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(1) Number of pages 10
(2) Date of repair 29-12-86
(3) Initials of the Referencer 10/11/87

TAMIL NADU ARCHIVES

GOVERNMENT OF TAMIL NADU
DEPARTMENT

G.O. No.	1181	Sub	Press.
B.P. No.			Mis.
Dated	2. Sep. 1881		

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Public
(Emigration)
No. 8.

1181
India Office
London, 14th July 1881

His Excellency the Most Honble
the Governor General of India
in Council.

My Lord Marquis,

With reference to previous corres-
pondence on the subject of the adoption of
Thiers Ventilator on ships conveying emi-
grants from India to the Colonies, I forward
for the information of your Excellency in
Council, copy of a letter addressed to the Colo-
nial Office by Dr. Clarence Chapman, late
Surgeon Superintendent on board the ship
"Foyle", regarding the working of the Ven-
tilator in question during a voyage from
Calcutta to Trinidad.

I have &c

Wm Hugh A. Childers

Mr Chapman to Colonial Office.

Trinidad

May 11th 1881

The Under Secretary of State for the Colonies
Downing Street.

Sir,

Having now made my first passage

Holloway 1881

in a vessel (the "Foyle") fitted with Thiers Patent Automatic ventilating apparatus. I beg to report on that invention.

The apparatus consisted of two large cylinders placed in the 'tween decks, one on each side, these were connected together below by a pipe which had water in it. As the vessel rolled the water rushed from one cylinder into the other, by means of a system of valves suction was produced in one cylinder at a time, this suction drew in air through a long pipe with holes in it, placed fore and aft the 'tween decks, by the vessel's roll this air was expelled through the exit pipe on deck and so on.

The fore and aft pipe had an external circumference of nearly ten inches and tapered towards the ends, it was placed just above the platforms, it did not reach the fore end of the ship by some 18 feet nor the after end by about 27 feet.

The two ends of these emigrant ships are very important parts to ventilate fully.

There were four cylinders in the ship. Two were for the purpose of ventilating the 'tween decks, and two the hold.

The

1181/2
The passage from Calcutta to Trinidad was throughout remarkably fine. Coming down the river and Bay of Bengal the water was smooth and the weather was hot. For six entire days we were becalmed or near to it in the heart of the S. E. trades. Again in the South Atlantic Ocean we were in calms and very light airs for eleven entire days in the S. E. Trades.

During these days and nights more especially when ventilation was so much needed, there was little or no motion in the ship and the apparatus did not work or if it did so at any time it was in a very slight and insignificant degree. When the ship did roll to some appreciable extent there would be a puff of air prolonged more or less for a second or two out of the exit pipe attended by the rattle of a valve which first amused the people.

When there was no rolling even this ludicrous attempt at ventilation for between five and six hundred people was not to be had.

When

When the ship was rolling in the S.E. Trades, I took notice that she sometimes rolled nine times a minute, this was not continuous, but for the sake of calculation and to prove the absurdity of supposing the apparatus being of any real value for the purpose of ventilation let it be granted she constantly rolled nine times a minute.

The size of each cylinder was 5 feet in length and 2 feet in diameter, thus giving a total capacity of 15 cubic feet, this multiplied by the allowed nine rolls would give 135 cubic feet as the total quantity of air the apparatus was capable of eliminating per minute.

The tween decks measured 214 feet long, 35 feet beam (this from an average of six measurements) and 7 feet high, giving a total capacity of 52430 cubic feet.

This divided by the 135 makes the discovery that the apparatus would actually require six hours and twenty eight minutes to empty the tween decks of the air they might contain! if it worked thus

thus. If the ship were fitted ^{188/}with 52 cylinders instead of 2 the time required to empty the tween decks under the same advantageous circumstances would be nearly 15 minutes and if the ship were fitted solidly with the apparatus this would be more than ample time to suffocate all those who would not have the good fortune to be near enough to an open hatchway, death speedily beginning at the two ends of the ship.

It should not be forgotten that when there is no rolling motion as in our case for days and days together the apparatus is altogether useless and worthless even if the ship were fitted with Patent cylinders. There are some who place great confidence in the usefulness of the apparatus. Suppose such a one, the Captain of a ship for instance, found himself and ship in a hurricane, he would very likely batter down the hatches, unship the cowl head ventilation, put in the plugs &c. &c. If such an event did happen I have no hesitation in saying the consequences would be serious.

In

In order to keep people alive there must be a constant supply of fresh air and even if the apparatus were of any real use human beings cannot wait and live for air which is to be procured by the uncertainty of a ship's rolling motion. With respect to the hold, it was ventilated by the three iron masts, I was informed that these masts had holes in them for ventilation as is usually the case, and there was also the two cylinders of the apparatus.

It was also ventilated and to a great extent when the hatches were off for the purpose of issuing stores &c.

There was no cowl headed ventilation for the hold although there was a cowl fitted for the purpose through the fore part of the main hatchway.

I suppose it was not considered necessary the ship having this much vaunted apparatus.

I noticed when the hatchways were taken off and a lighted lamp taken below it became dim and went out neither
could

could it be relighted down there. 1181/4

I consider the hold was not sufficiently well ventilated.

Coolie emigrant ships have been and more especially of late years very well ventilated, the chief want is good ventilation in very hot and calm weather, the Patent as I have mentioned is then utterly useless.

If more ventilation be needed, by all means have it and I submit that cowl headed ventilation is the best as yet used.

A current of heated air passing, say at the rate of two feet a second, this is less than a mile and a half an hour, through a shaft of 18 inches in diameter, would eliminate 277 cubic feet a minute. This current would be constant whether the ship were steady, rolling or pitching.

I merely mention this to illustrate somewhat the relative value of the two systems.

The cost of such a cowl head and fitted complete would be about fifteen shillings, say twenty, and have a good one.

Cowl

Cowl heated ventilation has many advantages, but I need not enter into the subject more fully my object being to expose the fallacy of supposing the apparatus capable of any real service.

Height in the 'tween decks is of much importance; the heated and vitiated air ascends above the people's heads and escapes by the nearest opening. What is the use of trying to conduct this vitiated air across people's faces through a small tube that could not either indirectly or directly supply air for so many people even at hurricane force?

I have heard that a ship with coals fitted with the patent caught fire and was burnt in spite of it.

During my service of some 27 years I have seen several patents for ventilation introduced, tried, and condemned, but this thing is the most useless and incompetent contrivance I have ever seen and ought to be condemned also.

I have seen

by Clarence Chapman

late Surg. Sup. of the ship "Boyle"

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Copy, with copy of enclosure, forwarded to the Government of Maracaibo, in continuation of endorsement from the Home, Revenue and Agricultural Department N^o 178, dated the 29th Sept. 1880.

Rev. V. Agric. Dept.
Emigration
Lima, 24th August 1881

By order

Off. Under Secy to the Govt of Peru.

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The letter was sent
to Miss Whitaker for
European Affairs

Order 22 Sept. 1881.
No 1181.

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