her having had cholera on board.

22. *Q.* (*By Sir Henry Morland*).—Do you visit vessels frequently? How many annually?

A.—I only visit them when there is sickness on board. In 1889 inspected the *Lalpoora;* in 1890 did not inspect any vessel. I visited the vessels in all cases by advice from the agents, except on one or two occasions when I was ordered by the Port Officer to do so.

23. *Q.*—Do you think it necessary for the health and safety of the passengers that there should be on a voyage, which may extend to five days, permanent shelter for each passenger either 'tween decks or in cabins on the upper deck?

A.—In rough and cold rainy weathers I think there should be; in warm and dry seasons I should think the less shut in they are the better.

24. *Q.*—Do you think that on a voyage which may extend to five days there should be separate accommodation for female passengers?

A.—Yes, and left to their option, as natives are averse to their being separated from their females; at any rate a small portion ought to be screened off for their exclusive use.

25. *Q.*—Is it necessary for the comfort or safety of the passengers that provision should be made for the accommodation of luggage not stored in the hold?

A.—Yes.

26. *Q.*—Do you think that, on a voyage which may extend to five days, sleeping platforms should be provided for the passengers?

A.—I don't think they are necessary, unless by so doing more breathing space can be obtained for them.

27. *Q.*—What closet accommodation do the rules require on native passenger vessels?

A.—Two, with an additional one for every hundred passengers; the proportion appears to me too small and would entail the latrines being almost in incessant use. This inconvenience no doubt in a great measure accounts for the 'tween decks being defiled with excreta. I should think a latrine for every 50 passengers would not be too many. A latrine or two in the space set apart for females in the 'tween decks would, I should imagine, be very desirable, as most of the female passengers, as far as I am aware, appear fairly respectable and would feel it very uncomfortable to resort to the exposed latrines on the upper deck; it would also be very inconvenient in stormy weather.

28. *Q.* (*By the President*).—Would the provision of urinals lessen the inconvenience caused by the present number of latrines?

A.—Yes, I think to some extent.

29. *Q.* (*By Captain Atkinson*).—Are you aware that latrines are not allowed to be placed in 'tween decks in vessels under the Emigration Act? Would that knowledge induce you to alter your opinion?

A.—I am aware the Act disallows it, but it probably disallows latrines of the description that are in ordinary use. I don't think there will be any objection to latrines in the 'tween deck if constructed on a proper principle.

30. *Q.*—Which scale do you consider the most suitable?

A.—All closets should be permanent fixtures, I think, and have a constant stream playing on them and should be situated at as convenient distances as possible.

31. *Q.*—Do you think the existing rules in regard to hospital accommodation are suitable?

A.—No; I think a permanent hospital should always exist as in the case of long voyages. In cases where a lot of passengers are on board, it will be difficult to find space, and even then they will not offer sufficient shelter, especially in bad weather.

32. *Q.* (*By Dr. Comins*).—Where should this permanent hospital be placed? In a separate deck-house, or in a place like the 2nd class saloon if formed?

A.—A place like the 2nd-class saloon is preferable. On second consideration, I think a proper deck-house would be better, as better ventilation can be obtained.

33. *Q.*—Do you consider that cargo, horses, cattle, sheep, and live-stock should be carried on the same deck with passengers? If so, is any fitting necessary to prevent the passengers from being inconvenienced by the urine and dung of the horses, cattle, and sheep; and if any such fitting is requisite, state what you would recommend?

A.—No, unless they are kept at some distance

from where the passengers are, and well screened off by means of wooden shutters.

34. *Q.*—Do you think the existing regulations in regard to the lighting and ventilation of the passenger accommodation suitable?

A.—No, not in the case of the 'tween deck. All vessels I think should be provided with water-tight wide doors on the sides, and when a vessel is in port and in rough weather, there ought to be some means of keeping the air below in a constant state of circulation.

35. *Q.*—In your opinion, are the provisions of the Emigration Act, and the rules made under it, in regard to the accommodation to be provided for native emigrants, suitable?

A.—Yes.

36. *Q.*—Will you furnish the Commission with your opinion as to the sufficiency or otherwise of the space allowed by the Act and rules generally?

A.—I am of opinion that the space allowed by the Act in the case of 'tween deck passengers is not at all sufficient for either their comfort or health, and that at least 12 feet should be allowed them. The space allowed the upper deck passengers may with advantage be increased to 9 feet 6 inches. With them I don't think it matters much; a little discomfort is of no consequence.

37. *Q.*—Do you consider that native passenger ships should carry a medical officer? If this was made compulsory, would you make any difference for the numbers carried or for the duration of the voyage?

A.—I certainly do, and am of opinion that it should depend more on the duration of the voyage than on the number of passengers.

38. *Q.* (*By the President*).—Would you employ a Hindu cook as an assistant to the hospital assistant and for the purpose of cooking food for the sick?

A.—Yes, as Hindus of even the lowest order will object to food cooked by other than their own caste or some higher caste person.

39. *Q.* (*By the President*).—In your opinion, what would be a suitable salary for a well-qualified Madras hospital assistant for passenger ships?

A.—About R100 per mensem for an experienced hospital assistant.

40. *Q.* (*By Sir Henry Morland*).—Would one hospital assistant and one cook be sufficient to meet the wants in a vessel carrying, say, 1,500 native 'tween deck passengers?

A.—Yes, on a short voyage.

41. *Q.*—What grade of medical officer would you consider best suited for these vessels?

A.—Medical officer of an apothecary class, or an experienced hospital assistant.

42. *Q.*—Give any instances which have come to your knowledge in which a medical officer would have been of service on board a native passenger vessel.

A.—In November 1889 a few cases of cholera occurred on board the S. S. *Lalpoora* on her voyage between Negapatam and Rangoon, and the majority, I think, ended fatally. Most of them were not detected until they were in almost a state of collapse. If the vessel had had a medical officer, he would have noticed these cases before it was too late, and very likely have saved some of their lives. In April 1890 two passengers died on the S. S. *Katoria* from Rangoon—one of consumption and the other of exhaustion. If the vessel had had a medical officer, he would have advised the former not to risk a sea voyage and even objected to his being received on board if he had a right to do so; and if not, he might have prolonged his life by giving him necessary attention. The life of the latter could certainly have been saved under medical treatment and care.

43. *Q.* (*By Captain Atkinson*).—How long have you been connected with the Port of Coconada? Are the instances quoted the only ones that have occurred in your time?

A.—For above two years. Besides the instances quoted, I had to visit vessels on three or four occasions in cases of small-pox being reported.

Mr. GEORGE WICKS, Madras Port Service.

1. *Q.*—Will you please inform the Commission of the nature of your present occupation?

A.—Port Officer, Coconada, and Deputy Conservator of the Port.

2. *Q.*—What qualifications or experience do you possess in regard to the subjects under enquiry?

A.—Many years' experience as Commander of steamers carrying passengers, and as Port Officer.

3. *Q.*—Do you take any part, either directly or indirectly, in the administration or observance of any of the provisions of the "Native Passenger Ships Act, 1887"?

A.—Yes, as an Officer appointed by the Government of Madras under section 7 of the Native Passenger Ships Act, Act X of 1887.

4. *Q.*—How does an Indian Home Trade voyage compare with an English Home Trade voyage?

A.—As a rule, the Indian short voyage is longer, being six days on an average, *viâ* coast ports to Rangoon in the case of steamers sailing from Coconada.

5. *Q.*—In regard to what voyages is there a distinction made between fair and foul seasons?

A.—Short voyages.

6. *Q.*—Do you consider that, if there is to be a line dividing short from long voyages, it should be drawn at five days?

A.—I think so. I would include in "short voyages" all Home or Coasting Trade voyages as defined in the Sea Customs Act.

7. *Q.*—Do you think that the five-day rule puts an Indian short voyage on a footing similar to an English Home Trade voyage?

A.—The English Home Trade voyage is, as a rule, of shorter duration.

8. *Q.*—Are you of opinion that the conditions justify a distinction being made between fair and foul weather in the case of voyages which do not extend to five days?

A.—Certainly.

9. *Q.*—Are you of opinion that the seasons of fine weather defined in the rules are judiciously chosen with reference to the prevailing conditions?

A.—Yes.

10. *Q.*—In your opinion, do the conditions justify passengers being carried across the Bay in any season on decks, such as are commonly called hurricane-decks, which are not protected from the weather except by overhead awnings, side screens and curtains, assuming that no accommodation is reserved for these passengers on the lower decks which are crowded with other passengers?

A.—I consider a hurricane-deck quite suitable for passengers as a spar-deck, provided the rails are fitted with stout canvas screens.

11. *Q.* (*By Captain Street*).—Do you consider that the awnings, side screens, and curtains afford sufficient protection to upper-deck passengers during rainy weather?

A.—Yes.

12. *Q.* (*By Captain Street*).—In your personal experience, has the upper deck of any native passenger ship you may have commanded been sufficiently dry in the rainy weather generally experienced during the foul-weather season in the Bay of Bengal as to render it unnecessary for the upper-deck passengers to seek shelter below?

A.—I have carried large numbers of passengers on upper decks when they were well protected under the awnings and sufficiently dry. This refers to vessels working under clause (*b*).

13. *Q.*—Are you acquainted with the ordinary conditions of native life amongst the class that form the bulk of the native passengers who travel by sea?

A.—The bulk of the native passengers who embark or land at the ports on the Madras coast belong to the labouring classes.

14. *Q.* (*By Captain Street*).—Do the passengers belonging to the labouring classes take their own drinking-water, or do they drink the ship's water?

A.—They always rely on the ship's water, unless they are caste people.

15. *Q.*—Are you aware that it is a common practice for natives of India to sleep at night in the open air?

A.—Probably they do so during fine weather.

16. *Q.*—Is it within your knowledge that 1st class European passengers, travelling about the Bay of Bengal and coasts of India as a rule prefer to sleep on deck under the same conditions as to awnings and curtains as the 3rd class native passengers?

A.—Sometimes, when the weather is fine.

17. *Q.*—Have you had any personal experience of the weather round the coast of United Kingdom, and in the Bay of Bengal and on the coast of India?

A.—A long experience of the weather in the Bay of Bengal and on the coasts of India, and also some experience of the weather round the coast of the United Kingdom.

18. *Q.*—Do you consider that there is such similarity as to warrant a comparison between the weather experienced on the coast of the United Kingdom or between the rivers Elbe and Brest (English Home Trade voyage) and that experienced in the Bay of Bengal and coasts of India?

A.—No. There are much longer spells of fine weather in India; on the other hand, the cyclones of the Bay are sometimes of greater severity than the storms of the United Kingdom.

19. *Q.*—Have you any special suggestions to make in regard to voyage, similar to those classed as excursions by the Board of Trade, that is, voyages during which a vessel is not more than 10 or 12 hours at sea?

A.—I consider that a separate rule should be made for such voyages, and that a larger number of passengers should be permitted to be carried than on an ordinary short voyage, which may extend to five days, as on an excursion trip the passengers do not require sleeping accommodation.

20. *Q.* (*By Captain Street*).—What space would you give to each adult on the following voyages:—

(*a*) Excursion.
(*b*) Partially smooth-water limits.
(*c*) In smooth-water limits.

A.—(*a*) One passenger to every six feet, but if the gross tonnage allows more, then one passenger for every ton.
(*b*) I am not prepared to state.
(*c*) Three feet.

21. *Q.* (*By Captain Street*).—What voyage on the Coromandel Coast or between the Coromandel Coast and Ceylon could, in your opinion, be classed as an excursion voyage?

A.—There is no traffic between Coromandel ports. I would allow the voyage from Negapatam and Kangasantorai to be treated as an excursion voyage if performed in daylight; or any other ports in Ceylon if performed in daylight.

22. *Q.* (*By the President*).—Would you extend the term "excursion voyage" to include any voyage undertaken by night?

A.—No.

23. *Q.* (*By Captain Street*).—Do you consider that a table of limits, similar to that in page 18 of the Board of Trade Instructions as to the survey of passenger accommodation, should be prepared for voyages in Indian water?

A.—Yes.

24. *Q.* (*By Sir Henry Morland*).—Would you allow a vessel proceeding on a three to four days' voyage to run between excursion limits with the large number of passengers, supposing that there were three or four ports within the longer voyage which would fall within excursion limits should the passenger space for the longer distance be intruded on?

A.—I would keep the voyages distinct. If there are two sets of passengers, one entitled to a greater space than the other, they could not be very well kept apart.

25. *Q.*—How is the number of passengers which a vessel is capable of carrying calculated in each case?

A.—Always by the superficial area in India, care being taken that there is also the cubic measurement as required by the Act.

26. *Q.*—Is allowance made in Board of Trade Rules for height of 'tween decks; in fact, do not Board of Trade surveyors, when berths are not fitted for 3rd class passengers, calculate the number that may be carried on the basis of a cubic measurement of 72 cubic feet per statute adult, after deducting all hatches and encumbrances?

A.—Yes, in the case of foreign going passenger ships not coming under the provisions of the Passenger Ships Act of 1855.

27. *Q.*—If so, would you consider it proper to allow for height of 'tween deck as an element in the health and comfort of 3rd class native passengers?

A.—Height of 'tween decks is very desirable in a hot climate like India, but I would not allow for it.

28. *Q.*—Do you know the height of the 'tween decks in the B. I. steamers?

A.—I believe that all of the steamers have over six feet height from deck to deck, and several steamers have as much as 7½ to 7¾ feet in height.

29. *Q.*—Are you aware that there was an old rule in India which allowed ships to carry 3 passengers for 2 tons?

A.—Under Act XXV of 1859 ships were allowed to carry one adult passenger to every ton register, and I have myself carried them on this scale before Act VIII of 1876 came into force, but I do not know of any rule which allowed 3 passengers for 2 tons.

30. *Q.*—Is the Board of Trade Rule, under which the number of passengers carried must not, whatever the deck measurements may give, exceed

the number denoting the gross tonnage of the vessel, enforced in India?

A.—Not that I am aware of.

31. *Q.*—What would be the effect if, assuming all other existing Indian rules to remain intact, this rule were enforced?

A.—In awning-deck steamers, it would probably have the effect of reducing the fine-weather number of passengers, but in all other classes of steamers it would not affect the number of passengers carried.

32. *Q.*—What spaces are left unmeasured for passengers when a vessel is being measured for certificate A?

A.—Narrow spaces between deck-houses and the bulwarks are left unmeasured, and deductions are made for all encumbrances, such as hatchways, sky-lights, casings, houses on deck, masts, winches, &c.

33. *Q.* (*By Captain Street*).—Is the system you describe generally adopted, or is it only what you consider should be carried out by persons measuring vessels for certificate A?

A.—It is what I carry out. I am guided by Board of Trade Instructions in doing so.

34. *Q.* (*By the President*).—Would it be an advantage to have instructions issued by the Government of India on this subject for the use of all Surveyors and Port Officers?

A.—Certainly.

35. *Q.* (*By Captain Street*).—Do you consider that when the Commanders and Agents of a native passenger vessel have once elected to work under clause (*a*) or clause (*b*), any change should be permitted during the voyage?

(2) Have you ever known of any such change having been permitted in vessels running between Madras ports and Rangoon?

A.—(1) No change should be permitted during the voyage.

(2) Not to my knowledge.

36. *Q.*—In vessels working under clause (*a*), has any portion of the upper deck of a vessel carrying Government details been occupied by such details?

A.—I have known a few instances.

37. *Q.* (*By Captain Street*).—Assuming that a vessel has not her full complement of passengers on board under clause (*a*), should the whole of the upper deck be still kept available for the number of passengers embarked? If not, what space on the upper deck should be kept for the passengers, and is this provided for in the rules?

A.—The whole of the upper deck should be kept available for 'tween deck passengers, if she is working under clause (*a*).

38. *Q.* (*By Captain Atkinson*).—If a vessel were working under clause (*a*), and, say, carried only half the full number allowed at five feet, would you disallow the carriage on upper deck of, say, a horse and carriage, and the occupation of a 'tween deck compartment which was absolutely free from native passengers, by cargo?

A.—Yes. I would disallow.

39. *Q.* (*By Captain Street*).—Can you give any instance where a vessel working under clause (*a*) has had her full complement of passengers on board?

A.—I know of an instance of a steamer working under clause (*a*) carrying a full complement of passengers and giving up the entire ship ('tween decks and upper decks) to those passengers; no others carried, and if bad weather had been experienced, the saloon and 2nd class were also available for the passengers.

40. *Q.* (*By Dr. Comins*).—Would you allow a mail steamer calling at ports and taking in 1st and 2nd class passengers to work under the five-feet rule?

A.—No. In my opinion the rule should not apply to vessels and steamers carrying mixed passengers.

41. *Q.* (*By Captain Wilson*).—Were any passengers occupying the poop space? Supposing 1st class passengers had been available in Rangoon, do you think they would have been shut out?

A.—I cannot say.

42. *Q.* (*By Captain Wilson*).—Can you remember the year and month?

A.—I think it was during the month of November 1888.

43. *Q.* How are the hatches treated when a vessel is being so measured, *i. e.*, is the whole space of a hatch deducted or not? Is any difference made on account of long and short voyages?

A.—The whole space of a hatch is deducted, but in the case of vessels making long voyages, half of the hatch is allowed when the space of such hatch is more than 120 feet in area.

44. *Q.* (*By Captain Street*).—

(*a*) Why should the measurement depend on the hatch being more than 120 feet?

(*b*) During what periods is any portion of the hatches of vessels proceeding from Madras Coast Ports to Rangoon measured, and why has this been ordered?

A.—I do not know the reason why the measurement of the hatch should depend on its being more than 120 feet, but I would allow the ship the benefit of the hatch on long voyages, even if of less area than 120 feet, and also on voyages direct between Rangoon and Madras.

45. *Q.* Are the spaces which would be required for the deck water-tank, latrines, and cooking ranges, necessary for use of native passengers, deducted from the passengers' space, even if such articles are not in position at the time a vessel is being measured?

A.—On the few occasions I have measured vessels for granting certificates A, I have had these articles in position and deducted.

46. *Q.* (*By Captain Street*).—Before granting certificate B, do you not ascertain that all temporary obstructions have been deducted?

A.—I take it for granted that all these things are deducted by the officer granting certificate.

47. *Q.* (*By Captain Street*).—Is it practicable for the officer granting certificate B at an out-port to ascertain that the conditions specified in Sections (*c*) and (*d*) of the certificate have been carried out?

A.—In some cases it is not practicable, as there is no time at the out-ports to carry out the necessary inspection of the ship, and examine and count passengers.

48. *Q.* (*By Dr. Comins*).—As you say that you have not time at this port to examine all the fittings and stores, do you think, that at the commencement of the voyage, the full complement of appliances, deck tanks, latrines, and cooking ranges, &c., for the maximum number of passengers which can be carried should be put on board and certified to by the officer granting the original certificate B?

A.—Certainly.

49. *Q.* (*By Captain Wilson*).—How can the officer who originally issued the A and B certificates guarantee that the number of passengers may not be carried half a dozen times, and, therefore, the original stores, fuel, &c., consumed?

A.—He cannot certify for more than one voyage.

50. *Q.*—Are any spaces deducted so as to admit of the officers and crew moving fore and aft the vessel with facility, and their getting with ease at the boats and boats' gear; if not, have you any recommendations to make on this head?

A.—No. I would recommend all vessels being fitted with fore and aft gangways from poop deck to bridge deck, and from bridge deck to topgallant forecastle, to allow of the officers and crew passing without disturbing the passengers.

51. *Q.*—Should alley-ways, used as a means of communication by the crew, be considered as deck area for passengers, *i.e.*, the narrow passages between the officers' cabins and the engine room-casing? If so, would it not be advisable to give a minimum breadth before allowing the area to count for passengers?

A.—I consider that they may be allowed to count for passengers, but should allow half area.

52. *Q.* (*By Captain Wilson*).—Would you allow this for all widths, or only over a certain width?

A.—Under 4 feet, I would not allow them to count.

53. *Q.* (*By the President*).—Would you recommend that in the S. S. *Purnea* the 1,000 native passengers aft should be provided with latrines and cooking places abaft the bridge deck?

A.—I would recommend that vessels be provided with latrines aft, but not cooking ranges.

54. *Q.* (*By Captain Atkinson*).—As a matter of fact, are there not places, such as hatches, hen-coops, and sheep-pens which are not measured, but which are occupied by passengers, and thus the alley-ways are in practice left clear of passengers?

A.—Hatches can only be occupied when there are no 'tween deck passengers. I do not know of any hen-coops on the main deck unless on top of sheep-pens, which the passengers cannot occupy.

55. *Q.* (*By the President*).—Have you ever seen alley-ways occupied by native passengers sitting and sleeping in them throughout a voyage occupying five days?

A.—Yes, I have seen passengers in the alley-ways.

56. *Q.* (*By Dr. Comins*).—For what are the alley-ways originally intended?

(*b*) Are passengers usually allowed to occupy them?

(*c*) By whom are they occupied at night?

A.—(*a*) For passage ways.

(*b*) Only when the vessel has a full complement.

(*c*) Sometimes firemen or other members of the crew.

57. *Q.* (*By Captain Atkinson*).—If firemen and other members of the crew occupy the alley-ways, is it not out of order, as they are provided for in the forecastle?

A.—They are provided for in the forecastle, but if the vessel is not carrying a full complement of passengers, they sometimes occupy the alley-ways.

58. *Q.* (*By Captain Atkinson*).—Would it not be just as good a place for native passengers as for the members of the crew you mention?

A.—Yes.

59. *Q.* (*By the President*).—Does only sleeping there mean the same thing as having their baggage, articles of food, &c., with them in such a position as an alley-way?

A.—They do not lie in the alley-ways, or take their baggage there, as a rule.

60. *Q.* (*By Captain Wilson*).—Would you allow native passengers to have their baggage with them in the alley-way?

A.—Not any heavy baggage.

61. *Q.* (*By Captain Street*).—Can you give any idea as to the quantity of baggage carried by each coolie embarking at Coconada?

A.—Going to Burmah, they generally carry only two bundles; coming back they generally have boxes and bundles.

62. *Q.*—Are not these alley-ways additional shelter and, therefore, desirable for passengers?

A.—Yes, when they are decked over, but in some vessels they are open or covered only by gratings.

63. *Q.*—For ships with large water-ways in the 'tween decks, extending inside the battens on the ship's side, is the deck measurement made to the inside edge of the water-ways or to the battens? Which would you recommend?

A.—To the inside of the water-ways. If the water-ways are covered with boards or gratings, I consider that the measurement might be taken to the battens on the ship's side.

64. *Q.*—Should the spaces set apart for the boats on the deck of the bridge be utilized for passengers when the boats are carried at the davits? If so, state whether during both fair and foul seasons, or only during the fair season.

A.—The spaces in the vicinity of the boats should be measured for passengers, provided the boats are carried at the davits and the deck is covered with awnings.

65. *Q.*—In your opinion, are the provisions of the Native Passenger Ships Act, and the rules made under it, in regard to the accommodation to be provided for native passengers on long voyages and short voyages, suitable?

A.—The accommodation provided by the Act is not sufficient in my opinion. An adult requires more than six square feet of space to lie down on comfortably, the very least required being one square yard or nine square feet. I would, therefore, recommend this as the minimum allowance for 'tween-deck and upper-deck passengers on short voyages, fine-weather season. The number of passengers to be reduced by one-third for the foul-weather season. Each 'tween-deck passenger to be entitled to three square feet of airing space on the upper deck.

66. *Q.* (*By Captain Street*).—During the foul-weather season, do you consider that upper-deck passengers should be carried on short voyages? Would it not be preferable to limit native passenger to vessels carrying 'tween-deck passengers only on such voyages during such season?

A.—I consider that upper-deck passengers may be carried, provided the number is reduced during seasons of foul weather.

67. *Q.* (*By Captain Atkinson*).—Are you aware that the Government of Madras so recently, as in their Resolution regarding the unfortunate accident to the *Bhandara*, take the opportunity to affirm that they see no reason for interfering with the existing allowance of 6 feet per adult native passenger?

A.—I am not aware that the Government affirmed so, but I still adhere to my opinion.

68. *Q.* (*By Captain Atkinson*).—Have you made any experiments which have led you to form the opinion that 9 square feet is the least space in which an adult native of India can lie down and travel comfortably? If so, please state under what circumstances as to number and space?

A.—I have made the experiment time after time in all seasons with vessels carrying passengers on long voyages, when they are allowed 9 square feet. I have had great experience of them.

69. *Q.* (*By Captain Atkinson*).—When the amended Native Passenger Act of 1887 was under discussion, were you consulted? If so, what opi-

nion did you give as to the space to be allowed to a native passenger?

A.—I was not consulted.

70. *Q.*—Do you think that a passenger on a voyage lasting 10 or 12 hours requires as much room as one on a voyage lasting five days?

A.—No, as sleeping accommodation is not required.

71. *Q.*—Do you think that native passengers can do with less space than Europeans?

A.—I think that native passengers in India require quite as much space as European passengers require in a cold climate, but I don't think that a native of India requires as much space as a European in India.

72. *Q.*—Assuming that this proportion is adopted, would it, in your opinion, affect the health, comfort, and safety of native passengers in any way?

A.—I would allow a minimum space of 12 square feet to Europeans.

73. *Q.*—Do you think it necessary, for the health and safety of the passengers, that there should be on a voyage, which may extend to five days, permanent shelter for each passenger either 'tween decks or in cabins on the upper deck?

A.—No.

74. *Q.*—Do you think that on a voyage which may extend to five days, there should be separate accommodation for female passengers?

A.—Yes. Probably a screened berth would suffice.

75. *Q.* (*By Captain Street*).—If screened spaces are given, would not the screens affect the free circulation of the air?

A.—A screen not so high as to obstruct the ventilation.

76. *Q.*—Under existing rules, are the arrangements to prevent injury to passengers by the rolling of the ship sufficient for the purpose?

A.—I consider that a double row of rails fore and aft is the best possible protection.

77. *Q.*—Are any special fittings required under the Native Passengers Ships Act on the passenger decks for the reception of the bundles, boxes, and other articles usually carried by native passengers? If so, state what you would recommend?

A.—Under existing rules in this presidency, no boxes and heavy packages are allowed to be placed on the deck with the passenger, but are to be stowed in the hold. I consider this rule sufficient; but copies of the rule should be furnished to Commanders of vessels who should be held responsible that the rule is carried out.

78. *Q.*—Is it necessary for the comfort or safety of the passengers that provision should be made for the accommodation of luggage not stored in the hold?

A.—No, I think not, as only two handy packages are allowed by the rules.

79. *Q.*—If such accommodation were provided, would it be used? Will native passengers allow their luggage to be parted from them under any circumstances?

A.—Native passengers strongly object to part with their luggage, as they usually carry their money and provisions in their boxes. I consider therefore that printed notices in the vernacular should be published and circulated as widely as possible.

80. *Q.*—Do you think that, on a voyage which may extend to five days, sleeping platforms should be provided for the passengers?

A.—Yes. I think that they would be of great advantage in the 'tween decks, as by this means the passengers would be raised above the foul air and the filth on the decks on voyages between Rangoon and Madras only.

81. *Q.* (*By Captain Atkinson*).—In case platforms, such as you describe; were fitted, could provision be made for all the passengers for whom the 'tween decks are measured? If not, where do the balance sleep?

A.—Very usually, but the rest can sleep on the deck.

82. *Q.* (*By Captain Atkinson*).—Would not platforms for the ordinary short voyage by native passengers be a disadvantage as being more likely to carry infection and collect dirt than the more solid deck? And in such vessels, would there not be a heavy item of expense in the repair and renewal of these platforms when injured by cargo on other and intermediate voyages?

A.—I do not think that they would be a disadvantage on voyages extending to 6 or 8 days between Madras Coast and Rangoon, but they would be a disadvantage on short runs. I do not think they would carry infection if properly cleaned down every voyage.

83 *Q.* (*By Captain Atkinson*).—Would it be possible to carry out your suggestion on vessels making short voyages, that is, with a number of passengers on the 'tween deck, and also passengers on the upper deck. Would it not involve an extra charge for the 'tween deck? Would the native passengers pay for the extra accommodation?

A.—Only on vessels employed entirely in carrying passengers when the 'tween decks are usually given up to passengers, such as voyages between Madras Coast and Rangoon. As the accommodation is more comfortable, a higher charge might be made, I think, than for the upper deck.

84. *Q.* (*By the President*).—What is the charge for an ordinary Madras labourer going from Negapatam to Penang by the British India steamers fitted with sleeping platforms?

A.—For labourers and artizans Rs. 8.

85. *Q.*—What closet accommodation do the rules require on native passenger vessels?

A.—Not less than two, and an additional one for every 100 passengers.

86. *Q.*—And what accommodation do the Board of Trade rules require?

A.—On Home Tradeships, three for every 200 passengers, but not more than six required altogether.

87. *Q.*—Which scale do you consider the most suitable?

A.—The scale allowed for native passenger ships is suitable, but I consider that a proportion of the privies should be placed aft for the after-deck passengers who frequently find it a great difficulty to move along the decks during rough weather.

88. *Q.*—Do you think the existing rules in regard to hospital accommodation are suitable?

A.—I think that the rule requiring a permanent hospital should be extended to ships performing short voyages.

89. *Q.* (*By the President*).—What are your reasons for requiring a permanent hospital? How and where would you provide for it?

A.—My reasons are that I would reserve the tent for infectious diseases, but as there are frequently deck passengers on board who are suffering from non-infectious complaints, I consider a permanent hospital is required in a deck house. I think that the long-voyage rules regarding the hospital accommodation suitable.

90. *Q.*—Do you consider that cargo, horses, cattle, sheep, and live-stock should be carried on the same deck with passengers? If so, is any fitting necessary to prevent the passengers from being

inconvenienced by the urine and dung of the horses, cattle, and sheep; and if any such fitting is requisite, state what you would recommend?

A.—Yes, I consider that horses, cattle, sheep, and live-stock generally may be allowed on the same deck with passengers, provided that if carried on the 'tween decks they are carried in a separate compartment, and if on the open deck, the space occupied by them is effectually shut off from the passenger space by wooden partitions or rails.

91. *Q.*—(*By Captain Street*).—What deductions are now made for every square yard of space measured for passengers, occupied by cattle or other animals, or by cargo or other articles?

A.—There are no rules. I would deduct the area occupied by cattle from the passenger space.

92. *Q.* (*By Captain Street*).—Have you ever known of any instance in which cargo has been carried on the 'tween deck when passengers have also been accommodated on the same deck?

A.—I do not think I have.

93. *Q.*—In vessels which, under existing rules, are permitted to carry horses, cattle, and sheep with native passengers, are sufficient precautions adopted to prevent the hay and straw provided for the use of such animals from catching fire either from a spark from the ship's funnel or lighted matches? If not, state what extra precautions you would recommend?

A.—Only hay and straw in pressed bales should be allowed to be carried, which should be placed on bridge deck away from the funnels and under cover.

94. *Q.*—Will you explain to the Commission what rules are in force in India on the subject of life-saving appliances?

A.—Boats, according to the scale of the Passenger Act of 1855 are required to be carried, and life-buoys have also to be provided.

95. *Q.*—Do the new regulations of the Board of Trade, made under the Merchant Shipping (Life-saving Appliances) Act, 1888, apply to India?

A.—No.

96. *Q.*—What, in your opinion, is the object of these revised regulations?

A.—To provide sufficient buoyant appliances to save the whole of the crew and passengers carried on the different classes of vessels.

97. *Q.*—Do the revised regulations require more appliances than were necessary under the old rules, and why was the change found necessary?

A.—Yes.

98. *Q.*—Are the revised regulations suitable, in your opinion, for vessels engaged in the native passenger trade?

A.—Yes, I think they are suitable, excepting the regulation about carrying a life-belt for every person on board.

99. *Q.*—Do you think that the natives of India require as much space in boats as Europeans?

A.—As they are of lighter weight, perhaps not quite so much space is required.

100. *Q.*—Would you adopt the Board of Trade regulations in regard to life-buoys and life-belts?

A.—Life-belts would be useless for native passengers.

101. *Q.*—In your experience, do the Surveyors at all ports in India make their surveys on the same lines?

A.—I fear that they do not, as sister ships vary in the number of passengers allowed.

102. *Q.*—Do you think it necessary that there should be a set of definite instructions as to the survey of passenger accommodation and crew space, similar, so far as may be, to those issued by the Board of Trade?

A.—In my opinion it would be an advantage.

103. *Q.*—Do you think the existing regulations in regard to the lighting and ventilation of the passenger accommodation suitable?

A.—Yes; but I would have all bulksheads in 'tween decks fitted with water-tight doors, which could be opened to allow of circulation of air.

104. *Q.*—After a vessel has been measured for certificate A, is the Captain supplied with the Surveyor's calculations? If not, do you think it necessary that he should be?

A.—He is not supplied unless he wishes it.

105. *Q.*—Would it not be advantageous if a copy of all measurements and calculations of passengers' space, as determined on the original measurement, were supplied to the Commander of the vessel?

A.—In the Home Passenger Trade lithographed skeleton plans containing all the dimensions taken in the measurement of passenger space, with information as to the number of passengers carried, are filled up and attached to the declaration. This, I think, is a good plan.

106. *Q.*—If so, would you recommend that the calculations should show clearly the names of the various obstructions which have been deducted from the gross area, their dimensions, and the proportional area deducted?

A.—Yes.

107. *Q.*—Do you consider that passengers carried in vessels working under clause (*a*) of Government of India Notification No. 1356, dated 14th March 1889, have sufficient space? If not, state what space would suffice?

A.—Yes: provided that only native passengers are carried, and that the vessels working under this clause are not permitted to call at one or more ports on the coast, but go direct over. I consider that passengers may be allowed at the rate of one passenger for every five square feet of clear space in 'tween decks.

108. *Q.* (*By Captain Wilson*).—If such conditions cannot be relied on, what is the least space you would then allow?

A.—I have said nine superficial feet for ordinary 'tween-deck and upper-deck passengers is necessary.

109. *Q.* (*By the President*).—In your opinion, can a native passenger exist in a five feet space, if confined to that space by circumstances?

A.—No, I think that he should have some other place to go to.

110. *Q.*—In the case of voyages, the duration of which does not exceed five days, what distinction is made between seasons of fair and foul weather?

A.—Double awnings are required during seasons of foul weather.

111. *Q.*—Will you furnish the Commission with your opinion as to the sufficiency or otherwise of the space allowed by the Act and rules generally?

A.—My answer *re* accommodation will show that I do not consider the space allowed sufficient. I consider that it would be a good plan to adopt the Board of Trade rule regarding the marking of spaces on all vessels carrying passengers in India.

112. *Q.*—Do you consider that native passenger ships should carry a medical officer. If this were made compulsory, would you make any difference for the numbers carried, or for the duration of the voyage?

A.—Yes, when the number of crew and passenger together exceed three hundred.

113. *Q.* (*By the President*).—Would you, if you had a medical officer and a permanent hospital, also provide for a Hindu cook to prepare the food for sick passengers who are unable to help themselves?

A.—Yes, a high-caste man.

114. *Q.* (*By the President*).—Would you approve of a suggestion to make the medical officer a Government official, and appoint him to represent the complaints of the passengers to the Captain?

A.—He should be a native who understands several vernaculars, but I would not recommend that he should be a Government official.

115. *Q.* (*By Captain Street*).—Do the Commanders of native passenger vessels afford the Port Officer at a coast port any information regarding the number of sheep or cattle they may have on board?

A.—Not unless the Port Officer writes officially and asks them.

116. *Q.* (*By Captain Street*).—Do you consider that gunpowder and other explosives, beyond the quantity allowed under regulations for ships' purpose, should be carried in native passenger ships, even should they have a properly constructed magazine?

A.—Yes, I consider that gunpowder and other explosives can be allowed to be carried in properly-constructed magazines.

117. *Q.*—What grade of medical officer would you consider best suited for these vessels?

A.—Apothecary grade.

118. *Q.*—Give any instances which have come to your knowledge in which a medical officer would have been of service on board a native passenger vessel.

A.—I know of one instance when a passenger died of exhaustion on board the *Katoria* when, according to the report of the Port Surgeon of Coconada, the man might have recovered had there been a doctor on board. Large numbers of passengers returning from Burmah are in a bad state of health when they embark, and deaths occur on board almost every voyage.

Proceedings of the Thirty-second Meeting of the Native Passenger Ships Commission, held on board of the B. I. S. N. Co.'s Steamer "Purnea," while at anchor off Masulipatam, on the 21st January 1891.

Present:

Surgeon-Major A. S. Lethbridge, C.S.I.	*President.*
Captain Sir Henry Morland, H.M.I.M.	*Members.*
Captain H. A. Street, H.M.I.M.	
Captain George Wilson, H.M.I.M.	
Surgeon-Major D. W. D. Comins, I.M.S.	
Captain J. H. Atkinson, B. I. S. N. Co.'s Service	

1. The Proceedings of the 28th, 29th, 30th, and 31st Meetings were approved.

2. The President having explained the course he proposed that the Commission should adopt, in respect to the taking of evidence at Madras on the arrival of the vessel there, the Commission adjourned until the 22nd instant.

Proceedings of the Thirty-third Meeting of the Native Passenger Ships Commission, held at the Presidency Port Office at Madras on the 22nd January 1891.

Present:

Surgeon-Major A. S. Lethbridge, C.S.I.	*President.*
Captain Sir Henry Morland, H.M.I.M.	*Members.*
Captain H. A. Street, H.M.I.M.	
Captain George Wilson, H.M.I.M.	
Surgeon-Major D. W. D. Comins, I.M.S.	
Captain J. H. Atkinson, B. I. S. N. Co.'s Service	

1. The Commission assembled at 10-30 A.M.

2. Mr. J. P. James, Port Officer of Negapatam, was called and examined. In the course of examination Mr. James promised to supply the Commission with a memorandum respecting the provisions and fitting of sleeping platforms in steamers trading between Negapatam and Singapore.

3. Mr. James' examination having been completed, Mr. T. H. Baker, Port Officer at Tuticorin, was called and examined.

4. On the completion of Mr. Baker's examination, Captain H. B. Simpson, H.M.I.M., Acting Presidency Port Officer, Madras, was called and examined.

5. Captain Simpson's examination having been completed, the Commission adjourned (5 P.M.) until 10-30 A.M. on the 23rd instant.

Mr. J. P. James, Madras Port Service.

1. *Q.*—Will you please inform the Commission of the nature of your present occupation?

A.—Port Officer and Government Emigration Agent, Negapatam.

2. *Q.*—What qualifications or experience do you possess in regard to the subjects under enquiry?

A.—Nine years' service in the Madras Marine Department, of which 27 months in charge of Negapatam.

3. *Q.*—Do you take any part, either directly or indirectly, in the administration or observance of any of the provisions of the "Native Passenger Ships Act, 1887"?

A.—Certainly I do.

4. *Q.*—What is a Home Trade voyage?

A.—The coasts of India, Burmah, and Ceylon, with their dependencies, such as the Andaman and Nicobar Islands.

5. *Q.*—What is an Excursion voyage?

A.—I should say that an Excursion voyage would be one in which a vessel called at two or more ports in the 24 hours.

6. *Q.*—What is an Emigrant voyage?

A.—An Emigrant voyage is one from the Coromandel Coast to the Straits Settlements, or from any port in India to Mauritius, Natal, Jamaica, Demerara, Trinidad, &c.

7. *Q.*—What is a Pilgrim voyage?

A.—From a port in India to a port in the Red Sea for Mecca.

8. *Q.*—In regard to what voyages is there a distinction made between fair and foul seasons?

A.—Short voyages.

9. *Q.*—Do you consider that, if there is to be a line dividing short from long voyages, it should be drawn at five days?

A.—No.

10. *Q.* (*By Captain Atkinson*).—What limit would you suggest for a short voyage, and why?

A.—I should say eight days, as I consider that deck passengers would not suffer in that time.

11. *Q.* (*By the President*).—Do you consider that native passengers who cannot by reason of their caste cook on board should be without cooked food for that time?

A.—I had not taken that into consideration, as almost all passengers from the Coromandel Coast cook their food.

12. *Q.* (*By Captain Street*).—Do you mean that during a voyage of eight days passengers should have only the space now allowed under the Native Passenger Ships Act for a short voyage of five days?

A.—No, I would abolish the 5 and 6 feet rules altogether, and leave the 'tween deck space 9 feet as in foul weather at present, giving the 'tween deck passengers 4 feet as at present, and all available space beyond that for upper deck passengers at the present rate.

13. *Q.*—Are you of opinion that the conditions justify a distinction being made between fair and foul weather in the case of voyages which may extend to five days?

A.—Hardly I think.

14. *Q.*—Are you of opinion that the seasons of fine weather defined in the rules are judiciously chosen with reference to the prevailing conditions?

A.—Not quite.

15. *Q.*—If not, what alterations would you suggest?

A.—I would have no distinction at all. Cyclones have been known to occur in every month in the year, except February. Moreover, under the present rules, a vessel begins her voyage on the Madras coast in foul weather and ends in Burma in fine, and *vice versâ*; there should be at least uniformity in these particular voyages.

16. *Q.* (*By Captain Street*).—Do you mean that you would allow vessels to carry the same number of passengers whether the weather is foul or fine?

A.—Yes, provided the uniform rate of 9 feet is allowed, I think vessels might carry the same number of passengers without reference to the season.

17. *Q.*—In your opinion, do the conditions justify passengers being carried across the Bay at any season on decks, such as are commonly called hurricane-decks, which are not protected from the weather, except by overhead awnings, side screens, and curtains, assuming that no accommodation is reserved for these passengers on the lower decks, which are crowded with other passengers?

A.—If the comfort of the passengers is to be considered, I should say not; I think the upper deck should be wholly given up for 'tween deck passengers when such are carried; I mean of course the full complement of 'tween deck passengers. At the same time the usual class of deck passengers are so accustomed to exposure that they would not know the difference.

18. *Q.*—Are you acquainted with the ordinary conditions of native life amongst the class that form the bulk of the native passengers who travel by sea?

A.—I believe so.

19. *Q.*—Are you aware that it is a common practice for natives of India to sleep at night in the open air?

A.—Decidedly.

20. *Q.*—Is it within your knowledge that 1st class passengers travelling about the Bay of Bengal and coasts of India as a rule prefer to sleep on deck under the same conditions as to awnings and curtains as the 3rd class native passengers?

A.—Yes; very frequently they do so.

21. *Q.*—Have you had any personal experience of the weather round the coast of United Kingdom and in the Bay of Bengal, and on the coast of India?

A.—Yes.

22. *Q.*—Do you consider that there is such similiarity as to warrant a comparison between the weather experienced on the coast of United Kingdom or between the rivers Elbe and Brest (Eng-

lish Home Trade voyage) and that experienced in the Bay of Bengal and coasts of India?

A.—Not at all; climatic distinction is too great.

23. *Q.*—Do you consider the conditions of English and Indian passenger traffic to be similar in any other way than that the traffic under discussion is by sea?

A.—No, I do not.

24. *Q.*—Do you think the ordinary native deck passenger would be prepared to pay more for better accommodation than at present?

A.—No.

25. *Q.*—Is it not a fact that very well-to-do native merchants are satisfied with the usual deck accommodation?

A.—Yes, frequently in the case of the Natacotai Chetties; but other respectable natives prefer better accommodation if their means will permit.

26. *Q.*—What class of people travel as deck passengers in the United Kingdom on vessels which frequently carry their full complement?

A.—Those of the labouring class chiefly, and private soldiers, sailors, &c.

27. *Q.*—Have you any special suggestions to make in regard to voyages similar to those classed as excursions by the Board of Trade, that is, voyages during which a vessel is not more than 10 or 12 hours at sea?

A.—The only voyage of this description of which I have any knowledge is from Negapatam to Colombo calling at Jaffner, Tondi, and Pamban. The British India steamers employed in this trade might, I submit, be allowed special privileges, as they are in all respects seaworthy and properly equipped. I would not, however, allow the same privilege to vessels of the Bheema class, as I do not consider them either seaworthy or properly equipped.

28. *Q.* (*By Captain Street*).—Would you state the special privileges you would recommend?

A.—I should allow them to carry passengers at the present fair weather measurements. They are built for speed and could shelter in Pamban or under Point Calimere; this of course provided my suggestion of the uniform rate of 9 feet for other passengers is carried out.

29. *Q.* (*By Sir Henry Morland*).—Do vessels of the Bheema class hold Bombay Passenger Certificates? In what respects are they not properly equipped, and why are they not seaworthy?

A.—Yes, they hold Bombay certificates. I do not consider them properly equipped, as they are manned and officered entirely by natives. They moreover have a very small depth of hold, and all their weight is on the hurricane deck causing them to roll very much in even an ordinary sea.

30. *Q.* (*By Captain Street*).—Have not the Commander and Officers of the vessels you refer to each a certificate of competency for their respective grades?

A.—Yes they have, but still I should never like to be at sea with them in bad weather.

31. *Q.* (*By Captain Atkinson*).—Would you allow special measurements to the British India steamers running between Negapatam and Pamban, say, to carry passengers at 4 feet each if the present rule for short voyages is maintained?

A.—Vessels of the "*Vitu*" and "*Vasna*" class might, I think, be allowed to carry even at 4 feet, as passengers would probably spend their whole time on the upper and second deck.

32. *Q.*—How is the number of passengers which a vessel is capable of carrying, calculated in each case?

A.—The total area is computed by Simpson's measurement: 'tween decks divided by 6 for short voyage and 9 for long voyage, orlop decks by 15: 4 feet on the upper deck is allowed for 'tween deck passengers on short voyage and 6 feet on long voyage.

33. *Q.*—Is allowance made in Board of Trade rules for height of 'tween decks? In fact, do not Board of Trade Surveyors, when berths are not fitted for 3rd class passengers, calculate the number that may be carried on the basis of a cubic measurement of 72 cubic feet per statute adult, after deducting all hatches and encumbrances?

A.—Yes.

34. *Q.*—If so, would you consider it proper to allow for height of 'tween deck as an element in the health and comfort of 3rd class native passengers?

A.—It is so at present as regards the orlop deck, and might of course be allowed for in 'tween decks, but most steamers are over 6 feet 'tween decks.

35. *Q.*—Do you know the height of the 'tween decks in the B. I. steamers?

A.—From 6½ to 7 feet.

36. *Q.*—What is the maximum height between deck in these steamers carrying native passengers? What is the average height?

A.—About 6 feet 10 inches, I think, is the average. The maximum I am not sure of, but I believe that vessels of the "*Sirsa*" class are over 7 feet.

37. *Q.*—Into what classes are sea-going vessels in India divided for the purpose of determining the number of passengers they are capable of carrying?

A.—Long voyage and short voyage.

38. *Q.*—Are you aware that there was an old rule in India which allowed ships to carry three passengers for two tons?

A.—I have heard of it.

39. *Q.*—Is the Board of Trade rule, under which the number of passengers carried must not, whatever the deck measurements may give, exceed the number denoting the gross tonnage of the vessel, enforced in India?

A.—Not that I know of.

40. *Q.*—What would be the effect if, assuming all other existing Indian rules to remain intact, this rule were enforced?

A.—It would probably permit many steamers to carry a larger number of passengers; but in the case of small steamers like the "*Vitu*" and "*Vasna*," the number would be reduced.

41. *Q.*—What spaces are left unmeasured for passengers when a vessel is being measured for certificate (A)?

A.—Poop, bridge, and forecastle, or in flush deck ships the spaces equivalent, besides spaces set apart for use of the crew.

42. *Q.* (*By Captain Street*).—By what rules are you guided in measuring vessels for certificate A?

A.—The rules provided in Instructions to Port Officers.

43. *Q.*—How are the hatches treated when a vessel is being so measured, *i.e.*, is the whole space of a hatch deducted or not? Is any difference made on account of long and short voyages?

A.—Hatches are deducted for short voyages, but half the space is allowed for long voyages.

44. *Q.* (*By Captain Street*).—Does not the inclusion of half of a hatch depend on the size of the hatch being more than 120 feet in area? If so, will you state the reason for this?

A.—I should think the reason is that the hatches are not so often off as they would be in short voyages.

45. *Q.*—Are the spaces which would be required for the deck water-tank, latrines, and cooking ranges, necessary for use of native passengers, deducted from the passengers' space, even if such

articles are not in position at the time a vessel is being measured?

A.—I have never measured vessels, except when these are in position.

46. *Q.*—Are any spaces deducted so as to admit of the officers and crew moving fore and aft the vessel with facility and their getting with ease at the boats and boats' gear? If not, have you any recommendations to make on this head?

A.—No; it does not so much matter in vessels that have flying bridges; in flush deck vessels I would decidedly deduct the alley-ways at least.

47. *Q.*—Should alley-ways, used as a means of communication by the crew, be considered as deck area for passengers, *i.e.*, the narrow passages between the officers' cabins and the engine-room casing? If so, would it not be advisable to give a minimum breadth before allowing the area to count for passengers?

A.—I would allow this space to be counted as space for 'tween deck passengers, who mostly in the daytime remain below; but if measuring for upper deck passengers, I think a portion should be deducted, as the alley-ways are generally crowded with officers' and ship's servants.

48. *Q.* (*By Captain Street*).—Is your statement that the alley-ways are generally crowded with officers' and ship's servants based on personal observation during a voyage?

A.—No, but by what I see when I am on board at Negapatam.

49. *Q.* (*By the President*).—If alley-ways are measured as airing space for 'tween deck passengers, how would you provide for the passengers accommodated in the after part of the ship who have to go to and from the latrines and cook-houses which are forward?

A.—I have stated that I would allow the alley-ways to be included as airing space for 'tween-deck passengers, but not wholly as a living space for upper-deck passengers. The passengers accommodated aft would have the same facilities as the rest of the passengers. No special arrangement would, I think, be necessary.

50. *Q.* (*By Captain Atkinson*).—What do you understand an alley-way to be? Do not the dimensions of alley-ways vary very much as to length and breadth?

A.—(1) The alley-ways are the spaces between the boiler casings and the cabins of the engineers and second class.

(2) Yes, they do vary according to the size of the ship.

51. *Q.*—Are not these alley-ways additional shelter and, therefore, desirable for passengers?

A.—They would be additional shelter, but are seldom availed of for the above reason, *viz.*, that they are crowded by the ship's people.

52. *Q.*—For ships with large water-ways in the 'tween decks extending inside the battens on the ship's side, is the deck measurement made to the inside edge of the water-ways or to the battens? Which would you recommend?

A.—To the inside edge of the water-way, except where it is grated over, and I then allow to the battens. Ships that have their water-ways grated over might be allowed this, I think.

53. *Q.*—Should the spaces set apart for the boats on the bridge deck be utilized for passengers when the boats are carried at the davits? If so, state whether during both fair and foul season, or only during the fair season.

A.—Yes, always supposing the boats are swung out, but most Commanders I find like to have their boats inboard. I should make no distinction as to season.

54. *Q.* (*By Captain Street*).—If no distinction as to season is made, would not the passengers accommodated elsewhere be inconvenienced if the passengers on the bridge-deck had to be turned off on account of the state of the weather rendering it necessary to swing the boats in and to secure them on these chocks?

A.—Yes, but such an event is very rare. Passengers might also not be on board to the full number. I do not think therefore that it should be taken into calculation in framing fixed rules.

55. *Q.*—In your opinion, are the provisions of the Native Passenger Ships Act and the rules made under it in regard to the accommodation to be provided for native passengers on long voyages and short voyages, suitable?

A.—For short voyages I think they are fairly suitable.

56. *Q.* (*By Captain Atkinson*).—How does your answer to question 16, in which you say you would give 9 feet on 'tween deck and do away with fair and foul seasons, agree with your present answer to 55?

A.—My answer is "fairly" only, meaning that there is room for alteration. In my reply to 10 I suggested altering the voyage to eight days.

57. *Q.*—Do you think that a passenger on a voyage lasting 10 or 12 hours requires as much room as one on a voyage lasting five days?

A.—No.

58. *Q.*—Do you think that native passengers can do with less space than Europeans?

A.—Yes.

59. *Q.*—What proportion do you consider that the space allotted to natives should bear to the space allotted to Europeans?

A.—In the proportion of 90 to 60.

60. *Q.*—Assuming that this proportion is adopted, would it, in your opinion, affect the health, comfort, and safety of native passengers in any way?

A.—No, I do not think so.

61. *Q.*—Do you consider that on a voyage which may extend to five days, native passengers can be accommodated in the 'tween decks of a steamer at the rate of one passenger to each 6 square feet of area, with 4 square feet of airing space on the upper deck, without prejudicing their health and safety?

A.—Yes.

62. *Q.* (*By Captain Street*).—Have you ever seen a vessel with her full complement of passengers on board under the 6-feet rule?

A.—No, I do not remember, as Negapatam is the starting port, and when it is the terminal port the passengers are distributed up the coast.

63. *Q.* (*By the President*).—Have you ever put native passengers with their baggage into measured space and seen the result?

A.—No, I have not.

64. *Q.* (*By Captain Street*).—Do you consider that on a voyage from Negapatam to Rangoon *viâ* the Coromandel Coast ports, the space allowed under the Act for vessels working under the 6-feet rule on a short voyage is sufficient, bearing in mind that the average duration of the voyage is ten days?

A.—Not if the vessel has her full complement of passengers. I think that either there should be more space or ventilation by forced draught. Given the latter, the space might perhaps be sufficient. The vessels do not fill up till at the northern ports. I would advocate the fixed rule for more space.

65. *Q.* (*By Captain Atkinson*).—You say you have no personal experience of a ship full at 6 feet,

but on general principles would you consider it an argument in favour of existing rules that passengers have been carried under these regulations for thirteen years without complaint or any special casualty?

A.—Although I have not had experience of a ship full at 6 feet, I have of them at 9 feet, and they seemed to me to be quite as full as they should be. I do not consider that because an evil has been allowed to exist, it should not be remedied if possible.

66. *Q.*—Do you think it necessary for the health and safety of the passengers, that there should be on a voyage, which may extend to five days, permanent shelter for each passenger either 'tween decks or in cabins on the upper deck?

A.—Only in very rare cases such as bad weather, and I have known Commanders of their own impulse send deck passengers into the saloon and 2nd class cabins. Natives live a great deal in the open air, and I don't think a five days' voyage would hurt them.

67. *Q.* (*By Captain Street*).—On a voyage from Negapatam to Rangoon *viâ* the Coast ports during the foul weather season, is not permanent shelter necessary, bearing in mind that the average duration of the voyage is ten days?

A.—I do not think any more shelter than is at present provided by law is absolutely necessary; the proportion of passengers who are on board the whole voyage usually take up their quarters below from the first.

68. *Q.*—Do you think that on a voyage which may extend to five days there should be separate accommodation for female passengers?

A.—Not necessary.

69. *Q.*—Do you know of any steamers which carry native passengers on two upper decks?

A.—Yes, several.

70. *Q.*—Do you consider, from the wording of the Native Passenger Ships Act and your experience of this question, that the Legislature, when it passed the Act, contemplated the existence of vessels with more than one upper deck?

A.—No, I do not.

71. *Q.*—Are you acquainted with the design of the steamers of the "*Kistna*" class?

A.—Yes.

72. *Q.*—What is the distinguishing feature of these steamers?

A.—Upper, main and 'tween decks.

73. *Q.*—In your opinion, are the middle passenger decks of these steamers 'tween decks or upper decks within the meaning and intention of the Native Passenger Ships Act? Give your reasons for this opinion.

A.—I did at first treat the middle deck as a 'tween deck until ordered not to. I still consider it should be counted as a 'tween deck, because it is well protected with shutters and the upper deck overhead, and is much better ventilated than any 'tween decks are. I would then treat the lower 'tween deck as an orlop deck.

74. *Q.* (*By Captain Street*).—Under what rules would you have been guided in measuring the 'tween deck for passengers assuming that you had been permitted to treat it as an orlop deck?

A.—Under the rule by which in lower 'tween decks 15 feet are allowed for each passenger.

75. *Q.*—Are the passengers on these middle decks as well protected in rough weather as the passengers on the lowermost of the three passenger decks?

A.—Very nearly, if not quite.

77. *Q.* (*By Captain Street*).—Is this opinion based on personal observation during heavy weather?

A.—No, as I have had no opportunity, but I have seen all the shutters fixed which would be sufficient protection, and when open they are a splendid means of ventilation.

77. *Q.*—Are these passengers on the middle deck not better protected than on ordinary upper decks?

A.—Certainly they are.

78. *Q.*—During the inclement weather do you consider that the upper deck passengers are sufficiently protected by canvas awnings, side screens, and curtains? If not, what would you recommend?

A.—I think so.

79. *Q.*—Do you consider that sufficient protection from the sea is afforded to upper deck passengers by the "reasonably stout screen," which, under existing rules, (*see* Government of India letter No. 430, dated 27th August 1878) is held as coming within the definition of a substantial bulwark? If not, state what you would recommend in lieu.

A.—Yes; if it is in position, which it seldom is I believe.

80. *Q.* (*By Captain Street*).—What causes you to consider that the screen is seldom in position?

A.—Because in starting from Negapatam these steamers with open sides only have a few passengers, and they are all below. I only insist on their being up when inspecting for Certificate (A.)

81. *Q.*—In rough weather would any water get on to the middle deck through the scuppers and shutters? If so, could this be prevented?

A.—Very seldom; I don't think so.

82. *Q.*—Under existing rules are the arrangements to prevent injury to passengers by the rolling of the ship sufficient for the purpose?

A.—Quite, I think.

83. *Q.*—Are any special fittings required under the Native Passenger Ships Act on the passenger decks for the reception of the bundles, boxes, and other articles usually carried by native passengers? If so, state what you would recommend.

A.—Under the subsidiary rules battens or cleats (or jackstays) are required. Only one or two steamers are provided with them, as it was considered that the stringers answered the purpose.

84. *Q.*—Is it necessary for the comfort or safety of the passengers that provision should be made for the accommodation of luggage not stored in the hold?

A.—Not absolutely necessary, but it would certainly be to their benefit.

85. *Q.*—If it is necessary, what would you provide?

A.—Space under the square of the hatch.

86. *Q.*—If such accommodation were provided, would it be used? Will native passengers allow their luggage to be parted from them under any circumstances?

A.—For heavy luggage, yes. Not if they can help it.

87. *Q.*—Do you think that on a voyage, which may extend to five days, sleeping platforms should be provided for the passengers?

A.—Some steamers have them, and they are much appreciated. I therefore think they should be in all steamers on long voyages.

88. *Q.* (*By Captain Street*).—

(1) Have you ever seen these platforms in position?

(2) Are they fitted on board of any steamer sailing from Negapatam?

A.—(1) Yes.

(2) Yes, on the "*Camorta*" and "*Meanatchy*," and I believe the "*Tannadice*" has them now.

89. *Q.* (*By Dr. Comins*).—What are the advantages of sleeping platforms?

A.—They are better as space is provided underneath for baggage, food and cooking utensils, and the passengers are not so crowded.

90. *Q.* (*By Dr. Comins*).—Do they not keep the passengers out of the wet and dirt on the deck and allow room for passage on the deck?

A.—Yes, in a great measure they do, especially the latter.

91. *Q.* (*By Dr. Comins*).—Are not steamers with sleeping platforms much sought after by intending passengers?

A.—There are none on the coast that I am aware of, but the Penang steamers generally leave with nearly, if not quite, their full complement.

92. *Q.* (*By Dr. Comins*).—Have they any disadvantages beyond their initial expense?

A.—No, I should think not.

93. *Q.* (*By Dr. Comins*).—If infectious diseases occurred amongst passengers accommodated on these platforms, could they not be more easily and effectively disinfected than the deck itself or the loose bottom boards of the platforms be destroyed if necessary?

A.—Yes, I should say they could.

94. *Q.* (*By Dr. Comins*).—Could they not easily be made so as to trice up or be easily removed if the deck were required as a cargo deck?

A.—Yes, they could.

95. *Q.* (*By Captain Atkinson*).—You have said you recommend these platforms for long voyages. Do you think they would be suitable on a short voyage in a vessel making one voyage with passengers, the next with cargo, and so on? Would there not be a continued expense in repair?

A.—They would of course be suitable, but they are not absolutely necessary. I do not know about the expense of repairs, but should not think it would be much.

96. *Q.* (*By Captain Atkinson*).—You have said that the steamers you mention are fitted with sleeping platforms on the 'tween deck, they also are measured for passengers on orlop deck. Are the orlop decks fitted with platforms? If not, why?

A.—They are not fitted with platforms, as they are frequently used for carrying cattle.

97. *Q.* (*By Captain Atkinson*).—Can the whole number of passengers for which the deck is measured be accommodated on the platforms? If not, what is the accommodation for the balance?

A.—No, they cannot all be accommodated on the platforms; about half, I should think, lie on the deck.

98. *Q.* (*By Captain Atkinson*).—In reference to your answer to my last question, is it not possible that the reason why the orlop deck is not fitted with platforms is that it is a deck on which cargo and other than passengers is carried as in the 'tween deck on short voyage?

A.—It is quite possible.

99. *Q.* (*By the President*).—Is the voyage from Negapatam to Penang a long or short voyage? What is the average length of this voyage? What is the cost of a passage to an ordinary labourer?

A.—(i.) A long voyage under the present rules.

(ii) Over five and under six days.

(iii) About the same as it is to Rangoon.

100. *Q.* (*By Dr. Comins*).—Do not sleeping platforms increase the comfort both of the passengers sleeping on them and also of those remaining on the floor whose space is increased thereby?

A.—Yes, they do.

101. *Q.*—What closet accommodation do the rules require on native passenger vessels?

A.—Not less than two privies properly screened and one more for every hundred passengers in excess of a hundred; not allowed in 'tween decks; separate accommodation must be provided for females.

102. *Q.*—Which scale do you consider the most suitable?

A.—I consider that under the Native Passenger Ships Act sufficient.

103. *Q.*—Do you think the existing rules in regard to hospital accommodation are suitable?

A.—I consider the space should in all cases be 144 square feet instead of 72 square feet as in some cases.

104. *Q.*—Do you consider that cargo, horses, cattle, sheep, and live-stock should be carried on the same deck with passengers? If so, is any fitting necessary to prevent the passengers from being inconvenienced by the urine and dung of the horses; cattle and sheep; and if any such fitting is requisite, state what you would recommend?

A.—In no case should horses, cattle or sheep be carried on the same deck with passengers in the 'tween decks.

105. *Q.*—In vessels which, under existing rules, are permitted to carry horses, cattle, and sheep with native passengers, are sufficient precautions adopted to prevent the hay and straw provided for the use of such animals from catching fire either from a spark from the ship's funnel or lighted matches? If not, state what extra precautions you would recommend.

A.—Precautions are taken as far as possible by Commanders for their own sakes. As loose straw is always an element of danger, especially with native passengers, I would make it compulsory that it should be pressed into bales, and stowed on the bridge, hurricane-deck, or forecastle, and well covered with tarpaulins. Were this done and fire ensued, the vessel could easily be placed so as to put the fire on the leeside and the straw pitched overboard.

106. *Q.*—Will you explain to the Commission what rules are in force in India on the subject of life-saving appliances?

A.—Every ship must carry at least four life-buoys with lines attached and inextinguishable lights ready to be fixed. Life-boats also, dimensions according to tonnage of steamer.

107. *Q.*—Do the new regulations of the Board of Trade, made under the Merchant Shipping (Life-saving Appliances) Act, 1881, apply to India?

A.—Not that I know of.

108. *Q.*—What, in your opinion, is the object of hese revised regulations?

A.—To minimise as much as possible loss of life in large vessels that carry numbers of passengers, and are liable to collisions in narrow seas during fogs, &c.

109. *Q.*—Do the revised regulations require more appliances than were necessary under the old rules, and why was the change found necessary?

A.—Yes, I believe so. For above reason.

110. *Q.*—Are the revised regulations suitable, in your opinion, for vessels engaged in the native passenger trade?

A.—I do not think they are.

111. *Q.* (*By Captain Street*).—In what way are they unsuitable?

A.—I would qualify this by saying "not exactly necessary". In Indian seas we have no fogs and very few collisions.

112. *Q.*—In your opinion, is there no difference of conditions which would justify a difference in the regulations on this subject?

A.—No, except the case of the *Vaitana* two years ago. I cannot recall any serious loss in native passenger ships during the last fourteen years.

113. *Q.*—Do you think that the natives of India require as much space in boats as Europeans?

A.—No; because man for man their weight is less.

114. *Q.*—Would you adopt the Board of Trade regulations in regard to life-buoys and life-belts?

A.—I think so.

115. *Q.*—In your experience, do the Surveyors at all ports in India make their surveys on the same lines?

A.—I do not think that they do.

116. *Q.*—Do you think it necessary that there should be a set of definite instructions as to the survey of passenger accommodation and crew space similar, so far as may be, to those issued by the Board of Trade?

A.—Yes.

117. *Q.*—Do you think the existing regulations in regard to the lighting and ventilation of the passenger accommodation suitable?

A.—Yes.

18. *Q.* (*By Captain Street*).—In your opinion, are the present means of ventilation on board of native passenger, vessels sufficient in case the full complement of passengers should have to be kept on the 'tween decks, say, for 24 hours?

A.—I do not know the amount of cubic feet of air required.

119. *Q.* (*By Captain Atkinson*).—If sufficient natural ventilation were provided for 'tween decks, would you still require artificial ventilation or forced draught as you call it?

A.—I do not require forced draught. I merely suggest it as an improvement, as it certainly freshens the air the passengers have to breathe.

120. *Q.* (*By Dr. Comins*).—Do you think that even if all natural ventilation possible were supplied to an orlop deck, forced draught would be necessary?

A.—The only event in which it would be absolutely necessary would be with the 'tween or orlop decks full of passengers and the hatches battened down.

120*a*. *Q.*—Would you make the regulations in regard to the equipments of vessels similar in all respects to those of the Board of Trade?

A.—With the necessary distinction as between Native and European passengers.

121. *Q.*—In your opinion, are the provisions of the Emigration Act and the rules made under it in regard to the accommodation to be provided for native emigrants, suitable?

A.—Yes.

122. *Q.*—After a vessel has been measured for certificate A, is the Captain supplied with the Surveyor's calculations? If not, do you think it necessary that he should be?

A.—No. Yes.

123. *Q.*—Would it not be advantageous if a copy of all measurements and calculations of passengers' space, as determined on the original measurement, were supplied to the Commander of the vessel?

A.—Yes.

124. *Q.*—If so, would you recommend that the calculations should show clearly the names of the various obstructions which have been deducted from the gross area, their dimensions, and the proportional area deducted

A.—Yes.

125. *Q.*—Do you consider that passengers carried in vessels working under clause (*a*) of Government of India Notification No. 1356, dated 14th March 1889, have sufficient space? If not, state what space would suffice?

A.—No; clause (*a*) should be cancelled. Nothing less than 6 feet should be permitted.

126. *Q.* (*By Captain Street*).—Have you ever known of a vessel which has commenced her voyage under clause (*a*) being permitted to work under clause (*b*), or *vice versâ*, during the voyage?

A.—Not that I can remember without referring to records.

127. *Q.* (*By Sir Henry Morland*).—In your answer No. 27 in speaking of the *Bheema* being top heavy, are you aware that a committee of Dockyard officials at Bombay have carried out a series of experiments to test the stability of the vessels *Vaiturna*, *Bheema*, and other similar steamers plying on the west coast, and have declared that they are suited to carry the large number of passengers they are measured for?

A.—No, I was not aware of it. I spoke from my experience of two or three trips in these vessels up the coast and when a number of passengers went from one side of the vessel to the other, the difference was very perceptible. If the Dockyard officials are satisfied, I have nothing to say.

128. *Q.* (*By Captain Street*).—Do you consider that gunpowder and other explosives, exclusive of ship's requirements, should be carried in native passenger vessels even if placed in a properly constructed magazine?

A.—Under existing rules I should not permit it, but with all proper precautions do not think there would be much reason against it.

129. *Q.*—In the case of voyages the duration of which does not exceed five days, what distinction is made between seasons of fair and foul weather?

A.—Fair season 'tween-deck passengers are allowed 6 superficial feet and 4 feet in upper deck. Upper-deck passengers 6 feet.

Foul season 9 superficial feet and 4 feet on upper deck. Upper-deck passengers, 9 feet. This is in steamers only.

130. *Q.*—Do you consider a double awning overhead with side curtains and bulwark screens, as required by the Native Passenger Act, equal to the ordinary tent in which troops are accommodated?

A.—Yes, except that the latter have only rain and wind to contend against and no heavy seas.

131. *Q.*—Being acquainted with the class of natives who form the bulk of those who travel by sea, do you consider they require better accommodation for their health and comfort than native troops?

A.—No, I do not.

133. *Q.*—How do you account for the differences between the English and the Indian rules, and between the Indian rules for emigrants and those for ordinary passengers?

A.—(*a*) Differences are necessary owing to climatic as well as racial distinction. (*b*) The difference is probably intended for the presumed length of voyage.

134. *Q.*—Will you furnish the Commission with your opinion as to the sufficiency or otherwise of the space allowed by the Act and rules generally?

A.—*Vide* answers to 111, 93, and 94.

135. *Q.*—Do you consider that native passenger ships should carry a medical officer? If this were made compulsory, would you make any difference for the numbers carried or for the duration of the voyage?

A.—Only for long voyages. No difference should be made.

136. *Q.*—What grade of medical officer would you consider best suited for these vessels?

A.—Warrant grade, or same as usually in charge of a civil dispensary.

137. *Q.* (*By the President*).—The Board of Trade in framing these rules has proceeded on the idea that every passenger has a right to have his life saved if possible. Can the Government of India do less for native passengers?

A.—The circumstances are not the same. The traffic in these seas is not nearly as great as in the English seas, the atmosphere is generally clear, and the only danger is of bad weather.

Mr. T. H. BAKER, Madras Port Service.

1. *Q.*—Will you please inform the Commission of the nature of your present occupation?

A.—Port Officer and Superintendent of Pearl Fisheries at Tuticorin.

2. *Q.*—What qualifications or experience do you possess in regard to the subjects under enquiry?

A.—Have been in charge of a port, and carried out the provisions of the different Passenger Acts since December 1876.

3. *Q.*—Do you take any part, either directly or indirectly, in the administration or observance of any of the provisions of the Native Passenger Ships Act, 1887?

A.—As Port Officer I take part directly in the administration of the provisions of Act X of 1887.

4 *Q.*—In regard to what voyages is there a distinction made between fair and foul seasons?

A.—Short voyages.

5. *Q.*—Do you consider that if there is to be a line dividing short from long voyages, it should be drawn at five days?

A.—Referring only to ports on the Madras seaboard, I consider that the deck passenger is far more comfortable at sea than lying at anchor in an open roadstead, rolling about with the vessel, receiving or discharging cargo, and that if any limit be made, it should be with respect to the time expended on the voyage, *i.e.*, that from time of embarkation to final debarkation at the port the passenger is bound to.

6. *Q.* (*By the President*).—If a passenger going from Negapatam to Rangoon takes 10 days altogether, whether in or out of ports, would you consider this a long voyage?

A.—Yes.

7. *Q.* (*By Captain Street*).—But do you think that the limit should be drawn at five days?

A.—Yes on boardship.

8. *Q.*—Do you think that the five-day limit puts an Indian short voyage on a footing similar to an English Home Trade voyage?

A.—No; for in most cases at Home the vessel goes into a harbour or alongside a quay, so that the passenger can obtain refreshment and release from confinement on board, whereas on the Madras coast, the vessel lies a long way off in an open roadstead.

9. *Q.*—Are you of opinion that the conditions justify a distinction being made between fair and foul weather in the case of voyages which may extend to five days?

A.—Yes.

10. *Q.* (*By Captain Street*).—Will you give your reasons for this opinion?

A.—I am of opinion that in foul weather more room is required for shelter.

11. *Q.*—Are you of opinion that the seasons of fine weather defined in the rules are judiciously chosen with reference to the prevailing conditions?

A.—Generally so.

12. *Q.*—If not, what alterations would you suggest?

A.—That the whole of November and December be deemed foul weather in the Bay of Bengal.

13. *Q.*—Will you mention instances of foul weather occurring during the seasons which are by rule declared to be seasons of fair weather?

A.—I have experienced bad weather in the Bay on several occasions during November and December.

14. *Q.*—In your opinion, do the conditions justify passengers being carried across the Bay at any season on decks, such as are commonly called hurricane-decks, which are not protected from the weather, except by over-head awnings, side screens, and curtains, assuming that no accommodation is reserved for these passengers on the lower decks, which are crowded with other passengers?

A.—Not in foul weather.

15. *Q.* (*By Captain Atkinson*).—Have you ever known an instance in which passengers travelling on a hurricane-deck have suffered in any special way, that is other than an occasional wetting? On what do you base your opinion?

A.—Having seen passengers arrive in Coconada Roads during bad weather in a very wet state.

16. *Q.*—Are you acquainted with the ordinary conditions of native life amongst the class that forms the bulk of the native passengers who travel by sea?

A.—Yes.

17. *Q.*—Are you aware that it is a common practice for natives of India to sleep at night in the open air?

A.—Yes.

18. *Q.*—Is it within your knowledge that first class passengers, travelling about the Bay of Bengal and coasts of India, as a rule prefer to sleep on deck under the same conditions as to awnings and curtains as the third class native passengers?

A.—Yes.

19. *Q.*—Have you had any personal experience of the weather round the coast of the United Kingdom, and in the Bay of Bengal, and on the coasts of India?

A.—Yes.

20. *Q.*—Do you consider that there is such similarity as to warrant a comparison between the weather experienced on the coast of the United Kingdom or between the rivers Elbe and Brest (English Home Trade voyage) and that experienced in the Bay of Bengal and coasts of India?

A.—No.

21. *Q.*—Do you consider the conditions of English and Indian passenger traffic to be similar in any other way than that the traffic under discussion is by sea?

A.—No.

22. *Q.*—Do you think the ordinary native deck passenger would be prepared to pay more than at present for better accommodation?

A.—No.

23. *Q.*—Is it not a fact that very well-to-do

native merchants are satisfied with the usual deck accommodation?

A.—I have known some cases of those described travelling on deck.

24. *Q.*—Have you any special suggestions to make in regard to voyages similar to those classed as excursions by the Board of Trade, that is, voyages during which a vessel is not more than ten or twelve hours at sea?

A.—No.

25. *Q.*—Is allowance made in Board of Trade Rules for height of 'tween decks; in fact, do not Board of Trade Surveyors, when berths are not fitted for third class passengers, calculate the number that may be carried on the basis of a cubic measurement of 72 cubic feet per statute adult after deducting all hatches and encumbrances?

A.—I have known even the floor of a to saloon be measured for accommodation of passengers.

26. *Q.* (*By Captain Street*).—But is not allowance made in the Board of Trade Rules for height of 'tween decks?

A.—Yes.

27. *Q.*—If so, would you consider it proper to allow for height of 'tween deck as an element in the health and comfort of third class native passengers?

A.—Yes.

28. *Q.*—Do you know the height of the 'tween decks in the B. I. steamers?

A.—Between seven and eight feet.

29. *Q.*—What is the maximum height between deck in these steamers carrying native passengers? What is the average height?

A.—*Vide* 44.

30. *Q.*—Are you aware that there was an old rule in India which allowed ships to carry three passengers for 2 tons?

A.—Yes; under Act 21 of 58, section 10. Act 25 of 59 allowed a vessel in ballast in the Gulf of Manaar, or Palk Straits, to carry two and a half passengers to every ton burden to Ceylon.

31. *Q.*—Is the Board of Trade Rule under which the number of passengers carried must not, whatever the deck measurements may give, exceed the number denoting the gross tonnage of the vessel, enforced in India?

A.—No.

32. *Q.*—What would be the effect if, assuming all other existing Indian rules to remain intact, this rule were enforced?

A.—It would reduce the number of passengers in vessels of the "*Aska*" and "*Amra*" class as far as my experience goes.

33. *Q.*—What spaces are left unmeasured for passengers when a vessel is being measured for Certificate A?

A.—The only spaces measured are those to be actually appropriated to the use of deck and 'tween deck passengers.

34. *Q.* (*By Captain Street*).—But what space would you leave unmeasured should you have to measure a vessel for Certificate A?

A.—I should cut out the hatches, spaces occupied by winches, deck-houses, and spaces used for the navigating appliances of the ship.

35. *Q.*—How are the hatches treated when a vessel is being so measured, *i.e.*, is the whole space of a hatch deducted or not? Is any difference made on account of long and short voyages?

A.—Deducted when the vessel is to make short voyages calling at many ports, but allowed in cases of long voyages, when the area of a single hatch is over 120 feet.

36. *Q.* (*By Captain Street*).—Why should the question depend on the area of the hatch being over 120 feet?

A.—It is an order of Government, and I can only carry out such.

37. *Q.*—Are the spaces which would be required for the deck water-tank, latrines, and cooking ranges, necessary for use of native passengers, deducted from the passengers' space, even if such articles are not in position at the time a vessel is being measured.

A.—A certificate should not be granted unless these articles are in position at the time of survey.

38. *Q.*—Are any spaces deducted so as to admit of the officers and crew moving fore and aft the vessel with facility, and their getting with ease at the boats and boats' gear. If not, have you any recommendations to make on this head?

A.—No; but I think some space should be deducted for this purpose and really kept clear.

39. *Q.* (*By Captain Street*).—But what would you recommend?

A.—That either an overhead bridge be fitted so as to leave a gangway fore and aft, or that a space not exceeding 12 superficial feet, be deducted for each boat carried.

40. *Q.* (*By Captain Atkinson*).—If the boats were stowed on skids, say, 6 feet above the passenger's heads, and the skids fitted with a platform from which the boats can be worked, would you still require a deduction from the passengers space?

A.—No.

41. *Q.*—Should alley-ways, used as a means of communication by the crew, be considered as deck area for passengers, *i.e.*, the narrow passages between the officers' cabins and the engine-room-casing? If so, would it not be advisable to give a mimimum breadth before allowing the area to count for passengers?

A.—I consider it would be better not to allow this as passenger area; an officer would hardly be so philanthropically inclined as to allow a number of sea-sick passengers to remain just outside his door making a mess.

42. *Q.* (*By the President*)—Do you think that the passengers accommodated in the after part of the ship should be allowed some means of access to the latrines and cook-houses which are forward?

A.—Certainly.

43. *Q.* (*By Captain Atkinson*).—Would you disallow them merely because they are alley-ways. Suppose the alley-way was six or eight feet broad, would you not allow a portion of the space to be measured for passengers?

A.—I think the alley-ways should be kept clear and used as means of communication, and passengers should not be allowed to congregate on them.

44. *Q.*—Are not these alley-ways additional shelter, and, therefore, desirable for passengers?

A.—Yes; they certainly are if passengers are allowed to use them.

45. *Q.*—For ships with large water-ways in the 'tween decks extending inside the battens on the ship's side, is the deck measurement made to the inside edge of the water-ways or to the battens? Which would you recommend?

A.—I measure to the battens.

46. *Q.*—Should the spaces set apart for the boats on the deck in the vicinity of the bridge be utilized for passengers when the boats are carried at the davits? If so, state whether during both fair and foul season, or only during the fair season?

A.—No; the boats may have to be swung inboard at any time; moreover the spaces are much exposed.

47. *Q.*—In your opinion, are the provisions of the Native Passenger Ships Act, and the rules made under it in regard to the accommodation to be provided for native passengers on long voyages and short voyages, suitable?

A.—With the before-mentioned exceptions, I am of opinion that they are suitable.

48. *Q.*—Do you think that a passenger on a voyage lasting ten or twelve hours requires as much room as one on a voyage lasting five days?

A.—No.

49. *Q.*—Do you think that native passengers can do with less space than Europeans?

A.—Yes.

50. *Q.*—What proportion do you consider that the space allotted to natives should bear to the space allotted to Europeans?

A.—2½ to 1.

51. *Q.*—Assuming that this proportion is adopted, would it, in your opinion, affect the health, comfort, and safety of native passengers in any way?

A.—No.

52. *Q.*—Do you consider that on a voyage, which may extend to five days, native passengers can be accommodated in the 'tween decks of a steamer at the rate of one passenger to each six square feet of area, with four square feet of airing space on the upper deck, without prejudicing their health and safety?

A.—Yes.

53. *Q.* (*By Captain Street*).—Have you ever been on board of a vessel which has had her full complement of passengers under the six feet rule on board at the time?

A.—Within 50 or 60 of the number.

54. *Q.* (*By the President*).—Have you ever tried the experiment of placing passengers with their baggage in a measured area?

A.—Not with baggage, but as far as I remember, I made four lascars lie down as they would on deck, and the space was five feet × ten feet.

55. *Q.* (*By Captain Atkinson*).—Do you consider that so limited an experiment would warrant any opinion being formed?

A.—If the space I mention is correct, I think the experiment can be accepted as one on which an opinion might be based, but I will send a memorandum showing the space I measured.

56. *Q.* (*By Captain Street*).—Will you give your reasons for considering that six square feet of area, with four square feet of airing space, is sufficient for each adult?

A.—Space is allowed both on the upper and 'tween decks, consequently the aggregate space (*i.e.*), ten superficial feet is sufficient.

57. *Q.*—Do you think it necessary for the health and safety of the passengers that there should be on a voyage, which may extend to five days, permanent shelter for each passenger either 'tween-decks or in cabins on the upper decks?

A.—During the foul weather season.

58. *Q.* (*By Captain Atkinson*).—Is not permanent shelter provided by the five-feet rule clause (*a*), which stipulates for the 'tween decks only being measured?

A.—Yes; but the space is not sufficient to shelter a full load of passengers.

59. *Q.* (*By Captain Atkinson*).—Are you aware that the Board of Trade only require shelter for one-sixth of the upper deck passengers in the inclement weather encountered on an English Home Trade voyage?

A.—Such, I believe, is the Regulation.

60. *Q.* (*By Captain Atkinson*).—As a fact, is not the foul weather on the Madras Coast, by no means constant during the foul season, but only squalls, with intervals of fine weather, breaks in the monsoon, in fact, sometimes for days together?

A.—I have experienced six and seven days of continuous rain and bad weather during the latter part of the year, *i.e.*, the north-east monsoon season. Certainly, during the south-west monsoon the weather on the Madras Coast is fairer.

61. *Q.* (*By Dr. Comins*).—Are you aware that on an English Home Trade voyage, passengers are not allowed to be carried, even on the poop or raised quarter deck, unless the whole of the saloon below is available as shelter for these passengers?

A.—Yes.

62. *Q.*—Do you think that on a voyage which may extend to five days, there should be separate accommodation for female passengers?

A.—No; native females prefer remaining with the males of their party.

63. *Q.*—Do you know of any steamers which carry native passengers on two upper decks?

A.—Yes.

64. *Q.*—Do you consider from the wording of the Native Passenger Ships Act, and your experience of this question, that the Legislature, when it passed the Act, contemplated the existence of vessels with more than one upper deck?

A.—No.

65. *Q.*—Are you acquainted with the design of the steamers of the *Kistna* class?

A.—Yes.

66. *Q.*—What is the distinguishing feature of these steamers?

A.—Three decks, *viz.*, a "'tween deck," a "main deck" and a "shade deck"; the "*main*" is fitted with shutters.

67. *Q.*—In your opinion, are the middle passenger decks of these steamers between decks or upper decks within the meaning and intention of the Native Passenger Ships Act? Give your reasons for this opinion?

A.—The Act contains no definition of the different decks. The term "between decks" is, I believe, generally accepted by nautical men as meaning the space contained between any two decks of a vessel, but I am of opinion that the "middle deck" of these steamers is actually a "main deck," the deck above being merely a light "shade deck."

68. *Q.*—Are the passengers on these "middle" decks as well protected in rough weather as the passengers on the lowermost of the three passenger decks?

A.—If the shutters are closed and are tight.

69. *Q.*—Are these passengers on the "middle" deck not better protected than on an ordinary upper deck?

A.—Yes.

70. *Q.*—During inclement weather, do you consider that the upper deck passengers are sufficiently protected by canvas awnings, side-screen, and curtains? If not, what would you recommend?

A.—I do not consider that awnings, side-screens, and curtains are sufficient for bad weather shelter.

71. *Q.*—Do you consider that sufficient protection from the sea is afforded to upper deck passengers by the "reasonably stout screen" which, under existing rules (*see* Government of India letter No. 430, dated 27th August 1878) is held as coming within the definition of a substantial bulwark? If not, state what you would recommend in lieu?

A.—No.

72. *Q.*—In rough weather would any water get on to the "middle" deck through the scuppers and shutters? If so, could this be prevented?

A.—Yes; but the scuppers could be plugged when the vessel is rolling heavily, or listed over, and the shutters made tight.

73. *Q.*—Under existing rules are the arrangements to prevent injury to passengers by the rolling of the ship sufficient for the purpose?

A.—Yes.

74. *Q.*—Are any special fittings required under Native Passenger Ships Act on the passenger decks for the reception of the bundles, boxes, and other articles usually carried by native passengers? If so, state what you would recommend?

A.—Yes.

75. *Q.*—Is it necessary for the comfort or safety of the passengers that provision should be made for the accommodation of luggage not stored in the hold?

A.—It would add to their comfort if some accommodation were provided.

76. *Q.*—If it is necessary, what would you provide?

A.—Lockers.

77. *Q.*—If such accommodation were provided, would it be used? Will native passengers allow their luggage to be parted from them under any circumstances?

A.—I am of opinion that if lockers were provided, natives would use them. They certainly object to parting with their luggage.

78. *Q.*—Do you think that on a voyage, which may extend to five days, sleeping platforms should be provided for the passengers?

A.—No.

79. *Q.* (*By Captain Street*).—Have you ever seen sleeping platforms in position on board of a vessel?

(2) Would you recommend them for voyages extending over 5 days?

A. (1)—Yes.

(2) Yes, for then the sanitation and cleanliness of the steamer could be better attended to, as the passengers might be made to get up on the platform during the time the deck was being washed.

80. *Q.* (*By Dr. Comins*).—Do they not add very much to the comfort of the passengers both on the platforms and those on the deck?

(2) Are not vessels with sleeping platforms run after by intending passengers?

A.—Yes.

(2) Cannot say.

81. *Q.*—What closet accommodation do the rules require on native passenger vessels?

A.—Two privies for a hundred passengers, and one extra for every hundred or part of that number carried.

82. *Q.*—Do you think the existing rules in regard to hospital accommodation are suitable?

A.—I think in cases of vessels carrying passengers on voyages exceeding three days' duration a permanent hospital should be insisted on. I say three days, because that is the usual time taken by steamers from Gopalpore to Rangoon direct, when no medical aid can be obtained.

83. *Q.*—Do you consider that cargo, horses cattle, sheep, and live-stock should be carried on the same deck with passengers? If so, is any fitting necessary to prevent the passengers from being inconvenienced by the urine and dung of the horses, cattle, and sheep; and if any such fitting is requisite, state what you would recommend?

A.—No; passenger space should be kept clear and appropriated to passengers only.

84. *Q.* (*By Captain Atkinson*).—In your answer do you refer to the upper deck? Would it not be sufficient if the space occupied by animals was deducted from the deck area?

A.—I was referring to the middle decks of vessels of the "*Amra*" class more especially. I would allow cattle and horses on the upper deck, provided proper fittings were supplied, the space taken up by the same being deducted from the passenger area.

85. *Q.* (*By Captain Street*).—By what rule are you guided in deducting from passenger space that required for cattle, sheep, or horses?

A.—No rules have been supplied, but when cases have occurred, I have made it my business to go myself, or send a subordinate, to measure the actual space taken up by cattle and deduct the same.

86. *Q.*—In vessels which, under existing rules, are permitted to carry horses, cattle, and sheep with native passengers, are sufficient precautions adopted to prevent the hay and straw provided for the use of such animals from catching fire either from a spark from the ship's funnel or lighted matches? If not, state what extra precautions you would recommend?

A.—I think all hay and straw not actually being used should be struck below.

87. *Q.* (*By Dr. Comins*).—Would it not be better, if the hay or straw took fire, if it were on an upper deck, say, the forecastle or bridge-deck?

A.—It would certainly be easier to heave it overboard were it placed there, but I think the chances of its catching fire would be diminished were it below.

88. *Q.*—Will you explain to the Commission what rules are in force in India on the subject of life-saving appliances?

A.—Each vessel must carry not less than four life-buoys, and be supplied with distress signals, and unextinguishable life-buoy lights.

89. *Q.*—Do the new regulations of the Board of Trade, made under the Merchant Shipping (Life-saving Appliances) Act, 1888, apply to India?

A.—No.

90. *Q.*—What, in your opinion, is the object of these revised regulations?

A.—To provide needful appliances according to the nature of the voyage the vessel concerned is engaged in.

91. *Q.*—Do the revised regulations require more appliances than were necessary under the old rules, and why was the change found necessary?

A.—More.

92. *Q.*—Are the revised regulations suitable, in your opinion, for vessels engaged in the native passenger trade?

A.—Yes, in a modified form.

93. *Q.* (*By Captain Street*).—What modifications would you suggest?

A.—I would not insist on the supply of so many cork-jackets or life-belts.

94. *Q.*—In your opinion, is there no difference of conditions which would justify a difference in the regulations on this subject?

A.—Yes; as regards the cubical contents of the boats, the divisional figure should be less for ascertaining the number each boat could carry.

95. *Q.*—Do you think that the natives of India require as much space in boats as Europeans?

A.—No.

96. *Q.*—Would you adopt the Board of Trade Regulations in regard to life-buoys and life-belts?

A.—Yes, in a modified form.

97. *Q.*—In your experience, do the Surveyors at all ports in India make their surveys on the same lines?

A.—Yes.

98. *Q.*—Do you think it necessary that there should be a set of definite instructions as to the survey of passenger accommodation and crew space similar, so far as may be, to those issued by the Board of Trade?

A.—A carefully framed set of rules, with illustrations, treating, as far as possible, of all matters appertaining to surveying passenger vessels would be of great service to all concerned.

100. *Q.*—Do you think the existing regulations in regard to the lighting and ventilation of the passenger accommodation suitable?

A.—I would suggest that the method of electric lighting, as adopted in vessels like the "*Aska*" be introduced.

101. *Q.*—Would you make the regulations in regard to the equipments of vessels similar in all respects to those of the Board of Trade?

A.—No; the regulations must be adapted to the country.

102. *Q.*—After a vessel has been measured for Certificate A, is the Captain supplied with the Surveyor's calculations? If not, do you think it necessary that he should be?

A.—No; I do not think it necessary.

103. *Q.*—Would it not be advantageous if a copy of all measurements and calculations of passengers' space, as determined on the original measurement, were supplied to the Commander of the vessel?

A.—If the Commander has any doubt about the measurements, he is quite within his right if he applies for a copy.

104. *Q.*—Do you consider that passengers carried in vessels working under clause (*a*) of Government of India Notification No. 1356, dated 14th March 1889, have sufficient space? If not, state what space would suffice?

A.—No; but I think the provisions of section 18 of Act X, of 1887, are fair, both for passengers and ship owners.

105. *Q.*—In the case of voyages, the duration of which does not exceed five days, what distinction is made between seasons of fair and foul weather?

A.—A vessel cannot carry upper deck passengers during foul weather, unless she be provided with substantial bulwarks and double awnings.

106. *Q.*—Being acquainted with the class of natives who form the bulk of those who travel by sea, do you consider they require better accommodation for their health and comfort than native troops?

A.—No.

107. *Q.*—Will you furnish the Commission with your opinion as to the sufficiency or otherwise of the space allowed by the Act and Rules generally?

A.—I think that the space allowed by the Act is small enough, and should not be further curtailed.

108. *Q.*—Do you consider that native passenger ships should carry a medical officer? If this were made compulsory, would you make any difference for the numbers carried or for the duration of the voyage?

A.—Yes, in vessels employed in the Rangoon passenger trade.

109. *Q.*—What grade of medical officer would you consider best suited for these vessels?

A.—An apothecary.

110. *Q.*—Give any instances which have come to your knowledge in which a medical officer would have been of service on board a native passenger vessel?

A.—In the *Bhundara* in the cyclone off Madras.

111. *Q.*—(*By Captain Street*).—Do you consider that gunpowder and other explosives in excess of ship's requirements should be carried in native passenger vessels, even if placed in a properly constructed magazine?

A.—No; I think no more than is necessary for the ship should be carried.

CAPTAIN *H. B. SIMPSON, Her Majesty's Indian Marine.*

1. *Q.*—Will you please inform the Commission of the nature of your present occupation?

A.—Acting Presidency Port Officer, Madras.

2. *Q.*—What qualifications or experience do you possess in regard to the subjects under enquiry?

A.—Have been for 2½ years the officer appointed for carrying out the provisions of the Native Passenger Act.

3. *Q.*—Do you take any part either directly or indirectly in the administration or observance of any of the provisions of the Native Passengers Ships Act, 1887?

A.—Yes, indirectly formerly; directly as stated above.

4. *Q.*—How does an Indian Home Trade voyage compare with an English Home Trade voyage?

A.—Much longer.

5. *Q.*—In regard to what voyages is there a distinction made between fair and foul seasons?

A.—Short voyages.

6. *Q.*—Do you consider that if there is to be a line dividing short from long voyages it should be drawn at five days?

A.—Yes.

7. *Q.*—Do you think that the five-day limit puts an Indian short voyage on a footing similar to an English Home Trade voyage?

A.—No.

8. *Q.*—Are you of opinion that the conditions justify a distinction being made between fair and foul weather in the case of voyages which may extend to five days?

A.—Yes.

9. *Q.*—Are you of opinion that the seasons of fine weather defined in the Rules are judiciously chosen with reference to the prevailing conditions?

A.—Yes.

10. *Q.*—Will you mention instances of foul weather occurring during the seasons which are by rule declared to be seasons of fair weather?

A.—Proceeding from Madras Coast to Burma, in August and September.

11. *Q.*—In your opinion do the conditions justify passengers being carried across the Bay at any season on decks such as are commonly called hurricane-decks, which are not protected from the weather except by overhead awnings, side-screens and curtains, assuming that no accommodation is reserved for these passengers on the lower decks which are crowded with other passengers?

A.—No; not in foul weather.

12. *Q.*—Are you aware that it is a common practice for natives of India to sleep at night in the open air?

A.—I believe it is common.

13. *Q.*—Is it within your knowledge that 1st

class passengers travelling about the Bay of Bengal and coasts of India as a rule prefer to sleep on deck, under the same conditions as to awnings and curtains as the 3rd class native passengers?

A.—Yes, in fine weather.

14. *Q.*—Have you had any personal experience of the weather round the coast of United Kingdom and in the Bay of Bengal and on the coasts of India?

A.—Yes.

15. *Q.*—Do you consider that there is such similarity as to warrant a comparison between the weather experienced on the coast of United Kingdom or between the rivers Elbe and Brest (English Home Trade voyage), and that experienced in the Bay of Bengal and coasts of India?

A.—Very little.

16. *Q.*—Do you consider the conditions of English and Indian passenger traffic to be similar in any other way than that the traffic under discussion is by sea?

A.—No.

17. *Q.*—Do you think the ordinary native passenger would be prepared to pay more for better accommodation than at present?

A.—He will pay no more than he can help.

18. *Q.*—Is it not a fact that very well-to-do native merchants are satisfied with the usual deck accommodation?

A.—They appear to be so, from the specimens I have noticed.

19. *Q.*—What class of people travel as deck passengers in the United Kingdom on vessels which frequently carry their full complement?

A.—Soldiers and sailors, only in the vessels that I have had experience of.

20. *Q.*—Have you any special suggestions to make in regard to voyages similar to those classed as excursions by the Board of Trade, that is, voyages during which a vessel is not more than 10 or 12 hours at sea?

A.—I do not think it would be necessary to carry out all the provisions of the Native Pasengers Act.

21. *Q.*—How is the number of passengers which a vessel is capable of carrying calculated in each case?

A.—By area available on each deck.

22. *Q.*—Is allowance made in Board of Trade Rules for height of 'tween decks; in fact, do not Board of Trade Surveyors, when berths are not fitted for 3rd class passengers, calculate the number that may be carried on the basis of a cubic measurement of 72 cubic feet per statute adult, after deducting all hatches and encumbrances?

A.—I believe an allowance is made.

23. *Q.*—If so, would you consider it proper to allow for height of 'tween deck as an element in the health and comfort of 3rd class native passengers?

A.—No.

24. *Q.*—Do you know the height of the 'tween decks in the British India steamers?

A.—About seven feet.

25. *Q.*—Are you aware that there was an old rule in India which allowed ships to carry three passengers for two tons?

A.—No.

26. *Q.*—Is the Board of Trade Rule, under which the number of passengers carried must not, whatever the deck measurements may give, exceed the number denoting the gross tonnage of the vessel, enforced in India?

A.—Not aware of it.

27. *Q.*—What spaces are left unmeasured for passengers when a vessel is being measured for Certificate A?

A.—Hatchways and spaces occupied by steamer winches and windlass, and all projections interfering with accommodation of passengers.

28. *Q.* (*By the President*).—As a mariner, would you measure the forecastle deck for passenger space?

A.—No; I would be guided by the Board of Trade Rules.

29. *Q.*—How are the hatches treated when a vessel is being so measured, *i.e.*, is the whole space of a hatch deducted or not? Is any difference made on account of long and short voyages?

A.—The whole area is deducted in short voyages; the half in long

30. *Q.*—Are the spaces which would be required for the deck water-tank, latrines, and cooking ranges necessary for use of native passengers deducted from the passengers' space, even if such articles are not in possession at the time a vessel is being measured.

A.—I don't know. They should be. At Madras they are deducted when granting Certificate B.

31. *Q.*—Are any spaces deducted so as to admit of the officers and crew moving fore and aft the vessel with facility, and their getting with ease at the boats and boats' gear? If not, have you any recommendations to make on this head?

A.—I don't think so. Such space should be deducted.

32. *Q.*—Should alley-ways used as a means of communication by the crew be considered as deck area for passengers, *i.e.*, the narrow passages between the officers' cabins and the engine-room-casing? If so, would it not be advisable to give a minimum breadth before allowing the area to count for passengers?

A.—No.

33. *Q.* (*By Captain Atkinson*).—If the alley-way was, say, six to eight feet wide, would you allow any portion of it for passengers?

A.—If eight feet wide, I would allow it, but not if less, but then a clear gangway must be kept.

34. *Q.* (*By Captain Atkinson*).—Would not the doors of the cabins in the alley-ways interfere with the passenger space?

A.—They would, on the side nearest the ship's side.

35. *Q.* (*By Dr. Comins*).—At present these alley-ways are never occupied by passengers and their luggage. Would you allow this, and do you think if you allow it that they would be allowed to permanently occupy them?

A.—I have seen passengers occupying the alley-ways in some cases.

36. *Q.* (*By Captain Wilson*).—Where would you have the gangway, in the middle or on either side, and which, considering that there are doors on each side and a clear gangway is necessary?

A.—On the side of the cabin doors.

37. *Q.*—Are not these alley-ways additional shelter and, therefore, desirable for passengers?

A.—To some extent.

38. *Q.*—For ships with large water-ways in the 'tween decks extending inside the battens on the ship's side, is the deck measurement made to the inside edge of the water-ways or to the battens? Which would you recommend?

A.—To the battens I believe.

39. *Q.*—Should the spaces set apart for the boats on the bridge deck be utilized for passengers when the boats are carried at the davits? If so, state whether during both fair and foul season, or only during the fair season?

A.—Yes. In fine weather only.

40. *Q.*—In your opinion are the provisions of the Native Passenger Ships Act, and the rules made under it in regard to the accommodation to be provided for native passengers on long voyages and short voyages, suitable?

A.—In most respects.

1. *Q.*—Do you think that a passenger on a voyage lasting 10 or 12 hours requires as much room as one on a voyage lasting five days?

A.—No.

42. *Q.* (*By Captain Street*).—What space would you give to each adult in a voyage not exceeding 12 hours during daylight?

A.—Four or five feet.

43. *Q.*—Do you think that native passengers can do with less space than Europeans?

A.—Yes.

44. *Q.*—What proportion do you consider that the space allotted to natives should bear to the space allotted to Europeans?

A.—About three to five.

45. *Q.*—Do you consider that on a voyage, which may extend to five days, native passengers can be accommodated in the 'tween decks of a steamer at the rate of one passenger to each six square feet of area, with four square feet of airing space on the upper-deck, without prejudicing their health and safety?

A.—Yes, I never heard of their health suffering.

46. *Q.* (*By Captain Street*).—Have you ever been on board of a vessel with a full complement of passengers according to her Certificate A?

A.—No.

47. *Q.*—Do you think it necessary for the health and safety of the passengers that there should be on a voyage, which may extend to five days, permanent shelter for each passenger either 'tween decks or in cabins on the upper deck?

A.—Yes, in foul weather.

48. *Q.*—Do you think that on a voyage, which may extend to five days, there should be separate accommodation for female passengers?

A.—It would be desirable.

49. *Q.*—Do you know of any steamers which carry native passengers on two upper decks?

A.—Yes.

50. *Q.*—Do you consider from the wording of the Native Passenger Ships Act, and your experience of this question, that the Legislature when it passed the Act contemplated the existence of vessels with more than one upper-deck?

A.—Apparently not.

51. *Q.*—Are you acquainted with the design of the steamers of the *Kistna* class?

A.—Yes.

52. *Q.*—What is the distinguishing feature of these steamers?

A.—They have a shade deck.

53. *Q.*—In your opinion, are the middle passenger decks of these steamers between decks or upper decks within the meaning and intention of the Native Passenger Ships Act? Give your reasons for this opinion?

A.—Upper decks. The cabins, deck-houses, and gangway approaches, &c., are in these decks.

54. *Q.*—Are the passengers on these "middle" decks as well protected in rough weather as the passengers on the lowermost of the three passenger decks?

A.—No.

55. *Q.*—Are these passengers on the "middle" deck not better protected than on ordinary upper decks?

A.—Yes.

56. *Q.*—During the inclement weather do you consider that the upper deck passengers are sufficiently protected by canvas awnings, side-screens and curtains? If not what would you recommend?

A.—No. Accommodation on the lower deck.

57. *Q.*—Do you consider that sufficient protection from the sea is afforded to upper deck passengers by the "reasonably stout screen" which under existing rules (*see* Government of India letter No. 430, dated 27th August 1878) is held as coming within the definition of a substantial bulwark? If not, state what you would recommend in lieu?

A.—No; not if any bad weather is met.

58. *Q.*—What is the height of the middle deck above the load line?

A.—The freeboard height, in vessels having a shade deck.

59. *Q.*—In rough weather would any water get on to the middle deck through the scuppers and shutters? If so, could this be prevented?

A.—Yes. Yes.

60. *Q.*—Under existing rules are the arrangements to prevent injury to passengers by the rolling of the ship sufficient for the purpose?

A.—Could be improved.

61. *Q.*—How could you provide this protection?

A.—Rails secured to midship stanchions by such means as the passengers cannot interfere with.

62. *Q.*—Are any special fittings required under the Native Passenger Ships Act on the passenger decks for the reception of the bundles, boxes, and other articles usually carried by native passengers? If so, state what you would recommend?

A.—No. Stout battens on the deck.

63. *Q.*—Is it necessary for the comfort or safety of the passengers that provision should be made for the accommodation of luggage not stored in the hold?

A.—Yes.

64. *Q.*—If it is necessary, what would you provide?

A.—Battens or nettings at the sides and amidships.

65. *Q.*—If such accommodation were provided would it be used? Will native passengers allow their luggage to be parted from them under any circumstances?

A.—To a great extent. Not as a rule.

66. *Q.*—Do you think that on a voyage, which may extend to five days, sleeping platforms should be provided for the passengers?

A.—I have seen some vessels fitted with them, but I can't give an opinion as to the advantage.

67. *Q.*—What closet accommodation do the Rules require on native passenger vessels?

A.—At least two, and an additional closet for each hundred passengers.

68. *Q.*—Do you think the existing rules in regard to hospital accommodation are suitable?

A.—They seem suitable.

69. *Q.*—Do you consider that cargo, horses, cattle, sheep, and live-stock should be carried on the same deck with passengers? If so, is any fitting necessary to prevent the passengers from being inconvenienced by the urine and dung of the horses, cattle, and sheep, and if any such fitting is requisite, state what you would recommend?

A.—No; not if the number of passengers is large.

70. *Q.*—In vessels which under existing rules are permitted to carry horses, cattle and sheep with native passengers, are sufficient precautions adopted

to prevent the hay and straw provided for the use of such animals from catching fire, either from a spark from the ship's funnel or lighted matches? If not, state what extra precautions you would recommend?

A.—Have no experience in the matter.

71. *Q.*—Will you explain to the Commission what rules are in force in India on the subject of life-saving appliances?

A.—According to tonnage.

72. *Q.*—Do the new regulations of the Board of Trade, made under the Merchant Shipping (Life-saving Appliances) Act, 1888, apply to India?

A.—No.

73. *Q.*—What, in your opinion, is the object of these revised regulations?

A.—Better protection to life.

74. *Q.*—Do the revised regulations require more appliances than were necessary under the old rules, and why was the change found necessary?

A.—Yes.

75. *Q.*—Do you think that the natives of India require as much space in boats as Europeans?

A.—No.

76. *Q.*—In your experience do the Surveyors at all ports in India make their surveys on the same lines?

A.—Yes; but they differ in details.

77. *Q.*—Do you think it necessary that there should be a set of definite instructions as to the survey of passenger accommodation and crew space similar, so far as may be, to those issued by the Board of Trade?

A.—Yes.

78. *Q.*—Would you make the regulations in regard to the equipments of vessels similar in all respects to those of the Board of Trade?

A.—Yes; as nearly as is necessary for the trade.

79. *Q.*—After a vessel has been measured for Certificate A, is the Captain supplied with the Surveyor's calculations? If not, do you think it necessary that he should be?

A.—I do not think so. He should know the available area for passengers.

80. *Q.*—Would it be advantageous if a copy of all measurements and calculations of passenger space as determined on the original measurment were supplied to the Commander of the vessel?

A.—Yes.

81. *Q.*—If so, would you recommend that the calculations should show clearly the names of the various obstructions which have been deducted from the gross area, their dimensions, and the proportional area deducted?

A.—Yes.

82. *Q.*—Do you consider that passengers carried in vessels working under clause (*a*) of Government of India Notification No. 1356, dated 14th March 1889, have sufficient space? If not, state what space would suffice.

A.—Yes; for the voyage it applies to.

83. *Q.*—In the case of voyages the duration of which does not exceed five days, what distinction is made between seasons of fair and foul weather?

A.—More space is allowed in foul weather.

84. *Q.*—Do you consider a double awning overhead with side curtains and bulwark screens, as required by the Native Passengers Act, equal to the ordinary tent in which troops are accommodated?

A.—Yes, when they are spread.

85 *Q.*—Being acquainted with the class of natives who form the bulk of those who travel by sea, do you consider they require better accommodation for their health and comfort than native troops?

A.—Yes.

86. *Q.*—Will you furnish the Commission with your opinion as to the sufficiency or otherwise of the space allowed by the Act and rules generally?

A.—I think the space is not quite sufficient when a vessel carries her full complement of passengers.

87. *Q.*—Do you consider that native passenger ships should carry a medical officer? If this were made compulsory, would you make any difference for the numbers carried or for the duration of the voyage?

A.—Yes, on long voyages at least.

88. *Q.*—Give any instances which have come to your knowledge in which a medical officer would have been of service on board a native passenger vessel.

A.—In S. S. *Bhundara*.

89. *Q* (*By Captain Street*).—In your opinion is it advisable that gunpowder and other explosives in excess of the usual ship's stores should be carried on a native passenger vessel, even in a properly constructed magazine?

A.—Not advisable.

Proceedings of the Thirty-fourth Meeting of the Native Passenger Ships Commission, held at the Presidency Port Office, Madras, on the 23rd January 1891.

Present:

Surgeon-Major A. S. Lethbridge, C.S.I.	*President.*
Captain Sir Henry Morland, H.M.I.M.	*Members.*
Captain H. A. Street, H.M.I.M.	
Captain George Wilson, H.M.I.M.	
Surgeon-Major D. W. D. Comins, I.M.S.	
Captain J. H. Atkinson, B. I. S. N. Co.'s Service	

1. The Commission assembled at 10-30 A.M. Mr. William Lambert, an assistant in the firm of Messrs. Binny & Company, of Madras, Agents of the British India Steam Navigation Company, was called and examined.

2. Mr. Lambert's examination having been completed, Mr. C. Heathcote Rowland, late Agent for Government Consignments at Madras, was called and examined.

3. On the completion of Mr. Rowland's examination, the proceedings of the thirty-second and thirty-third meetings were approved.

4. Mr. H. D. Baddeley, Acting Deputy Conservator of the Port of Madras, was called and examined. Mr. H. D. Baddeley's examination having been completed, Mr. C. S. Johnson, Reserve Port Officer at Madras, was called and examined.

5. Mr. Baddeley's examination having been completed, Mr. C. S. Johnson, Reserve Port Officer, was called and examined. On the completion of Mr. Johnson's examination, the Commission adjourned until their arrival at Bombay on the 26th instant.

Mr. WILLIAM LAMBERT.

1. *Q.*—Will you please inform the Commission of the nature of your present occupation?

A.—I am an assistant in the firm of Messrs. Binny & Co., who are Agents of the British India Steam Navigation Company here.

2. *Q.*—What qualifications or experience do you possess in regard to the subjects under enquiry?

A.—I work the British India Steam Navigation Company business in Madras, and have done so for the past thirteen years.

3. *Q.*—Do you take any part, either directly or indirectly, in the administration or observance of any of the provisions of the Native Passenger Ships Act, 1887?

A.—Yes, indirectly.

4. *Q.*—Into what classes do the Board of Trade divide sea-going vessels for the purpose of determining the number of passengers they are capable of carrying?

A.—I. Foreign-going steamers.
II. Home Trade.
III. Steamers coasting during daylight.

5. *Q.*—How does an Indian Home trade voyage compare with an English Home trade voyage?

A.—In distance they are about the same, but in weather the Indian Home trade voyage compares very favourably with the English.

6. *Q.*—In regard to what voyages is there a distinction made between fair and foul seasons?

A.—On short voyages all round the coasts of India and between the Coromandel Coast and Burma.

7. *Q.*—Do you consider that if there is to be a line dividing short from long voyages it should be drawn at five days?

A.—It should not be drawn under five days, and I think all voyages between the Coromandel Coast and Burma should be short voyages.

8. *Q.* (*By the President*).—Even if they take ten days as they at present do between Negapatam and Rangoon?

A.—This should be a short voyage.

9. *Q.* (*By Captain Street*).—As the voyage from Negapatam to Singapore is about five days, do you also think that this voyage should be treated as a short voyage?

A.—Yes.

10. *Q.*—Are you of opinion that the conditions justify a distinction being made between fair and foul weather in the case of voyages which may extend to five days?

A.—Yes.

11. *Q.*—Are you of opinion that the seasons of fine weather defined in the rules are judiciously chosen with reference to the prevailing conditions?

A.—No.

12. *Q.*—If not, what alterations would you suggest?

A.—I think November and December should be fair weather months on the Coromandel Coast.

13. *Q.*—In your opinion do the conditions justify passengers being carried across the Bay at any season on decks such as are commonly called hurricane-decks, which are not protected from the weather except by overhead awnings, assuming that no accommodation is reserved for these passengers on the lower decks which are crowded with other passengers?

A.—Yes.

14. *Q.* (*By the President*).—Will you please give the experience on which this last reply is based?

A.—I have sailed in steamers having native passengers on deck protected by double awnings and screens. I think the decks during wet weather are fairly dry under these conditions, and that the protection quite suits the class of passengers in question.

15. *Q.*—Are you acquainted with the ordinary conditions of native life amongst the class that form the bulk of the native passengers who travel by sea?

A.—Yes.

16. *Q.*—Are you aware that it is a common practice for natives of India to sleep at night in the open air?

A.—Yes.

17. *Q.*—Is it within your knowledge that first class passengers, travelling about the Bay of Bengal and coasts of India as a rule prefer to sleep on deck under the same conditions as to awnings and curtains as the third class native passengers?

A.—Many first class passengers do so sleep.

18. *Q.*—Have you had any personal experience of the weather round the coast of United Kingdom and in the Bay of Bengal and on the coast of India?

A.—Yes.

19. *Q.*—Do you consider that there is such similarity as to warrant a comparison between the weather experienced on the coast of United Kingdom or between the rivers Elbe and Brest (English Home trade voyage) and that experienced in the Bay of Bengal and coasts of India?

A.—No.

20. *Q.*—Do you consider the conditions of English and Indian passenger traffic to be similar in any other way than that the traffic under discussion is by sea?

A.—No.

21. *Q.*—Do you think the ordinary native passenger would be prepared to pay more for better accommodation?

A.—Certainly not?

22. *Q.*—Is it not a fact that very well-to-do

native merchants are satisfied with the usual deck accommodation?

A.—It is a fact.

23. *Q.* (*By Captain Street*).—Is this statement based on information afforded by such passengers to you?

A.—It is based on my having booked them frequently. When natives travel 1st or 2nd class, we make them a reduction for not dieting them.

24. *Q.*—How is the number of passengers which a vessel is capable of carrying calculated in each case?

A.—By taking the superficial area, deducting obstructions and dividing the balance by the superficial feet given to each passenger under the Act.

25. *Q.*—Do you know the height of the 'tween decks in the British India steamers?

A.—Yes.

26. *Q.*—What is the maximum height between decks in these steamers carrying native passengers? What is the average height?

A.—The height varies from 6½ to 9 feet.

26*a*. *Q.*—Are you aware that there was an old rule in India which allowed ships to carry three passengers for 2 tons?

A.—No.

26*b*. *Q.*—Is the Board of Trade rule, under which the number of passengers carried must not, whatever the deck measurements may give, exceed the number denoting the gross tonnage of the vessel, enforced in India?

A.—No.

27. *Q.*—What would be the effect if, assuming all other existing Indian rules to remain intact, this rule were enforced?

A.—Present certificates would remain unchanged as under existing rules; a certificate never reaches the number denoting the steamer's gross tonnage.

28. *Q.*—What spaces are left unmeasured for passengers when a vessel is being measured for Certificate A?

A.—Water-tank, latrine, and cooking ranges spaces.

29. *Q.*—Are the spaces which would be required for the deck water-tank, latrines, and cooking ranges, necessary for use of native passengers, deducted from the passengers' space, even if such articles are not in position at the time a vessel is being measured?

A.—I think so.

30. *Q.*—Are any spaces deducted so as to admit of the officers and crew moving fore and aft the vessel with facility, and their getting with ease at the boats and boats' gear? If not, have you any recommendations to make on this head?

A.—No. Officers and crew on poop ships have the flying fore and aft bridge to keep them to a great extent clear of the passengers.

31. *Q.* (*By Captain Street*).—Is this the case in all of the poop deck ships of the British India Steam Navigation Company?

A.—I am not aware whether it is in all, but it could easily be so.

32. *Q.*—Should alley-ways, used as a means of communication by the crew, be considered as deck area for passengers, *i.e.*, the narrow passages between the officers' cabins and the engine-room-casing? If so, would it not be advisable to give a minimum breadth before allowing the area to count for passengers?

A.—Yes. No.

33. *Q.* (*By the President*).—How would you arrange to allow, say, one thousand passengers (that is in the *Purnea*) to go to and from the latrines and cook-houses?

A.—Any serious difficulty about this could be got over by having some latrines and cook-houses aft, but I am not aware of there having been any difficulty hitherto.

34. *Q.* (*By the President*).—How would you protect the native passengers accommodated in the alley-ways from the opening and shutting of doors to officers' cabins, water closets, &c.?

A.—This, I think, is a question for those employed in the ship more than for me. All I can say is, the alley-ways being measured, has hitherto worked well.

35. *Q.* (*By the President*).—Have you ever seen the alley-ways of a steamer occupied by native passengers with their baggage?

A.—I cannot say I have.

36. *Q.*—Are not these alley-ways additional shelter and, therefore, desirable for passengers?

A.—Yes.

37. *Q.*—For ships with large water-ways in the 'tween decks extending inside the battens on the ship's side is the deck measurement made to the inside edge of the water-ways or to the battens? Whih would you recommend?

A.—To the inside edge, I understand. If the water-ways were covered with gratings, then the measurement should be extended to the battens.

38. *Q.*—Should the spaces set apart for the boats in the vicinity of the bridge be utilised for passengers when the boats are carried at the davits? If so, state whether during both fair and foul season or only during the fair season.

A.—Yes, in both.

39. *Q.*—In your opinion, are the provisions of the Native Passenger Ships Act and the rules made under it in regard to the accommodation to be provided for native passengers on long voyages and short voyages, suitable?

A.—Yes.

40. *Q.* (*By Captain Street*).—Have you ever been on board of a vessel with her full complement of native passengers on board?

A.—I have been on board a vessel with her full fore and main 'tween decks and upper deck passengers on board.

41. *Q.* (*By Captain Street*).—Did you see the decks of the vessel to which you refer at night? If so, were the passengers able to lie down comfortably?

A.—I saw them in the day, and the great bulk of them were then lying down and appeared quite comfortable.

42. *Q.* (*By Captain Atkinson*).—During your long experience have you had any complaints made to you regarding the accommodation provided under the Native Passenger Ships Act?

A.—Never.

(II).—Would the native passengers with whom you deal complain if they were uncomfortable?

A.—Yes; a Madrasee does not hesitate to speak.

43. *Q.*—Do you think that a passenger on a voyage lasting 10 or 12 hours requires as much room as one on a voyage lasting five days?

A.—No.

44. *Q.* (*By Captain Wilson*).—How much space would you allow on a voyage lasting 10 or 12 hours' day-light?

A.—Just a little more than they require to sit there, as on *Clyde* excursion steamers.

45. *Q.*—Do you think that native passengers can do with less space than Europeans?

A.—Certainly.

46. *Q.*—What proportion do you consider that the space allotted to natives should bear to the space allotted to Europeans?

A.—I should say two natives to one European.

47. *Q.*—Assuming that this proportion is adopted, would it in your opinion affect the health, comfort, and safety of native passengers in any way?

A.—No.

48. *Q.*—Do you consider that on a voyage, which may extend to five days, native passengers can be accommodated in the 'tween decks of a steamer at the rate of one passenger to each 6 square feet of area, with 4 square feet of airing space on the upper deck without prejudicing their health and safety?

A.—Yes.

49. *Q.* (*By the President*).—Have you ever tried the experiment of placing passengers with their baggage in a measured area?

A.—I have not tried, but I have seen the passengers in a full compartment, and they had been able to do this satisfactorily. This was on the 6-feet measurement.

50. *Q.* (*By Captain Street*).—Will you state your reason for so thinking?

A.—I have seen sleeping platforms, and think them unnecessary for this class of passengers, who sleep on the ground. The platforms in bad weather might be a source of danger to the passengers.

51. *Q.* (*By Captain Street*).—Are you aware that in the "*Meanatchy*," the sleeping platforms are much sought after by the native passengers, and that many passengers wait to go by that vessel from Negapatam to Singapore, and *vice versâ*, for the reason that platforms are fitted?

A.—I am not aware of this, and think it unlikely.

52. *Q.*—Do you think it necessary for the health and safety of the passengers that there should be, on a voyage which may extend to five days, permanent shelter for each passenger either 'tween decks or in cabins on the upper deck?

A.—No, with double awnings and side-screens.

53. *Q.*—Do you think that on a voyage, which may extend to five days, there should be separate accommodation for female passengers?

A.—No.

54. *Q.*—Do you know of any steamers which carry native passengers on two upper decks?

A.—Yes.

55. *Q.*—Do you consider, from the wording of the Native Passenger Ships Act and your experience of this question, that the Legislature when it passed the Act contemplated the existence of vessels with more than one upper deck?

A.—Yes, as such vessels have been in existence plying in the Bay of Bengal for about 16 years past.

56. *Q.*—Are you acquainted with the design of the steamers of the *Kistna* class?

A.—Yes.

57. *Q.*—What is the distinguishing feature of these steamers?

A.—A "'tween deck," a "main deck" with iron shutters, and a "shade deck."

58. *Q.*—In your opinion are the "middle" passenger decks of these steamers "'tween decks" or "upper decks" within the meaning and intention of the Native Passenger Ships Act? Give your reasons for this opinion?

A.—The "middle deck" is the "*main* deck," because it is the most substantial deck in the vessel.

59. *Q.*—Are the passengers on these "middle decks" as well protected in rough weather as the passengers on the lowermost of the three passenger decks?

A.—I should think they are.

60. *Q.*—Are the passengers on the middle deck not better protected than on ordinary upper decks?

A.—Yes, somewhat.

61. *Q.*—During inclement weather, do you consider that the upper deck passengers are sufficiently protected by canvas awnings? If not, what would you recommend?

A.—Yes.

62. *Q.*—Do you consider that sufficient protection from the sea is afforded to upper deck passengers by the "reasonably stout screen" which, under existing rules (*see* Government of India letter No. 430 dated 27th August 1878) is held as coming within the definition of a substantial bulwark? If not, state what you would recommend in lieu.

A.—Yes.

63. *Q.*—What is the height of the middle deck above the load-line?

A.—About 5 feet, I think.

64. *Q.*—In rough weather would any water get on to the "middle" deck through the scuppers and shutters? If so, could this be prevented?

A.—Slightly through scuppers, but could be prevented by plugs; very slightly through shutters.

65. *Q.*—Under existing rules, are the arrangements to prevent injury to passengers by the rolling of the ship sufficient for the purpose?

A.—Yes, under the present rules.

66. *Q.*—Are any special fittings required under the Native Passenger Ships Act on the passenger decks for the reception of the bundles, boxes, and other articles usually carried by native passengers? If so, state what you would recommend.

A.—Bulky baggage, when carried, should go in the hold, but passengers would object to this.

67. *Q.*—What would you provide?

A.—The baggage ordinarily carried from this side could be made fast by the passengers to the 'tween deck battens and stanchions.

68. *Q.*—If such accommodation were provided, would it be used? Will native passengers allow their luggage to be parted from them under any circumstances?

A.—They would prefer to have it in their own care.

69. *Q.*—Do you think that on a voyage, which may extend to five days, sleeping platforms should be provided for the passengers?

A.—No.

70. *Q.*—What closet accommodation do the rules require on native passenger vessels?

A.—One for every hundred passengers.

71. *Q.*—Which scale do you consider the most suitable?

A.—One in every hundred has been sufficient.

72. *Q.* (*By the President*).—Have you heard that the native passengers examined before the Commission complained of the inconvenience caused by the small number of latrines and have asked for urinals to be added? Would you recommend that urinals should be provided?

A.—If it is found to be necessary, it might be well to provide some urinals.

73. *Q.* (*By Dr. Comins*).—Are you aware that the Board of Trade rules require urinals to be provided in passenger vessels?

A.—I am not aware of the Board of Trade rules.

74. *Q.*—Do you think the existing rules in regard to hospital accommodation are suitable?

A.—Yes, they have always worked well.

75. *Q.* (*By Captain Street*).—Are you aware that a complaint was made by the Port Surgeon of Bimlipatam respecting the manner in which certain native passengers on board of the *Secundra*

who were suffering from small-pox were treated in consequence of there being no temporary hospital accommodation?

A.—I am not aware of this. If so, this is an isolated case.

76. *Q.* (*By the President*).—How often to your knowledge has the temporary hospital been brought into use in passenger ships between Madras and Rangoon, or *vice versâ?*

A.—I am not aware, but should say very seldom, as the health statistics are so bad.

77. *Q.* (*By Dr. Comins*).—In your experience, in how many voyages has the bathing screen, provided in the rules under the Act, been placed in position for the use of females?

A.—I cannot say. I have never looked for it.

78. *Q.* (*By Dr. Comins*).—Would not a bathing tent on an upper deck be a very prominent object, and one not easily overlooked?

A.—It depends on its situation.

79. *Q.*—Do you consider that cargo, horses, cattle, sheep, and live-stock should be carried on the same deck with passengers? If so, is any fitting necessary to prevent the passengers from being inconvenienced by the urine and dung of the horses, cattle, and sheep and; if any such fitting is requisite, state what you would recommend.

A.—No cattle should be stowed in the same compartment of *'tween* deck with passengers, but should be so carried on the upper deck. Cargo might be carried in the same compartment at times, probably blocked off and screened from passengers. Nothing is required more than at present.

80. *Q.*—In vessels which, under existing rules, are permitted to carry horses, cattle, and sheep with native passengers, are sufficient precautions adopted to prevent the hay and straw provided for the use of such animals from catching fire either from a spark from the ship's funnel or lighted matches? If not, state what extra precautions you would recommend.

A.—Yes, I believe so. Hay and straw should be in pressed bales where such can be obtained.

81. *Q.*—Do the new regulations of the Board of Trade made under the Merchant Shipping (Life-saving Appliances) Act, 1888, apply to India?

A.—I believe not.

82. *Q.*—What, in your opinion, is the object of these revised regulations?

A.—The greater safety of the passengers.

83. *Q.*—Do the revised regulations require more appliances than were necessary under the old rules, and why was the change found necessary?

A.—They require more appliances. I am not aware why the change was made.

84. *Q.*—In your opinion is there no difference of conditions which would justify a difference in the regulations on this subject?

A.—Yes, there is a difference.

85. *Q.*—Do you think that the natives of India require as much space in boats as Europeans?

A.—No.

86. *Q.*—Would you adopt the Board of Trade regulations in regard to life-buoys and life-belts?

A.—I doubt whether natives would make use of them.

87. *Q.* (*By the President*).—In your opinion can the Government of India do less for the native passengers in the matter than the Home Government insists should be done for English passengers?

A.—No. I think not.

88. *Q.* (*By Captain Street*).—Will you specify the months during which the greatest number of natives embark for and disembark from Rangoon at Madras Coast ports?

A.—From this coast—October, November, December, January. From Burma—May, June, July, August. At its height from this side, say, from 15th November till 15th December. Burma—June and July.

89. *Q.*—In your experience do the Surveyors at all ports in India make their surveys on the same lines?

A.—I believe so.

90. *Q.*—Do you think it necessary that there should be a set of definite instructions as to the survey of passenger accommodation and crew space similar, so far as may be, to those issued by the Board of Trade?

A.—I think the present rules are sufficient.

91. *Q.*—Do you think the existing regulations in regard to the lighting and ventilation of the passenger accommodation suitable?

A.—Certainly.

92. *Q.* (*By the President*).—Do you think that in a tropical country more ventilation is required for 'tween deck passengers than in England?

A.—No; not for the natives of India.

93. *Q.* (*By Dr. Comins*).—Do you think that the present arrangement by which the same shafts ventilate either the 'tween deck or the hold is a good one?

A.—I have no opinion on this.

94. *Q.* (*By Dr. Comins*).—Are you aware that the Board of Trade require that ventilating shafts for the hold shall be quite independent of that of the 'tween decks?

A.—I am not aware of Board of Trade Rules.

95. *Q.*—Would you make the regulations in regard to the equipments of vessels similar in all respects to those of the Board of Trade?

A.—I don't know the Board of Trade Rules.

96. *Q.*—In your opinion are the provisions of the Emigration Act and the rules made under it in regard to the accommodation to be provided for native emigrants, suitable?

A.—I think the spaces and regulations are too extensive.

97. *Q.*—After a vessel has been measured for Certificate A, is the Captain supplied with the Surveyor's calculations? If not, do you think it necessary that he should be?

A.—No; I do not see the necessity.

98. *Q.*—Would it not be advantageous if a copy of all measurements and calculations of passengers' space, as determined on the original measurement, were supplied to the Commander of the vessel?

A.—It might be an advantage at some time or other, and I believe they could always be obtained on application to the officer who issues the certificate.

99. *Q.*—If so, would you recommend that the calculations should show clearly the names of the various obstructions which have been deducted from the gross area, their dimensions, and the proportional area deducted?

A.—Yes.

100. *Q.*—Do you consider that passengers carried in vessels working under clause (*a*) of Government of India Notification No. 1356, dated 14th March 1889, have sufficient space? If not, state what space would suffice.

A.—Yes, ample.

101. *Q.* (*By the President*).—What was the original intention when the 5-feet rule was introduced?

A.—I am not aware. I should say it was understood that 5-feet was sufficient, and was introduced to assist the development of Burma by enabling cheap passages, and I think cheap labour.

102. *Q.* (*By the President*).—Is the 5-feet rule now used entirely in the interest of the Shipping Companies or of the native passengers?

A.—I say it is in the interest of both passenger and ship. It enables the former to reach a paying country at a cheap rate.

103. *Q.* (*By the President*).—There is, I understand, no difference in the passage-money between the 5-feet rule and 6-feet rule?

A.—No. But more space gives more chances of a difference.

104. *Q.* (*By Captain Street*).—Have you known of any instance in which a vessel having commenced her voyage working under clause (*b*) has obtained permission to work under clause (*a*) during the same voyage, or *vice versâ?*

A.—The following has occurred once:—On sailing the Captain of a steamer sent word to me that the Deputy Conservator had reduced the Certificate A to a great extent. We then wrote to the Deputy Conservator the same day referring to this, and said that, under the circumstances, we would ask that the vessel might work on the 5-feet rule, and asked him to wire to Coast Port Officers accordingly, in order that the steamer should be able to take up all her engagements, and this he did. It then appeared that he had not made any alteration in the certificate, as we had been informed. All the traffic to Burma is worked from Madras, and all space for passengers on this side is allotted to coast agents by us.

105. *Q.* (*By Captain Street*).—Do you recommend that such a change should be allowed?

A.—I see no reason whatever why a steamer, which cannot obtain a full 5-feet rule complement, should not at an intermediate port change her character to 6-feet rule, and thereby be able to carry things the 5-feet rule objects to.

106. *Q.* (*By Captain Street*).—But, as a vessel on the Rangoon line *vid* coast ports calls at many ports *en route*, do you not think that complication would arise if the alterations you refer to were carried out?

A.—I think not. These changes would be made through Madras Agents only, and I think this could be worked quite well.

107. *Q.* (*By Captain Street*).—Would not a 'tween-deck passenger embarking, say, at Negapatam in a vessel working under clause (*b*), by which he is entitled to 6 superficial feet on the upper deck, have cause for complaint if, on the arrival of the vessel, say, at Madras his space were reduced to 5 superficial feet should it suit the agents of the vessel to work her under the 5-feet rule?

A.—No. We do not contract with the passenger for 5 or 6 feet. The Government, I take it, has given us the option of working under either rule and satisfying the demands that may be existing at the time for passenger space to Burma.

108. *Q.* (*By Dr. Comins*).—The appliances, such as deck-tanks, latrines, and cooking ranges, are put on board at the port of starting on a scale calculated on the number of passengers embarking at that port, and none of these appliances are available at coasting ports—how then can the number of passengers be increased at these ports without violating the rules under the Act?

A.—I understand that fittings for the full complement are on board at the time of leaving the first port.

109. *Q.*—Do you consider a double awning overhead with side-curtains and bulwark screens, as required by the Native Passenger Ships Act, equal to the ordinary tent in which troops are accommodated?

A.—Better, as there is a good deck instead of the ground.

110. *Q.*—Do you know that 6 superficial feet on the upper deck under double awnings and curtains is considered sufficient accommodation for native troops making voyages under five days' duration?

A.—Yes.

111. *Q.*—Being acquainted with the class of natives who form the bulk of those who travel by sea, do you consider they require better accommodation for their health and comfort than native troops?

A.—No, they do not require so much room, as they carry less with them than troops do from this side.

112. *Q.*—Will you furnish the Commission with your opinion as to the sufficiency or otherwise of the space allowed by the Act and rules generally?

A.—I think they are all quite satisfactory, and the successful working of the Act for so many years bears me out in this.

113. *Q.*—Do you consider that native passenger ships should carry a medical officer? If this were made compulsory, would you make any difference for the numbers carried or for the duration of the voyage?

A.—I do not think they should. The mortality and illness on board has been so very slight during the many past years, that I see no necessity for a medical officer.

114. *Q.* (*By the President*).—If the Company was allowed to charge, say, annas 2 to each passenger for medical attendance, would you recommend that one should be carried? Would you, in that case, also recommend that a caste cook should be carried for those too sick to take care of themselves?

A.—I do not think a medical officer is required. The Captain and Chief Officer are fairly well able to deal with what arises I think. Anyway the illness has been so rare, that I see no need for a change. A caste cook might be carried and charged for to the passengers.

115. *Q.* (*By Captain Street*).—Do you see any objection to gunpowder and other explosives in excess of the quantities supplied as "ship's stores" being carried in native passenger vessels?

A.—I see none, so long as it is well packed and properly stored as it would be.

Mr. C. HEATHCOTE ROWLAND, late Agent for Government Consignments, and Government Surveyor at Madras.

1. *Q.*—Will you please inform the Commission of the nature of your present occupation?

A.—I am a pensioned officer of Government Marine Department; unemployed.

2. *Q.*—What qualifications or experience do you possess in regard to the subjects under enquiry?

A.—Was Surveyor to Government from 1876 to 1888.

3. *Q.*—Do you take any part, either directly or indirectly, in the administration or observance of any of the provisions of the Native Passenger Ships Act, 1887?

A.—Had to measure and report on passenger and emigrant vessels.

4. *Q.*—In regard to what voyages is there a distinction made between fair and foul seasons?

A.—Short voyages.

5. *Q.*—Do you consider that, if there is to be a line dividing short from long voyages, it should be drawn at five days?

A.—Yes.

6. *Q.*—(*By Dr. Comins*).—Would you call the voyage from Negapatam to Rangoon, during which a passenger has no opportunity of communicating with the shore for ten days, a short voyage?

A.—I should consider it a long voyage.

7. *Q.*—Are you of opinion that the conditions justify a distinction being made between fair and foul weather in the case of voyages which may extend to five days?

A.—Yes.

8. *Q.*—Are you of opinion that the seasons of fine weather defined in the rules are judiciously chosen with reference to the prevailing conditions?

A.—Yes.

9. *Q.*—If not, what alterations would you suggest?

A.—None.

10. *Q.*—Will you mention instances of foul weather occurring during the seasons which are by rule declared to be seasons of fair weather?

A.—In 1865 encountered a strong gale the last week in August from south-west, after leaving Sonapore *en route* to England.

11. *Q.*—In your opinion, do the conditions justify passengers being carried across the Bay at any season on decks, such as are commonly called hurricane-decks, which are not protected from the weather, except by overhead awnings, side-screens and curtains, assuming that no accommodation is reserved for these passengers on the lower decks, which are crowded with other passengers?

A.—No; I have objected on account of the height above water, and the consequent danger when rolling.

12. *Q.*—(*By. Dr. Comins*).—What is there to prevent the rain coming through the large openings in the awnings, for masts, derricks, companion ways, on the bridge decks, and funnels, on to the passengers?

A.—The rain wets the decks.

13. *Q.*—(*By Captain Atkinson*).—Is not a hurricane-deck which has permanent bulwark stanchions and rails, and a netting covered by the stout canvas screen, approved by Government, quite as safe as any other upper deck while a vessel is rolling?

A.—I think not.

14. *Q.*—Are you acquainted with the ordinary conditions of native life amongst the class that form the bulk of the native passengers who travel by sea?

A.—I think they are very poor.

15. *Q.*—Are you aware that it is a common practice for natives of India to sleep at night in the open air?

A.—Yes.

16. *Q.*—Is it within your knowledge that 1st class European passengers, travelling about the Bay of Bengal and coasts of India, as a rule, prefer to sleep on deck under the same conditions as to awnings and curtains as the 3rd class native passengers?

A.—Yes; in fair weather.

17. *Q.*—Have you had any personal experience of the weather round the coast of United Kingdom, and in the Bay of Bengal, and on the coasts of India?

A.—English Channel and Bay of Bengal.

18. *Q.*—Do you consider that there is such similarity as to warrant a comparison between the weather experienced on the coast of United Kingdom or between the rivers Elbe and Brest (English Home Trade voyage) and that experienced in the Bay of Bengal and coasts of India?

A.—No.

19. *Q.*—Do you consider the conditions of English and Indian passenger traffic to be similar in any other way than that the traffic under discussion is by sea?

A.—No.

20. *Q.*—Do you think the ordinary native passenger would be prepared to pay more for better accommodation?

A.—No.

21. *Q.*—Is it not a fact that very well-to-do native merchants are satisfied with the usual deck accommodation?

A.—Yes; when only going short distances.

22. *Q.*—Have you any special suggestions to make in regard to voyages similar to those classed as excursions by the Board of Trade, that is, voyages during which a vessel is not more than 10 or 12 hours at sea?

A.—No.

23. *Q.*—How is the number of passengers which a vessel is capable of carrying calculated in each case?

A.—By the area available on deck or decks.

24. *Q.*—Would you consider it proper to allow for height of 'tween deck as an element in the health and comfort of 3rd class native passengers?

A.—No.

25. *Q.*—Do you know the height of the 'tween decks in the B. I. steamers?

A.—Between 7 and 8 feet.

26. *Q.*—What is the maximum height between deck in these steamers carrying native passengers? What is the average height?

A.—Average about 7 feet 6 inches.

27. *Q.*—Are you aware that there was an old rule in India which allowed ships to carry three passengers for 2 tons?

A.—No.

28. *Q.*—Is the Board of Trade Rule, under which the number of passengers carried must not, whatever the deck measurements may give, exceed the number denoting the gross tonnage of the vessel, enforced in India?

A.—I believe not.

29. *Q.*—What spaces are left unmeasured for passengers when a vessel is being measured for Certificate A?

A.—Hatchways, buildings, winches and masts.

30. *Q.*—How are the hatches treated when a vessel is being so measured, *i.e.*, is the whole space of a hatch deducted or not? Is any difference made on account of long and short voyages?

A.—In short voyages I always deducted 4 feet for ladders on lower deck, and allowed all hatchway space on upper deck. In long voyages, I allowed half the hatchway on lower deck, but no hatch space on upper deck until 1884.

31. *Q.*—Are the spaces which would be required for the deck water-tank, latrines, and cooking ranges, necessary for use of native passengers, deducted from the passengers' space, even if such articles are not in position at the time a vessel is being measured?

A.—They are not measured.

32. *Q.*—Should alley-ways, used as a means of communication by the crew, be considered as deck area for passengers, *i.e.*, the narrow passages between the officers' cabins and the engine-room-casing? If so, would it not be advisable to give a minimum breadth before allowing the area to count for passengers?

A.—I never measured them for space irrespectively of breadth.

33. *Q.*—Are not these alley-ways additional shelter and, therefore, desirable for passengers?

A.—No; passengers cannot loiter there.

34. *Q.*—For ships with large water-ways in the 'tween decks extending inside the battens on the ship's side, is the deck measurement made to the inside edge of the water-ways or to the battens? Which would you recommend?

A.—For short voyages I measured to the battens; for long voyages to the inner edge.

34*a*. *Q.*—In vessels of the "*Kistna*" class, should the spaces set apart for the boats in the vicinity of the bridge be utilized for passengers when the boats are carried at the davits? If so, state whether during both fair and foul season or only during the fair season?

A.—I have never seen the vessel.

35. *Q.*—In your opinion are the provisions of the Native Passengers Ships Act, and the rules made under it in regard to the accommodation to be provided for native passengers on long voyages and short voyages, suitable?

A.—In most respects.

36. *Q.* (*By Captain Atkinson*).—Are you aware that the Native Passenger Act provides for passengers being carried on the upper deck? What difference exists, in your opinion, between a hurricane-deck and the ordinary upper deck of a flush deck vessel?

A.—Yes. The upper deck is above the 'tween deck. The hurricane-deck is above the upper deck. I have not seen a hurricane-deck in the B. I. S. N. steamers.

37. *Q.*—Do you think that a passenger on a voyage lasting 10 or 12 hours during daylight requires as much room as one on a voyage lasting five days?

A.—No.

38. *Q.*—Do you think that native passengers can do with less space than Europeans?

A.—Yes.

39. *Q.*—What proportion do you consider that the space allotted to natives should bear to the space allotted to Europeans?

A.—In short voyages I consider the native is better off than the European, since he gets six feet below, and four above, while the European only gets nine below. In long voyages both get the same, namely, nine feet.

40. *Q.*—Assuming that this proportion is adopted, would it in your opinion affect the health, comfort, and safety of native passengers in any way?

A.—The native should be given the same space as Europeans.

41. *Q.*—Do you consider that on a voyage, which may extend to five days native passengers can be accommodated in the 'tween-decks of a steamer at the rate of one passenger to each six square feet of area, with four square feet of airing space on the upper-deck, without prejudicing their health and safety?

A.—Yes. I would beg to draw attention to Section 18 which limits passenger space on short voyages to six feet below, and four feet on upper deck, but only allows six feet to remaining upper deck passengers, thus making two classes; whereas, in reality, they are the same, and pay the same passage-money. I certainly think that six feet is not sufficient for the upper-deck passengers; I think these upper deck ones should get nine feet.

42. *Q.* (*By Captain Atkinson*).—Is your opinion based on any practical experience? If it is not, on what is it based?

A.—Based on the Act, not by experience.

43. *Q.*—Do you think it necessary for the health and safety of the passengers that there should be on a voyage, which may extend to five days, permanent shelter for each passenger, either 'tween decks or in cabins on the upper-deck?

A.—Certainly, more particularly in the foul season.

44. *Q.* (*By Captain Atkinson*).—Does not the 5 feet rule, which provides for every passenger carried having 5 feet on 'tween-deck, provide the shelter you think necessary?

A.—This rule was not in force when I entered Government service.

45. *Q.* (*By Captain Atkinson*).—Are you acquainted with the Board of Trade Rule that upper-deck passengers should have shelter to the extent of one-sixth only, and that in the inclement weather on the English Coast? If so, do you not think the amount of shelter for native passengers might be limited?

A.—I know nothing about the Board of Trade Rule, and cannot answer.

46. *Q.*—Do you think that on a voyage, which may extend to five days, there should be separate accommodation for female passengers?

A.—Certainly; if they would avail themselves of it.

47. *Q.*—Under existing rules are the arrangements to prevent injury to passengers by the rolling of the ship sufficient for the purpose?

A.—No.

48. *Q.*—How could you provide this protection?

A.—Bamboos should be lashed in midship to the stanchions.

49. *Q.*—Are any special fittings required under the Native Passenger Ships Act on the passenger decks for the reception of the bundles, boxes, and other articles usually carried by native passengers? If so, state what you would recommend?

A.—No. But stout spars should be lashed to the midship stanchions to secure the boxes to. In addition to the bamboos mentioned above, also a batten on the deck near the side.

50. *Q.*—Is it necessary for the comfort or safety of the passengers that provision should be made for the accommodation of luggage not stored in the hold?

A.—Yes.

51. *Q.*—If it is necessary, what would you provide?

A.—All the smaller packages might be secured to the battens in the ship's side.

52. *Q.*—If such accommodation were provided, would it be used? Will native passengers allow their luggage to be parted from them under any circumstances?

A.—There would be no necessity.

53. *Q.*—Do you think that on a voyage, which may extend to five days, sleeping platforms should be provided for the passengers?

A.—They would greatly relieve the lower deck if the vessel was any way nearly full of passengers.

54. *Q.*—What closet accommodation do the rules require on native passenger vessels?

A.—Two latrines for the first hundred passengers and one more for every hundred extra.

55. *Q.*—What accommodation of the kind is provided for emigrants?

A.—Six seats for the first one hundred fifty and two seats for every fifty afterwards in addition.

56. *Q.*—Which scale do you consider the most suitable?

A.—The accommodation under the Passengers Act, I think, should be increased to four for the first hundred.

57. *Q.*—Do you think the existing rules in regard to hospital accommodation are suitable?

A.—They seem to be sufficient.

58. *Q.* (*By Captain Street*).—When you had to deal with the Native Passenger Act at this port, did you ever cause the temporary hospital to be erected before granting Certificate B?

A.—I cannot say that I ever did. I only asked the Commander whether the necessary apparatus was available if wanted.

59. *Q.*—Do you consider that cargo, horses, cattle, sheep, and live-stock should be carried on the same deck with passengers? If so, is any fitting necessary to prevent the passengers from being inconvenienced by the urine and dung of the horses, cattle and sheep; and if any such fitting is requisite, state what you would recommend?

A.—I consider their carriage in any number objectionable.

60. *Q.*—Will you explain to the Commission what rules are in force in India on the subject of life-saving appliances?

A.—Only the rules regulating the number and capacity of boats for tonnage.

61. *Q.*—Do the new regulations of the Board of Trade, made under the Merchant Shipping (Life-saving Appliances) Act, 1888, apply to India?

A.—I think not.

62. *Q.*—What, in your opinion, is the object of these revised regulations?

A.—More protection of life.

63. *Q.*—Do the revised regulations require more appliances than were necessary under the old rules, and why was the change found necessary?

A.—Yes. Previous rules were not sufficient.

64. *Q.*—Are the revised regulations suitable, in your opinion, for vessels engaged in the native passenger trade?

A.—Yes, if carried out. The boats alone are not sufficient when numbers are large.

65. *Q.*—In your opinion, is there no difference of conditions which would justify a difference in the regulations on this subject?

A.—Very little.

66. *Q.*—Do you think that the natives of India require as much space in boats as Europeans?

A.—Yes.

67. *Q.*—In your experience, do the Surveyors at all ports in India make their surveys on the same lines?

A.—Yes. As far as the orders of Government require, but in detail there is a difference.

68. *Q.*—Do you think it necessary that there should be a set of definite instructions as to the survey of passenger accommodation and crew space similar, so far as may be, to those issued by the Board of Trade?

A.—Yes.

69. *Q.*—Do you think the existing regulations in regard to the lighting and ventilation of the passenger accommodation suitable?

A.—No. For they are not direct and are left to the Surveyor or the person granting Certificate (B).

70. *Q.*—Would you make the regulations in regard to the equipments of vessels similar in all respects to those of the Board of Trade?

A.—As far as might be.

72. *Q.*—In your opinion, are the provisions of the Emigration Act, and the rules made under it, in regard to the accommodation to be provided for native emigrants, suitable?

A.—Yes.

73. *Q.*—After a vessel has been measured for Certificate (A), is the Captain supplied with the Surveyor's calculations. If not, do you think it necessary that he should be?

A.—No. I do not consider it necessary.

74. *Q.*—Would it not be advantageous if a copy of all measurements and calculations of passengers' space, as determined on the original measurement, were supplied to the Commander of the vessel?

A.—It would be, if an official measurement of space on board was taken previous to the original sailing of a vessel from the port of building, to be used by the Commander as one of the ship's papers. I would suggest that this measurement be checked in Calcutta or Bombay by a Surveyor appointed by Government, and any discrepancy reported; and that this measurement, after correction (if any) be printed, and be considered the area of the vessel at all Indian ports, provided there has been no alteration in the vessel or her fittings.

75. *Q.*—If so, would you recommend that the calculations should show clearly the names of the various obstructions which have been deducted from the gross area, their dimensions, and the proportional area deducted?

A.—Most certainly. Yes.

76. *Q.*—In the case of voyages the duration of which does not exceed five days, what distinction is made between seasons of fair and foul weather?

A.—Greater space allowed to passengers.

77. *Q.*—Do you consider a double awning overhead with side-curtains and bulwark-screens, as required by the Native Passengers Act, equal to the ordinary tent in which troops are accommodated?

A.—Yes. When properly spread and fitted.

78. *Q.*—Do you know that six superficial feet on the upper deck under double awnings and curtains is considered sufficient accommodation for native troops making voyages under five days' duration?

A.—Considering that four feet space on the upper deck is given in addition to six feet to lower-deck passengers, I do not think that six feet only on the upper deck to upper-deck passengers is sufficient, more particularly for troops.

79. *Q.*—Being acquainted with the class of natives who form the bulk of those who travel by sea, do you consider they require better accommodation for their health and comfort than native troops?

A.—Certainly not; for as a rule they are much better able to rough it, and besides are not so valuable to Government.

80. *Q.*—How do you account for the differences between the English and the Indian Rules, and between the Indian Rules for emigrants and those for ordinary passengers?

A.—First, the rules are made for different races of people, and second, emigrants go on longer voyages, and require discipline in consequence.

81. *Q.*—Will you furnish the Commission with your opinion as to the sufficiency or otherwise of the space allowed by the Act and Rules generally?

A.—I think the rules as a whole are decidedly good, but would suggest improvement in those connected with saving life, and also a larger space to be allowed to upper deck passengers and more direct action as regards light and ventilation.

82. *Q.*—Do you consider that native passenger ships should carry a medical officer? If this were made compulsory would you make any difference for the numbers carried or for the duration of the voyage?

A.—Yes, on a fixed salary.

83. *Q.*—What grade of medical officer would you consider best suited for these vessels?

A.—A passed student of the Madras Medical College, or a pensioned apothecary has been found sufficient from Madras.

84. *Q.*—Give any instances which have come to your knowledge in which a medical officer would have been of service on board a native passenger vessel?

A.—Never made but one passage with native passengers, and had no sickness on board. Captain went round three times each day.

85. *Q.*—(*By Captain Street*).—Do you see any objection to native passenger vessels carrying gunpowder and other explosives in addition to the quantity supplied as ships' stores?

A.—No objection in a properly constructed magazine.

Mr. H. D. BADDELEY, Madras Port Service.

1. *Q.*—Will you please inform the Commission of the nature of your present occupation?

A.—Acting Deputy Conservator of the Port of Madras.

2. *Q.*—What qualification or experience do you possess in regard to the subjects under enquiry?

A.—Have been Government Ship Surveyor for two years.

3. *Q.*—Do you take any part, either directly or indirectly, in the administration or observance of any of the provisions of the Native Passenger Ships Act, 1887?

A.—Am now the officer appointed under sections 7 and 8 of Act X of 1887.

4. *Q.*—How does an Indian Home Trade voyage compare with an English Home Trade voyage?

A.—Presuming that "short voyage" and "Home Trade voyage" are synonymous, the Indian Home Trade voyage is longer.

5. *Q.*—In regard to what voyages is there a distinction made between fair and foul seasons?

A.—Only on short voyages.

6. *Q.*—Do you consider that if there is to be a line dividing short from long voyages, it should be drawn at five days?

A.—Yes, at least at five days; less will be better.

7. *Q.*—Do you think that the five-day limit puts an Indian short voyage on a footing similar to an English Home Trade voyage?

A.—No.

8. *Q.*—Are you of opinion that the conditions justify a distinction being made between fair and foul weather in the case of voyages which may extend to five days?

A.—Yes.

9. *Q.*—Are you of opinion that the seasons of fine weather defined in the rules are judiciously chosen with reference to the prevailing conditions?

A.—Yes.

10. *Q.*—If not, what alterations would you suggest?

A.—None.

11. *Q.*—In your opinion, do the conditions justify passengers being carried across the Bay at any season on decks, such as are commonly called hurricane-decks, which are not protected from the weather except by over-head awnings, assuming that no accommodation is reserved for these passengers on the lower decks, which are crowded with other passengers?

A.—I see no objection in the fair season, but not in the foul season in such vessels as *Kistna* and *Katoria* or flush-decked vessels. In such vessels there is less protection than in well-decked ships, in which the poop, forecastle and bridge decks give a certain amount of shelter to those below.

12. *Q.*—Are you acquainted with the ordinary conditions of native life amongst the class that form the bulk of the native passengers who travel by sea?

A.—Yes.

13. *Q.*—Are you aware that it is a common practice for natives of India to sleep at night in the open air?

A.—Only in very hot weather. My experience of natives tends to show that they prefer dark close places to light and air.

14. *Q.*—Is it within your knowledge that 1st class passengers, travelling about the Bay of Bengal and coasts of India as a rule prefer to sleep on deck under the same conditions as to awnings and curtains as the 3rd class native passengers?

A.—Not when it is cool below.

15. *Q.*—Have you had any personal experience of the weather round the coast of United Kingdom, and in the Bay of Bengal and on the coasts of India?

A.—Yes.

16. *Q.*—Do you consider that there is such similarity as to warrant a comparison between the weather experienced on the coast of United Kingdom or between the rivers Elbe and Brest (English Home Trade voyage) and that experienced in the Bay of Bengal and coasts of India.

A.—No.

17. *Q.*—Do you know what amount of passage money is paid for an ordinary passenger, say, from Madras to Rangoon 1,000 miles, and who pays?

A.—Rupees 10 to 12 without food, and nothing like the comfort provided for the emigrant.

18. *Q.*—Do you think the ordinary native passenger would be prepared to pay more for better accommodation?

A.—He would not have any option in the matter if the whole accommodation were improved; he wants to go to Rangoon at any reasonable cost.

I do not think a slight increase in the passage-money would check emigration.

19. *Q.*—How is the number of passengers which a vessel is capable of carrying calculated in each case?

A.—The superficial areas of the various decks are measured.

20. *Q.*—Is allowance made in Board of Trade rules for height of 'tween decks; in fact, do not Board of Trade surveyors, when berths are not fitted for 3rd class passengers, calculate the number that may be carried on the basis of a cubic measurement of 72 cubic feet per statute adult, after deducting all hatches and encumbrances?

A.—Yes.

21. *Q.*—If so, would you consider it proper to allow for height of 'tween deck as an element in the health and comfort of 3rd class native passengers?

A.—If allowance is made for height it will have the effect of reducing the superficial area. I should say the allowance for height ought only to be given when bunks are fitted on the 'tween decks as in emigrant ships.

22. *Q.*—Do you know the height of the 'tween decks in the British India steamers?

A.—They average about 7 6.

23. *Q.*—What is the maximum height between deck in these steamers carrying native passengers? What is the average height?

A.—Eight feet. About 7 6.

24. *Q.*—Are you aware that there was an old rule in India which allowed ships to carry three passengers for 2 tons?

A.—No.

25. *Q.*—Is the Board of Trade rule, under which the number of passengers carried must not, whatever the deck measurements may give, exceed the number denoting the gross tonnage of the vessel, enforced in India?

A.—Not that I know of.

26. *Q.*—What would be the effect if, assuming all other existing Indian rules to remain intact, this rule were enforced?

A.—No effect. I do not know of a case in which a ship has carried passengers in excess of the number denoting her gross tonnage.

27. *Q.*—What spaces are left unmeasured for passengers when a vessel is being measured for Certificate A?

A.—Top-gallant forecastle and, in flush-deck ships, from before the windlass to knight heads, flying bridges.

28. *Q.*—How are the hatches treated when a vessel is being so measured, *i.e.*, is the whole space of a hatch deducted or not? Is any difference made on account of long and short voyages?

A.—The whole hatch area is deducted on short voyages; on long voyages half the area of hatches in excess of 120 square feet is given.

29. *Q.*—Are the spaces which would be required for the deck water-tank, latrines, and cooking ranges, necessary for use of native passengers, deducted from the passengers' space, even if such articles are not in position at the time a vessel is being measured?

A.—Have no experience of such a case.

30. *Q.*—Are any spaces deducted so as to admit of the officers and crew moving fore and aft the vessel with facility and their getting with ease at the boats and boats' gear? If not, have you any recommendations to make on this head?

A.—Only flying bridges, and many ships have not these.

A.—I would suggest that all vessels carrying deck passengers should have either a light flying bridge fore and aft, or else have gangways kept clear as in troopships.

31. *Q.*—Should alley-ways used as a means of communication by the crew be considered as deck area for passengers, *i.e.*, the narrow passages between the officers' cabins and the engine-room casing? If so, would it not be advisable to give a minimum breadth before allowing the area to count for passengers?

A.—No.

It is of no use giving a minimum breadth unless some means of keeping a clear passage is adopted.

If a proper railed in gangway were maintained, I see no objection to the surplus space being given to passengers.

32. *Q.*—Are not these alley-ways additional shelter and, therefore, desirable for passengers?

A.—They afford shelter certainly; but there is not much advantage in that if persons are constantly walking to and fro over their bodies.

33. *Q.*—For ships with large water-ways in the 'tween decks extending inside the battens on the ship's side, is the deck measurement made to the inside edge of the water-ways or to the battens? Which would you recommend?

A.—Is made to the battens. I should recommend the measurement being made to the edge of the water-way (inside edge) unless properly covered in.

34. *Q.*—Should the spaces set apart for the boats stowed on the bridge be utilized for passengers when the boats are carried at the davits? If so, state whether during both fair and foul season or only during the fair season.

A.—I think all spaces for stowing boats should be kept clear; but if given for passengers, only in the fair season.

If the spaces are granted, there is no guarantee that the boats will not be swung in when the vessel is at sea, and the somewhat limited deck accommodation will be still more crowded.

35. *Q.*—In your opinion, are the provisions of the Native Passenger Ships Act and the rules made under it in regard to the accommodation to be provided for native passengers on long voyages and short voyages, suitable?

A.—The points which I think require attention have been touched upon in other parts of this report.

36. *Q.*—Do you think that a passenger on a voyage lasting 10 or 12 hours during daylight requires as much room as one on a voyage lasting five days?

A.—No; but then this passenger is mixed up with others who remain from five to eight days on board: it is not as if the whole of the passengers on board were landed after a short trip as in the case of excursion steamers in England.

37. *Q.* (*By the President*).—Would you recommend that excursion steamers carrying passengers on a smaller space should not take passengers on a voyage extending beyond twelve hours of daylight?

A.—If passengers are embarked on an excursion voyage, the vessel should only make an excursion voyage, and no passengers should be embarked under other conditions.

38. *Q.*—Do you think that native passengers can do with less space than Europeans?

A.—Yes.

39. *Q.*—What proportion do you consider that the space allotted to natives should bear to the space allotted to Europeans?

A.—Four natives to three Europeans.

40. *Q.*—Do you consider that on a voyage, which may extend to five days, native passengers can be accommodated in the 'tween decks of a steamer at the rate of one passenger to each 6 square feet of area with 4 square feet of airing space on the upper deck, without prejudicing their health and safety?

A.—I think that the cubical space in most of the steamers is sufficient. What is required is a larger superficial area which could be provided by erecting bunks or sleeping platforms in the 'tween decks as in emigrant vessels.

41. *Q.*—Do you know of any steamers which carry native passengers on two upper decks?

A.—Yes.

42. *Q.*—Do you consider from the wording of the Native Passenger Ships Act and your experience of this question, that the Legislature, when it passed the Act, contemplated the existence of vessels with more than one upper deck?

A.—No.

43. *Q.*—Are you acquainted with the design of the steamers of the *Kistna* class?

A.—Yes.

44. *Q.*—What is the distinguishing feature of these steamers?

A.—The poop and forecastle are extended to join with the bridge deck, thus making a kind of second upper deck.

45. *Q.*—In your opinion, are the middle passenger decks of these steamers 'tween decks or upper decks within the meaning and intention of the Native Passenger Ships Act? Give your reasons for this opinion.

A.—Upper decks, as the vessel is merely a well decked vessel covered in as stated above.

46. *Q.*—Under existing rules, are the arrangements to prevent injury to passengers by the rolling of the ship sufficient for the purpose?

A.—Yes.

47. *Q.*—Are any special fittings required under the Native Passenger Ships Act on the passenger decks for the reception of the bundles, boxes and other articles usually carried by the native passengers? If so, state what you would recommend.

A.—No.

48. *Q.*—Is it necessary for the comfort or safety of the passengers that provision should be made for the accommodation of luggage not stored in the hold?

A.—All heavy packages ought to be stored in a baggage-room over the hold. I doubt if passengers would like their small bundles stored so that they were separated from them; nor do I think it necessary. I would define as heavy packages those which cannot be carried easily by one person by hand.

49. *Q.*—Do you think that on a voyage, which may extend to five days, sleeping platforms should be provided for the passengers?

A.—Yes, unless the space is increased for fine-weather short voyages.

50. *Q.*—What closet accommodation do the rules require on native passenger vessels?

A.—Not less than two, and one for each 100 passengers in excess of 100; each latrine to contain not less than two seats.

51. *Q.*—What accommodation of the kind is provided for emigrants?

A.—Less than 150, six seats, and two additional seats for each 50 extra emigrants carried.

52. *Q.*—Do you consider that cargo, horses, cattle, sheep, and live-stock should be carried on the same deck with passengers? If so, is any fitting necessary to prevent the passengers from being inconvenienced by the urine and dung of the horses, cattle, and sheep; and if any such fitting is requisite, state what you would recommend.

A.—Never in the same compartment of the 'tween decks, and in the 'tween decks only when separated by iron bulkheads. When carried on deck, a liberal reduction in the number of passengers should be made, and the animals so accommodated, that they do not interfere with a free passage fore and aft; such passage to be excluded from the space given to passengers.

53. *Q.*—In vessels which, under existing rules, are permitted to carry horses, cattle, and sheep with native passengers, are sufficient precautions adopted to prevent the hay and straw provided for the use of such animals from catching fire either from a spark from the ship's funnel or lighted matches? If not, state what extra precautions you would recommend.

A.—Not quite sufficient; I think all fodder of an inflammable nature should be pressed and kept in one place under cover, the necessary issues being made daily.

54. *Q.*—Will you explain to the Commission what rules are in force in India on the subject of life-saving appliances?

A.—A scale of boat accommodation is laid down; signals of distress and life-buoys have been also ordered.

55. *Q.*—Do the new regulations of the Board of Trade, made under the Merchant Shipping (Life-saving Appliances) Act, 1888, apply to India?

A.—No.

56. *Q.*—What, in your opinion, is the object of these revised regulations?

A.—To increase life-saving appliances on board passenger ships, and to relieve other vessels from the necessity of carrying more of such than is necessary.

Under former rules boats were provided more according to tonnage than with respect to the service the vessel was employed on.

57. *Q.*—Do the revised regulations require more appliances than were necessary under the old rules, and why was the change found necessary?

A.—In cases of passenger ships, yes.

58. *Q.*—Are the revised regulations suitable, in your opinion, for vessels engaged in the native passenger trade?

A.—No; I do not believe the vessels could carry and keep efficient a large number of life-saving appliances without so increasing their crews and reducing their passengers, that the passenger trade would cease to be profitable, and possibly cease to exist. I would so far adopt the rules, in that a certain number of deck seats convertible into rafts should be carried, and further, that all vessels under the Act should, before leaving each terminal port, lower her boats into the water, and satisfy the Surveyor of the port or the officer appointed under Section 7 that they were tight.

I am also of opinion that, considering the many years during which passengers have been carried to and from Burma without a single serious casualty—the *Bhandara* case is an exceptional one—it is a fair presumption that no very extensive changes in equipment are necessary. No rules can provide for all contingencies, and a few simple appliances efficiently handled are much better than a number of elaborate ones, which can only be worked by a highly disciplined body of men. The passengers are too much crowded for comfort, but not so for safety if the number were reduced by one-half. I do not think it would make much difference in the case of a sudden disaster.

59. *Q.*—Do you think that the natives of India require as much space in boats as Europeans?

A.—No.

59*a*. *Q.*—Would you adopt the Board of Trade regulations in regard to life-buoys and life-belts?

A.—No; I think the provision of buoys and life-belts as now made sufficient.

60. *Q.*—In your experience, do the Surveyors at all ports in India make their surveys on the same lines?

A.—Yes.

61. *Q.*—Do you think it necessary that there should be a set of definite instructions as to the survey of passenger accommodation and crew space similar, so far as may be, to those issued by the Board of Trade?

A.—Yes.

62. *Q.*—Do you think the existing regulations in regard to the lighting and ventilation of the passenger accommodation suitable?

A.—Yes.

63. *Q.*—Would you make the regulations in

regard to the equipments of vessels similar in all respects to those of the Board of Trade?

A.—No, as these regulations require modifying to suit the conditions of the Indian trade.

64. *Q.*—In your opinion, are the provisions of the Emigration Act and the rules made under it in regard to the accommodation to be provided for native emigrants, suitable?

A.—Quite; but in the case of vessels having very high 'tween decks, I think that a larger proportion of the hatch area might be allowed, say three-fourths of all properly secured hatches.

65. *Q.*—After a vessel has been measured for Certificate A, is the Captain supplied with the Surveyor's calculations? If not, do you think it necessary that he should be?

A.—No. Yes, and a plan of each deck measured showing the names of obstructions deducted. The ship to pay for the plan and any copying fees.

66. *Q.*—Would it not be advantageous if a copy of all measurements and calculations of passengers' space, as determined on the original measurement, were supplied to the Commander of the vessel?

A.—Yes; and a copy might also be supplied to measuring officers at all principal ports, *i.e.*, ports at which A certificates are granted.

67. *Q.*—If so, would you recommend that the calculations should show clearly the names of the various obstructions which have been deducted from the gross area, their dimensions, and the proportional area deducted?

A.—Yes.

68. *Q.*—Do you consider that passengers carried in vessels working under clause (*a*) of Government of India Notification No. 1356, dated 14th March 1889, have sufficient space? If not, state what space would suffice.

A.—If sleeping platforms were provided, the space would be sufficient.

69. *Q.*—In the case of voyages the duration of which does not exceed five days, what distinction is made between seasons of fair and foul weather?

A.—In fair weather a 'tween-deck passenger is allowed 6 square feet below and 4 square feet on deck; each deck passenger 6 square feet.

In foul weather 6 square feet on 'tween decks, and 9 square feet for each upper deck passenger.

70. *Q.*—Do you consider a double awning overhead with side curtains and bulwark screens, as required by the Native Passenger Ships Act, equal to the ordinary tent in which troops are accommodated?

A.—No.

71. *Q.*—Do you know that 6 superficial feet on the upper deck under double awnings and curtains is considered sufficient accommodation for native troops making voyages under five days' duration?

A.—No. As I understand the Transport Regulations, 6 superficial feet in the 'tween decks is meant, and the troops have the whole upper deck.

72. *Q.* (*By Captain Street*).—Do you consider that native passenger ships should be permitted to carry gunpowder and other explosives in excess of the quantity supplied for ship's use?

A.—Only when carried in proper magazines.

73. *Q.* (*By Captain Street*).—Do you consider that in a ship with a large number of native passengers on board, all precautions to prevent an accident can be taken when taking in or discharging powder or other explosives?

A.—No.

74. *Q.* (*By Captain Wilson*).—Will you define a proper magazine?

A.—A magazine built of wood lined with copper or zinc and of such tightness that no loose powder could escape, and also provided with means for flooding it in case of fire.

Mr. CHARLES SAMEUL JOHNSON, Madras Port Service.

1. *Q.*—Will you please inform the Commission of the nature of your present occupation?

A.—Reserve Port Officer (permanent), at present Acting as Government Surveyor, Agent for Government Consignments, and Personal Assistant to the Presidency Port Officer, Madras.

2. *Q.*—What qualifications or experience do you possess in regard to the subjects under enquiry?

A.—A certificate of competency "Board of Trade" London. My experience consists in having been Chief Mate of a full rigged sailing ship, mate of a small, steamer on English Coast (winter), and many years an officer of steamers; latterly, second and Chief Mate in British India Steam Navigation Company's steamers, carrying native passengers to the Straits under Act X.

3. *Q.*—Do you take any part, either directly or indirectly, in the administration or observance of any of the provisions of the Native Passenger Ships Act, 1887?

A.—Yes, as one of the officers appointed on that behalf.

4. *Q.*—How does an Indian Home Trade voyage compare with an English Home Trade voyage?

A.—About the same thing in English summer weather.

5. *Q.*—In regard to what voyages is there a distinction made between fair and foul seasons?

A.—Short voyages.

6. *Q.*—Do you consider that if there is to be a line dividing short from long voyages, it should be drawn at five days?

A.—Yes, if that is to be done. I do not see why it is necessary to give more space to passengers on a long voyage than on a short voyage. I would recommend a uniform measurement for both long and short voyages. The Government Regulation grants more space on long voyages than on short, whereas there is quite as much to be urged for the reverse of that arrangement, *i.e.*, more space for short voyages than long, for it is impossible not to notice that for the first four or five days when the emigrants or passengers are for the most part sick, they have no idea of arranging their things, and making the most of the space allotted to them; when, if the voyage is of long duration, the space is sometimes found to be sufficient (in the opinion of the passengers) which was first deemed to be inadequate.

Note.—Measurement—7 feet and under, cubic; over 7 feet area, superficial. Passengers not to be located in orlop deck on account of ladder accommodation.

7. *Q.*—Do you think that the five-day limit puts an Indian short voyage on a footing similar to an English Home Trade voyage?

A.—Nearly, provided Home Trade voyage is in summer.

8. *Q.*—In your opinion do the conditions justify passengers being carried across the Bay at any season, on decks such as are commonly called

hurricane-decks, which are not protected from the weather except by overhead awnings, side-screens and curtains, assuming that no accommodation is reserved for these passengers on the lower decks, which are crowded with other passengers?

A.—No.

9. *Q.* (*By Captain Atkinson*).—Has your experience not been entirely on the Negapatam and Singapore line—therefore, long voyages with 'tween deck passengers only?

A.—My experience with native passengers has been chiefly between Negapatam and the Straits, but I have also been with passengers to Cutch Mandivi Coast.

10. *Q.* (*By Captain Atkinson*).—Have you had any experience on board a hurricane decked vessel which would warrant your opinion—specially as regards fine weather? As a rule, do not natives of India naturally get on the highest up-deck they can?

A.—No, only in a flush-decked vessel, in fine weather; but a rain squall, I always observed, drove them down below for shelter.

11. *Q.* (*By Captain Atkinson*).—What do you understand by hurricane-deck? Is there any difference between a hurricane-deck, such as those of *Kistna* and her class, and the upper deck of a flush-decked vessel? Is there not an advantage in the height of the hurricane-deck above the water?

A.—When there is no shelter below for passengers, the *usual side screens* are not sufficient protection from heavy rain; when the velocity and penetrating shower is increased by strong wind and the vessel heeling over, the water runs over the deck, wetting it.

12. *Q.*—Are you aware that it is a common practice for natives of India to sleep at night in the open air?

A.—Yes.

13. *Q.*—Is it within your knowledge that first class passengers, travelling about the Bay of Bengal and coasts of India as a rule prefer to sleep on deck under the same conditions as to awnings and curtains as the third class native passengers?

A.—It is often done, but not, I think, as a rule.

14. *Q.*—Have you had any personal experience of the weather round the coast of United Kingdom and in the Bay of Bengal and on the coasts of India?

A.—A short experience during winter in cargo steamer.

15. *Q.*—Do you consider that there is such similarity as to warrant a comparison between the weather experienced on the coast of United Kingdom, or between the rivers Elbe and Brest (English Home Trade voyage), and that experienced in the Bay of Bengal and on the coasts of India?

A.—Some little similarity in summer (English).

16. *Q.*—Do you think the ordinary native passenger would be prepared to pay more for better accommodation?

A.—Certainly not.

17. *Q.*—How is the number of passengers, which a vessel is capable of carrying, calculated in each case?

A.—By the area, or, in other case, cubic measurement.

18. *Q.*—Is allowance made in Board of Trade Rules for height of 'tween decks; in fact, do not Board of Trade Surveyors, when berths are not fitted for 3rd class passengers, calculate the number that may be carried, on the basis of a cubic measurement of 72 cubic feet per statute adult, after deducting all hatches and encumbrances?

A.—Yes.

19. *Q.*—If so, would you consider it proper to allow for height of 'tween decks as an element in the health and comfort of 3rd class native passengers?

A.—Certainly.

20. *Q.*—Do you know the height of the 'tween decks in the B. I. steamers?

A.—Six feet 6 inches to 7 feet 6 inches.

21. *Q.*—What is the maximum height between deck in these steamers carrying native passengers? What is the average height?

A.—7/6 feet maximum; 7 average.

22. *Q.*—What would be the effect if, assuming all other existing Indian rules to remain intact, this rule were enforced?

A.—Vessels would not benefit by large deck area.

23. *Q.*—Are the spaces which would be required for the deck water-tank, latrines, and cooking ranges, necessary for use of native passengers deducted for the passengers' space, even if such articles are not in position at the time a vessel is being measured?

A.—Yes.

24. *Q.*—Should alley-ways, used as a means of communication by the crew, be considered as deck area for passengers, *i.e.*, the narrow passages between the officers' cabins and the engine-room casing? If so, would it not be advisable to give a minimum breadth before allowing the area to count for passengers?

A.—It is quite impossible to allow passengers to remain even in an 8 feet alley-way, if it had officers' doors, &c., on one side, and steam pipes on the other.

25. *Q.*—Are not these alley-ways additional shelter and, therefore, desirable for passengers

A.—No; usually a shaft for wind and rain.

26. *Q.*—For ships with large water-ways in the 'tween decks extending inside the battens on the ship's side, is the deck measurement made to the inside edge of the waterways or to the battens? Which would you recommend?

A.—I would recommend to the battens, if the waterways are covered, or if the vessel is fitted with sleeping boards.

27. *Q.*—In your opinion, are the provisions of the Native Passenger Ships Act, and the rules made under it in regard to the accommodation to be provided for native passengers on long voyages and short voyages, suitable?

A.—Not enough discretional power is left to the officer appointed on behalf of Government to meet the ever-varying conditions.

28. *Q.*—Do you think that a passenger on a voyage lasting 10 or 12 hours during daylight, requires as much room as one on a voyage lasting five days?

A.—No; because he does not carry the same amount of baggage.

29. *Q.*—Do you think that native passengers can do with less space than Europeans?

A.—Yes, slightly; they are not quite so large, and do not generate the same amount of heat.

30. *Q.*—Do you think it necessary for the health and safety of the passengers that there should be on a voyage, which may extend to five days, permanent shelter for each passenger either 'tween decks or in cabins on the upper deck?

A.—Not absolutely necessary.

31. *Q.*—Do you think that on a voyage, which may extend to five days, there should be separate accommodation for female passengers?

A.—For single females, or such as have no *bonâ fide* legitimate male protector.

32. *Q.*—Do you consider that sufficient protec-

tion from the sea is afforded to upper deck passengers by the "reasonably stout screen" which, under existing rules (*see* Government of India letter No. 430, dated 27th August 1878) is held as coming within the definition of a substantial bulwark? If not, state what you would recommend in lieu.

A.—Yes; in vessels of the "*Kistna*" class, provided there is space reserved below.

33. *Q.*—Under existing rules are the arrangements to prevent injury to passengers by the rolling of the ship sufficient for the purpose?

A.—Yes.

34. *Q.*—How could you provide this protection?

A.—Officers to go round and see that everything heavy, or likely to fetch away, is lashed.

35. *Q.*—Are any special fittings required under the Native Passenger Ships Act on the passenger decks for the reception of the bundles, boxes, and other articles usually carried by native passengers? If so, state what you would recommend?

A.—In vessels provided with sleeping boards, a batten running fore and aft about 3 feet from the wings might be of use, one foot high.

36. *Q.*—If such accommodation were provided, would it be used? Will native passengers allow their luggage to be parted from them under any circumstances?

A.—Yes. Not willingly.

37. *Q.*—Do you think that on a voyage which may extend to five days, sleeping platforms should be provided for the passengers?

A.—Yes.

38. *Q.* (*By the President*)—What is your experience in regard to the rule of sleeping platforms on passenger ships? Are ships so fitted appreciated by native passengers?

A.—My experience is that they are an advantage in the way of cleanliness, also that they increase the area which is very necessary when the passengers have much baggage. If we can judge so by their always using them, they are appreciated.

39. *Q.* (*By Dr. Comins*).—Have they any disadvantages beyond their initial expence and that of a nominal expense for repairs?

A.—Yes, unless they can all be used both ways, they are so much lumber when not used, and occupy cargo space.

40. *Q.* (*By Dr. Comins*)—Do they not add greatly to the comfort and cleanliness of the passengers on the platforms as well as those on the deck?

.—Yes.

41. *Q.* (*By Dr. Comins*).—Could they not easily be fitted so as to fold up out of the way, or to be readily removed if the deck was required for cargo?

A.—Not to fold up, but they could be easily unshipped and removed.

42. . (*By Captain Atkinson*).—What is the effect of heavy rolling of the vessel on the passengers who are on the platforms? Do they ever get hurt by falling on the deck?

A.—Not in my experience.

43. *Q.*—What closet accommodation do the rules require on native passenger vessels?

A.—Every ship shall be fitted with not less than two privies, sufficiently screened from public view, and readily accessible, and with one more such privy for every 100 passengers, or part thereof in e cess of 100.

44. *Q.*—What accommodation of the kind is provided for emigrants?

A.—For under 150 two for men, and one for women and children; over 150 and under 200, two for men, two for women; one more for every 50 passengers or part of 50.

45. *Q.*—Do you think the existing rules in regard to hospital accommodation are suitable?

A.—Yes.

46. *Q.*—Do you consider that cargo, horses, cattle, sheep, and live-stock should be carried on the same deck with passengers? If so, is any fitting necessary to prevent the passengers from being inconvenienced by the urine and dung of the horses, cattle, and sheep; and if any such fitting is requisite, state what you would recommend?

A.—No, except on the upper awning deck.

47. *Q.*—In vessels which, under existing rules, are permitted to carry horses, cattle, and sheep with native passengers, are sufficient precautions adopted to prevent the hay and straw provided for the use of such animals from catching fire either from a spark from the ship's funnel or from lighted matches? If not, state what extra precautions you would recommend?

A.—Yes; in my experience it has been carried on the bridge deck, and it becomes saturated with salt after a time and not readily inflammable.

48. *Q.*—Are the revised regulations suitable, in your opinion, for vessels engaged in the native passenger trade?

A.—Yes.

49. *Q.*—Do you think it necessary that there should be a set of definite instructions as to the survey of passenger accommodation and crew space similar, so far as may be, to those issued by the Board of Trade?

A.—So far as may be.

50. *Q.*—Do you think the existing regulations in regard to the lighting and ventilation of the passenger accommodation suitable?

A.—Yes.

51. *Q.*—In your opinion, are the provisions of the Emigration Act, and the rules made under it in regard to the accommodation to be provided for native emigrants, suitable?

A.—Yes.

52. *Q.*—After a vessel has been measured for Certificate A, is the Captain supplied with the Surveyor's calculations? If not, do you think it necessary that he should be?

A.—No.

53. *Q.*—Do you know that six superficial feet on the upper deck under double awnings and curtains is considered sufficient accommodation for native troops making voyages under five days' duration?

A.—Yes.

54. *Q.* (*By Sir Henry Morland*).—Do you consider it desirable that vessels carrying large numbers of native passengers should carry an excess quantity of gunpowder or other explosives beyond what is required by the vessel for stores even if stored in properly constructed magazines.?

A.—No.

Proceedings of the Thirty-fifth Meeting of the Native Passenger Ships Commission, held at the Port Office, Bombay, on the 26th January 1891.

Present:

Surgeon-Major A. S. Lethbridge, C.S.I.	*President.*
Captain Sir Henry Morland, H.M.I.M.	*Members.*
Captain H. A. Street, H.M.I.M.	
Captain George Wilson, H.M.I.M.	
Surgeon-Major D. W. D. Comins, I.M.S.	
Captain J. H. Atkinson, *B. I. S. N. Co.'s Service*	
H. W. Uloth, Esq., *Superintendent, P. & O. S. N. Co.*	

1. The Commission assembled at noon.

2. Mr. G. Ainsworth, Superintendent of the Preventive Service, Bombay, was called and examined.

3. Mr. Ainsworth's examination having been completed, and it being 4-45 P.M., the Commission adjourned, after approving of the proceedings of the thirty-fourth Meeting, until 11 A.M. on the 27th instant.

Mr. G. AINSWORTH.

1. *Q.*—Will you please inform the Commission of the nature of your present occupation?

A.—I am Superintendent of the Preventive Service, and Protector of Emigrants.

2. *Q.*—What qualifications or experience do you possess in regard to the subjects under enquiry?

A.—I have had about 12 years' experience working the Native Passenger Ships Act, and 31 years as a Customs Officer.

3. *Q.*—Do you take any part, either directly or indirectly, in the administration or observance of any of the provisions of the Native Passenger Ships Act, 1887?

A.—I am one of the officers appointed to carry out the provisions of Act X of 1887. It is my duty to prevent infringements of the said Act and its rules.

13. *Q.*—What is a pilgrim voyage?

A.—A pilgrim voyage is a voyage to or from an authorised port in British India to or from a port in the Red Sea in a steamer with more than 60 native passengers.

14. *Q.*—What is a long voyage?

A.—A long voyage is a voyage that exceeds in duration 5 days or 120 hours without touching at an intermediate port, or a continuous voyage lasting over 5 days.

15. *Q.*—What is a short voyage?

A.—A short voyage is one that does not exceed in duration 120 hours.

16. *Q.*—In regard to what voyages is there a distinction made between fair and foul seasons?

A.—A distinction is made in regard to short voyages. More passengers are allowed to be carried in the fair than in the foul season.

17. *Q.*—Do you consider that if there is to be a line dividing short from long voyages, it should be drawn at five days?

A.—I think that when a vessel leaves the coast of India for a foreign port, three days should be reckoned as a long voyage.

18. *Q.* (*By Sir Henry Morland*).—Please define your reply to question 17, where you speak of a "foreign voyage?"

A.—If a vessel leaves Bombay for a port in the Persian Gulf and if she can do it within five days and not within three days, it should be considered a long voyage.

19. *Q.* (*By Captain Street*).—Why do you recommend three days as the shortest duration of a long voyage in the case of a native passenger vessel leaving the coast of India for a foreign port?

A.—Because a vessel leaving the coast of India is not so safe as one that keeps on the coast. She goes out to sea and the danger is increased, and at the end of the voyage the supervision over the passengers is not so good.

20. *Q.* (*By Sir Henry Morland*).—Under what section of the Native Passenger Ships Act do you find authority to grant a Certificate A to a vessel sailing to a foreign port?

A.—Chapter II provides for the grant of Certificate A to any port to which more than 60 passengers are carried.

21. *Q.*—To what vessels do the Native Passenger Ships Act or the Emigrant Act not apply?

A.—The Native Passenger Ships Act does not apply to ships of war, troopships, &c. *see* section 2 of the Native Passenger Ships Act) and it does not apply to sailing ships and steamers carrying not more than 30 and 60 passengers, respectively.

22. *Q.*—How many passengers can a steamer carry without coming under the provisions of the Native Passenger Ships Act?

A.—Sixty.

23. *Q.*—How many passengers can a steamer carry without a certificate of survey under the Indian Steam Ships Act or a corresponding certificate from the Board of Trade?

A.—Twelve.

24. *Q.*—Do you know of any instances in which passengers not exceeding sixty in number have

been carried in vessels having no suitable accommodation for them?

A.—I cannot remember any particular case, but I have the impression that some vessels proceeding to the Mauritius and Aden did not have suitable accommodation.

25. *Q.* (*By Sir Henry Morland*).—Do you know of any cases having arrived at this port?

A.—No. I do not remember any.

26. *Q.* (*By Captain Street*).—Have you any recommendations to make in respect to vessels bringing 60 passengers?

A.—I would be better satisfied if they had 'tween deck accommodation on long voyages.

27. *Q.* (*By Mr. Uloth*).—Are you of opinion that the number of native passengers allowed to be carried in a steamer without coming under the Native Passenger Ships Act might be reasonably increased, say from 60 to 100, if there is 'tween deck accommodation?

A.—I see no reason for changing the law on the subject.

28. *Q.*—Are you of opinion that the conditions justify a distinction being made between fair and foul weather in the case of voyages which may extend to five days?

A.—The conditions do justify a distinction being made.

29. *Q.*—Are you of opinion that the seasons of fine weather defined in the rules are judiciously chosen with reference to the prevailing conditions?

A.—I can only speak for this side of India. They are judiciously chosen.

30. *Q.*—Will you mention instances of foul weather occurring during the seasons which are by rule declared to be seasons of fair weather?

A.—I cannot specify any special occasion, but as a matter of fact we have bad weather up to November, and sometimes in May.

31. *Q.*—Are you acquainted with the ordinary conditions of native life amongst the class that form the bulk of the native passengers who travel by sea?

A.—Yes.

32. *Q.*—Are you aware that it is a common practice for natives of India to sleep at night in the open air?

A.—Yes.

33. *Q.*—Have you had any personal experience of the weather round the coast of the United Kingdom, and in the Bay of Bengal and on the coast of India?

A.—No.

34. *Q.*—Do you think the ordinary native passenger would be prepared to pay more for better accommodation?

A.—I think not.

35. *Q.*—Is it not a fact that very well-to-do native merchants are satisfied with the usual deck accommodation?

A.—Yes, with a very few exceptions.

36. *Q.*—How is the number of passengers which a vessel is capable of carrying calculated in each case?

A.—By measurement of available deck space and allotment of passengers for each deck according to the Act.

37. *Q.*—Into what classes are sea-going vessels in India divided for the purpose of determining the number of passengers they are capable of carrying?

A.—No classes on this side of India.

38. *Q.*—Are you aware that there was an old rule in India which allowed ships to carry 3 passengers for 2 tons?

A.—I am not aware of such a rule.

39. *Q.*—Is the Board of Trade rule, under which the number of passengers carried must not, whatever the deck measurements may give, exceed the number denoting the gross tonnage of the vessel, enforced in India?

A.—No, not on this side of India.

40. *Q.*—What spaces are left unmeasured for passengers when a vessel is being measured for Certificate A?

A.—The alley-ways are left unmeasured when they are less than about 3½ feet wide, also the forecastle and the accommodation required for the officers and crew.

41. *Q.* (*By Captain Street*).—By what rule are you guided in leaving alley-ways unmeasured when less than about 3½ feet wide and also in leaving out the forecastle?

A.—I am not guided by any rule; discretion is used in such cases, and the practice of the department bears me out in this. I measure the clear space on the topgallant forecastle deck.

42. *Q.*—How are the hatches treated when a vessel is being so measured, *i.e.*, is the whole space of a hatch deducted or not? Is any difference made on account of long and short voyages?

A.—For long voyages half hatches, if over 120 feet, are deducted, and for short voyages whole hatches are deducted?

43. *Q.* (*By Captain Street*).—Why is the exception made in the case of short voyages?

A.—The vessels are frequently in and out of port and the hatches are required to be kept open.

44. *Q.* (*By Captain Atkinson*).—If a vessel was making a voyage in ballast—purposely for passengers, and calling at a number of ports for that purpose, would you still exclude the hatches from measurement?

A.—I would still exclude them from measurement, because I am governed by the rule with reference to this matter.

45. *Q.*—Are the spaces, which would be required for the deck water-tank, latrines, and cooking ranges, necessary for use of native passengers, deducted from the passengers' space, even if such articles are not in position at the time a vessel is being measured?

A.—All fixtures are deducted. Movable articles are questioned.

46. *Q.* (*By Sir Henry Morland*).—In the case of vessels leaving with only a proportion of the full number she is allowed to carry, does she have fittings for the full number of passengers she can carry?

A.—She is fitted for the full number.

47. *Q.*—Are any spaces deducted so as to admit of the officers and crew moving fore and aft the vessel with facility and their getting with ease at the boats and boats' gear? If not, have you any recommendations to make on this head?

A.—Spaces are not deducted. I have no recommendations to make.

48. *Q.*—Should alley-ways, used as a means of communication by the crew, be considered as deck area for passengers, *i. e.*, the narrow passages between the officers' cabins and the engine-room casing? If so, would it not be advisable to give a minimum breadth before allowing the area to count for passengers?

A.—I think the minimum breadth should be about three and a half feet.

49. *Q.* (*By the President*).—In a steamer carrying 1,000 deck passengers aft, should not the alleyways be left unoccupied irrespective of breadth to allow them to go to and from the cook-houses, latrines, &c.

A.—I think 3½ feet of space in the alley-ways would be sufficient.

50. *Q.*—Are not these alley-ways additional shelter and, therefore, desirable for passengers?

A.—It is not desirable for passengers to stay in alley-ways.

51. *Q.* (*By Captain Street*).—Why do you consider it undesirable that passengers should be permitted to stay in the alley-ways?

A.—Because they would be in the way.

52. *Q.*—For ships with large water-ways in the 'tween decks extending inside the battens on the ship's side, is the deck measurement made to the inside edge of the water-ways or to the battens? Which would you recommend?

A.—The deck measurement is made to the inside edge of the water-ways.

53. *Q.* (*By Captain Atkinson*).—If the waterways are covered by gratings or planks properly fixed, would you still exclude the additional breadth from measurement for native passengers? If so, why?

A.—I would allow the space if they were covered by planks, but not by gratings. I would measure to the inside edge of the battens.

54. *Q.*—Should the spaces set apart for the boats on the deck of the bridge be utilized for passengers when the boats are carried at the davits? If so, state whether during both fair and foul seasons, or only during the fair season.

A.—Yes, the space might be utilized for passengers in both seasons.

55. *Q.* (*By Captain Wilson*).—Would you measure for these spaces in the foul season? As boats may have to be turned inboard, what would you then do with the passengers occupying these boat spaces?

A.—I would make no difference in fair or foul weather. I would measure the space if the boats are on the davits.

56. *Q.*—In your opinion, are the provisions of the Native Passengers Ships Act, and the rules made under it, in regard to the accommodation to be provided for native passengers on long voyages and short voyages, suitable?

A.—Yes, they are; but as there has been so much clamouring for more space on pilgrim vessels, and as passengers will not part with their luggage, I have come to the conclusion that twelve feet should be substituted for nine feet of space in the 'tween decks for each passenger.

57. *Q.* (*By Captain Wilson*).—What space would you give if the heavy baggage be stored below?

A.—Nine feet.

58. *Q.* (*By Mr. Uloth*).—Who has been clamouring for more space in pilgrim vessels?

A.—Abdul Razaack, the Consul at Jedda, and some others.

59. *Q.* (*By Mr. Uloth*).—You have stated that you have come to the conclusion that 12 feet of space in the 'tween decks should be substituted for the 9 feet at present allowed in pilgrim vessels. This would very seriously decrease the number of passengers allowed in each steamer, and you have only been able to give the name of Mr. Abdul Razaack of Jeddah in answer to my enquiry as to your authority for proposing such a change. May I ask if you are prepared to furnish any definite particulars to prove that the present allowance is insufficient?

A.—I have no definite particulars just now to produce in favour of increasing the space for pilgrim passengers from 9 to 12 feet.

60. *Q.* (*By Sir Henry Morland*).—What space do you consider should be allowed for each passenger on Bombay coasting voyages? By the latter may be included voyages from Bombay to Mangalore or from Bombay to Karachi.

A.—The same as the Act provides, and no more. I think the Rewadanda rule should be cancelled.

61. *Q.* (*By Sir Henry Morland*).—Would you allow different spaces for passengers for the intermediate ports on this coast, as, for instance, from here to Karwar, touching at Rewadanda, *i. e.*, should all passengers by the same steamer have equal space or should they be allowed less space between any of the ports?

A.—Passengers proceeding on one steamer to coast ports should have a uniform scale of space for each throughout.

62. *Q.* (*By Sir Henry Morland*).—Have you ever recommended a uniform space of 7 feet for each passenger on the Bombay coasting voyages?

A.—Yes, I did; but that view of it did not meet with acceptance by Government.

63. *Q.* (*By Captain Street*).—Will you specify what is the Rewadanda rule and when it was first introduced, and would you relax it for any special voyage?

A.—The Rewadanda Rule came into force after the passing of Goverment Resolution No. 3209, dated 10th November 1877. I would not retain it for any voyage, unless the voyage to Rewadanda is exclusively a separate voyage.

64. *Q.*—Do you think that a passenger on a voyage lasting 10 or 12 hours during daylight requires as much room as one on a voyage lasting five days?

A.—If a passenger is going in a vessel that is making a voyage of 10 or 12 hours only, then I think he need not have so much space as when the vessel is going on a long voyage.

65. *Q.* (*By Dr. Comins*).—Do passengers on a voyage of 10 or 12 hours carry as much baggage as passengers on a short voyage.

A.—About as much.

66. *Q.* (*By Captain Street*).—How much space would you consider sufficient for native passengers on the undermentioned voyages:—

(*a*) One not exceeding 120 hours?

(*b*) One during daylight and not exceeding 120 hours?

A.—I make no difference with respect to ports in the Bombay Presidency.

67. *Q.* (*By Sir Henry Morland*).—What space would you allow for native passengers on the ferries in Bombay, *viz.*, from Modee Bunder to Ulwar Bunder and from Modee Bunder to Dhurumtur? And would you allow an equal space on both at all seasons?

A.—There is no limit to the number carried by ferry steamers. They do not carry a very large number at any time. There appears to be no reason for altering the practice.

68. *Q.* (*By Captain Wilson*).—Are you acquainted with the Inland Steam Vessels Act of February 1890. If so, do not these harbour steamers and launches come under this Act?

A.—This Act is not worked here under the Customs Department?

69. *Q.* (*By Captain Street*).—Are you acquainted with the provisions of the Indian Steam Ships Act No. VII of 1884, under which no vessel carrying more than 12 passengers can ply without a certificate?

A.—Yes, but I think it does not apply to ferry steamers.

70. *Q.* (*By Sir Henry Morland*).—Are you aware of any accident, attended with loss of life, having occurred within about a year in connection

with the Dhurumtur ferry? If so, what was it?

A.—I think that some persons were drowned whilst on a *tarafa* at Dhurumtur.

71. *Q.*—Do you think that native passengers can do with less space than Europeans?

A.—Yes, if they consent to part with their baggage.

72. *Q.*—What proportion do you consider that the space allotted to natives should bear to the space allotted to Europeans?

A.—In the proportion of 3 to 4, if they consent to part with their baggage.

73. *Q.*—Assuming that this proportion is adopted, would it, in your opinion, affect the health, comfort, and safety of native passengers in any way?

A.—It would not.

74. *Q.*—Do you consider that on a voyage, which may extend to five days, native passengers can be accommodated in the 'tween decks of a steamer at the rate of one passenger to each six square feet of area, with four square feet of airing space on the upper deck, without prejudicing their health and safety?

A.—Yes, if they put their baggage away—their heavy baggage.

75. *Q.* (*By Captain Street*).—Have you ever been on board of a native passenger vessel which at the time had on board her full number of native passengers under Certificate A for a short voyage?

A.—No, I have not.

76. *Q.* (*By Captain Street*).—Do you think that a passenger carried under the above conditions as regards space has sufficient room to lie down in the 'tween decks?

A.—In practice, passengers do find enough room to lie down in.

77. *Q.* (*By the President*).—Have you ever tried placing a passenger with his baggage in 6 square feet of space?

A.—The 4 feet on the upper deck allowed to 'tween deck passengers makes up the space for them to lie down in.

78. *Q.* (*By Captain Street*).—Has a passenger on the upper deck who has only 6 superficial feet of space allowed to him space to lie down in, supposing that the above space allowed to 'tween deck passengers is occupied by 'tween deck passengers.

A.—He has not sufficient space to lie down in.

79. *Q.* (*By Captain Atkinson.*)—Please state the conditions of your experiment, that is, principally, what space did you experiment in?

A.—I experimented on six superficial feet of space on the floor in my office and found it not enough for a man to lie down in.

80. *Q.* (*By Captain Atkinson*).—Would the experiment if tried on an area say of 600 superficial feet not have given more accurate results, as the measurement of the steamers is on an aggregate superficial area divided by 6?

A.—The result would improve on the aggregate for a large number of passengers as compared with the space required for one passenger.

81. *Q.* (*By Captain Atkinson.*)—Have you ever heard of anything having happened to a native passenger carried under present rules which would prejudice his health or which has effected his safety?

A.—I have not.

82. *Q.*—Do you think it necessary for the health and safety of the passengers that there should be on a voyage, which may extend to five days, permanent shelter for each passenger either 'tween decks or in cabins on the upper deck?

A.—It is not necessary in fair weather.

82. *Q.* (*By Captain Wilson*).—But in case bad weather occurs within five days, which is sometimes the case, what would you then do with the deck passengers?

A.—I would make no difference for bad weather in the fair season.

83. *Q.*—Do you think that on a voyage which may extend to five days, there should be separate accommodation for female passengers?

A.—No; native females stay close to their male relatives.

84. *Q.*—Do yuu know of any steamers which carry native passengers on two upper decks?

A.—Yes, Shepherd's steamers of the Zuari class.

85. *Q.* (*By Captain Street*).—In Shepherd's steamers do native passengers travel as 3rd class passengers or as 1st, 2nd and 3rd class respectively? If so, please state how the 3rd class accommodation differs from that provided for the 1st and 2nd class.

A.—The 1st and 2nd classes are accommodated in the cabins and after part of the upper deck and the 3rd class have the remainder.

86. *Q.* (*By Captain Wilson*).—What is the height of the 'tween decks of Shepherd's steamers?

A.—Above 6 feet, not under.

87. *Q.*—Do you consider, from the wording of the Native Passengers Ships Act and your experience of this question, that the Legislature, when it passed the Act, contemplated the existence of vessels with more than one upper deck?

A.—They did not, I believe, contemplate two upper decks.

88. *Q.*—Are you acquainted with the design of the steamers of the *Kistna* class?

A.—Yes.

89. *Q.* (*By Captain Street*).—Can you explain the difference between vessels of the *Zuari* class and those of the *Kistna* class?

A.—The *Zuari* class have the sides between the main and upper decks open the whole length of the ship, and the *Kistna* class have the sides closed in and furnished with shutters. There are 13 shutters on each side of the *Kistna* class.

90. *Q.* (*By Captain Street*).—Has the Government of Bombay passed any order as to how the "middle" deck of vessels of the *Kistna* class is to be treated. If not, how has it been treated in measuring such vessels for an A certificate at Bombay?

A.—No Government orders have been passed regarding the *Kistna* class. In granting Certificate A, the main deck or middle deck is reckoned here as "between" decks. I will refer the Commission to the order on which I have acted.

91. *Q.*—What is the distinguishing feature of these steamers?

A.—These vessels have space between the upper and main decks, which is so constructed as to justify its being reckoned as the 'tween decks of the vessel under the Native Passenger Ships Act.

92. *Q.*—In your opinion, are the middle passenger decks of these steamers 'tween decks or upper decks within the meaning and intention of the Native Passengers Ships Act? Give your reasons for this opinion?

A.—My reasons for this opinion are that the space between the upper deck and main deck of the *Kistna* is so enclosed and secure that it is to all intents and purposes a 'tween deck space. The passengers would need to go on the upper deck for fresh air.

93. *Q.* (*By Captain Atkinson*).—When you say that the space between the upper and the main decks of the *Kistna* is to all intents and purposes

a 'tween deck, are you aware that cargo cannot be stored properly on that deck, and if stored, cannot be insured?

A.—The question as to whether cargo can or cannot be stored on the main deck has nothing to do with the accommodation of passengers.

94. *Q.* (*By Captain Atkinson*).—When you say the passengers on the middle deck of *Kistna* would need to go on the upper deck for fresh air, are you aware that there are about 24,000 inches of natural ventilation for middle deck if the shutters are closed and hatches on, whereas if it was a 'tween deck only 1,600 inches would be required, giving 5 inches to each passenger carried?

A.—I am not aware that there are 24,000 inches of natural ventilation.

95. *Q.* (*By the President*).—Are there any rules regulating the amount of ventilating space allowed to each passenger on a 'tween deck?

A.—I would refer you to Rule XXI on page 22 of the Manual of Regulations to be observed by Masters of vessels coming to Bombay, copy of which will be furnished.

96. *Q.*—Classing the middle deck as an upper deck within the meaning of the Act, how many passengers can the *Kistna* carry on her three decks on voyages up to five days in fair and foul weather?

A.—The *Kistna* has not been measured at Bombay.

97. *Q.*—Under existing rules are the arrangements to prevent injury to passengers by the rolling of the ship sufficient for the purpose?

A.—Yes, I think so.

98. *Q.* (*By Captain Wilson*).—What means for protection are used on board Shepherd's steamers?

A.—There are brass railings. With regard to other steamers they have bamboos made fast to the stanchions fore and aft.

99. *Q.* (*By Captain Wilson*).—Are the brass rails in midships fore and aft, or only round the vessel only?

A.—No, none of Shepherd's steamers have a beam of 30 feet.

100. *Q.*—How could you provide this protection?

A.—The protection is provided for in the rules.

101. *Q.*—Are any special fittings required under the Native Passenger Ships Act on the passenger decks for the reception of the bundles, boxes, and other articles usually carried by native passengers? If so, state what you would recommend.

A.—No special fittings are required. Heavy baggage should be stowed in the hold.

102. *Q.*—Is it necessary for the comfort or safety of the passengers that provision should be made for the accommodation of luggage not stored in the hold?

A.—Not necessary.

103. *Q.*—If such accommodation were provided, would it be used? Will native passengers allow their luggage to be parted from them under any circumstances?

A.—They generally object to part with their luggage.

104. *Q.*—Do you think that on a voyage, which may extend to five days, sleeping platforms should be provided for the passengers?

A.—Sleeping platforms should not be provided.

105. *Q.* (*By Captain Street*).—Will you state your reasons, and also if you have ever seen sleeping platforms fitted on board of a vessel?

A.—I have not seen sleeping platforms on board ship. They would be in the way.

106. *Q.*—What closet accommodation do the rules require on native passenger vessels?

A.—Two latrines, and one latrine with two seats for every hundred passengers in excess of 100 for pilgrim voyages.

107. *Q.* (*By Captain Atkinson*).—By your answer, do you mean that you recommend the pilgrim rules being applied to ordinary short voyages?

A.—The rules for short voyages with regard to latrine accommodation will be found in the Government of India Notification No. 1354, dated 14th March 1889—IV.

108. *Q.* (*By Captain Wilson*).—With reference to short voyages, do you consider this sufficient or would not you recommend urinals as an additional means for preventing a block at the latrines which must necessarily follow with so many passengers on board as are usually carried?

A.—I consider it sufficient.

109. *Q.*—Do you think the existing rules in regard to hospital accommodation are suitable?

A.—Yes.

110. *Q.* (*By Captain Street*).—Is the temporary hospital placed in position on each occasion before Certificate B is granted at Bombay to a native passenger vessel? If not, what means has the officer working the Native Passenger Act of knowing that the hospital accommodation is suitable, or is on board of the vessel?

A.—It is not put up but he sees its materials.

111. *Q.* (*By Captain Wilson*).—What hospital accommodation is provided on board Shepherd's steamers? Have you ever had occasion to see it used?

A. It is the same as for short voyages. I have not seen the hospital erected.

112. *Q.*—Do you consider that cargo, horses, cattle, sheep, and live-stock should be carried on the same deck with passengers? If so, is any fitting necessary to prevent the passengers from being inconvenienced by the urine and dung of the horses, cattle, and sheep; and if any such fitting is requisite, state what you would recommend?

A.—It is not desirable to carry cargo, horses, cattle, sheep, and live-stock on the same deck with passengers.

113. *Q.* (*By Captain Wilson*).—Under no circumstances? What are your reasons?

A.—The safety and comfort of the passengers would be involved, however securely penned in.

114. *Q.* (*By Captain Street*).—Can you give any instance in which cargo and animals have been carried on the same deck with native passengers in vessels sailing from or arriving at Bombay?

A.—I cannot remember any case in point, but I know that it has been done.

115. *Q.* (*By Dr. Comins*).—Are animals ever carried in the same compartment with passengers in the 'tween deck?

A.—Not in the same compartment, but on the same deck.

116. *Q.*—Do you think that the natives of India require as much space in boats as Europeans?

A.—Yes, they require the same amount of space.

117. *Q.* (*By Captain Street*).—Will you give your reasons for this opinion? Would, for instance, the natives of the ordinary type take up as much space in a boat as the same number of Europeans of ordinary size?

A.—Yes I think so.

118. *Q.* (*By Captain Street*).—If so, why in your opinion is it necessary to give greater space

on board of a vessel to a European than to a native passenger?

A.—It is a matter of life-saving—in a boat—; it is not so as regards passenger accommodation in ships.

119. *Q.*—In your opinion, are the provisions of the Emigration Act, and the rules made under it, in regard to the accommodation to be provided for native emigrants, suitable?

A.—Yes.

120. *Q.*—After a vessel has been measured for Certificate A, is the Captain supplied with the Surveyor's calculations? If not, do you think it necessary that he should be?

A.—It is not necessary to supply the Captain with the Surveyor's calculations, because he and his officers are at liberty to take down the measurements with the surveying officer when the work is being done.

121. *Q.*—Would it not be advantageous if a copy of all measurements and calculations of passengers' space, as determined on the original measurement, were supplied to the Commander of the vessel?

A.—It does not seem necessary.

122. *Q.*—If so, would you recommend that the calculations should show clearly the names of the various obstructions which have been deducted from the gross area, their dimensions, and the proportional area deducted?

A.—The calculations should show clearly the names of the various obstructions which have been deducted from the gross area.

123. *Q.*—In the case of voyages the duration of which does not exceed five days, what distinction is made between seasons of fair and foul weather?

A.—In fair weather six feet in the 'tween decks is allowed, in the foul weather nine feet of space, and in the orlop decks 12 in fair and 15 in foul weather.

124. *Q.* (*By Captain Street*).—In what vessels, sailing from Bombay under the Native Passenger Act, is the orlop deck measured for passengers?

A.—In all vessels in which the orlop deck is considered suitable, except pilgrim ships.

125. *Q.*—Do you consider a double awning overhead with side curtains and bulwark screens, as required by the Native Passenger Act, equal to the ordinary tent in which troops are accommodated?

A.—It is not equal.

126. *Q.*—Being acquainted with the class of natives who form the bulk of those who travel by sea, do you consider they require better accommodation for their health and comfort than native troops?

A.—No, not better.

127. *Q.*—How do you account for the differences between the English and the Indian rules, and between the Indian rules for emigrants and those for ordinary passengers?

A.—Emigrants are taken special care of.

128. *Q.*—Do you consider that native passenger ships should carry a medical officer? If this were made compulsory, would you make any difference for the numbers carried, or for the duration of the voyage?

A.—Native passenger ships on long voyages should have a medical officer. No medical officer is required for short voyages. If a vessel carries more than a hundred passengers on a long voyage, she should have a medical officer.

129. *Q.*—What grade of medical officer would you consider best suited for these vessels?

A.—An experienced medical officer of the Subordinate Medical Department, or a Licentiate of an Indian University.

130. *Q.* (*By Captain Street*).—Do you consider that gunpowder and other explosives in excess of the quantity required for ship's purposes should be carried in native passenger vessels?

A.—They should not be carried together; great danger to life is involved.

Proceedings of the Thirty-sixth Meeting of the Native Passenger Ships Commission, held at the Port Office, Bombay, on the 27th January 1891.

Present:

Surgeon-Major A. S. Lethbridge, C.S.I.	*President.*
Captain Sir Henry Morland, H.M.I.M.	*Members.*
Captain H. A. Street, H.M.I.M.	
Captain George Wilson, H.M.I.M.	
Surgeon-Major D. W. D. Comins, I.M.S.	
Captain J. H. Atkinson, *B. I. S. N. Co.'s Service.*	
H. W. Uloth, Esq., *Superintendent, P. & O. S. N. Co.,*	

1. The Commission assembled at 11 A.M.

2. Mr. J. M. Campbell, M.A., LL.D., C.S., C.I.E., Collector of Land Revenue, Customs and Opium, Bombay, was called and examined.

3. Mr. Campbell's examination having been completed, Captain Maurice Bean, H.M.I.M., Acting Port Officer, Bombay, was called and examined. During Captain Bean's examination, Mr. J. A. Shepherd, and Mr. J. Moir, of Messrs. Shepherd & Co., Bombay, were both present and put questions to Captain Bean through the President.

4. Captain Bean's examination having been completed, the Commission adjourned until the 28th instant.

Evidence of Mr. J. M. CAMPBELL, M.A., L.L.D., C.S., C.I.E.

1. *Q.*—Will you please inform the Commission of the nature of your present occupation?

A.—Acting Collector of Customs.

2. *Q.*—What qualifications or experience do you possess in regard to the subjects under enquiry?

A.—I have been Acting Collector of Customs since December 1890.

3. *Q.*—Do you take any part, either directly or indirectly, in the administration or observance of any of the provisions of the Native Passenger Ships Act, 1887?

A.—The Superintendent of the Preventive Service is under my orders in matters regarding the Native Passengers Act, 1887. I am also appointed under the Act to carry out its provisions in the harbour of Bombay.

4. *Q.* (*By Captain Wilson*).—Will you please state to what vessels do your powers under the Native Passenger Ships Act extend in the Bombay Harbour?

Please enumerate the different ferry lines of steamers.

A.—To all vessels that come under the Native Passenger Act—

(1) To Dhurumtur and back.

(2) Panwel Line—Bombay, Ulwa, Panwel and Uran, returning daily.

5. *Q.*—In regard to what voyages is there a distinction made between fair and foul seasons?

A.—Short voyages.

6. *Q.*—Do you consider that if there is to be a line dividing short from long voyages, it should be drawn at five days?

A.—So long as a vessel is coasting near Indian ports, five days seem suitable. In a cross sea voyage, or in a voyage to a non-Indian port three days seem a safer limit.

7. *Q.* (*By Captain Atkinson*).—(1) Why do you fix on three days as the limit for a short sea voyage?

(2) Is there anything to show that the five-day limit for a short voyage, as provided by the present Act, has not worked most satisfactorily?

A.—I thought three days a safer limit than five days.

(2) I know of no case in which five days have proved too long a period for safety.

8. *Q.*—Are you of opinion that the conditions justify a distinction being made between fair and foul weather in the case of voyages which may extend to five days?

A.—I am.

9. *Q.*—Are you of opinion that the seasons of fine weather defined in the Rules are judiciously chosen with reference to the prevailing conditions?

A.—The present established dates, September 1st to May 15th, seem to me suitable dates.

10. *Q.*—Will you mention instances of foul weather occurring during the seasons which are by rule declared to be seasons of fair weather?

A.—Cyclonic storms sometimes occur in November.

11. *Q.*—Are you acquainted with the ordinary conditions of native life amongst the class that form the bulk of the native passengers who travel by sea?

A.—I am.

12. *Q.*—Are you aware that it is a common practice for natives of India to sleep at night in the open air?

A.—I am.

13. *Q.*—Have you had any personal experience of the weather round the coast of the United Kingdom and in the Bay of Bengal and on the coasts of India?

A.—I have.

14. *Q.* (*By Captain Street*).—Will you be good enough to state what this experience has been and where?

A.—I have travelled in December from Calcutta to Madras. I have travelled in the Bombay steam ferry boats and on the coast near Bombay. I have travelled from London to Satti, from Glasgow to Belfast, from Dublin to Holyhead and on the west coast of Scotland.

15. *Q.*—Do you consider that there is such similarity as to warrant a comparison between the weather experienced on the coast of the United Kingdom or between the rivers Elbe and Brest (English Home Trade voyage) and that experienced in the Bay of Bengal and coasts of India?

A.—I do not.

16. *Q.*—Do you consider the conditions of English and Indian passenger traffic to be similar in any other way than that the traffic under discussion is by sea?

A.—The conditions are very dissimilar.

17. *Q.*—Do you think the ordinary native passenger would be prepared to pay more for better accommodation?

A.—I think not.

18. *Q.*—Is it not a fact that very well-to-do native merchants are satisfied with the usual deck accommodation?

A.—It is a fact.

19. *Q.*—Have you any special suggestions to make in regard to voyages similar to those classed as excursions by the Board of Trade, *i.e.*, voyages during which a vessel is not more than ten or twelve hours at sea?

A.—The Bombay steam ferry boats that ply across the harbour are under no restriction as to the number of passengers they may carry. No need for any such restriction has arisen. The boats are large. In the fair season they are rarely crowded; during the stormy months they are never nearly full.

20. *Q.* (*By Captain Wilson*).—You say that in the fair season these ferry steamers are rarely crowded. Can you state the maximum number of passengers which one of these ferry steamers can carry when crowded?

A.—I cannot.

21. *Q.*—How is the number of passengers which a vessel is capable of carrying calculated in each case?

A.—By measurement of available deck space and allotment of passengers according to the Act.

22. *Q.*—If so, would you consider it proper to allow for height of 'tween deck as an element in the health and comfort of third class native passengers?

A.—I consider it proper.

23. *Q.*—Do you know the height of the 'tween decks in the British India steamers?

A.—About 7 feet.

24. *Q.*—What is the maximum height between

deck in these steamers carrying native passengers? What is the average height?

A.—Maximum 7½. Average 7.

25. *Q.*—Are you aware that there was an old rule in India which allowed ships to carry 3 passengers for 2 tons?

A.—Not traced in Bombay.

26. *Q.*—Is the Board of Trade Rule, under which the number of passengers carried must not, whatever the deck measurements may give, exceed the number denoting the gross tonnage of the vessel, enforced in India?

A.—Not enforced in Bombay.

27. *Q.*—What spaces are left unmeasured for passengers when a vessel is being measured for Certificate A?

A.—(1) Alley-ways less than about 3½ feet.
(2) Forecastle.
(3) Accommodation for officers and crew.

28. *Q.* (*By Captain Street*).—Is no space on the top-gallant forecastle left unmeasured?

A.—I am not aware whether this is the case.

29. *Q.*—How are the hatches treated when a vessel is being so measured, *i.e.*, is the whole space of a hatch deducted or not? Is any difference made on account of long and short voyages?

A.—In a short voyage the whole hatch is deducted. In a long voyage if the hatch is over 120 superficial square feet half is allowed; if not over 120 feet the whole is deducted.

30. *Q.*—Are the spaces which would be required for the deck water-tank, latrines, and cooking ranges, necessary for use of native passengers, deducted from the passengers' space, even if such articles are not in position at the time a vessel is being measured?

A.—The spaces occupied by all fixtures are deducted. Questions regarding movable encumbrances are asked. If the encumbrances are to remain, the space they occupy is deducted.

31. *Q.*—Are any spaces deducted so as to admit of the officers and crew moving fore and aft the vessel with facility and their getting with ease at the boats and boats' gear. If not, have you any recommendations to make on this head?

A.—No such spaces are deducted. The present arrangement seems suitable.

32. *Q.*—Should alley-ways used as a means of communication by the crew be considered as deck area for passengers, *i.e.*, the narrow passages between the officers' cabins and the engine-room-casing? If so, would it not be advisable to give a minimum breadth before allowing the area to count for passengers?

A.—A minimum breadth of 3½ feet seems suitable.

33. *Q.*—Are not these alley-ways additional shelter and, therefore, desirable for passengers?

A.—I do not think it desirable that the space in alley-ways should be measured for passengers is excess of the present practice.

34. *Q.*—For ships with large water-ways in the 'tween decks extending inside the battens on the ship's side, is the deck measurement made to the inside edge of the water-ways or to the battens? Which would you recommend?

A.—The measurement should be made to the inside edge of the water-ways.

35. *Q.* (*By Captain Atkinson*).—If the water-ways which are in all modern ships gutter-ways, were covered by gratings or properly fitted planks, would you object to the additional space being measured for passenger space?

A.—To cover with planking the water-way seems to me the objection I thought implied.

36. *Q.*—Should the spaces set apart for the boats on the bridge deck be utilized for passengers when the boats are carried at the davits? If so, state whether during both fair and foul seasons or only during the fair season?

A.—When the boats are carried on the davits the space might be measured for passengers either in fair or in foul weather.

37. *Q.*—In your opinion, are the provisions of the Native Passenger Ships Act, and the rules made under it, in regard to the accommodation to be provided for native passengers on long voyages and short voyages, suitable?

A.—So far as I can judge the sanctioned space, both in long and in short voyages, is sufficient. The rates are, for long voyages 9 feet between decks and 6 feet on the upper deck; and for short voyages for upper deck passengers 6 feet each; for between deck passengers 6 feet between decks and 4 feet on upper deck. The practice of taking large quantities of baggage interferes with the arrangement. In short voyages the baggage is chiefly bedding and this necessarily enters into the calculation of space. I am told that in long voyages other baggage, some for sale, is often taken. The proper course would be to insist on baggage not required on the voyage being put in the hold. The objections to this course are—

(*a*) These packages are seldom either addressed or properly fastened.

(*b*) There is no means of having them addressed or fastened before the owners come on board.

(*c*) Boats have to leave as soon as they have taken in their passengers. There is therefore no time to have the baggage, not wanted for the voyage, labelled and properly fastened on board.

In these circumstances the only course seems to be to increase the space, say, from 9 to 12 feet. To any such proposal the serious objection applies that an increased demand for space implies enhanced fares, which to most travellers of the pilgrim class is a much greater evil than discomfort is.

Especially in short voyages I incline to think that the greatest care is required to discourage proposals which must lead to a rise in fares.

38. *Q.* (*By Captain Street*).—Have you ever seen a native passenger vessel, with her full complement of passengers on board, for a short voyage?

A.—I have not.

39. *Q.* (*By Captain Street*).—Should the 4 feet of space on the upper deck be fully occupied by 'tween deck passengers, do you think that an upper deck passenger could lie down in the 6 superficial feet allowed to him?

A.—I have not made experiments.

40. *Q.*—Do you think that a passenger on a voyage lasting 10 or 12 hours requires as much room as one on a voyage lasting five days?

A.—He does not require so much room. If the journey lasts only 10 or 12 hours, sitting room is enough. If for five days, the passenger requires room to lie at length. He also requires more room to move about in. Further, in the long voyage he would have much more baggage than on the short trip.

41. *Q.*—Do you think that native passengers can do with less space than Europeans?

A.—I think especially on short trips native passengers require much less space than Europeans. They are smaller; they can keep quieter. They are accustomed to be crowded.

42. *Q.*—What proportion do you consider that

the space allotted to natives should bear to the space allotted to Europeans?

A.—I should think that nearly twice as many native passengers as Europeans can be accommodated in a given space.

43. *Q.*—Assuming that this proportion is adopted, would it, in your opinion, affect the health, comfort, and safety of native passengers in any way?

A.—My feeling in the matter of space is that if any attempt is made to enforce abundant space rules, that the attempt will cause serious injury to the native passengers. Such travellers are, in the bulk of cases, perhaps 80 per cent. of the whole numbers, of the labouring classes. To them cheap fares are a necessity. They are accustomed to live in crowded houses. If they were consulted they would prefer to be crowded rather than to pay higher fares. In this, I believe, they would be right.

44. *Q.*—Do you consider that on a voyage, which may extend to five days, native passengers can be accommodated in the 'tween decks of a steamer at the rate of one passenger to each six square feet of area, with four square feet of airing space on the upper deck, without prejudicing their health and safety?

A.—I think this allotment sufficient.

45. *Q.*—Do you think it necessary for the health and safety of the passengers that there should be on a voyage, which may extend to five days, permanent shelter for each passenger either 'tween decks or in cabins on the upper deck?

A.—Permanent shelter is not necessary except in the foul season.

46. *Q.* (*By Captain Atkinson*).—Would not the saloons and cabins and other places on deck provide all the shelter necessary in the so-called foul season, *i.e.*, not continuous foul weather?

A.—I think, as a rule, the existing protection is sufficient.

47. *Q.*—Do you think that on a voyage, which may extend to five days, there should be separate accommodation for female passengers?

A.—Among Hindus, female passengers stay close to their male relatives. Mahomedans, at least of the better-off class, might prefer to have separate accommodation for female passengers.

48. *Q.*—Do you know of any steamers which carry native passengers on two upper decks?

A.—Shepherd's steamers of the latter pattern have two upper decks for passengers. The *Kistna*, the *Kharagola*, the *Aska*, and the *Kapurthala*, of the British India Company, all claim to have, and are registered at Lloyd's as having, a deck and shelter deck equivalent to two upper decks.

49. *Q.* (*By Mr. Shepherd through the President*).—Are you not in error in describing Shepherd's steamers as having two upper decks?

A.—I know Shepherd's steamers. I understood the upper decks was the received description.

50. *Q.*—Do you consider, from the wording of the Native Passenger Ships Act and your experience of this question, that the Legislature, when it passed the Act, contemplated the existence of vessels with more than one upper deck?

A.—When the original (1876) Native Passenger Ships Act was passed, there were, I believe, no vessels with two upper decks. There is nothing, so far as I am aware, in the latter Act to suggest that this change in construction was brought to the notice of the Legislature.

51. *Q.* (*By Mr. Shepherd through the President*).—Is not the original Native Passenger Ships Act No. 1 of 1858 or 1859?

A.—I understood 1876 was the first Native Passenger Ships Act.

52. *Q.*—Are you acquainted with the design of the steamers of the *Kistna* class?

53. *Q.*—What is the distinguishing feature of these steamers?

54. *Q.*—In your opinion, are the middle passenger decks of these steamers between decks or upper decks within the meaning and intention of the Native Passenger Ships Act? Give your reason for this opinion.

A.—To questions 52, 53 and 54—It appears to me that vessels of the *Kistna* class might, in a cold climate, be fairly held to have two upper decks. The openings at the sides, especially in the *Aska*, which has 17 shutters instead of 13 in the *Kistna*, are sufficient for all purposes of ventilation in a cold climate. So far as I can judge, the middle deck is too shut in, even with the shutters open, to be reckoned as an upper deck in a hot climate.

55. *Q.*—Are the passengers on these middle decks as well protected in rough weather as the passengers on the lowermost of the three passenger decks?

A.—My opinion is that the passengers are sufficiently protected against rough weather in the second or middle deck. The second or middle deck seems to me a better place for passengers than the third deck. If the *Kistna* or other vessel of her class is fully loaded, I believe the third deck scuttles are within two feet of the water level. These ships are seldom laden to the load line. Still, even when light in any but the stillest weather, the scuttles of the third deck would have to be closed. I doubt if the hatches, though they are large, are by themselves sufficient ventilation for a hot climate.

56. *Q.*—Are these passengers on the middle deck not better protected than on ordinary upper decks?

A.—Passengers on the middle deck are better protected than passengers on the upper deck. Objection is taken to the middle deck being considered an upper deck, not because the middle deck is wanting in protection, but because it is deficient in air.

57. *Q.*—During the inclement weather do you consider that the upper deck passengers are sufficiently protected by canvas awnings? If not, what would you recommend?

A.—I think awnings are sufficient.

58. *Q.* (*By Captain Atkinson*).—In making your answer that you consider the middle deck deficient in air, have you taken into consideration ventilation provided by structures such as engine-rooms, skylight, stokehole, companion-ways and other means (all communicating with that deck) as efficient natural ventilation?

A.—I answered you what seemed to me the available open space for ventilation. I am not able to say how much additional ventilation the openings referred to might supply.

59. *Q.*—Do you consider that sufficient protection from the sea is afforded to upper deck passengers by the "reasonably stout screen" which, under existing rules (*see* Government of India letter No. 430, dated 27th August 1878) is held as coming within the definition of a substantial bulwark? If not, state what you would recommend in lieu.

A.—A good canvas screen seems to me sufficient. The Resolution referred to has not been traced in Bombay.

60. *Q.*—What is the height of the middle deck above the load line?

A—About three feet.

61. *Q.*—Under existing rules are the arrangements to prevent injury to passengers by the rolling of the ship sufficient for the purpose?

A.—In the Shepherd's steamers, which are practically solely for passengers, permanent metal railings run fore and aft along the middle of the deck. In the British India ships, which are partly cargo-carriers, permanent railings would be in the way. In these vessels temporary bamboo railings are fastened to the stanchions. This arrangement seems sufficient. No instance is known on this coast in which passengers have suffered from defective arrangements against rolling.

62. *Q.* (*By Captain Wilson*).—With reference to the permanent metal railings running fore and aft along the middle of the decks of Shepherd's steamers mentioned in your reply, is this from your own personal observation?

A.—It is.

63. *Q.*—Are any special fittings required under the Native Passenger Ships Act on the passenger decks, for the reception of the bundles, boxes, and other articles usually carried by native passengers? If so, state what you would recommend?

A.—The Act does not require any special fittings for baggage.

64. *Q.*—Is it necessary for the comfort or safety of the passengers that provision should be made for the accommodation of luggage not stored in the hold?

A.—It would be a great advantage if the baggage kept by passengers with them on the deck were limited to their bedding and other articles required on the voyage. The answer to question 58 shows that the want of addresses and proper fastenings makes it a difficult and risky matter to make passengers give up their baggage. There is also the difficulty that most passengers do not know in which of their boxes and bundles the things wanted on the voyage are packed. To force them to part with all their kit except one bundle of bedding and necessaries would cause much suffering. Probably such a rule could not at present be carried out. At the same time, in the case of long and pilgrim voyages as the practice prevails of taking large quantities of baggage, I would suggest that discretion should be given to the inspector who passes the ship to direct the Captain to have the excess portion of any large amount of baggage belonging to one passenger taken to the hold. To prevent deck-hamper and also to steady the ship, it is preferable to have spare baggage in the hold than on the deck.

65. *Q.*—If such accommodation were provided, would it be used? Will native passengers allow their luggage to be parted from them under any circumstances?

A.—The objections raised by passengers to parting with baggage, in the present conditions of want of addresses and want of proper fastenings, are sensible. To force passengers to part with their baggage would cause much discomfort and probably loss.

66. *Q.*—Do you think that on a voyage, which may extend to five days, sleeping platforms should be provided for the passengers?

A.—Sleeping on bedding on the decks seems to me more suitable than introducing platforms. It would hardly be possible to lay the platforms of an evening and clear them in the morning. If the platforms were permanent, they would be greatly in the way.

67. *Q.*—What closet accommodation do the rules require on native passenger vessels?

A.—*Short voyages*—Two accessible upper deck privies for one hundred passengers and one privy more for every additional hundred or fraction of a hundred passengers.

Pilgrim voyages—The same except that the privies or latrines must each be two-seated. Of the privies not less than one to be set apart for female passengers. The present arrangement seems sufficient.

68. *Q.*—What accommodation of the kind is provided for emigrants?

A.—There are no emigrants in Bombay.

69. *Q.*—Do you think the existing rules in regard to hospital accommodation are suitable?

A.—I do.

70. *Q.* (*By Captain Street*).—Have you ever seen the temporary hospital required under the Act in position?

A.—I have not.

71. *Q.*—Do you consider that cargo, horses, cattle, sheep, and live-stock should be carried on the same deck with passengers? If so, is any fitting necessary to prevent the passengers from being inconvenienced by the urine and dung of the horses, cattle, and sheep; and if any such fitting is requisite, state what you would recommend?

A.—If possible cargo or live-stock, if carried on the same deck with passengers, should be separated from the passenger space by bulkheads or boarded partitions. No special provision seems required in the case of one or two horses belonging to passengers. Restrictions seem required only in the case of cargoes of horses or other live-stock.

72. *Q.*—In vessels which, under existing rules, are permitted to carry horses, cattle, and sheep with native passengers, are sufficient precautions adopted to prevent the hay and straw provided for the use of such animals from catching fire either from a spark from the ship's funnel or lighted matches? If not, state what extra precautions you would recommend?

A.—Hay and straw should be stowed away or covered. Under existing rules the carrying of hay and straw is not specially regulated.

73. *Q.*—In your opinion are the provisions of the Emigration Act and the rules made under it in regard to the accommodation to be provided for native emigrants, suitable?

A.—They seem suitable.

74. *Q.*—After a vessel has been measured for Certificate A, is the Captain supplied with the Surveyor's calculations? If not, do you think it necessary that he should be?

A.—Under the present arrangements a Captain can get a copy of the Surveyor's calculations on paying a fee. It does not seem necessary to supply a copy free of charge. The present arrangement seems to work smoothly. Complaints by Captains of inaccurate calculations by Surveyors are almost unknown. If a Captain had cause of complaint he may bring the matter before the Collector. Hitherto all points in dispute have been settled between the Captains and the Superintendent of the Preventive Service. I see no reason to suppose any other arrangement would work better.

75. *Q.*—If so, would you recommend that the calculations show clearly the names of the various obstructions which have been deducted from the gross area, their dimensions and the proportional area deducted?

A.—The measuring inspector's book shows the details contemplated in question 110.

76. *Q.*—Do you consider a double awning overhead with side curtains and bulwark screens, as required by the Native Passenger Act, equal to the ordinary tent in which troops are accommodated?

A.—A double awning is, I think, more protection against the sun than an ordinary tent. Against wind and cold the tent is probably a more complete protection than the side curtains and bulwark screens.

77. *Q.*—Being acquainted with the class of natives who form the bulk of those who travel by sea, do you consider they require better accommodation for their health and comfort than native troops?

A.—I do not.

78. *Q.*—Will you furnish the Commission with your opinion as to the sufficiency or otherwise of the space allowed by the Act and rules generally?

A.—It appears to me that if in practice every passenger enjoyed as much space as the rules contemplate, no change need be required. It appears to me doubtful whether, in practice, passengers get the space to which they are entitled on long voyages. Nine feet in 'tween decks and 6 feet on all of the upper decks would be enough if arrangements could be made regarding the storage of baggage not wanted on the voyage. If baggage cannot be stowed away it may be necessary in the case of pilgrim voyages to increase the 9 feet to the 12 feet allowed for emigrants.

As regards short voyages, the existing practice is to consider the whole space available to all the passengers, and to calculate the number of passengers which can be carried on the basis that no between deck passenger can claim more than 6 feet in the 'tween decks and 4 feet in the upper decks, and that no upper deck passenger can claim more than 6 feet. In practice both first and second class passengers have a part of the upper deck which they specially use. Under the rule, if the ship is crowded, no first class passenger can claim (except his cabin—if the ship has a cabin) more than 6 feet of the upper deck. It therefore follows when the ship is full, either the first and second class passengers are most unsuitably crowded, or the third class passengers are crammed in the space to which they are confined when the ship is not full.

Some change in this arrangement seems to me necessary. I venture to think that Government are bound to secure that, equal with trains, ships plying along the coast for passengers should provide separate accommodation for first, second, and third class passengers. That in consulting with the owners of the ships, the Government officers working the Act should frame rules determining the accommodation required to meet the three branches—the first, second, and third classes—of the passenger traffic; and that the area required for the first and second class accommodation should be deducted from the space to be alloted to third class passengers at 6 feet a head.

I think a similar alteration is equally required in the case of long voyages and pilgrim voyages.

One point I desire to bring to the notice of the Commission is, that under existing rules a specially reduced space of 4 feet is allowed for the voyage to Rewadánda—about 30 miles down the coast from Bombay:

So far as the nature of the voyage is concerned, there seems no objection to this concession. At the same time the concession gives opening to an abuse which is difficult to check. Boats starting down the coast may claim an undue number of passengers, stating that the surplus over the regular complement are all for Rewadánda. The correctness of the statement it is in practice impossible to check without undue delay. Similarly, boats reaching Bombay from down the coast with an overload of passengers may claim the Rewadánda concession. In this case also it is practically impossible to ascertain whether the whole surplus number have actually come from Rewadánda. In these circumstances it seems to me advisable that the special concession should cease.

As regards the pilgrim traffic, it seems advisable to fix a minimum tonnage for vessels carrying pilgrims from Bombay during the south-west monsoons. I would suggest 500 tons gross register as a suitable minimum.

I further incline to hold that no undecked country boat should be allowed to carry more than 30 passengers. The legal opinion of the legal officers of Government is that under the rules the space available for an undecked craft must be calculated on the area of the skin of the vessel, *i.e.*, of the sides of the bottom or hold of the boat. It follows that under the rules an undecked vessel can carry more passengers than a decked vessel of the same tonnage. To prevent this practical abuse I would recommend that no undecked country craft should be allowed to carry more than 30 passengers.

79. *Q.* (*By Captain Atkinson*).—With reference to the first part of your answer in which you say that there is not space reserved for first and second class passengers, are you not aware that the poop or deck over the first class saloon and cabins is measured separately and cannot be used for native passengers if even one first class passenger is carried?

A.—I was not aware of this rule.

80. *Q.* (*By the President*).—Four feet measurement to Rewadánda is one foot more than that allowed to similar traffic at Home—say, Greenock to Ardrishraig. Is it so?

A.—I believe it is.

81. *Q.* (*By the President*).—If a separate steamer ran to Rewadánda only and no further, would you allow any reduction in space?

A.—If a separate steamer went to Rewadánda, I think the concession might continue at least in the *jari* season and by day.

82. *Q.* (*By Mr. Shepherd through the President*).—Supposing a steamer was running to Bankote and back, would you make any difference in the measurement allowed?

A.—I would prefer to limit the concession to Rewadánda steamers.

83. *Q.* (*By Mr. Shepherd through the President*).—Do your records contain any complaints against Shepherd's steamers?

A.—I am not aware of any complaints on the records against Shepherd's steamers.

84. *Q.* (*By Captain Street*).—Do you see any objection to gunpowder and other explosives in excess of the supply required for ship's use being carried in a native passenger vessel even should there be a properly constructed magazine on board?

A.—I know of no inconvenience or accident caused by the carrying of gunpowder. I do not think any necessity for change exists.

85. *Q.* (*By Mr. Shepherd through the President*).—Are you aware that Shepherd's are not even allowed to carry cocoanuts, much less explosives?

A.—I am not.

86. *Q.*—Do you consider that native passenger ships should carry a medical officer. If this were made compulsory, would you make any difference for the numbers carried or for the duration of the voyage?

A.—Ships going on long voyages, if they carry over one hundred passengers, should have a medical officer. A medical officer for a short voyage seems unnecessary.

87. *Q.*—What grade of medical officer would you consider best suited for these vessels?

A.—A medical officer of the grade of a hospital assistant seems sufficient.

Evidence of CAPTAIN *MAURICE BEAN, H.M.I.M., Acting Port Officer, Bombay.*

[NOTE.—Captain Bean had no evidence to offer except in regard to the following questions.]

1. *Q.*—What would be the effect if, assuming all other existing Indian rules to remain intact, the Board of Trade rule, under which the number of passengers carried must not, whatever the deck measurement may give, exceed the number denoting the gross tonnage of the vessel, were enforced in India?

A.—(*1*) The effect of passing a rule that the number of passengers to be carried should not exceed the number denoting the gross tonnage of the vessel, would be that it would stop the passenger traffic in steamers entirely between the small ports on this coast, as the Bombay Steam Navigation Company would have to increase the rates so much that passengers would not be able to afford to pay, and they would fall back on the old system of going by pattiamars, which is much more dangerous to life than the present arrangement.

(*2*) There are, sailing out of this port, a number of vessels which have been built of light draft, specially for the passenger trade on this coast, and in these vessels every advantage has been taken by adding an awning deck fore and aft to extend the deck space for passengers without increasing the tonnage of the vessels. This awning deck over so small and lightly constructed a hull, in my opinion, renders the vessels unfit to contend with any bad weather, such as a cyclone. From what little I have seen of the passenger traffic on the coast of the United Kingdom, these vessels would not be allowed to run with passengers outside of the smooth-water limits excepting for daylight trips only.

(*3*) I attach a statement containing some particulars of vessels carrying passengers from this port, the numbers of passengers allowed having been ascertained from the Superintendent, Preventive Service, who controls the traffic. The first five vessels carry cargo and passengers, and for a short voyage in the fair season they carry from less than 1 adult to 1·8 per ton gross. The next 7 vessels—*Zuari*—*Godavari*—are those which I consider unseaworthy on account of their awning deck. I know they have run for years without accident, but they have to thank the fair weather generally prevailing on this coast for that, and the loss of the *Vaiturna*, in what was only a very mild cyclone, tends to support my argument. It will be observed in the statement that the 7 vessels are allowed to carry from 4 to 4·5 adults per ton gross for a short voyage in fair weather and from 5 to 6·6 per ton to or from Rewadanda.

(*4*) The majority of the British India Steam Navigation Company steamers carry less than 1 adult per ton, and the *Busheer* and *Kistna* 1·1, and I do not think that 1·1 can be considered excessive when the class of passengers and the weather is compared with the same in the United Kingdom, but it is advisable to fix upon a number in proportion to the gross tonnage to check the further extension of awning decks, and I consider that for ordinary sea-going vessels, 1·1 adult per gross ton should be the extreme limit, the present rules remaining as they are.

(*5*) In the 7 coasting vessels referred to above, no cargo is carried, the entire vessel, excepting engine and crew spaces, being given up to passengers, and from the nature of the trade, which demands small vessels of light draft, they require special treatment, or the old system of travelling in pattiamars will be resorted to.

(*6*) The proper way to deal with them is, in my opinion, to restrict the amount of awning deck to a safe limit in proportion to the size of the hull, say ⅓ to ½ of the length of the vessel. This would considerably reduce the number of passengers, as the awning deck, I think, has more superficial feet than the main deck available for passengers, and probably three times as many as below the main deck. I have not the measurement of the different decks before me, but am working on my memory from what I have seen of the vessels, many of which I have measured for tonnage. This great topweight of deck and the larger number of passengers on it is what makes the vessel unseaworthy in my view, and the only way to remedy this is to decrease the size of the awning deck.

(*7*) I would suggest that the coasting passenger vessels of the class referred to should only be allowed to carry 3 adults for 1 ton gross, and that that number should be fixed as the maximum for the vessels in that trade, the limits of which should be between Kárwár and the Gulf of Cambay; that a maximum of 2 adults per gross ton should be allowed between Cutch Mándvi and Bombay; that beyond the limits of Cutch Mándvi and Kárwár 1·1 should be the maximum per ton gross, other rules remaining as they are. Three adults would reduce the passengers to the number given in the statement, column 1, and I would also allow vessels plying in the harbour (ferries) to carry 3·5 adults per ton gross, but not beyond the harbour limit. This should not so far reduce the number of passengers as to necessitate any material increase in the fare, which is a most important point in this case, otherwise I should not recommend these vessels being allowed to carry more than 2 adults per ton gross. The above is intended to apply to the fair season only; the number allowed in the foul weather should not exceed 1 adult per ton gross for all classes of vessels.

Name of Vessel.	Number at 3 per ton.	Number of decks on which passengers are carried.	Gross tonnage.	Net tonnage.	Short Voyage. Number of passengers allowed. Fair Season.	Short Voyage. Number of passengers allowed. Number per ton gross.	Foul Season.	To Rewadanda. ...	To Rewadanda. Number per ton gross.
SHEPHERD & Co.									
S. S. *Kaveri*	...	...	872·44	513·35	724	*	363	...	...
„ *Neera*	...	...	356·59	168 83	656	1·8	328	834	...
„ *Bheema*	...	...	444·91	196·66	507	1·1	218	...	...
„ *Ponani*	...	...	871·60	542·78	726	*	357	...	...
„ *Krishna*	...	...	448·52	199·11	518	1·1	214	...	...

* Less than 1 per ton.

Name of Vessel.	Number at 3 per ton.	Number of decks on which passengers are carried.	Gross tonnage.	Net tonnage.	Short Voyage. Number of Passengers allowed. Fair Season.	Short Voyage. Number of Passengers allowed. Number per ton gross.	Foul Season.	To Rewadanda. ...	To Rewadanda. Number per ton gross.
SHEPHARD & Co.—*contd.*									
S. S. *Zuari*	751	...	217·89	94·96	884	4·	296	1,263	5·7
„ *Shiravati*	600	...	200·16	81·21	866	4·3	307	1,234	6·1
„ *Kalinadi*	600	...	200·55	81·31	866	4·3	307	1,234	6 1
„ *Shastri*	594	...	198·22	83·65	827	4·3	282	1,170	5·9
„ *Rajapuri*	705	...	235·75	83·86	889	3·7	292	1,267	5·4
„ *Savitri*	678	...	226·99	71·51	805	3·5	265	1,144	5·0
„ *Godaveri*	543	...	181·91	56·87	824	4·5	266	1,207	6·6
B. I. S. N. Co.									
S. S. *Simla*	...	...	1,615·28	1,039·35	1,031	*	733	...	...
„ *Busheer*	—	...	792·14	538·66	883	1·1	649	...	...
„ *Karagola*	...	...	1,168·20	597·67	967	*	746	...	...
„ *Kilva*	...	...	1,551·78	993·24	894	*	682	...	...
„ *Kistna*	...	...	1,114·77	480·51	1,229	1·1	963	...	...
„ *Assyria*	...	...	1,494·93	969·50	808	*	440	...	...
„ *Kapurthala*	...	...	1,122·19	671·77	1,006	*	854	...	...
„ *Arabia*	...	...	1,080·0	674·62	569	*	451	...	...
„ *Pemba*	...	...	1,536·19	986·93	905	*	692	...	...
„ *Baghdad*	...	...	1,270·92	809·40	860	*	646	...	...
„ *Purulia*	...	...	1,554·30	993·46	839	*	630	...	...
„ *Satara*	...	...	1,301·03	820·88	864	*	433	...	...

* Less than 1 per ton.

NOTE.—The questions put by the President in connection with the above evidence were furnished to him by Mr. J. A. Shepherd and Mr. J. Moir, of the Bombay Steam Navigation Company, who were both present at the time.

2. *Q.* (*By Captain Wilson*).—Will you please state under what Act, if any, the Bombay Harbour ferry steamers ply?

A.—I do not know.

3. *Q.* (*By Captain Wilson*).—Will you please state if the ferry steamers plying within the harbour are ever crowded? If so, what is the maximum number of passengers a ferry steamer can carry when so crowded?

A.—I cannot say.

4. *Q.* (*By Mr. Shepherd through the President*).—There are sailing out of this port a number of vessels which have been built specially of light draft for the passenger trade—do you not mean—built of light draft *specially* for the passenger trade?

A.—Yes.

5. *Q.* (*By Mr. Shepherd through the President*).—What do you think is the object of building them specially of light draft?

A.—So that they can get over the bars and up to the landing places.

6. *Q.* (*By Mr. Shepherd through the President*).—They are built specially of light draft to get up the rivers or to anchorage—is there any other reason?

A.—I do not know of any other reason.

7. *Q.* (*By Mr. Shepherd through the President*).—You say these vessels would not be allowed to ply outside smooth-water limits, are you aware that they all come out to this country with a Home Trade passenger certificate from the Board of Trade?

A.—I know the *Vaitarna* had such a certificate.

8. *Q.* (*By Mr. Shepherd through the President*).—Then your statement regarding smooth-water limits is incorrect?

A.—If they have these certificates, I presume they can be produced.

9. *Q.* (*By Captain Wilson*).—Do you not think these vessels were specially built for the outward voyage?

A.—I do not know.

10. *Q.* (*By Captain Wilson*).—Do not steamers especially built for inland river traffic come from England in the same way with temporary bulwark?

A.—Yes, frequently.

11. *Q.* (*By Mr. Shepherd through the President*).—Are you aware that all these steamers have been built to Board of Trade requirements and Inland Lloyd's requirements for passenger steamers?

A.—No; I am not.

12. *Q.* (*By Mr. Shepherd through the President*).—Can you say they are not so constructed?

A.—No, I cannot say that.

13. *Q.* (*By Mr. Shepherd through the President*).—In what respect are the hulls lightly constructed?

A.—The frame and water-ways and arrangements for strengthening the vessel are not so strong as they should be.

14. *Q.* (*By Mr. Shepherd through the President*).—Have you any idea of the dimensions of the scantlings used?

A.—I saw the section of the *Vaitarna* and a comparison of the strength of that vessel and what would be required by the Lloyd's, and form my opinion from this.

15. *Q.* (*By Mr. Shepherd through the President*).—If Lloyd's offer to class the *Vaitarna* on the same scantling as produced, will you still adhere to your former assertion?

A.—No. How could I?

16. *Q.* (*By Mr. Shepherd through the President*).—Have you any knowledge of practical shipbuilding? Could you determine the dimensions of scantling yourself?

A.—No. I could not.

17. *Q.* (*By Mr. Shepherd through the President*).—In what respect is this tracing incorrect or too slight?

A.—I am not prepared to answer the question.

18. *Q.* (*By the President*).—With reference to your answers at the end of paragraph 2, do you still maintain that what you state is correct? If not, will you cancel this statement?

A.—No. I do not alter my opinion.

19. *Q.* (*By Mr. Shepherd through the President*).—What effect has the awning deck on the stability?

A.—It might assist in making the vessel top heavy.

20. *Q.* (*By Mr. Shepherd through the President*).—Has beam any effect on stability?

A.—Yes, to a certain limit.

21. *Q.* (*By Mr. Shepherd through the President*).—Are you aware that the stability of these steamers was tested by Government and proved satisfactory?

A.—Yes. I know two vessels were tested, but do not know under what condition.

22. *Q.* (*By Mr. Shepherd through the President*).—To what limit has beam an effect on stability, and what is the usual proportion of beam to length?

A.—I do not know.

23. *Q.* (*By Mr. Shepherd through the President*).—Could you test a vessel for stability yourself?

A.—No; but as a seaman I know whether a vessel is stable or not.

24. *Q.* (*By Mr. Shepherd through the President*).—What amount of list would make a vessel unstable?

A.—It would depend entirely upon the shape of the vessel and amount of top, weight, and ballast.

25. *Q.* (*By Mr. Shepherd through the President*).—What amount of list would make the *Zuari* unstable?

A.—I have not worked it out. It would require a naval architect to assure its guarantee.

26. *Q.* (*By Captain Wilson*).—Do you consider that any comparison can be drawn between the testing of a vessel's stability in dock with certain weights representing the weight of passengers she can carry, and the altered conditions of the vessel at sea full of passengers with beam, sea and fresh breeze?

A.—No. But I would allow a naval architect to draw some conclusions as to his propositions in a sea way.

27. *Q.* (*By Mr. Shepherd through the President*).—But you consider the *Zuari* unstable without such an opinion to assist you?

A.—Yes; as a seaman I do.

28. *Q.* (*By Mr. Shepherd, through the President*).—Is not the average length of steamers 9 breadths?

A.—It varies from 6 to 10 I think.

29. *Q.* (*By Mr. Shepherd through the President*).—Then, if the *Zuari* is only 6 beams to her length she is exceptionally broad?

A.—Yes, but so are river steamers.

30. *Q.* (*By Mr. Shepherd through the President*).—What river steamers?

A.—Bengal and Burma vessels, such as the *Irrawaddy*.

31. *Q.* (*By Mr. Shepherd through the President*).—The Bengal and Burma steamers do not go out to sea?

A.—Yes, they do occasionally.

32. *Q.* (*By Mr. Shepherd through the President*).—Do you know the beam of the *Irrawaddy?*

A.—No.

33. *Q.* (*By Mr. Shepherd through the President*).—Then how do you know that the *Irrawaddy* has great beam?

A.—All river steamers have great beams and little depth.

34. *Q.* (*By Mr. Shepherd through the President*).—Do you know that the Passenger Act of 1876 cancelled the provision of 1858 regarding number of passengers to the ton?

A.—I know there is no provision of this kind now in force in India.

35. *Q.* (*By Mr. Shepherd through the President*).—Did you know Act I of 1858 when you framed paragraph 4 of your letter?

A.—I may have seen the Act, but it having been cancelled I did not consider it.

36. *Q.* (*By Mr. Shepherd through the President*).—Has not your department year after year declared that the hulls and machinery of the Shepherd vessels are sufficient for the service intended and in good condition, and are you not still granting certificates to that effect, notwithstanding your present declaration that they are unseaworthy?

A.—That is the Surveyor's business. I could not alter a practice that has continued for years on my own responsibility. I consider the certificate incomplete and liable to mislead the Surveyors, as they do not know how many passengers may be put on board.

37. *Q.* (*By Mr. Shepherd through the President*).—Have you ever made any representation to Government or Messrs. Shepherd & Co., to the effect that you consider the vessels unseaworthy?

A.—No question of the kind has arisen during the time I have acted as Port Officer or Assistant, but it has always been my opinion that they are unseaworthy.

38. *Q.* (*By Mr. Shepherd through the President*).—Supposing the open sides of the *Zuari* were plated to the upper deck, how would this affect the tonnage and how would it affect her present passenger license on the basis you propose in paragraph 4?

A.—It would increase the tonnage and would decrease the passengers, as it would make its main deck a 'tween-deck, but unless the vessels were strengthened and had extra ballast, they would be just as unseaworthy as before.

39. *Q.* (*By Mr. Shepherd through the President*).—What weight in your opinion placed upon the upperdeck of the *Zuari* would affect her stability?

A.—The weight of a deck-load of passengers.

40. *Q.* (*By Mr. Shepherd through the President*).—Have you any idea of the weight of 100 passengers with their luggage?

A.—No, never calculated it.

41. *Q.* (*By Mr. Shepherd through the President*).—Then on what grounds do you base your assertion that the large number of passengers on upperdeck makes this vessel unseaworthy?

A.—On the ground given in paragraphs 2 and 6 of my reply to the first question.

42. *Q.* (*By Mr. Shepherd through the President*).—Do you consider the *Kaveri* and *Ponani* seaworthy and stable?

A.—I have not examined these vessels, but should think they are.

43. *Q.* (*By Mr. Shepherd through the President*).—In what respect do you consider the *Kaveri* class differs from the *Zuari* class?

A.—They have not, I think, any awning deck, and, having larger hulls in proportion to the numbers of passengers they carry, correspond with the other vessels, and also draw more water.

44. *Q.* (*By Mr. Shepherd through the President*).—Would you be surprised to hear they are classed among decked vessels by Lloyd's and Board of Trade, and taking other proportion into account they draw less water than the *Zuari?*

A.—I should be surprised.

45. *Q.* (*By Mr. Shepherd through the President*).—Do you assume that you have no experience of shipbuilding?

A.—Yes, I have no experience of shipbuilding, but I have experience as a seaman for 30 years.

46. *Q.* (*By Mr. Shepherd through the President*).—What proportion of the passengers allowed the *Zuari* occupy the upper deck?

A.—I cannot say the number, but for the amount of space on that deck, I assume it is larger than the main deck.

47. *Q.* (*By Captain Atkinson*)—If a vessel is found to be deficient in stability, would it not be easy to meet that by sufficient ballast, and would that not be better than reducing the number of passengers?

A.—Yes, if the strength of the vessel admitted of her carrying any extra weight.

48. *Q.* (*By Sir Henry Morland*).—Have any of Messrs. Shepherd & Co.'s steamers brought passengers from across sea? If so, which? Whence do these steamers trade on foreign voyages—to Mauritius, &c.?

A.—Yes, the *Ponani* and *Kaveri* go to Mauritius, but I do not know if they carry passengers. I remember in the *Vaitarna* enquiry it was put in evidence that she brought passengers from Constantinople to Jedda.

49. *Q.* (*By Captain Atkinson*).—Why would you allow 3 adults per 1 ton gross as between Karwar and Gulf of Cambay, and only 1·1 adult per 1 ton for ports beyond these limits, but within the ordinary short voyage of present Native Passenger Act?

A.—Because on the coast between those limits there are several ports into which vessels can put in in bad weather, and also because I think these vessels require special treatment, as they carry passengers only.

50. *Q.* (*By Sir Henry Morland*).—Why do you fix the number of passengers to be carried by the tonnage of the vessel in preference to the area available for their accommodation?

A.—To prevent the piling up of awning decks without proportionate increase in the hull of the vessel.

51. *Q.* (*By Mr. Shepherd through the President*).—In the second last sentence of paragraph 7 you propose to sacrifice safety to the amount of the fare—do you not?

A.—If some arrangement of this kind is not made, passengers will go in pattiamars, and be in greater danger.

52. *Q.* (*By Mr. Shepherd through the President*).—Kindly look at Shepherd's schedule of fares and inform the Commission what you would consider a material increase of the fares?

A.—I should consider doubling the fares a material increase.

53. *Q.* (*By Mr. Shepherd through the President*).—Are you of opinion that passengers would or could pay double fares. Are not the majority of the passengers men of the labouring class earning less than ₹10 per month?

A.—The passengers are of the labouring class, but would soon, in my opinion, pay little more than go in Pattiamars.

54. *Q.* (*By Captain Street*).—Do you see any objection to gunpowder and other explosives being carried in native passenger vessels in excess of the quantity required for ship's purposes, even when stored in a properly-constructed magazine?

A.—Yes; it should not be allowed unless they have a properly-constructed magazine.

Proceedings of the Thirty-seventh Meeting of the Native Passenger Ships Commission, held at Bombay, on the 28th January 1891.

Present:

Surgeon-Major A. S. Lethbridge, C.S.I.	*President.*
Captain Sir Henry Morland, H.M.I.M.	*Members.*
Captain H. A. Street, H.M.I.M.	
Captain George Wilson, H.M.I.M.	
Surgeon-Major D. W. D. Comins, I.M.S.	
Captain J. H. Atkinson.	

1. The Commission, with the exception of Mr. H. W. Uloth, Superintendent, P. & O. S. N. Co., assembled at **7** A.M. at the Modee Bunder, and visited Messrs. Shepherd & Co.'s steamers *Neera*, *Ponani* and *Rajapuri*, the latter being of the same type as the S. S. *Vaiturna*—the vessel which foundered at sea on the 13th December, 1888. The points noticed by the Commission in connection with their visit to these vessels are contained in the following memoranda:—

S.S. "Rajapuri."

EXTRACT FROM MEASUREMENTS OF NATIVE PASSENGER SHIPS.

Saloon		13′ 6″ × 11′ 10″ = 159 75 =	26
Main 'tween deck.	Length	30·8	
	Interval	7′ 8″ =	449·69
Deduction	Deductions		23·33
Tank 5′ 10″ × 4′ 0″ = 23′ 4″			426·36

The vessel was on the point of starting for Jayghur, distant about 90 miles: voyage lasting about twelve hours. Calls are made at several small ports on the way. This class of vessel runs only until the 15th May.

The measurements for passengers in this vessel are—

Short Voyages.	Seasons. Fair.	Foul.
Bombay and Rewadanda	1267	292
Beyond Rewadanda and to ports in the South	889	292
Gross tonnage	235	...

The passengers on this trip, numbering 423, were seen in their places they had chosen under the awning and main deck. There were no passengers in the compartments in the 'tween decks.

It was noticed that many of these passengers were women, and that they were accompanied by children in considerable numbers. They also had with them baggage in large quantities, amongst which were many heavy boxes. The vessel was of the *Vaitarna* class. There were four boats, three being of steel, and one of wood, stowed on chocks placed on iron pedestals about 2′ 6″ in height. The space between these pedestals is measured for passengers, and it is apparently a favourite place, probably because it is out of the way of the to and fro traffic. There were seven compartments in the latrines, five forward and two aft. The awning deck had a rail and netting, and the main deck a solid bulwark. There are three compartments in the 'tween decks—the forward and middle compartments are measured for passengers, and the after is used for the crew.

The forward compartment, corresponding to the forecastle, has an iron deck; no battens. The only ventilation provided was one cowl-head 6″ diameter. The other air openings were eight scuttles of 7½ inches, and a ladder 4′ × 3″ opening on to the passenger deck above.

The middle 'tween-deck had one-cowl head 10″ diameter, and air openings 4 scuttles 7½ inches, and a ladder opening 5′ × 4′ to the passenger deck above.

The after compartment had no ventilation, but 4 scuttles, and a companion way opening on to the passenger deck above.

The companion ways of these compartments could not be considered as ventilation as they opened on to the crowded passenger deck above. The vessel was lighted throughout with electric light, and the passengers questioned expressed themselves well satisfied with the general arrangements.

The Commission then visited the *Neera*	Registered tonnage	168
	Gross tonnage	350

Measurement for Passengers.

	Fair.
Bombay to Rewadanda	834
Beyond this	656

This is one of the older class of vessels with a half poop bridge-deck and half forecastle.

The vessel was on the point of starting for Varawel—eighteen hours—and thence to Mandvi—twenty-eight hours. The 'tween decks were full of cargo. The boats were carried on raised chocks as in the case of the *Rajapuri*. This appears to be an arrangement to which there can be no objection, and is a practical solution of question 57.

If the chocks are raised three feet off the deck, there is room for passengers to lie or sit, and also shelter; and passengers appreciate these places as affording special comfort. The number of women and children, and the great quantity of baggage carried, was again noticed.

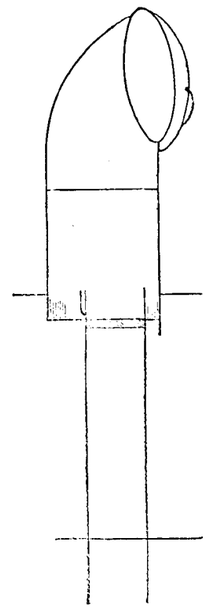
The life-buoys were secured with twine in such a way that they could not readily be detached, and would have required a knife to loosen them.

S. S. "Ponani."

This vessel carries passengers to Marmagore and Mangalore

Registered tonnage	542
Measurements for passengers	Fair weather.
Between decks	535
Upper deck if 'tween deck passengers are carried	106
Upper deck, if no 'tween deck passengers are carried	463
Poop	85

At the time of examination the vessel was empty, having neither passengers nor cargo. A ventilating pipe in the 'tween decks was shown by Mr. Shepherd as having been adopted by the Board of Trade, and Mr. Shepherd kindly offered to furnish the Commission with the printed rule on the subject. This pipe ventilates the hold, and its upper end opens on to the 'tween deck immediately below a larger pipe, the cone of which is on the upper deck. This is in direct opposition to the Government of India rules, affecting vessels to the Red Sea, which require that ventilating shafts of the hold shall act independently of those in the 'tween decks.



Mr Shepherd kindly promised to let the Commission have sketch-plans of the different types of vessels employed by him.

2. At noon all the members of the Commission assembled at their place of meeting in the Port Office, and proceeded to examine Mr. James R. Deane, of the Bombay Pilot Service. Mr. Shepherd and Mr. Moir, of Messrs. Shepherd & Co., were present, and questions were put to Mr. Deane through the President by Mr. Shepherd, in connection with the evidence given by him.

3. Mr. Deane's examination having been completed, Mr. Melling of the Bombay Pilot Service, was called and examined. Mr. Mellin'g, examination having been completed, Mr. D. Jolley, late in the employ of the Bombay Port Trust, as Dockmaster at the Prince's Dock, was called and examined. Mr. Jolley's examination having been completed, the Commission having approved of the proceedings of the thirty-fifth and thirty-sixth Meetings, adjourned until the 29th instant.

Evidence of Mr. JAMES R. DEANE, Bombay Pilot Service.

1. *Q.*—Will you please inform the Commission of the nature of your present occupation?

A.—Bombay Pilot Service.

2. *Q.*—What qualifications or experience do you possess in regard to the subjects under enquiry?

A.—Fifteen years a Bombay Pilot.

3. *Q.*—Do you take any part, either directly or indirectly, in the administration or observance of any of the provisions of the Native Passenger Ships Act, 1887?

A.—No.

4. *Q.* (*By Captain Atkinson*).—Are you acquainted with the provisions of the Native Passengers Act, and the rules regulating the same?

Do you know anything of Board of Trade Rules?

A.—Except having read them over, I have had no occasion to take any interest in the Passengers Act.

5. *Q.*—In regard to what voyages is there a distinction made between fair and foul seasons?

A.—I believe from the 1st of October to the end of March. India during the monsoon months.

6. *Q.*—Do you consider that if there is to be a line dividing short from long voyages, it should be drawn at five days?

A.—I think the line should be drawn at the distance, say, 500 miles. A voyage in nautical phraseology is to a port and back to a port of discharge. A passage is to one port only.

7. *Q.* (*By Captain Atkinson*).—On what principle do you suggest 500 miles as a limit?

Do you know any circumstances which would show that the present rule of five days as a limit for a short voyage has worked unsatisfactorily?

A.—If a vessel broke down she would be in a safe limit.

I do not.

8. *Q.*—Do you think that the five-day limit puts an Indian short voyage on a footing similar to an English Home Trade voyage?

A.—Yes, about the same.

9. *Q.* (*By Captain Street*).—Will you give your reasons for this opinion?

A.—In Indian waters, in fair season, there is somewhat less danger, and the ordinary English Home Trade voyage is about three days.

10. *Q.* (*By Captain Atkinson*).—How long would it take a steamer from Glasgow to the river Elbe at speed of ten knots?

A.—I do not know the exact distance.

11. *Q.*—Are you of opinion that the conditions justify a distinction being made between fair and foul weather in the case of voyages which may extend to five days?

A.—No.

12. *Q.*—Are you of opinion that the seasons of fine weather defined in the rules are judiciously chosen with reference to the prevailing conditions?

A.—No.

13. *Q.*—If not, what alterations would you suggest?

A.—I would suggest no distinction between fair and foul weather.

14. *Q.* (*By Captain Atkinson*).—Please give your reasons?

A.—The uncertainty of the weather, cyclones, &c.

15. *Q.*—Will you mention instances of foul weather occurring during the seasons which are by rule declared to be seasons of fair weather?

A.—January 1888; November 8th, 1888; November 1890.

16. *Q.* (*By the President*).—Have you heard of any bad weather some short time ago on this coast?

A.—On the arrival of the B. I. S. *Simla*, the Commander mentioned gales of wind all along the coast from the Persian Gulf to Bombay. I have now seen the weather report and find the Commander's statement to be correct.

17. *Q.*—In your opinion, do the conditions justify passengers being carried across the Bay

at any season on decks, such as are commonly called hurricane-decks, which are not protected from the weather except by overhead awnings, assuming that no accomodation is reserved for these passengers on the lower decks, which are crowded with other passengers?

A.—I do not consider awnings sufficient protection at any season.

18. *Q.* (*By Captain Atkinson*).—Is your answer based on personal experience, or is it merely your opinion?

A.—On observation somewhat and my opinion.

19. *Q.*—Are you acquainted with the ordinary conditions of native life amongst the class that form the bulk of the native passengers who travel by sea?

A.—Yes.

20. *Q.*—Are you aware that it is a common practice for natives of India to sleep at night in the open air?

A.—Yes.

21. *Q.*—Is it within your knowledge that 1st class passengers, travelling about the Bay of Bengal and coasts of India as a rule prefer to sleep on deck under the same conditions as to awnings and curtains as the 3rd class native passengers?

A.—Yes, especially Europeans.

22. *Q.*—Have you had any personal experience of the weather round the coast of the United Kingdom, and in the Bay of Bengal and on the coasts of India?

A.—Yes, but not much.

23. *Q.*—Do you consider that there is such similarity as to warrant a comparison between the weather experienced on the coast of the United Kingdom or between the rivers Elbe and Brest (English Home Trade voyage) and that experienced in the Bay of Bengal and coasts of India?

A.—Yes, a vessel should be thoroughly seaworthy for both trades.

24. *Q.* (*By Mr. Shepherd through the President*).—What steamers on this coast that carry passengers do you think unseaworthy?

A.—I consider most of Shepherd & Company's steamers most unseaworthy, except the vessels like the *Ponani* and *Kaveri*, and I think one other.

25. *Q.* (*By Mr. Shepherd through the President*).—Why do you consider them unseaworthy?

A.—On account of their awning decks, and the large number of passengers I have seen on them.

26. *Q.* (*By Mr. Shepherd through the President*).—Whom do you allude to as unscrupulous owners of vessels in your letter to the President?

A.—Owners who take advantage of quibbles in the law to carry more passengers than was, or could be, intended by the Board of Trade.

27. *Q.* (*By Mr. Shepherd through the President*).—Can you name any such?

A.—I decline to answer if I am so permitted.

28. *Q.* (*By Mr. Shepherd through the President*).—Have you any practical experience of shipbuilding?

A.—None.

29. *Q.* (*By Mr. Shepherd through the President*).—If the stability of Shepherd's steamers had been tested and proved satisfactory by Government, would that alter your opinion as to their seaworthiness?

A.—It would not.

30. *Q.* (*By Sir Henry Morland*) —What classes of steamers other than those Messrs. Shepherd employ would be suitable for the passenger traffic to the southern ports of the Bombay Presidency?

A.—I think Shepherd & Co's steamers a good class so far as draft and water, but they are allowed to carry too many passengers and are therefore dangerous. Going from port to port they should do away with the awning decks.

31. *Q.*—Do you consider the conditions of English and Indian passenger traffic to be similar in any other way than that the traffic under discussion is by sea?

A.—That should make them similar.

32. *Q.*—Do you think the ordinary native passenger would be prepared to pay more for better accommodation?

A.—No, minimum is his rule.

33. *Q.*—Is it not a fact that very well-to-do native merchants are satisfied with the usual deck accommodation?

A.—I think natives of any class are easily satisfied. But the protection of Government is necessary.

34. *Q.*—What class of people travel as deck-passengers in the United Kingdom on vessels which frequently carry their full complement?

A.—That class who are not able to pay for better accommodation.

35. *Q.*—Have you any special suggestions to make in regard to voyages similar to those classed as excursions by the Board of Trade, that is, voyages during which a vessel is not more than 10 or 12 hours at sea?

A.—That the vessel should be tested as to stability with the weight of the number of passengers she is supposed to carry, first on one side, and then on the other.

36. *Q.*—If so, would you consider it proper to allow for height of 'tween deck as an element in the health and comfort of 3rd class native passengers?

A.—Yes, 8 feet at least.

37. *Q.*—Do you know the height of the 'tween decks in the B. I steamers?

A.—I believe the *Kistna* class is 7 feet 3 inches. The *Bancoora* class is 8 feet.

38. *Q.*—What is the maximum height between deck in these steamers carrying native passengers? What is the average height?

A.—7 feet 6 inches; average 7 feet.

39. *Q.* (*By Captain Street*).—Do you know the height of the 'tween decks and of the middle decks in the steamers of Shepherd & Co.?

A.—I do not know.

40. *Q.*—Is the Board of Trade Rule, under which the number of passengers carried must not, whatever the deck measurements may give, exceed the number denoting the gross tonnage of the vessel, enforced in India?

A.—I think not; the S. S. *Kistna* is allowed to carry 1,229 passengers in the fair season, her gross register being only 1,114.

41. *Q.*—What would be the effect if, assuming all other existing Indian rules to remain intact, this rule were enforced?

A.—I consider the vessel would even then be overcrowded.

42. *Q.*—What spaces are left unmeasured for passengers when a vessel is being measured for Certificate A?

A.—I believe spaces without protection or covering.

43. *Q.*—Are any spaces deducted so as to admit of the officers and crew moving fore and aft the vessel with facility and their getting with ease at the boats and boats' gear? If not, have you any recommendations to make on this head?

A.—I should think not.

44. *Q.*—Should alleyways, used as a means of communication by the crew, be considered as deck

area for passengers, *i.e.*, the narrow passages between the officers' cabins and the engine-room-casing? If so, would it not be advisable to give a minimum breadth before allowing the area to count for passengers?

A.—Yes. It would be advisable to make all deck spaces free spaces. Alley-ways open at the ends should be considered deck spaces.

45. *Q.*—Are not these alley-ways additional shelter and, therefore, desirable for passengers?

A.—Yes.

46. *Q.*—For ships with large water-ways in the 'tween decks extending inside the battens on the ship's side, is the deck measurement made to the inside edge of the water-ways or to the battens? Which would you recommend?

A.—Might be measured from the battens if the water-ways are protected.

47. *Q.*—Should the spaces set apart for the boats on the bridge deck be utilized for passengers when the boats are carried at the davits? If so, state whether during both fair and foul seasons or only during the fair season.

A.—Only at the Captain's option.

48. *Q.*—In your opinion, are the provisions of the Native Passenger Ships Act, and the rules made under it in regard to the accommodation to be provided for native passengers on long voyages and short voyages, suitable?

A.—No. Had the *Vaitarna* been seaworthy, or had she even shutters to ship in an emergency, she would not have been lost, but to get out of port dues a few rupees, hundreds of lives were sacrificed. Coming from England they carry the shutters or they would never make the passage out. It should be insisted on here, and the passengers reduced.

49. *Q.* (*By Mr. Shepherd through the President*).—How can you say that if the *Vaitarna* had even shutters she would not have been lost?

A.—I surmise she could put them down and keep out the bulk of the sea and wind.

50. *Q.* (*By Mr. Shepherd through the President*).—How can you say that to get out of paying port dues hundreds of lives were sacrificed?

A.—I surmised that there was no reason she should be lost.

51. *Q.*—Do you think that native passengers can do with less space than Europeans?

A.—A native should have 6 by 2 feet free of air space on deck, and in addition 6 by 2 by 8 or 96 cubic feet of shelter in 'tween decks or cabin.

52. *Q.* (*By Captain Atkinson*).—On what do you base your opinion? Would you require all native passenger vessels to have 'tween decks 8 feet high?

A.—The requirement of Government for carrying troops.

53. *Q.* (*By Sir Henry Morland*).—Are you aware that the Board of Trade require a minimum height of 6 feet in the 'tween decks for passenger vessels?

A.—I was under the impression they required more under the newest regulations.

54. *Q.*—What proportion do you consider that the space allotted to natives should bear to the space allotted to Europeans?

A.—Same.

55. *Q.*—Assuming that this proportion is adopted, would it, in your opinion, affect the health, comfort, and safety of native passengers in any way?

A.—Yes, they would benefit by the sea voyage, and go again.

56. *Q.*—Do you consider that on a voyage which may extend to five days, native passengers can be accommodated in the 'tween decks of a steamer at the rate of one passenger to each 6 square feet of area, with 4 square feet of airing space on the upper deck, without prejudicing their health and safety?

A.—No.

57. *Q.*—Do you think it necessary for the health and safety of the passengers that there should be on a voyage, which may extend to five days, permanent shelter for each passenger either 'tween decks or in cabins on the upper deck?

A.—Yes, Government should insist on it.

58. *Q.*—Do you think that on a voyage, which may extend to five days, there should be separate accommodation for female passengers?

A.—Separate privies only.—A native lady can unrobe before 100 spectators without exposing her body.

59. *Q.*—Do you know of any steamers which carry native passengers on two upper decks?

A.—Yes Shepherd & Co. I surmise.

60. *Q.*—Do you consider from the wording of the Native Passenger Ships Act, and your experience of this question, that the Legislature, when it passed the Act, contemplated the existence of vessels with more than one upper deck?

A.—I should think not.

61. *Q.*—Are you acquainted with the design of the steamers of the *Kistna* class?

A.—Yes.

62. *Q.*—What is the distinguishing feature of these steamers?

A.—Ventilation; also protection in bad weather when converted into a 'tween deck by letting down the shutters or side ports.

63. *Q.*—In your opinion, are the middle passenger decks of these steamers 'tween decks or upper decks within the meaning and intention of the Native Passenger Ships Act? Give your reasons for this opinion?

A.—No deck should be considered an upper deck unless it has (excepting the awnings) the canopy of heaven only for a covering. There might also be exceptions to alley-ways which are open at the ends.

64. *Q.*—Are the passengers on these middle decks as well protected in rough weather as the passengers on the lowermost of the three passenger decks?

A.—I should think not quite. Water may get in through the scuppers and shutters.

65. *Q.*—Are these passengers on the middle deck not better protected than on ordinary upper decks?

A.—Yes.

66. *Q.*—During the inclement weather do you consider that the upper deck passengers are sufficiently protected by canvas awning, side screens and curtains? If not, what would you recommend?

A.—Yes, provided they have also covered-in or sheltered space (See answer No. 60).

67. *Q.* (*By Captain Atkinson*).—Is not the bad weather which would require such shelter of very short duration, and would not the saloons and such places as bath-rooms, sculleries, &c., be sufficient for the purpose?

A.—No. I should have measured space clear of latrines, &c.

68. *Q.*—Do you consider that sufficient protection from the sea is afforded to upper deck passengers by the "reasonably stout screen" which, under existing rules (*see* Government of India letter No. 430, dated 27th August 1878) is held as coming within the definition of a substantial bulwark? If not, state what you would recommend in lieu?

A.—No (See answer No. 60).

69. *Q.*—In rough weather would any water get on to the upper deck through the scuppers and shutters? If so, could this be prevented?

A.—I should say over all. In nautical phraseology the upper deck is the uppermost deck.

70. *Q.*—Under existing rules are the arrangements to prevent injury to passengers by the rolling of the ship sufficient for the purpose?

A.—No.

71. *Q.*—How could you provide this protection?

A.—By having more hand-rails and life-lines ready to set up in bad weather.

71. *Q.*—Are any special fittings required under the Native Passenger Ships Act on the passenger decks for the reception of the bundles, boxes, and other articles usually carried by native passengers? If so, state what you would recommend?

A.—I think not.

72. *Q.*—Is it necessary for the comfort or safety of the passengers that provision should be made for the accommodation of luggage not stored in the hold?

A.—I think not.

73. *Q.*—If it is necessary, what would you provide?

A.—Temporary battens on deck to chock off the baggage.

74. *Q.*—If such accommodation were provided, would it be used? Will native passengers allow their luggage to be parted from them under any circumstances?

A.—No. I do not think they like it.

75. *Q.*—Do you think that on a voyage, which may extend to five days, sleeping platforms should be provided for the passengers?

A.—Yes, but not absolutely, as I am not in favour of handicapping the trade too much.

76. *Q.*—What closet accommodation do the rules require on native passenger vessels?

A.—I have no knowledge; I should say one closet for 12 souls.

77. *Q.*—What accommodation of the kind is provided for emigrants?

A.—I do not know.

78. *Q.*—And what accommodation do the Board of Trade rules require?

A.—See Board of Trade Regulations.

79. *Q.*—Do you think the existing rules in regard to hospital accommodation are suitable?

A.—Should be right aft.

80. *Q.*—Do you consider that cargo, horses, cattle, sheep, and live-stock should be carried on the same deck with passengers? If so, is any fitting necessary to prevent the passengers from being inconvenienced by the urine and dung of the horses, cattle, and sheep; and if any such fitting is requisite, state what you would recommend?

A.—On the upper deck, but not in the 'tween decks; from what I have seen there should be no inconvenience to passengers, provided they had their airing space and covered-in space in 'tween decks allowed them.

81. *Q.*—In vessels which, under existing rules, are permitted to carry horses, cattle and sheep with native passengers, are sufficient precautions adopted to prevent the hay and straw provided for the use of such animals from catching fire either from a spark from the ship's funnel or from lighted matches? If not, state what extra precautions you would recommend?

A.—Hay and straw should be kept under hatches, and that for immediate use should be kept right forward.

82. *Q.*—What in your opinion is the object of the Board of Trade Revised Regulations regarding life-saving appliances?

A.—The safety and welfare of those who travel by sea.

83. *Q.*—Do the Revised Regulations require more appliances than were necessary under the old rules, and why was the change found necessary?

A.—I am not acquainted with the Revised Regulations.

84. *Q.*—Are the Revised Regulations suitable in your opinion for vessels engaged in the native passenger trade?

A.—Too many passengers are now carried.

85. *Q.*—Do you think that the natives of India require as much space in boats as Europeans?

A.—One-third less in boats.

86. *Q.*—Would you adopt the Board of Trade Regulations in regard to life-buoys and life-belts?

A.—I believe the new Board of Trade Regulations require a life-belt for every soul on board. I believe it is also possible to make vessels both sea-worthy and unsinkable.

87. *Q.*—Do you think it necessary that there should be a set of definite instructions as to the survey of passenger accommodation and crew space similar, so far as may be, to those issued by the Board of Trade?

A.—Yes, definite instructions.

88. *Q.*—Do you think the existing regulations in regard to the lighting and ventilation of the passenger accommodation suitable?

A.—Nothing could be better than the *Kistna* class of vessel. She could also be made unsinkable.

89. *Q.*—After a vessel has been measured for Certificate A, is the Captain supplied with the Surveyor's calculations? If not, do you think it necessary that he should be?

A.—He should be.

90. *Q.*—Would it not be advantageous if a copy of all measurements and calculations of passengers' space, as determined on the original measurement, were supplied to the Commander of the vessel?

A.—Yes.

91. *Q.*—If so, would you recommend that the calculations should show clearly the names of the various obstructions which have been deducted from the gross area, their dimensions and the proportional area deducted?

A.—I think they are so, or should be so.

92. *Q.*—Do you consider a double awning overhead with side curtains and bulwark screens, as required by the Native Passenger Act, equal to the ordinary tent in which troops are accommodated?

A.—No; certainly not. (No heavy sea in Camp).

93. *Q.*—Do you know that 6 superficial feet on the upper deck under double awnings and curtains is considered sufficient accommodation for native troops making voyage under five days' duration?

A.—I believe the space is 2 by 6.

94. *Q.*—Being acquainted with the class of natives who form the bulk of those who travel by sea, do you consider they require better accommodation for their health and comfort than native troops?

A.—Yes. Troops are disciplined.

95. *Q.* How do you account for the differences between the English and the Indian Rules and between the Indian Rules for emigrants and those for ordinary passengers?

A.—I cannot account.

96. *Q.*—Will you furnish the Commission with your opinion as to the sufficiency or otherwise of the space allowed by the Act and rules generally?

A.—My knowledge is only that of an observer.

97. *Q.*—Do you consider that native passenger ships should carry a medical officer? If this were made compulsory, would you make any difference for the numbers carried or for the duration of the voyage?

A.—Yes, a Government man for which the Company should pay.

98. *Q.*—What grade of medical officer would you consider best suited for these vessels?

A.—Licentiate of Medicine and Surgery.

99. *Q.*—Give any instances which have come to your knowledge in which a medical officer would have been of service on board a native passenger vessel?

A.—A vessel with Chinamen or other coolies, and an epidemic breaks out with no medical officer on board.

I cannot remember any individual case, but have heard that it is very difficult to tell when a man is suffering under the influence of opium whether he is dead or not, and I think that all vessels should carry a medical man on board.

Evidence of Mr. S. F. MELLING, Bombay Pilot Service.

1. *Q.*—Will you please inform the Commission of the nature of your present occupation?

A.—1st grade Pilot, Bombay.

2. *Q.*—What qualifications or experience do you possess in regard to the subjects under enquiry?

A.—As a member of the Bombay Pilot Service for fifteen years, I have piloted both inward and outward bound native passenger vessels at the port of Bombay.

3. *Q.*—Do you take any part either directly or indirectly, in the adminstration or observance of any of the provisions of the Native Passenger Ships Act, 1887?

A.—One of my duties as a pilot is to see entered in a vessel's arrival or departure report the number of passengers, and if she carries any in excess of 12 to report the matter to the Port Officer. In the case of an outward bound vessel, to detain her and report the matter, unless she has a survey certificate.

4. *Q.* (*By Captain Street*).—How do you arrive at the number of passengers?

A.—I have as a rule to take the Captain's word for it.

5. *Q.* (*By Captain Atkinson*).—Are you acquainted with the provision of the Native Passenger Act?

A.—I am not.

6. *Q.*—Will you mention instances of foul weather occurring during the seasons which are by rule declared to be seasons of fair weather?

A.—In Bombay we generally have a few atmospheric disturbances during the fine season, but principally in the months of October and November.

7. *Q.*—Have you had any personal experience of the weather round the coast of the United Kingdom and in the Bay of Bengal and on the coasts of India?

A.—I have.

8. *Q.*—Do you consider that there is such similarity as to warrant a comparison between the weather experienced on the coast of the United Kingdom or between the rivers Elbe and Brest (English Home Trade voyage) and that experienced in the Bay of Bengal and coasts of India?

A.—In my opinion there is no comparison whatever when the temperature of both climates is taken into consideration.

Evidence of Mr. D. JOLLEY.

1. *Q.*—Will you please inform the Commission of the nature of your present occupation?

A.—Dock Master (retired).

2. *Q.*—What qualifications or experience do you possess in regard to the subjects under enquiry?

A.—Previous to my late appointment I had been an Assistant Master Attendant and Harbour Master. It was part of my duties to measure ships for passenger certificates, but not under Native Passenger Act, and I have assisted in the survey and measurement of ships for emigrants and troops.

3. *Q.*—What is an emigrant voyage?

A.—A passage from any British Indian Port to the Mauritius or New Guinea.

4. *Q.*—What is a pilgrim voyage?

A.—A passage from any British Indian Port to Jedda?

5. *Q.*—What is a long voyage?

A.—A passage of two or more months for a sailing vessel, one month and under two months for a steamer.

6. *Q.*—What is a short voyage?

A.—A passage not over five days for a steamer and under one month for a sailing vessel.

7. *Q.*—Do you consider that if there is to be a line dividing short from long voyages, it should be drawn at five days?

A.—Yes for steamers, but for sailing vessels, say, one month.

8. *Q.*—How many passengers can a steamer carry without coming under the provisions of the Native Passenger Ships Act?

A.—Sixty, I believe.

9. *Q.*—How many passengers can a steamer carry without a certificate of survey under the Indian Steam Ships Act or a corresponding certificate from the Board of Trade?

A.—Twelve.

10. *Q.*—Will you mention instances of foul weather occurring during the seasons which are by rule declared to be seasons of fair weather?

A.—A cyclone or the night of the 1st and morning of the 2nd November 1854, and a cyclone northward of Bombay in December 1887, and several other instances, the dates of which I do not remember.

11. *Q.*—In your opinion, do the conditions justify passengers being carried across the Bay at any season on decks such as are commonly called hurricane-decks, which are not protected from the weather, except by overhead awnings, assuming that no accommodation is reserved for these passengers on the lower decks, which are crowded with other passengers?

A.—No; as the upper, awning, or hurricane-deck

is required for the passengers on the occupied decks below for air and exercise; my chief objection to passengers being carried on the hurricane-deck is that vessels like the *Vaitarna* having so little hold of the water are liable to capsize when in a gale of wind, which I believe was the case with the *Vaitarna*.

12. *Q.* (*By Captain Atkinson*).—Does your objection apply to the *Kistna* class British India Steam Navigation Company? If so, please say if you would object to passengers being carried on any upper deck of a flush decked vessel in fair season?

A.—I do not know what the *Kistna* is like as to deck accommodation.

13. *Q.* (*By Captain Street*).—Is there any other reason for thinking that vessels like the *Vaitarna* are likely to capsize?

A.—In my opinion vessels like the *Vaitarna*, which have open spaces between the middle and upper decks are liable, when across the sea in a gale of wind, to capsize with the force of wind under the awning deck.

14. *Q.*—Are you acquainted with the ordinary conditions of native life amongst the class that form the bulk of the native passengers who travel by sea?

A.—Yes, having been a pilot for the Bombay Harbour for many years, and eleven years Harbour Master.

15. *Q.*—Are you aware that it is a common practice for natives of India to sleep at night in the open air?

A.—Yes.

16. *Q.*—How is the number of passengers which a vessel is capable of carrying calculated in each case?

A.—Cabin-passengers according to cabin accommodation; deck passengers under cubical measurement in accordance with the Act under which they are carried.

17. *Q.*—Is allowance made in Board of Trade Rules for height of 'tween decks; in fact, do not Board of Trade Surveyors, when berths are not fitted for 3rd class passengers, calculate the number that may be carried on the basis of a cubic measurement of 72 cubic feet per statute adult, after deducting all hatches and encumbrances?

A.—Yes, assuming that the 'tween decks are 6 feet high; 12 superficial feet are required on the deck free of all hatches and encumbrances.

18. *Q.* (*By Captain Atkinson*).—In making this answer, please say if you are acquainted with the provisions of the Native Passenger Act.

A.—No.

19. *Q.*—If so, would you consider it proper to allow for height of 'tween deck as an element in the health and comfort of 3rd class native passengers?

A.—Yes, 6 feet at least.

20. *Q.*—Do you know the height of the 'tween decks in the British India steamers?

A.—I think they are nearly all over 6 feet.

21. *Q.*—Are the spaces which would be required for the deck water-tank, latrines, and cooking ranges necessary for use of native passengers deducted from the passengers' space even if such articles are not in position at the time a vessel is being measured.

A.—Yes.

22. *Q.*—Are any spaces deducted so as to admit of the officers and crew moving fore and aft the vessel with facility and their getting with ease at the boats and boats' gear? If not, have you any recommendations to make on this head?

A.—None that I am aware of.

23. Q.—Should alley-ways used as a means of communication by the crew be considered as deck area for passengers, *i.e.*, the narrow passages between the officers' cabins and the engine-room-casing? If so, would it not be advisable to give a minimum breadth before allowing the area to count for passengers?

A.—No, unless they exceed 4 feet in width; then the excess might count.

24. *Q.*—Are not these alley-ways additional shelter and, therefore, desirable for passengers?

A.—Yes, to a certain extent.

25. *Q.*—For ships with large waterways in the 'tween decks extending inside the battens on the ship's side, is the deck measurement made to the inside edge of the waterways or to the battens? Which would you recommend?

A.—I do not know. I would recommend the inside of the battens.

26. *Q.*—Do you think that a passenger on a voyage lasting ten or twelve hours requires as much room as one on a voyage lasting five days?

A.—Yes, as he cannot be expected to stand up for ten or twelve hours.

27. *Q.*—Do you think that native passengers can do with less space than Europeans?

A.—Yes.

28. *Q.*—What proportion do you consider that the space allotted to natives should bear to the space allotted to Europeans?

A.—Seventy-five per cent. of that allotted to Europeans.

29. *Q.*—Assuming that this proportion is adopted, would it, in your opinion, affect the health, comfort, and safety of native passengers in any way?

A.—No.

30. *Q.*—Do you consider that on a voyage, which may extend to five days, native passengers can be accommodated in the 'tween decks of a steamer at the rate of one passenger to each 6 square feet of area with 4 square feet of airing space on the upper deck, without prejudicing their health and safety?

A.—No, the present space allowed, *viz.*, 72 cubic feet between decks, and 6 superficial feet on the upper deck, being no more than sufficient for the health and comfort of the passengers. This answer does not apply to vessels under the Native Passengers Ships Act but to emigrants and to vessels of which I have experience, such as hired transports.

31. *Q.*—Do you think it necessary for the health and safety of the passengers that there should be on a voyage, which may extend to five days, permanent shelter for each passenger either 'tween decks or in cabins on the upper deck?

A.—Yes, in all seasons.

32. *Q.*—Do you think that on a voyage, which may extend to five days there should be separate accommodation for female passengers?

A.—Yes, when females are travelling unprotected.

33. *Q.*—Do you know of any steamers which carry native passengers on two upper decks?

A.—Yes, if the tonnage deck is to be considered an upper deck.

34. *Q.*—Do you consider from the wording of the Native Passenger Ships Act, and your experience of this question, that the Legislature, when it passed the Act, contemplated the existence of vessels with more than one upper deck?

A.—No.

35. *Q.*—Are these passengers on the middle deck not better protected than on ordinary upper decks?

A.—Yes.

36. *Q.*—During the inclement weather, do you consider that the upper deck passengers are sufficiently protected by canvas awnings. If not, what would you recommend?

A.—No, they should only be carried on that deck for a few hours in fine weather.

37. *Q.*—What closet accommodation do the rules require on native passenger vessels?

A.—Closets according to the number of native passengers to be carried.

38. *Q.*—What accommodation of the kind is provided for emigrants?

A.—In accordance with the Emigration Act.

39. *Q.*—Do you consider that cargo, horses, cattle, sheep, and live-stock should be carried on the same deck with passengers? If so, is any fitting necessary to prevent the passengers from being inconvenienced by the urine and dung of the horses, cattle, and sheep; and if any such fitting is requisite, state what you would recommend?

A.—Not unless there is a bulk-head between them if carried on "'tween decks;" but on the upper deck the passengers should be kept clear of the cattle.

40. *Q.*—Do you think that the natives of India require as much space in boats as Europeans?

A.—No, about twenty per cent. less.

41 *Q.*—After a vessel has been measured for certificate A, is the Captain supplied with the Surveyor's calculations? If not, do you think it necessary that he should be?

A.—It would be advisable for the Captain or other responsible officer to see the measurements taken and the deductions made.

42. *Q.*—Do you consider a double awning overhead with side curtains and bulwark screens, as required by the Native Passenger Act, equal to the ordinary tent in which troops are accommodated

A.—Yes.

43. *Q.*—Being acquainted with the class of natives who form the bulk of those who travel by sea, do you consider they require better accommodation for their health and comfort than native troops?

A.—No.

Proceedings of the Thirty-eight Meeting of the Native Passenger Ships Commission, held at the Port Office, Bombay, on the 29th January 1891.

Present:

Surgeon-Major A. S. Lethbridge, C.S.I.	*President.*
Captain Sir Henry Morland, H.M.I.M.	*Members.*
Captain H. A. Street, H.M.I.M.	
Captain George Wilson, H.M.I.M.	
Surgeon-Major D. W. D. Comins, I.M.S.	
Captain J. H. Atkinson	
H. W. Uloth, Esq.	

1. The Commission assembled at 11 A.M. and approved of the proceedings of the thirty-seventh Meeting. Mr. Shepherd, of Messrs. Shepherd & Co., Bombay, attended and put questions to the different witnesses through the President.

2. Mr. Moir, Superintending Engineer of the Bombay Steam Navigation Company, was called and examined.

3. At 3 P.M. Surgeon-Major F. F. MacCartie, Health Officer of the Port of Bombay, was called and examined.

4. On the completion of Surgeon-Major MacCartie's examination, the Commission proceeded to further examine Mr. Moir.

5. Mr. Moir's examination having been concluded, the Commission adjourned until 11 A.M. on the 30th instant.

Evidence of Mr. JAMES MOIR.

1. *Q.*—Will you please inform the Commission of the nature of your present occupation?

A.—Superintending Engineer of the Bombay Steam Navigation Company, and Engineer Surveyor to Lloyd's Register of Shipping for Bombay.

2. *Q.*—What qualifications or experience do you possess in regard to the subjects under enquiry?

A.—For the last five years I have had the superintendence of steamers sailing under the Native Passengers Ships Act, 1887.

3. *Q.*—Do you take any part, either directly or indirectly, in the administration or observance of any of the provisions of the Native Passengers Ships Act, 1887?

A.—I do.

4. *Q.*—How does an Indian Home Trade voyage compare with an English Home Trade voyage?

A.—In point of time about the same.

5. *Q.*—In regard to what voyages is there a distinction made between fair and foul seasons?

A.—Short voyages.

6. *Q.*—Do you consider that if there is to be a line dividing short from long voyages, it should be drawn at five days?

A.—No; a short voyage should be within certain specified limits without reference to time.

6. *Q.* (*By Captain Atkinson*).—What reason have you for altering the five-day limit for short voyages as provided by the Native Passenger Act? Has it not worked satisfactorily for the last thirteen or fourteen years?

A.—My reason for so thinking is that one steamer may cover twice the distance that another may do in the same time, consequently, the slower vessel is at a disadvantage. No more favourable proposition has been submitted in lieu of what now exists.

As far as I know it generally has given satisfaction.

7. *Q.* (*By Captain Street*).—Would you recommend a table of limits of voyages on the Board of Trade basis being prepared?

A.—Yes I would, and will later on propose such.

8. *Q.*—Do you think that the five-day limit puts an Indian short voyage on a footing similar to an English Home Trade voyage?

A.—No; it is difficult to compare them as one is based on time, the other on distance. On the whole, I think it is at a disadvantage.

9. *Q.*—Are you of opinion that the conditions justify a distinction being made between fair and foul weather in the case of voyages which may extend to five days?

A.—Yes.

10. *Q.*—Are you of opinion that the seasons of fine weather defined in the rules are judiciously chosen with reference to the prevailing conditions? If not, what alterations would you suggest?

A.—As near as possible as far as they apply to the West Coast of India; the fair season might be extended another ten or fifteen days in May.

11. *Q.*—Will you mention instances of foul weather occurring during the seasons which are by rule declared to be seasons of fair weather?

A.—During cyclonic weather which is very rare on this side of India.

12. *Q.*—Are you acquainted with the ordinary conditions of native life amongst the class that form the bulk of the native passengers who travel by sea?

A.—Yes.

13. *Q.*—Are you aware that it is a common practice for natives of India to sleep at night in the open air?

A.—Yes.

14. *Q.*—It is within your knowledge that first class European passengers travelling about the Bay of Bengal and coasts of India as a rule prefer to sleep on deck under the same conditions as to awnings and curtains as the third class native passengers?

A.—Yes; on this side of India it is a common practice. I always prefer doing so.

15. *Q.*—Have you had any personal experience of the weather round the Coast of the United Kingdom and in the Bay of Bengal and on the coasts of India?

A.—Yes, with the exception of the Bay of Bengal.

16. *Q.*—Do you consider that there is such similarity as to warrant a comparison between the weather experienced on the Coast of the United Kingdom or between the rivers Elbe and Brest (English Home Trade voyage) and that experienced in the Bay of Bengal and coasts of India?

A.—During the south-west monsoon only, and then only in so far as the weather is concerned.

17. *Q.*—Do you consider the conditions of English and Indian passenger traffic to be similar in any other way than that the traffic under discussion is by sea?

A.—No, the conditions are entirely different.

18. *Q.*—Do you think the ordinary native passenger would be prepared to pay more for better accommodation?

A.—No, the richest men travel at the lowest fares.

19. *Q.* (*By the President*).—Since when had the Bombay Steam Navigation Company the decks of their steamers divided off for first, second, and third class passengers?

A.—Ever since I have been connected with the Company, about five years.

20. *Q.*—Is it not a fact that very well-to-do native merchants are satisfied with the usual deck accommodation?

A.—Yes.

21. *Q.*—What class of people travel as deck-passengers in the United Kingdom on vessels which frequently carry their full complement?

A.—The poorer classes who have not means to afford cabin accommodation.

22. *Q.*—Have you any special suggestions to make in regard to voyages similar to those classed as excursions by the Board of Trade, that is, voyages during which a vessel is not more than ten or twelve hours at sea?

A.—Considering the almost certain fine weather experienced during the fair season along the Western Coast, provision should be made to enable vessels to carry a greater number of passengers during short voyages of from two to three hours, and within sight of land, and within certain specified limits similar to those classed as excursion voyages by the Board of Trade. Our traffic to Goa and coast would be so measured at home.

23. *Q.* (*By the President*).—What amount of space would you allow to each third class passenger on an excursion voyage?

A.—Five feet, superficial.

24. *Q.* (*By Captain Sreet*).—Is not an excursion voyage at Home supposed to be a voyage during daylight only?

A.—Yes, during daylight.

25. *Q.* (*By Mr. Shepherd through the President*).—Into how many and what classes are passengers' certificates divided by the Board of Trade for the United Kingdom?

A.—Into five:—

1.—Foreign.
2.—Home Trade.
3.—Short Home Trade.
4.—Excursions.
5.—Rivers and lakes.

26. *Q.* (*By Mr. Shepherd through the President*).—How would you describe and divide passengers in India?

A.—Into four classes:—

1.—Foreign.
2.—Home Trade.
3.—Short Home Trade.
4.—Rivers and harbours.

27. *Q.* (*By Mr. Shepherd through the President*).—What limit would you assign to each class?

A. 1.—Foreign should be world-wide.

2. Home trade from the Persian Gulf to Singapore, inclusive of such traffic as that between the Coromandel Coast and Burma.

3. Short Home Trade should be confined to coasting steamers in and out of port every three hours.

4. Rivers and harbours speak for themselves.

28. *Q.* (*By Mr. Shepherd through the President*).—What space would you allow each traffic or class?

A.—I would exclude all heights below 6 feet in every class, and would have all measurements made in superficial areas only. The weather deck should not be measured for Foreign Trade voyages. I would allow 9 feet for Foreign traffic, 6 feet for Home Trade, 5 feet for short Home Trade, and 4 feet for River and harbour traffic, excepting steam launches which should be 2 feet.

29. *Q.* (*By Mr. Shepherd through the President*).—How many ports do Shepherd's steamers ply to between Bombay and Mangalore?

A.—The distance from Mangalore to Bombay is 411 miles, and our steamers call at twenty-four intermediate ports, say, an average of 18 miles apart.

30. *Q.* (*By Mr. Shepherd through the President*).—Do you think difference in measurement should be made between the ports to the south of Bombay and those to the north?

A.—Yes, I would class the ports to the north of Bombay as Home Trade 6 feet, and those to the south as short Home Trade 5 feet; as the first port to the north is Verawal, 180 miles from Bombay, and there are no shelter ports to the north side—there are to the south.

31. *Q.* (*By the President*).—Would you allow a steamer to carry the same passengers on the measurements. For instance, the steamers from Bombay to Rewadanda can start with a load of passengers at 4 feet. Would you let this steamer then carry the remaining passengers on the allowance of a short voyage certificate?

A.—My proposal avoids the necessity of so doing.

We find no inconvenience, and have had no complaints on account of existing arrangements.

32. *Q.* (*By Sir Henry Morland*).—Under the existing arrangement, is the space, *viz.*, 6 feet, paid for by passengers for the longer distances reduced to 4 feet at the commencement and end of each passage, or, say, to the extent of one-third of the space he is entitled to, and has paid for?

A.—No alteration is made during the voyage in the measurement.

33. *Q.* (*By the President*).—How is it possible for Government officers appointed under the Native Passenger Ships Act to separate the passengers who are going for the Rewadanda limit, and those who are to be on board after that limit has been passed?

A.—If would be very difficult.

34. *Q.* (*By Dr. Comins*).—The Native Passenger Act says that passengers for short voyages shall be allowed 6 feet space. How can the provision of the Act be carried out if these passengers are carried at 4 feet for a portion of their journey?

A.—Provision is made in Section 56 to alter this Act subject to the sanction of the Governor General in Council—such provision, no doubt, has been made for the voyage to Rewadanda.

35. *Q.* (*By Captain Street*).—With respect to your recommendation that passengers on a Home Trade and short Home Trade voyage should be allowed 6 feet, and 5 feet, respectively, have you ever witnessed any experiments in placing natives (adults) within areas giving such spaces to each adult, and do you think that a native passenger with his baggage has sufficient room to lie down in in an area of either 5 or 6 superficial feet?

A.—Yes I have, and do consider he can accommodate himself during a Short Home Trade or Home Trade voyage on that space.

36. *Q.* (*By Captain Atkinson*).—On voyages longer than those at present made by your Company's steamers, would not the time limit of five days be better than distance, as a passenger might be kept on board an indefinite time travelling over a very small distance?

A.—Yes, in a case such as you have stated.

37. *Q.* (*By Sir Henry Morland*).—Have Messrs. Shepherd & Co.'s steamers sunk or gutter water-ways, or is the deck carried out to the outside plating?

A.—They have no water-ways; the deck is carried to the outside plating.

38. *Q.*—How is the number of passengers which a vessel is capable of carrying calculated in each case?

A.—See Chapter II, paragraphs 18 and 21 of the Native Passengers Ships Act, 1887.

39. *Q.*—If so, would you consider it proper to allow for height of 'tween deck as an element in the health and comfort of third class native passengers?

A.—Yes.

40. *Q.*—Do you know the height of the 'tween decks in the British India steamers?

A.—No.

41. *Q.*—What is the maximum height between deck in these steamers carrying native passengers? What is the average height?

A.—Cannot say.

42. *Q.*—Are you aware that there was an old rule in India which allowed ships to carry 3 passengers for 2 tons?

A.—In the original Native Passenger Ships and Coasting Steamers Act, XXI of 1858, repealed as unworkable—Section 10 provided that no ship should carry a greater number of passengers than, together with the Master and crew, should amount to the proportion of 2 persons for every 3 tons of the registered tonnage—this would have admitted some of our steamers of only carrying 14 passengers.

43. *Q.*—Is the Board of Trade Rule, under which the number of passengers carried must not, whatever the deck measurements may give, exceed the number denoting the gross tonnage of the vessel, enforced in India?

A.—No, abolished years ago

44. *Q.*—What would be the effect if, assuming all other existing Indian rules to remain intact, this rule were enforced?

A.—To greatly reduce the number of passengers carried in vessels of small tonnage.

45. *Q.*—What spaces are left unmeasured for passengers when a vessel is being measured for Certificate A?

A.—Any spaces used for the purpose of navigating the ship, and accommodation for officers and crew.

46. *Q.*—How are the hatches treated when a vessel is being so measured, *i.e.*, is the whole space of a hatch deducted or not? Is any difference made on account of long and short voyages?

A.—The whole is deducted on short voyages, and half deducted on long voyages.

57. *Q.*—Are the spaces which would be required for the deck water-tank, latrines, and cooking ranges, necessary for use of native passengers, deducted from the passenger space, even if such articles are not in position at the time a vessel is being measured?

A.—Yes, but not unless in position at the time of measurement.

48. *Q.*—Are any spaces deducted so as to admit of the officers and crew moving fore and aft the vessels with facility, and their getting with ease at the boats and boats' gear. If not, have you any recommendations to make on this head?

A.—Cannot say what spaces are deducted.

49. *Q.*—Should alley-ways used as a means of communication by the crew be considered as deck area for passengers, *i.e.*, the narrow passages between the officers' cabins and the engine-room-casing? If so, would it not be advisable to give a minimum breadth before allowing the area to count for passengers?

A.—Measured or not, alley-ways will be occupied by passengers if they want shelter. If not measured, owners would adopt some other means of building their vessels.

50. *Q.*—Are not these alley-ways additional shelter and, therefore, desirable for passengers?

A.—Yes.

51. *Q.*—For ships with large waterways in the 'tween decks extending inside the battens on the ship's side, is the deck measurement made to the inside edge of the waterways or to the battens? Which would you recommend?

A.—Large waterways are desirable, but if they are not measured will not be made by owners.

52. *Q.*—Should the spaces set apart for boats on the bridge-deck be utilized for passengers when the boats are carried at the davits? If so, state whether during both fair and foul seasons, or only during the fair season?

A.—Yes, our boats are on a standard, high enough for passengers underneath in fine or foul weather.

53. *Q.*—In your opinion are the provisions of the Native Passenger Ships Act, and the rules made under it in regard to the accommodation to be provided for native passengers on long and short voyages, suitable?

A.—Yes, fairly so.

54. *Q.* (*By Captain Street*).—Are the places on the upper-deck in Messrs. Shepherd & Co.'s steamers, which are railed off for the first and second class native passengers, included in the space measured for third class passengers?

A.—The space is measured superficially. We allot the spaces for the different classes ourselves as circumstances admit.

55. *Q.* (*By Captain Street*).—Is not the space of the third class passengers curtailed by railing off space for first and second class native passengers?

A.—No, I have found no trouble on this account; the second and third classes usually occupy the whole deck.

56. *Q.* (*By the President*).—On which of the decks is the 4 feet of airing space provided for 'tween deck passengers?

A.—On the shade deck.

57. *Q.* (*By the President*).—If all the decks are measured at a uniform rate for first, second and third class passengers, how is the officer working the Act to ascertain that the third class passengers are not overcrowded, while the first and second class passengers have ample room, and the steamer is still below its total complement of passengers?

A.—The officer cannot ascertain this. We ourselves regulate the traffic.

58. *Q.* (*By the President*).—To prevent such inconvenience, and to allow the officer responsible under the Act to check this number, would you recommend that the capacity of each part of the ship should be recorded in a prominent place, so that the number in that part may be kept down to the recorded capacity?

A.—I do not think it would be an improvement on the present arrangement—it would necessitate curtailing, or, perhaps, declining to take, first class passengers.

I cannot say; I should recommend what you suggest.

59. *Q.*—Do you think that a passenger on a voyage lasting 10 or 12 hours during daylight, requires as much room as one on a voyage lasting five days?

A.—Certainly not.

60. *Q.*—Do you think that native passengers can do with less space than Europeans?

A.—Certainly.

61. *Q.* (*By the President*).—Does not the ordinary native third class deck passenger carry more baggage with him on short voyages than the similar class of European deck passengers in the English Home Trade? Do you think they could do with less space with their baggage than the Europeans in the Home Trade?

A.—Yes, the majority of third class passengers here carry all their worldly possessions in a small hand bag.

62. *Q.* (*By Mr. Shepherd through the President*).—What do passengers do in railway trains? Do they not carry as much baggage with them in the carriages on an area of one-fourth of that allotted them in steamers?

A.—Yes, quite as much I should say.

63. *Q.*—What proportion do you consider that the space allotted to natives should bear to the space allotted to Europeans?

A.—As 2 is to 3.

64. *Q.*—Assuming that this proportion is adopted, would it, in your opinion, affect the health, comfort, and safety of native passengers in any way?

A.—No.

65. *Q.*—Do you consider that on a voyage, which may extend to five days, native passengers can be accommodated in the 'tween decks of a steamer, at the rate of one passenger to each 6 square feet of area, with 4 square feet of airing space on the upper deck, without prejudicing their health and safety?

A.—Yes, that is ample room.

66. *Q.* (*By Mr. Shepherd through the President*).—Will you give the measurements of railway carriages?

A.—I hand you the measurements of carriages on the B. B. & C. I. Railway.

Measurement of Carriages on B. B. & C. I. Railway.

1st Class	22 feet length 8 feet breadth 6 feet 2 inches height	Seat 20 passengers.
2nd Class	22 feet length 8 feet breadth 6 feet 2 inches height	Seat 40 passengers.
	25 feet length 8 feet breadth 6 feet 2 inches height	Seat 50 passengers.
	divided in 5 divisions, 10 in each division.	
3rd Class	25 feet length 8 feet breadth 6 feet 2 inches height	Seat 68 passengers.
	22 feet length 8 feet breadth 6 feet 2 inches height	Seat 60 passengers.
4th Class	Double storeyed. 22 feet length. 8 feet breadth. 5 feet high first floor. 3 feet high upper floor.	
	Seat 48 passengers on lower floor, 3½ feet each passenger.	
	Seat 32 passengers on upper floor 5½ feet each passenger.	

67. *Q.* (*By the President*)—Have you ever tried the experiment of putting a native passenger with his baggage (say not exceeding 28 lbs.) into a measured space of 6 feet which is all the deck passenger is entitled to? Can he lie down in that space?

A.—With his baggage I have not tried. He can lie down in that space.

68. *Q.* (*By Mr. Shepherd through the President*).—What is the average weight of a native passenger inclusive of his baggage and without his baggage?

A.—Without luggage 112 lbs.
With luggage 140 „

69. *Q.* (*By Mr. Uloth*).—I presume many passengers carry baggage in excess of their allowance. Is this extra baggage put below, or does it occupy passenger space?

A.—If not much in excess it is put on deck, generally on top of skylights, on top of boilers, and engine-casings, or the passenger sits on it. Large quantities are stowed below.

70. *Q.* (*By Mr. Shepherd through the President*).—Are not Shepherd's passenger steamers prohibited from carrying cargo as well as passengers together?

A.—Yes.

71. *Q.*—Do you think it necessary for the health and safety of the passengers that there should be on a voyage, which may extend to five days, permanent shelter for each passenger either 'tween decks or in cabins on the upper deck?

A.—No, shelter under awnings is quite sufficient in Indian waters.

72. *Q.* (*By the President*).—Have you seen a hurricane or main deck which is provided with awnings and side screens kept dry in the monsoons for 3 or 4 days together, so that the passengers could sleep on it without getting their bedding wet?

A.—Not perfectly dry.

73. *Q.* (*By Captain Atkinson*).—Is the weather even in the monsoon continuously wet and bad? Is it not more a series of squalls with sunshine between?

A.—Yes.

74. *Q.*—Do you think that on a voyage, which may extend to five days, there should be separate accommodation for female passengers?

A.—No, they like to be with their male friends as those of other nationalities.

75. *Q.*—Do you know of any steamers which carry native passengers on two upper decks?

A.—No, not at present. A house cannot be described as having two upper storeys, or a ship two upper decks.

76. *Q.*—Do you consider from the wording of the Native Passenger Ships Act, and your experience of this question, that the Legislature, when it passed the Act, contemplated the existence of vessels with more than one upper deck?

A.—Cannot say what the Legislature contemplated; if they did not contemplate the existence of vessels with more than one upper deck, they ought to make provision for such a class if the requirements of the native passenger trade requires it, as in Indian troop-ships or P. & O. vessels with several lower decks and Atlantic vessels.

77. *Q.*—Are you acquainted with the design of the steamers of the *Kistna* class?

A.—Yes, she is classed 100 A-1 shelter deck.

78 *Q.*—What is the distinguishing feature of these steamers?

A.—Nothing particular, except that they have shutters between main and upper decks which can be opened and closed if required.

79. *Q.* (*By the President*).—Messrs. Shepherd & Co. have shade-deck steamers, but without shutters, can you tell us what objection there would be to providing shutters for these steamers. When they are brought out from England the openings on the sides of the middle deck have to be closed to a certain extent, have they not?

A. (1) Less light and air for passengers.
(2) Yes, being laden with coal.

80. *Q.* (*By Captain Street*).—Are Shepherd & Co.'s steamers classed at Lloyd's?

A.—The *Ponani* and *Kaveri* are; the others are not, but built up to Lloyd's requirements.

81. *Q.* (*By the President*).—Would the provision of shutters for the middle deck of Messrs. Shepherd & Co.'s steamers increase the safety of the passengers, or render the vessel better able to stand bad weather?

A.—Yes.

82. *Q.* (*By Mr. Shepherd through the President*).—Are all Shepherd's steamers built to the scantlings of Lloyd's requirements for their highest class?

A.—Yes, and in many items exceed it.

83. *Q.* (*By Mr. Shepherd through the President*).—Are the representations made to the Commission that they are below Lloyd's requirements in any respect correct?

A.—No, they are not correct.

84. *Q.* (*By Mr. Shepherd through the President*).—Are all Shepherd's passenger steamers divided with traverse water-tight bulk-heads?

A.—Yes, they have all traverse water-tight bulkheads which give 7 water-tight compartments in each vessel, and we are now adding longitudinal water-tight bulkheads so as to reduce the number of boats required.

85. *Q.* (*By Mr. Shepherd through the President*).—Have Shepherd's steamers great breadth of beam?

A.—Yes, their length is only 6 beams, and it is customary to build steamers with 9 to 12 beams to their length.

86. *Q.* (*By Mr. Shepherd through the President*).—Does beam add to the stability of these vessels?

A.—Yes, they are so specially constructed to provide for stability when carrying a full load of passengers on the upper deck.

87. *Q.* (*By Mr. Shepherd through the President*).—Are all Shepherd's steamers fitted with inclination gauges to show the degrees of rolling?

A.—Yes they are.

88. *Q.* (*By Mr. Shepherd through the President*).—Have Shepherd's steamers been inclined to test their stability?

A.—Yes. By the builders and by the Bombay Government.

89. *Q.* (*By Mr. Shepherd through the President*).—Have you seen them inclined for stability?

A.—Yes, I have seen some of them so inclined, and Mr. Shepherd has seen some inclined by the builders.

90. *Q.* (*By Mr. Shepherd through the President*).—Were the Bombay Government satisfied with their stability?

A.—Their report expresses satisfaction.

91. *Q.* (*By Mr. Shepherd through the President*).—Do Shepherd & Co. insure their steamers?

A.—No. They run all the risks themselves, and have not any insurance on any of their vessels.

92. *Q.* (*By Sir Henry Morland*).—Are the vessels built under the inspection of Lloyd's Surveyors?

Under whose inspection are they built?

A.—Those that are classed in Lloyd's are inspected by that Society's Surveyors as well as the Board of Trade Surveyors, and our own special Surveyor appointed by ourselves. All are inspected by the Board of Trade and our own Surveyor.

93. *Q.* (*By Sir Henry Morland*).—Have Messrs. Shepherd & Co.'s steamers encountered cyclones without sustaining material damage?

A.—Yes.

94. *Q.* (*By Sir Henry Morland*).—Which vessels have encountered cyclones or boisterous weather and have met with serious injury?

A.—None, from my personal experience, except the *Vaitarna*.

95. *Q.* (*By Captain Wilson*).—Have you any of your vessels' Home Trade passenger certificates with you? I think it was promised to produce some?

A.—No, I have not.

96. *Q.*—In your opinion are the middle passenger decks of these steamers between deck or upper decks within the meaning and intention of the Native Passenger Ships Act? Give your reasons for this opinion?

A.—In my opinion the Act can be construed either way.

97. *Q.*—Are the passengers on these middle decks as well protected in rough weather as the passengers on the lowermost of the three passenger decks?

A.—Yes.

98. *Q.*—Are these passengers on the middle deck not better protected than on ordinary upper decks?

A.—Quite as well.

99. *Q.*—During the inclement weather, do you consider that the upper deck passengers are sufficiently protected by canvas awnings, side screens and curtains? If not, what would you recommend?

A.—Yes.

99A. *Q.*—Do you consider that sufficient protection from the sea is afforded to upper deck passengers by the "reasonably stout screen" which under existing rules (*see* Government of India letter No. 430, dated 27th August 1878) is held as coming within the definition of a substantial bulwark? If not, state what you would recommend in lieu.

A.—Yes, as these decks are only measured for short voyages in a tropical climate.

100. *Q.*—Under existing rules, are the arrangements to prevent injury to passengers by the rolling of the ship sufficient for the purpose?

A.—In rough weather, if necessary, life-lines would be fixed; we have never had any passengers injured from this cause.

101. *Q.*—Are any special fittings required under the Native Passenger Ships Act on the passenger decks for the reception of the bundles, boxes, and other articles usually carried by native passengers? If so, state what you would recommend?

A.—No, they usually sit or lie upon them instead of chairs.

102. *Q.*—Is it necessary for the comfort or safety of the passengers that provision should be made for the accommodation of luggage not stored in the hold?

A.—No.

103. *Q.*—If such accommodation were provided, would it be used? Will native passengers allow their luggage to be parted from them under any circumstances?

A.—No.

104. *Q.*—Do you think that on a voyage, which may extend to five days, sleeping platforms should be provided for the passengers?

A.—No.

105. *Q.*—What closet accommodation do the rules require on native passenger vessels?

A.—Ample.

106. *Q.* (*By the President*).—A complaint has been made that Shepherd's steamers do not set apart special latrines for women? Is this so?

A.—No. Special closets are so marked in the native language.

107. *Q.* (*By the President*).—The Commission has had before it the evidence of native passengers who would like to see urinals provided in addition to latrines. How could they be provided without their being used as latrines?

A.—No.

108. *Q.*—What accommodation of the kind is provided for emigrants?

A.—Ample by the rules.

109. *Q.*—And what accommodation do the Board of Trade Rules require?

A.—Ample

110. *Q.*—Which scale do you consider the most suitable?

A.—All the scales are ample.

111. *Q.*—Do you think the existing rules in regard to hospital accommodation are suitable?

A.—Yes. None are required for short voyages along the Western Coast.

112. *Q.*—Do you consider that cargo, horses, cattle, sheep, and live stock should be carried on the same deck with passengers? If so, is any fitting necessary to prevent the passengers from being inconvenienced by the urine and dung of the horses, cattle, and sheep; and if any such fitting is requisite, state what you would recommend?

A.—It depends entirely on the number carried, where carried, and surrounding conditions.

113. *Q.*—Will you explain to the Commission what rules are in force in India on the subject of life-saving appliances?

A.—No local rules as far as I can see; part of the Indian Steam Ship Act of 1884 would apply; also Part IV of the English Merchant Shipping Act.

114. *Q.*—Do the new regulations of the Board of Trade, made under the Merchant Shipping (Life-saving Appliances) Act, 1888, apply to India?

A.—No.

115. *Q.*—What, in your opinion, is the object of these revised regulations?

A.—The object is to provide more life-saving appliances than formerly existed.

116. *Q.*—Do the revised regulations require more appliances than were necessary under the old rules, and why was the change found necessary?

A.—Yes. I do not know that it has been found necessary.

117. *Q.*—Are the revised regulations suitable, in your opinion, for vessels engaged in the native passenger trade?

A.—Not altogether; the vessels themselves ought to be constructed so that they should be more life-saving by means of longitudinal and transverse bulkheads, and not encumbered with boats, which usually cannot be launched

118. *Q.*—In your opinion, is there no difference of conditions which would justify a difference in the regulations on this subject?

A.—No.

119. *Q.*—Do you think that the natives of India require as much space in boats as Europeans?

A.—No.

120. *Q.*—Would you adopt the Board of Trade regulations in regard to life-buoys and life-belts?

A.—Yes, we do conform to the rules so far as they relate to boats.

121. *Q.* (*By Mr. Shepherd through the President*).—Are all your small boats fitted as life-boats?

A.—All our boats, except one in each steamer, are steel life-boats. We find steel more ductile, and does not dry up and leak like common wood boats.

122. *Q.* (*By Captain Street*).—Do you consider that circular life-buoys are preferable to life-belts for native passengers?

A.—Yes.

123. *Q.* (*By Mr. Shepherd through the President*).—Are not steel life-boats more expensive than teak-wood?

A.—Yes, they cost more than double, but are more economical in repairs.

124. *Q.* (*By Mr. Shepherd through the President*).—How many life-buoys do Shepherd's steamers carry?

A.—A hundred in each steamer.

125. *Q.* (*By Mr. Shepherd through the President*).—Could you increase this number?

A.—Yes, but I would far rather increase the safety of the vessels with water-tight compartments than have to rely upon extraneous appliances.

126. *Q.* (*By Mr. Shepherd through the President*).—Are the boats which Shepherd's steamers carry equal to the requirements of the Board of Trade Rules under the new Life-saving Appliances Act.

A.—Yes, they have always been in excess of these requirements, and I have again verified this fact.

127. *Q.* (*By Mr. Shepherd through the President*).—Which do you consider most suitable for natives, life-buoys or life-belts?

A.—Life buoys as being more simple. Natives would not understand fastening life-belts which are far more complicated.

128. *Q.* (*By Mr. Shepherd through the President*).—Are all Shepherd's steamers fitted with the electric light?

A.—Yes, throughout, each steamer has about a hundred lights.

129. *Q.* (*By Mr. Shepherd through the President*).—Could you increase the ventilation of the lower decks?

A.—Yes, easily, but I do not think the lower decks in our steamers need be used if the main deck and upper deck were measured as I propose.

130. *Q.* (*By Mr. Shepherd through the President*).—Are not the circumstances under which passengers are carried at Home and in this country very dissimilar.

A.—Yes. Not only the passengers both by sea and rail are entirely different, but the houses we live in, the clothes we wear, and everything connected with our daily life are widely dissimilar, and it would be as foolish to try and enforce rules formed for conduct of life at Home on the people, as to enforce rules framed in this country on residents in the United Kingdom.

131. *Q.*—Do you think it necessary that there should be a set of definite instructions as to the survey of passenger accommodation and crew space similar, so far as may be, to those issued by the Board of Trade?

A.—Yes.

132. *Q.*—Do you think the existing regulations in regard to the lighting and ventilation of the passenger accommodation suitable?

A.—Yes.

133. *Q.* (*By the President*).—Are there any rules which regulate ventilation of native passenger ships in Indian waters?

A.—No definite rules.

134. *Q.* (*By the President*).—Do you consider that a 'tween deck full of native passengers in the tropics at 6 superficial feet per individual, requires more ventilation than a 'tween deck which is full of European passengers at 9 superficial feet, in the English Home Trade voyage?

A.—Yes.

135. *Q.*—Would you make the regulations in regard to the equipments of vessels similar in all respects to those of the Board of Trade?

A.—In short voyages some are superfluous, such as rockets, bluelights, &c.

136. *Q.* (*By Captain Street*).—Are you not aware that rockets and bluelights are required to be placed on board of a vessel by the Board of Trade for the purpose of signalling in cases of great emergency or danger to the vessel?

A.—Yes.

137. *Q.* (*By Captain Street*).—Why do you consider that rockets and bluelights are superfluous on short voyages?

A.—Along this Coast there are no Coast-guards, or anyone who could understand the signals or render assistance. People here usually set off rockets, &c., on festive occasions, and not in cases of distress.

139. *Q.*—After a vessel has been measured for Certificate A, is the Captain supplied with the Surveyor's calculations? If not, do you think it necessary that he should be?

A.—No.

140. *Q.*—Would it not be advantageous if a copy of all measurements and calculations of passenger space, as determined in the original measurement, were supplied to the Commander of the vessel?

A.—Yes, the owner; not the Captain.

141. *Q.* (*By Captain Street*).—Why not to the Captain?

A.—Because the owner is the most interested party and responsible to Government.

142. *Q.*—If so, would you recommend that the calculations should show clearly the names of the various obstructions which have been deducted from the gross area, their dimensions and the proportional area deducted?

A.—Yes, as is done in tonnage measurement.

143. *Q.*—In the case of voyages the duration of which does not exceed five days, what distinction is made between seasons of fair and foul weather?

A.—The passenger measurement is reduced.

144. *Q.*—Do you consider a double awning overhead with side curtains and bulwark screens, as required by the Native Passenger Act, equal to the ordinary tent in which troops are accommodated?

A.—Quite equal.

145. *Q.*—Do you know that six superficial feet on the upper deck under double awnings and curtains is considered sufficient accommodation for native troops making voyages under five days' duration?

A.—No.

146. *Q.*—Being acquainted with the class of natives who form the bulk of those who travel by sea, do you consider they require better accommodation for their health and comfort than native troops?

A.—No, I do not.

147. *Q.*—Will you furnish the Commission with your opinion as to the sufficiency or otherwise of the space allowed by the Act and rules generally?

A.—I consider it ample.

148. *Q.*—Do you consider that native passenger ships should carry a medical officer? If this were made compulsory, would you make any difference for the numbers carried or for the duration of the voyage?

A.—It is necessary to carry a medical officer on a long voyage, but not on a short one.

149. *Q.*—Give any instances which have come to your knowledge in which a medical officer would have been of service on board a native passenger vessel

A.—I cannot.

Surgeon-Major F. F. MacCARTIE, M.B.

1. *Q.*—Will you please inform the Commission of the nature of your present occupation?

A.—Health Officer of the Port, Bombay.

2. *Q.*—What qualifications or experience do you possess in regard to the subjects under enquiry?

A.—The inspection of vessels, passengers, and crews for issue of Bill of Health to sailings for quarantine ports. The inspection of in-coming vessels which have, or have had during voyage, cases of infectious disease dangerous to life.

3. *Q* Do you take any part, either directly or indirectly, in the administration or observance of any of the provisions of the Native Passenger Ships Act, 1887?

A.—Indirectly, as regards the sanitary condition of the vessels I visit. If the arrangements for the passengers are grossly insanitary, I have power to refuse a Bill of Health until the defect is remedied.

4. *Q.* In regard to what voyages is there a distinction made between fair and foul season?

A.—Short.

5. *Q.*—Do you consider that if there is to be a line dividing short from long voyages, it should be drawn at five days?

A.—No.

6. *Q.* (*By Captain Atkinson*).—Do you not think that the five-day limit for short voyage, as under existing rules, Native Passenger Acts, has proved a satisfactory limit during the last thirteen years? If not, can you state any facts against it.

A.—No. Too long—vessels clear now for five-day voyages with all their passengers for a long voyage distance. The Mogal Company steamers almost invariably clear for Gwadur, and I have heard rarely stop there.

Speed has increased.

It also defeats Red Sea pilgrim traffic.

7. *Q.* (*By Captain Atkinson*).—What limit would you propose, and why?

A.—At outside three days. Because 1,664 miles, Aden to Bombay, can be done in four-and-a-half days.

8. *Q.* (*By Captain Atkinson*).—Your first answer involves an evasion of the provision of the Act. Do you know of any instance in which the British India Company have evaded the provision of the Act in this matter?

A.—No.

9. *Q.* (*By Captain Street*).—In what way does it defeat the Red Sea traffic?

A.—A vessel with pilgrims for Jeddah can clear to Aden and there tranship her passengers to vessels that come under short voyage, Aden to Jeddah. This has been done on several occasions.

10. *Q.* (*By Captain Street*).—Have you any recommendation to make which would overcome the peculiarity you refer to in regard to the Red Sea traffic?

A.—Alter the wording of the Act so as to make the ultimate destination of the pilgrim the port of direct arrival.

11. *Q.*—Are you aware that it is a common practice for natives of India to sleep at night in the open air?

A.—No, not of their own will, except in hot season.

12. *Q.*—Do you think the ordinary native deck passenger would be prepared to pay more than at present for better accommodation?

A.—I do not think so.

13. *Q.*—Is it not a fact that very well-to-do native merchants are satisfied with the usual deck accommodation?

A.—I think so.

14. *Q.*—How is the number of passengers which a vessel is capable of carrying calculated in each case?

A.—By Simpson's rule.

15. *Q.*—Do you know the height of the 'tween deck in the British India steamers?

A.—About 7 feet, *Kistna* class.

16. *Q.*—What is the maximum height between deck in these steamers carrying native passengers? What is the average height?

A.—About 7½ feet maximum; about 7 feet average.

17. *Q.*—What spaces are left unmeasured for passengers when a vessel is being measured for Certificate A?

A.—Alley-ways under certain circumstances, scuppers, all fixtures, sufficient space on bridge deck to permit of navigation; the deduction necessary for the erection of temporary hospital.

18. *Q.* (*By Captain Wilson*).—Please state under what circumstances alley-ways are left unmeasured?

A.—If a 'tween deck alley-way where there are no officers' rooms or doors opening into alley-ways, as much space is allowed for passengers as is left after deducting 3 feet.

19. *Q.*—How are the hatches treated when a vessel is being so measured, *i.e.*, is the whole space of a hatch deducted or not? Is any difference made on account of long and short voyages?

A.—All hatches are deducted on short voyages. Half hatches are allowed on long voyages.

20. *Q.*—Are the spaces which would be required for the deck water-tank, latrines, and cooking ranges, necessary for use of native passengers, deducted from the passenger space, even if such articles are not in position at the time a vessel is being measured?

A.—They are deducted when Certificate B is given, *i.e.*, just before sailing and when all passengers are on board.

21. *Q.*—Should alley-ways, used as a means of communication by the crew, be considered as deck area for passengers, *i.e.*, the narrow passages between the officers' cabins and the engine-room-casing? If so, would it not be advisable to give a minimum breadth before allowing the area to count for passengers?

A.—Yes, if 6 feet or over in breadth.

22. *Q.*—Are not these alley-ways additional shelter and, therefore, desirable for passengers?

A.—Yes.

23. *Q.*—For ships with large water-ways in the 'tween decks extending inside the battens on the ship's side, is the deck measurement made to the inside edge of the water-ways or to the battens? Which would you recommend?

A.—Depends on position of batten as regards inner edge of water-way. If inner edge of water-way is within the batten, measurement would be from batten. The space occupied by water-way should not be measured unless covered in.

24. *Q.*—Should the spaces set apart for boats on the bridge deck be utilized for passengers when the boats are carried at the davits? If so, state whether during both fair and foul seasons, or only during the fair season.

A.—Yes, both on fair and foul voyages.

25. *Q.* (*By Captain Wilson*).—Please state how you base your opinion. Supposing the weather is bad and boats have to be swung inboard on to the bridge deck, what would become of the passengers occupying the boat spaces?

A.—In the *Kistna* class there can be no interference with passengers accommodated, as the *Kistna* has a specially-made platform on which boats rest when swung in, about 6 feet above deck.

26. *Q.*—In your opinion, are the provisions of the Native Passenger Ships Act, and the rules made under it in regard to the accommodation to be provided for native passengers on long and short voyages, suitable?

A.—No

27. *Q.* (*By Captain Atkinson*).—Would you state what circumstances have led you to form this opinion?

A.—Experience.

28. *Q.*—Do you think that a passenger on a voyage lasting 10 or 12 hours during daylight requires as much room as one on a voyage lasting five days?

A.—No.

29. *Q* (*By Captain Street*).—What space would you give to each adult on a voyage lasting 10 to 12 hours?

A.—Present accommodation if short voyage and fair weather.

30. *Q*—Do you think that native passengers can do with less space than Europeans?

A.—No.

31. *Q.* (*By Captain Atkinson*).—Do not Government rules fix a proportion for the space required by natives as compared with Europeans? If so, please state what proportion?

A.—I have no experience on this point.

32. *Q.* (*By Mr. Shepherd through the President*).—Have you ever made any experiment as to how many passengers can be accommodated within a specified space, either for Europeans or Natives?

A.—Only by measuring the present allowances on a floor.

33. *Q.*—What proportion do you consider that the space allotted to natives should bear to the space allotted to Europeans?

A.—The same at least.

34. *Q.*—Assuming that this proportion is adopted, would it, in your opinion, affect the health, comfort and safety of native passengers in any way?

A.—I think so.

35. *Q.* (*By Mr. Shepherd through the President*).—Can you give any instance of the space allotted on short fair voyages being too small and injuriously affecting passengers?

A.—No.

36. *Q.*—Do you consider that on a voyage, which may extend to five days, native passengers can be accommodated in the 'tween decks of a steamer at the rate of one passenger to each six square feet of area, with 4 square feet of airing space on the upper deck, without prejudicing their health and safety?

A.—No.

37. *Q.* (*By Captain Atkinson*).—Do you know of any cases in which the health and safety of native passengers have been prejudiced by the existing rules as to space during the thirteen years the Act has been in force?

A.—No; my reply refers to short fair weather voyages.

38. *Q.*—Do you think it necessary, for the health and safety of the passengers, that there should be on a voyage, which may extend to five days, permanent shelter for each passenger either 'tween decks or in cabins on the upper deck?

A.—Yes.

39. *Q.* (*By Captain Street*).—Do you mean by this that you consider no upper deck passengers should be carried on a short voyage?

A.—I do not so consider. They should be carried.

40. *Q.* (*By Captain Atkinson*).—In view of the fact that the weather, even in the foul season on the coast of India, is not continuous but more in squalls, with intervals of fine weather and sunshine between, would not the saloon and cabins, &c., be sufficient shelter on short voyages?

A.—Yes, in fair weather for short voyages; not sufficient in foul season.

41. *Q.*—Do you think that on a voyage, which may extend to five days, there should be separate accommodation for female passengers?

A.—No.

42. *Q.*—Do you know of any steamers which carry native passengers on two upper decks?

A.—Yes, Shepherd's.

43. *Q.* (*By Mr. Shepherd through the President*).—Will you name any steamers of Shepherd's that have two upper decks?

(2) Have you ever seen a house with two upper storeys?

A.—(1) *Zuari* and *Rajapuri*.

(2) Yes.

44. *Q.*—Do you consider from the wording of the Native Passenger Ships Act and your experience of this question that the Legislature, when it passed the Act, contemplated the existence of vessels with more than one upper deck?

A.—No.

45. *Q.*—Are you acquainted with the design of the steamers of the *Kistna* class?

A.—Yes.

46. *Q.*—What is the distinguishing feature of these steamers?

A.—That to the ordinary eye what would seem to be the first 'tween deck has shutters, which in fair weather can be raised, thus giving to its passengers almost as much fresh air as on the ordinary upper deck of a vessel of a different class.

47. *Q.*—In your opinion, are the middle passenger decks of these steamers tween decks or upper decks, within the meaning and intention of the Native Passenger Ships Act? Give your reasons for this opinion.

A.—'Tween decks. When, as in rough weather, the shutters are down, as regards ventilation they become practically 'tween decks, and depend for their ventilation on the ordinary contrivances used in vessels which are not of the *Kistna* class.

Then, again, if they are upper decks, the 'tween or lowest deck of this class would require some special system of ventilation, as it is at a lower level than the first 'tween decks of ordinary vessels, the ports being only 1½ or 2 feet above the load line. The lowest deck of this class is, as regards ventilation, practically an orlop deck. The expression "upper deck" as it occurs in the Act is always in the singular number. The Legislature did not evidently contemplate vessels with more than one upper deck.

48. *Q.* (*By Captain Atkinson*).—With reference to the ventilation of middle decks of the *Kistna* class, with shutters closed and hatches on, you appear to overlook the fact that under such conditions there is large natural ventilation provided by structures rising high above the hurricane deck, such as engine skylight, stoke hole grating, galley and second class skylight, all communicating with the

middle deck and aggregating about 20,000 square inches, would you not consider this sufficient?

A.—I have not said that the second deck, when shutters are closed, is badly ventilated. It is better perhaps than an ordinary first 'tween deck where the lack of ventilation is in third or orlop deck.

49. *Q.*—Are the passengers on these middle decks as well protected in rough weather as the passengers on the lowermost of the three passenger decks?

A.—I should think so.

50. *Q.*—Are these passengers on the middle deck not better protected than on ordinary upper decks?

A.—Yes.

51. *Q.*—During the inclement weather do you consider that the upper deck passengers are sufficiently protected by canvas awnings, side screens and curtains? If not, what would you recommend.

A.—I doubt whether vessels, as a rule, carry awnings in boisterous weather. The passengers cannot, therefore, be said to be protected.

52. *Q.* (*By Captain Street*).—Can you give any instances where awnings have been taken down?

A.—Yes, a pilgrim vessel's Captain when remonstrated with by me for not having his awnings up in monsoon, when leaving Bombay, said "Very well, up they go; but I promise you they will be taken down before I clear the harbour."

53. *Q.* (*By Dr. Comins*).—Do you think that an orlop deck full of passengers can be efficiently ventilated by cowls and other means of natural ventilation, say, if the vessel is at anchor in a calm?

A.—No.

54. *Q.* (*By Dr. Comins*).—Do you think artificial ventilation is necessary in such a case?

A.—With present accommodation, yes.

55. *Q.* (*By Mr. Shepherd through the President*).—How many square inches of ventilating area would you recommend for adult passengers on short voyages in fair weather?

A.—Sufficient to supply 3,000 cubic feet of fresh air per hour per head.

56. *Q.* (*By Dr. Comins*).—Have you any experience of sleeping platforms in passenger vessels?

A.—Not in the third class } pilgrim vessels.
Yes in the first class }

57. *Q.* (*By Dr. Comins*).—Are you aware that sleeping platforms are much appreciated by third class passengers to Penang and Singapore?

A.—No.

58. *Q.* (*By Captain Street*).—What increase would you recommend for a Red Sea pilgrim voyage?

A.—At least double that provided for ordinary long voyage; at present, numbers of cases of diarrhœa and dysentery are treated in the 'tween decks, thereby aggravating the unsanitary state.

The number of deaths on board pilgrim vessels is always high, up to 246 per mille.

59. *Q.* (*By Mr. Shepherd through the President*).—Are you aware that numbers of pilgrims to Jeddah go there with the object of dying at this, their most sacred place?

A.—They go, not hoping to die because if near death, and they die *en route*, they hope to reach heaven.

60. *Q.* (*By the President.*)—Will you favour the Commission with a memorandum containing your views on the Red Sea pilgrim traffic?

A.—With pleasure (See Appendix V.).

61. *Q.*—Are any special fittings required under the Native Passenger Ships Act on the passenger decks for the reception of the bundles, boxes, and other articles usually carried by native passengers? If so, state what you would recommend?

A.—No.

62. *Q.*—Is it necessary for the comfort or safety of the passengers that provision should be made for the accommodation of luggage not stored in the hold?

A.—It would be better that such provision should be made, provided the passengers utilised the space reserved for baggage.

63. *Q.*—If such accommodation were provided, would it be used? Will native passengers allow their luggage to be parted from them under any circumstances?

A.—No.

64. *Q.*—Do you think that on a voyage, which may extend to five days, sleeping platforms should be provided for the passengers?

A.—No.

65. *Q.*—What closet accommodation do the rules require on native passenger vessels?

A.—For ordinary voyages—long and short—two privies for 61 passengers or first hundred. One additional privy for every additional hundred, or fraction of a hundred.

For pilgrim ships the same, except that each privy shall have two seats.

66. *Q.*—And what accommodation do the Board of Trade Rules require?

A.—Three per each two hundred deck passengers, I think.

67. *Q.*—Which scale do you consider the most suitable?

A.—The scale for ordinary long and short voyages under the Native Ships Act should be sufficient, but the scale for Red Sea pilgrim vessels, though double that, seems, though under ordinary circumstances sufficient, to be in certain circumstances insufficient, as when large numbers of passengers are attacked by diarrhœa and dysentery.

68. *Q.*—Do you think the existing rules in regard to hospital accommodation are suitable?

A.—For ordinary long and short voyages, yes. For Red Sea pilgrim voyages, no.

69. *Q.*—Do you consider that cargo, horses, cattle, sheep, and live-stock should be carried on the same deck with passengers? If so, is any fitting necessary to prevent the passengers from being inconvenienced by the urine and dung of the horses, cattle, and sheep; and if any such fitting is requisite, state what you would recommend.

A.—I think that cargo might be carried on same deck with passenger, provided sufficient measures are taken to safely stow it, and that it does not lessen the passenger space. Live-stock should not be carried on same deck as passengers if that deck is a 'tween deck. If it is an upper deck, only so many beasts as can be accommodated on a different portion of the deck to that where passengers and their closets and cooking houses are, *e. g.*, passengers fore and cattle aft. Special arrangements for such a case should be adopted, such as tarred canvas under the cattle and means to prevent their excretions passing over deck when vessel rolls or pitches.

70. *Q.*—Do you think the existing regulations in regard to the lighting and ventilation of the passenger accommodation suitable?

A.—I do not think that any ordinary system of ventilation can be thoroughly effective in dealing with the 'tween deck accommodation allowed by the Act.

71. *Q.*—After a vessel has been measured for Certificate A, is the Captain supplied with the Surveyor's calculations. If not, do you think it necessary that he should be?

A.—I do not know; but he should be.

72. *Q.*—Would it not be advantageous if a copy of all measurements and calculations of passenger space, as determined on the original measurements, were supplied to the Commander of the vessel?

A.—I think so.

73. *Q.*—If so, would you recommend that the calculations should show clearly the names of the various obstructions which have been deducted from the gross area, their dimensions and the proportional area deducted?

A.—Yes.

74. *Q.*—Do you consider a double awning overhead with side curtains and bulwark screens, as required by the Native Passenger Act, equal to the ordinary tent in which troops are accommodated?

A.—No.

75. *Q.*—Do you know that six superficial feet on the upper deck under double awnings and curtains is considered sufficient accommodation for native troops making voyages under five days' duration?

A.—No.

76. *Q.*—Will you furnish the Commission with your opinion as to the sufficiency or otherwise of the space allowed by the Act and rules generally?

A.—In my answer I divide vessels into classes—

I.—Ordinary—(1) steamers; (2) sailing ships; (3) long voyages; (4) short; (5) fair; (6) foul.

II.—Red Sea Pilgrim Vessels.

I do not claim to have as intimate an acquaintance with Class I as with Class II, but from my experience of the Persian Gulf and Mauritius steamers, I think that the space allowed by the Act is too small for Class I in all its sub-divisions; and I think that on long voyages the fair and foul season rule should be introduced. As regards Class II or Red Sea Pilgrim vessels, I have no hesitation in stating that the present scale of accommodation urgently requires to be increased.

77. *Q.* (*By Captain Atkinson*).—Please say have you any experience of the British India steam trading to the Persian Gulf?

A.—At present very little but I had in 1884, 1885 and 1886.

78. *Q.* (*By Mr. Shepherd through the President*).—Are you aware that quite 20 per cent. of the pilgrims to Jeddah are sent over as paupers without any visible means of subsistence?

A.—A considerable number, but hardly 20 per cent. I should say 10 per cent. on outward voyages, 40 or 50, even 60 per cent., on inward voyages.

79. *Q.*—Do you consider that native passenger ships should carry a medical officer? If this were made compulsory, would you make any difference for the numbers carried or for the duration of the voyage?

A.—All vessels coming under the Act should carry a medical officer on a long voyage. Three days and upwards to be considered a long voyage and 61 adults to be the necessary unit.

80. *Q.*—What grade of medical officer would you consider best suited for these vessels?

A.—For vessels classed as I in Answer 117, the L. M. & S. grade of Indian Universities.

For Red Sea pilgrim vessels a Government Commissioned medical officer should accompany each vessel with an assistant of the Indian grade L.M.&S.

81. *Q.* (*By Mr. Shepherd through the President*).—Have you known any epidemic connected with Shepherd's steamer?

A.—No.

82. *Q.*—Give any instances which have come to your knowledge in which a medical officer would have been of service on board of a native passenger vessel.

A.—Instances when a medical officer would have proved useful on board native passenger ship S. S. *Bhowanugger*, with 185 passengers and no medical officer, arrived Bombay 2nd April 1888. Had three deaths from cholera on voyage. Her passengers landed, and 23 deaths occurred amongst these passengers from undoubted cholera. Result, as sworn by Executive Health Officer, was a large increase on the cholera death-rate, and Surgeon imposed quarantine against Bombay, and this imposition lasted 74 days. A prosecution against the Captain under Act VI of 1867 fell through, because the Captain could not be proved to be aware of the nature of the disease.

S. S. Stura.—No doctor; arrived Bombay from Singapore with 634 Malay pilgrims for Jeddah, 2nd May 1888. Captain reported to pilot no sickness, except one case of fever and prickly-heat; vessel accordingly got pratique. Luckily, Custom House Officer boarded vessel, and seeing what he considered to be small-pox, sent for the Port Health Officer, who discovered six cases of small-pox. A possible epidemic was stopped by vaccinating these Malays, unprotected by vaccination or previous small-pox.

Proceedings of the Thirty-ninth Meeting of the Native Passenger Ships Commission, held at the Port Office, Bombay, on the 30th January 1891.

Present:

Surgeon-Major A. S. Lethbridge, C.S.I.	*President.*
Captain Sir Henry Morland, H.M.I.M.	*Members.*
Captain H. A. Street, H.M.I.M.	
Captain George Wilson, H.M.I.M.	
Surgeon-Major D. W. D. Comins, I.M.S.	
Captain J. H. Atkinson	
H. W. Uloth, Esq.	

1. The Commission assembled at 11 A.M., and proceeded to examine Mr. W. F. Potts, the Dock Superintendent of the B. I. S. N. Company at Bombay. On the

completion of Mr. Potts' examination, Mr. J. H. Fletcher, Port Officer at Mangalore, was called and examined.

2. Mr. Fletcher's examination having been completed, the Commission proceeded to examine Mr. J. Higgins, Inspector, Bombay Preventive Service.

3. Mr. J. A. Shepherd, of Shepherd & Co., of Bombay, was present, and put questions to the different witnesses through the President.

4. On the completion of Mr. Higgins' examination, the Commission, after approving of the proceedings of the thirty-eighth Meeting, adjourned until the 31st instant.

Evidence of Mr. W. F. POTTS.

1. *Q.*—Will you please inform the Commission of the nature of your present occupation?

A.—Dock Superintendent, British India Steam Navigation Company, Limited, Bombay.

2. *Q.*—What qualifications or experience do you possess in regard to the subjects under enquiry?

A.—That of Shipbuilder or Naval Architect and Shipmaster.

3. *Q.*—Do you take any part, either directly or indirectly, in the administration or observance of any of the provisions of the "Native Passenger Ships Act, 1887?

A.—Preparing the British India Steam Navigation Company's steamers for sea under the Company's instructions.

4. *Q.*—Do you consider that if there is to be a line dividing short from long voyages it should be drawn at five days?

A.—In my experience five days (the present limit) answers very well, and might be extended so far as steamers are concerned.

5. *Q.* (*By the President*).—Are you aware that a short voyage includes a voyage from Negapatam to Rangoon calling at the Coromandel ports; that this voyage takes usually ten days, and that 99 per cent. of the native passengers do not, and as a fact cannot, except at great expense, land at any one of the Ports of call?

A.—I understand such is the case, but I still consider the short voyage limit might be extended?

6. *Q.*—Do you think that the five-day limit puts an Indian short voyage on a footing similar to an English Home Trade voyage?

A.—The difference of weather is entirely in favour of Indian short voyages as performed under the most favourable condition under which vessels can put to sea.

7. *Q.*—Are you of opinion that the conditions justify a distinction being made between fair and foul weather in the case of voyages which may extend to five days?

A.—The present distinction works well.

8. *Q.*—Are you of opinion that the seasons of fine weather defined in the rules are judiciously chosen with reference to the prevailing conditions?

A.—Yes.

9. *Q.*—If not, what alterations would you suggest?

A.—None.

10. *Q.*—Will you mention instances of foul weather occurring during the seasons which are by rule declared to be seasons of fair weather?

A.—Instances have occurred, but I have no record of them particularly.

11. *Q.*—In your opinion do the conditions justify passengers being carried across the Bay at any season on decks, such as are commonly, called hurricane-decks, which are not protected from the weather, except by overhead awnings, side-screens and curtains, assuming that no accommodation is reserved for these passengers on the lower decks which are crowded with other passengers?

A.—My experience is that passengers can be so carried safely.

12. *Q.* (*By Captain Atkinson*).—Did not the *Pachamba*, a vessel of the same class as the *Kistna*, pass safely through the gale of December 12th 1888, and without injury to a single passenger.

A.—Yes.

13. Q. (*By the President*).—What experience have you of the weather in the Bay of Bengal in the foul seasons?

A.—Two years' constant service in and about the Bay of Bengal, thirteen months of which were spent in command.

14. *Q.* (*By the President*)—Can the *hurricane* and upper decks, which are protected by overhead awnings, be kept dry in wet weather. From your experience how can the rain be kept from coming on to the deck through the numerous shafts, mouths and openings in the awnings?

A.—(1) Reasonably.

(2) The rain cannot be kept out quite.

15. *Q.* (*By the President*).—Can native passengers sleep on a wet deck for five or six days together without injury to their health?

A.—No.

16. *Q.* (*By Captain Atkinson*).—Is not the weather in foul season in the Bay of Bengal and on the coasts of India only a series of squalls, with often considerable periods of fine sunshiny weather between the squalls?

A.—Yes.

17. *Q.* (*By Sir Henry Morland*).—Notwithstanding the breaks in the monsoon, does not the sea remain rough?

A.—Yes.

18 *Q.* (*By Captain Street*)—During your experience in the Bay of Bengal, for how many days consecutively on any occasion during the foul season has the upper deck been wet and unsuitable for native passengers?

A.—Three days.

19. *Q.* (*By Mr. Shepherd through the President*).—Is there not a certain amount of discomfort and inconvenience incidental to every seagoing voyage even in the finest vessels afloat of the best conducted lines that cannot be avoided?

A.—Yes there is.

20. *Q.* (*By Captain Atkinson*).—Are not steamers carrying native passengers usually in the best possible trim to encounter the sea which prevails during the monsoon?

A.—In my experience, yes.

21. *Q.* (*By Captain Wilson*).—I presume your reply to this question is with reference to the safety of the lines of native passengers, not to their comfort?

A.—My answer includes the comfort of passengers as well as their safety.

22. *Q.* (*By Captain Street*).—Do you consider that the *Bhandara* was in a suitable trim when she encountered the cyclone of November 1888 off Madras?

A.—I have not a knowledge of the *Bhandara's* trim on that occasion; I have not read the account of the enquiry which I believe was held.

23. *Q.* (*By Captain Street*).—Are not the British India Steamers running between Negapatam and Rangoon during the foul season generally in light draft?

A.—I should say they are, and this answer is based on observing these vessels arriving in Rangoon, for I have not sailed in that particular line.

24. *Q.* (*By Captain Atkinson*).—By *light trim* do you understand it to be said that the vessels referred to were in anything but perfectly *safe trim?*

A.—By *light trim* I would imply that the vessels I speak of might, or would have, their lower holds filled with cargo.

25. *Q.*—Are you acquainted with the ordinary conditions of native life amongst the class that form the bulk of the native passengers who travel by sea?

A.—Yes.

26. *Q.*—Are you aware that it is a common practice for natives of India to sleep at night in the open air?

A.—Yes.

27. *Q.*—Have you had any personal experience of the weather round the coast of the United Kingdom and in the Bay of Bengal and on the coasts of India?

A.—Yes.

28. *Q.*—Do you consider that there is such similarity as to warrant a comparison between the weather experienced on the coast of the United Kingdom or between the rivers Elbe and Brest (English Home Trade voyage) and that experienced in the Bay of Bengal and on the Coasts of India?

A.—No.

29. *Q.*—Do you consider the conditions of English and Indian passenger traffic to be similar in any other way than that the traffic under discussion is by sea?

A.—No.

30. *Q.*—Do you think the ordinary native deck passenger would be prepared to pay more than at present for better accommodation?

A.—No.

31. *Q.*—Is it not a fact that very well-to-do native merchants are satisfied with the usual deck accommodation?

A.—Yes.

32. *Q.*—What class of people travel as deck passengers in the United Kingdom on vessels which frequently carry their full complement?

A.—Such as cannot afford to pay for more than a deck passage.

33. *Q.*—Have you any special suggestions to make in regard to voyages similar to those classed as excursions by the Board of Trade, that is, voyages during which a vessel is not more than ten or twelve hours at sea?

A.—No.

34. *Q.* (*By the President*).—Would you recommend as a suggestion the adoption of the Board of Trade Rule in regard to excursion voyages?

A.—I would not recommend the establishment of excursion classes.

35. *Q.* (*By Mr. Shepherd through the President*).—Do you think it would be possible for Shepherd & Co.'s traffic to be conducted under excursion certificates limiting them to plying in daylight only?

A.—No.

36. *Q.* (*By Captain Street*).—Would you recommend a table of limits of voyages being prepared on the lines adopted by the Board of Trade?

A.—No; for the reasons that *new* ports are continually being opened in the coast trade, and a vessel setting forth to sea from any coast port bound to any coast port is at sea from first to last: limiting the length of voyage would in no way affect the danger I consider.

37. *Q.* (*By Mr. Shepherd through the President*).—Are you acquainted with the construction of Shepherd's steamers?

A.—Yes.

38. *Q.* (*By Mr. Shepherd through the President*).—Have you ever travelled in Shepherd's steamers and examined them in dry dock?

A.—I have frequently travelled in Shepherd's steamers on the coast, and have surveyed them in dry dock.

39. *Q.* (*By Mr. Shepherd through the President*).—Do you consider them seaworthy and stable?

A.—Yes.

40. *Q.* (*By Captain Street*).—Is an *awning* deck likely to be a source of danger should a vessel with such a deck be struck by a heavy squall during cyclonic weather?

A.—Not if the vessel has a sufficient metacentric height and fair range of stability.

41. *Q.* (*By Mr. Shepherd through the President*).—Do you consider Shepherd's steamers have sufficient metacentric height?

A.—The Government, I believe, have made enquiry on this subject, and pronounced these vessels to have a good and safe metacentric height, and safe range of stability.

42. *Q.* (*By the President*).—Would Messrs. Shepherd & Co.'s steamers be better able to weather a storm if provided with iron shutters similar to those of the *Kistna* class?

A.—Yes.

43. *Q.* (*By Captain Wilson*).—Would there be any difficulties in fitting shutters to Shepherd's steamers of the *Rajapuri* class?

A.—No practical difficulty.

44. *Q.* (*By Mr. Shepherd through the President*).—Are they suited for the trade they are employed in?

A.—In my opinion thoroughly suitable.

45. *Q.* (*By Mr. Shepherd through the President*).—Supposing you were called to furnish designs for steamers suitable for Shepherd's traffic, what kind of vessel would you design?

A.—The trade admits of no other design than that to which the vessels are built, and I could do no other than copy these vessels as to dimensions, draft and style of design.

46. *Q.* (*By the President*).—Do you consider the shade deck a source of danger in these vessels?

A.—No.

46(*a*) *Q.* (*By Mr. Shepherd through the President*).—Can any man pronounce on the stability of a ship, who is unable to construct a curve of stability, and is not this a highly scientific process?

A.—No. Unless such a one obtains his information from a stability curve. It is an intricate calculation, and for it is required the ship's design.

47. *Q.*—Is allowance made in Board of Trade rules for height of 'tween decks; in fact, do not

Board of Trade Surveyors when berths are not fitted for third class passengers, calculate the number that may be carried on the basis of a cubic measurement of 72 cubic feet per statute adult after deducting all hatches and encumbrances?

A.—Yes.

48. *Q.*—If so, would you consider it proper to allow for height of 'tween deck as an element in the health and comfort of third class native passengers?

A.—I have no knowledge of vessels in which the height between decks measured less than 6 feet (in fact 7 to 8 feet is usual); thus 36 cubic feet of space (air) per passenger is provided, and in my experience has proved ample.

49. *Q.* (*By the President*).—Do you think 36 cubic feet of air space is necessary for a 'tween deck passenger?

A.—Yes.

50. *Q.*—Do you know the height of the 'tween decks in the British India steamers?

A.—Seven to 8 feet.

51. *Q.*—What is the maximum height between deck in these steamers carrying native passengers? What is the average height?

A.—Eight feet maximum. An average can hardly be given, but 7 feet might be given as the minimum.

52. *Q.*—Are you aware that there was an old rule in India which allowed ships to carry 3 passengers for 2 tons?

A.—No.

53. *Q.*—Is the Board of Trade Rule, under which the number of passengers carried must not, whatever the deck measurements may give, exceed the number denoting the gross tonnage of the vessel, enforced in India?

A.—No.

54. *Q.*—What would be the effect if, assuming all other existing Indian rules to remain intact, this rule were enforced?

A.—It would affect the smaller class of passenger steamers.

55. *Q.*—What spaces are left unmeasured for passengers when a vessel is being measured for Certificate A?

A.—Hatches and deck fittings which occupy space.

56. *Q.*—How are the hatches treated when a vessel is being so measured, *i.e.*, is the whole space of a hatch deducted or not? Is any difference made on account of long and short voyages?

A.—In short voyages, hatches are not deducted, but on long voyages half the hatch has been allowed.

57. *Q.*—Are the spaces which would be required for the deck water-tank, latrines, and cooking ranges, necessary for use of native passengers, deducted from the passenger space even if such articles are not in position at the time a vessel is being measured?

A.—These fitments in my experience have always been in the place intended for them while a vessel is being measured.

58. *Q.*—Are any spaces deducted so as to admit of the officers and crew moving fore and aft the vessel with facility, and their getting with ease at the boats and boats' gear? If not, have you any recommendations to make on this head?

A.—No, the space allowed per passenger is sufficient to leave room for this purpose.

59. *Q.*—Should alley-ways, used as a means of communication by the crew, be considered as deck area for passengers, *i.e.*, the narrow passages between the officers' cabins and the engine-room-casing? If so, would it not be advisable to give a minimum breadth before allowing the area to count for passengers?

A.—I consider the alley-ways should be measured for passengers.

60. *Q.* (*By the President*).—In a British India steamer carrying 1,000 native passengers abaft the engine, how can these men, women, and children get to and from the latrines and cook houses if no passage were left for the purpose?

A.—Each passenger is allowed six superficial feet, and while seated native fashion requires $1\frac{3}{4}$ superficial feet; the hatches which are very large are not included in the space, therefore there is ample room for passengers or others to pass to and fro. To this I add my own experience under similar circumstances. Passengers *will* occupy such space.

61. *Q.* (*By the President*).—Given a 4 feet 6 inch alley-way with the doors of officers' cabins, water-closets, pantries, &c., opening into it on one side, the engine-room door on the other side, the ash-shoots in the centre, and the steam pipes for the donkey engines running through it—do you still think this is a suitable place to put native passengers with their baggage?

A.—The space abreast of ash-shoots would not be measured, and in this presidency steam-pipe casings are invariably deducted. The difficulty in the question exists in daily practice for the reason given in the last sentence of my previous answer.

62. *Q.* (*By the President*).—Although the alley-ways in British India steamers are measured as space for passengers, do you know from your own experience that they are ever allowed to be occupied by native passengers with their baggage?

A.—The alley-ways are not measured in the Bombay presidency for passengers, and we hold that it would not be possible or prudent to exclude the passengers night and day.

63. *Q.* (*By the President*).—When the second class cabins and officers' cabins and water-closets open into the alley-ways, how do you propose to prevent the irritation and assaults that would result from the passengers being in the way of these second class passengers, and the officers of the ship? How would you prevent the extreme discomfort that native passengers would experience in having people constantly passing over them and stepping on them?

A.—Assuming—and this contrary to my sea experience—that friction is unavoidable, if passengers be allowed in the alley-ways nothing is left save to exclude alley-ways from measurement.

64. *Q.* (*By Captain Atkinson*).—In your experience have you ever seen any difficulty in passengers moving freely from and off the decks through the alley-ways notwithstanding the fact that on the Calcutta side the alley-ways have always been measured?

A.—No.

65. *Q.*—Are not these alley-ways additional shelter and, therefore, desirable for passengers?

A.—Yes.

66. *Q.*—For ships with large water-ways in the 'tween decks extending inside the battens on the ship's side, is the deck measurement made to the inside edge of the water-ways or to the battens? Which would you recommend?

A.—Inside edge of water-way (sunken). If planked over, they should also be measured.

67. *Q.*—Should the spaces set apart for boats of the bridge-deck be utilized for passengers when the boats are carried at the davits? If so, state whether during both fair and foul seasons, or only during the fair season?

A.—The spaces should be measured for both fair and foul seasons.

68. *Q.* (*By Captain Wilson*).—Should the necessity arise for "turning in" the boats during foul weather, and placing them on their deck crutches, what would then become of the passengers occupying the boat spaces?

A.—The boats in all the vessels I have in remembrance can be swung inboard, and at the same time be left clear of the deck.

69. *Q.*—In your opinion are the provisions of the Native Passenger Ships Act, and the rules made under it in regard to the accommodation to be provided for native passengers on long voyages and short voyages, suitable?

A.—Yes.

70. *Q.* (*By the President*).—Have you ever tried the experiment of placing native passengers in a given area with their baggage. What has been the result of your experiments?

A.—I have done so without baggage (this last being a variable quantity) and find that standing, a native workman requires $\frac{9\cdot5}{10\cdot0}$ of a superficial foot, and sitting, 1·75 superficial feet.

71. *Q.* (*By the President*).—Do you consider that baggage that is charged for should be allowed to take up passenger space.

A.—Certainly not.

72. *Q.*—Do you think that a passenger on a voyage lasting ten or twelve hours during daylight requires as much room as one on a voyage lasting five days?

A.—The same in both cases.

73. *Q.*—Do you think that native passengers can do with less space than Europeans?

A.—Much less.

74. *Q.*—What proportion do you consider that the space allotted to natives should bear to the space allotted to Europeans?

A.—Nine to ten; perhaps less.

75. *Q.*—Assuming that this proportion is adopted, would it in your opinion affect the health, comfort, and safety of native passengers in any way?

A.—No.

76. *Q.*—Do you consider that on a voyage, which may extend to five days, native passengers can be accommodated in the 'tween decks of a steamer at the rate of one passenger to each 6 square feet of area, with 4 square feet of airing space on the upper deck, without prejudicing their health and safety?

A.—Yes, from experience.

77. *Q.*—Do you think it necessary for the health and safety of the passengers that there should be on a voyage, which may extend to five days, permanent shelter for each passenger either 'tween decks or in cabins on the upper deck?

A.—No, no other than at present.

78. *Q.*—Do you think that on a voyage, which may extend to five days, there should be separate accommodation for female passengers?

A.—No, in my experience native women would not allow themselves to be separated from their families.

79. *Q.*—Do you know of any steamers which carry native passengers on two upper decks?

A.—Yes.

80. *Q.*—Do you consider from the wording of the Native Passenger Ships Act, and your experience of this question, that the Legislature, when it passed the Act, contemplated the existence of vessels with more than one upper deck?

A.—I have no reason to suppose that they did not know that such vessels were even then in existence.

81. *Q.*—Are you acquainted with the design of the steamer of the *Kistna* class?

A.—Yes.

82. *Q.*—What is the distinguishing feature of these steamers?

A.—Shade, main and 'tween decks.

83. *Q.*—In your opinion, are the middle passenger decks of these steamers between decks or upper decks, within the meaning and intention of the Native Passenger Ships Act? Give your reasons for this opinion?

A.—Upper decks, because passengers accommodated in the main deck are similarly situated to those in the uppermost deck.

84. *Q.*—Are the passengers on these middle decks as well protected in rough weather as the passengers on the lowermost of the three passenger decks?

A.—I consider they are.

83. *Q.*—Are these passengers on the middle deck not better protected than on ordinary upper decks?

A.—In wet weather they are better protected to a trifling extent.

84. *Q.*—During the inclement weather, do you consider that the upper-deck passengers are sufficiently protected by canvas awnings, screens, and curtains? If not, what would you recommend?

A.—I consider they are sufficiently protected.

85. *Q.*—Do you consider that sufficient protection from the sea is afforded to upper deck passengers by the "reasonably stout screen" which under existing rules (*see* Government of India letter No. 430, dated 27th August 1878) is held as coming within the definition of a substantial bulwark? If not, state what you would recommend in lieu.

A.—My experience during the foul weather season in the Bay was that passengers were sufficiently protected by the screens referred to.

86. *Q.* (*By Captain Street*).—Had any of the vessels you have commanded their full complement of passengers on board according to her Certificate A?

A.—Yes. Foul season. Bay of Bengal on a voyage from Calcutta to Rangoon.

87. *Q.*—In rough weather would any water get on to the upper deck through the scuppers and shutters? If so, could this be prevented?

A.—Spray and high seas occasionally. No.

88. *Q.*—Under existing rules are the arrangements to prevent injury to passengers by the rolling of the ship sufficient for the purpose?

A.—Life-lines when required.

89. *Q.*—How could you provide this protection?

A.—Life-lines when necessary.

90. *Q.*—Are any special fittings required under Native Passenger Ships Act on the passenger decks for the reception of the bundles, boxes, and other articles usually carried by native passengers? If so, state what you would recommend?

A.—No, I would recommend that, as at present, heavy baggage be stowed in the holds and other articles left in charge of their owners.

91. *Q.*—Is it necessary for the comfort or safety of the passengers that provision should be made for the accommodation of luggage not stored in the hold?

A.—No.

92. *Q.*—If such accommodation were provided, would it be used? Will native passengers allow their luggage to be parted from them under any circumstances?

A.—No, passengers *would* occupy it. Yes, heavy luggage and ordinary luggage when insisted upon.

93. *Q.*—Do you think that on a voyage, which

may extend to five days, sleeping platforms should be provided for the passengers?

A.—No.

94. *Q.*—And what accommodation do the Board of Trade Rules require?

A.—See answer to Query No. 48.

95. *Q.*—Do you think the existing rules in regard to hospital accommodation are suitable?

A.—Yes.

96. *Q.* (*By the President*).—Have you ever in your experience seen a temporary hospital erected and used on board a British India steamer?

A.—Yes. Off Madras on the S.S. *Assyria* in cases of cholera.

97. *Q.* (*By the President*).—Are you aware what proportion of the third class native passengers who return from Burma to the Coromandel Coast embark in bad health. Would you make no provision for the care and treatment of such cases?

A.—No. I would reject cases such as are mentioned in this question.

98. *Q.*—Do you consider that cargo, horses, cattle, sheep, and live-stock should be carried on the same deck with passengers? If so, is any fitting necessary to prevent the passengers from being inconvenienced by the urine and dung of the horses, cattle, and sheep; and if any such fitting is requisite, state what you would recommend?

A.—On the same deck, but in different sections. Temporary fittings such as mats.

99. *Q.*—In vessels which, under existing rules, are permitted to carry horses, cattle, and sheep with native passengers, are sufficient precautions adopted to prevent the hay and straw provided for the use of such animals from catching fire, either from a spark from the ship's funnel or lighted matches? If not, state what extra precautions you would recommend?

A.—Yes.

100. *Q.*—What, in your opinion, is the object of these revised regulations?

A.—To prevent loss of life, so far as possible, in case of shipwreck.

101. *Q.*—Do the revised regulations require more appliances than were necessary under the old rules, and why was the change found necessary?

A.—Yes, as indicated in Query No. 100.

102. *Q.*—Are the revised regulations suitable in your opinion for vessels engaged in the native passenger trade?

A.—I have not seen the revised regulations.

103. *Q.*—In your opinion, is there no difference of conditions which would justify a difference in the regulations on this subject?

A.—See No 102.

104. *Q.*—Do you think that the natives of India require as much space in boats as Europeans?

A.—No.

105. *Q.*—Would you adopt the Board of Trade regulations in regard to life-buoys and life-belts?

A.—I have not seen the revised regulations.

106. *Q.* (*By Captain Street*).—Should the supply of life-buoys and life-belts be in equal proportion or not in native passenger vessels?

A.—About half and half as a proportion.

107. *Q.* (*By the President*).—If the Board of Trade rules require that there shall be appliances for saving the life of every person on board, can the Government of India do less for native passengers?

A.—No.

108. *Q.*—In your experience, do the Surveyors at all ports in India make their surveys on the same lines?

A.—Practically yes.

109. *Q.*—Do you think it necessary that there should be a set of definite instructions as to the survey of passenger accommodation and crew space similar, so far as may be, to those issued by the Board of Trade?

A.—No.

110. *Q.*—Do you think the existing regulations in regard to the lighting and ventilation of the passenger accommodation suitable?

A.—Yes.

111. *Q.* (*By the President*).—In your opinion does a 'tween deck in the tropics, which is fully occupied by native passengers at 6 square feet per adult, require more ventilation than the same 'tween deck in the English climate when it is full of European third class passengers at 9 square feet per adult?

A.—I consider, under ordinary circumstances, the two cases referred to to be very similar. I would make no allowance for the temperature of the two; the native passengers are most probably most comfortable.

112. *Q.* (*By Captain Street*).—What are the arrangements for lighting the 'tween decks at night in native passenger vessels (if British India Steam Navigation Company's steamers) when occupied by passengers?

A.—Older vessels padlocked lanterns; the newer vessels the electric light.

112. *Q.*—Would you make the regulations in regard to the equipments of vessels similar in all respects to those of the Board of Trade?

A.—I have not seen the revised regulations with reference to boats and life-belts.

113. *Q.*—After a vessel has been measured for Certificate A, is the Captain supplied with the Surveyor's calculations? If not, do you think it necessary that he should be?

A.—No. I consider it most desirable that he should be supplied with a copy of the Surveyor's calculations and measurements.

114. *Q.*—Would it not be advantageous if a copy of all measurements and calculations of passengers' space, as determined on the original measurement, were supplied to the Commander of the vessel?

A.—Yes.

115. *Q.*—If so, would you recommend that the calculations should show clearly the names of the various obstructions which have been deducted from the gross area, their dimensions and the proportional area deducted?

A.—In full detail.

116. *Q.*—Do you consider a double awning overhead with side curtains and bulwark screens, as required by the Native Passenger Act, equal to the ordinary tent in which troops are accommodated?

Q.—In my experience, troops have been provided with similar protection to that arranged for ordinary native passengers.

117. *Q.*—Do you know that six superficial feet on the upper deck, under double awnings and curtains, is considered sufficient accommodation for native troops making voyages under five days' duration?

A.—Yes.

118. *Q.*—Being acquainted with the class of natives who form the bulk of those who travel by sea, do you consider they require better accommodation for their health and comfort than native troops?

A.—No.

119. *Q.*—How do you account for the differences between the English and the Indian rules, and between the Indian rules for emigrants and those for ordinary passengers?

A.—Experience in either case has led to the adoption of the most suitable rules for the respective trades.

120. *Q.*—Will you furnish the Commission with your opinion as to the sufficiency or otherwise of the space allowed by the Act and rules generally?

A.—I am of opinion that existing arrangements are suitable, provided vessels of the *Kistna* class have the benefit due to their design, *viz.*, measured (in the only language left for use by the rules) as vessels having two upper decks, as they in fact have.

121. *Q.*—Do you consider that native passenger ships should carry a medical officer? If this were made compulsory, would you make any difference for the numbers carried or for the duration of the voyage?

A.—No.

122. *Q.*—Give any instances which have come to your knowledge in which a medical officer would have been of service on board a native passenger vessel?

A.—I can give no such instance.

123. *Q.* (*By the President*).—What improvement would you recommend in the distribution of drinking water for native passengers in the British India steamers?

A.—A system of tanks in different parts of the vessel's holds; say, in two places fore and aft in either deck. For the higher caste passengers special water-pipes might easily be provided.

124. *Q.* (*By Captain Street*).—Are stages ever used as a means for allowing passengers to get on board of British India vessels calling at Kathiawar ports? If so, why?

A.—(1) Yes.

(2) For the reason that stages have been found safer.

125. *Q.* (*By Captain Street*).—Do you consider it advisable that gunpowder and other explosives should be carried in native passenger vessels in excess of the usual ships supply, even if the vessel should have a properly constructed magazine?

A.—No.

Evidence of Mr. J. H. FLETCHER.

1. *Q.*—Will you please inform the Commission of the nature of your present occupation?

A.—Port Officer and Superintendent of Customs, Mangalore.

2. *Q.*—What qualifications or experience do you possess in regard to the subjects under enquiry?

A.—Port Officer since 1886, and prior to that Officer and Commander of steamers in the British India Steam Navigation Company for ten years.

3. *Q.*—Do you take any part, either directly or indirectly, in the administration or observance of any of the provisions of the Native Passenger Ships Act, 1887?

A. (*a*)—Yes, as a Port Officer in inspecting those steamers which work under that Act between this port and Bombay.

(*b*)—No other steamers calling at this port come under that Act.

4. *Q.*—In regard to what voyages is there a distinction made between fair and foul seasons?

A.—Long and short voyages.

5. *Q.*—Do you consider that if there is to be a line dividing short from long voyages, it should be drawn at five days?

A.—Yes, but I do not think there should be any distinction of voyages at all.

6. *Q.* (*By Mr. Shepherd through the President*).—Why do you think there should be no distinction?

A.—Short voyages should be confined to three days, I think.

7. *Q.* (*By Captain Atkinson*).—Have any circumstances occurred within your knowledge which show that the existing rules as regards short and long voyage trade have not worked satisfactorily during the last thirteen or fourteen years? If so, please state.

A.—Passengers leaving Negapatam make a long voyage actually to Rangoon (occupying 8 days) but it is called a short voyage, as the steamers call at different ports, so making the time between ports under four days.

8. *Q.* (*By Captain Street*).—If short voyages are reduced to three days, would you recommend that all voyages extending over three days should be treated as long voyages?

A.—No, not as long voyages now described under the Native Passenger Ships Act, but it would be better to have Short Home Voyages, Long Home Voyages, and Foreign Voyages.

9. *Q.* (*By Captain Atkinson*).—Is this your own idea, *i.e.*, as to Short Home Voyage, Long Home Voyage, and a Foreign Voyage? Did you see it reported in Mr. Moir's evidence of yesterday?

A.—Yes, it is my own idea.

Yes, I did see it reported in Mr. Moir's evidence yesterday.

10. *Q.* (*By Captain Atkinson*).—Why do you suggest three days as the limit of a short voyage, *i.e.*, for what season?

A.—I consider that five days is too long a limit for native passengers, crowded up as they are, to remain in that state of discomfort, and I think that three days would be a fair limit.

11. *Q.* (*By Captain Street*).—What limit would you fix for a Long Home Voyage?

A.—Eight days.

12. *Q.* Do you think that the five-day limit puts an Indian short voyage on a footing similar to an English Home trade voyage?

A.—I am not acquainted with the English trade at all.

13. *Q.*—Are you of opinion that the conditions justify a distinction being made between fair and foul weather in the case of voyages which may extend to five days?

A.—Yes.

14. *Q.*—Are you of opinion that the seasons of fine weather defined in the rules are judiciously chosen with reference to the prevailing conditions?

A.—No.

15. *Q.*—If not, what alterations would you suggest?

A.—Fair weather—January 1st to May 1st; foul weather—May 15th to December 31st.

16. *Q.*—Will you mention instances of foul weather occurring during the seasons which are by rule declared to be seasons of fair weather?

A.—Notably more lately; December 22nd and

26th 1889 a cyclone blew in the Bay of Bengal. The S.S. *Java*, I think, had to put back to Madras.

There are many other instances, but I forget the dates.

17. *Q.*—In your opinion, do the conditions justify passengers being carried across the Bay at any season on decks such as are commonly called hurricane-decks, which are not protected from the weather, except by overhead awnings, assuming that no accommodation is reserved for these passengers on the lower decks, which are crowded with other passengers?

A.—No.

18. *Q.* (*By Captain Atkinson*).—To what class of steamers do you refer when you answer "No?" Would not a passenger on the so-called hurricane-deck of the *Kistna* class be as safe and comfortable, if not more so, than on the upper deck of any flush-decked steamer?

A.—(*a*) To steamers with proper hurricane-decks, such as the *Shavistri, Shastri,* &c.

(*b*) I consider passengers on the upper deck of the *Kistna* would be equally comfortable and safe as on any other ship's upper deck.

19. *Q.* (*By the President*).—Do the awnings and side-screens on hurricane-decks keep out the wet? Are the decks always dry in the foul season?

A.—(*a*) I think awnings and screens would keep out the wet to a great extent in foul weather.

(*b*) No, I do not think any upper deck will remain dry in the foul season.

20. *Q.* (*By Captan Atkinson*).—Would the awnings and screens over the hurricane-deck not afford as much protection as if they were over any other deck, and, though not perfect protection, would it not be sufficient considering the condition as to weather and the habits of the ordinary native passenger?

A.—The awnings and screens afford equal protection on all upper decks.

Yes, considering the native huts are generally poorly roofed.

21. *Q.*—Are you acquainted with the ordinary conditions of native life amongst the class that form the bulk of the native passengers who travel by sea?

A.—Fairly so.

21*A.* *Q.*—Are you aware that it is a common practice for natives of India to sleep at night in the open air?

A.—I think it is the exception, not the rule.

22. *Q.*—Is it within your knowledge that first class passengers travelling about the Bay of Bengal and coasts of India as a rule prefer to sleep on deck under the same conditions as to awnings and curtains as the third class native passengers?

A.—Yes, but on skylights or settees and in fine weather.

23. *Q.*—Have you had any personal experience of the weather round the coast of the United Kingdom and in the Bay of Bengal and on the coasts of India?

A.—Not in the United Kingdom.

24. *Q.*—Do you think the ordinary native passenger would be prepared to pay more for better accommodation?

A.—No.

25. *Q.*—Is it not a fact that very well-to-do native merchants are satisfied with the usual deck accommodation?

A.—Yes. It is only the very rich that travel otherwise; at times ordinary well-to-do men go on deck themselves, but secure second class accommodation for their females.

26. *Q.*—Do you know the height of the 'tween decks in the British India steamers?

A.—Yes, 6 feet 6 inches between beams and seven feet between decks. In some smaller steamers it may be 6 inches less.

27. *Q.*—What is the maximum height between deck in these steamers carrying native passengers? What is the average height?

A.—Maximum 7 feet beween decks, average 6 feet 6 inches between decks.

28. *Q.*—Are you aware that there was an old rule in India which allowed ships to carry three passengers for two tons?

A.—I have heard of it.

29. *Q.*—Is the Board of Trade rule under which the number of passengers carried must not, whatever the deck measurements may give, exceed the number denoting the gross tonnage of the vessel, enforced in India?

A.—Not that I know of.

30. *Q.*—What would be the effect if, assuming all other existing Indian rules to remain intact, this rule were enforced?

A.—It would affect the hurricane-deck vessels, and prevent them carrying sufficient passengers; for instance, Bombay Steam Ship Company's steamer *Shiravati*, under present rules, short voyage, fair weather, is allowed to carry 866 passengers; but as her tonnage is only 200 tons, under that rule she could only carry 200 passengers.

31. *Q.*—What spaces are left unmeasured for passengers when a vessel is being measured for Certificate A?

A.—Seventy-two superficial feet left for a hospital, and all hatches and water-ways, the space before the windlass, and all skylights, companions, &c.

32. *Q.*—How are the hatches treated when a vessel is being so measured, *i.e.*, is the whole space of a hatch deducted or not? Is any difference made on account of long and short voyages?

A.—On short voyages the whole hatch is to be deducted, but on long voyages the ship is to have the benefit of half.

33. *Q.*—Are the spaces which would be required for the deck water-tank, latrines, and cooking ranges, necessary for use of native passengers, deducted from the passenger space, even if such articles are not in position at the time a vessel is being measured?

A.—Yes.

34. *Q.*—Are any spaces deducted so as to admit of the officers and crew moving fore and aft the vessel with facility and their getting with ease at the boats and boats' gear? If not, have you any recommendations to make on this head?

A.—No, but I would recommend light bridges overhead on a level with the tops of cabins. Some of the British India steamers are provided with these.

35. *Q.*—Should alley-ways, used as a means of communication by the crew, be considered as deck area for passengers, *i.e.*, the narrow passages between the officers' cabins and the engine-room-casing? If so, would it not be advisable to give a minimum breadth before allowing the area to count for passengers?

A.—I don't think passengers should be allowed in the alley-ways.

36. *Q.* (*By Captain Street*).—But should the alley-ways be measured at all?

A.—No. Not the ordinary alley-ways.

37. *Q.* (*By Captain Atkinson*).—You have been in command of British India steamers on the Calcutta side, and must know that alley-ways are always measured on that side of India?

Have you ever found any difficulty in consequence?

A.—Yes, several times in getting the crew fore and aft to work the ship, but more particularly in the foul weather, when owing to cold and damp the passengers swarm into them.

38. *Q.* (*By the President*).—Would you give owners of steamers any compensation on account of deducting alley-ways?

A.—Yes, the lower bridge.

39. *Q.*—Are not these alley-ways additional shelter and, therefore, desirable for passengers?

A.—They may be a warm shelter; but considering the safety of the ship might depend on a free passage for the crew, I do not think they should be utilized as such.

40. *Q.*—For ships with large water-ways in the 'tween decks extending inside the battens on the ship's side, is the deck measurement made to the inside edge of the water-ways or to the battens? Which would you recommend?

A.—To the battens only.

41. *Q.*—In your opinion, are the provisions of the Native Passenger Ships Act and the rules made under it in regard to the accommodation to be provided for native passengers on long and short voyages, suitable?

A.—Yes, with the exception of hurricane-decked vessels; I think some new rules should be made with reference to them.

42. *Q.* (*By Captain Street*).—State briefly what rules you would recommend.

A.—The hurricane deck should not be measured for passengers at all.

43. *Q.* (*By Mr. Shepherd through the President*).—What do you describe as hurricane deck.?

A.—A hurricane-deck is a deck over the upper deck supported by stanchions.

44. *Q.* (*By Mr. Shepherd through the President*).—Would you exclude this deck for short voyages in fine weather on the Malabar Coast?

A.—Yes.

45. *Q.* (*By Mr. Shepherd through the President*).—Will you give your reason for so excluding the upper deck of the *Shiravati?*

A.—I consider that if the hurricane deck were loaded with passengers, should a strong breeze spring up on her beam, she would be unsafe, for if she took a list, the wind would get under her uppermost deck. It would act as a sail, and that with the weight of passengers on it, might cause her loss.

46. *Q.* (*By Captain Atkinson*).—Do you include vessels of the British India *Kistna* type in your answer to question No. 41?

A.—No, I do not.

47. *Q.* (*By Mr. Shepherd through the President*).—Might not that ship have had a low metacentric height?

A.—I do not understand what is meant by metacentric.

48. *Q.* (*By Mr. Shepherd through the President*).—Is not this a matter of calculation what the stability is and depends upon the metacentric height?

A.—I do not look on it as a matter of calculation. It is my opinion as a seaman. Some years ago I was in a lightly-loaded ship, and with a gale of wind on the beam it was considered necessary to furl the awnings, as the stability of the ship was endangered and the ship refused to answer her helm.

49. *Q.*—Do you think that a passenger on a voyage lasting 10 or 12 hours during daylight requires as much room as one on a voyage lasting five days?

A.—Yes.

50. *Q.*—Do you think that native passengers can do with less space than Europeans?

A.—Yes.

51. *Q.*—What proportion do you consider that the space allotted to natives should bear to the space allotted to Europeans?

A.—Five natives to four Europeans.

52. *Q.*—Assuming that this proportion is adopted, would it, in your opinion, affect the health, comfort, and safety of native passengers in any way?

A.—Yes, beneficially.

53. *Q.*—Do you consider that on a voyage, which may extend to five days, native passengers can be accommodated in the 'tween decks of a steamer at the rate of one passenger to each 6 square feet of area, and 4 square feet of airing space on the upper deck, without prejudicing their health and safety?

A.—No.

54. *Q.* (*By Captain Atkinson*).—On what do you base your opinion? What circumstances have occurred in your experience which would justify your opinion? Will you quote instances in which prejudice to health or safety of native passengers has occurred in consequence, when accommodated in 6-feet space?

A.—I have been in ships with this space allowed and full of passengers. I think no one could look at that mass of humanity and say that such close quarters could possibly be anything else than detrimental to their health.

The vessel referred to was the S. S. *Amoor*.

I have no practical knowledge of any injury caused to passengers.

55. *Q.*—Do you think it necessary, for the health and safety of the passengers, that there should be on a voyage, which may extend to five days, permanent shelter for each passenger, either 'tween decks or in cabins on the upper deck?

A.—Yes; in foul weather.

56. *Q.* (*By Captain Atkinson*).—In view of the general conditions of the weather on the coast of India, which is seldom bad for any length of time, would not the second class saloon and other deck-enclosed spaces provide sufficient shelter?

A.—I have seen deck passengers sheltered both in first and second class saloons, and hot tea and biscuits served round. This was done in bad south-west monsoon weather, but even these accommodations did not serve to shelter all the passengers.

57. *Q.*—Do you think that on a voyage, which may extend to five days, there should be separate accommodation for female passengers?

A.—Most decidedly; but the use of it to be optional. There should also be a female hospital.

58. *Q.* (*By the President*).—For what trade would you propose a female hospital and what sex would superintend such a hospital?

A.—The Calcutta and Madras-Rangoon trades. I think a female native might be put on board all steamers on these lines to attend on such women as require her assistance.

59. *Q.*—Do you know of any steamers which carry native passengers on two upper decks?

A.—Yes.

60. *Q.*—Do you consider, from the wording of the Native Passenger Ships Act and your experience of this question that the Legislature, when it passed the Act, contemplated the existence of vessels with more than one upper deck?

A.—No.

61. *Q.*—Under existing rules, are arrangement

to prevent injury to passengers by the rolling of the ship sufficient for the purpose?

A.—No.

62. *Q.*—How could you provide this protection?

A.—Light spars fore and aft along the 'tween decks at spaces of 4 feet. Iron stanchions to support them fitted in the deck.

63. *Q.*—Are any special fittings required under the Native Passenger Ships Act on the passenger decks for the reception of the bundles, boxes, and other articles usually carried by native passengers? If so, state what you would recommend?

A.—No.

64. *Q.*—Is it necessary for the comfort or safety of the passengers that provision should be made for the accommodation of luggage not stored in the hold?

A.—Yes.

65. *Q.*—If it is necessary, what would you provide?

A.—On the 'tween decks strong folding shelves amidships and on the sides with guards in front; shelves to be about 3 feet off the deck, so that passengers would have their packages close to them.

66. *Q.* (*By Captain Atkinson*).—Would not these shelves be a source of danger, as the things stowed on them might be thrown off by the rolling of the ship and hurt the passengers?

A.—Not if nets were substituted for shelves.

67. *Q.*—If such accommodation were provided, would it be used? Will native pasengers allow their luggage to be parted from them under any circumstances?

A.—Yes; I think if my proposal were adopted it would be used.

Yes, if the packages are large and contents not required on the voyage.

68. *Q.*—Do you think that on a voyage, which may extend to five days, sleeping platforms should be provided for the passengers?

A.—No.

69. *Q.*—What closet accommodation do the rules require on native passenger vessels?

A.—Two privies for the first 100 passengers and one privy for every 100 after.

70. *Q.*—What accommodation of the kind is provided for emigrants?

A.—Two latrines, each latrine with two seats divided by a screen with a separate door, for the first 100 passengers; after that a latrine of the same pattern for each 100 passengers.

71. *Q.*—Which scale do you consider the most suitable?

A.—The one for emigrants.

72. *Q.*—Do you think the existing rules in regard to hospital accommodation are suitable?

A.—I think a temporary hospital for women should be provided.

73. *Q.*—Do you consider that cargo, horses, cattle, sheep, and live-stock should be carried on the same deck with passengers? If so, is any fitting necessary to prevent the passengers from being inconvenienced by the urine and dung of the horses, cattle, and sheep; and if any such fitting is requisite, state what you would recommend?

A.—Passengers and cattle should not be carried on the same deck.

74. *Q.* (*By Captain Atkinson*).—By your answer do you mean the upper deck?

What objection would there be to carrying cattle, say, at after end of the ship and passengers at the fore end of the ship?

A.—Yes, on the upper deck if this were done, I think that the passengers would *not* suffer.

76. *Q.*—In vessels which, under existing rules, are permitted to carry horses, cattle and sheep with native passengers, are sufficient precautions adopted to prevent the hay and straw provided for the use of such animals from catching fire either from a spark from the ship's funnel or from lighted matches? If not, state what extra precautions you would recommend?

A.—I have always seen the fodder carefully covered with tarpaulins, or put down in the hold out of the way. I think the latter is sufficient precaution.

77. *Q.* (*By Captain Street*).—Do you mean that loose bundles of hay or straw should be put down into the hold?

Would it not be safer to keep such bundles on deck?

A.—It depends on the quantity. If a large quantity, yes; but if the quantity is small, it would be better not to do so.

78. *Q.* (*By Dr. Comins*).—You have heard the rule read. Do you think the Board of Trade rule regarding carrying of cattle a good one?

A.—Fairly so, but I think the partitions or washboards should be light.

79. *Q.*—Will you explain to the Commission what rules are in force in India on the subject of life-saving appliances?

A.—Rules Nos. 9 and 17 under section 53 of Act X of 1887.

80. *Q.*—Do you think that the natives of India require as much space in boats as Europeans?

A.—No.

81. *Q.*—Do you think it necessary that there would be a set of definite instructions as to the survey of passenger accommodation and crew space similar, so far as may be, to those issued by the Board of Trade?

A.—Yes.

82. *Q.*—Do you think the existing regulations in regard to the lighting and ventilation of the passenger accommodation suitable?

A.—Yes.

83. *Q.* (*By the President*).—Will you describe the rule regarding the lighting and ventilation that you consider suitable?

A.—Ventilation 14 square feet for a hundred people.

I think it is in the Red Sea traffic.

84. *Q.*—In your opinion, are the provisions of the Emigration Act, and the rules made under it in regard to the accommodation to be provided for native emigrants, suitable?

A.—Yes.

85. *Q.*—After a vessel has been measured for Certificate A, is the Captain supplied with the Surveyor's calculations? If not, do you think it necessary that he should be?

A.—No, but I think he should be.

86. *Q.*—Would it not be advantageous if a copy of all measurements and calculations of passenger space, as determined on the original measurement, were supplied to the Commander of the vessel?

A.—Yes.

87. *Q.*—If so, would you recommend that the calculations should show clearly the names of the various obstructions which have been deducted from the gross area, their dimensions, and the proportional area deducted?

A.—Yes.

88. *Q.*—In the case of voyages the duration of which does not exceed five days, what distinction is made between seasons of fair and foul weather?

A.—Besides a difference in space, ships are unable to carry upper deck passengers in foul weather

unless they are furnished with substantial bulwarks and double-awnings.

89. *Q.* (*By Captain Atkinson*).—In making this answer, you appear to have overlooked the Government of India letter No. 430 of 27th August 1878, which makes a stout canvas screen equal to a substantial bulwark, and thereby vessels so fitted are allowed to carry upper-deck passengers in foul season?

A.—I did not think of the Government order quoted, but I know it is a fact.

90. *Q.*—Do you consider a double-awning overhead with side-curtains and bulwark screens, as required by the Native Passenger Ships Act, equal to the ordinary tent in which troops are accommodated?

A.—Yes.

91. *Q.*—Being acquainted with the class of natives who form the bulk of those who travel by sea, do you consider they require better accommodation for their health and comfort than native troops?

A.—Yes, the native troops are always well looked after by their officers, and their baggage is properly arranged, and they are not all down below at once, whereas no one takes much interest in an ordinary passenger.

92. *Q.*—Will you furnish the Commission with your opinion as to the sufficiency or otherwise of the space allowed by the Act and rules generally?

A.—I think the space allowed is insufficient. Rules should be made for the proper stowage of baggage.

93. *Q.*—Do you consider that native passenger ships should carry a medical officer? (*a*) If this were made compulsory, would you make any difference for the numbers carried or for the duration of the voyage (*b*)?

A.—Yes (*a*).

A.—No (*b*).

94. *Q.*—What grade of medical officer would you consider best suited for these vessels?

A.—Native hospital assistant, if competent to take charge.

95. *Q.*—Give any instances which have come to your knowledge in which a medical officer would have been of service on board a native passenger vessel?

A.—In the S.S. *Amoor*, in 1880, while crossing to Rangoon, two births occurred on board; both babes died, as the mothers were too weak to feed them. I have seen other cases of death from prostration and so on, but I could not specify any now.

96. *Q.* (*By Mr. Shepherd through the President*).—What induced you to come all the way from Mangalore to give evidence before this Commission?

A.—I wished to point out some of the defects in the Passenger Act, and to try to make passengers more comfortable on board.

97. *Q.* (*By Mr. Shepherd through the President*).—Does Government pay your expenses for attending?

A.—Yes. A certain amount I hope, but I shall be out of pocket by it.

Evidence of Mr. J. HIGGINS.

1. *Q.*—Will you please inform the Commission of the nature of your present occupation?

A.—Inspector, Preventive Service, working the Native Passenger Ships Act under the orders of the Superintendent, Preventive Service.

2. *Q.*—What qualifications or experience do you possess in regard to the subjects under enquiry?

A.—Seven years and a half in the above capacity, and 27 years in the Custom House.

3. *Q.*—Do you take any part, either directly or indirectly, in the administration or observance of any of the provisions of the Native Passenger Ships Act, 1887?

A.—Practically the whole working of the Act.

4. *Q.*—In regard to what voyages is there a distinction made between fair and foul seasons?

A.—Short voyages.

5. *Q.*—Do you consider that if there is to be a line dividing short from long voyages, it should be drawn at five days?

A.—Three days when leaving for a port beyond British India, and five days for vessels sailing between ports in India.

6. *Q.* (*By Mr. Shepherd through the President*).—Could Shepherd & Co. conduct their coast passenger traffic, if they were restricted to plying in daylight only?

A.—Yes, but it would cause inconvenience and additional expense were the steamers detained all night.

7. *Q.* (*By Mr. Shepherd through the President*).—Would not the result be that a voyage to Goa would occupy, say, forty-eight hours as against twenty-four at present?

A.—Yes.

8. *Q.* (*By Captain Atkinson*).—Why do you fix on three days as the limit of a short voyage?

On what circumstances do you base your objection to the existing rule of five days? Can you state any such?

Did this suggestion as to three days originate with you, or are you following Mr. Ainsworth?

A. (1)—It originated with me.

(2) Because we have vessels coming to this port from Aden that can do the distance under five days.

9. *Q.* (*By Dr. Comins*).—Would you make any distinction as regards class of vessels going to northern ports and those to the south?

A.—Yes, vessels to the North such as the British India Steam Navigation Company's as Shepherd's *Neera*, *Ponani*, *Kaveri*, and to the South Shepherd's vessels of the *Luari* class.

10. *Q.* (*By Dr. Comins*).—Do you think that a vessel like the *Rajapuri* should trade to the northern ports?

A.—I cannot give an opinion.

11. *Q.* (*By Captain Street*).—Do you recommend that the short voyage should not extend beyond three days in order to meet any difficulty in connection with native passenger vessels proceeding to the Persian Gulf? If so, please state the difficulty?

A.—When a vessel clears from this port direct for the Gulf we have no means of ascertaining what port she touches and the number of days she takes to get to that port.

12. *Q.* (*By Mr. Shepherd through the President*).—Do not native passengers prefer travelling in the cool of the night to the heat of the day? And do they not require less space when it is cool than they do in the heat of the day?

A.—In my experience day and night is all the same to them. I have not noticed any difference.

13. *Q.*—Are you of opinion that the conditions justify a distinction being made between fair and

foul weather in the case of voyages which may extend to five days?

A.—Yes.

14. *Q.*—Are you of opinion that the seasons of fine weather defined in the rules are judiciously chosen with reference to the prevailing conditions?

A.—Yes.

15. *Q.*—If not, what alterations would you suggest?

A.—None.

16. *Q.*—Will you mention instances of foul weather occurring during the seasons which are by rule declared to be seasons of fair weather?.

A.—Only an occasional storm or hurricane.

17. *Q.*—Are you acquainted with the ordinary conditions of native life amongst the class that form the bulk of the native passengers who travel by sea?

A.—Yes.

18. *Q.*—Are you aware that it is a common practice for natives of India to sleep at night in the open air?

A.—Yes, in the hot weather; in the fine season.

19. *Q.* Is it within your knowledge that 1st class passengers travelling about the Bay of Bengal and coasts of India as a rule prefer to sleep on deck under the same conditions as to awnings and curtains as the 3rd class native passengers?

A.—In the hot weather.

20. *Q.*—Do you think the ordinary native passenger would be prepared to pay more for better accommodation?

A.—No.

21. *Q.*—Is it not a fact that very well-to-do native merchants are satisfied with the usual deck accommodation?

A.—Yes.

22. *Q.* How is the number of passengers which a vessel is capable of carrying calculated in each case?

A.—After the net deck areas are ascertained by measuring, the number of passengers is calculated according to the area allowed by the Act to each passenger.

23. *Q.*—Do you know the height of the 'tween decks in the British India steamers?

A.—Seven feet.

25. *Q.*—What is the maximum height between deck in these steamers carrying native passengers? What is the average height?

A.—Seven feet six inches and 7 feet.

26. *Q.*—What spaces are left unmeasured for passengers when a vessel is being measured for Certificate A?

A.—Alley-ways on the main deck; crew space and topgallant forecastle.

27. *Q.* (*By Captain Atkinson*).—If the forecastle was a large one, say, 60 feet long and the windlass and anchor gear only occupied, say, 30 feet, would you measure the remaining 30 feet for passengers?

A.—It would chiefly depend on the number of the crew.

28. *Q.*—How are the hatches treated when a vessel is being so msasured, *i.e.*, is the whole space of a hatch deducted or not? Is any difference made on account of long and short voyages?

A.—On short voyages (coasting) the whole; on long voyages half.

29. *Q.*—Are the spaces which would be required for the deck water-tank, latrines, and cooking ranges, necessary for use of native passengers, deducted from the passenger space, even if such articles are not in position at the time a vessel is being measured?

A.—The deck is measured as it stands on the day of survey or measurement, and all obstructions then existing are deducted.

When Certificate B is granted, should there be any further obstructions, they are deducted and passengers allowed accordingly.

30. *Q.* (*By Mr. Shepherd through the President*).—What is the value of Certificate B to Shepherd & Co.'s traffic?

A.—It shows the number of passengers on board on the day of sailing and that the master has complied with the rules under the Native Passenger Ships Act.

31. *Q.* (*By Captain Street*).—Without Certificate B, what check would you have as inspecting officer over the number of passengers carried in the vessel?

A.—It is very necessary to have Certificate B, as it is a guide to Inspecting Officers on the coast.

32. *Q.*—Should alley-ways used as a means of communication by the crew be considered as deck area for passengers, *i.e.*, the narrow passages between the officers' cabins and the engine-room-casing? If so, would it not be advisable to give a minimum breadth before allowing the area to count for passengers?

A.—No, when officers' cabins are in the alley-way.

33. *Q.* (*By Captain Atkinson*).—Suppose the alley-way was eight feet wide, would you still consider it improper to measure the space remaining after deducting about 3½ feet as a passage?

A.—I would allow four feet.

34. Are not these alley-ways additional shelter and, therefore, desirable for passengers?

A.—They are additional shelter, but they are also passages, and, therefore, objectionable.

35. *Q.*—For ships with large water-ways in the 'tween decks extending inside the battens on the ship's side, is the deck measurement made to the inside edge of the water-ways or to the battens? Which would you recommend?

A.—It is the practice to measure on inside edge of the water-way. But should the water-way be covered, then it is fair to measure from the battens.

35*A.* *Q.*—Should the spaces set apart for the boats on the bridge deck be utilized for passengers when the boats are carried at the davits? If so, state whether during both fair and foul seasons or only during the fair season?

A.—If the boats are carried on the davits there is no objection to the deck space being utilized.

36. *Q.*—In your opinion, are the provisions of the Native Passenger Ships Act, and the rules made under it in regard to the accommodation to be provided for native passengers on long and short voyages, suitable?

A.—Yes, with certain exceptions hereafter explained.

37. *Q.*—Do you think that a passenger on a voyage lasting ten or twelve hours requires as much room as one on a voyage lasting five days?

A.—If twelve hours be the duration of the vessel's voyage, no.

38. *Q.*—Do you think that native passengers can do with less space than Europeans?

A.—Yes, if they put away their baggage.

39. *Q.*—What proportion do you consider that the space allotted to natives should bear to the space allotted to Europeans?

A.—Man for man—pretty much the same space.

40. *Q.*—Do you consider that on a voyage, which may extend to five days, native passengers can be accommodated in the 'tween decks of a

steamer at the rate of one passenger to each six square feet of area, with four square feet of airing space on the upper deck, without prejudicing their health and safety?

A.—If they would put away their baggage.

41. *Q.*—Do you think it necessary for the health and safety of the passengers that there should be on a voyage, which may extend to five days, permanent shelter for each passenger either 'tween decks or in cabins on the upper deck?

A.—It is not clearly understood what is meant by permanent shelter.

42. *Q.*—Do you think that on a voyage, which may extend to five days, there should be separate accommodation for female passengers?

A.—No. The men will not allow their women to be separated from them.

43. *Q.*—Do you know of any steamers which carry native passengers on two upper decks?

A.—Yes, Shepherd & Co.

Q. 44.—Do you consider from the wording of the Native Passenger Ships Act, and your experience of this question, that the Legislature, when it passed the Act, contemplated the existence of vessels with more than one upper deck?

A.—No.

45. *Q.*—Are you acquainted with the design of the steamers of the *Kistna* class?

A.—Yes

46. *Q.*—.What is the distinguishing feature of these steamers?

A.—Open space in the ship's side with five shutters aft, and eight forward on port and starboard sides

47. *Q.*—In your opinion, are the middle passenger decks of these steamers between decks or upper decks within the meaning and intention of the Native Passenger Ships Act? Give your reasons for this opinion?

A.—I believe them to be 'tween decks within the meaning of the Native Passenger Ships Act. (*See* Bombay Government Resolution No. 2537, dated 16th September 1879.)

48. *Q.*—Are the passengers on these middle decks as well protected in rough weather as the passengers on the lowermost of the three passenger decks?

A.—Yes. When the shutters are securely closed.

49. *Q.*—Are the passengers on the middle deck not better protected than on ordinary upper decks?

A.—Very much better.

50. *Q.*—Do you consider that sufficient protection from the sea is afforded to upper deck passengers by the "reasonably stout screen" which, under existing rules (*see* Government of India letter No. 430, dated 27th August 1878) is held as coming within the definition of a substantial bulwark? If not, state what you would recommend in lieu.

A.—Yes. As a rule very few upper deck passengers are carried in the foul season.

51. *Q.*—In rough weather would any water get on to the upper deck through the scuppers and shutters? If so, could this be prevented?

A.—Not if the scuppers were plugged and shutters properly secured.

52. *Q.*—Under existing rules are the arrangements to prevent injury to passengers by the rolling of the ship sufficient for the purpose?

A.—Yes.

53. *Q.*—Are any special fittings required under the Native Passenger Ships Act on the passenger decks for the reception of the bundles, boxes, and other articles usually carried by native passengers? If so, state what you would recommend?

A.—No.

54. *Q.*—Is it necessary for the comfort or safety of the passengers that provision should be made for the accommodation of luggage not stored in the hold?

A.—No. Passengers will not part with their luggage.

55. *Q.*—If such accommodation were provided, would it be used? Will native passengers allow their luggage to be parted from them under any circumstances?

A.—No.

56. *Q.*—Do you think that on a voyage, which may extend to five days, sleeping platforms should be provided for the passengers?

A.—No.

57. *Q.*—What closet accommodation do the rules require on native passenger vessels?

A.—Two privies for the first hundred passengers, and one more for every additional hundred or part of that number.

58. *Q.*—What accommodation of the kind is provided for emigrants?

A.—No emigrants from this port.

59. *Q.*—Do you think the existing rules in regard to hospital accommodation are suitable?

A.—Yes.

60. *Q.*—Do you consider that cargo, horses, cattle, sheep, and live-stock should be carried on the same deck with passengers? If so, is any fitting necessary to prevent the passengers from being inconvenienced by the urine and dung of the horses, cattle, and sheep; and if any such fitting is requisite, state what you would recommend?

A.—Yes, if the cattle are well secured and not in any way an inconvenience to the passengers, which is a matter for the discretion of the officer granting Certificate B.

61. *Q.*—In vessels which, under existing rules, are permitted to carry horses, cattle, and sheep with native passengers, are sufficient precautions adopted to prevent the hay and straw provided for the use of such animals from catching fire either from a spark from the ship's funnel or from lighted matches? If not, state what extra precautions you would recommend?

A.—Yes.

62. *Q.*—Will you explain to the Commission what rules are in force in India on the subject of life-saving appliances?

A.—See Rule No. 17, Native Passenger Ships Act.

63. *Q.*—Do you think that the natives of India require as much space in boats as Europeans?

A.—Yes.

64. *Q.*—Do you think it necessary that there should be a set of definite instructions as to the survey of passenger accommodation and crew space similar, so far as may be, to those issued by the Board of Trade?

A.—Yes.

65. *Q.*—Do you think the existing regulations in regard to the lighting and ventilation of the passenger accommodation suitable?

A.—Yes.

66. *Q.* (*By Dr. Comins*).—How do you decide what ventilation is sufficient if you have no rule on the subject?

A.—From experience.

There should be a rule to guide all Surveyors.

67. *Q.* (*By Captain Street*).—Do you consider that the 'tween-deck of vessels, like the

Rajapuri and *Neera*, for instance are sufficiently ventilated?

A.—I do not.

68. *Q.* (*By Captain Street*).—Is not this the reason that these decks are so seldom occupied by passengers in the *Rajapuri* and *Neera?*

A.—I cannot say.

69. *Q.* (*By Captain Street*).—Is there sufficient space for boxes and passenger baggage in the hold of vessels like the *Rajapuri* and *Neera*.

A.—No.

70. *Q.*—In your opinion, are the provisions of the Emigration Act and the rules made under it in regard to the accommodation to be provided for native emigrants, suitable?

A.—Very.

71. *Q.*—After a vessel has been measured for Certificate A, is the Captain supplied with the Surveyor's calculations? If not, do you think it necessary that he should be?

A.—Not unless he asks for them.

72. *Q.*—Would it not be advantageous if a copy of all measurements and calculations of passenger space, as determined on the original measurement, were supplied to the Commander of the vessel?

A.—Yes.

73. *Q.*—If so, would you recommend that the calculation should show clearly the names of the various obstructions which have been deducted from the gross area, their dimensions, and the proportional area deducted?

A.—Yes.

74. *Q.* (*By the President*).—In Shepherd's steamers which have their decks classed for first, second and third class passengers, how do you prevent over-crowding of the third class passenger at the expense of the first and second classes?

A.—On leaving this port the passengers are equally distributed all over the ship. I have not seen any passengers turned out of one part of the ship and told to go to another, and no complaint has ever been made to me.

75. *Q.* (*By the President*).—Would you recommend that the number of passengers to be accommodated on each part of the steamer should be recorded on the decks, so that the number can be counted by the officer responsible for working the Native Passenger Act?

A.—Yes. It would be a guide to all Surveying Officers.

76. *Q.*—In the case of voyages the duration of which does not exceed five days, what distinction is made between seasons of fair and foul weather?

A.—In foul seasons passengers are allowed more space.

77. *Q.*—Do you consider a double awning overhead with side curtains and bulwark screens, as required by the Native Passenger Act, equal to the ordinary tent in which troops are accommodated?

A.—No.

78. *Q.*—Do you know that 6 superficial feet on the upper deck under double awnings and curtains is considered sufficient accommodation for native troops making voyages under five days' duration?

A.—If they get 6 square feet it is quite enough, as they have to obey orders and put away their baggage, &c.

79. *Q.*—Being acquainted with the class of natives who form the bulk of those who travel by sea, do you consider that they require better accommodation for their health and comfort than native troops?

A.—Yes, as far as accommodation is concerned. The native passenger carries his baggage with him.

80. *Q.*—Will you furnish the Commission with your opinion as to the sufficiency or otherwise of the space allowed by the Act and rules generally?

A.—If the passengers would part with their baggage, the space allowed under the Act is sufficient.

81. *Q.*—Do you consider that native passenger ships should carry a medical officer? If this were made compulsory, would you make any difference for the numbers carried or for the duration of the voyage?

A.—On all long voyages when carrying more than one hundred passengers.

82. *Q.*—What grade of medical officer would you consider best suited for these vessels?

A.—Any man holding a diploma from a University and of the apothecary grade of the Government Medical Service.

83. *Q.* (*By Captain Street*).—Do you consider that in a native passenger vessel, gunpowder and other explosives in excess of the usual ship's stock should be carried even in vessels which have properly constructed magazine?

A.—It is not advisable?

84. *Q.* (*By Mr. Shepherd through the President*).—Is it not a fact that Shepherd's passenger steamers are prohibited from carrying cargo?

A.—Certain steamers.

Proceedings of the Fortieth Meeting of the Native Passenger Ships Commission, held at the Port Office, Bombay, on the 31st January 1891.

Present:

Surgeon-Major A. S. Lethbridge, C.S.I.	*President.*
Captain Sir Henry Morland, H.M.I.M.	*Members.*
Captain H. A. Street, H.M.I.M.	
Captain George Wilson, H.M.I.M.	
Surgeon-Major D. W. D. Comins, I.M.S.	
Captain J. H. Atkinson	
H. W. Uloth, Esq.	

1. The Commission assembled at 10 A.M. and proceeded to examine Mr. G. F. Mackrow, Constructor, Her Majesty's Indian Marine Dockyard, Bombay.

2. On the completion of Mr. Mackrow's examination, the Commission, with the exception of Mr. Uloth, proceeded to the Prince's Dock and visited the B. I. S. N. Co.'s steamers *Karagola* and *Aska*. The result of their visit to these vessels is contained in the following memorandum:—

S.S. "Karagola."

The middle deck of this vessel is fitted with shutters, which would have required more exact fitting to make them perfectly water-tight. The after 'tween deck was ventilated by four cowl-head shafts 1 foot in diameter. The indirect ventilation to the middle deck and its various alley-ways in the after compartment were hatch upper deck.

Companion-way.
Engine-room door.
Officer's cabin door.
Donkey boiler hatch.
Two doors to the stokehole.
Galley skylight with hatch.
Two doors, second class saloon.
Ten scuttles.

The forward compartment was ventilated by four cowl-head shafts, 13 inches in diameter, in direct ventilation, two hatches, companion-way, and seven scuttles. This vessel is fitted with electric light throughout; the heat in these alley-ways from engines and galley was considerable. Vessel's mean draft 12'5".

There was a shop on board kept by a Hindoo in a deck-house for the sale of food, and in which fresh sweetmeats for the passengers were prepared. This arrangement is greatly appreciated, and supplies a much-felt want. The shopman, if a Brahmin, might also, with advantage, be placed in charge of the distribution of the drinking water.

S.S. "Aska"—gross tonnage 450.

Carries in fair season 661 and foul season 521 passengers.

The crew numbered 36.

The vessel was fitted with the electric light. The space between the deck-house and the ship's side on the main deck measured 8 feet 3 inches, and there would be no objection to measuring part of this space for passengers.

The water-ways were grated.

The height of the 'tween deck was 7 feet 1 inch.

The middle deck was fitted with shutters which fitted well, and the after 'tween deck was given up to cargo. The passengers had recently disembarked.

3. After visiting the *Aska* the Commission returned to the Port Office, and proceeded to examine first Captain Sams, Commander, P. & O. steamer *Teheran*, and afterwards the Hon'ble Mr. Fazulbhoy Visram, of Bombay.

4. During the examination of the different witnesses, Mr. J. A. Shepherd was present, and asked questions of them through the President.

5. On the completion of Mr. Visram's examination, the Commission approved of the proceedings of the thirty-ninth Meeting and adjourned until the 2nd February 1891.

Evidence of Mr. G. F. MACKROW.

1. *Q.*—Will you please inform the Commission of the nature of your present occupation?

A.—Constructor, Her Majesty's Indian Marine Dockyard, Bombay

2. *Q.*—What qualifications or experience do you possess in regard to the subjects under enquiry?

A.—General knowledge of Naval Architecture.

3. *Q.*—Do you take any part, either directly or indirectly, in the administration or observance of any of the provisions of the Native Passenger Ships Act, 1887?

A.—No part.

4. *Q.* (*By Sir Henry Morland*).—Did you conduct a series of experiments to ascertain the stability of certain of Messrs. Shepherd & Co.'s steamers? If so, of how many, and of which types?

A.—Two, the *Shastri* and *Rajapuri*.

5. *Q.* (*By Sir Henry Morland*).—In conducting the experiments, did you have regard to the scantling and strength of material and construction of these steamers, as compared with that required by Lloyd's rules.?

A.—No, the question of stability only was raised.

6. *Q.* (*By Captain Atkinson*).—Have you any knowledge of the conditions of the native passenger traffic as worked under the existing Native Passenger Act.

A.—No.

7. *Q.* (*By Mr. Shepherd through the President*).—Do you think seamen, without special training, are qualified to construct curves of stability of vessels?

A.—I do not see why seamen should not attain this special training as well as a landsman.

8. *Q.* (*By Mr. Shepherd through the Presi-*

dent).—It has been represented to the Committee that seamen can pronounce on the stability of a vessel by a glance, and it is as easy to pronounce on the stability of a ship as on the quality of a rope by the smell. Do you agree with this?

A.—It is an absurd statement to make.

9. *Q.* (*By Dr. Comins*).—Do you think the engines of Messrs. Shepherd's steamers have sufficient horse power to steam against a strong monsoon?

A.—I have not looked into the question.

10. *Q.* (*By Dr. Comins*).—Have you heard that the *Kaveri* took 20 days to reach Aden against the south-west monsoon.

A.—No.

11. *Q.* (*By Captain Street*).—Bearing in mind the opinion expressed by you in respect to the stability of the *Rajapuri* on 15th January 1890, do you think that she is a suitable vessel for the passenger traffic to ports to the northward of Bombay, or to Aden and Red Sea ports?

A.—In fair weather, and with foul weather number of passengers.

12. *Q.*—Are you of opinion that the conditions justify a distinction being made between fair and foul weather in the case of voyages which may extend to five days?

A.—Yes.

13. *Q.*—Are you aware that it is a common practice for natives of India to sleep at night in the open air?

A.—Yes.

14. *Q.*—How is the number of passengers which a vessel is capable of carrying calculated in each case?

A.—Superficial area of clear deck.

15. *Q.*—Is allowance made in Board of Trade Rules for height of 'tween decks; in fact, do not Board of Trade Surveyors, when berths are not fitted for 3rd class passengers, calculate the number that may be carried, on the basis of a cubic measurement of 72 cubic feet per statute adult, after deducting all hatches and encumbrances?

A.—Yes.

16. *Q.*—If so, would you consider it proper to allow for height of 'tween decks as an element in the health and comfort of 3rd class native passengers?

A.—Yes, but not on a basis of cubic measurement.

17. *Q.*—Do you know the height of the 'tween decks in the British India steamers?

A.—About 7 feet.

18. *Q.*—What is the maximum height between deck in these steamers carrying native passengers? What is the average height?

A.—Average 6 feet 6 inches.

19. *Q.*—Should alley-ways, used as a means of communication by the crew, be considered as deck area for passengers, *i.e.*, the narrow passages between the officers' cabins and the engine-room-casing? If so, would it not be advisable to give a minimum breadth before allowing the area to count for passengers?

A.—No.

20. *Q.* (*By Captain Atkinson*).—Would you disallow alley-ways as passenger space without reference to their width; for example, in an alley-way 8 feet wide, would you consider it improper to measure the space for passengers after deducting, say, about 3½ feet as a passage way.

A.—Not if the passage of 3′ 6″ were kept clear; the question only mentions narrow passages.

21. *Q.* (*By Mr. Shepherd through the President*).—If alley-ways are disallowed for measurement, would it not be easy to design a vessel with quarter superficial area to compensate owners for the disallowance?

A.—Yes.

22. *Q.*—Are not these alley-ways additional shelter and, therefore, desirable for passengers?

A.—No.

23. *Q.*—For ships with large water-ways in the 'tween decks extending inside the battens on the ship's side, is the deck measurement made to the inside edge of the water-ways or to the battens? Which would you recommend?

A.—To the water-ways.

24. *Q.* (*By Captain Atkinson*).—If the water-ways were sunk, as in nearly all modern steamers, and the water-ways were covered by grating or planks properly fitted, would you consider it improper to measure from batten to batten?

A.—I should not think it advisable.

25. *Q.* (*By Sir Henry Morland*).—In the case of Messrs. Shepherd's vessels where the deck is carried out to the ship's side without water-ways, how would you measure these vessels?

A.—To the inside of the lining.

26. *Q.*—Do you think it necessary that there should be a set of definite instructions as to the survey of passenger accommodation and crew space similar, so far as may be, to those issued by the Board of Trade?

A.—Yes, but adapted to the various ports.

27. *Q.*—After a vessel has been measured for Certificate A, is the Captain supplied with the Surveyor's calculations? If not, do you think it necessary that he should be?

A.—I do not think he need be.

28. *Q.*—Would it not be advantageous if a copy of all measurements and calculations of passenger space, as determined on the original measurement, were supplied to the Commander of the vessel?

A.—I do not see that there would be any advantage, but a plan might be furnished showing the space available for passengers.

29. *Q.*—If so, would you recommend that the calculations should show clearly the names of the various obstructions which have been deducted from the gross area, their dimensions, and the proportional area deducted?

A.—This would be met by the plan recommended in answer to question 28.

30. *Q.* (*By Captain Street*).—Do you consider that an awning or shade deck is a source of danger in any way to a vessel during squally weather and in a heavy sea.

A.—Not if the vessel is properly designed.

31. *Q.* (*By Mr. Shepherd through the President*).—Would you advocate fixed rules for the measurement of all vessels alike, or would you make rules sufficiently elastic to suit the various requirements of different trades?

A.—Elastic to suit various trades.

32. *Q.* (*By the President*).—Do you consider that Messrs. Shepherd & Co.'s steamers with shade decks would be better able to stand bad weather if fitted with shutters, like those of the British India *Kistna* class?

A.—Hinged shutters would certainly be an advantage as protection to passengers, but the ship should be able to stand heavy weather without them.

33. *Q.* (*By the President*).—Then you would not add the shutters for the purpose of increasing the stability but for the purpose of sheltering the passengers if the steamers were run in the foul season?

A.—Yes.

34. *Q.* (*By Captain Wilson*).—Are you aware that on Shepherd's steamers the deck is carried right out to the plating without shelf piece, gutter or water-way? To meet this arrangement strength has apparently been obtained by additional width in the outside deck stringer plate; this may increase the lateral strength of the vessel, but do you consider that it gives any longitudinal strength so necessary to these vessels taking into consideration their great length and small depth?

A.—I am not aware that they are fitted as you state, as every ship, either of wood or iron, has a waterway; the strength is dependent on the stringer plate and angle-bars with which these vessels are fitted.

35. *Q.* (*By Sir Henry Morland*).—If you are supplied with a sectional drawing showing the scantling, &c., of the *Vaitarna* and the rules as to that required for a similar class of vessel under Llyod's rules, can you supply a comparative statement of the relative strength of material and construction of the specifications?

A.—A table could be prepared that would speak for itself without going into elaborate calculation of strength.

36. *Q.* (*By the President*).—Does the omission of gutter water-ways necessarily reduce anything of the strength of a vessel?

A.—No.

37. *Q.* (*By Captain Street*).—Do you consider that the fact of a vessel being classed at Lloyd's is any guarantee that she is a better vessel for the passenger traffic than a vessel which is not so classed?

A.—Yes.

38. *Q.* (*By Captain Street*).—Do you consider that a vessel which has not been classed at Lloyd's should be permitted to carry as many native passengers as a vessel which has been so classed?

A.—It depends on the builder.

38*A*. *Q.* (*By the President*).—May not a builder, with a good name, build a bad vessel, and a builder, with a bad name, build a good vessel? If such is the case, would it not depend more upon the build than the builder?

A.—By build I presume design is meant, and in all cases a good design is preferable.

39. *Q.* (*By Captain Wilson*).—Do you not think that shutters might prevent a vessel of the *Rajapuri* class from capsizing in case of being struck by a stiff squall, and thrown over to an angle, say, of 42° with the assistance of the sea? Without such shutters might not a vessel under similar condition of weather be liable to capsize, the underneath part of her shade deck acting as a sail?

A.—No; I do not think so.

40. *Q.* (*By Captain Street*).—Will you define the following terms:—

1. Hurricane deck.
2. Awning deck.
3. Shade deck.
4. Middle deck of vessels of the *Kistna* and also of the *Rajapuri* class.

A.—1. A *harricane deck* would be a general term for any light deck above the upper deck of a vessel. The flying deck of the turret ships in harbour might be called a hurricane deck or the deck over the midship houses of the Peninsular and Oriental Co.'s steamer *Brittannia*.

2. An *awning deck* is the weather deck of an awning decked vessel; the sides of an awning decked vessel are carried up to the weather deck.

3. A *shade-deck* is a light deck over the upper deck of a flush decked steamer; the vessel in this case is open at the sides.

4. *Middle deck* is the main or upper deck, *i.e.*, the one below the awning or shade deck.

Evidence of Mr. CHALES SAMS.

1. *Q.*—Will you please inform the Commission of the nature of your present occupation?

A.—Commander of the steam ship *Teheran*.

2. *Q.*—What qualifications or experience do you possess in regard to the subjects under enquiry?

A.—Have sailed as Commander and officer in steamers running to Jedda and Mauritius.

3. *Q.* (*By Mr. Uloth*).—Have the ships in which you proceeded to Jeddah carried the full allowance of pilgrims, and was the space sufficient for all reasonable requirements?

A.—Yes.

4. *Q.* (*By Captain Atkinson*).—Is not your experience as regards native passengers confined to the pilgrim traffic between Bombay and Kedser?

A.—Jeddah, Mauritius and Straits of Malacca.

5. *Q.*—Do you take any part, either directly or indirectly, in the administration or observance of any of the provisions of the Native Passenger Ships Act, 1887?

A.—Yes.

6. *Q.*—Do you consider that if there is to be a line dividing short from long voyages, it should be drawn at five days?

A.—No, I think the line should be drawn at one day.

7. *Q.* (*By Captain Atkinson*).—Why do you fix on one day as the limit of a short voyage?

A.—I think that after 24 hours passengers require room for sleeping accommodation, &c.

8. *Q.* (*By Captain Atkinson*).—Do you know any circumstance which would indicate that the five-day limit of a short voyage has worked unsatisfactorily during the thirteen years the present Act has been in force?

A.—I have had no experience of local traffic.

9. *Q.*—Do you know of any instances in which passengers, not exceeding 60 in number, have been carried in vessels having no suitable accommodation for them?

A.—No.

10. *Q.*—Are you of opinion that the conditions justify a distinction being made between fair and foul weather in the case of voyages which may extend to five days?

A.—Yes

11. *Q.*—In your opinion do the conditions justify passengers being carried across the Bay at any season on decks such as are commonly called hurricane-decks, which are not protected from the weather except by overhead awnings, assuming that no accommodation is reserved for these passengers on the lower decks which are crowded with other passengers?

A.—Yes.

12. *Q.* (*By Captain Street*).—If you have had no experience of the working of the Native Passenger Ships Act on short voyages, will you please

state your reasons for considering that the conditions justify passengers being carried across the Bay of Bengal at any season on hurricane-deck?

A.—I have had much experience in the China Sea, and also in bad weather between this port and Aden?

13. *Q.* (*By Captain Street*).—But in the passenger traffic in the China Seas, is the passenger space the same as under the Indian Native Passenger Act?

A.—The space allowed in China is 9 superficial feet, and a limited number of passengers are allowed on hurricane-deck.

14. *Q.* (*By the President*).—How would you prevent the rain from getting into the deck through the numerous openings for masts, &c., in the awnings?

A.—In regard to these openings there will be some leakage, but many native passengers do not mind a little rain.

15. *Q.* (*By Captain Atkinson*).—Allowing for the difference between a Chinaman and a coolie of Bengal, do you think the latter could be comfortably accommodated in 6 superficial feet on a hurricane deck?

A.—Yes, in fine weather.

16. *Q.* (*By the President*).—Are you aware that Straits Government requires 9 feet 'tween decks for coolies from the Madras Coast in the foul season?

A.—No, I am not.

17. *Q.* (*By Captain Street*).—Could the Chinese passengers, to whom you refer, have been accommodated on the 'tween deck, had they so desired or the weather required it, without inconveniencing the 'tween deck passengers?

A.—No, they could not.

18. *Q.*—Are you acquainted with the ordinary conditions of native life amongst the class that form the bulk of the native passengers who travel by sea?

A.—Yes.

19. *Q.*—Are you aware that it is a common practice for natives of India to sleep at night in the open air?

A.—Yes.

20. *Q.*—Is it within your knowledge that first class passengers travelling about the Bay of Bengal and coasts of India as a rule prefer to sleep on deck under the same conditions as to awnings and curtains as the third class native passengers?

A.—Yes, in hot weather.

21. *Q.*—Have you had any personal experience of the weather round the coast of the United Kingdom and in the Bay of Bengal and on the coasts of India?

A.—Yes.

22. *Q.*—Do you consider that there is such similarity as to warrant a comparison between the weather experienced on the coast of the United Kingdom or between the rivers Elbe and Brest (English Home Trade voyage) and that experienced in the Bay of Bengal and on the coasts of India?

A.—No.

23. *Q.*—Do you consider the conditions of English and Indian passenger traffic to be similar in any other way than that the traffic under discussion is by sea?

A.—No.

24. *Q.*—Do you think the ordinary native passenger would be prepared to pay more for better accommodation?

A.—No.

25. *Q.* (*By Captain Street*).—I presume you refer only to the accommodation provided for such passengers in the vessels of the P. & O. Company?

A.—Yes.

26. *Q.*—Is it not a fact that very well-to-do native merchants are satisfied with the usual deck accommodation?

A.—Yes.

27. *Q.*—Should alley-ways used as a means of communication by the crew be considered as deck area for passengers, *i.e.*, the narrow passages between the officers' cabins and the engine-room-casing? If so, would it not be advisable to give a minimum breadth before allowing the area to count for passengers?

A.—It is not necessary that alley-ways should be kept clear in large steamers.

28. *Q.* (*By Captain Street*).—What is the minimum width you would allow in the measurement of covered-in alley-ways?

A.—I have had no experience of covered-in alley-ways.

29. *Q.*—Are not these alley-ways additional shelter and, therefore, desirable for passengers?

A. Yes. I mean covered-in alley-ways.

30. *Q.*—In your opinion are the provisions of the Native Passenger Ships Act and the rules made under it in regard to the accommodation to be provided for native passengers on long and short voyages, suitable?

A.—In long voyages, yes.

31. *Q.* (*By Captain Street*).—Does your answer refer to the pilgrim traffic or to the native passenger traffic on the coast of India and the Bay of Bengal?

A.—It only refers to the Red Sea, Mauritius, and Straits voyages.

32. *Q.*—Do you think that a passenger on a voyage lasting ten or twelve hours requires as much room as one on a voyage lasting five days?

A.—No.

33. *Q.*—Do you think that native passengers can do with less space than Europeans?

A.—Yes, if baggage be placed in holds.

34. *Q.*—What proportion do you consider that the space allotted to natives should bear to the space allotted to Europeans?

A.—About as 4 is to 5.

35. *Q.*—Assuming that this proportion is adopted, would it, in your opinion, affect the health, comfort, and safety of native passengers in any way?

A.—No.

36. *Q.*—Do you consider that on a voyage which may extend to five days, native passengers can be accommodated in the 'tween decks of a steamer at the rate of one passenger to each 6 square feet of area with 4 square feet of airing space on the upper deck, without prejudicing their health and safety?

A.—I consider that five days is too long to keep passengers in such a crowded position.

37. *Q.* (*By Captain Atkinson*).—Is your answer based on experience, or is it merely your personal opinion?

I understand you to say in answer to a previous question that you had no experience of the short voyage native passenger traffic.

A.—It is only my opinion, as I have had no experience of short passages.

38. *Q.*—Do you think it necessary for the health and safety of the passengers, that there should be, on a voyage which may extend to five days, permanent shelter for each passenger either 'tween decks or in cabins on the upper deck?

A.—No.

39. *Q.*—Do you think that on a voyage, which may extend to five days, there should be separate accommodation for female passengers?

A.—No.

40. *Q.*—During the inclement weather, do you consider that the upper-deck passengers are sufficiently protected by canvas awnings? If not, what would you recommend?

A.—Double canvas awnings with screens are sufficient, except in very bad weather.

41. *Q.*—Is it necessary, for the comfort or safety of the passengers, that provision should be made for the accommodation of luggage not stored in the hold?

A.—No.

42. *Q.*—If such accommodation were provided, would it be used? Will native passengers allow their luggage to be parted from them under any circumstances?

A.—Native passengers strongly object to parting with their baggage.

43. *Q.*—Do you think that on a voyage, which may extend to five days, sleeping platforms should be provided for the passengers?

A.—No.

44. *Q.* (*By Sir Henry Morland*).—Please give your reasons for the opinion you have stated in reply to question 43.

A.—Sleeping platforms make a deck much harder to keep clean.

45. *Q.* (*By Captain Street*).—In the Red Sea pilgrim traffic, have you ever experienced any difficulty in respect to the space required for pilgrims when suffering from sickness?

A.—No.

46. *Q.* (*By Mr. Uloth*).—Did you find the hospital accommodation in pilgrim steamers ample for all requirements?

A.—Yes in ships in which I have been.

47. *Q.* (*By Mr. Shepherd through the President*).—Is it not a fact that the greatest hardships that pilgrim passengers suffer is being turned on shore on a desert island in the Red Sea for quarantine?

A.—There is no doubt that they consider it a very great hardship.

48. *Q.* (*By Mr. Shepherd, through the President*).—Is not then life on board steamer luxury compared to the discomforts on this desert island?

A.—I should think that it was.

49. *Q.*—Do you consider that cargo, horses, cattle, sheep, and live stock should be carried on the same deck with passengers? If so, is any fitting necessary to prevent the passengers from being inconvenienced by the urine and dung of the horses, cattle and sheep; and if any such fitting is requisite, state what you would recommend?

A.—Horses, cattle, sheep, and live-stock should not be carried on the same deck with passengers, unless there is a bulkhead between them on 'tween deck, and watertight washboards on upper deck.

50. *Q.*—Do you think that the natives of India require as much space in boats as Europeans?

A.—No, not quite as much, as the average Indian passenger is smaller than a European.

51. *Q.*—In your opinion, are the provisions of the Emigration Act and the rules made under it in regard to the accommodation to be provided for native emigrants, suitable?

A.—Yes.

52. *Q.*—Do you consider a double awning overhead with side-curtains and bulwark screens, as required by the Native Passenger Act, equal to the ordinary tent in which troops are accommodated?

A.—Yes, except in very heavy weather.

53. *Q.*—Do you consider that native passenger ships should carry a medical officer? If this were made compulsory, would you make any difference for the numbers carried or for the duration of the voyage?

A.—Yes, when the vessel is at sea for more than one day.

54. *Q.* (*By Mr. Uloth*).—Did you find one medical officer sufficient to deal with all cases of sickness on board?

A.—Yes.

55. *Q.* (*By Captain Street*).—Do you consider it advisable that gunpowder and other explosives in excess of the quantity usually supplied for ship purposes, should be carried in native passenger vessels, even should there be a properly constructed magazine.

A.—I think that there should be extra precautions taken, but I believe that accidents on boardships from explosions are very rare.

56. *Q.* (*By Captain Street*).—Do you consider that it is possible when discharging or taking in gunpowder, to carry out all necessary precautions in a vessel filled with native passengers?

A.—I think that it would be very hard to do so.

Evidence of Mr. FAZULBHOY VISRAM.

1. *Q.*—Will you please inform the Commission of the nature of your present occupation?

A.—I am a merchant and a shipowner.

2. *Q.*—What qualifications or experience do you possess in regard to the subjects under enquiry?

A.—I have been in the profession for about 15 years, during which time I have had experience of the pilgrim and passenger trades to Jeddah, Zanzibar, Mauritius, &c.

3. *Q.* (*By Mr. Uloth*).—It has been suggested by certain officials that the 9 feet allowance in pilgrim vessels is insufficient and should be increased to 12 feet.

Do you know any circumstances having arisen to call for such an alteration in the space which had been previously laid down by Government as sufficient?

A.—My own opinion also is that 9 feet is not sufficient for a pilgrim on a long voyage like that from Bombay or Calcutta to Jedda, generally the full number allowed by Government is shipped on board a steamer, and consequently there is much crowding.

4. *Q.* (*By Mr. Shepherd through the President*).—Is it within your knowledge that the greatest hardship inflicted upon pilgrims is to be turned out of a comfortable well-found steamer to a desert island in the Red Sea to perform quarantine?

A.—I believe the pilgrims are turned out from the steamer to an island to perform quarantine, but I have not heard that it entails any hardship.

5. *Q.* (*By Mr. Uloth*).—Have you personal experience of a voyage to Jedda in a pilgrim steamer?

A.—No.

6. *Q.*—Do you take any part, either directly or indirectly, in the administration or observance of any of the provisions of the Native Passenger Ships Act 1887?

A.—Yes, indirectly.

7. *Q.*—How does an Indian Home Trade voyage compare with an English Home Trade voyage?

A.—The former, I believe, is longer than the latter.

8. *Q.*—In regard to what voyages is there a distinction made between fair and foul seasons?

A.—In the Coasting trade.

9. *Q.*—Do you consider that if there is to be a line dividing short from long voyages, it should be drawn at five days?

A.—No, but at three days.

10. *Q.* (*By Captain Atkinson*).—Why do you fix on three days? Have you any experience of the five-day limit for short voyages, which rule has been in force since 1876?

A.—My intention was to extend the short voyage as far as Kurrachee or Cutch and no further, and these voyages can be done within three days.

I have personally undertaken voyages to Cutch.

11. *Q.*—Do you think that the five-day limit puts an Indian short voyage on a footing similar to an English Home Trade voyage?

A.—No.

12. *Q.*—Are you of opinion that the conditions justify a distinction being made between fair and foul weather in the case of voyages which may extend to five days?

A.—Yes, in our ports.

13. *Q.*—Are you of opinion that the seasons of fine weather, defined in the rules, are judiciously chosen with reference to the prevailing conditions?

A.—Yes, I think so.

14. *Q.*—Will you mention instances of foul weather occurring during the seasons which are by rule declared to be seasons of fair weather?

A.—I don't remember.

15. *Q.*—In your opinion, do the conditions justify passengers being carried across the Bay at any season on decks, such as are commonly called hurricane-decks, which are not protected from the weather except by overhead awnings, side-screens, and curtains, assuming that no accommodation is reserved for these passengers on the lower decks, which are crowded with other passengers?

A.—No; not at all seasons.

16. *Q.* (*By Captain Atkinson*).—Would not a passenger on the hurricane-deck be as comfortable and well protected as on any other upper-deck of a flush-decked steamer?

Would you forbid the carriage of native passengers on any upper deck?

A.—Yes, on a fair weather voyage. I would forbid the carriage of any passengers on the hurricane-decks of small steamers especially in bad weather.

17. *Q.*—Are you acquainted with the ordinary conditions of native life amongst the class that form the bulk of the native passengers who travel by sea?

A.—Yes.

18. *Q.*—Are you aware that it is a common practice for natives of India to sleep at night in the open air?

A.—Yes.

19. *Q.*—Is it within your knowledge that 1st class European passengers travelling about the Bay of Bengal and coasts of India as a rule prefer to sleep on deck under the same conditions as to awnings and curtains as the 3rd class native passengers?

A.—Yes, in fair seasons.

20 *Q.*—Have you had any personal experience of the weather round the coast of the United Kingdom, and in the Bay of Bengal and on the coasts of India?

A.—Yes, on the coast of India only.

21. *Q.*—Do you consider the conditions of English and Indian passenger traffic to be similar in any other way than that the traffic under discussion is by sea?

A.—As far as I know, it is *not* similar.

22. *Q.*—Do you think the ordinary native deck passenger would be prepared to pay more than at present for better accommodation?

A.—I don't think he would.

23. *Q.* (*By Mr. Uloth*).—If more space be given will not the cost of passage to Jedda be increased in proportion?

A.—It might be, but that would depend on the owners of the steamer and the competition prevailing in the trade and the state of the freight market generally.

24. *Q.* (*By the President*).—Are the Companies' many steamers not supposed to be doing well financially, although they do not carry the full numbers that they are measured to carry?

A.—According to the impression prevalent amongst the commercial people the steamer companies are doing well financially.

25. *Q.* (*By Mr. Shepherd through the President*).—Can you inform the Commission what Companies are doing well financially?

A.—The Peninsular and Oriental, the British India Steam Navigation Company, the Bombay Steam Navigation Company.

26. *Q.* (*By Captain Atkinson*).—As a merchant would you like your money-making power to be limited by an Act of the Government of India?

A.—I should think not, as far as it is legitimate of course.

27. *Q.* (*By Mr. Uloth*).—If the cost of passage be increased for pilgrims will not many of the poorer Indian Mahomedans be debarred from making the pilgrimage to Mecca?

A.—Perhaps a few will be debarred, but a good number of the pilgrims, are well-to-do people. Besides some of the poor are helped by the richer people.

28. *Q.*—Is it not a fact that very well-to-do native merchants are satisfied with the usual deck accommodation?

A.—Yes, in fine weather.

29. *Q.*—What class of people travel as deck passengers in the United Kingdom on vessels which frequently carry their full complement?

A.—I don't know, although I believe that no deck passengers are carried there.

30. *Q.*—Have you any special suggestions to make in regard to voyages similar to those classed as excursions by the Board of Trade, that is, voyages during which a vessel is not more than 10 or 12 hours at sea?

A.—None.

31. *Q.*—How is the number of passengers which a vessel is capable of carrying calculated in each case?

A.—By the rules under Native Passenger Ships Act, X of 1887, *i.e.*, that 9 superficial feet in 'tween decks, and 6 feet on the upper deck for long voyages, and 6 and 4 feet for short voyages.

32. *Q.*—Is allowance made in Board of Trade rules for height of 'tween decks; in fact, do not Board of Trade Surveyors, when berths are not fitted for 3rd class passengers, calculate the number that may be carried on the basis of a cubic measurement of 72 cubic feet per statute adult, after deducting all hatches and encumbrances?

A.—No, the calculation is made as above stated.

33. *Q.*—If so, would you consider it proper to allow for height of 'tween decks as an element in the health and comfort of 3rd class native passengers?

A.—Yes, 'tween decks should not be less than 6 feet 6 inches high.

34. *Q.*—Do you know the height of the 'tween decks in the British India steamers?

A.—No.

35. *Q.*—What is the maximum height between decks in these steamers carrying native passengers? What is the average height?

A.—I don't know personally.

36. *Q.*—Are you aware that there was an old rule in India which allowed ships to carry 3 passengers for 2 tons?

A.—No.

37. *Q.*—Is the Board of Trade Rule under which the number of passengers carried must not, whatever the deck measurements may give, exceed the number denoting the gross tonnage of the vessel, enforced in India?

A.—No.

38. *Q.*—What would be the effect if, assuming all other existing Indian rules to remain intact, this rule were enforced?

A.—Greater discomfort to the passengers.

39. *Q.*—What spaces are left unmeasured for passengers when a vessel is being measured for Certificate A?

A.—Hatchways, ventilators, masts, and such other obstructions in the 'tween decks.

40. *Q.*—How are the hatches treated when a vessel is being so measured, *i.e.*, is the whole space of a hatch deducted or not? Is any difference made on account of long and short voyages?

A.—If the hatchways are large, a space of about 8 feet long by the width of the hatchway is not measured, in order to allow of the passengers going up and down, for ladders are provided. No difference is made for long and short voyages.

41. *Q.*—Are the spaces which would be required for the deck water-tank, latrines, and cooking ranges, necessary for use of native passengers, deducted from the passenger space, even if such articles are not in position at the time the vessel is being measured?

A.—These spaces are deducted, and generally no measurements are made unless these articles are in position.

42. *Q.*—Are any spaces deducted so as to admit of the officers and crew moving fore and aft the vessel with facility, and their getting with ease at the boats and boats' gear? If not, have you any recommendations to make on this head?

A.—No practicable recommendation can be made.

43. *Q.*—Should alley-ways, used as a means of communication by the crew, be considered as deck area for passengers, *i.e.*, the narrow passages between the officers' cabins and the engine-room-casing? If so, would it not be advisable to give a minimum breadth before allowing the area to count for passengers?

A.—No, when they are less than 4 feet.

44. *Q.*—Are not these alley-ways additional shelter and, therefore, desirable for passengers?

A.—No.

45. *Q.*—For ships with large water-ways in the 'tween decks extending inside the battens on the ship's side, is the deck measurement made to the inside edge of the water-ways or to the battens? Which would you recommend?

A.—Measurement is made from the inside of the water-ways unless they are covered by wood, when the measurement is taken from the battens as it should be.

46. *Q.*—Should the spaces, set apart for boats on the bridge-deck be utilized for passengers when the boats are carried at the davits? If so, state whether during both fair and foul seasons, or only during the fair season?

A.—I would not object to the utilization of these spaces during fine weather.

47. *Q.*—In your opinion are the provisions of the Native Passenger Ships Act and the rules made under it, in regard to the accommodation to be provided for native passengers on long voyages and short voyages, suitable?

A.—I should give more accommodation, say, 12 superficial feet (or 6′ × 2′) to pilgrims.

48. *Q.*—Do you think that a passenger on a voyage lasting ten or twelve hours during daylight requires as much room as one on a voyage lasting five days?

A.—No; of course not.

49. *Q.*—Do you think that native passengers can do with less space than Europeans?

A.—No, especially because they will keep their luggage with them.

50. *Q.* (*By the President*).—Do you consider that excess luggage which has been paid for should be allowed to encumber the space allotted for passengers?

A.—Should not be allowed if it could be stowed away in such a manner that it could be re-delivered to the owners.

51. *Q.*—What proportion do you consider that the space allotted to natives should bear to the space allotted to Europeans?

A.—Equal, if not more, because he is encumbered with his food, drinking water, &c.

52. *Q.*—Assuming that this proportion is adopted, would it, in your opinion, affect the health, comfort, and safety of native passengers in any way?

A.—Yes, beneficially.

53. *Q.*—Do you consider that on a voyage, which may extend to five days, native passengers can be accommodated in the 'tween-decks of a steamer at the rate of one passenger to each 6 square feet of area with 4 square feet of airing space on the upper deck, without prejudicing their health and safety?

A.—No.

54. *Q.* (*By Captain Atkinson*).—Is your answer based on experience, or is it merely your opinion?

A.—Partly on experience and partly on opinion.

55. *Q.* (*By Captain Atkinson*).—Do you know of any cases in which the health or safety of a native passenger has been affected by travelling in 6 feet on lower decks, with 4 feet on upper deck as airing space?

A.—I don't remember.

56. *Q.*—Do you think it necessary for the health and safety of the passengers that there should be on a voyage, which may extend to five days, permanent shelter for each passenger either 'tween decks or in cabins on the the upper deck?

A.—Yes, awnings in fair weather and proper shelter in foul.

57. *Q.*—Do you think that on a voyage, which may extend to five days, there should be separate accommodation for female passengers?

A.—Yes, it is proper that there should be.

58. *Q.*—Do you know of any steamers which carry native passengers on two upper decks?

A.—Yes, Shepherd's and the British India.

58. *Q.*—Do you consider, from the wording of the Native Passenger Ships Act and your ex-

perience of this question, that the Legislature, when it passed the Act, contemplated the existence of vessels with more than one upper deck?

A.—Evidently not.

59. *Q.*—Are you acquainted with the design of the steamers of the *Kistna* class?

A.—Yes.

60. *Q.* (*By Captain Street*).—Are you acquainted with vessels like the *Rajapuri*, for instance? If so, do you consider that these vessels are suitable for other than mere coast traffic from port to port?

A.—I am acquainted with the class of vessels referred to, and am of opinion that they are not suitable for other than coast traffic.

61. *Q.* (*By Mr. Shepherd through the President*).—Have you ever heard of vessels of the *Rajapuri* class being sent on long voyages? If so, kindly name any such voyage?

A.—I have not heard.

62. *Q.* (*By Mr. Shepherd through the President*).—With reference to the last question by Captain Street, do you know the *Rajapuri* as distinct from the *Neera* class?

A.—No.

When I said that Shepherd's boats are not fit for other than coast traffic, I meant their smaller class of vessels.

63. *Q.* (*By Mr. Shepherd through the President*).—Are you aware that the *Neera* class have obtained a Foreign Trade passenger certificate?

A.—My impression is that the *Neera* has been from here to the Mauritius, in which case she must have had a Board of Trade Certificate.

64. *Q.*—What is the distinguishing feature of these steamers?

A.—The main or middle deck is closed in by shutters in bad weather, and they have an upper deck or spar deck, and can carry passengers on it; it is covered with awnings and has a rail about 3 feet 6 inches high all round.

65. *Q.*—In your opinion, are the middle passenger decks of these steamers between decks or upper decks within the meaning and intention of the Native Passenger Ships Act? Give your reasons for this opinion?

A.—The main decks of these steamers are closed in or can be so with wooden shutters if in bad weather, and then the main or middle deck is much the same as a 'tween deck.

66. *Q.*—Are the passengers on these middle decks as well protected in rough weather as the passengers on the lowermost of the three passenger decks?

A.—I should say so.

67. *Q.*—Are these passengers on the middle deck not better protected than on ordinary upper decks?

A.—Yes, of course.

68. *Q.*—During the inclement weather, do you consider that the upper deck passengers are sufficiently protected by canvas awnings, side-screens and curtains? If not, what would you recommend?

A.—No, I should recommend them to go below.

69. *Q.*—Do you consider that sufficient protection from the sea is afforded to upper deck passengers by the "reasonably stout screen" which, under existing rules (*see* Government of India letter No. 430, dated 27th August 1878) is held as coming within the definition of a substantial bulwark? If not, state what you would recommend in lieu.

A.—No, I should recommend that no passenger should be carried on the upper deck unless in the fine weather season, when the present awnings and screens are sufficient.

70. *Q.*—In rough weather, would any water get on to the upper deck through the scuppers and shutters? If so, could this be prevented?

A.—Yes, a little, which could be stopped coming in I think.

71. *Q.*—Do you think the existing rules in regard to hospital accommodation are suitable?

A.—Yes.

72. *Q.*—In vessels which, under existing rules, are permitted to carry horses, cattle, and sheep with native passengers, are sufficient precautions adopted to prevent the hay and straw provided for the use of such animals from catching fire either from a spark from the ship's funnel or from lighted matches? If not, state what extra precautions you would recommend.

A.—I don't know, but would recommend that the hay, &c., should be covered by tarpaulins to prevent fire.

73. *Q.*—Do you consider a double awning overhead with side curtains and bulwark screens, as required by the Native Passenger Act, equal to the ordinary tent in which troops are accommodated?

A.—I should think so in fair weather.

74. *Q.*—Do you know that 6 superficial feet on the upper deck under double awnings and curtains is considered sufficient accommodation for native troops making voyages under five days duration?

A.—I believe so.

75. *Q.*—Being acquainted with the class of natives who form the bulk of those who travel by sea, do you consider they require better accommodation for their health and comfort than native troops?

A.—Yes, because there is no one to look after them.

76. *Q.*—How do you account for the differences between the English and the Indian rules, and between the Indian rules for emigrants and those for ordinary passengers?

A.—Can't say.

77. *Q.*—Will you furnish the Commission with your opinion as to the sufficiency or otherwise of the space allowed by the Act and rules generally?

A.—Already answered in Question No. 47. The rules are satisfactory enough.

78. *Q.*—Do you consider that native passenger ships should carry a medical officer. If this were made compulsory, would you make any difference for the numbers carried or for the duration of the voyage?

A.—Yes, for long voyages.

79. *Q.*—What grade of medical officer would you consider best suited for these vessels?

A.—A proper qualified man as at present.

80. *Q.*—Give any instances which have come to your knowledge in which a medical officer would have been of service on board of a native passenger vessel?

A.—I don't remember.

81. *Q.* (*By the President*).—Would it be advisable if the medical officer was a Government servant who could represent the complaints of the passengers to the Captain and keep a record of such complaints and the action taken by the Commander?

A.—Yes. I think it would be advisable, if the officer is not an expensive man for the ship.

82. *Q.* (*By Mr. Shepherd through the President*).—Could you raise the fares charged to rich passengers who travel third class without also raising the fares of the very poorest class?

A.—Not unless you can separate the accommdations.

83. *Q.* (*By Mr. Shepherd through the President*).—Would not the raising of the fares have the effect of elbowing the very poorest out of the steamers into native boats?

A.—No; I do not think so.

84. *Q.* (*By Captain Street*).—Are your vessels commanded and officered by Europeans or natives. If by the former, will you state why you employ them?

A.—Europeans especially, because we can insure our vessels more profitably.

85. *Q.* (*By Mr. Shepherd through the President*).—What rate of insurance are you paying?

A.—From 6 to 9 per cent. for steamers and sailors.

86. *Q.* (*By Captain Street*).—Do you consider that country craft should be permitted to carry as many as 30 passengers? If not, will you state the number to which they should be limited without coming under the Native Passenger Act?

A.—Say twelve.

87. *Q.* (*By Mr. Shepherd through the President*).—Do you think that steamers and sailing vessels without 'tween decks should be allowed to carry over 60 and 30 passengers respectively?

A.—In fine weather certainly; they should be allowed according to the space available on board on the usual measurement.

88. *Q.* (*By Captain Street*).—Do you think that in a vessel carrying a large number of native passengers gunpowder and other explosives should be carried as cargo, bearing in mind the difficulty attending the carrying out of proper precautions when passengers are on the decks to prevent smoking and the use of matches?

A.—I wouldn't allow gunpowder or explosives to be carried as cargo in passenger ships.

89. *Q.* (*By Mr. Shepherd through the President*).—Do you think that undecked native boats should be allowed to carry passengers without being licensed?

A.—I would license them if it does not entail any expense.

90. *Q.* (*By the President*).—Are the small steamers plying between Bombay and Cutch suitable for carrying native passengers?

A.—With regard to the boats other than the British India Steam Navigation Company's plying between Bombay and Cutch, I can say on the strength of my own observations, and on the statements of many of the travelling public, that they are not suitable for the trade they are employed in. Their size and their design make them unsafe to go over such a sea as lies between this and Cutch. They are top-heavy. No doubt they are provided with coasting certificates, but the voyage to Cutch is not a coasting voyage. Near the Gulf of Cambay the steamer is about 150 miles from the land, and that means being on the ocean to all intents and purposes, as much as if she was 1,050 miles away from the shore. Under these conditions she is not capable of standing any stress of weather and is liable to capsize. Many passengers have incidentally complained to me about the tremendous rolling these vessels are subject to when the sea is at all rough, which results in great hardship to the passengers, and they often feel as if their lives were in danger, and there have been instances to warrant such fears.

I think there should be a special officer to see that the number of passengers carried is not over the certificate. The prevalent belief is that not unfrequently it exceeds the authorized number.

91. *Q.* (*By Mr. Shepherd through the President*).—Do you know if any control is exercised by the Government over native boats carrying passengers to sea, that they do not carry more than 30 native passengers?

A.—I do not.

92. *Q.* (*By Mr. Shepherd through the President*).—Will you name to the Commission the names of the steamers you consider unsafe that ply to Cutch?

A.—I won't name, but I mean the steamers of the smallest class that have been running for years past.

Proceedings of the Forty-first Meeting of the Native Passenger Ships Commission, held at the Port Office, Bombay, on the 2nd February 1891.

Present:

Surgeon-Major A. S. Lethbridge, M.D., C.S.I.	*President.*
Captain Sir Henry Morland, H.M.I.M.	*Members.*
Captain H. A. Street, H.M.I.M.	
Surgeon-Major D. W. D. Comins, I.M.S.	
Captain J. H. Atkinson	
H. W. Uloth, Esq.	

1. The Commission, with the exception of Captain Wilson, who was too unwell to be present, assembled at 10 A.M., and proceeded to examine Mr. H. A. Acworth, M.A., C.S., Municipal Commissioner, Bombay.

2. On the completion of Mr. Acworth's examination, Bhamjee Bapoorjee, rao Angrey, Assistant Head Clerk, G. I. P. Railway (Telegraph Department), and Vinayak Rughunath, Cashier at the Esplanade Hotel, were respectively called and examined.

3. On the completion of the examination of Mr. Vinayak Raghunath, Mr. Kenneth Macauley, Marine Surveyor at Bombay, was examined. On the completion of the examination of Mr. Macauley, Mr. J. A. Shepherd, of Messrs. Shepherd & Co., Bombay, who had been present at the examination of the witnesses above mentioned, was called and examined.

4. On the completion of Mr. Shepherd's examination, the proceedings of the fortieth Meeting were approved, and the Commission adjourned until the 3rd instant.

Evidence of Mr. H. A. ACWORTH, M.A., C.S.

1. *Q.*—Will you please inform the Commission of the nature of your present occupation?

A.—Municipal Commissioner, Bombay.

2. *Q.*—What qualifications or experience do you possess in regard to the subjects under enquiry?

A.—I was for eight years Deputy Collector or Collector of Salt Revenue, and as such administered the Act in the Southern Customs Division.

3. *Q.*—Do you take any part, either directly or indirectly, in the administration or observance of any of the provisions of the Native Passenger Ships Act, 1887?

A.—Not now.

4. *Q.*—How does an Indian Home trade voyage compare with an English Home trade voyage?

A.—I cannot say.

5. *Q.*—In regard to what voyages is there a distinction made between fair and foul seasons?

A.—*Vide* Act.

6. *Q.*—Do you consider that if there is to be a line dividing short from long voyages, it should be drawn at five days?

A.—I am inclined to think the limit too large, and that three days would be better.

7. *Q.* (*By Captain Street*).—Will you give your reasons for this opinion?

A.—My recollections are a little old, for some years have passed since I had anything to do with administering the Act, but my experience is that five days is too long a period to allow of the comparative restrictions which characterize short voyages—I mean the smaller limitation of space and the general want of arrangements for the passengers' comfort.

8. *Q.*—Are you of opinion that the conditions justify a distinction being made between fair and foul weather in the case of voyages which may extend to five days?

A.—I should think so.

9. *Q.*—Are you acquainted with the ordinary conditions of native life amongst the class that form the bulk of the native passengers who travel by sea?

A.—Yes.

10. *Q.*—Are you aware that it is a common practice for natives of India to sleep at night in the open air?

A.—Yes.

11. *Q.*—Is it within your knowledge that first class passengers travelling about the Bay of Bengal and coasts of India as a rule prefer to sleep on deck under the same conditions as to awnings and curtains as the third class native passengers?

A.—No.

12. *Q.*—Have you had any personal experience of the weather round the coast of the United Kingdom and in the Bay of Bengal and on the coasts of India?

A—Yes.

13. *Q.*—Do you consider that there is such similarity as to warrant a comparison between the weather experienced on the coast of the United Kingdom or between the rivers Elbe and Brest (English Home trade voyage) and that experienced in the Bay of Bengal and on the coasts of India?

A.—No, not the slightest similarity.

14. *Q.*—Do you think the ordinary native passenger would be prepared to pay more for better accommodation?

A.—Perhaps not.

15. *Q.*—Is it not a fact that very well-to-do native merchants are satisfied with the usual third class deck accommodation?

A.—I don't think so.

16. *Q.*—Are any spaces deducted so as to admit of the officers and crew moving fore and aft the vessel with facility, and their getting with ease at the boats and boats' gear? If not, have you any recommendations to make on this head.

A.—All the above questions will, of course, be answered by the department concerned. But, as a matter of fact, on the small coasting steamers sailing from Bombay, there is no possibility of officers, crew or any one else moving fore and aft with facility as far as I remember—the decks are so packed with human beings. I refer to Messrs. Shepherd & Co.'s steamers, but the Commission will remember that I have stated that my recollections are a little old.

17. *Q.*—In your opinion are the provisions of the Native Passenger Ships Act and the rules made under it in regard to the accommodation to be provided for native passengers on long and short voyages, suitable?

A.—I am not familiar with them.

18. *Q.*—Do you think that a passenger on a voyage lasting ten or twelve hours requires as much room as one on a voyage lasting five days?

A.—No.

19. *Q.*—Do you think that native passengers can do with less space than Europeans?

A.—Certainly.

20. *Q.*—Do you think that on a voyage, which may extend to five days, there should be separate accommodation for female passengers?

A.—Certainly.

21. *Q.*—Are any special fittings required under the Native Passenger Ships Act on the passenger decks for the reception of the bundles, boxes, and other articles usually carried by native passengers? If so, state what you would recommend.

A.—Not on short voyages.

22. *Q.*—Is it necessary for the comfort or safety of the passengers that provision should be made for the accommodation of luggage not stowed in the hold?

A.—I hardly think so.

23. *Q.*—If such accommodation were provided, would it be used? Will native passengers allow their luggage to be parted from them under any circumstances?

A.—It is a difficult matter, and on short voyages would be nearly impossible.

24. *Q.* (*By the President*).—Would it be a good rule to require excess baggage that is charged for to be stowed in the hold or baggage-room?

A.—Yes.

25. *Q.* (*By Captain Street*).—Do you consider that Certificate B should be done away with?

A.—What is required in the case of steamers of the class of Messrs. Shepherd & Co. is control over the number of passengers. It would be a very good thing to mark off, on different spaces or areas, the numbers to be therein accommodated. If this were done, Certificate B is not really wanted for this class of vessels.

26. *Q.* (*By Captain Street*).—At the coast-ports of this presidency, do you consider that the arrangements for keeping a check as to the number of passengers on board of a coasting steamer are sufficient for the purpose.

A.—Yes, I think they are.

27. *Q.* (*By Sir Henry Morland*).—Do you consider that native passengers are carried with a reasonable amount of comfort by the steamers carrying in the traffic to the southern ports of the presidency?

A.—I think they prefer to be carried in the way they are, and for the price they pay, rather than with a greater degree of comfort and with more to pay.

28. *Q.* (*By Captain Street*).—Under clause 20 of the Native Passenger Ships Act, the master of a native passenger vessel, on board of which a death has occurred, is only supposed to notify the death of every passenger dying on the voyage on the vessel reaching her final port or place of arrival. Do you consider that this is sufficient, or that every death should be notified at the *first* port called at after a death has occurred?

A.—The point is one I have never considered. I have never known of a death on Messrs. Shepherd & Co.'s steamers, but *à priori* it seems to me a death ought to be reported on the earliest opportunity, and a list of effects also handed in.

29. *Q.* (*By Captain Street*).—When you have travelled by Shepherd's steamers, did you ever notice that certain parts of the upper deck which had been measured for third class passengers had been railed off for and given over to passengers who probably had paid a little extra for the extra space? If so, do you consider that the practice is a proper one and should continue?

A.—Spaces are railed off, but if they are measured for third class passengers, the latter clearly ought not to be excluded from them. I have often occupied such parts of the vessel, and there have been no third class passengers there; but of course, I cannot say that the vessel had her full complement of third class passengers on board.

30. *Q.* (*By Mr. Shepherd through the President*).—You held the appointment of Deputy Collector or Collector from 1882 to 1890, did you not? If not, will you mention the years you held these appointments.

A.—Yes, but I was only nominally on the strength of the Salt Department until March 1890. I only did two or three weeks' entire service in the Department after February 1888.

31. *Q.* (*By Mr. Shepherd through the President*).—Does your experience of the coasting passenger traffic extend to any ports or places other than the Bombay Presidency?

A.—It also extends to the pilgrim traffic to the Red Sea.

32. *Q.* (*By Mr. Shepherd through the President*).—Does not the Salt Revenue Department control all ports of the Bombay Presidency, excepting Bombay and Kurrachee?

A.—Yes.

33. *Q.* (*By Mr. Shepherd through the President*).—During the eight years you held the office of Deputy Collector and Collector of Salt Revenue, were you aware of any representations being made to the Government that the coasting traffic generally was at all inefficiently conducted?

A.—Yes, complaints of over-crowding I think in the years 1882 and 1883. But to my knowledge there has been a great change for the better since then, owing to the increase in the number of steamers and better arrangements generally. In old days the vessels were not enough for the traffic.

34. *Q.* (*By Mr. Shepherd through the President*).—What is your experience during the eight years that you held the office of Deputy Collector and Collector of Salt Revenue? Have the class of steamers and the general arrangements under which the traffic is conducted improved or deteriorated?

A.—Improved so much as to constitute a revolution for the better.

35. *Q.* (*By Mr. Shepherd through the President*).—To whom do you attribute the improvement, if any? To the Government or the proprietors of the steamers?

A.—Principally to the proprietors of the steamers. Pressure from Government officials on the subject of over-crowding may have had a little to do with it, though I do not know that it had.

36. *Q.* (*By Mr. Shepherd through the President*).—Can you produce to the Commission any regulations or recommendation made by the Salt Revenue Department during your tenure of office for the improvement of the coasting traffic?

A.—No. There probably are such, but I forget them.

37. *Q.* (*By Mr. Shepherd through the President*).—Have you ever heard of any passenger having suffered in health or been injured from any cause whatever whilst travelling by Shepherd's steamers?

A.—No.

38. *Q.* (*By Mr. Shepherd through the President*).—With reference to your reply to questions Nos. 14 and 15, do you not consider that the well-to-do class of passengers are better able to take care of themselves than the poorer class are?

A.—Of course.

39. *Q.* (*By Mr. Shepherd through the President*).—Is it not possible that attempting to provide improved accommodation generally might have the effect of benefiting the well-to-do class by giving them improved accommodation at the expense of the poorer class, who would be driven in larger numbers to travel by native boats?

A.—Perhaps.

40. *Q.* (*By Mr. Shepherd through the President*).—Would you be surprised to learn that 80 per cent. of the passengers by Shepherd & Co.'s steamers belong to the poorest labouring classes, and do not earn ₹10 per mensem?

A.—I should have thought the proportion of poor was greater. I do not know about the actual wage.

41. *Q.* (*By Mr. Shepherd through the President*).—Are you aware that a very large proportion of the passengers that travel by Shepherd & Co.'s steamers come from the Satara and Belgaum districts, and that they walk over 100 miles to the coast because they are unable to pay the railway fares to Bombay?

A—I am not surprised to hear it.

42. *Q.* (*By Mr. Shepherd through the President*).—Are you not aware that there are hundreds

of native pattiamars plying on the coast, carrying passengers so poor that they are unable to afford even the third class fares charged by Shepherd & Co.?

A.—I believe this is the case.

43. *Q.* (*By Mr. Shepherd through the President*).—Have you ever received any complaints from passengers of the poorest class by Shepherd's steamers as to the insufficiency of the accommodation provided?

A.—No.

44. *Q.* (*By Mr. Shepherd through the President*).—Have not the Salt Revenue Department the lighting and buoying of the coast ports?

A.—Yes.

45. *Q.* (*By Mr. Shepherd through the President*).—Is it not a fact that every light on the Konkan coast, excepting Ratnagiri and Vengurla, was originally put up by Shepherd & Co., and that it is due to their persistent agitation that the present lighting and buoying exist?

A.—I did not know this. No doubt the statement in the last part of the answer is to a great extent correct.

46. *Q.* (*By Mr. Shepherd through the President*).—Has there not been considerable improvement of late years in the establishments, buildings, boats, &c., at the coast ports for more effective supervision?

A.—There have been some new Custom houses and some new boats.

47. *Q.* (*By Mr. Shepherd through the President*).—Is it not a fact that Shepherd & Co. land and embark all passengers free at the coast ports, and for this purpose they have quite a fleet of large boats, and maintain a considerable establishment for this purpose at each port?

A.—Yes, I believe so.

48. *Q.* (*By Mr. Shepherd through the President*).—Can you point out to the Commission any ports in the world having such great natural advantages as the Konkan ports, so destitute of any landing facilities in the way of piers, landing stages, &c.?

A.—No, I have never had anything to do with other ports.

49. *Q.* (*By Mr. Shepherd through the President*).—Can you point to anything that the Government have done to improve the coast traffic during the whole eight years you held the office of Deputy Collector?

A.—I cannot answer this question offhand. It had better be asked of the present Collector or Deputy Collector of Salt Revenue.

50. *Q.* (*By Mr. Shepherd through the President*).—Can you make any suggestions to the Commission for the improvement of the coast passenger traffic that will not directly or indirectly increase the rates of fares? If so, will you describe what they are?

A.—No.

51. *Q.* (*By Mr. Shepherd through the President*).—Do you consider that the Government, when compelling owners of passenger steamers to supply their passengers with an unlimited supply of drinking water free, should permit the Port Trust to surcharge steamer-owners 500 per cent. over municipal rates?

A.—I must decline to answer this question.

52. *Q.* (*By Mr. Shepherd through the President*).—Considering the high pressure that marine boilers are now worked at, and the danger attending the use of salt-water in boilers, do you think owners of steamers should be surcharged 500 per cent. when the mills and railways can obtain the water they require at municipal rates?

A.—I must decline to answer this also.

53. *Q.* (*By Mr. Shepherd through the President*).—Do you think it reasonable that local coasting steamers should be burdened with heavy pilotage charges if they do not need the services of pilots, when similar traffic all over the world is free of pilotage?

A.—This is a question which concerns the Port Trust.

54. *Q.* (*By Mr. Shepherd through the President*).—Do you consider it reasonable that the Government should refuse to allow natives of this country to be examined in their own native language for certificates as engineers, and not require European engineers in charge of engines with native crews to pass an examination in the native languages before taking charge of native crews?

A.—I cannot answer this question.

55. *Q.* (*By Captain Street*).—Do you consider that any change in the Native Passenger Ships Act is required in respect to country vessels carrying more than 30 natives of India or Africa?

A.—I think this limit is too high as an arbitrary limit; the number should be less.

Evidence of BHANJEE BAPOOJEE, RAO ANGREY.

I have travelled by Shepherd's steamers once or twice a year, also by pattiamars, which are now abolished. The voyage lasts 23 hours. There are about eight or nine intermediate ports. Officers to count passengers do not come on board at all ports, only at the larger ports. At some ports we stop ½ hour, at others ¼ hour, a mile from the shore at Ratnagiri, only ½ hour stoppage and far from land, which causes great inconvenience. If steamers were ordered to stop one hour, it would be better, and passengers would not be exposed to danger and inconvenience by leaving the ship so hurriedly. Government should regulate the stoppages at intermediate ports.

I go in fine weather, and have not seen rough seas. Luggage is weighed on shore, and sometimes charged for if there is much and is thrown on board, and sometimes lost from being separated from the owners. I take about 42lbs. If a space were railed off on each deck for luggage, it would be a convenience. The space given to each person is too small; there is hardly room to stand, and to get room to sit we have to buy 2nd class tickets, and if we complain, we are told, we may get out at the next port. First, 2nd and 3rd class tickets are sold, but although we pay for 2nd class, we cannot depend on getting more room. I have heard of passengers being kept for one or two days on the shore waiting for steamers.

If I take a 2nd class ticket, and the 2nd class space is taken up by 3rd class passengers, the difference of fare is not returned, I should want 3 feet by 3 feet. If we had room to lie down, there would be very few passengers. Two packages of baggage weighing 28lbs. should be allowed free. We carry dried food, but not cooked food. There are about 20 or 25 2nd class passengers to 200 3rd class passengers. If the fares were increased, we would not go by pattiamars. Even the poor class go by steamers.

Women sit with their people and prefer it. Latrines are sufficient and not very dirty. If urinals were provided at each end of the ship, it would be very convenient. It should be a sitting down place. We never use the ship's water. We take it with us, about one chatty for each person. I have never heard any complaints about the water. I think Mr. Shepherd's steamers are rather cleaner this year than before, and they have electric lighting, but no other improvement that I know of.

At the landing places there are not boats enough. There are boats provided by the Company, but they are occupied by the ship's people; I always pay for my own, because there is no room, and if I wait, I should be carried on to the next port. There is great pushing, and sometimes we lose our things from their being only one gangway provided for people going out and coming in. Mr. Shepherd's boats are painted red and fly red flags; these are not quite sufficient. It would be a convenience if there were landing stages and piers. The side ladders are always let down when boats come alongside with passengers.

The decks are not cleaned during the voyage, and if topazes are employed, they clean the ship at the end of the voyage. Women always vomit on the deck, and so do people who are too giddy to stand. Separation of Hindus and Mahomedans here is not necessary, as there are very few Mahomedans. The great crowding lasts to Rajapuri.

The passengers are not beaten, but better care might be taken of them. The officers of the ship are all natives. There ought to be one European officer on board.

Evidence of VINAYAK RAGHUNATH.

I have made many voyages by Shepherd's steamers, perhaps twice a year, for many years past. I have always gone 2nd class to Goa. It takes 27 hours. I have met no bad weather on these voyages. Even when I pay 2nd class fare the accommodation is very limited. I do not know how much space I am entitled to, but I don't get enough. The 3rd class passengers are indescribably overcrowded. Sometimes officers come to count the passengers. I have never heard the Inspecting Officer say to the Captain there are too many passengers. I think I ought to get enough space if I pay 2nd class fare. Hindus and Mahomedans should have separate spaces allotted to them. In a railway carriage Mahomedans and Hindus live together, but in the train the passengers get out and eat on the platform. More than three-fourths of the passengers going are Hindus. Luggage remains with the passengers, and fills up their space. It ought to be put away somewhere.

There is no harm in putting the luggage in the hold, if the steamer is responsible. Illiterate men might object to part with their luggage. I and my family were treated roughly by the crew, who threw my things about when they wanted to get a boat out. The time at each port is too short, and there is great noise and confusion, which would not be if more time, say, half hour was allowed at each port. Every one makes a noise. The side ladders are let down, but everything is in such a hurry that there is no time.

As a 2nd class passenger I have to use the 3rd class latrines; there ought to be a 2nd class latrine separate. I do not remember if they are lighted by the electric light. Urinals should be provided. There is no separate latrine for women. No distinction is made. A platform would be best. It would not be used for other purposes, and would be suitable for women. Shepherd's steamers are officered by Mahomedans, and they do their work well, but I have mentioned their inattention to the passengers. The decks are not kept clean from the vomiting, &c., and the crowd is so great that they cannot get to the side to vomit. I do not remember any deduction being made between Rewadanda passengers and others as regards space.

The side screens are taken down on leaving port. I have suffered from the sun and the damp and have had to use my own cloth, but not always. The awnings are always spread. Drinking water for Hindus should be provided. A low caste Hindu would not interfere with our water. I would like some medical assistance provided for these voyages, and would willingly pay extra for it, and I believe poor people would willingly pay 1 anna extra. Plenty of boats are provided by the Company at intermediate ports. There may be dispensaries at every port, but I do not know of them. The smell of the latrines is very bad; these are never cleaned. I have never seen any one clean them, and I have complained to the Captain. The latrines in our native houses are kept clean and do not smell.

A screen should be provided for married people. I would pay for it. I would not recommend Government to abolish 1st or 2nd class passages and only have 3rd class passages.

Evidence of MR. KENNETH MACAULAY.

1. *Q.*—Will you please inform the Commission of the nature of your present occupation?

A.—Marine Surveyor at Bombay.

2. *Q.*—What qualifications or experience do you possess in regard to the subjects under enquiry?

A.—Experience afloat in Indian waters while employed by the British India Steam Navigation Company, as an officer and Commander for many years prior to my taking up my present employment.

3. *Q.* (*By Mr. Shepherd through the President*).—Have you not frequently travelled by Shepherd's steamers?

A.—I have made some ten or twelve passages in Messrs. Shepherd & Co..'s steamers.

4. *Q.* (*By Mr. Shepherd through the President*).—Are you aware that Shepherd's steamers were specially constructed to carry a full complement of passengers at light draft without ballast?

A.—I am.

5. *Q.* (*By the President*).—Should a steamer be allowed to vary in measurement and capacity for passengers at the will of its owners during a given voyage?

A.—If the requirements of the trade demand it, I see no objection, if under supervision by Customs' authorities.

6. *Q.* (*By Mr. Shepherd through the President*).—Do you consider Shepherd's vessels—sea-

worthy steamers—admirably adapted for the traffic on which they are employed?

A.—As each new steamer is an improvement upon previous vessels, all in the interests and for the comfort of passengers, I consider them very suitable for their present trade.

7. *Q.* (*By the President*).—Do you consider that there should be for steamers of the *Rajapuri* class a port of shelter within easy reach in case of a cyclone?

A.—I do.

8. *Q.* (*By the President*).—Are there any such ports of shelter between Bombay and Kurrachee?

A.—In the Gulf of Cambay and Diu Head and behind Bate Island. The distance to Diu Head from Bombay is about 140 miles, and from Diu Head to Bate Island about 70 miles, and from Bate Island to Kurrachee about 120.

9. *Q.* (*By Captain Street*).—During what seasons would the anchorage off Bate, &c., and Diu Head, respectively, afford the best shelter to Shepherd's steamers?

A.—In the event of bad weather in the fair season.

10. *Q.* (*By Mr. Shepherd through the President*).—Is it not a fact that the whole of the Koncan Coast to which Shepherd's steamers ply swarms with ports of shelter?

A.—In my various passages, the steamers called at a port about every three hours, and all the ports were well sheltered for steamers of such draft.

11. *Q.* (*By Mr. Shepherd through the President*).—Are not passengers in greater danger from the inefficient lighting of the Coast ports than anything else?

A.—The ports are very badly lighted, and two vessels were totally lost from that cause about four years ago—*Washistri* and *Oorun*.

12. *Q.* (*By Captain Street*).—Was this the opinion of the Court of Enquiry which was held to enquire into that matter?

A.—I believe so.

13. *Q.* (*By Mr. Shepherd through the President*).—Do you think it necessary that the steamers should be delayed a fixed time at intermediate ports for landing and embarking passengers, whether there are passengers to land and embark or not?

A.—I see no reason why the steamers should be delayed if there are no passengers.

14. *Q.* (*By Captain Street*).—How long, as a rule, does the coast steamer (Shepherd's) generally remain at each port called at? Is the period long enough to permit of passengers embarking and disembarking without any great hurry?

A.—In my experience the boats belonging to Messrs. Shepherd & Company bring the passengers off to the steamers, and the passengers for that port are landed in the same boats and allowed ample time.

15. *Q.* (*By Mr. Shepherd through the President*).—Don't you think that pier and landing stages at the various harbours on the coast would materially conduce to the comfort of passengers, especially women and children?

A.—I fear that at some of these ports the passengers have to wade through the mud at low water.

16. *Q.* (*By Captain Street*).—By whom do you consider that these piers and landing stages should be put up, bearing in mind that they are only required for passengers using Shepherd's steamers?

A.—By Government, as even if they were put up by Messrs. Shepherd & Co. they could collect no dues to repay the outlay.

17. *Q.* (*By Mr. Shepherd through the President*).—Can you point to any wharves or landing stages in the world built by shipowners? Is not the building of wharves the duty of the Government, and do they not prohibit private individuals?

A.—I am not in a position to reply to this question positively.

I do not think wharves are built by private individuals for public use unless they levy dues.

18. *Q.* (*By Mr. Shepherd through the President*).—Do you think that the poorer classes of passengers by Shepherd's steamers could afford to pay higher fares for increased accommodation?

A.—No, most of the passengers from the southern parts are very poor, and certainly could not do so.

19. *Q.* (*By Captain Street*).—Had any of Shepherd's steamers by which you have travelled the full complement of native passengers on board on any of the occasions on which you were on board?

A.—I believe they had, as they were over every part of the vessel. I do not know for certain.

20. *Q.* (*By the President*).—What arrangements would you suggest for storing the baggage for which excess freight is charged, when there is no hold to put it into?

A.—I would store it on one part of the deck and secure it by lashings, deducting the space from that allowed for passengers.

21. *Q.* (*By Captain Street*).—Do you consider that gunpowder and other explosives should be carried in native passenger vessels in excess of the quantity required for ship's purposes, bearing in mind that at some ports gunpowder has to be taken in or discharged while the passengers are on board, and the difficulty on such occasions of carrying out the regulations regarding lights and fires when powder is being taken in or discharged?

A.—I think it better that explosives should not be shipped with a large number of native passengers, but with a small number I see no danger, provided it is carried in a proper magazine.

Evidence of Mr. J. A. SHEPHERD.

1. *Q.* (*By the President*).—Will you please inform the Commission of the nature of your present occupation?

A.—Steam-ship owner and principal partner in Shepherd & Company, the proprietors of the Bombay Steam Navigation Company.

2. *Q.* (*By the President*).—What qualification or experience do you possess in regard to the subjects under enquiry?

A.—I have been engaged in shipping business all my life, and built all the steamers belonging to the Company we own.

3. *Q.* (*By the President*).—Do you desire that the answers given by Mr. Moir, the Superintending Engineer of your line of steamers, should be considered exactly the same as your own personal answers?

A.—Yes, I adopt them.

4. *Q.* (*By the President*).—Can you name all the ports on the West Coast of India in which your steamers could seek shelter and ride out a storm, or land passengers in bad weather?

A.—Rewadanda, Jinjeera, Bankote, Dabhol,

Jyghur, Jytapure, Viziadroog, Dewghur, Malwani, Panjim, Marmagoa, Karwar, Malpi.

5. *Q.* (*By the President*).—Is there any reason why you should not put on the trade between Bombay and Cutch a larger class of steamers than the *Rajapuri*? The agreement for having vessels of light construction and light draught do not, I believe, apply to the northern ports?

A.—The *Rajapuri* class never, as a rule, ply to the Kattiawar coast.

6. *Q.* (*By Captain Street*).—Are the steamers you propose to put on the northern line to be of as strong a build as vessels of the *Aska* and *Karagola* class; in fact, are they what is called ocean-going steamers?

A.—The steamers we have worked on the Kattiawar line have all been provided with foreign-going passenger certificates.

7. *Q.* (*By the President*).—Will you favour the Commission with a list of your steamers under the different classes?

A.—Yes:—

1st class	*Neera*, *Bheema*, *Krishna*	Cargo and passengers, but principally cargo, speed 10 knots.
2nd class	*Kaveri*, *Ponani*.	
3rd class	*Savitri*, *Shastee*, *Sharavati*, *Kalinadi*, *Zuari*, *Rajapuri*	Exclusively for passengers on the Konkan Coast, and not allowed to carry cargo during fair season.
	Godavari	Speed 12 to 13 knots.

Note.—Vessels in Class No. 2 have more beam than those in Class 1.

8. *Q.* (*By Captain Street*).—Are all or any of the steamers specified by you classed at Lloyd's?

A.—As a rule we do not class our steamers at Lloyd's, but they are all built to the strength required by Lloyd's for classification in that registry.

9. *Q.* (*By the President*).—You recommended a uniform measurement for a short Home Trade Voyage, please state *what* your recommendations are on this point?

A.—Five feet on Konkan Coast, 6 feet on the Kattiawar Coast.

10. *Q.* (*By the President*).—Do you know that the recommendation you make would increase the number of passengers by steamers of the *Rajapuri* class from 889, their present number, to 1,171 on the Konkan Coast?

A.—Yes, I consider the *Rajapuri* can carry this number conveniently.

11. *Q.* (*By the President*).—The *Kaveri* would, under your suggestion, have its number of passengers increased from 724 to 1,320.

A.—The *Kaveri* is not a passenger steamer and draws too much water to be so employed.

12. *Q.* (*By the President*).—Do you consider that the large increase in numbers, which you suggest could be carried by the *Rajapuri* class, would meet with the approval of the public who travel by your steamers?

A.—Yes, of the poorer class, but not of the richer.

13. *Q.* (*By the President*).—Is this large increase in the number of passengers, to be carried under your suggested measurement, justified by the fact that your passenger trade is an unremunerative one?

A.—It is no question of remuneration; I desire to reduce the fare so to increase the number of the poorer classes who cannot now afford to pay our third class rates.

14. *Q.* (*By the President*).—If a native passenger's baggage were limited to a certain amount, what bulk or weight should, in your opinion, be allowed to be carried free of charge and on the same deck with the passenger?

A.—Our rule is 28 lbs. free to be carried with him, and I recommend this should be continued.

15. *Q.* (*By the President*).—Where do you place the luggage for which an extra charge has been made?

A.—This depends upon the quantity; if it is large, say, Government records, &c., we put it below deck and carry so many less passengers.

16. *Q.* (*By the President*).—Would you object to have any space set apart for the purpose on each deck?

A.—I don't think it necessary, as we do not earn Rs. 5 per diem for extra baggage.

17. *Q.* (*By the President*).—Would it be an advantage to hang up in prominent parts of each vessel a Vernacular copy of the rules for the guidance of passengers—these rules to contain the allowance of sanctioned space for each passenger, and the number of passengers that can be carried in different parts of the vessel?

A.—We have lists of rules, regulations, &c., hung up in the native languages, but they are perfectly useless, as not five per cent. of the passengers can read their own language.

18. *Q.* (*By the President*).—Are you in favour of having the measurement and capacity of each portion of a vessel marked in a prominent place, to allow the officers, who work the Act, to check the numbers carried in the different ports at the time of starting, or at the intermediate ports?

A.—We have no objection.

19. *Q.* (*By the President*).—Should steamers not be required to stop by law for a definite time at each port to allow the passengers to embark and land with comfort?

A.—I think it would be useless to make a hard and fast rule; there are arrangements that must be left to the Commanders unless they are to be reduced to mere machines.

20. *Q.* (*By the President*).—How would you propose to control the action of Commanders of vessels who desire to make up time at the expense of the reasonable time which should be allowed to each port?

A.—This can be done by the steamer's log, which is a record of the time of arrival and departure at each port.

21. *Q.* (*By Dr. Comins*).—Do you not think that the steamer should remain sufficiently long at port to allow all the passengers for that port to get into the boats?

A.—Such time is always allowed, and a record kept of it; also the time is kept by the Post official on board as a check on our clerks.

22. *Q.* (*By Dr. Comins*).—Are all your vessels supplied with side ladders?

A.—Yes.

23. *Q.* (*By the President*).—Has any loss of life resulted lately in landing passengers? Please name the occasions on which accidents of a serious nature have happened. What would you recommend to prevent the occurrence of such accidents in future?

A.—We have had no accident. I would recommend that piers and landing-stages should be erected at each port. We cannot afford to build such landing arrangements.

24. *Q.* (*By the President*).—How could the sale of tickets at the small ports be controlled, if a steamer started with its full complement of passengers?

A.—In the same way as they do on the railways; we adopt the railway system.

25. *Q.* (*By the President*).—Should not steamers,

like railways, be obliged to provide a certain proportion of accommodation for first and second class passengers which shall not be measured as third class space under any circumstances?

A.—No, railways are entirely on a different footing to steamers.

26. *Q.* (*By the President*).—Is there any reason why urinals should not be provided for native passengers, who are now obliged to resort to all kinds of expedients to avoid the latrine?

A.—I consider the latrine accommodation ample; passengers are not obliged to resort to any expedient to avoid the latrine; they mostly prefer the ship's side, but this is because they are too lazy to go to the latrine; urinals are not used by natives, or we would have supplied them long ago.

27. *Q.* (*By the President*).—Is there any objection to setting apart a special water-tank for the use of Hindus?

A.—No, about 85 to 90 per cent. of our passengers are Hindus; they have never asked us to do any such thing.

28. *Q.* (*By Dr. Comins*).—Is drinking water available at all hours of the day, or are the taps locked at times or removed by the crew?

A.—There are no locks to any of our water-supply pipes, and all our passengers have an unlimited supply of water. We have never had a complaint as to not being able to obtain water freely.

29. *Q.* (*By the President*).—Are you prepared to comply fully with the new Board of Trade Regulations regarding life-saving appliances? Have you any preference as to life-belts or life-buoys for native passengers?

A.—Yes, fully and willingly. Our present arangements far exceed the new requirements proposed. I prefer life-buoys to life-belts, and I prefer watertight bulkheads to all the other life-saving appliances put together.

30. *Q.* (*By the President*).—In your opinion, should permanent shelter be provided in the foul season for every passenger carried on voyages which may extend to five, eight, or ten days?

A.—I do not think it necessary. Such restrictions would entirely choke off the traffic.

31. *Q.* (*By Captain Street*).—You have stated that no accidents have occurred in connection with the landing of passengers from your steamers. Did not a very serious accident occur on one occasion at one of the small coast ports, by which many persons either about to embark or who had just disembarked, lost their lives through the upsetting of a boat or raft?

A.—Yes, there was an accident to a Government tariffa in the Nagotna River bringing passengers to our steamers, but we were not concerned in it.

32. (*By Captain Street*).—Who was in charge of the tariffa? Was it run by Government or had it been lent to any one?

A.—The native ferry contractor.

33. *Q.* (*By Sir Henry Morland*).—In connection with what you have stated as to the accident which happened to a tariffa when embarking passengers at Dhurumtar, was not your steamer *Surat* towing the tariffa? Had not the tariffa been borrowed by your agent from the ferry contractor, and were not the passengers for your steamer?

A.—Yes, I believe so, but the tariffa was not ours.

Proceedings of the Forty-second Meeting of the Native Passenger Ships Commission, held at the Port Office, Bombay, on the 3rd February 1891.

Present:

Surgeon-Major A. S. Lethbridge, C.S.I.	*President.*
Captain Sir Henry Morland, H.M.I.M.	*Members.*
Captain H. A. Street, H.M.I.M.	
Surgeon-Major D. W. D. Comins, I.M.S.	
Captain J. H. Atkinson	
H. W. Uloth, Esq.	

1. The Commission, with the exception of Captain Wilson, who was too unwell to attend, assembled at 10 A.M. and proceeded to examine Messrs. Punderang Hari Vaidya, pensioner, Customs Department; Ganpath Raghunath Nadkarni, L. M. & S., Bombay; and Messrs. R. V. Madavakar, head salesman to Messrs. W. & A. Graham & Company, Bombay; C. C. Jamsetji, Assistant Collector of Salt Revenue; Dharsi Udhawjee, Ship Charterer and Freight Speculator; Mr. Abu Din Sharazi, and Khan Bahadur Jamsetjee Dhunjeebhoy Wadia, all of Bombay.

2. On the completion of Mr. Wadia's examination, Mr. J. A. Shepherd handed in sundry papers, which he desired to place before the Commission.

The proceedings of the forty-first Meeting having been approved, the Commission adjourned until their arrival in Calcutta on the 9th instant.

Evidence of Mr. PANDURANG HARI VAIDYA.

In the absence of information as to the number of seats allowed on each deck under the rules, passengers rightly or wrongly complain about crowding. Very few of them know the amount of space allotted to each passenger. To prevent this misunderstanding, the space assigned for each passenger should be marked off and painted on the deck, or boards should be put up in some conspicuous parts of the steamer, exhibiting the number of passengers allowed to be put on each deck under the rules. Third class passengers justly complain that the Company take advantage of existing arrangements, and put a greater number of passengers on the lower deck, the number of passengers of all classes allowed to be carried being shown in the lump.

Custom-house officers at different ports attend on board, as a matter of form, as it is not possible for them to ascertain the number of passengers on board during the short time the steamers remain at the different ports. To remedy this state of things, the Company's agents should be required, if that could be possible under the rules, to furnish a statement to Custom-house officers showing the number of tickets of each class issued for different ports. Since the Company were prosecuted by the Chief Custom Officer at Ratangiri before the Presidency Magistrate for over-crowding and fined in the sum of ₹2,500 a few years ago, they take great care in the matter of crowding.

The second class passengers are not allowed separate latrines, though they pay better fares. In February 1889 I believe a memorial was submitted to Government by about 200 persons representing their grievances and inconvenience experienced by them in steamers travelling to the coast, but they failed to obtain any redress.

I am not aware of any complaint regarding water-supply.

In August last Government issued orders for embarking and disembarking passengers at different gang-ways. If these orders were carried out, all inconvenience in this matter would be removed, but there is reason to believe that these orders are not attended to by the Company's servants, nor are they enforced by Custom-house officers at the different ports.

Before the formation of the B. S. N. Company, the owners of other steamers employed their boats to carry passengers to different ports between Bombay and Goa. The third class fares were three or four times higher than at present, but the accommodation was then better. If during those days well-to-do passengers paid for and took second class tickets, and even now on many occasions third class passengers pay difference of fares on board the steamers and travel in the second class, on finding the third class deck over-crowded, it is difficult to understand how some of the witnesses have ventured to state before the Commission that such classes of passengers prefer to travel in the third class rather than pay better fares.

The bulk of the passenger traffic consists of poorer and labouring classes, and this may be put down at 75 per cent.

1. *Q.* (*By the President*).—What experience have you of Messrs. Shepherd & Co.'s steamers?

A.—During eight months of the year, from October to May, I travel three or four times to the coast ports, and have done so for many years past.

2. *Q.* (*By Mr. Shepherd through the President*).—Mr. Shepherd states to the Commission that they were never taken before a Magistrate and fined ₹2,500 for carrying an excess of passengers. Can you contradict this? If so, will you give your authority?

A.—I am unable to give the exact date, but I remember having read about it in the papers, the date was probably 1883-84.

3. *Q.* (*By Mr. Shepherd through the President*).—Mr. Shepherd states to the Commission that at each intermediate port a statement of the number of passengers is made up and presented to the Inspecting Officer, who verifies it before allowing the steamer to sail. Can you contradict this?

A.—As far as my knowledge goes, I do not believe this.

Evidence of GANPUT RAGHUNATH NADKARNI.

Witness stated that he was a medical practitioner, residing at Bombay; that he is in the habit of making three or four voyages yearly in Shepherd & Co.'s steamers to Vingorla and back. He then gave the following evidence on the undermentioned points:—

(*a*) Regarding passenger space.
(*b*) Water-supply.
(*c*) Latrine accommodation.
(*d*) Landing and embarking.

A.—(*a*) As regards crowding, or rather I should call it over-crowding, I have personal experience, as I have travelled at least four or six times in a year, these six years, from Bombay to Vingorla, and *vice versâ*. The passengers are huddled over each other, the legs of one over the head or belly of the other, when the passengers are lying down, generally by night. This I speak of the second class passengers, while the third class ones have to bend their knees on elbows and pass the whole night in sitting posture, being so very over-crowded as not to get even a few inches of space to lay their heads down, and they are trampled down by the ship's crew every time they move about. The Customs officers in Bombay hardly go on board before departure, and before granting the port-clearance order to see whether the number of passengers has exceeded the certificate of the vessel, they remain present at the bunder to prevent any complaint being made either against them or against the owner of the vessel.

The native Coast Guard Inspectors in the same manner allow all coasting steamers to pass without examination. If these Inspectors will see that the space, as specified in the Native Passenger Ships Act, is allowed to each passenger, the cause for complaint will be removed.

A.—(*b*) The water, which is kept on board, is quite unfit for drinking purposes, it being so impure that I think the cisterns are not well washed. The water at times is saltish, as I once found it in washing the mouth. To add to this, the sailors on board exact money from the poor passengers for the use of the water, and even then they are not allowed free use of it, the supply being limited. To remove this calamity, it is necessary to distribute pure water once or twice during the day, and at least once during the night through the khalasis, or better still by employing Brahmins for the purpose, special care being taken that they do not exact money for it.

A.—(*c*) The latrine arrangements on some of the coasting vessels, such as *Gunga Bhima*, &c., are not altogether bad, but on other steamers there is scarcely proper latrine arrangement. Moreover, the over-crowding prevents a large number of pas-

sengers from taking advantage of the latrines. The privies are situated at a long distance from the deck, and no space is kept for going forward and backward. They are also not properly ventilated, and are quite unfit and dangerous for ladies and young passengers. They are also not well cleaned, which also adds to the sea-sickness of the passengers. It is imperatively necessary, therefore, for passengers occupying seats near the stern that a passage of about 2 feet should be kept clear for pass and re-pass, and the latrines properly constructed and leaned.

A.—(*d*) The arrangement of landing and getting on board is only comfortable here in Bombay; excepting at this place, the arrangement is as bad as possible at all the ports as far as Vingorla. The time of landing and getting on board is bad throughout the whole journey. The small boats on which the passengers are packed are brought near the steamer, and at the time of taking the passengers on board, they are put to great inconvenience and danger owing to over-crowding and want of ladders being lowered or any other suitable apparatus being provided, and the unequal up-and-down movements of the small boat and the steam-ship.

As for landing where a large number of passengers are to be landed, as at Vingorla, Malvan, Ratnagiri, Dabhol, &c., previous intimation, by wire, should be given to the Company's agent as to the number of passengers to be landed. It often happens that in the absence of such intimation, the agent, who brings one single boat near the vessel, carries all the passengers, sometimes as many as 50 or 60, at the risk of their lives.

The merchants and well-to-do travellers sometimes prefer to travel by the third class instead of the special second and first, since no special accommodation is provided to them for taking refreshments or for obtaining water or for easement, and at times no distinction is made when the vessel is overcrowded between first, second and third class passengers.

The rich, the middle class, and even some of the poor passengers will certainly prefer to give higher rates if they are well accommodated.

I think about 70 per cent. of the passengers belong to the poorer or labouring classes.

1. *Q.* (*By Captain Street*).—If landing stages or jetties are provided, it is possible that a small charge, say, one or two pice per head, would have to be made: do you think that the third class passengers, who are generally very poor persons, would be willing to pay this charge?

A.—Yes, they will willingly do it. But if the Government would lend them to the Company and if the Company would charge some small sum per head for the use of them it would be preferable.

2. *Q.* (*By Captain Street*).—What is the area of the space which is given usually to each second class passenger, and what would you recommend?

A.—I do not know the area which is allowed by Government under Ships Act. I think it is 1 foot by 6 feet. If the area be increased to 2′ × 8′ per head, it will be much better. But if the Government does not wish to interfere with this point, it will be quite satisfactory if the proper area per head, as sanctioned by the law, be given to each passenger.

3. *Q.* (*By the President*).—You have complained of the want of supervision over these steamers. Do you think this duty, which is now performed by the Salt Department, should be made over to the Port Office authorities?

A.—I think if the duty is properly executed there should be no objection to transferring it to any person.

4. *Q.* (*By the President*).—In regard to your suggestion that some better arrangement should be made for the distribution of water, would a Hindoo sweetmeat-seller, who could also distribute the water to Hindus, be a convenience?

A.—Yes, it would be, but the water should be distributed gratis, and the sweetmeats charged for moderately, *i. e.*, as they are in the Bombay bazars.

5. *Q.* (*By the President*).—You have complained of the state of the latrines. In your opinion would urinals for the purpose of urinating only add to the comfort of native passengers?

A.—Separate urinals and privies for males and females on upper and lower decks for the 2nd and 3rd class passengers would be preferable.

6. *Q.* (*By the President*).—Are the rates charged by coolies at the landing places reasonable?

A.—The special coolies which are allowed by the Company charge exorbitantly for the baggage—sometimes as much as 8 or 12 annas—and they will not allow outside coolies to come.

7. *Q.* (*By Captain Street*).—Have you ever complained to Messrs. Shepherd & Co. respecting the exorbitant charges to which you refer?

A.—No, because we did not know about this rule.

8. *Q.* (*By Mr. Shepherd through the President*).—Is it not a fact that a notice in English and Marathi is posted on board all the steamers and at all the bunders that passengers and their baggage are embarked and landed free?

A.—I have not seen it, nor can I say it is there.

9. *Q.* (*By Mr. Shepherd through the President*).—Before making such complaints, would it not have been fair to have first satisfied yourself on this point?

A.—The coolies say that they have to pay to the Company for the pass, and so they charge highly and do not allow outside coolies to come to the boat.

10. *Q.* (*By Mr. Shepherd through the President*).—Shepherd & Co. state that they pay the porters with badges ₹8 per month to land passengers' baggage free, can you contradict this?

A.—I do not contradict the statement, because I did not know that the Company paid them up to this time, but I thought, from the statements of the coolies that the coolies had to pay to the Company.

11. *Q.* (*By Mr. Shepherd through the President*).—Shepherd & Co. state that they keep two topazes on ₹12 per month each, on each steamer to keep the latrines clean. Can you contradict this?

A.—I do not know about it. But I find the latrines at times unclean and smelling awfully.

Evidence of Mr. R. V. MADGAVAKAR, B.A.

1. *Q.* (*By the President*).—Will you please inform the Commission of the nature of your present occupation?

A.—I am head salesman to Messrs. W. & A. Graham & Co. I have been in this position for the last twenty-five years.

2. *Q.* (*By the President*).—What qualifications or experience do you possess in regard to the subjects under enquiry?

A.—My experience is from visiting steamers and occasionally seeing friends off, both north and south, and from what my customers and friends have, from time to time, told me of their experience. I have never travelled myself.

3. *Q.*—What suggestions have you to make regarding the comfort, &c., of passengers by sea on the West Coast of India under the following heads—

(*a*) Over-crowding?
(*b*) Water-supply?
(*c*) Latrine accommodation?
(*d*) Landing and getting on board?

(*a*) *Over-crowding.*

A.—At present 6 square feet per head is the legally allotted space in steamers plying between Bombay and Goa, and also in those plying between here and Mandvi (Cutch). This is considered insufficient. Nine feet per head are considered requisite for ordinary comfort in the case of third class passengers. From enquiries I have made among passengers of this class, I have reason to believe that many of them will be willing to pay 50 per cent. advance on present rates if they are given the additional accommodation.

I think about three-fourths of the travellers belong to the poorer classes.

People's ideas of comfort have advanced within the last few years, and I think there are now *very few merchants* and *well-to-do travellers* using third class accommodation. The crowding in the third class is so great that, even men of very moderate means travel second class. Even the second class is very often crowded, and merchants and ordinarily comfortably-situated persons would most willingly pay 50 per cent. additional fare for better accommodation in this class also.

But whatever space is allotted per head, it is of the greatest importance that seats should be marked on the decks, so that each man may occupy the space he is entitled to. At present the ill-bred, strong and turbulent spread their beds on the best seats and cannot easily be ousted, and the weak and quiet have to squeeze themselves into what little space they can with difficulty secure. If seats were marked, a good deal of confusion and annoyance to peaceful passengers would be avoided, and there will be an efficient check on overcrowding, which will be easily noticed. It will, I think, be a still greater improvement if seats were numbered, and numbers marked on tickets. The number on a ticket would entitle the holder of it to the seat marked with the same number.

I cannot think of any difficulties in the way of doing this. But should any present themselves, the least I would suggest to be done is to have the number of seats in *each portion of a deck* marked prominently in the language of the coast the steamer plies on (Marathi between Bombay and Goa, and Gujerati between Bombay and Cutch), so as to enable the passengers to know when there is over-crowding, which, since competition has been removed, is said to be nothing unusual. There is not a single voyage now-a-days when third and second passengers, particularly on the Konkan Coast, have not to sit compactly for the greater portion of the voyage, with their knees pressing against their chests. Even the spreading of the legs for occasional relief is rendered impossible. Sleeping is quite out of the question.

Second class passengers are, like those in the third class, allowed 6 square feet per head. The only advantage the former have over the latter is that they enjoy purer air. Those who want free pure air want more space also. Second class passengers should have 50 per cent. more space than the third class.

Even when cargo is taken on the lowest deck and occupies an area that accommodates probably 300 or 400 passengers, the same number of passengers are packed into the second and third classes as would have been taken if there were no cargo. This should not be allowed.

The first class is rarely occupied. As many third class passengers as would have occupied the first class are put into the third class, and failing room there into the second class, so as to make up the total number allowed on board. This causes crowding, and the third and even the second classes do not get even the space to which they are at present, entitled.

Officers of the Salt Department are entrusted with the duty of seeing that the fixed number of passengers is not exceeded. Practically, however, with 1,000 or 1,200 passengers on board, to count the supervision in this respect is said to amount to almost *nil*. The Preventive Officers may undertake prosecutions for crowding, if satisfied, on passengers' lodging complaints. But before passengers can do so, they must know how many passengers a steamer is entitled to carry, and how they are apportioned on each deck or portion of a deck. This information must be given. The Railway Companies mark on the outside of third classes, and also on the inside of third and second classes, how many passengers each compartment is to hold, and knowing their rights, passengers stoutly resist encroachments. If in two or three places on each deck, or preferably on each portion of a deck, the number of passengers that are allowed to be accommodated on it was painted in large figures on the sides in the native languages, passengers would know their rights, and would be in a position to give information to Customs Officers when the law was contravened. The Customs certificates give the number of passengers allowed for each steamer. The certificates, if they are hung up on board, are in the saloon, to which second and third class passengers have no access, so that the number of passengers allowed to be carried is not known to them. It is of the utmost importance that portions of decks should be marked off by distinct lines painted on the decks, and that the number of passengers allowed to be seated in these portions should be prominently painted on the sides.

(*b*) *Water-supply.*

The water-supply is adequate to requirements. But the crew who touch the water being Mussalmans, the sweet water on board is very rarely, almost never, used by Hindus. At railway stations, at least the larger ones, they have Brahmin watermen. It would be a great convenience if one of this class were regularly employed on board coasting steamers. This man might cook grain, eatables of the cheaper kind, like *poories*, *chapatees*, *bhakris*, *vade*, &c., and sell them at the prices at which they are obtainable in towns. Each Hindu passenger carries with him a supply of water and eatables to last the voyage, and a little more to provide for emergencies. If water and eatables, which the Hindu can use without prejudice to his religion, were obtainable on board, some of the luggage that the Hindu passenger finds it necessary to carry with him at present would be reduced, and so much spare space set free.

(*c*) *Latrine Accommodation.*

The present latrine accommodation is considered inadequate. The second class should have, I think,

separate accommodation. The privies are dirty beyond conception at present, and ordinarily respectable persons fast to avoid the abomination. Night-soil collects all throughout the privy rooms. The privies have also to be used as urinaries. The hardship involved in having to sit on thin edges of iron plates with one's face towards receptacles full of filth, may easily be imagined. There should be one or two separate urinaries on board. The nuisance in the privies may, I think, be minimised by a change in their construction. At present the receptacle is about 12 inches to 15 inches in diameter, rather elongated on the sides, and has a drain-pipe on one side about 4 inches diameter to carry down the contents, with a water-pipe of, I believe, half-inch bore on one side of the pipe just above it. The small volume of water thrown on one side of the receptacle is not enough to wash down the contents. If instead of a receptacle and a pipe at one end, there was a hollow cylinder, 12 inches to 15 inches in diameter, as in railway carriages, and if at the top of this hollow, well covered by the rim of the seat, there was a round water-pipe about 1½ inches bore laid with plenty of perforations in it, I think the nuisance would be considerably lessened. A Bhangy should be employed to clean the privies every six hours. Disinfecting powders should be plentifully supplied in the privies, at least out of consideration to the health of the passengers who occupy seats near them.

No order is observed in the seating of the passengers. They are promiscuously huddled together. It is with the greatest difficulty that one can make his way to the privies. Passengers are trodden upon, the ill-bred find an opportunity of annoying female passengers, the passengers should be so seated as to leave passages, narrow though they may be, at reasonable distances. In connection with absence of arrangement, I may observe that the present *lighting* arrangements are considered insufficient.

(*d*) *Landing and getting on board.*

Landing and getting on board at all stations, excepting Bombay, is effected with anything but ordinary ease. Regular ladders are never suspended from the sides so as to afford easy ascent and descent, and passengers have actually to jump out from or into, or to be thrust out of or into, the steamers. To females the hardship is great when the steamer deck is about 3 feet higher (or even more) than the boats. The boats that bring in passengers for embarkation are the ones that take ashore the passengers who disembark. This arrangement makes a saving of boats to the ship-owners, but it entails hardship upon passengers. It results in causing a geat rush at the same outlets. A Government Resolution (*Government Gazette*, August 1890, page 860) directs different gangways to be used for embarkation and disembarkation on each side, but as late as October last a friend, who came up from the coast to Bombay by steamer, did not find the directions followed, and on enquiry was informed that Government Resolutions did not effect the practice of coast establishments. Their instructions came direct from the Salt Department, from whom instructions had not then been received. I am assured that this notification remains a dead letter to this date, and that no gangways are lowered at all, and that the inlets for embarking passengers are the same as the outlets for those who disembark.

4. *Q.* (*By Captain Street*).—It has been represented to the Commission that the greater number of the third class passengers travelling by Shepherd's steamers are so poor that they could not possibly afford to pay anything in excess of the fare now charged. Do you consider that these poor people would be able to pay 50 per cent. advance on present rates?

A.—I do not think the greater portion would.

5. *Q.* (*By Captain Street*).—What do you know about the different letters which have been sent to the President of the Native Passenger Ships Commission by native gentlemen and others respecting Shepherd's steamers?

A.—Mr. James Campbell, C.S., sent me a copy of the printed one hundred and seventeen questions set by the Commission. I returned the questions telling Mr. Campbell that the questions as they stood were such as only men with technical knowledge could reply to, and that I did not know of any persons who could reply them. Mr. Campbell then sent me a few simple questions. I got them lithographed, and distributed among persons of different classes one hundred copies, and I have sent the replies as I have received them. I have had nothing whatever to do with the replies thus sent. They are from independent men, all, or almost all, capable of thinking for themselves. I even declined to translate for them the evidence that some Bhattia gentlemen wrote out.

6. *Q.* (*By Captain Atkinson*).—Why do you suggest 9 feet as the space required for ordinary comfort of 3rd class passengers? Have you any experience to justify so definite a suggestion?

A.—I mention 9 feet as I take about 6 feet to be the length of space required for a person to sleep and at least 1½ feet in width.

7. *Q.* (*By Mr. Shepherd through the President*).—Mr. Shepherd states to the Commission that his passenger steamers are prohibited carrying cargo and never do so. Can you contradict this?

A.—I am told that some steamers do take cargo and others do not, and the complaint I have made is based on information given by persons who have travelled.

8. *Q.* (*By Captain Street*).—Is it not a fact that natives seldom, if ever, sit in any other position than that you describe, *viz.*, with their knees pressing against their chests? If so, is it any hardship for them to be required to sit so on boardship for a voyage of a few hours?

A.—This position is not the position in which natives usually sit for any length of time. The usual position is squatting with legs crossed, or with one leg down and one doubled. For long journeys, like that to Goa, their position is a distinct hardship.

9. *Q.* (*By Mr. Shepherd through the President*).—Mr. Campbell, the Collector of Customs, is, I believe, a brother of the Mr. Campbell, the partner in your firm?

A.—Yes, he is.

10. *Q.* (*By Mr. Shepherd through the President*).—Mr. Shepherd states to the Commission that all his steamers have at least 100 electric lights on board. Yet you state in your evidence that the present lighting arrangements are considered insufficient?

A.—This is what I say from information given me. The lowest deck, I am told, is very badly lighted.

11. *Q.* (*By Mr. Shepherd through the President*).—Mr. Shepherd states to the Commission that there are *Bhangies* employed on board each steamer for cleaning the latrines. Can you contradict this?

A.—I cannot contradict this, but all passengers to whom I have spoken join in saying that the privies are not cleared regularly.

12. *Q.*—Kindly state under each head—

(1) The present arrangements.

(2) The complaint you find with existing arrangements.

(3) The change you would propose to remove the causes of complaint.

Complaint-Book.

A.—A complaint-book on board each steamer would serve a very useful purpose. It should be kept in a prominent place. And the fact that one is kept for passengers to write complaints regarding personal misconduct on the part of any of the crew, or regarding violations of the law relating to passenger ships, should be notified in large letters in the language of the district in different parts of each steamer. It should be the duty of the Customs Officer at each port to examine the complaint-book and to verify any complaints made therein, and take a note briefly of the evidence obtainable in connection with them, and report on each case to his superiors. The ship-owners should also report to the Customs Collector what notice they have taken of complaints so made, and of the action they have taken in connection with them.

13. *Q.* (*By Captain Street*).—Are not the greater number of 3rd class passengers very ignorant, and not often able to read or write? If such is the case, how would they be able to write these complaints?

A.—Many of the 3rd class passengers are, no doubt, ignorant; but there are many who can read, and these will help to keep things straight.

Evidence of Mr. C. C. JAMSETJI.

1. *Q.*—Will you please inform the Commission of the nature of your present occupation?

A.—Assistant Collector of Salt Revenue.

2. *Q.*—What qualifications or experience do you possess in regard to the subjects under enquiry?

A.—I was for the period of about two years in charge of the Ratnagiri Coast, where the Native Passenger Ships Act is, according to section 48 of the said Act, worked by the Assistant Collector of Salt Revenue.

3. *Q.* (*By Captain Street*).—Are the inspectors who visit the steamers carrying passengers from port to port Europeans or natives, and is it the custom for them to count the passengers on board of each steamer they visit?

A.—They are all Europeans.

They do not count on each visit, but only when they have reason to believe that there are passengers on board in excess of the number allowed.

4. *Q.* (1) (*By Captain Street*).—Who grants the supplementary Certificate B at the coast ports?

(2) Do you consider that Certificate B could be done away with altogether; and if not, do you consider that it is necessary in the case of coast voyages from Bombay to Mangalore?

A.—(1) Supplementary Certificate B is not granted, because the Certificate B granted at Bombay is sufficient for our requirements.

(2) Yes, I think the certificate is necessary, but the form may be modified.

5. *Q.* (*By Captain Street*).—Should a death occur on board of a native passenger vessel while on a short coasting voyage on the western coast, is such a death reported at the port called at immediately after the death has occurred, or only at the final port of arrival?

A.—The Act only requires it to be reported at the final port of call; but, as a matter of fact, it is reported at the port called at immediately after the death.

6. *Q.* (*By Mr. Shepherd through the President*).—Had you not under you European coast-guard inspectors constantly patrolling the coast ports, that daily go on board the coasting steamers inspecting them at all hours of the day and night?

A.—Yes.

7. *Q.* (*By Captain Street*).—Is it any part of the duty of the inspector to see that the latrines are as clean and as sweet as can be expected?

A.—It would be a part of his duty, but he has no time for it.

8. *Q.* (*By Captain Street*).—Is the inspector supposed to take notice of any complaint which a passenger might make to him regarding ill-treatment, or want of water, or insufficient accommodation?

A.—He takes notice of complaints about want of sufficient accommodation; but so far as I am aware, complaints have not been made to him regarding the other matters, because the passengers are too illiterate, as a rule, to know that he could help them in the matter. They generally look to the master of the steamer to help them in such matters.

9. *Q.* (*By Mr. Shepherd through the President*).—As a matter of fact, have you ever received complaints that there was any difficulty in obtaining drinking water on board Shepherd's steamers?

A.—No.

9*A.* *Q.* (*By Captain Street*).—It has been stated that the officials at Bombay and coast ports, whose duty it is to see that Shepherd's boats are not overcrowded, do not go on board but stand on the jetty and only look on, and that practically the supervision is almost *nil*. Have you any remarks to make in regard to this statement?

A.—About Bombay itself I have no experience, but as for the coast ports I can say that the allegation is without foundation.

10. *Q.* (*By Captain Street*).—It has been stated that many of Shepherd's steamers are not fitted with ladders, and that passengers experience great difficulty in embarking and disembarking at coast ports. Can you state whether this is correct?

A.—So far as I know, all the steamers are fitted with ladders, but it very often happens that they are not lowered for the use of the passengers, as the crew are too lazy to do it.

11. *Q.*—Do you take any part, either directly or indirectly, in the administration or observance of any of the provisions of the Native Passenger Ships Act, 1887?

A.—As there is little passenger traffic on the Thana coast, my present charge, I do not administer the provisions of the said Act to any great extent, but still I do to some extent.

12. *Q.*—What is a long voyage?

A.—A voyage during which the ship performing it will ordinarily be 120 hours or upwards continuously out of port.

13. *Q.*—What is a short voyage?

A.—A voyage during which the ship performing it will ordinarily not be 120 hours continuously out of port.

14. *Q.* (*By Mr. Shepherd through the President*).—With reference to your reply to question No. 13, can you point out to the Commission any traffic between Bombay and Mangalore, when

Shepherd's steamers exceed three hours from port to port, and is not the average time occupied from port to port much less?

A.—(1) No.
(2) Yes.

15. *Q.*—In regard to what voyages is there a distinction made between fair and foul seasons?

A.—In regard to short voyages only.

16. *Q.*—Do you consider that if there is to be a line dividing short from long voyages, it should be drawn at five days?

A.—I do not think it should be drawn at five days, but at something less.

17. *Q.* (*By Captain Street*).—If so, then at how many days?

A.—At three days, because the liberal rules applicable to short voyages in regard to space, &c., should not be conceded to voyages extending beyond that time.

18. *Q.* (*By Captain Atkinson*).—Can you mention any circumstances which have occurred that would show the five-day limit (which has been in force for the last thirteen years) to be unsuitable or requiring any alteration?

A.—I cannot think of any just now.

19. *Q.*—How many passengers can a steamer carry without coming under the provisions of the Native Passenger Ships Act?

A.—If a steamer carry not more than 60 natives of Asia or Africa, she would not come under the provisions of the Native Passenger Ships Act.

20. *Q.* (*By Captain Street*).—Do you consider that country vessels should carry as many as 30 native passengers without coming under this Act? Would you reduce the number? If so, to what extent?

A.—I would reduce the number somewhat, but not by a great deal, as otherwise it would interfere with the public travelling between two places which do not form the ports of call of steamers. It might be reduced to 20.

21. *Q.* (*By Mr. Shepherd through the President*).—Are you not aware that there are hundreds of native pattiamars plying on the coast carrying passengers so poor that they are unable to afford even the third class fares charged by Shepherd & Company?

A.—Yes I am aware of that.

22. *Q.* (*By Mr. Shepherd through the President*).—Are you not aware that these boats have no decks or platforms for the passengers to sit upon, that their sails are rags, that they carry no lights, and are exempt from all control, because they do not carry more than 30 natives?

A.—Yes, they are without all the things mentioned in the question, except places to sit upon, which is provided, and which is called "Sathi" in the Vernacular.

23. *Q.* (*By Captain Street*).—Have the boats and other country vessels not under the Native Passenger Ships Act to take out any license to ply beyond the limits of a port? If not, are these vessels limited in any way as to the number of passengers each is capable of carrying?

A.—No, they are not limited by anything, except the timidity of the passengers themselves.

24. *Q.*—Are you acquainted with the ordinary conditions of native life amongst the class that form the bulk of the native passengers who travel by sea?

A.—Yes.

25. *Q.*—Are you aware that it is a common practice for natives of India to sleep at night in the open air?

A.—So far as I am aware, it is not a common practice to sleep at night in the open air. In a place like Bombay, where house-rent is heavy, the poorer classes are more or less cramped for room, and on that account, especially in the hot season, they prefer to sleep where they can get more breeze. If there was a verandah, they would prefer to sleep under it, but if there was not one, they would prefer to go under a roof that projected out on the road, rather than sleep right out in the open.

26. *Q.*—Is it not a fact that very well-to-do native merchants are satisfied with the usual deck accommodation?

A.—I cannot say that they are *satisfied* with the usual deck accommodation, but they accept it on the small ferry boats, because it is pleasanter here than in any other part of the ship, and in larger steamers, like the British India Steam Navigation Company's, they prefer it to cabin accommodation from caste prejudices, as they do not care to be close to the dining saloon, the smell from which invariably finds its way into the cabins

27. *Q.*—In your opinion, are the provisions of the Native Passenger Ships Act and the rules made under it in regard to the accommodation to be provided for native passengers on long and short voyages, suitable?

A.—Certain modifications are, I think, called for.

28. *Q.* (*By Sir Henry Morland*).—With reference to your answer to question No. 27, what modifications of the Act would you suggest?

A.—(1) There should be some police arrangement.
(2) Water should be provided for all, and in charge of a Brahmin.

29. *Q.* (*By Mr. Shepherd through the President*).—Is it not possible that the stationing of police sepoys on board steamer might lead to great oppression?

A.—I don't see how.

30. *Q.*—Do you think that a passenger on a voyage lasting 10 or 12 hours requires as much room as one on a voyage lasting five days?

A.—Yes, he requires nearly as much, even if not quite as much.

31. *Q.*—Do you think that native passengers can do with less space than Europeans?

A.—Yes.

32. *Q.*—What proportion do you consider that the space allotted to natives should bear to the space allotted to Europeans?

A.—I think Europeans would require half as much room again as natives.

33. *Q.*—Assuming that this proportion is adopted, would it, in your opinion, affect the health, comfort, and safety of native passengers in any way?

A.—It would not affect their safety, nor would it affect their comfort and health if the space now assigned to them were not materially curtailed.

34. *Q.*—Do you think that on a voyage, which may extend to five days, there should be separate accommodation for female passengers?

A.—I do not think separate accommodation is necessary.

35. *Q.*—Are any special fittings required under the Native Passenger Ships Act on the passenger decks for the reception of the bundles, boxes and other articles usually carried by native passengers? If so, state what you would recommend.

A.—I do not think special fittings are required.

36. *Q.*—Is it necessary for the comfort or safety of the passengers that provision should be made for the accommodation of luggage not stored in the hold?

A.—I think not.

37. *Q.*—If such accommodation were provided, would it be used? Will native passengers allow their luggage to be parted from them under any circumstances?

A.—They would prefer not to part with their luggage.

38. *Q.*—Do you think that on a voyage, which may extend to five days, sleeping platforms should be provided for the passengers?

A.—I do not think such platforms necessary; they would, if provided, be in fact objectionable.

39. *Q.*—Do you think that the natives of India require as much space in boats as Europeans?

A.—In boats I think as much room would be required by the one as by the other.

40. *Q.*—Being acquainted with the class of natives who form the bulk of those who travel by sea, do you consider they require better accommodation for their health and comfort than native troops?

A.—I think so.

41. *Q.* (*By Mr. Shepherd through the President*).—As a rule, have you not always found the masters of Shepherd's steamers kind and attentive to their passengers?

A.—This is more than I can say.

42. *Q.* (*By Mr. Shepherd through the President*).—Have you ever received complaints that the masters of Shepherd's steamers refuse to listen to complaints from passengers?

A.—Not official or written ones, but I have received verbal ones.

Evidence of Mr. DHARSI UDHAWJEE.

Witness stated that he travels two or three times a year on the Kathiawar coast; some months ago he went in the S. S. *Arabia* and came back by train. Ten days ago he went in the *Aska* and came back in the *Neera*. He prefers the British India because they let down the ladders, and make arrangements for landing, and because they are larger steamers. There is no inconvenience in any of the steamers. In the *Aska* there was heavy weather. He slept on the poop; there was no trouble. There were about 300 people; there was no crowding. The decks were cleaned as soon as fouled. In the *Neera* about 200; no inconvenience. He had to climb on board by a rope ladder. He did not see how the women were put on board. He had a first class ticket, and did not see the third class latrines. Passengers take very varying amounts of baggage. Two or three or four maunds or 28lbs. each; a third class passenger should have 140lbs. of free luggage. He has not seen any animals carried, nor has he seen passengers injured by rolling of ship or by getting into the boats. All steamers, both British India and Messrs. Shepherds, have Brahmin cooks, who prepare sweetmeats and vegetables. It would be a great convenience if this man had the issue of the water. Hindus and Mahomedans should be separate.

He has nothing more to suggest.

Evidence of Mr. ABU DIN SHIRAZI.

1. *Q.*—Will you please inform the Commission of the nature of your present occupation?

A.—Managing Agent for the Bombay and Persia Steam Navigation Company, Limited, and a large shareholder.

2. *Q.*—What qualifications or experience do you possess in regard to the subjects under enquiry?

A.—I have been in the trade from 1870, and my father before me in the shipping business.

3. *Q.*—Do you take any part, either directly or indirectly, in the administration or observance of any of the provisions of the Native Passenger Ships Act, 1887?

A.—Most decidedly I do.

4. *Q.* (*By Captain Street*).—In what way do you take part in the administration of the Native Passenger Ships Act?

A.—My ships take passengers from Bombay to the Red Sea and the Persian Gulf, and sometimes to the Mauritius.

5. *Q.*—How does an Indian Home trade voyage compare with an English Home trade voyage?

A.—No comparison.

6. *Q.*—In regard to what voyages is there a distinction made between fair and foul seasons?

A.—Short voyages.

7. *Q.*—Do you consider that if there is to be a line dividing short from long voyages, it should be drawn at five days?

A.—No; I consider it right to be drawn at eight days.

8. *Q.* (*By Captain Street*).—Will you explain why you consider that the line should be drawn at eight days?

A.—I think that five days is too short, and as the vessel is coasting and seldom out of communication with the telegraph, eight days is sufficient. I have no experience of the Bay of Bengal traffic.

9. *Q.* (*By Captain Atkinson*).—Have you travelled on a short voyage; and if so, did you or your people experience any inconvenience or injury in consequence of the duration of the voyage?

A.—I have travelled in my own ships, and about twice by a British India Steam Navigation Company's steamer from here to the Persian Gulf, and have been very comfortable, and know of no complaints. I travelled first class myself, and my servants went as deck passengers.

10. *Q.*—Do you think that the five-day limit puts an Indian short voyage on a footing similar to an English Home trade voyage?

A.—Certainly not.

11. *Q.*—Are you of opinion that the conditions justify a distinction being made between fair and foul weather in the case of voyages which may extend to five days?

A.—It entirely depends upon the steamer or vessel carrying the passengers.

12. *Q.*—Are you of opinion that the seasons of fine weather defined in the rules are judiciously chosen with reference to the prevailing conditions?

A.—I think they might be revised.

13. *Q.*—If not, what alterations would you suggest?

A.—As telegraphic communication is established all over the coast, and the break of the monsoon or

foul season is known within a few hours; I think the rule might be revised, or discretion given to the Port Officer to alter the date, according to the weather or bursting of the monsoon.

14. *Q.*—In your opinion, do the conditions justify passengers being carried across the Bay at any season on decks, such as are commonly called hurricane-decks, which are not protected from the weather except by overhead awnings, side-screens and curtains, assuming that no accommodation is reserved for these passengers on the lower decks, which are crowded with other passengers?

A.—My experience at present does not extend to the Bay of Bengal.

15. *Q.*—Are you acquainted with the ordinary conditions of native life amongst the class that form the bulk of the native passengers who travel by sea?

A.—Yes.

16. *Q.*—Are you aware that it is a common practice for natives of India to sleep at night in the open air?

A.—It is a common practice not only amongst natives, but also amongst foreigners to do so.

17. *Q.* (*By Mr. Shepherd through the President*).—Have you ever travelled by Shepherd's steamers on the Konkan Coast?

A.—No.

18. *Q.*—Is it within your knowledge that 1st class passengers travelling about the Bay of Bengal and coasts of India as a rule prefer to sleep on deck under the same conditions as to awnings and curtains as the 3rd class native passengers?

A.—Yes.

19. *Q.*—Have you had any personal experience of the weather round the coast of the United Kingdom and in the Bay of Bengal and on the coasts of India?

A.—Yes, I have in the United Kingdom and the Arabian Sea.

20. *Q.*—Do you consider that there is such similarity as to warrant a comparison between the weather experienced on the coast of the United Kingdom or between the rivers Elbe and Brest (English Home trade voyage) and that experienced in the Bay of Bengal and coasts of India?

A.—Certainly not.

21. *Q.*—Do you think the ordinary native deck passenger would be prepared to pay more than at present for better accommodation?

A.—Certainly not, but would be satisfied with the worst accommodation, provided a reduction were made in the passage-money.

22. *Q.*—Is it not a fact that very well-to-do native merchants are satisfied with the usual deck accommodation?

A.—They are satisfied.

23. *Q.*—What class of people travel as deck-passengers in the United Kingdom on vessels which frequently carry their full complement?

A.—Sailors and soldiers only are allowed.

24. *Q.*—Have you any special suggestions to make in regard to voyages similar to those classed as excursions by the Board of Trade, that is, voyages during which a vessel is not more than 10 or 12 hours at sea?

A.—None at all.

25. *Q.*—How is the number of passengers which a vessel is capable of carrying calculated in each case?

A.—By measurement.

26. *Q.*—Is allowance made in Board of Trade rules for height of 'tween decks? In fact, do not Board of Trade Surveyors, when berths are not fitted for 3rd class passengers, calculate the number that may be carried, on the basis of a cubic measurement of 72 cubic feet per statute adult, after deducting all hatches and encumbrances?

A.—Yes.

27. *Q.*—If so, would you consider it proper to allow for height of 'tween deck as an element in the health and comfort of 3rd class native passengers?

A.—Decidedly.

28. *Q.*—What is the maximum height of 'tween deck in your steamers carrying native passengers? What is the average height?

A.—In my own steamers they are 8 feet and 7 feet.

29. *Q.*—Are you aware that there was an old rule in India which allowed ships to carry 3 passengers for 2 tons?

A.—I know there was a rule to that effect.

30. *Q.*—Are any spaces deducted so as to admit of the officers and crew moving fore and aft the vessel with facility, and their getting with ease at the boats and boats' gear? If not, have you any recommendations to make on this head?

A.—It entirely depends upon the ship.

31. *Q.*—Are not these alleyways additional shelter and, therefore, desirable for passengers?

A.—Yes, they are.

32. *Q.*—For ships with large water-ways in the 'tween decks extending inside the battens on the ship's side, is the deck measurement made to the inside edge of the water-ways or to the battens? Which would you recommend?

A.—It certainly ought to be measured from the battens.

33. *Q.*—In your opinion, are the provisions of the Native Passenger Ships Act and the rules made under it in regard to the accommodation to be provided for native passengers on long and short voyages, suitable?

A.—Yes, they are.

34. *Q.*—Do you think that a passenger on a voyage lasting 10 or 12 hours during daylight requires as much room as one on a voyage lasting five days?

A.—Yes, he requires just as much room.

35. *Q.*—Do you think that native passengers can do with less space than Europeans?

A.—Yes, they can.

36. *Q.*—What proportion do you consider that the space allotted to natives should bear to the space allotted to Europeans?

A.—In the proportion of 5 to 4.

37. *Q.*—Assuming that this proportion is adopted, would it, in your opinion, affect the health, comfort, and safety of native passengers in any way?

A.—It would not.

38. *Q.*—Do you consider that on a voyage, which may extend to five days, native passengers can be accommodated in the 'tween decks of a steamer at the rate of one passenger to each 6 square feet of area, with 4 square feet of airing space on the upper deck, without prejudicing their health and safety?

A.—Yes.

39. *Q.* (*By Captain Street*).—Do you state this from personal experience? Have you ever seen native people placed in an area giving to each adult 6 square feet?

A.—I have seen passengers put into my steamers according to the space allowed, and they appeared satisfied.

40. *Q.* (*By Captain Street*).—Do you know whether, as a rule, your vessels when leaving Bombay, have their full complement of native passengers on board as allowed by Certificate A?

A.—Sometimes. About three or four times my ships have been booked full, but I have never been on board at the time.

41. *Q.* (*By Captain Atkinson*).—Would the passengers travelling in your steamers under present rules complain if they were uncomfortably closely packed, or had any other grievance?

A.—Yes, we do get complaints about water closets, &c., and the passengers have quarrels about the positions they like to occupy.

42. *Q.* (*By Captain Street*).—Is not the want of complaints about insufficiency of space due mainly to the fact that your vessels are not always full, and that the passengers have therefore ample room?

A.—My ships are not always full. It may be that they have sufficiency of space on this account.

43. *Q.*—Do you think it necessary for the health and safety of the passengers that there should be on a voyage, which may extend to five days, permanent shelter for each passenger either 'tween decks or in cabins on the upper deck?

A.—No, it is not necessary in this climate.

44. *Q.*—Do you think that on a voyage, which may extend to five days, there should be separate accommodation for female passengers?

A.—No, why separate them.

45. *Q.*—Are you acquainted with the design of the steamers of the *Kistna* class?

A.—No.

46. *Q.*—During the inclement weather, do you consider that the upper-deck passengers are sufficiently protected by canvas awnings? If not, what would you recommend?

A.—Yes, they are, and much better for them.

47. *Q.*—Do you consider that sufficient protection from the sea is afforded to upper-deck passengers by the "reasonably stout screen" which, under existing rules (*see* Government of India letter No. 430, dated 27th August 1878) is held as coming within the definition of a substantial bulwark? If not, state what you would recommend in lieu.

A.—Yes.

48. *Q.*—Are any special fittings required under the Native Passenger Ships Act on the passenger decks for the reception of the bundles, boxes, and other articles usually carried by native passengers? If so, state what you would recommend.

A.—No.

49. *Q.*—If such accommodation were provided, would it be used? Will native passengers allow their luggage to be parted from them under any circumstances?

A.—No, certainly not.

50. *Q.*—Do you think that on a voyage, which may extend to five days, sleeping platforms should be provided for the passengers?

A.—Absurd.

51. *Q.*—What closet accommodation on native passenger vessels do you recommend?

A.—I recommend two seats per hundred for both pilgrim and short voyages.

52. *Q.*—Do you think the existing rules in regard to hospital accommodation are suitable?

A.—Yes, I do.

53. *Q.*—Do you consider that cargo, horses, cattle, sheep and live-stock should be carried on the same deck with passengers? If so, is any fitting necessary to prevent the passengers from being inconvenienced by the urine and dung of the horses, cattle and sheep; and if any such fitting is requisite, state what you would recommend?

A.—Yes, as long as a passage is left fore and aft for the free passage of passengers and crew. This entirely depends upon the beam of the steamer.

54. *Q.* (*By Captain Street*).—Do you not consider that a free passage fore and aft is also required when passengers only are carried in order to allow the passengers in the after part of the vessel to get to the latrines in the fore part?

A.—The passengers can manage with a little difficulty to get access to the deck.

55. *Q.* (*By Captain Street*).—How many steamers have you working under the Native Passenger Ships Act, and is each vessel classed at Lloyds as foreign-going ocean steamer?

A.—I have six steamers, *viz.*:—

	Gross tonnage.
Calder	1,600
King Arthur	1,500
Mobile	1,500
Sculptor	1,500
Henry Blocklow	1,188
Hussain	1,600

and we are building another, and they are all classed as foreign-going ocean steamers. They are officered and commanded by Europeans.

56. *Q.*—In vessels which, under existing rules, are permitted to carry horses, cattle and sheep with native passengers, are sufficient precautions adopted to prevent the hay and straw provided for the use of such animals from catching fire either from a spark from the ship's funnel or lighted matches? If not, state what extra precautions you would recommend.

A.—Yes, precautions are taken.

57. *Q.*—Will you explain to the Commission what rules are in force in India on the subject of life-saving appliances?

A.—Life-buoys and life-belts.

58. *Q.*—Do you think that the natives of India require as much space in boats as Europeans?

A.—Yes, they do.

59. *Q.*—Would you adopt the Board of Trade regulations in regard to life-buoys and life-belts?

A.—Yes.

60. *Q.*—In your experience, do the Surveyors at all ports in India make their surveys on the same lines?

A.—Don't know.

61. *Q.*—Do you think it necessary that there should be a set of definite instructions as to the survey of passenger accommodation and crew space similar, so far as may be, to those issued by the Board of Trade?

A.—Certainly.

62. *Q.*—Do you think the existing regulations in regard to the lighting and ventilation of the passenger accommodation suitable?

A.—Yes.

63. *Q.*—Would you make the regulations in regard to the equipments of vessels similar in all respects to those of the Board of Trade?

A.—Yes.

64. *Q.*—After a vessel has been measured for Certificate A, is the Captain supplied with the Surveyor's calculations? If not, do you think it necessary that he should be?

A.—No; he is not, but ought to be.

65. *Q.*—Would it not be advantageous if a copy of all measurements and calculations of passengers pace, as determined on the original measurement, were supplied to the Commander of the vessel?

A.—Yes, decidedly.

66. *Q.*—If so, would you recommend that the calculations should show clearly the names of the various obstructions which have been deducted

from the gross area, their dimensions, and the proportional area deducted?

A.—Yes.

67. *Q.* (*By Captain Street*).—When a vessel has been measured throughout for 3rd class passengers, should any portion of the vessel be set apart or railed off for such passengers as may desire to have more space than is given to a 3rd class passenger?

A.—No.

68. *Q.*—Do you consider a double awning overhead with side-curtains and bulwark screens, as required by the Native Passenger Act, equal to the ordinary tent in which troops are accommodated?

A.—Better by a long way.

69. *Q.*—Do you know that 6 superficial feet on the upper deck under double awnings and curtains is considered sufficient accommodation for native troops making voyages under five days' duration?

A.—Don't know.

70. *Q.*—Being aquainted with the class of natives who form the bulk of those who travel by sea, do you consider they require better accommodation for their health and comfort than native troops?

A.—No, certainly not.

71. *Q.*—Will you furnish the Commission with your opinion as to the sufficiency or otherwise of the space allowed by the Act and rules generally?

A.—I am of opinion that the space allowed is ample, and that any alteration in the rules would be a hardship to many poor, but deserving, people who do not mind a little inconvenience when they can periodically visit their homes or visit a holy shrine for the purpose of receiving religious consolation.

72. *Q.*—Do you consider that native passenger ships should carry a medical officer? If this were made compulsory, would you make any difference for the numbers carried or for the duration of the voyage?

A.—Yes, on long voyages and a large number of passengers.

73. *Q.*—What grade of medical officer would you consider best suited for these vessels?

A.—An experienced apothecary.

74. *Q.*—Give any instances which have come to your knowledge in which a medical officer would have been of service on board a native passenger vessel.

A.—I cannot give any.

75. *Q.* (*By Mr. Shepherd through the President*).—Is it not a fact that Hindu passengers do not cook on boardship, but carry only grain ready cooked?

A.—Yes, most of them.

Evidence of MR. *JAMSETJEE DHUNJEEBHOY WADIA.*

1. *Q.*—Will you please inform the Commission of the nature of your present occupation?

A.—My present occupation is that of Shipwright Surevyor to the Port.

2. *Q.*—What qualifications or experience do you possess in regard to the subjects under enquiry?

A.—I have been serving in different grades in Naval Architecture from the year 1844 to the end of 1884. I have been Master Builder of Her Majesty's Dockyard from the year 1866 to the end of 1884. I have been Shipwright Surveyor to the Port in addition to these duties from 1866 up to date under the Steam Survey Acts, II of 1864, IV of 1873, and VII of 1884.

3. *Q.*—Do you take any part, either directly or indirectly, in the administration or observance of any of the provisions of the Native Passenger Ships Act, 1887?

A.—Yes, indirectly, as the vessels which carry passengers under the Act quoted are surveyed under the Indian Steam Ships Act, VII of 1884.

4. *Q.*—Into what classes do the Board of Trade divide sea-going vessels for the purpose of determining the number of passengers they are capable of carrying?

A.—Into five classes.

5. *Q.*—How does an Indian Home trade voyage compare with an English Home trade voyage?

A.—They do not compare with each other, as there is no similarity between them.

6. *Q.*—In regard to what voyages is there a distinction made between fair and foul seasons?

A.—Both short and long during the south-west monsoon.

7. *Q.*—Do you consider that if there is to be a line dividing short from long voyages, it should be drawn at five days?

A.—No. I draw the line at three days or 72 hours for short voyages.

8. *Q.* (*By Captain Atkinson*).—Why do you fix on three days as the limit of a short voyage? Has not the rule under Native Passenger Ships Act making five days the limit worked satisfactorily?

A.—Because it would be injurious to the health of native passengers to be cooped in, in a space of 6 superficial feet for five days.

9. *Q.* (*By Captain Atkinson*).—Can you quote any instances in which passengers have suffered by remaining on board five days under the usual conditions of short voyages?

A.—There have been, or I have seen in the papers of casualties occurring, but I cannot say at this distant period in which vessels.

10. *Q.*—Do you think that the five-day limit puts an Indian short voyage on a footing similar to an English Home trade voyage?

A.—Yes, as far as I am aware.

11. *Q.*—Are you of opinion that the conditions justify a distinction being made between fair and foul weather in the case of voyages which may extend to five days?

A.—Yes, even if the voyages extend to three days.

11*A*. *Q.*—Will you mention instances of foul weather occurring during the seasons which are by rule declared to be seasons of fair weather?

A.—Cyclones have at times occurred on the Malabar and Kathiawar coasts during fine weather, but at rare and long intervals.

12. *Q.*—Are you acquainted with the ordinary conditions of native life amongst the class that form the bulk of the native passengers who travel by sea?

A.—Yes.

13. *Q.*—Are you aware that it is a common practice for natives of India to sleep at night in the open air?

A.—Yes.

14. *Q.*—Is it within your knowledge that first class passengers travelling about the Bay of Bengal and coasts of India as a rule prefer to sleep

on deck under the same conditions as to awnings and curtains as the third class native passengers?

A.—I am aware of first class passengers on board steamers during the hot weather preferring to sleep under awnings and curtains on deck between this and Alexandria, as well as on an Australian voyage, and so do the third class native passengers on the coast of India, but I cannot say anything as regards those travelling in the Bay of Bengal.

15. *Q.*—Do you consider that there is such similarity as to warrant a comparison between the weather experienced on the coast of the United Kingdom or between the rivers Elbe and Brest (English Home Trade voyage) and that experienced in the Bay of Bengal and coasts of India?

A.—No.

16. *Q.*—Do you consider the conditions of English and Indian passenger traffic to be similar in any other way than that the traffic under discussion is by sea?

A.—I do not consider the conditions of English and Indian passenger traffic to be similar.

17. *Q.*—Do you think the ordinary native passenger would be prepared to pay more for better accommodation?

A.—No. I believe not.

18. *Q.*—Is it not a fact that very well-to-do native merchants are satisfied with the usual deck accommodation?

A.—Yes.

19. *Q.*—Have you any special suggestions to make in regard to voyages similar to those classed as excursions by the Board of Trade, that is, voyages during which a vessel is not more than 10 or 12 hours at sea?

A.—I would suggest 5 superficial feet be allowed to passengers on such vessels.

20. *Q.*—Would you consider it proper to allow for height of 'tween deck as an element in the health and comfort of third class native passengers?

A.—In every case I would consider it proper to select a ship with high 'tween decks for the health and comfort of not only third class but deck passengers also.

21. *Q.* (*By Captain Street*).—In selecting a ship for carrying 3rd class passengers to ports north of Bombay, would you take the steamers which are employed by Messrs. Shepherd & Company for carrying passengers to the southern ports—I mean vessels like the *Rajapuri*, for instance?

A.—No.

22. *Q.* (*By Mr. Shepherd through the President*).—Is it not within your knowledge that Messrs. Shepherd & Company do not employ steamers of the *Rajapuri* class on the Kathiawar trade?

A.—Yes, but the *Neera, Beehma,* and *Kristna* go to the Kathiawar coast.

23. *Q.*—Do you know the height of the 'tween decks in the British India steamers?

A.—Yes, all the British India new ships have lofty 'tween decks.

24. *Q.*—What is the maximum height of 'tween deck in these steamers carrying native passengers? What is the average height?

A.—From 6 feet 6 to about 8 feet between deck and beam.

25. *Q.*—Are you aware that there was an old rule in India which allowed ships to carry two passengers for three tons?

A.—Yes, I remember there was such a rule, but it has been obsolete a long time since.

26. *Q.*—Is the Board of Trade rule under which the number of passengers carried must not, whatever the deck measurements may give, exceed the number denoting the gross tonnage of the vessel, enforced in India?

A.—No, not to my knowledge.

27. *Q.*—What would be the effect if, assuming all other existing Indian rules to remain intact, this rule were enforced?

A.—If the rule is enforced, it would entail loss and be disastrous to the ship-owners of small steamers, because the steamers will carry a considerably less number of passengers.

28. *Q.*—What spaces are left unmeasured for passengers when a vessel is being measured for Certificate A?

A.—Hatchways, stanchions, ventilating trunks, ventilators and all other incumbrances.

29. *Q.*—How are the hatches treated when a vessel is being so measured, *i.e.*, is the whole space of a hatch deducted or not? Is any difference made on account of long and short voyages?

A.—If the hatches are too long, the half of it is measured and the remainder covered in with planks and caulked.

30. *Q.* (*By Captain Street*).—On what line or lines are the ships employed in which hatches are treated in the way you have stated?

A.—I referred to the hired transports.

31. *Q.* (*By Dr. Comins*).—What is the origin of the rule requiring a hatch to be 120 superficial feet, if it is to be measured as deck area for passengers?

A.—Because the packages were large enough to be lowered or taken out of the hold in former days, but the hatches were never measured for passengers.

32. *Q.*—Are the spaces which would be required for the deck water-tank, latrines, and cooking ranges, necessary for use of native passengers, deducted from the passenger space, even if such articles are not in position at the time a vessel is being measured?

A.—Yes, all the above spaces are deducted.

33. *Q.*—Are any spaces deducted so as to admit of the officers and crew moving fore and aft the vessel with facility, and their getting with ease at the boats and boats' gear? If not, have you any recommendations to make on this head?

A.—I believe the spaces are deducted so as to allow the officers and crew to work the ship with facility.

34. *Q.*—Should alley-ways, used as a means of communication by the crew, be considered as deck area for passengers, *i.e.*, the narrow passages between the officers' cabins and the engine-room-casing? If so, would it not be advisable to give a minimum breadth before allowing the area to count for passengers?

A.—I should say that the alley-ways, if not too narrow, should be measured for passengers.

35. *Q.* (*By Captain Street*).—What is the width of an alley-way which should, in your opinion, prevent it from being measured for passengers?

A.—Six feet.

36. *Q.* (*By Captain Street*).—Have you ever calculated what would be the effect if this proposal were carried out, and no airing space on upper deck allowed? Would you be surprised to learn that it would largely increase the number of passengers?

A.—The upper deck for airing space should not be cut off, but a uniform rate of 7 superficial feet on all decks.

37. *Q.*—Are not these alley-ways additional shelter and, therefore, desirable for passengers?

A.—Yes, they are.

38. *Q.*—For ships with large water-ways in the 'tween decks extending inside the battens on the ship's side, is the deck measurement made to the inside edge of the water-ways or to the battens? Which would you recommend?

A.—To the battens.

39. *Q.*—Should the spaces set apart for the boats on the deck of the bridge be utilized for passengers when the boats are carried at the davits? If so, state whether during both fair and foul seasons, or only during the fair season?

A.—I should say that the spaces ought to be measured for passengers in fair weather.

40. *Q.*—In your opinion, are the provisions of the Native Passenger Ships Act and the rules made under it in regard to the accommodation to be provided for native passengers on long and short voyages, suitable?

A.—No.

41. *Q.*—Do you think that a passenger on a voyage lasting 10 or 12 hours requires as much room as one on a voyage lasting five days?

A.—No.

42. *Q.*—Do you think that native passengers can do with less space than Europeans?

A.—Yes.

43. *Q.*—What proportion do you consider that the space allotted to natives should bear to the space allotted to Europeans?

A.—Twenty-five per cent. more for Europeans than for natives.

44. *Q.*—Assuming that this proportion is adopted, would it, in your opinion, affect the health, comfort, and safety of native passengers in any way?

A.—No, the natives can bear the heat more than Europeans.

45. *Q.*—Do you consider that on a voyage, which may extend to five days, native passengers can be accommodated in the 'tween decks of a steamer at the rate of one passenger to each 6 square feet of area, with 4 square feet of airing space on the upper deck without prejudicing their health and safety?

A.—No, I would prefer a uniform rate of 7 superficial feet per passenger on all decks for short voyages.

46. *Q.*—Do you think it necessary for the health and safety of the passengers that there should be on a voyage, which may extend to five days, permanent shelter for each passenger either 'tween decks or in cabins on the upper deck?

A.—Yes, in the foul, but not in fine weather.

47. *Q.*—Do you think that on a voyage, which may extend to five days, there should be separate accommodation for female passengers?

A.—Not as a rule, the natives prefer being near their wives and children.

48. *Q.*—Do you know of any steamers which carry native passengers on two upper decks?

A.—Yes, many; if the upper deck is either a hurricane deck or an awning deck.

49. *Q.*—Do you consider, from the wording of the Native Passenger Ships Act and your experience of this question, that the Legislature, when it passed the Act, contemplated the existence of vessels with more than one upper deck?

A.—I am not in a position to answer this question, not knowing the views of the legislators at the time, but the awning or shade-deck vessels were running on this coast at the time as per accompanying list—

Savitri	1881
Shastri	1884
Kalinadi	1884
Shiravati	1884
Godavari	1884
Zuari	1886
Rajapuri	1887

and some of the British India awning-deck steamers.

50. *Q.*—Are you acquainted with the design of the steamers of the *Kistna* class?

A.—Yes.

51. *Q.*—What is the distinguishing feature of these steamers?

A.—From what I have seen of the sister ships of the *Kistna* class, the distinguishing feature is that they have an awning deck with shutters on the sides under the awning deck to open and close on the main deck, which is a clear deck, barring the engine and boiler-room bulkheads.

52. *Q.*—In your opinion, are the middle passenger decks of these steamers 'tween-decks or upper-decks, within the meaning and intention of the Native Passenger Ships Act? Give your reasons for this opinion.

A.—Yes, I believe so.

53. *Q.*—Are the passengers on these middle decks as well protected in rough weather as the passengers on the lowermost of the three passenger decks?

A.—Yes.

54. *Q.*—Are these passengers on the middle deck not better protected than on ordinary upper decks?

A.—Yes.

55. *Q.*—During the inclement weather, do you consider that the upper-deck passengers are sufficiently protected by canvas awnings? If not, what would you recommend?

A.—I would recommend that the bulwarks be railed and fitted with wire nettings; painted canvas to be fitted right round it, and curtains from the awning deck to be railed round the ship's side to prevent the spray of the sea coming on board.

56. *Q.*—Do you consider that sufficient protection from the sea is afforded to upper-deck passengers by the "reasonably stout screen" which, under existing rules (*see* Government of India letter No. 430, dated 27th August 1878) is held as coming within the definition of a substantial bulwark? If not, state what you would recommend in lieu.

A.—Yes, but in case of very severe weather I would take the passengers down below for the time being.

57. *Q.*—What is the height of the middle deck above the load-line?

A.—It varies in different classes of vessels.

58. *Q.*—In rough weather, would any water get on to the upper deck through the scuppers and shutters? If so, could this be prevented.

A.—I would caulk the shutters after closing them tightly, and bung up the scuppers the best way I could.

59. *Q.*—Under existing rules, are the arrangements to prevent injury to passengers by the rolling of the ship sufficient for the purpose?

A.—No, not in stormy weather.

60. *Q.*—How could you provide this protection?

A.—I would have a fore and aft bulkhead about 2 to 3 feet high in the middle of it to prevent passengers from rolling from one side to the other.

61. *Q.*—Are any special fittings required under the Native Passenger Ships Act on the passenger decks for the reception of the bundles, boxes, and other articles usually carried by native passengers? If so, state what you would recommend?

A.—Yes, a baggage-room should be provided, and all heavy baggage stored therein.

62. *Q.*—Is it necessary for the comfort or safety of the passengers that provision should be made for the accommodation of luggage not stored in the hold?

A.—Yes.

63. *Q.*—If it is necessary, what would you provide?

A.—See answer to question 60.

64. *Q.*—If such accommodation were provided, would it be used? Will native passengers allow their luggage to be parted from them under any circumstances?

A.—I know, as a rule, that native passengers of the poor class are very reluctant to part with their luggage, it being their all.

65. *Q.*—Do you think that on a voyage, which may extend to five days, sleeping platforms should be provided for the passengers?

A.—No, natives do not like sleeping on platforms, but prefer the deck.

66. *Q.*—What closet accommodation do the rules require on native passenger vessels?

A.—Two water closets for 100 men and an additional one for every 100 men.

67. *Q.*—What accommodation of the kind is provided for emigrants?

A.—Probably the same as under the Native Passenger Ships Act.

68. *Q.*—And what accommodation do the Board of Trade rules require?

A.—Three for every 200 deck passengers allowed by the passenger certificate, and a fair proportion for women and children.

69. *Q.*—Which scale do you consider the most suitable?

A.—The Marine Transport Regulations.

70. *Q.*—Do you think the existing rules in regard to hospital accommodation are suitable?

A.—Yes.

71. *Q.*—Do you consider that cargo, horses, cattle, sheep, and live-stock should be carried on the same deck with passengers? If so, is any fitting necessary to prevent the passengers from being inconvenienced by the urine and dung of the horses, cattle, and sheep; and if any such fitting is requisite, state what you would recommend?

A.—No, cattle should not be put on the same deck with passengers; but if it is found absolutely necessary, a bulkhead should be erected between the two.

72. *Q.*—In vessels which, under existing rules, are permitted to carry horses, cattle, and sheep with native passengers, are sufficient precautions adopted to prevent the hay and straw provided for the use of such animals from catching fire either from a spark from the ship's funnel or lighted matches? If not, state what extra precautions you would recommend.

A.—Yes, I believe so; I would also suggest that no naked light should be allowed where the hay and straw provided for the use of the animals are kept, but lights and lanterns with lock and key or police deck-lanterns should be carried on this part of the deck.

73. *Q.*—Will you explain to the Commission what rules are in force in India on the subject of life-saving appliances?

A.—The rules laid down by the Board of Trade on the subject of life-saving appliances, which I shall personally explain.

74. *Q.*—Do the new regulations of the Board of Trade, made under the Merchant Shipping (Life-saving Appliances) Act, 1888, apply to India?

A.—They do not as yet, but will be brought into force, as far as I can see, in India in a short time.

75. *Q.*—What, in your opinion, is the subject of these revised regulations?

A.—The object of these revised regulations is to have on board life-saving appliances for every passenger on board, as well as the officers and crew carried by each vessel.

76. *Q.*—Do the revised regulations require more appliances than were necessary under the old rules, and why was the change found necessary?

A.—Yes, they do; the change was found necessary by the Board of Trade after mature consideration to save life in case of accident.

77. *Q.*—Are the revised regulations suitable, in your opinion, for vessels engaged in the native passenger trade?

A.—Yes, in my opinion they are.

78. *Q.*—In your opinion is there no difference of conditions which would justify a difference in the regulations on this subject?

A.—Yes, increased appliances should be provided.

79. *Q.*—Do you think that the natives of India require as much space in boats as Europeans?

A.—No.

80. *Q.*—Would you adopt the Board of Trade regulations in regard to life-buoys and life-belts?

A.—Yes.

81. *Q.*—In your experience do the Surveyors at all ports in India make their suveys on the same lines?

A.—I believe so, as the Act is the same all over India.

82. *Q.*—Do you think it necessary that there should be a set of definite instructions as to the survey of passenger accommodation and crew space similar, so far as may be, to those issued by the Board of Trade?

A.—Yes.

83. *Q.*—Do you think the existing regulations in regard to the lighting and ventilation of the passenger accommodation suitable?

A.—Yes.

84. *Q.*—Would you make the regulations in regard to the equipments of vessels similar in all respects to those of the Board of Trade?

A.—Yes; certainly.

85. *Q.*—In your opinion, are the provisions of the Emigration Act and the rules made under it in regard to the accommodation to be provided for native emigrants suitable?

A.—Yes.

86. *Q.*—After a vessel has been measured for Certificate A, is the Captain supplied with the Surveyor's calculations? If not, do you think it necessary that he should be?

A.—I believe it is not supplied, nor do I think it necessary that it should be.

87. *Q.*—Would it not be advantageous if a copy of all measurements and calculations of passenger space, as determined on the original measurement, were supplied to the Commander of the vessel?

A.—I see no advantage in doing so.

88. *Q.*—If so, would you recommend that the calculations should show clearly the names of the various obstructions which have been deducted from the gross area, their dimensions, and the proportional area deducted?

A.—No.

89. *Q.*—In the case of voyages the duration of which does not exceed five days, what distinction is made between seasons of fair and foul weather?

A.—The same reply as to question 11.

90. *Q.*—Do you consider a double awning overhead with side-curtains and bulwark screens, as

required by the Native Passenger Ships Act, equal to the ordinary tent in which troops are accommodated?

A.—Yes.

91. *Q.*—Do you know that 6 superficial feet on the upper deck under double-awnings and curtains is considered sufficient accommodation for native troops making voyages under five days' duration?

A.—Yes.

92. *Q.*—Being acquainted with the class of natives who form the bulk of those who travel by sea, do you consider they require better accommodation for their health and comfort than native troops?

A.—Yes.

93. *Q.*—How do you account for the differences between the English and the Indian rules, and between the Indian rules for emigrants and those for ordinary passengers?

A.—By the difference of climate and weather prevailing between English and Indian waters.

94. *Q.*—Will you furnish the Commission with your opinion as to the sufficiency or otherwise of the space allowed by the Act and rules generally?

A.—The same answer as to question No. 7.

95. *Q.*—Do you consider that native passenger ships should carry a medical officer? If this were made compulsory, would you make any differrence for the numbers carried or for the duration of the voyage?

A.—Yes, only in long voyages, when a vessel carries over 100 passengers.

96. *Q.*—What grade of medical officer would you consider best suited for these vessels?

A.—Licenciate of Medicine and Surgery of the University.

97. *Q.*—Give any instances which have come to your knowledge in which a medical officer would have been of service on board a native passenger vessel?

A.—I am aware that in several instances Commanders of vessels have been prosecuted for not carrying a medical officer when they had over 150 passengers on board, but I cannot remember the names of the vessels at this distance of time.

98. *Q.* (*By Mr. Shepherd through the President*).—Is it not a fact that you have surveyed Shepherd's steamers for the long period of 25 years, and have you not always found them kept in good order and condition?

A.—Yes, I have found them kept in good order and condition.

99. *Q.* (*By Sir Henry Morland*).—Have any of Messrs. Shepherd & Company's steamers been altered since they arrived from England? Which ships, and what alterations have been made?

A.—The *Kristna* and *Bheema*; their upper decks were raised 3 feet, and then an *awning* or *shade* deck was raised, which made the vessel's top heavy and a large portion had to be taken down.

100. *Q.* (*By Sir Henry Morland*).—Are the steamers of the *Rajapuri* class built to an equal specification of strength as is required to class them at Lloyd's? Have you ever made any comparison?

A.—No, they are a shade lighter, I have made no comparison, but I would recommend bilge keels to be fitted to this class of vessels, as the new class of British India steamers.

101. *Q.* (*By Mr. Shepherd through the President*).—With reference to your statement that the *Vaitarna* was built lighter than required by Lloyd's register, Mr. Shepherd shows you letter from Lloyds' registry, stating this steamer is equal to their requirements; in the face of this can you still assert they are below Lloyd's requirements?

A.—Pending the production of the correspondence of the *Vaitarna*, I withdraw.

Proceedings of the Forty-third Meeting of the Native Passenger Ships Commission, held at the Bengal Office, Calcutta, on the 11th February 1891.

Present:

Surgeon-Major A. S. Lethbridge, C.S.I.	*President.*
The Hon'ble Mr. J. L. Mackay, C.I.E.	*Members.*
Captain Sir Henry Morland, H.M.I.M.	
H. B. H. Turner, Esq.	
Captain H. A. Street, H.M.I.M.	
Surgeon-Major D. W. D. Comins, I.M.S.	

1. The Commissions, with the exception of Captain Wilson, who was too unwell to attend, assembled at noon.

2. The proceedings of the forty-second Meeting were approved.

3. Lalla Ram Pandé, Agent of Raí Jai Prokash Lal Bahadoor, Dewan, Raj Dumraon, was called and examined. On the completion of Lalla Ram Pandé's examination, Rameshwar Misser, a cultivator at Dumraon, was called and examined.

4. On the completion of Rameshwar Misser's examination, Ali Bux, a servant of the Maharaja of Dumraon, was called and examined.

5. On the completion of Ali Bux's examination, the Commission adjourned until Saturday, the 14th instant, at 10-30 A.M.

Evidence of LALLA RAM PANDÉ.

I have been three times in a sea-going vessel, once from Dwarkar to Bombay, once from Calcutta to Rangoon, and once from Rangoon to Calcutta. These voyages were made in October, March, and November.

The voyage to Bombay was made in a vessel of which I do not remember the name, the others by vessels of the B. I. S. N. Co. All voyages were made as a third class deck passenger. I preferred on all occasions the upper deck. There were no passengers in the 'tween decks. Both Hindus and Mahomedans would like their women kept in a separate place, if they were able to see them when they liked and look after their comfort. There should be a separate place for Hindus and Mahomedans. A rope or iron bar, or if there was a canvas screen, it would be still better. On my voyage to Rangoon the upper decks were very full. There were also sheep in the lower deck.

The space on the upper deck for passengers was very limited. We did not personally suffer, but others suffered much. In my opinion a deck passenger with his personal luggage, not including heavy boxes, should have 7 feet by 2½ feet equal to 17 feet on a deck. I do not know what is allowed by law, but it is something less. I cannot lie down in 6 feet. The passage-money to Rangoon is now ₹10. The generality of passengers would not like to give more. The hatch is a favourite place for passengers. It is the best place on the deck. There is much inconvenience from insufficiency of latrines, and the passengers crowd there. They are also not kept clean, and the ventilation of the latrines is bad, and there is an offensive smell. If there was a separate place for making water, it would be a very good thing. I have experienced inconvenience, and have seen others put to great inconvenience, because Hindus will not cook in a crowded place with Mahomedans. Certain classes of Hindus will not cook on board at all, not even rice or bread; other classes will cook *poories*, *kachowries*, and sweetmeats.

The practice in Bombay on board the B. I. S. N. Co.'s steamers of having a Hindu cook-shop, where articles of food can be purchased, would be a great comfort, and would be patronised by nearly everyone.

Hindus will take water if drawn from a pipe by another Hindu. If the shop-keepers who provide *poories* also supplied water, everyone would take it; but there is another condition, if the shop-keeper made *poories* with water touched by a lower caste or Mahomedans or Christians, or any other nationality, they would not eat the *poories*. If poor passengers have any complaint or wish to get anything, they go to some European gentleman.

There should not be a special officer to make such representations to the Captain, as it would be too expensive; he should have some other duties as well. Passenger vessels should have a doctor. For the voyage from Calcutta to Rangoon, an experienced native doctor would be sufficient. It would be a good thing if the doctor should be capable of acting as a representative of the third class passengers to the Captain. If there is a Hindu doctor, he would do for all classes, including Christians and Mahomedans. They would not like to pay anything for a doctor. They would like the fare reduced, the cheaper the journey is made the more people would travel. We were much inconvenienced by the odour from the animals kept below. The decks were always kept clean. I have no other suggestion to make, except that the passengers ought to have sufficient room to lie down, space for their cooking, some arrangement for drinking water, and improvement in the latrines. Passengers should sleep with their heads higher than their feet, and there should be a board to keep the decks level. I refer to the permanent slope of the decks, and not to the rolling of the ship.

Evidence of RAMESHWAR MISSER.

I have been a passenger to Chandbally and thence by canal steamer to Cuttack. One journey there and one journey back. I started at 10 A.M., anchored off the mouth of the river that night; about two hours before daylight we weighed anchor. I do not remember how many hours we were at sea, but we arrived at Chandbally at 4 P.M. on the second day. I was on the middle deck. It was very much overcrowded; there was not room to sit down. I do not remember the name of the steamer; it was four years ago. There was great difficulty in the food and water arrangements. What with the dry food, and the salt-water and sea-sickness, Hindus do not eat on such voyages, and hence the discomfort. To Chandbally the fare is R2-1. The space in the latrines is so small and the number so few, that ten men are waiting at a time. There being no room, they are liable to be struck by the feet of the crew in passing. A separate urinal would be an advantage.

I prefer a jetty for embarking and disembarking to having to go off in boats.

There was no wet weather when I was on board. The difficulties passengers encounter are in—

(1) food;
(2) space to sleep in;
(3) latrines;

and nothing else.

Passengers are not badly treated; but if they are fools and stand in the way, they get pushed about.

Evidence of ALI BUX.

I was once a passenger to Mecca from Bombay, about 17 years ago. I went in the steamer *Neera*. There were perhaps 1,200 or 1,400 passengers. It was in the month of January or February. There was no storm, but they shipped a little water. There were some *purda-nashin* women on board; they were in the cabins. I got 5 feet by 1½ to sleep in. There was trouble in living in such a small place. The steamer fare was R20. I would not pay more for more space; I am too poor.

I cooked once a day, and there was great difficulty in getting the food cooked, because there were too many people and too few cooking places. We got our drinking water once a day. The water was good. We got coals; I do not know if we paid for them, as there were many of us, and some arrangement may have been made. We suffered inconvenience from having to wait at the latrines, and the smell was bad. It would be a convenience if a separate urinal were provided. There was no doctor on board. One man died in going, and no one in returning. I never saw any one ill-treated on board. It would be better if heavy baggage were put below.

The difficulties were in these three things—

(1) in going to the latrines;
(2) in space for laying down;
(3) in cooking food;

and if Government will make any improvements on these points, it would be to the advantage of pilgrims.

Proceedings of the Forty-fourth Meeting of the Native Passenger Ships Commission, held at the Bengal Office, at noon, on the 15th February 1891.

Present:

SURGEON-MAJOR A. S. LETHBRIDGE, C.S.I.	*President.*
THE HON'BLE MR. J. L. MACKAY, C.I.E.	*Members.*
CAPTAIN SIR HENRY MORLAND, H.M.I.M.	
CAPTAIN H. A. STREET, H.M.I.M.	
SURGEON-MAJOR D. W. D. COMINS, I.M.S.	

1. The Commission discussed certain points connected with the drawing up of the report, and adjourned at 2 P.M. until the 16th instant at 11 A.M.

Proceedings of the Forty-fifth Meeting of the Native Passenger Ships Commission, held at the Bengal Office, at 11 a.m., on the 16th February 1891.

Present:

SURGEON-MAJOR A. S. LETHBRIDGE, C.S.I.	*President.*
THE HON'BLE MR. J. L. MACKAY, C.I.E.	*Members.*
CAPTAIN SIR HENRY MORLAND, H.M.I.M.	
CAPTAIN H. A. STREET, H.M.I.M.	
SURGEON-MAJOR D. W. D. COMINS, I.M.S.	

1. The Commission discussed certain points connected with the drawing up of the report, and adjourned at 2-45 P.M. until the 26th instant at 2 P.M.

Proceedings of the Forty-sixth Meeting of the Native Passenger Ships Commission held at the Bengal Office, at 2 p.m., on the 26th February 1891.

Present:

SURGEON-MAJOR A. S. LETHBRIDGE, C.S.I.	*President.*
THE HON'BLE MR. J. L. MACKAY, C.I.E.	*Members.*
CAPTAIN SIR HENRY MORLAND, H.M.I.M.	
CAPTAIN H. A. STREET, H.M.I.M.	
W. B. BESTIC, ESQ.	
CAPTAIN GEORGE WILSON, H.M.I.M.	
SURGEON-MAJOR D. W. D. COMINS, I.M.S.	

1. The proceedings of the forty-fourth and forty-fifth Meetings were approved.

2. The Commission having considered and approved of the report to Government, the Hon'ble Mr. Mackay desired, on behalf of the other members and himself, that the following minute might be appended to the proceedings of the day:—

The Commission, while tendering their sincerest thanks to Dr. Lethbridge for the able manner in which he (as President) has conducted the proceedings of the Commission, desire to place on record their high appreciation of the courtesy, tact and judgment which he has shown in dealing with the various questions brought before the Commission. His great experience and knowledge of the language, manners and customs of the classes of natives concerned has greatly aided them in their enquiry.

The Commission also wish to express their thanks to Captain Street, who so willingly undertook the duties of Secretary.

3. The Commission then adjourned *sine die*.

APPENDIX I.

The Commission assembled on board the Asiatic S. S. *Kohinur*, at 7 A. M., on the 19th December. The prisoners she was about to take to the Andamans had not arrived. The Commission was shown over the vessel by Captain Corkhill, the Marine Superintendent. The 'tween deck accommodation reserved for convicts was found to be excellent. This deck is thoroughly well ventilated by air shafts of large size running up to the poop and upper deck as well as by the usual ventilating tubes with cowlheads. Dr. MacDonald, the Principal Medical Officer of Port Blair, and Mr. H. G. Taylor, Assistant Commissioner in the Andaman Settlement Service, were asked to arrange for a series of experiments on board with the view of advising Government in regard to the space that should be allowed to transportation convicts on the voyage to Port Blair. They were also asked to favour the Commission with their views as to the effect of allowing 6 square feet, 9 square feet, and 12 square feet of space to each individual. Their report will be laid before the Commission when it is received.

2. The Commission then visited the Emigrant ship *Erne*. The 'tween deck and the hospital accommodation in permanent deck-house were examined. The chief points worthy of notice in this vessel are—

(1) The sleeping platforms of a standard pattern adopted by the Emigration Service and required to be fitted in every ship carrying emigrants.
(2) The excellent arrangements for ventilation by large air shafts and the means adopted for diffusing the fresh air through the 'tween deck, without causing a draught which is likely to injure those nearest the ventilator.
(3) The privies on both sides of the ship of which only those on leeward side are used. This prevents these privies from being a nuisance to those on deck.
(4) The separate permanent hospital accommodation for men and women on deck, each patient being provided with a separate raised berth.

3. The Commission then proceeded to the Mauritius Emigration Depôt, and met Mr. Stewart, the Emigration Agent, who had very kindly arranged to have certain experiments in regard to the space occupied by natives carried out in our presence—

(*a*) A shed, 100 feet long and 15 feet wide, was provided for the experiments.
(*b*) Half the length of this shed giving a superficial area of $50 \times 15 = 750$ square feet was first reserved for examination.
(*c*) The natives who were employed in these experiments were provided with a plate, an earthen lota, and a blanket; these they made into a bundle and carried with them.
(*d*) In this space of 750 square feet were first put 125 adult males, giving 6 square feet to each. They were made to stand up, sit down, and finally lie down.
(*e*) The same experiment was repeated with 83 adult males, giving 9 square feet to each man.
(*f*) The experiment was repeated with a 100 male adults, giving $7\frac{1}{2}$ square feet to each.
(*g*) And lastly this experiment was carried out with 107 male adults, giving 7 square feet to each man.

4. For the next experiments a space measuring 50 feet $\times 7\frac{1}{2}$ feet $= 375$ square feet was taken—

(*a*) Into this were placed 94 male adults, giving each man 4 square feet. The men were made to stand up and sit down in this space which represents the present accommodation allowed in steamers making voyages of 35 miles or for 7 hours.
(*b*) In the same area of 375 square feet were placed 125 adult males, giving each man 3 square feet, and the men were made to stand up and sit down in this area. The allowance of 3 square feet has been suggested for river steamers and ferries.

5. The next experiments were made with men, women, and children. In an area measuring $44 \times 15 = 660$ square feet were placed 101 souls. This included 16 children, all of whom were under three years of age. This gave a space of $6\frac{1}{2}$ square feet per soul. Taking the adults only, who numbered 85, the space for each adult was $7\frac{3}{4}$ square feet.

Taking two children as one adult, this space of 660 square feet was occupied by 93 adults at 7 square feet. In these experiments the emigrants were made as usual to stand up, sit down, and were also directed to lie down.

6. The last experiment was made in a space which measured $32 \times 15 = 480$ square feet. In this space 101 persons of both sexes (including 16 children each under three years of age) were desired to stretch themselves out full length if practicable. This gave each soul 4·76 square feet, and if two children were taken as equal to one adult, 5·5 square feet for 93 adults.

APPENDIX II.

The Commission visited the S. S. *Kasara*, which is a sistership to the *Kistna*, at 8 A.M., on the 11th December 1890.

2. The main 'tween deck compartment is measured for 383 native passengers in fair weather, and 202 in foul weather. This compartment is ventilated by four cowlheads, each of them 1 foot in diameter. The companion leading to this deck, which gives an opening of 7 feet 4 inches × 3 feet 6 inches, is an additional ventilation, but this companion opens into a closed-in compartment adjoining the forecastle which is not measured for passengers. The scuttles in this *'tween* deck are on a level with the load line; but supposing this 'tween deck were occupied by passengers and not by cargo, the scuttles would be from 4 feet 6 inches to 5 feet above the water.

3. Half the area of the main hatch on the 'tween deck is measured for passengers. In Madras on the coasting trade, none of the area occupied by hatches is allowed to be measured for passengers. On the direct Burmah steamers the hatches are measured.

4. There is no special provision for passengers' luggage, but the Captain informed the Commission that the passengers usually tie their bundles to the side battens.

5. There is no provision for preventing the passengers being thrown from one side to the other, but the beam of this steamer is not very wide.

6. The *upper deck*, that is the middle deck, is measured for 316 passengers in fair weather. The hatchways, which are the places usually occupied by passengers, are not measured, whereas the alley-ways between the officers' cabins and the engine-room, &c., are measured, but not usually occupied by the passengers. The width of this alley-way is 3 feet 9 inches, so that each passenger would be allowed 1 foot 6 inches in the length of the alley-way.

7. The obstructions caused by the sheep-pens and hen-coops are not excluded, because the passengers occupy the tops of these structures.

8. The shutters were put down. They are not watertight. Sir Henry Morland said the fastenings were hardly the most suitable or the best adapted for the purpose. The Captain informed the Commission that as a rule he has never had to close the whole of the shutters. Some shutters on one side or the other are closed to protect the passengers in bad weather and when there is too much air.

9. The Captain said if the ship is deep in a heavy sea, the water washes up through the scuppers. There is one scupper on each side of a compartment, and there is a sunk waterway with a grating, which removes the water from the deck. The deck is measured for passengers to where a line from the rail plumbs the grating covering the waterway. Sir Henry Morland remarked half ought to be taken.

10. Supposing all the shutters to be closed, this deck is ventilated by the two companions leading to the hurricane-deck, the ventilation afforded by the sky-light in the 2nd class saloon, and the hatchways to the hurricane-deck.

11. On the hurricane-deck, which is protected by double awnings and side screens, can be carried 827 native passengers in the fair weather, and 557 in foul. The Captain informed the Commission that this steamer never ships seas on this deck; that the hatchways, fore and aft, can always be left open at all seasons. It was stated that not being tied to time these steamers are able to lessen their speed when necessary should a heavy sea be experienced.

12. The steamer is drawing 12 feet 6 inches forehead and 13 feet 8 inches aft. She can only load to 16 feet 9 inches. She has up to the present, since she came out in May, never loaded over 14 feet 10 inches.

APPENDIX III.

The Commission, with the exception of Captain Wilson, who was ill, assembled on board the British India Company's steamer *Rasmara* at 8 A.M. on the 9th January.

This steamer is engaged in the trade between Rangoon and Moulmein. The average time occupied between these two places is 8½ hours, of which 4½ to 5 hours are at sea.

2. Her registered tonnage is 307 tons, and she is allowed to carry 1,505 passengers in the fair season and 1,059 in the foul season. The Commander informed the Commission that the frequent running of steamers between Rangoon and Moulmein had so considerably reduced the number of passengers carried, that he never had the steamer full even in the festival season, and that he rarely carried more than an average of about 300. On his last voyage there were only 90 third class passengers.

3. The forward 'tween deck is measured to carry 205 in the fair season and 137 in the foul. The height of this deck is 7 feet 2 inches. As the hatchway leading to the upper deck is measured for passengers, it cannot be utilized for ventilation. There are 18 scuttles of 10″ diameter, but as these are almost certain to be closed at sea they cannot be considered as openings for ventilation. The actual permanent ventilation provided for 205 passengers, therefore, consists of two ventilators, of one foot in diameter each, at the after part of the compartment, one on each side, and one ventilator, 15″ in diameter, near the fore end of the compartment amidships and a companion which opens aft, measuring 3′ 5″ × 2′ 4″ and is occupied by a ladder.

4. The after 'tween deck is measured to accommodate 170 passengers in fair weather, and 113 in foul weather. The height of this deck is 7′ 2″. There are 10 scuttles of 10″ diameter which do not form part of the permanent ventilation. There is also a companion measuring 3′ 6″ × 2′ 4″, which cannot be taken into account, because it opens into a permanently covered-in deck, which may be fully occupied by passengers. The permanent ventilation provided for 170 persons consists of two ventilators of one foot diameter each, and one ventilator, 15″ in diameter, situated as in the fore compartment. The hatchway leading to this deck is also measured for passengers and, therefore, not available for ventilation.

5. The whole forecastle deck is measured to accommodate passengers. The Commission were of opinion that this deck should not be measured, except as hereinafter stated, but should be reserved for the crew which consisted of 56 persons. Captain Atkinson informed the Commission that the Calcutta Surveyor would only have allowed the portion of forecastle abaft the winch to be measured, that is, a space 22′ × 6′ = 132 square feet. The Commission were of opinion that this should be allowed in a steamer making what they consider a typical excursion voyage.

6. The alley-ways, measuring 4′ in width, are also measured for passengers. The passengers in the fore part of the steamer cannot, therefore, go aft to the latrines without passing over the passengers in the alley-way. There are the usual cabins also opening into this alley-way. The doors of the cabins cannot be opened and shut without causing the greatest inconvenience and discomfort to the passengers. It was noticed that this steamer, unlike most of the others, has its hatchways as well as its alley-ways measured for passengers.

7. Four compartments for men and two for women are provided as permanent latrine accommodation. If the full number of passengers were carried, ten more compartments would be required under the Native Passenger Ships Act. The Commission noticed that the plan of these latrines was a very suitable one.

The Commission visited the Indian Marine steamer *Dalhousie* and investigated into the following points:—

1. The rafts in use as life-saving appliances.
   Before coming to a conclusion in regard to the applicability of these rafts to native passenger ships, the Commission will require to take further evidence.
2. Collapsible boats.
   As a means of saving life, these boats are admirable and do not require much room for storage. The materials used in their construction are, however, liable to deteriorate in a tropical climate and to be eaten by insects. The boats also take some time to get ready.

3. The system of ventilation adopted on board the *Dalhousie* is too elaborate to be successful in vessels which are required for cargo on one voyage and for passengers on the next voyage. In the opinion of the Commission, a system of air shafts for each separate deck leading above the uppermost deck appears the best plan yet seen by the Commission.

4. The arrangements for utilizing the mess tables on the troop deck as sleeping platforms for the troops were admirable, but they are not applicable to native passenger vessels.

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APPENDIX IV.

Memorandum on the Red Sea Pilgrim Traffic.

BY

Surgeon Major F. F. MacCARTIE, M.B., Health Officer of the Port of Bombay.

There are special points in connection with this trade, which, I submit, render special legislation necessary to meet the requirements.

These points are—

(1) The passengers are, as a rule, filthy in their habits. I have rarely inspected an in-coming pilgrim vessel that I have not found a considerable amount of night-soil in the gutters of the 'tween-decks, and I have occasionally noticed the same on an outward vessel, when the pilgrims had been only a few hours on board. The latrines are on the upper deck. The stench and filth of an in-coming pilgrim vessel, with nearly the full complement of passengers, is almost indescribable.

(2) A very large number (probably one-third) consist of the very young and very old.

(3) A large number of very debilitated people are amongst them, even at starting from Bombay, and this number increases on the return voyage, after the severities of the pilgrimage. Diarrhœa and dysentery are very common.

(4) Many start without food, depending on the charity of the vessel's owners or other passengers for their food.

(5) The luggage difficulty is on outward voyage even more intense than on non-pilgrim voyages, as many passengers carry merchandise for sale. On return voyage, luggage is much less.

(6) On both the out and in voyages, but especially the latter, the 'tween-deck, as a rule, contains a large number of sick people, for whom there is no room in the permanent hospital. The atmosphere of that deck is, therefore, that of a ward in a hospital with about 67 feet of cubic area per head, if the 'tween-deck has her full complement.

(7) The sick and death-rate is always heavy.

Outward voyage of twelve ships in 1890.	Inward voyage of twelve ships in 1890.
10,330 souls, 97 deaths.	9,302 souls, 105 deaths.

Ratio per thousand per annum on basis of average voyage of 14 days—

Outward.	Inward.
246·48.	293·8.

A considerable portion of pilgrim vessels consists of poop cabins and saloon deck, and rarely, if ever, does that portion contain its full complement (in *Deccan* 223) of first and second class passengers. The number of passengers allowed to a vessel is got by dividing the total available superficial area by 9, and thus the 'tween-deck or third class passengers have even less room than they are entitled to.

Such passengers require, then, an increased accommodation as compensation for their filthy habits and generally sickly state.

The voyage to Jedda is a long voyage, and the allowance of space in 'tween deck is 9 superficial feet per adult, *i.e.*, 6 feet by 1½, so that if each pilgrim laid down, and the deck was free from baggage there would be just room and no more for the passengers. In fair weather more than half the passengers permanently occupy the upper deck; but if, as in the monsoon, rain and spray drive them down, the death-rate invariably goes up.

Proof of Overcrowding.

(1) The following is an extract from the medical diary of the *S.S. Deccan*:—

"Left Jedda, 17th December 1889	Passengers allowed	1,222 adults.
Arrived Bombay, 2nd January 1890	„ carried	1,177½ „
	Deaths	16

"Three days before we reached Bombay, we had a strong side wind, and now and then showers of rain which greatly increased the sufferings of the poor, particularly of those who were located on the upper deck. The Chief Officer and myself went round and tried *to put them down, wherever we could find room for them*, while some were put into the hospital. *Three deaths could be attributed to this sort of weather.*"

N.B.—This vessel made the voyage in the fair season, and was 44 short of her full complement. The luggage difficulty was at its minimum, as it always is on the return voyage, and yet room could not be found for them below, or in the space considered sufficient by the Act.

(2) *Extract from letter of a Pilgrim Ship's Medical Officer, to the Sanitary Commissioner, dated 6th February 1890.* (This medical officer had four years' experience of pilgrim vessels, and states that many passengers can neither get a place on upper-deck nor in 'tween-deck, and have ultimately to occupy tops of forecastle, water-tanks and latrines, and that the space allowed is insufficient.)

"I beg particularly to remark here that although the place for the deck passengers is supposed to be in the 'tween-deck, and a portion on the upper-deck is required to be kept free for the access of the 'tween-deck passengers, according to the rules of the Pilgrim Act, the whole room on the upper-deck, in addition to that in the 'tween-deck, gets so much engaged that many other deck pilgrims who were not able to get a place at either of these places have ultimately been obliged to

stop on the tops of the forecastle, water-tanks, latrines, and underneath the ladders leading to the poop, &c.

"It will thus appear that the space allotted to these pilgrims becomes quite insufficient for them, which is entirely due to a large quantity of luggage they carry with them, for which there is scarcely any place reserved in the ship to keep them together, and if there be any room at all, the pilgrims generally do not like to part with them, as they are not compelled to do so."

(3) A letter from "SEA CAPTAIN" (experienced in the Pilgrim Traffic) to the *Times of India*, under date the 31st October 1885, truthfully describes the insanitary state of affairs from a non-official point of view, and suggests that all pilgrim vessels should carry one-fourth less passengers.

(4) All annual reports of the Health Officer of the Port of Bombay since 1885 have called attention to the necessity of increased accommodation for pilgrim ships, and those annual reports represent the views of three different officers.

Extract from Annual of 1885—Dr. MacCartie.

"Pointed out the lack of sufficient space, and the amount of baggage interference with passenger space, and suggested increase of space to 12 superficial and 72 cubic feet per adult passenger."

Extract from Annual of 1886—Dr. MacCartie.

"Stated that no improvement had taken place, and hoped that the accommodation would be increased."

Extract from Annual of 1887—Dr. MacCartie.

"Expressed disappointment that new Native Passenger Ships Act did not increase the accommodation, and pointed out that in those vessels that carried full complements, the overcrowding was very marked."

Extract from Annual of 1888—Dr. Monks.

"There is no doubt that the space allowed (54 cubic and 9 superficial feet) is utterly inadequate.

"It is almost inhuman to pack them in vessels in the way that is done for long voyages in foul weather.

"In last year's report, prominent notice was given to the overcrowding in pilgrim vessels. In the year under review, the state of affairs was infinitely worse, as practically the same vessels, on a like number of voyages, carried one-third more passengers."

Refers also to the baggage overcrowding.

Extract from Annual of 1889—Dr. Crimmin.

"This personal baggage very often occupies about 20 cubic feet or about the size of two cotton bales which the passengers will not part with.

"The allowance of space is utterly inadequate, and it is almost inhuman to pack them in vessels in the way that is done in long voyages and foul weather.

"The superficial space for pilgrims should be increased."

(5) On several occasions it was found necessary to vaccinate unprotected pilgrims on arrival in Bombay from Jedda. To facilitate this the 3rd class or 'tween-deck passengers were passed into the 'tween-decks, and as each came up, he was examined for vaccination purposes. Although as little time as possible was lost, this system had to be given up, as the pilgrims said they were stifling in the 'tween-decks, *i.e.*, in the space considered by the Act to be sufficient.

The above views prove, it is submitted, that the allowance of space per passenger requires to be increased, in the south-west monsoon especially, for at that time the passengers are driven into the 'tween-decks on occasions, and sometimes battened down.

The S.S. *Deccan* is, perhaps, the best pilgrim vessel on this side, and her ventilation is said to be exceptionally good.

S. S. "DECCAN."

REGISTERED TONNAGE 2,022

'Tween deck area.				Passengers.
8,999	superficial feet—	Third class 'tween-deck		999
1,398	„	„ Saloon deck		155
612	„	„ „ berths		68
				1,222

If she carries her full complement, the cubic area of the third class passengers is approximately 67·5 cubic feet per head, as her first 'tween-decks is 7½ feet high. This is more than the minimum cubic space of the Act, which is 54 cubic feet, yet this is the vessel referred to in the extract from medical diary, already given, as first proof of overcrowding.

Recommendations as regards Revised Rules for Red Sea Pilgrim Traffic.

(1) Increased accommodation per passenger—

Fair weather.	Foul weather.
12 superficial feet.	15 superficial feet.
72 cubic feet.	90 cubic feet.

This is the lowest that can be safely given.

(2) Increased permanent hospital accommodation—

Permanent hospital to contain 12 berths.

Reasons already shown under special point No. 7.

(3) A minimum horse power for steamers—

Several years ago the S.S. *Adowa* and S.S. *Empress of India* with pilgrims took about twenty-two days to reach Aden from Bombay against south-west monsoon, and more lately the S.S. *Kaveri*, one of Shepherd's steamers, took twenty days against south-west monsoon, with 325 pilgrims.

Under these circumstances, the sufferings of the pilgrims who, for a portion of the time were doubtless battened down in the 'tween-deck, must have been terrible.

(4) More precise rules on ventilation and light, *e.g.*, a certain minimum amount of ventilating area per one hundred passengers.

The light in third class 'tween-decks is, as a rule, very bad, and I have generally to conduct my inspection of portions of 'tween decks by the aid of lamps.

(5) A minimum number of sweepers to be insisted on—double that for long non-pilgrim voyage.

(6) A more careful wording of the Act, so as to prevent the following occurrences:—

(*a*) A ship can now clear for Aden, ordinary long voyage, with pilgrims for Jedda. She can tranship them at Aden to smaller vessels, which can carry them on to Jedda on the short voyage scale, *viz.*, 6 superficial feet for 'tween-deck and upper-deck passengers.

This has happened on two occasions, when the S.S. *Surat* transhipped her passengers at Aden.

(*b*) The vessel from Bombay, by only going as far as Aden, can carry passengers on her orlop-deck, and thus carry almost double as many as she could were Jedda her port of destination, in which case orlop-deck passengers would not be allowed. The *Surat* on the occasions mentioned carried 1,125 passengers to Aden, of which more than 500 were on orlop deck, and one of the voyages was in the teeth of the south-west monsoon. On those occasions orlop passengers were allowed in the Red Sea pilgrim traffic, but now orlop-deck passengers are not allowed to a Red Sea port. But the *Surat* could even now carry pilgrims on orlop-deck as far as Aden, and there tranship them.

(*c*) The vessel from Bombay, by only going as far as Aden, need not carry a doctor, nor have the extra latrine accommodation, or additional requirements of Red Sea pilgrim vessels, such as the keeping of medical diaries, &c.

(*d*) A vessel can engage pilgrims for Jedda at Singapore. Can bring in those pilgrims to Bombay, and, provided she takes in no additional pilgrims at this or other Indian port, cannot legally be considered to be a pilgrim ship within the meaning of the Native Passenger Ships Act. Such a vessel could leave Bombay without the additional requirements of Red Sea pilgrim vessels.

The above (*a*), (*b*), and (*c*) are distinct possible evasions of the Act, and may occur at any time, though I do not for one moment consider that, in the case of the *Surat*, the stoppage at Aden was in order to evade the Act.

(7) Government Medical Officer of commissioned rank to accompany each pilgrim vessel with an Assistant of the L. M. & S. Indian University grade.

Reasons for this suggestion—

(*a*) The present class must be under the thumb of the Captain, whose interest it is that the medical diary should give a favourable report. Hence if a medical officer speaks his mind freely he endangers his chance of future employment. Accordingly the diaries generally concur in stating that everything was done that was possible for the comfort of the passengers.

(*b*) The diaries are generally silent on the most important points, such as attention to ventilation, or the measures taken to prevent epidemics of infectious disease. In the most valuable diary of the past season, that of the S.S. *Deccan* (arrived Bombay 2nd January 1890), a death from small-pox was mentioned in the death register, but not one word of the measures taken to prevent the spread of the disease.

(*c*) The idea of the diaries is frustrated by their being as a rule valueless as showing the true history of a pilgrim ship. Either the medical officer is afraid to speak out, or he is unaware of the importance of the diary. In one diary such an entry occurs as this: "4 A. M. was called to hospital: a man was found dead." Nothing more, and yet the medical officer was most intelligent. In another case—S.S. *Teheran*—the medical officer was, most properly I think, spoken of very highly by the first officer (P. & O.), yet I found two cases of confluent small-pox in postular stage in 'tween-decks which the doctor had never noticed during the voyage from Jedda to Bombay.

(*d*) A Government officer on board would insure that close attention was paid to the sanitation and ventilation of the vessel, and the diary would be a true history of the voyage, from which the Legislature could learn the requirements of the trade.

(*e*) Such an officer might lead to better treatment of pilgrims at Camaran.

I do not wish it to be surmised from what I have said about the present pilgrim medical officers that they do not work well and hard. As regards the sick, I have no reason to think that they are

not most attentive, and nearly all I have come across have been intelligent. But their diaries are valueless as a rule for showing the true history of the voyage.

In the same manner I do not wish any remarks of mine to be construed into any charge against the Commanders of pilgrim vessels, most if not all of whom, especially those experienced in the trade, behave with the greatest kindness to their passengers, but they cannot make an insanitary class cleanly in their habits, and they cannot give comfort to passengers at the rate of 9 superficial and 54 cubic feet of space.

No matter how great the efforts of the master, his vessel, if full of pilgrims, must be as a rule an Augean stable; and this insanitary state can only become less marked when the accommodation per passenger is increased.

F. F. MACCARTIE, M.B., *Surgeon-Major,*
Health Officer of the Port, Bombay.

BOMBAY,
30th January 1891.

APPENDIX V.

Report by MR. G. F. MACKROW, Constructor, Bombay Dockyard.

S.S. "Vaitarna."

I have the honour to forward herewith tabulated statement, showing, firstly, the scantlings of the *Vaitarna*, as per sectional drawing herewith, the thicknesses being put in decimal parts of an inch; secondly, what would, in my opinion, be passed by Lloyd's for vessels trading on the coast for short voyages; and, thirdly, what would be required by Lloyd's for a sea-going vessel according to their rules.

When steel-vessels are to be built for classification in the register book, plans showing details of construction are to be submitted, and the vessels built under special survey.

Messrs. Shepherd's steamers have no class attached to them in the register, and may not have been built under special survey, but it does not at all show that they are badly built, as it will be seen that the large steamers *Calais Douvres*, 325 feet long, *Invicta*, 312 feet long, *Empress*, 324 feet long, *Ireland*, 366 feet long, and other equally well known vessels running between England and the Continent and Ireland, have no class attached to them; but no one would doubt their efficiency, or their ability to withstand the very bad weather they often have to encounter in the winter months.

I also enclose a diagram showing the sectional area of plating, &c., at the midship section of the *Vaitarna*, which gives 283·6 square inches, if built as per second column of statement—Lloyd's would require 270·0 square inches—but if built to third column, as a sea-going vessel, 293·1 square inches. She is, therefore, 13″ above Lloyd's Channel requirements, and 9·5″ below sea-going.

BOMBAY,
14th February 1891.

TABULATED COMPARATIVE TABLE OF SCANTLINGS.

	"Vaitarna."	Lloyd's Channel Purposes.	Lloyd's Sea-going Purposes.
Bar keel	7 × 1·75	6¾ × 1·25	6 × 1 ·12
Garboard strake	2-6 × ·468	2-6 × ·351	2-6 × ·351
Bottom outer strake	4-0 × ·375	·300	·300
Bottom inner strake	4-6 × ·312	·300	·300
Bilge outer strake	4-0 × ·375	·300	·300
Side inner strake	4-0 × ·312	·300	·300
Sheer strake	3-0 × ·468	3-0 × ·351	·351
Doubling to strake	Nil.	·300	·300
Section of centre keelson			
Angles	4 × 3 × ·375	3½ × 3 × ·300	3½ × 3 × ·300
Vertical plates	Bulb 8″ × ·5	Plate 11″ × ·447	Plate 11″ × ·447
Rider ,,	Not required	6½ × ·447	6½ × ·447
Section of bilge keelson			
Plate	Bulb 6″ × ·375	Bulb 6″ × ·375	Bulb 6″ × ·375
Angle	4 × 3 × ·375	3½ × 3 × ·300	3½ × 3 × ·300
Deck stringer plate	2′ 6″ × ·375	3′-6″ × ·400	3′-6″ × ·400
,, ,, angle	4 × 3 × ·312	3½ × 3 × ·300	3½ × 3 × ·300
Deck tie plates	1-4 × ·375	8″ × ·400	8″ × ·400
Sister keelson plate	Nil	Nil	Bulb 6″ × ·375
,, ,, angle	Nil	Nil	3½ × 3 × ·375
Side stringer plate	Nil	Nil	Bulb 6″ × ·375
,, ,, angle	Nil	Nil	3½ × 3 × ·375
Sectional area both sides	283-6 inches.	270-0 inches.	293-1 inch.

14th February 1891.

APPENDIX VI.

Report by Mr. R. WATSON, Constructor, Calcutta Dockyard.

S.S. "Vaitarna."

Lloyd's number—

For frames, reverse frames, floor plates, bulkheads, and diameter of pillars:—

$$N = d + \frac{b+g}{2}$$

$$= 11 + \frac{26{\cdot}5+39}{2} = 11 + 32{\cdot}75 = 43{\cdot}75$$

i.e. under 45.

For keel, stem, stern post, keelson, stringer plates, outer plating and deck, angle on beam stringer plates, keelson and stringer angles in hold.

$$N' = N \times l$$
$$= 43{\cdot}75 \times 169$$
$$= 7393{\cdot}75$$

i.e. above 72,000 and under 89,000.

COMPARISON OF SCANTLINGS.

	Lloyd's (steel).	*"Vaitarna."*	
Keel	$7\frac{1}{4}'' \times 1\frac{1}{2}''$	$7'' \times \frac{3}{4}''$	But with garboards $7'' \times 1\frac{1}{16}''$
Stem	$6\frac{1}{2} \times 1\frac{1}{2}$	$6\frac{1}{2} \times 1\frac{3}{4}$	In excess of Lloyd's.
Stern post	$6\frac{1}{2} \times 2\frac{4}{20}$	$6\frac{1}{2} \times 3\frac{1}{2}$	Ditto.
Frames	$3 \times 2\frac{1}{2} \times \frac{1}{4}$	$3 \times 2\frac{1}{2} \times \frac{3}{8}$	Ditto.
Reverse frames	$2\frac{1}{2} \times 2\frac{1}{2} \times \frac{4}{20}$	$2\frac{1}{2} \times 2\frac{1}{2} \times \frac{5}{16}$	Ditto.
Floors in engine room	$12\frac{1}{2} \times \frac{7}{20}$	$13 \times \frac{3}{8}$	Ditto.
" before and abaft	$12\frac{1}{2} \times \frac{6}{20}$	$13 \times \frac{5}{16}$	Ditto.
Spacing of frames (amidships).	21″	21″	As Lloyd's.
" " at ends	21″	24″	Below Lloyd's.
Bottom plating.			
Garboard strake	$30'' \times \frac{9}{20}''$	$22'' \times \frac{15}{32}''$	Under Lloyd's in width, in excess in thickness.
Next "	$\frac{7}{20}''$ & $\frac{6}{20}''$	$\frac{6}{16}''$ & $\frac{5}{16}''$	In excess.
" "	$\frac{7}{20}''$ & $\frac{6}{20}''$	$\frac{5}{16}''$	Under amidships, in excess at ends.
Bilge "	$\frac{7}{20}''$ & $\frac{6}{20}''$	$\frac{6}{16}''$ & $\frac{5}{16}''$	In excess.
Next "	$\frac{7}{20}''$ & $\frac{6}{20}''$	$\frac{5}{16}''$	Under amidships, in excess at ends.
Sheer "	$33'' \times \frac{9}{20}''$	$36'' \times \frac{15}{32}''$ & $1\frac{1}{32}''$	Partly in excess and partly under for thickness and in excess for width.
Pillars to main or lower deck.	$2\frac{1}{2}''$	$2\frac{1}{2}''$	As Lloyd's.
" " awning deck	$2\frac{1}{4}''$	$2\frac{1}{4}''$	Ditto.
Bulkhead plating	$\frac{1}{4}''$	$\frac{1}{4}''$	Ditto.
" stiffeners	$3 \times 2\frac{1}{2} \times \frac{1}{4}$	$2\frac{1}{2} \times 2\frac{1}{2} \times \frac{1}{4}$	Under.
Middle line keelson	Plate $6\frac{1}{2}'' \times \frac{9}{20}''$ " $11'' \times \frac{9}{20}''$ 4 angles $3\frac{1}{2}'' \times 3'' \times \frac{6}{20}''$	Bulb plate $8'' \times \frac{1}{2}''$ 2 angles $4'' \times 3'' \times \frac{3}{8}''$	Much under.
Bilge keelson	2 " $3\frac{1}{2}'' \times 3'' \times \frac{6}{20}''$	Bulb plate $6'' \times \frac{3}{8}''$ 2 angles $4'' \times 3'' \times \frac{3}{8}''$	In excess.

	Lloyd's (steel.)	*"Vaitarna."*	
Side stringer . .	⊥⊥ 2 angles $3\frac{1}{2}'' \times 3'' \times \frac{6}{20}''$	⌐ Nil.	.....
Main or lower deck stringer plate (amidships).	— $28'' \times \frac{7}{20}''$	$30'' \times \frac{3}{8}''$ —	Thickness in excess. The width, as shown, is also in excess; but when it is taken into account that every alternate frame passes through it the width is reduced to 27″ effective, which is under Lloyd's.
Main or lower deck stringer plate (at ends).	$19'' \times \frac{6}{20}''$	$20'' \times \frac{5}{16}''$	As foregoing.
Main deck stringer angle	$3\frac{1}{2}'' \times 3'' \times \frac{6}{20}''$	$4'' \times 3'' \times \frac{5}{16}''$	Size in excess of Lloyd's, but being worked in short lengths is not efficient longitudinally; in fact, *Vaitarna* is really not fitted with a stringer angle.
Main or upper deck tie plates, engine-room.	$8'' \times \frac{7}{20}''$	$16'' \times \frac{3}{8}''$	In excess of Lloyd's.
Main or upper deck tie plates, forward and aft.	$8'' \times \frac{7}{20}''$	$8'' \times \frac{5}{16}''$	Under.
Awning deck stringer plate (midships.)	$20'' \times \frac{6}{20}''$	$12'' \times \frac{1}{4}''$	Under.
Awning deck stringer (at ends).	$16'' \times \frac{5}{20}''$	$12'' \times \frac{1}{4}''$	Width under.
Awning deck tie plates (engine and boiler).	$8'' \times \frac{7}{20}''$	$12'' \times \frac{5}{16}''$	Thickness under; width in excess.
Awning deck tie plates (ends forward and aft).	$8'' \times \frac{2}{20}''$	$6'' \times \frac{1}{4}''$	Under.
Awning deck beams .	⌐ $5'' \times 3'' \times \frac{7}{20}''$	⌐ $4\frac{1}{2}'' \times 2\frac{1}{2}'' \times \frac{5}{16}''$	Under.
Main or upper deck beams.	⊢ 2 angles $2\frac{1}{2}'' \times 2\frac{1}{2}'' \times \frac{6}{20}''$ Bulb plate $6\frac{1}{2}'' \times \frac{6}{20}''$	⌐ 1 angle $5\frac{1}{2}'' \times 3'' \times \frac{3}{8}''$	Much under.
Main or upper deck wood	$3\frac{1}{2}''$	$3''$	Under.
Awning „ „ .	$2\frac{1}{2}''$	$2\frac{1}{2}''$	As Lloyd's.
Hold flooring . .	$2\frac{1}{2}''$	$2\frac{1}{4}''$	Under, and fitted as a platform.

The vessel, although the scantlings in some cases are in excess, appears to be somewhat deficient in longitudinal strength. The frames should not have been opened out to 24 inches forward and aft; 21 inches should have been the maximum spacing. The floor plates are too abrupt, and should have been carried higher up the bilge to conform to the rules. The middle line or main keelson is much inferior to what should have been fitted, and a side stringer between the bilge keelson and main or upper deck beams is omitted altogether.

The bulkheads are not stiffened up to rule and both main or upper deck and awning deck beams, as well as the deck planks, are far too light, especially the former.

All the plans are necessary to go into the question fully.

CALCUTTA,
The 13th February 1891.

APPENDIX VII.

Report by MR. R. BUSHBY, Engineer and Shipwright Surveyor, Government of Bengal.

S.S. "Vaitarna."

This vessel was built of steel in 1885, but there is nothing to show of what kind of steel she was built. Assuming it to be ordinary mild steel, I find that the scantling throughout is barely up to the requirements of Lloyd's rules for a vessel of her dimension for the Class 80A, and in some details below the requirements for that class. The classes are 100A, 90A, 80A—A for Channel and A for River purposes, the Class 80A being the lowest for a steam-ship trading outside of "Channel purposes."

However from the records she never had a class in Lloyd's; and although the tracing purports to be stamped and initialled by the Leith Surveyor to that Society, it does not follow that the design was approved by the Committee of Lloyds, she being a vessel of extreme proportions; but she may have been approved by them for River or Channel purposes under their letter A.

The points I notice below the requirements for A are:—

1. The sheer strake should have been increased under section 46, page 86.
2. The main deck stringer should have been increased in width and thickness.
3. She should have had an *intercostal* keelson at the turn of bilge and attached to the outside plating for half the vessel's length, or in lieu a strake of plating at the bilge doubled for the same length.
4. The middle line keelson should have been fitted with intercostals secured by angles to the garboard strakes.
5. There should have been double angles and a rider plate to the middle line keelson.
6. The main deck fore and aft tie-plates are too light, and there should have been diagonal ties.

I cannot say that such a vessel would be refused a Class A for Channel purposes or a Board of Trade Passenger Certificate for Home trade, but I certainly think she would not obtain a class at Lloyd's for any service beyond Channel purposes, nor a Passenger Certificate as a foreign-going steamer from the Board of Trade.

CALCUTTA,
20th February 1891.

	Lloyd's (steel.)	*"Vaitarna."*	
Side stringer . .	⊥ 2 angles $3\frac{1}{2}'' \times 3'' \times \frac{6}{20}''$	⌐ Nil.	. . . .
Main or lower deck stringer plate (amidships).	— $28'' \times \frac{7}{20}''$	$30'' \times \frac{3}{8}''$ —	Thickness in excess. The width, as shown, is also in excess; but when it is taken into account that every alternate frame passes through it the width is reduced to 27" effective, which is under Lloyd's.
Main or lower deck stringer plate (at ends).	$19'' \times \frac{6}{20}''$	$20'' \times \frac{5}{16}''$	As foregoing.
Main deck stringer angle	$3\frac{1}{2}'' \times 3'' \times \frac{6}{20}''$	$4'' \times 3'' \times \frac{5}{16}''$	Size in excess of Lloyd's, but being worked in short lengths is not efficient longitudinally; in fact, *Vaitarna* is really not fitted with a stringer angle.
Main or upper deck tie plates, engine-room.	$8'' \times \frac{7}{20}''$	$16'' \times \frac{3}{8}''$	In excess of Lloyd's.
Main or upper deck tie plates, forward and aft.	$8'' \times \frac{7}{20}''$	$8'' \times \frac{5}{16}''$	Under.
Awning deck stringer plate (midships.)	$20'' \times \frac{6}{20}''$	$12'' \times \frac{1}{2}''$	Under.
Awning deck stringer (at ends).	$16'' \times \frac{5}{20}''$	$12'' \times \frac{1}{2}''$	Width under.
Awning deck tie plates (engine and boiler).	$8'' \times \frac{7}{20}''$	$12'' \times \frac{5}{16}''$	Thickness under; width in excess.
Awning deck tie plates (ends forward and aft).	$8'' \times \frac{2}{20}''$	$6'' \times \frac{1}{2}''$	Under.
Awning deck beams .	⌐ $5'' \times 3'' \times \frac{7}{20}''$	⌐ $4\frac{1}{2}'' \times 2\frac{1}{2}'' \times \frac{5}{16}''$	Under.
Main or upper deck beams.	⌐ 2 angles $2\frac{1}{2}'' \times 2\frac{1}{2}'' \times \frac{6}{20}''$ Bulb plate $6\frac{1}{2}'' \times \frac{6}{20}''$	1 angle $5\frac{1}{2}'' \times 3'' \times \frac{3}{8}''$	Much under.
Main or upper deck wood	$3\frac{1}{2}''$	$3''$	Under.
Awning „ „ .	$2\frac{1}{2}''$	$2\frac{1}{2}''$	As Lloyd's.
Hold flooring . .	$2\frac{1}{2}''$	$2\frac{1}{4}''$	Under, and fitted as a platform.

The vessel, although the scantlings in some cases are in excess, appears to be somewhat deficient in longitudinal strength. The frames should not have been opened out to 24 inches forward and aft; 21 inches should have been the maximum spacing. The floor plates are too abrupt, and should have been carried higher up the bilge to conform to the rules. The middle line or main keelson is much inferior to what should have been fitted, and a side stringer between the bilge keelson and main or upper deck beams is omitted altogether.

The bulkheads are not stiffened up to rule and both main or upper deck and awning deck beams, as well as the deck planks, are far too light, especially the former.

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The points I notice below the requirements for A are:—

1. The sheer strake should have been increased under section 46, page 86.
2. The main deck stringer should have been increased in width and thickness.
3. She should have had an *intercostal* keelson at the turn of bilge and attached to the outside plating for half the vessel's length, or in lieu a strake of plating at the bilge doubled for the same length.
4. The middle line keelson should have been fitted with intercostals secured by angles to the garboard strakes.
5. There should have been double angles and a rider plate to the middle line keelson.
6. The main deck fore and aft tie-plates are too light, and there should have been diagonal ties.

I cannot say that such a vessel would be refused a Class A for Channel purposes or a Board of Trade Passenger Certificate for Home trade, but I certainly think she would not obtain a class at Lloyd's for any service beyond Channel purposes, nor a Passenger Certificate as a foreign-going steamer from the Board of Trade.

CALCUTTA,
20th February 1891.

CALCUTTA,
20th February 1891.

APPENDIX VIII.

Notes on the Native Passenger Ship Accommodation.

The coasting steamers are generally used by passengers of small means, many of whom are people of inferior understanding and illiterate, and mostly by pilgrims to Dwarka who travel in large numbers as deck passengers only.

1. The general complaint is that of overcrowding which occurs frequently among deck passengers, as nobody connected with the steamers pays any attention to the number the steamer is allowed to carry according to its certificate, there being no checking at intermediate ports between Bombay and Karachi. The overcrowding takes place also on account of the passengers being allowed to take any amount of luggage with them on board the vessels.

2. Sometimes the passengers complain that money is taken from them for excess passage money and freight for luggage after their going on board the steamer, without any receipt being passed to them for the same. It is a common belief among the passengers that these sums are appropriated by the inferior servants known by the name of karanees.

3. Passage charges are levied from passengers according to the order of classes of seats, *i.e.*, 1st class, 2nd class, 3rd class, deck, poop, bridge, &c., but those who take out highly paid passages have not the consolation of enjoying the same, as deck passengers are freely allowed to occupy the upper classes after the steamer has weighed anchor. The result is that there remains no distinction between those who pay more and those who pay less. Gentlemen and men of cleanly habits suffer discomfort, trouble, and inconvenience on account of their being mixed up with rough people.

4. Latrine accommodation is not sufficient for deck passengers. In some private steamers latrines are not cleaned properly, nor are they disinfected. The number of latrines should be increased. They should be washed three or four times a day, and powerful disinfectants should be used freely to destroy the unhealthy and nauseating smells arising out of the latrines.

5. Life boats and other jolly boats with sufficient number of swimming belts should always be kept ready for use in case of necessity.

6. In some of the native passenger steamers the number of crew is limited. The crew should be well-manned, well-regulated, and efficient.

7. Ladders are not provided in sufficient numbers, and when a steamer has only one, it sometimes is not in good order, and very often is not allowed to be used. There should be a sufficient number of strong, well-secured ladders, which should be always lowered as soon as the steamer has anchored. The embarkation and disembarkation of passengers should only be by the ladders.

8. Passengers should not be allowed to embark or disembark from the steamer while the steamer is in motion. The embarking and disembarking should take place after the steamer has well anchored. Penalty should be fixed for breach of this rule.

9. Passengers ought not to be allowed to embark or disembark before sunrise and after sunset if practicable for preserving safety in roadstead bandars.

10. Receipts should always be given for extra and excess charges levied from passengers on board.

11. The Company should be directed to keep agents capable to do the business properly. The agent at one port should get intimation from the port from which the steamer has started for his port regarding the number of passengers and cargo, and the number of boats required against its arrival for disembarkation. On account of the want of above information, and owing to the economy of the owners, passengers have to suffer great miseries in the shape of being overcrowded in small boats which convey more passengers than they could carry without danger.

12. Different classes of accommodations should distinctly be marked with boards.

13. When there is not sufficient accommodation in a lower class, space should not be allowed in a higher class free of extra charge, but further additions to the number of passengers should be stopped.

14. Steamer-owners should be compelled to make satisfactory arrangements for the landing of passengers, by keeping a sufficient number of their own or hired boats for the purpose. At present the agents make undue gains by charging 9 annas for boat-hire and paying 6 annas to the boatman. Though the agents charge boat-hire for landing, they do not keep a regular line of boats, either hired or their own, but only speak to the Kharwas of private boats that whoever will bring a landing ticket will receive 6 annas. The Kharwas try to squeeze what they can from the passengers, and trouble them with their demands under various pretexts.

15. The underhand dealings of khalasis and karanees in securing good places for those who pay them should be discouraged.

16. Native crew should be prohibited from drinking spirituous liquors while on board the steamers. They should not be allowed to purchase them from the coasting ports.

17. Landing and embarkation of passengers ought always to be performed under the personal supervision of one of the higher grades of responsible officers of the steamer, and all haste in the business should be avoided. It is complained that passengers are many a time harshly treated and roughly

handled while embarking or disembarking. Sometimes they are treated like inferior beings, and forced or thrown into or draggod up like animals from the lighters. This state of things is highly objectionable, and requires to be put a stop to under strict rules.

S. P. PANDIT,
Administrator, Porbandar State.

PORBANDAR,
18th February 1891.

Before Port Superintendent, Porbandar.

My name	Parshotam.
My father's name	Bogha.
My age	49 years.
My caste	Wania, Hindoo.
My residence	Porbandar.
My occupation	Muccadam at the bandar.

I am in the habit of using steamers occasionally for going to and coming back from Bombay. In Samvat 1946 in Chaitra month, I arrived at Porbandar from Bombay in steam-ship *Karagola*. Instead of regular orders tickets are issued by the Company. The passengers being ignorant masses, are not in a position to know what was the quantity of baggage allowed to them in the lower classes. Tickets are generally given (sold) by agents, who do not regularly keep their regulations regarding the rates of tickets and weight of baggage allowed to each passenger well-posted in Vernacular, and this they ought to be forced to keep at the bandar, and in their own offices, and also in the steamer to avoid complications which frequently occur after arriving on board the steamer. The agent should be forced to keep offices at the bandar, and must have a weighing scale of any kind sanctioned by the Government for weighment of passengers' baggage, and they should charge for baggage according to the fixed rates allowed by their respective Companies for every additional quantity conveyed by any passenger, and must pass a receipt for delivery on board the steamer to the authorized person. In the absence of this procedure, and owing to there being ignorant agents, and they not having their offices at the bandar, passengers going to and fro from all the Kathiawar ports are in a position to suffer extortions at the hands of clerks and others known as karanees in the steamers; besides when such extra charges are levied, no receipt or acknowledgment is passed to the passengers. This puts me in a position to assert strongly that all such accumulations are not delivered righteously by the karanees to the Company, but they generally make illegal gains out of the ignorance of the public masses frequenting by the steamers; and this is a great burden on the poor illiterate passengers. Similarly, passengers do not know the place to which they are entitled, and in a hubbub of departure they sit in whatever place they find convenient, but karanees and officers afterwards charge extra sums from them.

Many a time Commanders do not look to the number of passengers they are authorized to convey by their vessels. Generally they carry more passengers than allowed in their certificate through caprice of getting more money. It also so happens that agents are not in a position to know, in the absence of wire, how many passengers they will be able to accommodate without inconvenience, and thereby in ignorance they grant more tickets, and the passengers when on board try to secrete in whatever space falls to their lot.

In Bombay it is a practice with some people to occupy space a day prior on board the steamers, and out of the right thus secured they try to make profit. Space is given to strangers by receiving gratification, while those who go to reserve space, reserved for more men than essential, with a view to make profit. Other passengers, while trying to secure space on arrival, many a times pick up a row on board, owing to such iniquity, and the police are obliged sometimes to interfere to pacify the quarrel.

The owners of vessels must so arrange as to keep their agents in all the bandars well-informed through wire with the name of the steamer and their carrying capacity at the time of each trip. He must also give in his telegram the number of passengers embarking from the first bandar, and the agent of the second bandar should give intimation to the next agent of the total number of passengers coming to his bandar, so that the agent at the third bandar may remain acquainted with the fact that he has to issue so many tickets in proportion to the capacity of the in-coming vessel, and so on.

The number of latrines ought to be increased, and should always be secured by doors to preserve decency. They ought to be cleaned thrice a day, and disinfected thoroughly.

All the port officers or preventive officers should be entitled to count passengers at different ports in Kathiawar, and the Commanders of vessels should be made to make a declaration in a selected form as to the number of passengers embarking from each port; and this should be delivered at the time of every trip, duly signed, and in the column of "remarks" entry should be made regarding any epidemics or death occurring on board. By this means Commanders would cease to convey more passengers than duly allowed.

Deck passengers generally lack space on board, as tickets are issued without any idea regarding accommodation on board by different agents, and they suffer great inconvenience after embarking. The Commanders should be held responsible to provide space in upper classes to such passengers free of extra cost, but in cases of coasting steamers people are generally overcrowding, and when any one finds excess to upper class, owing to want of space in the place to which he is entitled,

he is charged further amount, for which very seldom any receipt is passed, or which excess he is not in a position to pay owing to short pecuniary means.

All the coasting steamers should be provided with four ladders, and they ought to be dropped always for the use of passengers, after coming to a full stop, and coming to anchor.

No passenger should be allowed to disembark before the steamer is well anchored; and even after anchorage, they should be forced to leave the steamer by means of ladders, so that there may not be any likelihood of casualty.

The ladder should be made of extra durability and of very strong materials, so that it may not give way under a heavy burden. Passengers ought to be allowed to disembark one after the other. The ladder should be well protected by chains and ropes, so that nervous passengers may not tumble down when the steamer is rolling.

The passengers should be embarked and disembarked during daylight only.

Commanders should be forced not to enter into competition with other steamers while at sea in point of speed, or with a view to secure more passengers from any bandar. This is a fertile source of collision.

Before me,
K. WAZIS,
Port Superintendent, Porbandar.

[Signed by sixty-seven others.]

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