

(1) Number of pages 10

(2) Date of repair

(3) Initials of the Referencer

MADRAS RECORD OFFICE.

Government of Madras.

Public Works

DEPARTMENT.

G.O. No.

166

(P)

Press

Mis.

Dated

18

1

1877

Not to be folded or roughly handled

No. 324. Read the following letter from Major J. G. STEEL, R.E., Officiating Under Secretary to the Government of India, Public Works Department, (Railway,) to Major-General G. W. WALKER, R.E., Secretary to the Government of Madras, Public Works Department, (Railway,) dated Fort William, 10th January 1877, No. 29 R:—

I AM directed to forward copy of a memorandum, dated 17th October 1876, with sketch, by Mr. Guilford Molesworth and Mr. A. M. Rendel, and to request that, with the permission of His Grace the Governor in Council, the Government of India may be furnished at an early date with the opinions of the practical officers of the Railway Companies in Madras on the recommendations made on the following subjects:—

- (1.) Communication between guard and driver.
- (2.) Continuous brakes.
- (3.) Rails and tyres.

MEMORANDUM by Mr. GUILFORD MOLESWORTH and Mr. A. M. RENDEL, dated 17th October 1876.

The following memorandum is made upon certain points to which our attention has been specially directed:—

1st.—Communication between guard and driver.

We think the means ordinarily in use in England, viz., the cord with a gong on the engine, may be employed.

If the slack should prove inconveniently great, which we doubt, it may be controlled at the engine by a piece of elastic cord, and if difficulty arises during shunting, the cord may be made in short sections, connected by couplings of simple construction.

2nd.—Continuous brakes.

Not one of the continuous brakes before the public has yet established itself in England, and much remains to be done in the simplification of the best of them before it is likely to be brought into general use. Moreover, they are at present very expensive. Sanders' brake is behind even its competitors in point of development.

We think it would be better to await the report of the Commission now sitting, on the subject, and the action which may follow on it in England, before any steps in regard to it are taken in India. In the meantime, more of the hand brakes now applied to the State stock might be brought into operation where more brake power than ordinary is required, and brakes may also be applied more generally to the engines themselves.

But if the Government of India desire to have some continuous brake tried, we would recommend that one set of Smyth's vacuum brake be ordered.

3rd.—Rails and tyres.

We have received drawings of the sections used on all the lines in India.

In regard to rails, the sections used on the older lines are rather bluffer on the top and side of the head than those supplied to the later lines, including the State. The difference, however, is not very material, even in the drawings, and is probably less in construction. On the whole, we think it might be well to ask the different Companies to adopt the section of the Great Indian Peninsula rail in regard to the side of the head, and the Government should do the same.

In regard to tyres there is also little difference. The late indents for the East Indian present a form which appears to us perhaps most suitable for all rails, and we would recommend its adoption generally.

The drawing appended shows those parts of the tyre and rail in which uniformity should be adopted; the former being the East Indian Railway, the latter the Great Indian Peninsula type.

*Proceedings of the Madras Government, Public Works Department,
18th January 1877. No. 166.*

4th.—Type of engine for Northern Punjab Line.

We have considered this subject, and the necessary drawings are in hand in view to a contract being entered into for the number required.

5th.—Bridge over the Indus at Sukkur.

We have considered the drawings sent home for this important structure.

Late experience in the manufacture of steel will enable many modifications to be made in them with advantage. These we have discussed at length, and preliminary designs have been and are being made in connection with them. The designs that have been sent home will form the basis on which the modifications will be formed, and the details of these modifications may be settled by us in consultation from time to time. The modifications will have a tendency to reduce the weight and cost of the bridge.

No. 325.

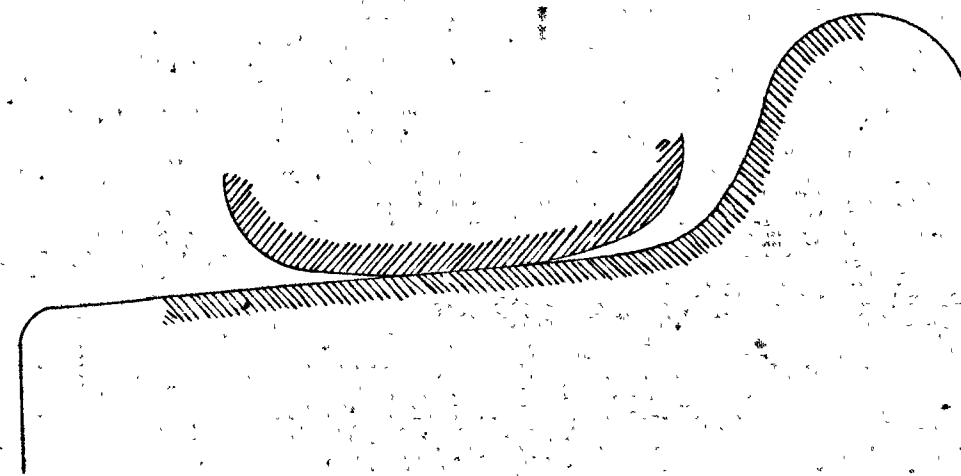
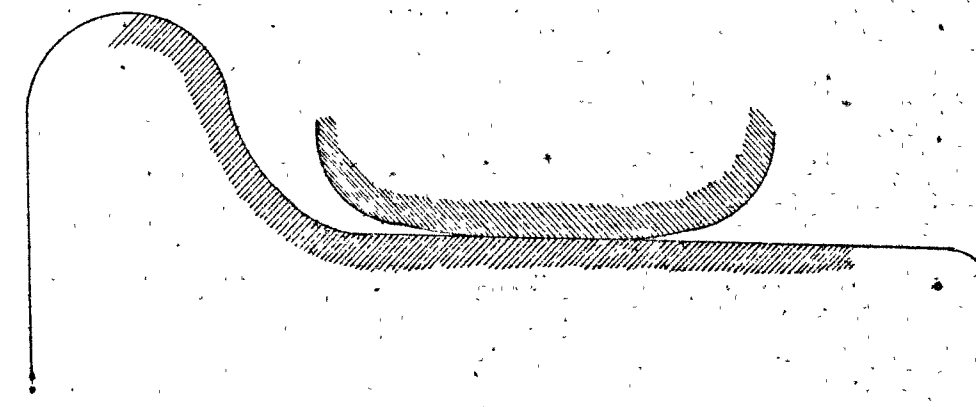
ORDER THEREON, 18th January 1877, No. 166.

RAILWAY, No. 22.

COMMUNICATED to the Consulting
Engineer for Railways, who will obtain
the required opinion.

(True Extract.)

(Signed) G. W. WALKER, Major-General, R.E.,
Secretary to Government.



G.W.W.

1877

1877

by Mr. Guilford Molesworth and Mr. A. M. Rendel,—dated 17th October 1876.

Following Memorandum is made upon certain points to which our attention has been directed:—

—Communication between guard and driver.

We think the means ordinarily in use in England, namely, the cord with a gong on the end, may be employed.

The slack should prove inconveniently great, which we doubt, it may be controlled by a piece of elastic cord, and if difficulty arises during shunting, the cord may be made in short sections, connected by couplings of simple construction.

—Continuous brakes.

One of the continuous brakes before the public has yet established itself in England, and it remains to be done in the simplification of the best of them before it is likely to be brought into general use. Moreover, they are at present very expensive. Sanders' brakes are behind even its competitors in point of development.

We think it would be better to await the report of the Commission now sitting, on the subject, and the action which may follow on it in England, before any steps in regard to the matter are taken in India. In the meantime, more of the hand brakes now applied to the locomotives might be brought into operation where more brake power than ordinary is required, and brakes may also be applied more generally to the engines themselves.

If the Government of India desire to see some continuous brake tried, we would recommend that one set of Smyth's vacuum brake be ordered.

—Rails and tyres.

We have received drawings of the sections used on all the lines in India.

In regard to rails, the sections used on the older lines are rather bluffer on the top than those supplied to the later lines, including the State. The difference, however, is not very material, even in the drawings, and is probably less in the actual rails. On the whole, we think it might be well to ask the different Companies to supply the section of the Great Indian Peninsula rail in regard to the side of the head, and the Government should do the same.

In regard to tyres there is also little difference. The late indents for the East Indian Railway are of a form which appears to us perhaps most suitable for all rails, and we would recommend its adoption generally.

The drawing appended shows those parts of the tyre and rail in which uniformity should be maintained; the former being the East Indian Railway, the latter the Great Indian Peninsula.

—Type of engine for Northern Punjab Line.

We have considered this subject, and the necessary drawings are in hand in view to the subject being entered into for the number required.

—Bridge over the Indus at Sukkur.

We have considered the drawings sent home for this important structure.

The experience in the manufacture of steel will enable many modifications to be made with advantage. These we have discussed at length, and preliminary designs have been made and are being made in connexion with them. The designs that have been sent home are on the basis on which the modifications will be formed, and the details of these modifications may be settled by us in consultation from time to time. The modifications will have a tendency to reduce the weight and cost of the bridge.

communications
to be addressed
to Secretary.

29 R.
GOVERNMENT OF INDIA.

PUBLIC WORKS DEPARTMENT.

RAILWAY.

To

THE SECRETARY

TO THE GOVERNMENT OF
PUBLIC WORKS DEPARTMENT

*Madras
(Railway)*

PORT WILLIAM, 10th Jan'y 1877.

SIR,

I am directed to forward copy
of a memo. dated 17th October 1876,
with sketch by Mr. Guilford Molesworth
and Mr. M. Roudel, and to
request that with the permission
of His Grace the Governor in
Council the Government of
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an early date with the opinion
of the practical officers of
the Railways Companies in
Madras on the recommendation
made

made on the following subjects:—

- (1) Communication between guard and driver.
- (2) Continuous brakes.
- (3) Rails and tyres.

P.W.D.

18 JAN 77

N^o. 457

I have the honor to acknowledge

Sir,

1-8-77

The Secy of India

Your most obedient servant.

Dated 10 Jan 77

W. H. P. Major, R.E. 229 B.

Enclosed 2

Offg. Under Secretary

No 106 of 10 Jan 77

Communicated

to the Consulting Engineer.

for Railways who will

obtain the required

opinion.

W. H. P.

W. H. P.

✓
C/457
1877

1877 Madras.

PUBLIC WORKS.

To *The Commr Eng for M^{rs}.*

Dated

Issued

Recd.

Encl.

G. O., 18th Jan^y 1877, No. 106

Nos. 324 & 325.

*Railway Letter from
the Comr of India forwarding
for the opinions of provincial
officers of Railway Companies.*

*Copy of a letter on certain
points in connection with
—, forwarded to the Comr
for Mys.*

For Mys.