M.R.O. 1—77,006—8-6-37.

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MADRAS RECORD OFFICE.

Government of Madras.

Revenue DEPARTMENT.

G.O. No. 2387-38 Press Mis.

2241-23

Dated 15-9- 1871.

Not to be folded or roughly handled

Proceedings of the Madras Government, Public Works Department, 15th September 1871.

No. 221. Read the following letter from the Acting Consulting Engineer for Railways, to the Secretary to Government, Public Works Department, dated Madras, 31st August 1871, No. 372 —

WITH reference to G O, No 471, of the 10th February 1870, I have the honour to forward letters from the Agents of the Madras and Great Southern of India Railways regarding the carrying capacity of waggon stock, the proper loading of waggons, etc.

Madras Railway, No 448, dated 25th July 1871, with enclosure.
Great Southern of India Railway, No 3,448, dated 4th April 1870, Locomotive Superintendent, No 234, dated 5th April 1870.

2. A trace drawing is enclosed of the waggon found to be generally most useful on the Madras Railway; a drawing of the 10-ton waggon on the Great Southern Line has been furnished some time ago to the Government of India, *vide* G. O., No. 188, dated 17th January 1870.

From the Acting Agent and Manager of the Madras Railway Company, to the Acting Consulting Engineer for Railways, dated Madras, 25th July 1871, No. 448

IN accordance with the request contained in the Consulting Engineer's letter No 68, of the 16th February 1870, I have the honour to enclose you the copy of a report* made by the Traffic Manager as to the carrying capacity of waggon stock.

* No C 68 274, 14th July 1871.

2 The subject of the proportion between unremunerative and paying loads of waggons has long received the careful attention of the officers of this Company, and every effort has been made to adapt the vehicles used on the line so as to secure the lowest possible expenditure in working

3. I recently discussed the question with the Locomotive Superintendent and the Traffic Manager, and I quite agree with the opinions expressed by Mr Church in the enclosed report, and also with the comments which he makes upon the observations of the Government of India, as contained in Circular No 1, Public Works Department, dated 11th January 1870.

From Mr. H E CHURCH, Traffic Manager, to the Acting Agent and Manager of the Madras Railway, dated Madras, 14th July 1871, No C-68-274

Carrying capacity of Waggon Stock.

ORDER of Government, No. 471, dated 10th February 1870, embodying Circular from the Government of India, Public Works Department, dated 11th January 1870, No 1.

In these Proceedings the Government of India invite discussion as to "what new form of "waggon is likely to be most economical, and what modification of existing waggons is best suited "to improve the effective carrying capacity," and whether a system of "dividing the goods traffic "into fast and slow" may not be usefully followed in order to ensure better loads.

2 There can be no doubt that the most economical form of waggon is that which can be utilized to the greatest extent in the transport of all commodities forming the goods traffic of a Railway The opinion of Railway Companies in India are generally in favour of "covered" waggons, but experience convinces me that the most useful form of waggon for general purposes is a modification of the "open sided," and I am strengthened in this opinion by the results of the interchange of traffic with the Great Southern Company, extending over a period of more than three years The Great Southern waggon stock is "covered," the Madras Railway waggon stock is a modification of the "open sided" with sides and ends 2′ 5″ high For bale and case goods and for grain in bags the "covered" waggon is very convenient, but it is perfectly useless for some kinds of heavy goods, such as iron in bars, and timber, and very unprofitable for light and bulky goods. In practice it is frequently necessary to use "open-sided" waggons as a measure of economy, and to send back the "covered" waggon "empty," simply because the form of the latter is not suited to the miscellaneous character of the traffic. The following illustration will explain

this more clearly A station on the Madras line receives for a station on the Great Southern Railway several consignments of goods consisting, say, of—

1 Ton Bar, Iron
3 Tons Cases and Bales

The covered waggon will accommodate the cases and bales, but not the iron bars; so that the running of two waggons is inevitable The "open-sided" waggon will accommodate all, and rather than incur a charge for "mileage of foreign stock," the whole of the goods are loaded in an open-sided waggon belonging to the Madras Railway Company, and the Great Southern Company's waggon is run back "empty," and, under the rules for the interchange of traffic, is exempt from "mileage" The Madras Company is nevertheless put to the cost of hauling this waggon without any remuneration whatever, and it will be seen at once that the running of two waggons, where one of a suitable form would suffice, reduces the average waggon loads

3 In the case of light and bulky goods the superiority of the "open sided" over the "covered" vehicle is again apparent The large covered cotton waggons built expressly by the Great Indian Peninsula Railway Company for carrying loose cotton will only convey, according to Mr Conder's memorandum, printed in the Proceedings of the Railway conference held at Calcutta in January 1871, 2½ tons of loose cotton, while on the Madras Railway we have no difficulty in loading 90 maunds or 3-3 tons on an open-sided waggon. If, as we may fairly assume, the wheels, springs, and under framing of both descriptions of waggon are of the same character, the proportion of paying to dead load must necessarily be very much in favour of the "open sided," inasmuch as the waggon itself is much lighter, and the paying load 30 per cent. better.

4 There must also necessarily be a very great loss of space in loading a covered waggon from the *side*, as compared with loading an open-sided form of waggon; but under any arrangement either of doors or roof, it is very doubtful, in my opinion, whether the former can be so profitably loaded as the latter, and for some descriptions of traffic the "covered" waggon is altogether unsuitable

The effect of an unsuitable form of waggon for general purposes is to increase empty waggon mileage, and to decrease the average waggon loads.

5 Without any prejudice then I am bound to say that the "open-sided" form of waggon is the most useful, and will be found, under all circumstances, the most economical for general purposes The waggons used on this line are of that form, and are 16′ long and 8′ 8″ broad with sides and ends 2′ 5″ high with a flap door on either side 5′ broad The waggons weigh from tons 5-3 to tons 5-4 each A large number of these waggons have been adapted to carry 9 tons, and for the last fourteen months the whole of our salt traffic has been carried in waggon loads of 100 bags weighing tons 8¼. The rest of the stock will be improved in the same way, and the only additional improvement I can suggest is that the sides and ends should be 3″ higher

6. With reference to the suggestion of the Government of India "to divide the goods traffic into fast and slow" in order to ensure better loads, I cannot think that the true interests of the Government or of the Railway Company would be served by throwing the trade of the country into the hands of a few, for this would practically be one of the effects of the proposition The larger proportion of the traffic on this Railway consists of consignments averaging much less than a waggon load, and to detain this kind of traffic until the full load could be made up would discourage the small trader and seriously affect the tonnage of the Railway. As a rule the small trader embarks his whole in a single consignment, and as soon as he can realize makes another venture. The rapidity with which he turns his capital is dependent upon the despatch observed by the carrier in the transport of his goods; comparatively rapid transit will enable him to turn over his money three times, whereas slow transit would only enable him to do so once, and if the charge levied by the carrier for consignments less than a waggon load pays at all, it is manifest that the greater the number of consignments so conveyed the larger must be the profits of the carrier.

7. With regard to the proper loading of waggons, while I am sensible of the advantage to be derived from unremitting attention to this subject, I feel that there are many practical difficulties in the way of increasing the average waggon loads to such an extent as the Government of India look for; but it must be borne in mind that the average load in weight is not always a true indication of the average value of the load For instance, a waggon load of 9 tons of salt or grain does not earn so much money per mile as a waggon load of 3 tons of loose cotton; yet the waggon in each case is loaded to its fullest capacity. Again, on many parts of a Railway there may be a very heavy traffic in one direction, but a very light traffic back, still the waggons must be brought back, and the necessity for their running empty or half loaded on the *return* journey reduces the average waggon loads

8 In order to avoid light loads on the one hand, and to ensure despatch on the other in the case of small consignments of goods, a system of "Road vans" obtains on all Railways On the slow trains of the Madras Railway there are frequently as many as 6 road vans in a train of 25 vehicles, but this number will shortly be increased, as it is proposed to try the experiment of making 2 tons the minimum load for a waggon, instead of 1 ton, as at present It will, however, be purely experimental, as it remains to be proved whether the additional cost of porterage at road-side stations for unloading and transhipping road goods in time to prevent any serious detention to trains will not outweigh other considerations

9 It will be seen from the foregoing observations that, in the first instance, a uniform waggon stock of a suitable character for general purposes is essential to economical working, and that until this can be secured it will be hopeless to look for an improvement in the average waggon loads. At the same time I am of opinion that, in estimating the average loads of waggons, due allowance should be made for empty return mileage necessitated by the flow of the traffic, and beyond the control of the management.

From the Agent of the Great Southern of India Railway, to the Acting Consulting Engineer for Railways, dated Negapatam, 4th April 1870, No 3,448.

Your letter No 69, of the 17th February last, covering Government of India's Circular No 1, of the 11th January, relative to the carrying capacity of waggon stock has had my attention I am not yet in a position to reply to that part of it which relates to the improved construction of future stock, and the modifications of existing stock, as that subject is under the consideration of the Locomotive Superintendent, but with regard to paragraphs 5 and 6, I have to offer the following remarks

2. The question of the proper loading of waggons has received, and will continue to receive, careful attention For many months past road-side waggons have been attached to the slow trains, and small consignments of goods from minor stations are always forwarded in such waggons The average weight conveyed in a truck is not the best guide to take in determining whether or not proper use had been made of the vehicle, we cannot possibly carry the same weight of loose cotton, as of stone, on an ordinary waggon, the receipt per mile per vehicle would be a better test

3 In reply to the 6th paragraph of the Circular, I append copy of the Assistant Traffic Manager's report, and, in the opinion therein recorded, I concur —

"With reference to the 6th paragraph of Circular suggesting fast and slow goods trains, I "feel sure that this plan would not answer, as we should lose all our short traffic, and where there "is any competition, as is the case on our line, the long distance traffic also

"The light loads are from small stations, or those at which a goods traffic is in course of for-"mation, and rather than offer any impediment in the shape of an arbitrary detention, I am of "opinion that the only way to increase the traffic in these districts is to despatch goods with the "utmost speed without reference to class; even were slow trains resorted to it is doubtful whether the "object looked for would be gained For instance from many of our small stations the trucks that "are sent with light loads in very many cases contain plantains and leaves that require despatch

"With an established trade between two certain points, as is the case on the Continent, a fast "and slow goods may be adopted; but with us (I speak for this district alone), considering the diffi-"culties in the way of cultivating a trade and the eagerness with which the Native merchants revert "to their old mode of conveyance when any change to their prejudice arises on the Railway, I do "not think this is the time for detaining their goods.

"As you are aware the road-side trucks tend to economize the stock considerably."

Proceedings of the Madras Government, Public Works Department, 15th September 1871.

From the Locomotive and Carriage Superintendent, to the Agent of the Great Southern Railway, dated Negapatam, 5th April 1870, No. 234.

YOUR No 2,398—1,237 and papers of Proceedings of Government attached thereto I have read through the attached compilation of reports, and think them valuable and instructive as embodying the views of many eminent men whose opinions should carry weight

2 Regarding our own line, I am, however, happy to say that I have come to the conclusion after careful study of design and proportion, that our new 10-ton truck is the most useful and effective vehicle we can have for our class of traffic, which is more weighty than bulky I am not an advocate for a truck of greater capacity than ten tons, for many reasons, the first of which is the difficulty of ensuring full loads Our new truck weighs 5 tons and 2 cwts, which, as we construct others, I shall reduce to 5 tons, this gives a proportion of 2 to 1, and it fulfils the conditions arrived at—

Lightness of vehicle ;
Capacity for load ,
And perfect steadiness while running

3 A tracing of this vehicle has been sent to the Consulting Engineer. Six-wheeled trucks are only advisable where bulky goods are carried, such as cotton. When our new south line opens, along which we shall have a large cotton traffic, we shall have to build cotton waggons ; these would be six-wheeled vehicles, and I think I should succeed in constructing a truck which would carry half-pressed cotton at a proportion of very nearly 2 to 1. I am of opinion that for economical and safe working 10 tons is a maximum load to place on 4 wheels, the more so in this country where dust and sand flies so badly and axles are difficult to keep cool Our new oil-boxes are working satisfactorily, hot boxes being now of only occasional occurrence

4 I observe some of these reports advocate iron waggons. I must say that, although they may be better calculated to stand wear and tear, they are not adapted to salt or grain traffic, the former would be liquified, and the latter parched in an iron waggon. I have ridden in one of our covered goods with a corrugated iron top, and the heat was most intense, what it would be if the waggon was entirely of iron, I should be afraid to surmise.

5. Please ask the Consulting Engineer to let me have a spare copy of the attached pamphlet for record in this office

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No 222. ORDER THEREON, 15th September 1871, No. 2,337.

RAILWAY, No. 22.

ORDERED that the reports received with this letter be forwarded to the Government of India.

(True Extract.)

(Signed) J. CARPENDALE, Colonel, R.E.,

Secretary to Government.

No. 223. DOCKET No. 2,338, dated 15th September 1871.

FORWARDED to the Government of India, with reference to their Circular No. 1, dated 11th January 1870.

(True Extract.)

Colonel, R.E.,

Secretary to Government.

Ed. E. C Shunker.

No. 3108 GREAT SOUTHERN OF INDIA RAILWAY.

AGENT'S OFFICE,

NEGAPATAM, April 4 1870

From

THE AGENT,

Great Southern of India Railway,

To The Consulting Engineer for Railways Madras

SIR,

Your letter No 69 of the 17 February last covering Government of India circular No 1 of the 11th January, relative to the carrying capacity of wagon stock has had my attention. I am not yet in a position to reply to that part of it which relates to the improved construction of future stock, and the modification of existing stock, as the subject is under the consideration of the Locomotive Superintendent, but with regard to paragraphs 5 and 6 I have to offer the following remarks

The question of the proper loading of wagons has received and will continue to receive careful attention. For many months past Road side wagons have been attached to the Slow trains, and small consignments of goods from minor

GREAT SOUTHERN OF INDIA RAILWAY.

No.

AGENT'S OFFICE,

NEGAPATAM, _____ 18

From

THE AGENT,

Great Southern of India Railway,

To

Such stations are always forwarded in such wagons. The average weight conveyed in a truck is not the best guide to take in determining whether or not proper use has been made of the vehicle - we cannot possibly carry the same weight of loose cotton, as of stone, in an ordinary wagon - the receipt per mile per vehicle would be a better test.

In reply to the sixth paragraph of the Circular, I append copy of the Assistant Traffic Managers report, and in the opinions therein recorded I concur.

"With reference to the 6th para of "Circular suggesting fast and slow "Goods trains I feel sure that this plan "would not answer as we should lose "all our short traffic, and where there "is any competition as is the case on our "Line, the long distance traffic also

"The light loads are from small "stations or those at which a good traffic "is in course of formation, and rather

"than

GREAT SOUTHERN OF INDIA RAILWAY.

No.

AGENT'S OFFICE,

NEGAPATAM, _____ 18

From

THE AGENT,

Great Southern of India Railway,

To

SIR,

" there offer any impediment in the shape of
" an arbitrary detention have a opinion
" that the only way to increase the Traffic in
" these districts is to despatch Goods with the
" utmost speed without reference to class.
" Each were slow Trains resorted to it is
" doubtful whether the speed looked for
" would be gained. For instance from
" many of our small stations the Trucks
" that are sent with light loads in very many
" cases contain Plantains and leaves that
" require dispatch

" With an established trade between
" two certain points as is the case on the
" Continent a Fast and Slow Goods may be
" adopted, but with us (I speak for the districts
" alone) considering the difficulties in the
" way of cultivating a trade and the agencies
" with which the native Merchants resort to
" their old mode of conveyance when any
" change to their prejudices arises on the Railway
" I do not think this is the time for detaining the
" their Goods

" As you are aware the Roadside
" Trucks

GREAT SOUTHERN OF INDIA RAILWAY.

No.

AGENT'S OFFICE,

NEGAPATAM, _____ 18

From

THE AGENT,

Great Southern of India Railway,

To

Stock tend to economise the stock
considerably.

Shall I know the
Son next Old Servant
Coolliaman Betto.

Agent

No 1148-

8 3

MADRAS RAILWAY.

AGENT AND MANAGER'S OFFICE

Madras, 25th July 1871.

From Reverend Anderson Esqre
Ag Agent and Manager. M. R. Co

To Major H. A. Prendergast, R.E.
Esq. Consulting Engineer for Railways.

SIR,

In accordance with the request contained in the Consulting Engineer's letter No 68 of the 16th of February 1870, I have the honor to enclose you the copy of a Report made by the Traffic Manager as to the carrying capacity of Waggon

2. The subject of the proportion of Waggons to be used in the Locomotive and paying loads has long received the careful attention of the Officers of this Company and every effort has been made to adapt the vehicles used on the line so as to secure the lowest possible expenditure in working.

3 Recently discussed the question with the Locomotive Superintendent and the Traffic Manager and I quite agree with the opinions expressed by Mr Chisholm in the enclosed Report, and also with the comments which he makes upon the

From the Agent F.S.M.R. Co. Negapatam

To the Consulting Engineer for Railways Madras

No 1148

Dated 4th August 1870

No 68/2718 14th July 1871

Reporting for the information of the Consulting Engineer the number of Waggons required to work the Traffic on the Line, and relating to the carrying capacity of Waggons

Capacity of Waggons

Carrying Capacity of Waggons

9 50 4

the observations of the Government of
Ceylon as contained in Circular ep 1
(Public Works Department) dated 11th
January 1870

I have the honor to be
Sir
Your most obedient Servant
Bamfurd Anstruther
Acting Agent & Manager

MADRAS RAILWAY.

From

The Agent and Manager.

To

The Consulting Engineer

for Railways.

Dated 25th July 1871.
Recd. 26th —— 1871.

C. W. 4141/71 No. 448.

Enclosing copy of a Report from the Traffic Manager on the subject of the Carrying Capacity of Waggon Stock.

is "covered", the Madras Railway Wagon Stock is a modification of the "open sided" with sides and ends 2'. 5" high for Bale and Case Goods and for Grain in Bags the "covered" Wagon is very convenient; but it is perfectly useless for some kinds of heavy goods, such as Grain in bars and Timber, and very unprofitable for Light and Bulky Goods. In practice it is frequently necessary to use "open sided" Wagons as a measure of economy, and to send back the "covered" Wagon "empty", simply because the form of the latter is not suited to the miscellaneous character of the Traffic. The following illustration will explain this more clearly. A station on the Madras Line receives for a station on the Great Southern Railway several consignments of goods consisting, say of,

1 Ton Bale Grain
3 " Cases and Bales.

The Covered Wagon will accommodate the Cases and Bales, but not the Grain bales, so that the running of two Wagons is inevitable. The "open sided" Wagon will accommodate all, and rather than incur a charge for mileage of foreign Stock; the whole of the Goods are loaded in an Open sided Wagon belonging to the Madras Railway Company, and the Great Southern Company's Wagon is run back "empty", and under the Rules for the interchange of Traffic is exempt from "mileage". The Madras Company is nevertheless put to the cost of hauling this Wagon without any remuneration whatever, and it will be

I see at once that the running of 2 wagons, where one of a suitable form would suffice, reduces the average Wagon loads.

In the case of light and bulky Goods the superiority of the "open sided" over the "covered" Vehicle is again apparent. The large covered Cotton Wagons built expressly by the G. I. P. Railway Company for carrying loose Cotton will only convey - according to the Author's memo. printed in the Proceedings of the Railway Conference held at Calcutta in January 1871, two and a half (2½) Tons of Loose Cotton, while on the Madras Railway we have no difficulty in loading 90 Maunds or 3. 3 Tons on an open sided Wagon. If a mean may fairly assume, the Wagon, of wheels, springs and under framing of both descriptions of Wagon are of the same character, the proportion of paying to dead load must necessarily be very much in favor of the "Open sided"; inasmuch as the Wagon itself is much lighter, and the paying load 30 per cent better.

3

There must also necessarily be a

4.

very great loss of space in loading a covered Wagon from the side, as compared with loading an open sided form of Wagon, but under any arrangement either of Doors or Roof it is very doubtful, in my opinion, whether the former can be so profitably loaded as the latter, and for some descriptions of Traffic the "Covered" Wagon is altogether unsuitable.

The effect of a form unsuitable for general purposes is to increase

of Wagon for

empty Wagon haulage, and to decrease the average Wagon loads

5 Without any prejudice then, I am bound to say that the "open sided" form of Wagon is the most useful, and will be found, under all circumstances, the most economical for general purposes. The Wagons used on this Line are of that form, and are 16'. 0" long and 8'. 8" broad with sides and ends 2'. 5" high with a flap door on either side 5'. 0" broad. The Wagons weigh from Tons 5. 3 to Tons 5. 4 each. A large number of these Wagons have been adopted to carry 9 Tons, and for the last 14 months, the whole of our Salt Traffic has been carried in Wagon loads of 100 Bags weighing Tons 9½. The rest of the stock will be improved in the same way, and the only additional improvement I can suggest is that the sides and ends should be 3 inches higher.

6 With reference to the suggestion of the Government of India "to divide the Goods Traffic into fast and slow; in order to ensure better loads, I cannot think that the true interests of the Government or of the Railway Company would be served by throwing the trade of the Country into the hands of a few, for this would practically be one of the effects of the proposition. The larger proportion of the Traffic on this Railway consists of consignments averaging much less than a Wagon load, and to detain this kind of Traffic until the full load could be made up would discourage the small Trader and seriously

affect the Tonnage of the Railway. A man rails the small Trader embarks his whole in a single consignment, and as soon as he can realise, makes another venture. The rapidity with which he turns his capital is dependent upon the dispatch observed by the Carriers in the transport of his goods. Comparatively rapid transit will enable him to turn over his money three times, where a slow transit would only enable him to do so once, and if the charges levied by the carriers for conveyment to be less than a wagon load pays at all, then manifest that the greater the number of consignments to be conveyed, the larger must be the profits of the carriers.

With regard to the proper loading of Wagons while I am sensible of the advantages to be derived from increasing the average load, I feel that there are many practical difficulties in the way of increasing the average Wagon loads to such an extent as the Government of India look for; but it must be borne in mind that the average load in weight is not always a true indication of the average value of the load. For instance a Wagon load of 9 Tons of salt or grain does not earn so much money per mile as a Wagon load of 3 Tons of loose Cotton; Yet the Wagon in each case is loaded to its fullest capacity. Again on many parts of a Railway there may be a very heavy Traffic in one direction, but a very light Traffic back; still the wagons must be brought back, and the necessity for their

running empty or half loaded on the return journey reduces the average Wagon loads

8 In order to avoid light loads on the one hand and to ensure despatch on the other in the case of small consignments of Goods, a system of "Road Vans" obtains on all Railways. On the slow Trains of the Madras Railway there are frequently as many as 6 Road Vans in a Train of 25 Vehicles, but this number will shortly be increased as it is proposed to try the experiment of making 2 Tons the minimum load for a Wagon, instead of 1 Ton as at present. It will however be purely experimental, as it remains to be proved whether the additional cost of Porterage at Road side Stations for unloading and transhipping Road Goods in time to prevent any serious detention to Trains will not outweigh other considerations.

9 It will be seen from the foregoing observations, that in the first instance a uniform Wagon Stock of a suitable Character for several purposes is essential to economical working; and that until this can be secured it will be hopeless to look for any improvement in the average Wagon loads. At the same time I am of opinion that in estimating the average loads of wagons, due allowance should be made for empty return mileage necessitated by the flow of the Traffic, and beyond the control of the management.

True Copy
Winsfield Anderson.
Ag. Agent & Manager
Coimbatore

Yours faithfully
Sd/ H. S. Church
Traffic Manager

CONSULTING ENGINEER'S OFFICE.

Railway Department. No 372.

From Major H. L. Prendergast R.E.
Consulting Engineer for Railways,

To Colonel C. B. Carpendale R.E.
Secretary to Government,
Public Works Department,
Fort Saint George.

Sir,

With reference to G.O. No. Madras Railway No. 448 dated 5th Aug 1871 with enclosures & S. of S. Railway No. 3448 dated 1st April 1870 Loco Supt's No. 234 dated 5th April 1870

I have the honour to forward letters from the Agents of the Madras and Great Southern of India Railways regarding the carrying capacity of wagon stocks, the proper loading of wagons &c.

A trace drawing is enclosed of the wagon found to be generally

-pally most useful on the Madras Rail-
-way - a drawing of the 10 ton waggon
on the Great Southern line, have been
furnished some time ago to the Gov-
-ernment of India - vide G.O No:
188 dated 17.th January 1870.

I have the honour to be
Sir—

Your most obedient servant—

Madras
31.st August
1871

Alex Brandreth Major R.E
Ag. Cons. Engineer for Railways

Comptroller

C. No. 4141.

Govt of India Public Works.

PUBLIC WORKS.

To Hon'ble Committee of Engineers for Railways

Dated 15th September 1871, No. 2338

Rcd. 18th Sept 1871

Nos. 271-272-273

From The Consulting Engineer for Railways,

Dated 13th Sept 1871.

Received 21st Sept 1871.

No. 372-

Rec'd: 5th

Submitting letters from the Agents of the Madras & G.I.P. Railways regarding the carrying capacity of wagon stock.

Ref. to order 15th Sept

Ref. to Consulting Engineer.

P. W. 1871 Dept

RAILWAY DEPARTMENT.

No. 4141.

To The Secretary to Government, P W. Department, Fort St George.

January 1872 No. 362 364

February " 186-187

No. 2337.

Ordered that the reports received with this letter be forwarded to the Govt of India.

C. E. for Railways / No. 2338 of 15th September 71

Rec'd 20/9/71.

Forwarded to the Govt of India with reference to their Circular No 1. dated 11th January 1870.

Ack'd

Rec'd 20/9/71 with 25 Plans

Copies & Tracings (Volume bds)