

(1) Number of pages_____

(2) Date of repair_____

(3) Initials of the Referencer_____

MADRAS RECORD OFFICE

Government of Madras

Public Works DEPARTMENT

G.O. No.	2569	Press	<i>Original</i>
B.P. No.		Mis.	
Dated	26-9-	1876	
		195-	

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
26th September 1876. No 2,569*

No 434. Read the following letter from Major C. J. SMITH, R.E., Officiating Consulting Engineer for Railways, to Major-General G. W. WALKER, R.E., Secretary to Government, Public Works Department, dated Madras, 9th September 1876, No. 449 —

I HAVE the honor in compliance with the Order of Government, No 1,602, dated 26th June 1876, to forward two reports
Agent, South Indian Railway, No 2,078, dated 18th August 1876, with enclosure from the Locomotive Superintendent of the South Indian Railway, on the subject of the defects in the rolling stock and engines received from England
Agent, South Indian Railway, No 2,145, dated 5th September 1876

2 My impression has been that the more recent consignments of carriages have exhibited fewer cracked panels than the earlier ones. The specifications certainly provided for both material and workmanship of the very best description, and the lesson to be learnt would seem to be that indicated by the Consulting Engineer in England, that the stock should be built in India of properly seasoned wood.

3 I have reason to believe that the alleged defect in the construction of the central buffer carriage and wagon draw-bars has been corrected in the more recent consignments.

4 The irregular wear of tyres will doubtless receive attention. I cannot help thinking the "sand ballast" nearly everywhere in use may affect the working gear and to some extent account for the wear of brasses, tyres and guides, and perhaps also the fusing of the fire-bars, though an alteration in the ash-pans has been recently sanctioned with a view to remedy this latter defect. It may be found advisable to lessen the injurious effect of sand ballast by "covering" it in with a heavier material such as laterite gravel or lime kunkur. This has been tried on both the Scinde, Punjab, and Delhi, and the Oude and Rohilkund lines with advantage.

5 The fracture of leading spring buckles appears to have been fully met by adding to their strength.

6 There would appear to be no remedy, but great care to meet the type of injectors in use.

7. The shrinkage in the diagonals and uprights of the covered goods will, I conclude, be remedied as necessity arises, and an opportunity is afforded in the same manner as was done with the cotton wagons with which the risk of fire made "refitting" an immediate necessity.

From W. S. BLITTS, Esq., Agent of the South Indian Railway, to Major C. J. SMITH, R.E., Officiating Consulting Engineer for Railways, dated Negapatam, 18th August 1876, No 2,078.

In compliance with the request contained in your letter, No 786, of the 19th ultimo, I forward herewith copy of a report from the Locomotive Superintendent upon the metre gauge rolling stock.

From the Locomotive and Carriage Superintendent, to the Agent of the South Indian Railway, dated Negapatam, 17th August 1876, No 2,540.

YOUR No ⁷⁴⁰³/_{3,480} Draw-bars, brasses, leading springs, carriage panels of metre gauge stock As requested by the Consulting Engineer, I now send you my remarks upon the above points.

*Proceedings of the Madras Government, Public Works Department,
26th September 1876. No. 2,569.*

Brasses —I find the brasses I am renewing stand somewhat better than the maker's brass. My experience tends to show that the case-hardening of crank pins has very much to do with the wear of the brasses, the harder the pin the longer the brasses wear.

Draw-bars —All the engines I have running on the open line have been some time fitted with the new type of bar and none have broken, nor do I anticipate any of them ever will go

Injectors —Everything is done that can be done to prevent foreign matters getting into the injectors with the feed water, but still some cases occur of failures from this cause. The orifice is so very small that even a small straw stops the injector.

Leading Spring Buckles —These continue to break both in the shank and in the strap; as they come in for repair I am strengthening them in both places. When more engines are ordered I shall take the opportunity of suggesting the departure from this type of leading wheel suspension, our curves are all 500 feet radius, and these engines traverse them cleanly without friction without the lateral play given by the leading box, indeed the vibration was so great in front that I have taken the side play off the leading box altogether as far as the sliding top keep is concerned and left only three-sixteenths of an inch on a side play on the boxes; there is no need for so much play unless the curves are sharp. I imagine these engines were arranged to clear the Government standard curve of 330 radius.

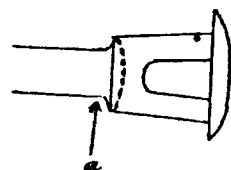
Carriage Panels —Up to 10th August, 293 panels have been renewed on the carriage stock, and there are very many more to be replaced. I fear I shall have to renew about 90 or 95 per cent of the panels of all the carriages. I anticipate very heavy repairs on the goods stock, due to the shrinkage of timber and imperfect workmanship. I can put my finger into the mortices alongside the tenons of 75 per cent of uprights and diagonals, the vehicle is therefore very shaky.

From W. S. BETTS, Esq., Agent of the South Indian Railway, to Major C. J. SMITH, R.E.,
Officiating Consulting Engineer for Railways, dated Negapatam, 5th September 1876,
No. 2,145

THE Locomotive Superintendent reports, as follows, to the questions put in your letter,
No. 941, of the 1st instant —

"I conclude the Consulting Engineer refers to the numbers of draw-bars with heads broken off that he saw lying in the Smith shop for repair when he was last here. The head and jawfalls from the rod end breaking short off at a (along blue dotted line), due in my opinion to imperfect workmanship, the rod end appears to have been what is termed "dabbedon" to the jaw end. Many have been delivered to me newly broken in transit from home, and numbers thus break in working. Engine wheel tyres appear to be variable in quality. Some engines have done an excellent mileage without much apparent wear,

while others have run a very short time before wheels require turning. I propose sending home a few templates showing wear of tyres as indicating variable quality.



No. 435. ORDER THEREON, 26th September 1876, No. 2,569.

RAILWAY, No. 45

ORDERED that these papers be forwarded to the Secretary of State with a view to the attention of the Directors of

*Proceedings of the Madras Government, Public Works Department,
26th September 1876. No. 2,569.*

the South Indian Railway being called to the statements made as to the draw-bars of engines and leading spring buckles, the frequent failures of which indicate defective workmanship or design.

(True Extract)

Colonel,

Offg Under Secy to Govt, P.W.D.

To the Consulting Engineer for Railways.

Exd E. C. Shunkor
Spare Copies

No. *2078* *South Indian* GREAT SOUTHERN OF INDIA RAILWAY. *SO 3 4*

AGENT'S OFFICE,

NEGAPATAM, *18 August* 1876

From

THE AGENT, *South Indian*
~~Great Southern of India~~ Railway,

To

The Consulting Engineer for Railway
Madras

SIR,

In compliance with the request contained in
your letter No 786 of the 19th Decr I forward herewith
copy of a report from the Locomotive Superintendent
upon the metre gauge rolling stock

I have the honour to be
Sir

Your Most Obedt Servant

William Stott

Agus

South Indian Railway

Letter from the Locomotive and Carriage Superintendent to the Agent, dated Nagapatam 17th August 1876 N^o 2540

Your N^o $\frac{7403}{3480}$.
Draw-bars - Brasses - leading springs - Carriage panels of Metro gauge Stock.

As requested by the Consulting Engineer I send you my remarks upon the above points.
Brasses I find the brasses I am renewing stand somewhat better than the makers brass. My experience tends to show that the case-hardening of crank pins has very much to do with the wear of the brasses. The harder the pin the longer the brasses wear.

Draw-bars All the Engines I have running on the open line have been some time fitted with the new type of bar and none have broken nor do I anticipate any of them ever will go.

Injectors Every thing is done that can be done to prevent foreign matter getting into the injectors with the feed water but still some cases occur of failure from this cause. The orifice is so very small that even a small straw stops the injector.

Leading springs buckles These continue to break both in the shank and in the strap. as they come in for repair I am strengthening them in both places. When more engines are ordered I shall take the opportunity of suggesting the departure from this type of leading wheel suspension - two curves are all 500 ft radius and these engines traverse them cleanly without friction without the lateral play given by the leading box - indeed the vibration was so great in front that I have taken the side play off the leading box altogether as far as the sliding top link is concerned and left only $\frac{3}{16}$ " on a side play on the boxes. There is no need for so much play unless the curves are sharp. I imagined these Engines were arranged to clear the Government standard curve of 330 radius.

W. L. M. 1876

Received of the Agent
17th August 1876
N^o 2540
The Locomotive and Carriage Superintendent
Nagapatam

P.W.D.
 11 SEP 76
 No. 6591
 1

Carrage Panels. up to 10th August 298 panels have been renewed on the Carrage stock and there are very many more to be replaced. I fear I shall have to renew about 90 or 95 per cent of the panels of all the carriages I anticipate very heavy repairs on the Goods Stock due to the shrinkage of timber and imperfect workmanship. I can put my finger into the mortices alongside the tenons of 75 per cent of uprights and diagonals. The vehicle is therefore very shaky

Agents' Office
 Negapatam
 17th August 1876
 297

(True Copy)
 William B. B. B.
 Agents

Recd with
 Agents Office
 178 918-87

No. 2145 South Indian
 GREAT SOUTHERN OF INDIA RAILWAY.
 AGENT'S OFFICE,
 NEGAPATAM, 5th September 1876
 From
 THE AGENT,
 South Indian
 Great Southern of India Railway,
 To The Consulting Engineer for Railways
 Madras.
 SIR,

The Locomotive Superintendent reports as follows, to the questions put in your letter of 9th of the 1st Inst.

I conclude the Consulting Engineer refers to the "numbers of draw bars with heads broken off that he saw lying in the Smith shop for repair, when he was last here. The head and jaw falls from the rod end breaking short off at (a long blue dotted line) due in my opinion to imperfect workmanship, the rod end appears to have been what is termed 'dipped' to the jaw end. Many have been delivered to me newly broken in transit from home, and numbers thus break in working. Engine wheel tyres appear to be variable in quality. Some Engines have done an excellent mileage without much apparent wear while others have run a very short time before wheels require turning. I propose sending home a few templates showing wear & types as indicating variable quality. I have the honor to be
 Yours obediently
 William B. B. B.

RAILWAY DEPARTMENT.

CONSULTING ENGINEER'S OFFICE,

Madras, 9th September 1876

No. 449

From

MAJOR C J SMITH, R E,

Offg Consulting Engineer for Railway,

To

MAJOR-GENERAL G W. WALKER, R E,

Secretary to Government,

Public Works Department,

Fort Saint George.

SIR,

Have the Honours in compliance with the Order of Government No 1,602 dated 26th June 1876 to forward two reports from the Locomotive Superintendent of the South Indian Railway on the subject of the defects in the rolling stock and engines received from England.

2

My impression has
been

Agent S. J. By No 2078 d/18/18/76.
arch enclature.

zurück zu kommen.

9/6/5/25712 — do — 21458/5/9/6

From the Bank
 of the State of
 New York
 to the
 Cashier of the
 Bank of the
 City of New York
 for the
 sum of
 \$100.00
 No. 100
 New York
 1888

been that the more recent assignments of carriages have exhibited fewer cracked panels than the earlier ones. The specifications certainly provided for both material and workmanship of the very best description, and the lesson to be learnt would seem to be that indicated by the Consulting Engineer in England; that the stock should be built in India of properly seasoned wood.

3. I have reason to believe that the alleged defect in the construction of the central buffer carriage and wagon draw bars has been corrected

corrected in the more recent assignments. The irregular wear of tyres will doubtless receive attention. I cannot help thinking the "sand ballast" nearly every where in use may affect the working gear and, to some extent account for the wear of brasses, tyres, and guides, and perhaps also the fusing of the fire-bars - though an alteration in the ash pans has been recently sanctioned with a view to remedy the latter defect. It may be found advisable to lessen the injurious effect of sand ballast by covering

covering it up with a heavier material
such as latite gravel or lime cinders.
This has been tried on both the
Punjab and Delhi and the
Oude and Rohilund lines with
advantage.

5. The fracture of
leading springbuckles appears to have
been fully met by adding to their
strength.

6. There would appear
to be no remedy, but great care to
meet the type of inspectors in use.

7. The shrinkage in the
diagonals and uprights of the
covered goods will, I conclude, be
remedied

3
remedied as necessity arises and an
opportunity is afforded, in the same
manner as was done with the
cotton wagons with which the risk
of fire made "refitting" an imme-
diate necessity.

I have the honor to be
Sir

Yours most obedt Servt.

C. Smith. Major R. E.

Offg Genl Inq for Railways

№ 659

Q. C. 26 June / 76 No 1602 -
 Pay Dr to the Sing rpl tute of 8-3
 Friday 1st / 6 / 1876
 Co Q. C. 25 Jan / 76 No 188
 Pay Dr to the Sing rpl tute 22nd Nov 75
 eto 9 of 1875
 Q. C. 13 June / 75 No 3259.

Dep. Auth 11-9.76 (R. 28-3-5)

2-2.11

u434

Nothing
 Ruben Thompson
 reports from the Seco:
 district of the St. Mary
 the subject of the de-
 fee can be nothing
 at all and requires
 need from his land.

Dated 9
Received } E. H. 1876.

RAILWAY DEPARTMENT.

From *Off.*
The Consulting Engineer
for Railways,

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

PUBLIC WORKS DEPARTMENT.

Letter from the Consulting Engineer for
Railways N^o 449 d^y 9th Sept^r 1876

FOR ORDERS.

Major Genl R.E.
Secretary to Genl. D.P.W.

[illegible]

FOR ORDERS.

No 2569

Public Works Department.

PROCEEDINGS OF THE MADRAS GOVERNMENT

UNDER date the 24 Sept 76.
Read the following

From

The Cons. Eng. for Railways (H.C. No. 449 of 9th Sept. 1876)

Ordered that these papers be forwarded to the Secretary of State with a view to the attention of the Directors of the South Indian Railway being called to the statements made as to the Draw-bars of Engines and leading spring Buckles, the frequent failures of which indicate defective workmanship or design.

Cons. Eng. for Rys

Desd 12/11/76

W. L. S.

May 12/9
Public Works Dept.

To, The Most Honble
the Secretary of State for India.

My Lord Marquis,

On receipt of your
Lordship's Despatch of
the 11th May 1876 N^o. 2 (Railway)
a report was called for as
to whether defects in
Engines sent out for the
South Indian Railway
continue to be observed.
In reply, the accompany-
ing reports have been
submitted which we
desire to lay before your
Lordship with a view
to the attention of the
Directors

Directors of the Company
being called to the state-
ments of the Locomotive
Superintendent as to the
Draw bars and leading
spring Buckles, the
numerous failures of which
clearly indicate in our
opinion defective work-
manship or design.

No 434/5

Filed 28.9.76
Ex. 28.9.76

659121
 Govt. of Madras.
 PUBLIC WORKS.

To The Commr. Eng. for the

Dated

Issued

Recd.

Encl.

G. O. 25 Sept 1876, No. 749

K R
 Nos. 434

Submitting a report
 relative to the defects
 in the Rolling Stock
 & Engines
 sent out for the S. & P.
 & desiring the attention
 of the S. & P. to be
 drawn to the statement
 regarding the Draw bars
 & leading ~~spring~~
 spring Buckles, the
 numerous failures
 which clearly indicate
 defective workmanship
 or design —

Rolling stock and
Engines received from
England — Papers
relating to the S. & P.

Papers on the subject
 of certain defects in the
 — order of to be for-
 warded to the Secy of
 State with a view to
 the attention of the S. & P. being
 called to the statements
 made regarding the draw
 bars of Engines & leading
 spring Buckles.

13-10-76