Public Works (1897) Department.

G.O., No. 773-74R

DATED 5 October 1897

[Despatch Abstract.]

Inspection Tour by the Consg: Engineer for Railways:

Passing notes on Report of an — during July and August 1897.

Inspection Tour by the Consg. Engineer for Railways:

Forwarding copy of Note on Report of an — during July and August 1897

[P.W. 20 1,000-10-11-97.]

Indexed 7/10/97

BACK PAPERS.

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RAILWAY.

Government {1897} of Madras.

PUBLIC WORKS.

Recd. } 1897. *Enclosures*

Regd. } *Spare copies*

G.O., No. 773 R., 5th October 1897.

OCTOBER.

Inspection tour by the Consulting Engineer for Railways

Passing orders on report of an — during July and August 1897.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Railway.

Read the following paper :—

Inspection tour by the Consulting Engineer for Railways, Madras, during July and August 1897.

1. *General.*—The tour was made between 30th June and 26th August inclusive. Between these dates fourteen days halt were made at Madras, two at Waltair, two at Trichinopoly, and one at Tellicherry, so that thirty-nine days were spent in actual travel. During this period a distance of 5,860 miles was covered.

2. *Inspections made.*—The object of the tour was that the Consulting Engineer might go over the whole of the railways in the Presidency that lie within his Circle of inspection, and discuss all current matters personally with the Agents, Managers and Engineers, and thus get a personal knowledge of what is going on, such as could not be gained by perusal of mere papers. With the exception of the part of the Southern Mahratta Railway, which is within the Madras Circle for accident inspection only, and of three short pieces aggregating 77 miles of the South Indian Railway, the inspection of which would have involved the loss of two or three extra days, the whole of the open lines within the Circle were inspected. A careful inspection was also made of the alignment and conditions of the proposed Calicut-Cannanore Railway, and visits were paid at two points to the Bezwada-Madras Railway. The opportunity was taken to make the regular half-yearly inspection of the North-West section of the Madras Railway, His Highness the Nizam's Guaranteed State Railway, and the East Coast State Railway. Special inspections were also made of the Locomotive works at Perambúr and Negapatam, and the Electrical and Engineering workshops at Arkonam and Trichinopoly. The regular half-yearly inspection of the South Indian Railway, and of the South-West branch of the Madras Railway had already been made by the two Deputy Consulting Engineers; so the Consulting Engineer confined his detailed inspection, on these lines, to the comparatively more important of the matters which came to notice.

3. *The Inspecting Parties.*—The inspection of the Madras Railway, North-West section, was made in company with the Acting Agent and his principal officers; that of the Nizam's Guaranteed State Railway was made in company with the Agent and General Manager and his principal officers; that of the East Coast Railway was made in company with the Officiating Traffic Manager and the Engineer-in-Chief, and general business was discussed in Waltair with the Manager, who, on account of his approaching furlough and of his making over charge to his successor, was unable to accompany the inspection party; that of the Madras Railway, South-west section, was made with the Acting Chief Engineer; and that of the Calicut-Cannanore line was made with the Acting Agent, Madras Railway, with his Acting Chief Engineer, and the Engineer who made the survey.

4. *Madras Railway, North-West Section.*—This inspection, which, as already remarked, was the regular half-yearly one, was made on the 5th, 6th and 7th of July. It will be found to be fully reported on in G.O., Nos. 691-92 R., dated the 20th September 1897; so no more need be said about it here.

5. *His Highness the Nizam's Guaranteed State Railway.*—This inspection also need not be further referred to except that it may be mentioned that its report will be found in full in G.O., No. 573 R., dated the 19th August 1897. It occupied the 8th to 11th July inclusive.

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(*a*) It appears to be advisable that the Government of India, who administer the East Coast Railway, should be specially addressed upon the subject of the great importance of a more intimate connection between the railway and the salt trade. As much does not seem to have been done as might have been done to work these two branches of public business in due co-ordination for their mutual benefit. The representation to the Government of India on this subject might be based upon a Resolution of the Board of Revenue. The present Salt Commissioner, Mr. Willock, has a special personal knowledge of all that relates to the salt-*cum*-railway question, and a note upon the subject from that officer would be most valuable.

(*b*) The other large question in connection with the East Coast Railway which concerns this Government is that of canal competition, a competition confined at present to the Cocanada-Bezwada section, but which will, in the future, also arise on the section from Bezwada to Madras. It is understood that the question is being handled in the Irrigation Branch of the Public Works Department.

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(*a*) The increasingly heavy traffic on the suburban part of the South Indian Railway, as well as the demand for a better connection with Madras in general, make it seem probable that the doubling of the line between Egmore and Saidapet may soon be necessary, and that in addition it may be considered advisable to construct a loop from Saidapet road by Adiyar and Mylapore *viâ* the beach to the harbour terminus, with a local circular service. I agree with the Agent in thinking that in the near future this improvement is likely to recommend itself to Government as certain to pay.

(*b*) One of the principal objects of the inspection was attained on arrival at Negapatam on the morning of the 29th July, when a meeting was held at which the long pending question of revision of the locomotive running lengths was thoroughly discussed with the Agent and heads of departments, and an agreement was arrived at which is likely to result in considerable economy of working. This has now gone to home the Company's Board of Directors, and will, in due course, come up for the approval of Government.

(*c*) At Negapatam the very extensive Locomotive shops and general Stores of the South Indian Railway were inspected, as was also the first part of the alignment of the proposed extension up the coast towards Nagore. Large alterations of the Locomotive shops are proposed by the Locomotive Superintendent; but these have to be considered in connection with a proposal to separate carriage and waggon work from engine work, and to locate the former at Trichinopoly. Regular proposals in regard to these important questions may, in due course, be expected from the Company's Agent.

(*d*) Between July 29th and August 1st the line traversing the rich Tanjore plains was inspected, as also the Erode branch, and the southern section through the interesting district of Madura and down to Tuticorin and Tinnevelly. At Trichinopoly the plans of the proposed Tinnevelly-Quilon Railway were gone into with the Chief Engineer of the South Indian Railway, and the conviction forced itself upon the Consulting Engineer that the country where the Western Ghâts are traversed is a

1 in 40 rather than a 1 in 80 country, and that the estimate is a low one, and that it will probably be found that the Travancore Durbar might get a far more useful line, extending from Aramboli *viâ* Trivandrum to Quilon, for the same money that the proposed direct Shenakotta-Quilon line seems likely to cost. The Agent, South Indian Railway, would prefer the Tinnevelly-Aramboli section to the proposed section from Tinnevelly to Shenakotta.

(*e*) On the 4th and 5th July the northern, or famine, section from Villupuram to Dharmavaram, and also the Renigunta-Nellore section, were inspected. A railway through such a country can scarcely be expected to pay much more than working expenses, and even that only with careful management. It is, for this reason, in contemplation to run one train each way daily instead of two, between Pakala and Dharmavaram.

(*f*) The Madura-Pámban line was discussed with the Agent. It will apparently be a remarkably easy line to construct, and the country is one through which a railway ought to pay well. But I agree with the Agent in thinking that the alignment requires further consideration. First with regard to the proposed location of the junction some miles out of Madura on the north of the Vagai river, and second with regard to the proposed diversion to Shivaganga by a detour involving ten miles of increase of length. As regards the junction, the existing buildings of the Locomotive Department at Madura are so numerous and so expensive that it would be a pity to abandon them, especially as a very large proportion of the passenger traffic, both 3rd class and the higher classes, will require to be brought into Madura itself where the temples are. As regards the proposed detour to Shivaganga the line is essentially a line of *through* traffic rather than of local traffic, and it is all but certain in the near future to be the main through route between India and Ceylon. It therefore seems a pity to handicap all this through traffic for ever by so much extra mileage. If the traffic of Shivaganga is not worth tapping by means of a short branch, it is certainly not worth while to haul all through traffic ten miles out of the way for the sake of serving it.

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9. *The Madras Railway, South-West Section.*—As already remarked, the regular half-yearly inspection had previously been made by one of the Deputy Consulting Engineers, and the Consulting Engineer's comments thereon will be found appended to the end of that report. There is, in connection with this section, a question of the best principles for the use and construction of catch sidings. There are at present no definite principles for the guidance of the Company, and it seems necessary that some should be laid down. This has been taken up specially in the inspection report. An interesting point came casually to notice which seems worth recording, viz., that, since the Madras Railway have taken to covering their sand ballast with a thin layer of broken stone, they have found such a saving in ballast trains to result that they have a considerable number of waggons on their hands for traffic purposes which were previously not available. This is due to the cessation of wind erosion which made it necessary to be continually renewing the sand ballast.

A very important matter came prominently to notice, viz., the very unpleasant swaying which occurs with high speeds over the new section of rail. This swaying is quite a distinct motion from the usual rolling of vehicles on their springs, it is a more unsafe motion, and consists of attempts on the part of a vehicle to place itself horizontally out of parallelism with the centre line in one direction, followed at intervals of

perhaps half or thirds of seconds by attempts to go out of parallelism in the other direction. The path in fact of the front and tail of each vehicle is sinuous horizontally. It ceases on curves, as might be expected. It is ascribed by the Company's Engineers to the radius of the head of the new rail being flatter than that of the old, and to the fact that the grooving worn by the head of the old rail in the wheel tyre does not fit the head of the new rail. The correctness of this theory can now easily be tested, and had better at once be tested, by putting all six wheels of the inspection carriage into the lathe and turning a new and true surface on them. If then, a month or two hence, it is found that the same swaying takes place with the same carriage at the rear of a similar train, when run at 60 miles an hour over the new rails, this theory must be discarded. Meanwhile, it seems a probable theory enough.

There is at present an important trade in timber for the Kolar Gold Mines from Madras Railway stations on the West Coast, as there is similarly an important traffic in English coal from the Madras side to the same mines. With extension to Cannanore and a few miles further on to Baliapatam, this timber trade will doubtless be largely developed.

10. *The Calicut-Cannanore Railway.*—The Consulting Engineer's inspection notes on this line will be found separately reported with G.O., No. 695 R., dated the 21st September 1897. It is very important, for climatic and other reasons, that work upon this extension should be begun on soon after the cessation of the north-east monsoon as may be found possible. An interview was arranged with M. Peuvergne, the Administrator of the French Colony of Mahé, and it was settled with that gentleman, after a personal inspection of the ground, that the line on the south of the Mahé river should be kept as close as possible to French territory consistently with non-infringement of the piece of frontier which is at present in dispute. Certain doubts with regard to the possibility of carrying the alignment at the north of Mahé river, so as to avoid French territory without a long and expensive detour, were also set at rest as the result of this interview.

At certain difficult parts of the alignment it was settled that further trial lines should be run, and it is expected that a better line and a more economical line to construct and to work may result from these trial lines. In the opinion of the Consulting Engineer and of the officers of the Madras Railway Company it will undoubtedly be necessary to continue the line beyond Cannanore to the important trading village of Baliapatam, whence many miles of backwaters, rivers, and canals form valuable feeders for a railway. Full details are to be found in the separate report on the Calicut-Cannanore Railway.

11. *Mysore Railways.*—The opportunity of the visit to Bangalore was taken to discuss railway questions with the Resident in Mysore and with the Chief Engineer of the State. It appears that the Mysore Administration is most anxious to secure connection with a West Coast port; Mangalore by preference, but if that is not possible, Tellicherry or Cannanore. As the Government of India have declined at present to sanction further investigation of the Saklespur-Mangalore ghat, it is the intention of the Mysore Administration to depute an engineer—by preference a certain reliable and experienced Engineer of their own staff—to search about for an alternative ghat during the coming cold weather. The merchants in the coffee export trade at Tellicherry are naturally very anxious that their port should have the preference, and they point to a pass whereby, according to them, easy access may be gained to the Mysore plateau through the best coffee-producing parts of Coorg. Meanwhile, the Mysore Administration propose to at once construct the short branch line from Arsekeri to Hassan, but they do not care to extend this branch further westward so long as uncertainty remains as to the best route to the Coast.

12. *Ewing's Tramway.*—When at Calicut I took the opportunity of inspecting the short section of Mr. C. Ewing's patent single rail tramway which has been experimentally laid down, in anticipation of the formation of a Company to supply some miles of it to Calicut. Two stout heavy bullocks pulled two vehicles coupled together, each vehicle weighing 16 cwt. and each carrying $3\frac{1}{2}$ tons nett. The load on the idle wheel was said to be $3\frac{1}{2}$ cwt. per each vehicle, but it could be reduced at will to

practically nothing. Five cwt. had to be transferred from one side of a vehicle to the other to over-balance it, and even then it only tilted over a few inches and no harm was done. The load on each of the working wheels seemed to be about 2 tons nett. The bullocks pulled this load with great ease even up a grade said to be 1 in 60, and round a curve of 30 feet radius. Sleepers are 18″ × 8″ × 4″. Rails are 30 lb. per yard. Vehicles are 10′ × 10′ and are said to cost Rs. 500 each. Mr. Ewing said that the tramway can be laid and equipped for about Rs. 6,500 per mile.

OOTACAMUND,
10th September 1897.

F. J. E. SPRING,
Offg. Consulting Engr. for Rys., Madras.

ORDER—No. 773 R., dated 5th October 1897.

Mr. Willock will be requested in the Revenue Department to favour Government with the note referred to in paragraph 6 (*a*) of the Report.

2. The disposal of the question of canal competition alluded to in paragraph 6 (*b*), is awaited.

3. Paragraph 7 (*d*) is brought to the notice of the Political Department in continuation of G.O., No. 757 R., dated 1st October 1897; also paragraph 10 in continuation of G.O., No. 695 R., dated 21st September 1897.

4. The attention of the Agent, South Indian Railway, is invited to the remarks in paragraph 7 (*f*), and that of the Agent and Manager, Madras Railway, to paragraph 9.

5. A copy of these Proceedings will be forwarded to the Resident in Mysore and to the Government of India for information.

[Here enter No. 774 R., dated 5th October 1897.]

(True Extract.)

Under Secretary to Government,
Railway Branch.

To the Consulting Engineer for Railways.
,, Agent and Manager, Madras Railway.
,, Agent, South Indian Railway.
,, Manager, East Coast Railway.
,, Revenue Department.
,, Political Department.
,, Resident in Mysore, with covering letter.
,, Chief Engineer for Irrigation.

Exd. T. K. Narayana Aiyangar.

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Government {1897} of Madras.

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At certain difficult parts of the alignment it was settled that further trial lines should be run, and it is expected that a better line and a more economical line to construct and to work may result from these trial lines. In the opinion of the Consulting Engineer and of the officers of the Madras Railway Company it will undoubtedly be necessary to continue the line beyond Cannanore to the important trading village of Baliapatam, whence many miles of backwaters, rivers, and canals form valuable feeders for a railway. Full details are to be found in the separate report on the Calicut-Cannanore Railway.

11. *Mysore Railways.*—The opportunity of the visit to Bangalore was taken to discuss railway questions with the Resident in Mysore and with the Chief Engineer of the State. It appears that the Mysore Administration is most anxious to secure connection with a West Coast port; Mangalore by preference, but if that is not possible, Tellicherry or Cannanore. As the Government of India have declined at present to sanction further investigation of the Saklespur-Mangalore ghat, it is the intention of the Mysore Administration to depute an engineer—by preference a certain reliable and experienced Engineer of their own staff—to search about for an alternative ghat during the coming cold weather. The merchants in the coffee export trade at Tellicherry are naturally very anxious that their port should have the preference, and they point to a pass whereby, according to them, easy access may be gained to the Mysore plateau through the best coffee-producing parts of Coorg. Meanwhile, the Mysore Administration propose to at once construct the short branch line from Arsekeri to Hassan, but they do not care to extend this branch further westward so long as uncertainty remains as to the best route to the Coast.

12. *Ewing's Tramway.*—When at Calicut I took the opportunity of inspecting the short section of Mr. C. Ewing's patent single rail tramway which has been experimentally laid down, in anticipation of the formation of a Company to supply some miles of it to Calicut. Two stout heavy bullocks pulled two vehicles coupled together, each vehicle weighing 16 cwt. and each carrying $3\frac{1}{2}$ tons nett. The load on the idle wheel was said to be $3\frac{1}{2}$ cwt. per each vehicle, but it could be reduced at will to

practically nothing. Five cwt. had to be transferred from one side of a vehicle to the other to over-balance it, and even then it only tilted over a few inches and no harm was done. The load on each of the working wheels seemed to be about 2 tons nett. The bullocks pulled this load with great ease even up a grade said to be 1 in 60, and round a curve of 30 feet radius. Sleepers are 18″ × 8″ × 4″. Rails are 30 lb. per yard. Vehicles are 10′ × 10′ and are said to cost Rs. 500 each. Mr. Ewing said that the tramway can be laid and equipped for about Rs. 6,500 per mile.

F. J. E. SPRING,
Offg. Consulting Engr. for Rys., Madras.

Ootacamund,
10th September 1897.

Order—No. 773 R., dated 5th October 1897.

Mr. Willock will be requested in the Revenue Department t
with the note referred to in paragraph 6 (*a*) of the Report.

2. The disposal of the question of canal competition a
is awaited.

3. Paragraph 7 (*d*) is brought to the notice of the P
tinuation of G.O., No. 757 R., dated 1st October 1
continuation of G.O., No. 695 R., dated 21st September

4. The attention of the Agent, South Indian Railwa
paragraph 7 (*f*), and that of the Agent and Manager, Ma

5. A copy of these Proceedings will be forwarded
to the Government of India for information.

[Here enter No. 774 R., dated 5th Oct

(True Extract.)

(Signed)

To the Consulting Engineer for Railways.
" *Agent and Manager, Madras Railway.*
" *Agent, South Indian Railway.*
" *Manager, East Coast Railway.*
" Revenue Department.
" Political Department.
" Resident in Mysore, with covering letter.
" Chief Engineer for Irrigation.
"

Endorsement—No. 774 R., dated 5th Octol

Forwa

(By

Exd. T. K. Narayana Aiyangar.

Inspection tour by the Consulting Engineer for Railways, Madras, during July and August 1897.

1. *General.*—The tour was made between 30th June and 26th August inclusive. Between these dates fourteen days halt were made at Madras, two at Waltair, two at Trichinopoly, and one at Tellicherry, so that thirty-nine days were spent in actual travel. During this period a distance of 5,860 miles was covered, an average of 150 miles per day.

...pections made.—The object of the tour was that the Consulting Engineer ...go over the whole of the railways in the Presidency that lie within his Circle ...inspection, and discuss all current matters personally with the Agents, Managers and Engineers, and thus get a personal knowledge of what is going on, such as could not be gained by perusal of mere papers. With the exception of the part of the Southern Mahratta Railway, which is within the Madras Circle for accident inspection only, and of the short pieces aggregating 77 miles of the South Indian Railway, the inspection of which would have involved the loss of two or three extra days, the whole of the open lines within the Circle were inspected. A careful inspection was also made of the alignment and conditions of the proposed Calicut-Cannanore Railway, and visits were paid at two points to the Bezwada-Madras Railway. The opportunity was taken to make the regular half-yearly inspection of the North-West section of the Madras Railway, His Highness the Nizam's Guaranteed State Railway, and the East Coast State Railway. Special inspections were also made of the Locomotive works at Perambore and Negapatam, and the Electrical and Engineering workshops at Arkónam and Trichinopoly. The regular half-yearly inspection of the South Indian Railway, and of the South-West branch of the Madras Railway had already been made by the two Deputy Consulting Engineers; so the Consulting Engineer confined his detailed inspection, on these lines, to the comparatively more important of the matters which came to notice.

3. *The Inspecting Parties.*—The inspection of the Madras Railway, North-West section was made in company with the Acting Agent and his principal officers; that of the Nizam's Guaranteed State Railway was made in company with the Agent and General Manager and his principal officers; that of the East Coast Railway was made in company with the Officiating Traffic Manager and the Engineer-in-Chief, and general business was discussed in Waltair with the Manager, who, on account of his approaching furlough and of his making over charge to his successor, was unable to accompany the inspection party; that of the Madras Railway, South-west section, was made with the Acting Chief Engineer; and that of the Calicut-Cannanore line was made with the Acting Agent, Madras Railway, with his Acting Chief Engineer, and the Engineer who made the survey.

4. *Madras Railway, North-West Section.*—This inspection, which, as already remarked, was the regular half-yearly one, was made on the 5th, 6th and 7th of July. It will be found to be fully reported on in G.O., No. 694 R. dated the 20th September 1897; so no more need be said about it here.

5. *His Highness the Nizam's Guaranteed State Railway.*—This inspection also need not be further referred to except that it may be mentioned that its report will be found in full in G.O., No. 573 R., dated the 19th August 1897. It occupied the 8th to 11th July inclusive.

6. *East Coast State Railway.*—This inspection was made between the 12th and 15th of July inclusive, and the 16th and 17th were spent in Waltair with the Manager in the discussion of matters generally, and in the inspection of the Locomotive shops and the Vizagapatam harbour. Its report will be found in full in G.O., No. 581 R., dated the 21st August 1897; so it need not here be

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further referred to, except as regards the following two important matters:—

(*a*) It appears to be advisable that the Government of India, who administer the East Coast Railway, should be specially addressed upon the subject of the great importance of a more intimate connection between the railway and the salt trade. As much does not seem to have been done as might have been done to work these two branches of public business in due coordination for their mutual benefit. The representation to the Government of India on this subject might be based upon a Resolution of the Board of Revenue. The present Salt Commissioner, Mr. Willock, has a special personal knowledge of all that relates to the salt-cum-railway question, and a note upon the subject from that officer would be most valuable.

(*b*) The other large question in connection with the East Coast Railway which concerns this Government is that of canal competition, a competition confined at present to the Cocanada-Bezwada section, but which will, in the future, also arise on the section from Bezwada to Madras. It is understood that the question is being handled in the Irrigation Branch of the Public Works Department.

7. *The South Indian Railway.*—This inspection, which, as already remarked, was not one of the regular half-yearly ones, was made between the 28th July and 5th August inclusive, and during that period all current questions were fully discussed on the spot with the Agent. A few comments upon the Deputy Consulting Engineer's previous inspection will be found in G.O., No. 583 R., dated the 21st August 1897, but the following additional remarks are here recorded:—

(*a*) The increasingly heavy traffic on the suburban part of the South Indian Railway, as well as the demand for a better connection with Madras in general, make it seem probable that the doubling of the line between Egmore and Saidapet may soon be necessary, and that in addition it may be considered advisable to construct a loop from Saidapet road by Adiyar and Mylapore in the beach to the harbour terminus, with a local circular service. I agree with the Agent in thinking that in the near future this improvement is likely to recommend itself to Government as certain to pay.

(*b*) One of the principal objects of the inspection was attained on arrival at Negapatam on the morning of the 29th July, when a meeting was held at which the long pending question of revision of the locomotive running lengths was thoroughly discussed with the Agent and heads of departments, and an agreement was arrived at which is likely to result in great economy of working. This has now gone home to the Company's Board of Directors, and will, in due course, come up for the approval of Government.

(*c*) At Negapatam the very extensive Locomotive shops and general Stores of the South Indian Railway were inspected, as was also the first part of the alignment of the proposed extension up the coast towards Nagore. Large alterations of the Locomo ive shops are proposed by the Locomotive Superintendent; but these have to be considered in connection with a proposal to separate carriage and waggon work from engine work, and to locate the former at Trichinopoly. Regular proposals in regard to these important questions may, in due course, be expected from the Company's Agent.

(*d*) Between July 29th and August 1st the line traversing the rich Tanjore plains was inspected, as also the Erode branch, and the southern section through the interesting district of Madura and down to Tuticorin and Tinnevelly. At Trichinopoly the plans of the proposed Tinnevelly-Quilon Railway were gone into with the Chief Engineer of the South Indian Railway, and the conviction forced itself upon the Consulting Engineer that the country where the Western Ghâts are traversed is a 1 in 40 rather than a 1 in 80 country, and that the estimate is a low one, and that it will probably be found that the Tanjore Government might get a far more useful line, extending from Aramboli *viâ* Trivandrum to Quilon, for the same money that the proposed direct Shenakotta-Quilon line seems likely to cost. The Agent, South Indian Railway, would prefer the Tinnevelly- Aramboli section to the proposed section from Tinnevelly to Shenakotta.

(*e*) On the 4th and 5th July the northern, or famine section from Villupuram to Dharmavaram, and also the Renigunta-Nellore section, were inspected. A railway through such a country can scarcely be expected to pay much more than working expenses, and even that only with careful management. It is, for this reason, in contemplation to run one train each way daily instead of two, between Pakala and Dharmavaram.

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8. *The Bezwada-Madras Railway.*—The inspection merely touched this line at Nellore and at Ennur. At Ennur the bridge over the creek, which is now completed, was inspected. At Nellore it was observed that the Gudur-Nellore section is rapidly approaching conversion from metre to broad gauge. The Penner bridge, 23 spans of 70 feet and 5 spans of 40 feet on wells sunk on the average to about 50 feet deep, is practically finished. About 30 miles of line have been laid north of Nellore. Here as well as at the Bezwada end and at the Ennur end the progress of plate laying is all but at a stand for want of sleepers, the arrangements for the supply of which are said to have completely broken down. The masonry both at Ennur and at Nellore is of very first-class quality, and all work at the latter place, where I looked into rates with the Executive Engineer, seems to be done very economically.

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A very important matter came prominently to notice, viz., the very unpleasant swaying which occurs with high speeds over the new section of rail. This swaying is quite a distinct motion from the usual rolling of vehicles on their springs, it is a more unsafe motion, and consists of attempts on the part of a vehicle to place itself horizontally out of parallelism with the centre line in one direction, followed at intervals of perhaps half or thirds of seconds by attempts to go out of parallelism in the other direction. The path in fact of the front and tail of each vehicle is sinuous horizontally. It ceases on curves, as might be expected. It is ascribed by the Company's Engineers to the radius of the head of the new rail being flatter than that of the old, and to the fact that the grooving worn by the head of the old rail in the wheel tyre does not fit the head of the new rail. The correctness of this theory can now easily be tested, and had better at once be tested, by putting all six wheels of the inspection carriage into the lathe and turning a new and true surface on them. If then, a month or two hence, it is found that the same swaying takes place with the same carriage at the rear of a similar train, when run at 60 miles an hour over the new rails, this theory must be discarded. Meanwhile, it seems a probable theory enough.

There is at present an important trade in timber for the Kolar Gold Mines from Madras Railway stations on the West Coast, as there is similarly an important traffic in English coal from the Madras side to the same mines. With extension to Cannanore and a few miles further on to Baliapatam, this timber trade will doubtless be largely developed.

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Note for the Supdt, Govt. Press.

Please strike off 50 copies ~~as printed~~ with the Inspection Report as printed. Three of these copies be made out for signature.

Please print 75 copies with para 10 of the Inspection Report altered as follows:-

For the last 7 lines beginning with the words "were set at rest when it was ascertained" & ending with the words "would be necessary" read "were also set at rest as the result of this interview."

Please send Rev. proof to 7/10/97.

A.S. 1.10.97

2/10/97

2/10/97

No. 773 R dated 5/10/97

PUBLIC WORKS DEPARTMENT,

RAILWAY BRANCH.

THE MADRAS GOVERNMENT.

C.E.

C.I.E.

READ the following

the Consulting Engineer for Rys.

and August 1897.—

Mr. Willock will be requested in the Revenue Department to favour Government with the note referred to in para 6(a) of the Report.—

2. The disposal of the question of canal competition alluded to in para 6(b) is awaited.—

(3 Para 7(d) is brought to the notice of the Political Department in continuation of G.O. No. ~~655~~ 757 R dated ~~15~~ 18th ~~September~~ October 1897; also para 10 in continuation of G.O. No. 695 R of 21st Septr 1897.

Pol. Dept

Note: There appears to be a misprint in para 7(d) "Darbar" & not "Govt" is the expression usually employed for a Native State

Yes

Ans. 17/9/97

a Administration ... a Native State ... Read from C.E. ... 27/9/97 ... Corrected 7/10

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Please strike off 50 copies ~~as printed~~ with the Inspection Report as printed. Three of these copies be made out for signature.

Please print 75 copies with para 10 of the Inspection Report altered as follows:-

For the last 7 lines beginning with the words "were set at rest when it was ascertained" & ending with the words "would be necessary" read "were also set at rest as the result of this interview."

Please send Rev. proof to 7/10/97.

A.S. 1.10.97

2/10/97

2/10/97

No. 773 R dated 5/10/97

PUBLIC WORKS DEPARTMENT,
RAILWAY BRANCH.

THE MADRAS GOVERNMENT.

C.E.

C.I.E.

READ the following

the Consulting Engineer for Rys.
and August 1897.—

Mr. Willock will be requested in the Revenue Department to favour Government with the note referred to in para 6(a) of the Report.—

2. The disposal of the question of canal competition alluded to in para 6(b) is awaited.—

(3 Para 7(d) is brought to the notice of the Political Department in continuation of G.O. No. ~~655~~ 757 R dated ~~15~~ 18th ~~September~~ October 1897; also para 10 in continuation of G.O. No. 695R of 21st Septr 1897.

Pol. Dept

Note: There appears to be a misprint in para 7(d) "Darbar" & not "Govt" is the expression usually employed for a Native State

Yes

Ans. 17/9/92 [illegible]

4. The attention of the Agent S. I. Railway is invited to the remarks in para 7(f) and that of the Agent & Manager Madras Railway to para 9.–

5. A copy of these Prgs will be forwarded to the Resident in Mysore & to the Govt. of India for information.–

St. No 774 R of 5th ~~Septr~~ Octr 97

Forwarded.

F.J.S.
R
16/9/97

S.H. 27/9/97

R/

St. 773-74 R dated 5/10/97

To The Consulting Engr for Rys

– " – Agent & Man: M. Ry

– " – Agent S. I. Ry.

– " – Manager East Coast Ry

– " – Revenue Depts.

– " – Political Depts.

– " – Resident in Mysore with covering letter.

– " – Chief Engr: for Irrigation

R.S. 26/10/97