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MADRAS RECORD OFFICE

Government of Madras

Public Works

DEPARTMENT

G.O. No.	<i>1670</i>	Press
B.P. No.		Mis.
Dated	<i>20-6-</i>	<i>195</i>

Original

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
20th June 1874.*

No. 456. Read the following letter from Lieutenant-Colonel J. H. M. SHAW-STEWART, R.E., Consulting Engineer for Railways, to Colonel G. W. WALKER, R.E., Secretary to Government, Public Works Department, dated Madras, 17th April 1874, No. 234:—

I HAVE the honour to submit, for the information of Government, a report by the Deputy Consulting Engineer upon an inspection of the South-West and North-West Lines of the Madras Railway.

2. The attention of the Railway Authorities has been drawn to those portions of the report which require notice.

3. In paragraphs 25 to 30, Captain Thompson alludes to the inconvenience entailed upon passengers to the Neilgherries by the existing train service between Pothanore and Mettapolliam. He suggests that the 7 A.M. train from Madras, which at present runs no further than Erode, should go through to Mettapolliam. He remarks that this would suit passengers from Madras and Bangalore on the one hand, and on the other hand passengers from Trichinopoly, Negapatam, and Beypore, who now are obliged to halt at least one night during the journey.

4. In my letter, dated the 15th instant, No. 225, I addressed Government upon this subject, when laying before them a suggestion from the Collector of Coimbatore for the running of a train from Pothanore to Mettapolliam early in the morning.

5. The change recommended by Captain Thompson would, in my opinion, be of greater advantage to the public than Mr. Wedderburn's proposal. It would, however, add to the Company's working expenses in still greater measure, without any corresponding addition to the receipts. Its advantages would be reaped by an infinitesimal section of the tax-paying public, and by those few persons perhaps once or twice only during a year. In the present depressed condition of railway traffic any proposal which would add to the working expenses requires the support of unquestionably strong argument, and I cannot recommend for sanction the suggestion that the 7 A.M. train should run on from Erode to Mettapolliam.

6. In paragraphs 45 to 50, Captain Thompson alludes to Sir John Hawkshaw's recommendation that the cylinder piers at the Cheyair Bridge should be carried down to the solid rock, and that the face of the rock should be levelled to receive them. The Government are aware of the unexpected depth to which it has been found necessary to sink some of these piers, if the solid rock is in every case to be reached. The subject is alluded to in the following Proceedings of Government:—

No. 424, dated 20th February 1874.

„ 835, „ 25th March „

„ 898, „ 31st „ „

„ 923, „ 8th April „

7. I have during this week been able to visit the Cheyair Bridge in company with the Chief Engineer of the Madras Railway, and I am able to endorse Captain Thompson's remarks as to the proposed measure involving a good deal of unnecessary

expense. From Sir John Hawkshaw's letter of the 26th January 1874, he seems to have been under the impres-

* *Vide* Proceedings of Government, No. 898, 31st March 1874.

*Proceedings of the Madras Government, Public Works Department,
20th June 1874.*

sion that the river-bed, above the solid rock, consisted of little else than sand. This is now proved to be an erroneous idea, inasmuch as many of the cylinders have encountered clay of remarkable stiffness and tenacity. I have no doubt that, when the Company's Consulting Engineer is furnished with a correct section of the river-bed, he will greatly modify the opinion given in the above-quoted letter. The matter has been again referred by the Chief Engineer to England for consideration.

3. The Agent has been asked to draw the special attention of the Locomotive Department to the necessity for strict observance of the rule limiting the speed of trains through facing points to five miles an hour. The Locomotive Superintendent is thoroughly alive to the importance of the rule, but it is not easy to insure its being strictly obeyed.

9. With reference to paragraph 55, the necessity for limiting the speed of trains between the Central Station and Veysurpaudy has been admitted by the Railway Authorities, and instructions were issued during last month prohibiting a greater speed than 20 miles an hour.

*Note on the North-West and South-West Lines of the Madras Railway and their
Branches inspected in February and March 1874.*

I HAVE the honour to report having completed an inspection of the Madras Railway lines, viz., the South-West Line from Madras to Beypore, with the Bangalore and Mettapolliam Branches, and the North-West Line from Arconum to Raichore with the Bellary Branch.

SOUTH-WEST LINE.

2. *Roadway.*—The roadway of the South-West Line is, on the whole, in very good condition. Ballast appears to be liberally supplied wherever required, and the permanent-way to be lifted, packed, etc., where necessary.

3. The 301st, 300th, 299th, 294th, and 262nd miles were being train ballasted when I travelled over them. In the 302nd mile near Pothanore, the timber sleepers were being removed where necessary, and iron pot-sleepers laid down instead.

Between Pothanore, Somanoor, and Avenashy Stations, many wooden sleepers are being removed, most of them so much decayed as to go to pieces during removal.

The 240th, 238th, 237th, 236th, 234th, 232nd, 227th, 69th, 62nd, 46th, and 42nd miles appear to require lifting and packing in places.

4. *Bridges.*—The timbers of many of the girder bridges have been lately tarred. This work appears to be almost completed on the western division of the line, viz., between Pothanore and Beypore.

Two "diversions" have been made in the line, one at the 217th mile, 20th telegraph post: the other at the 40th mile, 6th telegraph post, for the repairs of girder bridges. Trains crossing these bridges slacken speed to four or five miles an hour.

At the Palar and Poiney bridges a good deal of material has been collected for the protective works, which are apparently progressing fairly. I propose inspecting these works at an early date with Mr. French, the Engineer in charge, and reporting upon them more fully.

5. *Telegraphs.*—The lines of telegraph, both Government and Railway, appear to be in a good and efficient state. I did not notice any decay in the wooden telegraph posts, or that any of them were out of the perpendicular.

6. Between Palghat and Pothanore there would seem to be some danger of the wooden telegraph posts being burnt, when the scrub jungle and grass, which grow very thickly on that portion of the line, catch fire in the hot weather. As these posts decay, it would, I think, be well to replace them with iron standards.

*Proceedings of the Madras Government, Public Works Department,
20th June 1874.*

7. *Fencing.*—The wire and stone wall fences appear to be in perfect condition throughout, and the aloe to be as efficient as a vegetable fence can well be.

Between Madras and Arconum the corkapullay hedge is in some places weak.

8. *Stations.*—At Salem station, owing, I understand, to the floor of the upper storey being too heavy, the ceiling beams of the waiting-room for gentlemen, of the refreshment-room, and of the closed in verandah in rear of the refreshment-room have cracked and bent. These beams are now supported with upright posts, struts, etc., and appear to be secure enough for the present, but some more permanent repairs should be carried out as soon as practicable.

9. *Dress of Station-masters.*—The orders which have been lately issued, requiring station-masters and ticket-collectors to appear in uniform when on duty at the arrival and departure of trains, do not, as a rule, appear to be attended to. The orders in question appear to be considerably better obeyed by the ticket-collectors than by the station-masters.

10. I have observed that at the *minor* stations, the station-masters usually appear in uniform on the arrival of the *mail* and *passenger* trains; but at the larger stations, viz., Arconum, Jollapett, Bangalore, Salem, Erode, Pothanore, Beypore, Cuddapah, Bellary, Goondacul and Raichore* it is the exception, not the rule,

* And even Madras.
to find the station-masters in uniform, or wearing any distinguishing badge whatever by which they may be recognized by passengers or the public generally.

11. At these larger stations it is of more importance that the station-masters should be readily recognizable than at the smaller ones. The wearing of a suitable uniform, or some distinguishing badge should, I think, be insisted upon by the Railway Authorities.

12. If the blue uniform, with which I understand all station-masters have now been supplied, is too heavy or hot for the hot weather, they might have a lighter one of some light cotton material, or at any rate have some badge by which they may be recognized by the public.

13. *Refreshment-room arrangements.*—There appears to be a general scarcity of "mately towels" or "glass-cloths" at the station refreshment-rooms, or else (more probably) there is a general disinclination on the part of the servants to use them. I constantly see plates, glasses, etc., being wiped with very dirty-looking *table-cloths*. This is neither pleasant to see nor to think about.

To make table-cloths, which have been used indiscriminately for wiping tables, plates, lamps, glasses, etc., clean and white again, they must be subjected to a considerable amount of extra washing, pounding, and bleaching, all this means extra wear and tear; so, on the score of economy alone, it would be well that the table-cloths should be kept for their strictly legitimate uses.

14. At the Pothanore station refreshment-room there are either no table napkins or else a very limited supply of them. The butler on one occasion told me that they were "all with the dhoby;" on another that he had applied for some more, but had not yet been supplied with them.

15. I hope that the Madras Railway Company will ere long be able to take the management of the Beypore refreshment-rooms, or, as it is called, "the Beypore Hotel," into their own hands. The gain would be a considerable one to travellers obliged to halt at the Beypore Railway station. At present the food is not always as good as it might be, and the supply of *sound* liquor is at times very limited. On the date of my visit there was no soda water to be had, the brandy was indifferent, and most of the beer in quarts appeared to be unsound.

16. *Water for Native Passengers at Erode.*—There appears to be some want of drinking water at the Erode station for Native passengers by day trains. A respectable looking native at Erode, calling himself a "contractor," told me that he and some other native residents at Erode would, if permitted, erect a "water-pandal" at their own expense as "a good work" in any part of the station compound approved of by the Railway Authorities. He said that Native passengers usually arrive at the station some time before the departure of their train; that during the hot weather they are a good deal inconvenienced with heat and thirst, and that they cannot get such water as they care about drinking, unless they go down to the Cauvery river, distant about a

mile from the railway station. I dare say a "water-pandal" with a Brahmin waterman to bring and distribute the water would be a convenience to Native passengers at Erode; all castes could then drink the water. I promised to bring the "contractor's" proposal to the notice of the Railway Authorities, and accordingly take the opportunity of now doing so.

17. *Mullapoorum Water-column for Engines.*—I noticed that at Mullapooram station it took a considerable time to fill up the engine tender with water. This, I understand, is owing to the head of water in the tank which supplies the water-columns being rather low. Although the engine-drivers complain of the delay so caused, I am not aware whether much practical inconvenience arises from it or not; if it does, however, the defect could, I imagine, be remedied at a small cost by raising the tank a little.

BRANCH FROM JOLARPETT TO BANGALORE.

18. The Bangalore Branch line appears to be in excellent order in every way. With the exception of the 162nd and 157th miles, where the ballasting is rather light, the line is well supplied with ballast.

19. The side walks and slopes are very neatly kept. The cross drainage is carefully attended to, and the fencing appears to be efficient throughout.

20. The stations are neat and clean, and the telegraph posts and wires are apparently in good order.

BRANCH FROM POTHANORE TO METTAPOLLIAM.

21. *Condition of Roadway.*—The roadway is apparently kept in excellent order. Between Pothanore and Coimbatore there is a slight want of ballast in one or two places for short distances, but the remainder of the line is very thoroughly ballasted. The side walks and slopes are being made up throughout the line.

22. *Aloe fencing.*—The aloe fencing is generally thriving very well. Near Mettapolliam it is being carefully banked up with earth. I noticed in the 315th mile near the 14th and 15th telegraph posts, where the country is all black-cotton soil, that a double row of aloes had been planted along the line. The outer row was planted on the usual "mound" or bank; the minor row on the ground level. The aloes planted on the ground level appear to be about twice the size of those in the mound. If these rows of aloes were not planted at the same time, it would be interesting to know which had been put down first. I am rather inclined to think that planting aloes in a "mound" is a mistake when the soil is "black cotton." They always appear to thrive best in this soil (which apparently is, under any circumstances, unsuited to them) when planted on level ground or in a trench rather than in a mound.

23. *Station Buildings.*—Since the station platform roof (corrugated iron) at Mettapolliam has been lined with planking, the heat, which at that station is sometimes intense, has been much lessened on the platform.

24. The engine-shed (50 feet long) has been commenced close to the turn-table. It is about half finished.

25. *Time of arrival of Mail Train at Mettapolliam.*—When the branch line to Mettapolliam was opened in September last, passengers to the Hills were almost unanimous in thinking that the time of arrival of the Madras train (9-30 A.M.) at Mettapolliam was as convenient a one as was possible, considering the hours of leaving Madras and Bangalore. The weather at that time of the year was comparatively cool, and it was pleasant to be able to get a comfortable bath and breakfast at Mettapolliam after the night journey in the train, before commencing the ghaut ascent. At the present season of the year however (viz., March and April) the heat of a mid-day ascent to Coonoor is very trying.

26. To get to Coonoor before dark by the ordinary means of travelling from Mettapolliam (viz., by driving to Cullar, and riding or being carried by bearers up the remainder of the way,) it is necessary to leave the Mettapolliam station or hotel not later than 2-30 or 3 P.M., and to get to Ootacamund before nightfall not later than 12 noon; so that starting at these hours, a very hot and trying journey must be undertaken.

27. I.—At present this can only be avoided by remaining for the night at Mettapolliam and going on early next morning.

II.—Or by remaining for the day at Pothanore or Coimbatore, going by transit to Mettapolliam during the night, and then on up the ghaut early in the morning.

28. The hour of arrival of the mail train at Mettapolliam (9-30 A.M.) is now considered so inconvenient that many people are adopting the alternative I have last mentioned, or are going by special trains from Pothanore to Mettapolliam.

Unless the timing of the mail train from Madras (viz. 6 P.M.) is altered, the only way I can see that the Madras and Bangalore people could well be brought into Mettapolliam so as to get up the ghaut in good time in the morning, would be to run the 7 A.M. train from Madras on from Erode (where it now halts for the night) through to Mettapolliam. This would also serve the Negapatam, Tanjore, Trichinopoly, Caroor, and Beypore people. Passengers from the first four places could come up by the 8-45 A.M. train from Negapatam, reaching Erode at 5-10 P.M., dining there, and going on by the 7 A.M. train from Madras, now timed to arrive at Erode at 7-40 P.M., and halt there for the night.

29. This arrangement would I know be the greatest boon to the Negapatam, Tanjore, Trichinopoly, and Caroor people (travellers to the Hills from Tuticorin, Palamcottah, Tinnevely, Madurai, and Dindigul as a rule pass through Caroor on their way up).

30. At present the Negapatam and Tanjore people must remain for the night at either Trichinopoly, Erode or Pothanore, and the Trichinopoly and Caroor people must remain for the night at Erode or Pothanore, unless they do as some are now doing, viz., take transits from Pothanore to Mettapolliam by night. If they do not do this, or do not go to the expense of a special train from Pothanore to Mettapolliam, they find that after spending an uncomfortable night at either Erode, Pothanore or Coimbatore, they only arrive at Mettapolliam at 9-30 A.M., when they cannot well start for Coonoor before noon.

NORTH-WEST LINE.

31. *Roadway.*—Where the line crosses the black cotton country between Ghooty and Raichore and Goondacul and Bellary, a very large amount of ballast has been collected and spread, or is being spread.

I observed working parties in nearly every mile from the 267th up to the 349th, lifting, packing, ballasting, etc.

32. On the Bellary Branch also, between the 275th and 303rd miles, I observed similar activity. Ballast in abundance was being put down on the line throughout, where it passed over black cotton soil, or where it otherwise required it.

33. Between Arcunum and Ghooty numerous working parties were employed in ballasting, packing, making up side walks and slopes, etc.; the line, on the whole, is in first-rate order.

34. *Fencing.*—The wire and wall fences appear in an efficient state throughout; in the black cotton soil portions there seems to be no chance of the aloe ever forming a good fence. The leaves are all stunted and wiry, very much the shape of, and not much larger than, bayonets.

In the 337th mile where red soil occurs the aloe grows vigorously, but closely in black cotton soil, it is again stunted and small.

I have noticed along this line that the aloe when in cotton soil seems to grow better on the ground level or in trenches than in mounds. I have already noticed this peculiarity in paragraph 22 of the accompanying report on the Mettapolliam Branch of the South-West Line.

35. As the aloe when healthy and sufficiently large forms such an excellent fence for railways, it might be worthwhile experimenting to ascertain definitely the conditions under which it would best thrive in black cotton soil, viz., whether in mound, on the level, or in trenches.

Should it be found to thrive better at first in trenches or on the level, it might be planted when necessary in that way, and when it had attained to a certain healthy growth, drains might be cut along the rows, on one or both sides, so as to make the fence a greater obstacle to cattle.

36. *Bridges.*—The construction of the extra water-way required in the 217th mile at the 12th telegraph post is in progress. Stone is being quarried for this work at the 216th mile, 16th telegraph post, and a diversion has been completed, so that trains pass round the work in question.

37. The protective works at the bridge of the girder spans in the 210th mile, 18th and 19th telegraph posts, are in progress, the flooring is being put in, and the curtain walls in front and rear of the flooring have been completed. The timber work of the bridge over the Pennair river in the 217th mile, 12th telegraph post, has been coated with tar.

38. *Ballast required.*—There is a slight want of ballast in the 248th, 249th, 208th, and 206th miles, but the side walks and slopes were being made up with earth from outer pits in these miles preparatory to this want being supplied.

A very large amount of work has been done lately throughout the North-West Line, in raising side walks, making up slopes of embankments, etc., etc.

39. *Stations.*—So far as my experience of Raichore goes, it is an extremely hot place, and when there is but little wind stirring, the Raichore station passenger platform is sometimes almost unbearable, owing to the heat radiated from the under surface of the corrugated iron roof. When I was last there, a Battery of the 20th Brigade of Artillery, on its way from Burmah to Secunderabad, was halting for some hours waiting for a train to carry it on, the men appeared to feel the heat a good deal.

40. The platforms of the Coimbatore and Mettapolliam stations have been made much cooler by the verandah roofs being lined with planking. It would, I think, be well to have the Raichore platform roof lined in the same way, as the station is an important one.

41. The goods shed doors at the Moodanoor station were some months ago painted green; when first put on the paint looked bright and fresh enough, but it is now grey, streaky, and shabby looking. I do not think it is at all a suitable description of paint for this country for timber-work exposed to sun and rain. The wood-work of the terminus of the Great Southern of India Railway at Nogatam has been painted with the same colour. It looks well at first but after a few months it always fades, looking dingy and shabby, and requiring frequent repaintings to keep it bright and clean looking.

42. *Ghoozy Bungalow for the Resident Engineer.*—The bungalow for the Resident Engineer at Ghoozy has been commenced, the walls have been raised to the level of the tops of the doors and windows. The old bungalow in which he is at present obliged to live is a very tumble down affair.

43. *Huggry Bridge.*—The Huggry bridge work is now fairly started and seems to be progressing very well. A good deal of material has been collected at the site, and more is being forwarded up.

At Condapooram I passed a train in which there was a good deal of bridge material, and at Moodanoor met a special train loaded with it, both on their way to the Huggry.

A large number of the pier cylinder segments have been collected at the east end of the bridge.

In addition to the nine screw pile piers already down on the west side, portions of six cylinder piers have been put in position and are being sunk.

44. *Cheyair Bridge.*—The north abutment and wing-walls were raised very nearly to their full height. The girder bed stones were being put in position on the abutment.

All the cylinders have been sunk nearly as far as they will go, and girders for four spans have been rolled over stone piers on the south end.

45. One cylinder has been filled with concrete, but this work has been stopped, as I understand the Consulting Engineer of the Madras Railway at home has recommended that the bottoms of all the cylinders shall be let into beds to be cut in the rock for their reception.

46. It appears to me that if this course is to be pursued with all the cylinder piers indiscriminately, it will add greatly to the expense of, and delay in, completing the work, without any corresponding advantage being gained.

I think it is quite necessary that something of the sort should be done with some of the cylinders next the stone piers on the south end of the bridge, as they there meet with rock at a comparatively small depth, and have consequently less lateral support. The river moreover has, I understand, more tendency to scour at the south than the north side.

47. With a large number of the other cylinders, however, towards the north bank, I think embedding them in the rock, or even levelling it for them to rest upon, would be unnecessary.

Many of them after passing down through 40, 50, or 60 feet of sand are firmly embedded in a particularly stiff clay.

48. Mr. Stoney, the Engineer in charge, tells me that excavations have been made to considerable depths (12 to 16 feet) below some of these cylinders, and yet he is unable to force them down, although the cylinders were each loaded with from 600 to 700 permanent-way rails, representing a weight of from 150 to 160 tons.

49. Now if the bottoms of these cylinders, which are furnished with cutting edges, are firmly embedded in the clay at a depth of from 60 to 70 feet below the bed of the river, and if a weight of 150 or 160 tons on each cylinder fails to push them further down, although there are excavations to considerable depths below them, it appears to me to be scarcely necessary to do anything further than fill them up at once with concrete.

50. The weight of the girders and train load (which will never be so much as the load now resting on the edges alone of the cylinders) will *not rest on the cylinders, but on the concrete cores within them.* These cores or pillars of concrete will present bearing surfaces of about 28 square feet each, since the cylinders are 6 feet in diameter, and the train load will, moreover, be distributed over the cores of *ten* cylinders. Add to this that the "island" now occupying the space of seven or eight of the bridge spans will be cleared away, that the flow of the river will consequently be more steady and equal, and that there is but little tendency to scour towards the north bank, and I think it will be admitted that the subject should be very carefully and fully considered before going to the expense of cutting beds in the rock at the bottoms of *all* the cylinders, an operation which can only be performed with the aid of pneumatic apparatus which, I imagine, would have to be sent out from England for the purpose with specially trained workmen.

51. *Brick-dust Sieve.*—For sifting brick-dust for the preparation of concrete for filling the cylinders, Mr. Stoney has had a very simple and efficient machine constructed in the temporary workshops at the Cheyair bridge site.

It imitates in a most perfect manner the action of a man's arms when giving motion to an ordinary hand sieve, and sifts large quantities of dust rapidly with a small expenditure of labour.

I am glad to find that a good-sized working model of this machine has been procured for the model room of the Civil Engineering College, as Public Works Officers would find it an extremely useful, cheap, and efficient machine on large works.

52. *Speed through Facing Points.*—The speed at which trains may with safety run through facing points is a subject upon which a good deal may be said on both sides.

There is no doubt that they may with safety go through at high speeds, if the points are in good order, if they are firmly held, if the roadway is in good order, if the wheels of the rolling stock are all in proper gauge, and if, in fact, everything connected with points, rails, road, rolling stock, etc., etc., is in perfect order; but with all there is to be considered I think (for this country especially) that the rule of *not* going through facing points at a higher rate of speed than five miles per hour is an admirable one, and one the strict observance of which can scarcely be sufficiently insisted upon. I say this *à propos* of the speed at which the 6 p. m. mail train usually passes through the facing points of the stations; it is not timed to stop at between Madras and Arcotum. I have several times lately travelled by this train, and on each occasion have gone through the points with but little perceptible abatement of speed.

53. I have also noticed the high rate of speed of the same train on the North-West Line between Arcotum and Cuddapah, but the slackening of speed before coming to the facing points has always been more marked on this portion of line than between Madras and Arcotum.

54. A speed of five miles per hour is ample to insure a very respectable smash and cause a large amount of trouble, expense, and delay, should a heavy train happen to get off the line at facing points.

*Proceedings of the Madras Government, Public Works Department,
20th June 1874.*

55. The speed at which the 6 p. m. train after leaving the Central Station at Madras passes round the curve leading to Perambore is also, I think, frequently unnecessarily high.

BANGALORE,
4th April 1874.

(Signed) R. THOMPSON, Captain, R.E.,
Offg. Dy. Consulting Engineer for Railways.

No. 457. ORDER THEREON, 20th June 1874, No. 1,670.

RAILWAY, No. 73.

WITH this letter the Consulting Engineer for Railways submits a report of an inspection by the Deputy Consulting Engineer of the North-West and South-West Lines of the Madras Railway and their branches made during February and March of this year.

2. The attention of the Railway Authorities has, it is observed, been drawn to such portions of the report as appear to require it, but the following paragraphs call for special notice.

Paras. 9 to 12.—The Government regret to learn that the orders which have been issued in regard to the uniform of the station staff are not attended to, especially at the large stations where recognition of the station employes by passengers is of more importance. His Excellency the Governor in Council will be glad to be informed what steps the Railway Authorities propose taking to enforce the orders on the subject which have been frequently pressed on their attention.

Para. 16.—His Excellency the Governor in Council considers that the erection of a water-pandal at Erode would be of much service to the Native passengers, and that the benefit would be greatly enhanced if instead of a temporary structure a permanent building were erected on the terms already approved in the case of the Jollapett Station (*vide* G. O., No. 863, dated 27th March 1874).

Paras. 25 to 30.—The suggestion of the Deputy Consulting Engineer that the 7 A.M. train from Madras which at present stops for the night at Erode should go through to Mettapolliam would doubtless meet the wishes of many passengers for the Hills, but under the circumstances represented by the Consulting Engineer as to the greatly enhanced cost of this service, and the comparatively small section of the travelling public that would benefit by the change, as well as the present depressed condition of railway traffic, His Excellency the Governor in Council cannot approve of the measure as a permanent arrangement; but it will be remitted for the consideration of the Agent whether such a train might not be run occasionally at the commencement of the Christmas and Easter Holidays, and at other stated times, to be specially advertized, when the circumstances of the traffic would appear to justify the additional expense.

Paras. 44 to 50.—It is hoped that the reference to England which the Consulting Engineer reports has been made in regard to the sinking of the cylinder piers of the Cheyair Bridge will have the desired effect of obviating the expense and delay attendant on the proposed method of carrying on operations.

Para. 51.—His Excellency the Governor in Council desires that a drawing of the working model of Mr. Stoney's machine for sifting brick-dust now in the

*Proceedings of the Madras Government, Public Works Department,
20th June 1874.*

model room of the Civil Engineering College, be lithographed and circulated for general information. And the Principal will, with Mr. Stoney's concurrence, cause a drawing to be prepared.

(True Extract.)

Colonel, R.E.,
Secretary to Government.

To the Consulting Engineer for Railways.
,, Principal of the Civil Engineering College through Director of Public Instruction.

Ed. E. C. Shunker.
Spare Copies

Note on the North-West and
South West Lines of the Madras
Railway, and their Branches,
Also, the G.S. of India Railway ^{the line}
between Erode and the Madras
Inspected in February and March
1874.

(1.) Have the honour to report having
completed an inspection of the
Madras Railway Lines, viz the
South West Line from Madras to
Beyper, with the Bangalore and
Mettupalai Branches, and the
North West Line from Cerecum
to Panchi with the Bellary Branch.

(2.)
South West Line
Roadway.

The Roadway of the South West
Line is on the whole in very good
condition. Ballast appears to be
liberally supplied wherever required
and the permanent way is well
kept, packed &c. when
necessary.

(3.) The 30th, 300, 299, 294 and
26th miles were being built and
when I travelled over them.

In the 302nd mile near Pothanore,
the timber sleepers were being removed
where necessary, and iron post-sleepers
laid down instead.
Between Pothanore, Somanur and
Gannur Stations, many wooden
sleepers are being removed. Many
of them so much ~~so~~ decayed
as to go to pieces during removal.

In 240th. 238. 237. 236. 234
232. 227. 69. 62. 46
and 42nd miles appear to require
lifting and packing in place.

The timber of many of the girder
bridges have been badly corroded.
This work appears to be almost
completed in the Western Division
of India. viz between Pothanore
and Bangalore.

The "Dimensions" have been made
in the line, out at the 214th mile
20th Telegraph Post; the other at
the 40th mile 6th Telegraph Post for
the repairs of girder bridges. Trains
crossing these bridges slacken speed
to 4 or 6 miles an hour.

(4.) Bridges.

At the Palar and Poiny ^{Bridges} ~~crosses~~
a good quality material has
been collected for the protective
works, which are apparently
progressing fairly. I propose
inspecting these works at an
early date with Mr French, the
Engineer in Charge, and reporting
upon them more fully.

(5.)
Telegraph.

The lines of telegraph, both Government
and Railway, appear to be in
a good and efficient state. I did
not notice any decay in the
wooden telegraph posts, or that
any of them were out of the
perpendicular.

(6.) Between Puzhant and Pothanore
there would seem to be some danger
of the wooden telegraph posts being
burnt, when the scrub jungle
and grass, which grow very
thickly on that portion of the
line catch fire in the hot weather.

As these posts decay, it
would I think be well to replace
them with iron standards.

(7.)
Fencing.

The wire, and stone wall fences

appear to be in perfect-Condition
throughout, and to also be as
efficient- as a Vegetative fence
can well be.

Between Madras and Arcconam
the Corkapallay Hedge is in some
places weak.

(8.) Stations
At Salem Station, owing to
understand to the floor of the
upper story being too heavy,
the ceiling beams of the waiting
Room for Gentlemen, of the
Refreshment Room, and of the
closed in Verandah at rear of
the Refreshment-Room, have
cracked and bent. These
beams are now supported with
upright-poles, struts &c and
appear to be secure enough for
the present, but some more
permanent repairs should
be carried out as soon as
practicable

The Orders which have been lately
issued, requiring Station Masters

(9.)
Dress of
Station Masters

Station Masters, and Ticket
Collectors, & appear in uniform,
when on duty at the arrival
and departure of trains, &c
not-as a rule appear when
attended to. The orders
in question appear to be considerably
better obeyed by the Ticket-Collectors
than by the Station Masters.

(10) I have observed that at the
minor Stations, the Station Masters
usually appear in uniform on
the arrival of the mail and
passenger trains, but at the
large Stations, viz Arcconam,
Jolarpet, Bangalore, Salem,
Erode, Pothanur, Mysore,
Cuddalore, Bellary, Gondal
and Raichore* it is the exception,
not the rule, to find the Station
Masters in uniform, or wearing
any distinguishing badge whatever,
by which they may be recognized
by passengers, or the public
generally.

At these larger Stations, it
is of more importance that the
Station Masters should be
readily recognisable than at
the smaller ones. The wearing
of a suitable uniform, or some
distinguishing badge should I
think be insisted upon by the
Railway Authorities.

Of the blue uniform, with which (12.)
I understand all Station Masters
have now been supplied, is too
heavy or hot for the hot weather,
they ought have a lighter one
of some light cotton material, or
at any rate have some badge
by which they may be recognised
by the public.

There appears to be a general
scarcity of "quality goods" or
"glass cloths" at the Station
Refreshment Rooms or else,
(more probably) there is a general
discrimination on the part of
the servants to use them.

I constantly see plates, glasses

(13.)
Refreshment
Room Arrangements.

&c... being mixed with dirty
cloths, cooking cattle cloths.
This is neither pleasant to see
nor to think about.

To make cattle cloths, which
have been used indiscriminately
for wiping, tables, plates, lamps,
glasses, &c. Clean and
white again, they must be
subjected to a considerable
amount of extra washing,
pounding, and bleaching, all
this means extra wear and
tear. So on the score of economy
it alone it would be well
that the cattle cloths should be
kept for their strictly legitimate
uses.

(14.) At the Madras Station
Refreshment Room, there are
either no better napkins, or else
a very limited supply of them.
The Butler on one occasion told
me that they were "all with
the dirty" or another that
he had applied for some
more, but had not yet been
supplied with them.

(15.) I hope that the Madras Railway

Company will be
able to take the management
of the Bazaar. Refreshment Room
is now called "The Bazaar Hotel"
and has been handed. The
Bazaar is a considerable
one and is well supplied with
all the Bazaar Railway Station.
Although the food is not always
as good as it might be, and
the supply of food is not
always very plentiful. On the
subject of water, there was no
water in the tank. The
Bazaar was in a very bad
state of repair. The
Bazaar is now in a very
bad state of repair.

There appears to be some want
of water at the Bazaar Station.
The Native Passengers by day
train are respectable looking
men. At Erode, calling himself
a "Contractor" told me that
he and some other Native residents
at Erode would, if permitted,
take the water from the

(16.)
Water for Native
Passengers at
Erode.

their own expense as "a good
work" in any part of the
Station Compound approved
of by the Railway Authorities.
He said, that Native passengers
usually arrive at the Station
some time before the departure
of their train, that during the
hot weather they are a good
deal inconvenienced with heat
and thirst; and that they
cannot get such water as
they care about drinking, unless
they go down to the Cessery
River, distant about a mile
from the Railway Station.
I am sure a "water Pandal" with
a Brahmin water man to bring
and distribute the water, would
be a convenience to Native
Passengers at Erode. All parties
could then drink the water.
I promised to bring the Contractor's
proposal to the notice of the
Railway Authorities, and
accordingly take the opportunity
of now doing so.

I noticed that at Mullapooram Station, it took a considerable time to fill up the Engine Tender with water. This I understand is owing to the head of water in the tank which supplies the water column being rather low -

Although the Engine Drivers complain of the delay so caused, I am not aware whether much practical inconvenience arises from it or not; if it does however, the defect could I imagine be remedied at a small cost - by raising the tank a little.

(17.) Mullapooram
Water Column
for Engines

Branch from Jollapet
to Bangalore

(18.) The Bangalore Branch Line appears to be in excellent order in every way. With the exception of the 162nd and 157th miles, where the ballasting is rather light, the line is well supplied with ballast.

(19.) The side walks and slopes are very neatly kept. The cross drainage is carefully attended to and the fencing appears to be efficient throughout.

(20.) The stations are neat and clean and the telegraph poles and wires are apparently in good order.

Branch from Pothanore to Metapollium.

(21.)

Condition of
Roadway.

The roadway is apparently kept in excellent order. Between Pothanore and Coimbatore there is a slight want of ballast in one or two places, for short-distances, but the remainder of the line is very thoroughly ballasted. The side walks and slopes are being made up throughout the line.

(22.)

Aloe Fencing

The Aloe fencing is generally thinning very well. Near Metapollium it is being carefully banked up with earth.

I noticed in the 3/5th mile near the 14th and 15th Telegraph Posts, where the country is all Black Cotton Soil, that a double row of Aloes had been planted along the line. The outer row was planted on the usual "mound" or bank, the inner row on the ground level. The Aloes planted on the ground level appear

to be about twice the size of those in the mound. If these rows of Aloes were not planted at the same time, it would be interesting to know which had been put down first. I am rather inclined to think that planting Aloes in a "mound" is a mistake, when the soil is "Black Cotton". They always appear to thrive best in this soil (which apparently is under any circumstances unsuitable for them) when planted on level ground or in a trench, rather than in a mound.

Station (23.)
Buildings

Since the Station Platform Roof (Corrugated Iron) at Metapollium has been lined with plank, the heat, which at that station is sometimes intense, has been much lessened on the platform.

(24.)

The Engine Shed (50 feet long) has been commenced, close to the water tank. It is about half finished.

When the Beach Line to (25.)
Metapallin was opened towards
the close of last year in September. Line of arrival
last, Passengers & the rails were of mail train
Almost unanimous in thinking, at Metapallin
that the time of arrival of the
Madras train (9.30 am) at
Metapallin, was as convenient
as one as was possible, considering
the hours of leaving Madras and
Bangalore. The weather
at that time of the year was
comparatively cool, and it
was pleasant to be able to
get a comfortable seat and
breakfast at Metapallin, after
the night journey in the train,
before commencing the Ghaut
Ascent. At the present
Season of the year however (viz
March and April) the heat of
a mid-day ascent to Coonoor
is very trying.

To get to Coonoor before dark (26.)
by the ordinary means of travelling
from Metapallin (viz by
driving a Pullar, and riding

or being carried by mule)
up the remainder of the way,
it is necessary to leave the
Metapallin Station, or depot,
not later than 2.30, or 3 pm,
and to get to Ootacamund before
night-fall. Not later than
12 noon, so that starting at
three hours, a very hot and
trying journey must be undertaken.

(27.)

I

At present, one can easily
be avoided by remaining for
the night at Metapallin, and
going on early next morning.

II

Or by remaining for the day
at Pothanur, or Coimbatore,
going by transit to Metapallin
during the night, and then
on up the Ghaut early in the
morning.

(28.)

The hour of arrival of the mail
train at Metapallin (9.30 am)
is now considered so inconvenient,
that many people are
adopting the alternative I
have last mentioned, or going
by special trains from Pothanur
to Metapallin.

Under the timing of the Mail
train from Madras (viz 6 pm)
is altered, the only way I can
see that the Madras and
Bangalore people could call
be brought into Mutapallim,
so as to get up the train in
good time in the morning, would
be to run the 7 am ^{train} from Madras
on from Erode (when it now
halts for the night) through to
Mutapallim. This would
also serve the Negapatam
Tanjore, Trichinopoly, Caror,
and Bypass people. Passengers
from the first four places
could come up by the 8.45 am
train from Negapatam, reaching
Erode at 5.10 pm, dining there,
and going on by the 7 am train
from Madras, now timed
to arrive at Erode at 7.40 pm
and halt there for the night.

This arrangement would (29)
I think be the greatest boon
to the Negapatam, Tanjore,
Trichinopoly, and Caror people.

15.
(Travellers to the Hills from Tuticorin
Palamcottah, Tirunelveli, Madurai
and Dindigul as a rule pass
through Caror on their way up)

(30) At present the Negapatam and
Tanjore people must remain
for the night at either Trichy,
Erode, or Pothanore, and the
Trichinopoly and Caror people
must remain the night at
Erode or Pothanore, unless they
do as some are now doing,
viz. take trains from Pothanore
to Mutapallim by night. If
they do not do this, ^{do not} go
to the expense of a special
train from Pothanore to
Mutapallim, they find that
after spending an uncomfortable
night at either Erode, Pothanore
or Combalom, they only arrive
at Mutapallim at 9.30 am
when they cannot well start
for Caror before noon.

North West Line Madras
Railway.

Roadway (31.)

Where the line crosses the
Black Cotton Country between
Gooty and Raichur, and
Gondal and Bellary a
very large amount of ballast
has been collected and spread,
or is being spread.

Observed working parties in
nearly every mile from the 267th
up to the 349th, lifting, packing
ballasting &c. - -

(32.) On the Bellary Branch also,
between the 275th and 303rd miles
observed similar activity.

Ballast in abundance was
being put down on the line
throughout, where it passed
over Black Cotton soil, or
where it otherwise required it.

(33.) Between Arcotum and Gooty
numerous working parties were
employed in ballasting,
packing, making up side
walks and slopes &c. The
line on the whole is in good

Kate order.

(34.)

Fencing

The wire and wall fences appear in an efficient state throughout; In the black cotton soil positions there seems to be no chance of the Aloe ever forming a good fence. The leaves are all stunted and woody, very much the shape of, and not much larger than bayonets.

In the 33 1/2 mile where red soil occurs the Aloe grows vigorously, but close to the black cotton soil it is again stunted and small.

I have noticed along the line that the Aloe when in cotton soil seems to grow better in the ground level or in trenches than in mounds. I have already noticed this peculiarity in para (22.) of the accompanying report on the Metropolitan Branch of the South West Line.

As the Aloe when healthy, and (35)
sufficiently large, forms such an excellent fence for Railways

it might be worth while experimenting, to ascertain definitely the conditions under which it would best thrive in Black Cotton Soil. viz. whether in mounds, on the level, or in trenches.

Should it be found to thrive better at first in trenches or on the level, it might be planted when necessary in that way, and when it had attained to a certain healthy growth, ^{might be cut} cutting drains along the rows, on one or both sides so as to make the fence a greater obstacle to cattle.

Bridges (36.)

The construction of the extra waterway required at the 21 1/2 mile at the 12th Telegraph Post is in progress. Stone is being quarried for this work at the 21 1/2 mile 16th Telegraph Post, and a diversion has been completed so that trains pass round the

work in question.

(37.)

The protective works at the bridge
of the Girdar spans at the 210th
a mile. 18th & 19th telegraph posts
are in progress, the flooring ~~has~~ is
being put in, and the curtain
walls at front and rear of the
flooring have been completed.
The timber work of the bridge over
the Permain River at the 217th
mile 12th telegraph post has been
coated with tar.

(38.)

There is a slight want of ballast
at the 248th, 249, 208 and 206th
miles, but the side walks and slopes
here being made up with earth
from cuttings at these miles
preparing to this want being
supplied.

Ballast
Required

A very large amount of work has
been done lately throughout the
North West Line, at raising side
walks, making up slopes and
embankments &c. &c.

Stations

(39.)

So far as my experience of
Raichore goes, it is an extremely
hot place, and when there
is but little wind stirring,
the Raichore Station Passenger
Platform is sometimes almost
unbearable, owing to the heat
radiated from the under
surface of the corrugated iron
roof. When I was last
there, a battery of the 20th

Battalion of Artillery, on its way
from Burma to Scandinavia
was halting for some hours
waiting for a train to carry it
on, the men appeared to feel
the heat a good deal.

(40.)

The platforms of the Coimbatore
and Mettupallicam Stations have
been made much cooler by
the verandah roofs being lined
with planking. It would be
much better to have the Raichore
Platform roof lined in the same
way, as the station is an
important one.

(41.)

The goods shed doors at the Moodanoor Station, were some months ago painted green. When first put on, the paint looked bright and fresh enough but it is now grey, streaky and shabby looking. I do not think it is at all a suitable description of paint for this country for timber work exposed to sun and rain. The work work of the Terminus of the G. S. of India Railway at Nagapattinam has been painted with the same colour. It looks well at first but after a few months it always fades, looking dingy and shabby and requiring frequent repainting to keep it bright and clean looking.

(42.)

The bungalow for the Resident Engineer at Gooty has been commenced, the walls have been raised to the level of the tops of the doors and windows,

Gooty
Bungalow for
the Resident Engineer

him down. The old bungalow in which he is at present. Oblique blue is a very tumble down affair.

(43.)

Huggery Bridge.

The Huggery Bridge work is now fairly started, and seems to be progressing very well. A good deal of material has been collected at the site, and more is being forwarded up. At Chandapooram I passed a train in which there was a good deal of bridge material, and at Moodanoor met a special train loaded with it, both on their way to the Huggery.

A large number of the pair cylinder segments have been collected at the East End of the bridge.

In addition to the 9 pile pairs already down on the East side portions of 6 cylinder pairs have been put in position and are being sunk.

Cheyam
Bridge (44.)

The north abutment and wing walls are raised very nearly to their full height.

The Grider and Stones were being
put in position on the abutment.

All the Cylinders have been sunk
nearly as far as they will go, and
Grider for four spans have been
rolled over stone piers on the South
End.

One Cylinder has been filled with ⁽⁴⁵⁾
Concrete, but the work has been
stopped, as I understand the
Consulting Engineer of the Madras
Railway at home, has recommended
that the bottoms of all the Cylinders,
shall be cut into ledges, to be cut
in the rock for their reception.

It appears to me that if this ⁽⁴⁶⁾
course is to be pursued, with
all the Cylinder piers indiscriminately,
it will add greatly to the expense
of, and delay in, completing the
work, without any corresponding
advantage being gained.

I think it is quite necessary
that something of the sort
should be done with some
of the ~~piers~~ Cylinders next

The stone piers, on the South
End of the bridge, as they there
meet the rock at a
comparatively small depth,
and have consequently less
lateral support. The River
flow has I understand
some tendency to scour at
the South than the North side.

(47.) With a large number of the
other Cylinders however, towards
the North bank, I think
embedding them in the rock
or even encasing them in
gravel or concrete would be unnecessary.
Many of them after passing
down through 40. 50. or 60
feet of sand are firmly
embedded in a particularly
stiff clay.

(48.) Mr Storey, the Engineer in Charge,
tells me that excavations are
being made to considerable
depths (12 or 15 feet) below
some of these Cylinders, and
yet he is unable to force
them down, although the
Cylinders were each loaded

with from 600 to 700 permanent-
way rails, representing a weight
of from 150 to 160 tons.

Now of the bottoms of these (49)
Cylinders. Which are furnished
with Cutting Edges, are firmly
embedded in the Clay, at a
depth of from 60 to 70 feet
below the bed of the River, and if
a weight of 150 or 160 tons
on each Cylinder, fails to push
them farther down, although
there are excavations to
considerable depths below
them, it appears ~~impossible~~ ^{very} ~~impossible~~
scarcely necessary to do anything
further than fill them up
at once with concrete.

The weight of the girders (50)
and train load (which will
never be so much as the load
now resting on the Edges alone
of the Cylinders) will not rest
on the Cylinders, but on the
concrete cores within them.

them. Four cores or pillars
of concrete will present bearing
surfaces of about 288 square
feet each, since the Cylinders
are 6 feet in diameter, and
the train load will now be
distributed over the cores
of two Cylinders. Add to this
that the "Island" now occupying
the space of 7 or 8 of the bridge
spans will be cleared away,
that the flow of the river will
consequently be more steady
and equal, and that there is
but little tendency to scour
towards the north bank, and
I think it will be admitted
that the subject should
be very carefully and fully
considered before going to
the expense of cutting beds
in the rock at the bottoms of
all the Cylinders. An
operation which can only
be performed with the
aid of pneumatic apparatus.

which I imagine would
have to be sent out from England
for the purpose with specially
trained workmen.

The softening brick dust, for the
preparation of concrete for
gutting the cylinders, Mr
Stoney has had a very simple
and efficient machine constructed
in the temporary work shops at
the Clugan Bridge Site.

It operates in a most perfect
manner, the action of a man
arm is then giving motion to
an ordinary hand sieve,
and softens large quantities
of dust rapidly with a
small expenditure of labour.

I am glad to find that a
good sized working model
of Mr Maclean's has been
procured for the Model
Room of the Civil Engineering
College, as Public Works
Officers would find it

(5-1.) Brick Dust-
Sieve

Speed
through Facing
Points

An extremely useful, cheap
and efficient machine on large
works.

(52.) The speed at which trains
may with safety run through
facing points is a subject
upon which a good deal
may be said on both sides.
There is no doubt, that they
may with safety go through
at high speeds, if the points
are in good order, if they
are firmly held, if the
roadway is in good order,
if the wheels of the rolling
stock are all in proper gauge,
and if in fact - everything
connected with points, rails,
road, rolling stock &c. &c.
is in perfect order, but
with all these ifs & the
considered I think (for this
country especially) that the
rule of not going through
facing points at a higher

Rate of Speed than 5 miles
per hour is an admirable
one, and one, the strict necessity
of which can scarcely be
sufficiently insisted upon.

Say the Depots of the
Speed at which the 6 pm
Mail train, usually passes
through the facing points of
the Stations it is not found
to stop at, between Madras
and Arcot.

I have
several times lately travelled
3 pm train and on each
occasion have gone through
the points with but little
perceptible abatement of
speed.

(53.)
I have also noticed the high
rate of speed of the same
train on the North West-Line
between Arcot and Cuddalore,
but the slackening of speed
before coming to the facing
points has always been
more marked on the former

portion of line than between
Madras and Arcot.

(54.) A speed of 5 miles per hour
is ample to insure a very
respectable service, cause
a large amount of trouble,
expense, and delay, should
a heavy train happen to
get off the line at facing
points.

(55.) The speed at which the 6 pm
train after leaving the Central
Station at Madras passes
round the curve leading to
Perambur is also I think
frequently unnecessarily high.

Signed R. S. Thompson
Captain Royal Engineers
Offg. Deputy Comdng. Railways

Bangalore 3
April 4th 1843

Railway Department

Cous: Eng. & Office

to 234

From

Laurel Coll. J. H. M. Shaw Stewart R.E.

Cous: Engineer for Railways

To

Colonel G. W. Walker R.E.

Secretary to Government

Public Works Dept

Port Saint George

Res. Port of Spain

I have the honour to
submit for the information of
Government a report by the Deputy
Consulting Engineer upon an
inspection of the South-West
and North West lines of the
Madras Railway.

2.

The attention of the
Railway Authorities has been

PC 2720 June 1874
L. 18 7/1/56

PM 2334/74

drawn to those portions of the report which require notice.

3. In paragraphs 25 to 30 Captain Thompson alludes to the inconvenience entailed upon passengers to the Neilgherries by the existing train service between Pothanore and Mettapolliam. He suggests that the 7 a.m. train from Madras, which at present runs no further than Erode, should go through to Mettapolliam. He remarks that this would suit passengers from Madras and Bangalore on the one hand, and on the other hand passengers

from Trichinopoly, Negapatam, and Baypore, who now are obliged to halt at least one night during the journey.

4. In my letter dated the 15th instant, No 225, I addressed Government upon this subject, when laying before them a suggestion from the Collector of Coimbatore for the running of a train from Pothanore to Mettapolliam early in the morning.

5. The change recommended by Captain Thompson would, in my opinion, be of greater advantage

advantage to the public than Mr
Wedderburn's proposal. It
would however add to the Company's
working expenses in still greater
measure, without any corresponding
addition to the receipts. Its
advantages would be reaped by
an infinitesimal section of the
tax-paying public, and by those
few persons perhaps once or twice
only during a year. In the present
depressed condition of railway traffic
any proposal which would add to
the working expenses requires the
support of unquestionably strong
argument; and I cannot
recommend

recommend for sanction the
suggestion that the 7 a.m. train
should run on from Erode
to Mettupalaiam.

6. In paragraphs 45
to 50 Captain Thompson alludes
to Sir John Hawkshaw's recom-
mendation that the cylinder
piers at the Cheyair bridge
should be carried down to the
solid rock, and that the face
of the rock should be levelled
to receive them. The Government
are aware of the unexpected
depth to which it has been found
necessary to sink some of these
piers

piers of the solid rock is in every case to be reached.

The subject is alluded to in the following Proceedings of Government:-

No. 424 dated 20th February 1874

" 835 " 25th March "

" 898 " 31st " "

" 923 " 8th April "

I have during this week been able to visit the Theyai bridge in company with the Chief Engineer of the Madras Railway, and I am able to endorse Captain Thompson's remarks as to the proposed measures involving a good deal of unnecessary expense.

I remain
Sir

Vide
Proc. of Govt
No 898 -
31st March 1874.

Sir John Hawkshaw's letter of the 26th January 1874, he seems to have been under the impression that the river bed, above the solid rock, consisted of little else than sand. This is now proved to be an erroneous idea, inasmuch as many of the cylinders have encountered clay of remarkable stiffness and tenacity. I have no doubt that, when the Company's Consulting Engineer is furnished with a correct section of the river-bed, he will greatly modify the opinion given in the above quoted letter. The matter has been again referred by the

Chief Engineer to England for consideration.

8. The Agent has been asked to draw the special attention of the Locomotive Department to the necessity for strict observance of the rule limiting the speed of trains through facing points to five miles an hour. The Locomotive Superintendent is thoroughly alive to the importance of the rule, but it is not easy to insure its being strictly obeyed.

9. With reference to paragraph 55, the necessity for

for limiting the speed of trains between the Central Station and Vengal Rao has been admitted by the Railway Authorities, and instructions were issued during last month prohibiting a greater speed than 20 miles an hour.

Madras 3
17th April 1904
Sd/-
W. S. S.

I have the honour to be,
Sir,
Your most obedient Servant
J. M. M. M.
J. M. M. M. C. C. C. C.

Yours: Engineer for Railways

Pub. Works / P & Depart.
No: 2334.

to

The Consulting Engineer
for Railways

to

The Secretary to Govt
P & W Depart
Govt of Madras

Dated 18th
Received 18th April 1874

No 234

Enclosure

G.O. No. 1670. 20-6-74.

Submitting Report
of an Inspection by the
Sd/- Consulting Engineer
upon the P & W and
S & W lines of the M.R.

No 456

and P & W 20 April 1874

1670

P. W. D.

Proceedings of the Madras Government,

Under date the 187 .

Read the following :—

From the Consulting Engineer for
Rys —

(F. E. No. 234 of 17th
April 1874)

With this letter the
Consulting Engineer
for Railways submits
a report of an in-
spection, by the De-
puty Consulting Engineer
of the North West and
South West lines of the
Madras Railway and
their branches, made
during February and
March of this year.

The attention of the
Railway

Railway authorities has,
it is shewn, been
drawn to such portions
of the report as appear
to require it, but the
following paras call
for special notice.

The Government
regret to learn that the
orders which have been
issued in regard to the
uniform of the Station
Staff are not attended
to, especially at the
large stations where
recognition of the Station
employees by passengers
is of more importance.
His Excellency the Govr.
- nor in Council will
be glad to be informed
what

Paras 9 to 12

what steps the Railway
authorities propose taking
to enforce the orders on
the subject, which have
been frequently pressed
on their attention.

Para 16.

His Excellency the
Governor in Council consi-
ders that the erection of
a water Pandal at Bode
would be of much service
to the native passengers,
and that the benefit would
be greatly enhanced if
instead of a temporary
structure a permanent
building were erected on
the terms already approved
in the case of the Jollapett
Station (vide G. O. No
863 dated 27 March
1874.)

Paras 25 to 30

The suggestion of
the

the Deputy Consulting
Engineers that the 4th Dr.
train from Madras
which at present
stops for the night
at Erode should
go through to Mettur.
-pollum would
doubtless meet the
wishes of many
passengers for the hills,
but under the circum-
stances represented
by the Consulting Engineers
as to the greatly enhanced
cost of this service
and the comparatively
small section of the
travelling public
that would benefit
by the change, as well
as the present depressed
condition

condition of Railway
traffic, His Excellency
the Governor in Council
cannot approve of the
measure as a permanent
arrangement, but it is
will be remitted for their
consideration of the
Agent whether such a
train might not be
run occasionally
at the commencement
of the Christmas and
Easter Holidays, and
at other stated times,
he specially adver-
tised, when the circum-
stances of the traffic
would appear to justify
the additional expense.

Para 44 to 50. It is hoped that the
reference to England which
the

The consulting Engineer's
reports have been made
in regard to the sinking
of the Cylinders Piers
of the Jheypur Bridge
will have the desired
effect of obviating
the expense and delay
attendant on the pro-
posed method of car-
rying on operations,
which the Government
cannot but disapprove.

His Excellency the
Governor in Council
decided that a drawing
of the working model
of Mr Stone's machine
for sifting brick dust
now in the model

room

Para 51.

It felt after
criticism by
Mr. H. S. Chatterjee
of the Government
of India.

To the Comdg Engr for R.G.
" Principal of the Civil Engineering College,
through Director of Public Instruction
S. Copies despt. to letter 3/7/74.

room of the Civil Eng-
- engineering College has
lithographed and cir-
- culated for general
information. And the
Principal will, with
Mr Stone's concurrence,
cause a drawing to be
prepared.

C.M.W.

2354
Code of 1874 Madras
PUBLIC WORKS.

The ~~Chief~~ Engineer
for Madras.

10000

Recd.

Encl. 1

G. O. Reference No. 1070

Nos. 456-457.

Inspection Report
Madras Railway.

Passing orders on
the report of inspection
~~made~~ by the Dy. Commr.
for Railways of the
North West & South West
lines of the Madras Rail-
& their branches, during
February & March

1874

456-457

2354
G. O. Reference No. 1070