(1) பக்கங்களின் எண்ணிக்கை 32

(2) புதுக்கித் திருப்பிய நாள் 12/88

(3) ஆதாரங்குறிப்பவர் சுருக்கொப்பம்

தமிழ்நாடு ஆவணக் காப்பகம்.

தமிழ்நாடு அரசு

நிதித்துறை

அரசாணை எண்.	அச்சகம்
மு. கோப்புத் தாள் எண். 2111	பல்வகை

நாள் : 6.8.1889 198

மடிக்கவோ கண்டபடி கையாளவோ கூடாது.

ஆவண, ஆ-1—18,006—15-6-87.

A. Mani

211/1

Proceedings of the Madras Government, Public Works Department, 27th April 1875.

No. 642. 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, 5th April 1875, No. 195 :—

I HAVE the honor to submit, for the information of Government, a Note by the Officiating Deputy Consulting Engineer upon the works under construction on the Northern Extension of the South Indian Railway which was inspected by Captain Thompson during the first quarter of the year.

Dated 24th March.

2. The exceptional floods of last year were extensively felt upon this part of the Company's undertaking, especially as regards the works in progress between Madras and Cuddalore. Captain Thompson points out that the effect of those floods has been to entail delay and increase of cost in the preparation of materials, delay in the carriage of materials, and delay in commencing low-lying works.

3. In another respect the occurrence of these exceptional floods before the works had made much progress may be deemed fortunate, inasmuch as the Chief Engineer has been enabled to revise the proposals for waterway in the light of the experience gained during last year, the result being a considerable addition to the waterway already sanctioned. The revised proposals will shortly be laid before Government. In paragraphs 4, 77, 79, 80 of his Note, Captain Thompson alludes to some of the increases which have been found necessary. In the case of the Pooniar river, alluded to in paragraphs 101 to 104, the measures to be taken will depend upon the result of the survey and sections now being made.

4. The District Engineer of Chingleput has been addressed with regard to the irrigation channels alluded to in paragraph 64.

5. The difficulty alluded to in paragraph 54 is still the subject of correspondence and inquiry.

Note on the Northern Extension of the South Indian Line—Inspected in the months of January, February, and March 1875.

DISTRICT No. I.

Inspected 6th and 7th of January 1875.

Commences at 0 miles 0 chains.
Ends at 7 „ 0 „
Engineer in charge, Mr. A. D. Fox.

1. *Masonry.*—The largest bridge on this district is that over the Adyar at 6 miles 50 chains, consisting of six openings of 66 feet each spanned by "Warren" girders. The piers are 70' 8" from centre to centre.

2. The two abutments and piers Nos. 1 and 5 are up to 2 feet below formation level. The foundations are on rock a little below the surface level of the bed of the stream. The foundation of pier No. 2 was put in some time ago, but as several of the top courses of the brick-work were damaged during the floods in October 1874 they will have to be removed. A ring bund is now being constructed round this pier in order to recommence building. The foundations of piers Nos. 3 and 4 have not yet been put in.

3. The height of waterway on this bridge appears to be ample, girder bed level being well above the marks left on the abutments by the heavy floods of October 1874.

4. *Cooum Bridge.*—The next largest bridge in District No. I. is that over the Cooum. It was proposed at first to construct it with only four girder openings of 40 feet each, but the heavy floods of October last showed that it would be advisable to add another opening. The bridge now being constructed has therefore five openings of 40 feet each.

5. The foundations will be on wells, sunk through the sandy bed of the river to a hard substratum of rock and kunkur, at an average depth of about 30 feet below the river bed.

6. The wells carrying the piers and abutments are 8 feet in external and 4 feet 3 inches in internal diameter. The wing walls of the abutments rest on wells of 6 feet 4 inches external, and 3 feet 4 inches internal diameter.

7. The wells carrying the body of the south abutment are down 18 feet, and those under the wing walls 12 feet.

8. The wells for pier No. 1 (next the south abutment) are down 24 feet. For pier No. 2, 24 feet, and for pier No. 3, 28 feet. Pier No. 4 and the north abutment had not been commenced.

9. The floods of October 1874 caused a good deal of extra expense, trouble, and delay in the construction of this work, depositing a bank of sand nearly 4 feet in depth over the work then in progress, and burying a quantity of rails and other material which had to be dug out.

The north bank of the river, where the abutment is to be built, was also cut away to a width of about 25 feet.

Any amount of clean sand ballast is procurable from the bed of the river near the bridge.

10. Besides the Adyar and Cooum bridges there are twenty-nine small bridges and culverts in District No. I., varying in size from one foot culverts to single openings of 20 feet span.

Of these twenty-two are completed, one is in progress, and the remaining six have not yet been commenced.

11. *Stations.*—The masonry of the Madras goods shed and of the boundary wall of the goods yard is almost completed.

12. The boundaries of the Chetput station ground have been lock-spitted and some materials laid down for the buildings. A large well in this station ground may possibly turn out to be of some use.

13. *Earthwork.*—The earthwork of the district is not heavy, the estimated amount being about 92,000 cubic yards. Of this amount about 22,000 cubic yards have been done.

14. *Ballasting.*—No ballasting has been carried out yet.

15. *Turfing.*—About 25,000 square yards of turfing, or rather more than one-half the estimated amount has been done.

16. *Fencing.*—About a quarter of the 4th and the whole of the 5th miles have been fenced.

17. *Permanent-way.*—A few chains of permanent-way have been laid down in the 4th mile.

18. *Telegraph.*—Teakwood telegraph posts are being put up. They are 7″ × 7″ at the base, 5″×5″ at the top, and are to be planted 3 feet deep in the ground. The posts are 18 feet long.

DISTRICT No. II.

Inspected 11th and 12th of January 1875.

Commences at 7 miles 0 chains from Madras.
Ends at 23 miles 0 chains „ „

Engineer in charge, Mr. F. O. Bullmore.

19. *Masonry.*—The largest bridge in this district is one of five 25-feet girder openings at the 21st mile 79th chain. The north abutment is up to 2 feet below ground level. Piers Nos. 1, 2, 3 and 4 have been raised 4 feet above ground level, an additional 4 feet of masonry will raise them to girder bed level. The south abutment is now within one foot of ground level. The progress of this work has been a good deal delayed owing to the ground having been so long under water, and to the consequent difficulty in conveying materials to it.

20. At the 22nd mile 4th chain it is proposed to construct a bridge of two 10-feet girder openings. The original provision at this point was for a 6 feet girder opening, but this has since been found to be insufficient. Seventeen feet of lineal water-way are allowed in the public road for this stream, which is chiefly formed by the surplus water of some tanks to the east of the line.

21. Besides the two abovementioned works, the reare sixty-five culverts and bridges varying in size from 2 feet to 10 feet openings. Fifty-two of these have been founded and are in various stages of progress, ten have been completed, and the remaining three have not yet been commenced.

22. The material used in these minor works is chiefly native bricks. They are as a rule well burnt, and with good chunam they have made sufficiently strong if not very pretty work. Owing to their edges being rounder and more irregular than those of more carefully moulded table-bricks, the joints of the faces of the work are rather coarse looking. In most instances, the work will, I think, look better coated with chunam, in which a full amount of "Soorkee" or brick dust has been mixed.

23. *Guindy.*—The fencing of ditch and mound with double row of aloes has been completed round the Guindy station compound, and about half a lac of bricks collected for the station buildings.

Stations.

24. *St. Thomas' Mount.*—The retaining walls of the platforms for passengers and goods are almost completed. The water in the station ground has been tested and found good for locomotive purposes. The fencing of ditch and mound with double row of aloes has been completed, and the aloes appear to be thriving well. A temporary engine shed of brick pillars with a couple roof thatched has been erected. An engine from Madras is expected to arrive in the course of one or two days.

25. *Palaveram.*—About 60,000 bricks are now on the ground for the station buildings. The fencing of mound and ditch with double rows of aloes has been completed. In some places, where the aloes had not thriven well, fresh plants have been put down. They appear to be growing all right now.

26. *Vandaloor.*—The water at this station has been tested and pronounced unfit for locomotive purposes. The compound fence of ditch and mound has been completed, and the aloes appear to be thriving very well.

27. *Earthwork.*—The earthwork of District II. is finished throughout, with the exception of gaps where bridges or culverts are being constructed, and sidings, &c., in station grounds.

28. *Ballasting.*—About 22,000 cubic yards of ballast, chiefly sand, have been collected at various points along the district, and will be distributed as soon as ballast trains commence to run.

About 15,000 cubic yards of ballast have been spread between the 7th and 12th miles.

29. *Turfing.*—Rather more than four miles of line have been turfed and fenced with aloes on each side, as follows :—

8th mile	.. .. ..	40 chains.
9th „	.. .. ..	45 „
10th „	.. .. ..	30 „
11th „	.. .. ..	80 „
12th „	.. .. ..	29 „
19th „	.. .. ..	80 „
20th „	.. .. ..	25 „

= 4 miles 9 chains turfed and fenced.

The 15th and 16th miles have been partly turfed, but no fencing yet carried out, *viz.* :—

15th mile	.. .. ..	69 chains.
16th „	.. .. ..	16 „

= 1 mile 6 chains turfed, but not yet fenced.

30. *Permanent-way.*—Permanent-way has been laid from the level crossing on the Mount Road near Guindy at 7 miles 15 chains to Palaveram at 12 miles, with the exception of a break of a few chains in the 10th mile, which will be connected in the course of a few days.

This portion of line, *viz.*, from the 7th to the 12th mile, has been ballasted up to rail level with the exception of the break abovementioned.

31. Where culverts and small bridges have not yet been completed, temporary piers of wooden (pine wood,) sleepers have been put in to admit of material wagons passing along. An engine and ballast train will probably be able to run between the Mount and Palaveram by the end of the current month (January 1875).

32. Sufficient permanent-way is now in depôt at Palaveram to complete the main line to Vandaloor, and in depôt at Vandaloor to complete it on to the end of the district at Goodavancherry.

33. *Ballast fields.*—Additional ground for ballast fields has been taken up at Guindy, adjoining the station ground. A good deal of fairly clean sand ballast has been collected here and there in the district from the beds of small streams crossing the line.

It is probable that engines will be able to run between Guindy and Vandaloor by the middle of April 1875.

34. *Waterways.*—Mr. Bullmore, the Resident or District Engineer, informs me that he carefully noted the effect of the heavy floods of October 1874 on the line, and with the exception of the proposed substitution of two 10-feet girder openings for the 6 feet girder opening referred to in paragraph 20, he considers that the waterway provided for is sufficient. No damage was done to the line during these floods.

35. *Telegraph.*—The telegraph posts (teakwood) are being erected along the line.

DISTRICT No. III.

Inspected 12th and 13th January 1875.

Commences at 23 miles 0 chains

Ends at 38 „ 0 „

Engineer in charge, Mr. H. W. Hudson.

36. *Masonry.*—The largest work in this district is a bridge of six 20-feet girder openings in the bed of the Chingleput tank, at 33 miles 75 chains, to allow the surplus water to flow to the calingulah. The piers and abutments are to be of stone up to ground level and brick-work above.

The south abutment is about three-fourths finished, and piers Nos. 1 and 2 next it are 2′ 6″ above the ground level. Pier No. 3 is up to ground level, and piers Nos. 4 and 5 have not yet been commenced. An excavation was made for the foundation of pier No. 4, but the tank filling work was put a stop to.

37. The next largest work is a bridge of four 20-feet girder openings at 23 miles 51 chains. Two piers were brought up to ground level, and the north abutment foundation partly excavated for when the work was stopped by floods. The ground is now drying up, and work has been recommenced. The material used is quarried stone.

38. In addition to these two works there are 54 smaller bridges and culverts, varying in size from 2 feet culverts to bridges of two 10-feet girder openings; of these three are completed, twelve about three-fourths finished, twelve in various other stages of progress, and the remaining twenty-seven have not yet been commenced.

The country having been so much under water during the past year has greatly delayed the progress of bridge work in this district.

Brick-making was also at a stand-still for several months.

39. *Stations.*—No masonry has yet been commenced.

The Goodavancherry station ground fence, of ditch, mound, and aloes is completed. The aloes appear to be thriving very well.

The Chingleput station ground boundaries have been lockspitted, and a number of native huts which were in the way pulled down. The ground is still under crop, so nothing further is being done just at present.

40. *Earthwork.*—The earthwork of District III. is completed to formation level with the exception of a few chains in the 31st, 35th, and 36th miles, where the ground is still under wet cultivation, a portion of the 34th mile at the Chingleput tank, and at gaps where bridges are being constructed.

The sidings in the station grounds have not been commenced.

The estimated amount of earthwork to be done is about 308,000 cubic yards; of this about 222,000 cubic yards have been executed.

41. *Turfing.*—About half the turfing is completed, *viz.*, 88,000 square yards, out of an estimated amount of 166,000 square yards. Some extra turfing will have to be carried out, in consequence of several gradients having been raised in places where the line was found to run too low.

42. *Fencing.*—Rather more than one-third of the aloe fencing has been planted, *viz.*, 18,000 lineal yards, out of an estimated amount of 53,000.

43. *Ballasting.*—No ballasting has yet been carried out, but very fair, red gravel ballast is procurable at frequent intervals all along the district, and can easily be collected and distributed, as soon as permanent-way has been laid and ballast trains commence to run.

44. *Permanent-way.*—None received yet.

45. *Telegraph.*—Telegraph posts are being set up.

46. *Bricks.*—Mr. Hudson has turned out some of the best bricks I have seen in India from his brick-fields near Chingleput; they are hard, heavy, well burnt, and have clean, sharp edges and corners. When he has met his own requirements, he will continue to manufacture bricks for the districts adjoining his own.

DISTRICT No. IV.

Inspected on the 14th, 15th, and 16th January 1875.

Commences at 38 miles 0 chains.

Ends at 50 „ 0 „

Engineer in charge, Mr. T. Nicholls.

47. *Masonry.*—The largest work in this district is the bridge over the Palar river. The centre of the bridge will be at the 44th mile 65th chain. It will consist of eighteen 120-feet openings, spanned by "Warren" girders on brickwork piers and abutments which will be founded on wells of 12 feet external and 6 feet internal diameter. The bed of the river is sand, but it is expected that a sufficiently hard substratum for the wells to rest on will be met with at from 40 to 50 feet below the lowest part of the river bed.

48. The excavation for the foundation of the south abutment is now in progress, and well sinking will be commenced in the course of a few days.

49. The Palar came down in flood on the 9th of September 1874, and remained so more or less until the 15th of December 1874. On the 25th of October 1874, a flood, foot higher than the highest flood previously recorded in the Palar came down, submerging the brickfields at Battalen on the south bank of the river to a depth of 2 feet, and destroying 118,000 unburnt bricks. The cyclone of May 1874 also destroyed 120,000 unburnt bricks at the same place.

50. There are now 750 lineal feet of drying sheds, and two kilns, each capable of turning out 110,000 bricks at work. Another drying shed 250 feet long, and two more kilns of the same capacity as those already built are now being constructed.

When they are finished, it is hoped that three lacs of bricks per mensem will be turned out. At present the outturn is about one and a half lacs per mensem, and there is now a stock of well-burnt brick on hand of about three and a half lacs, so that when work has been commenced, there will not be much danger of its being retarded from want of material. Well sinking will be commenced in the course of a few days.

51. A siding has been laid down from the south bank to convey material to the river bed from the brick-fields, and a store shed and cooly lines are almost completed. The well curbs are being constructed at, and sent down by bandies from Madras.

52. The next largest work is the Carangooly bridge, consisting of eleven 40-feet girder openings at the 49th mile 11th chain. The girders (ordinary web and flange) will rest on masonry piers and abutments built of stone from the walls of the old fort at Carangooly. The foundation will rest on rock throughout which crops up to the surface of the ground.

53. The north abutment is completed to girder bed stone level, and a bed has been nearly completed on the rock for the foundation of pier No. 1.

None of the other piers have yet been commenced. The south abutment excavation is almost completed.

54. Mr. Nicholls (the Engineer in charge) states that the progress of this work has been considerably retarded in consequence of the Revenue officials of Madranticum and Carangooly having impressed a number of his coolies, wudders, and bandies to work on the repairs and drainage of certain roads in these two villages.

55. The work next in importance is a bridge of four 20-feet girder openings at 42 miles 8 chains. The excavations for this work were started more than a year ago, but as the ground has been under water since May 1874, nothing further has yet been done.

The foundations will be on wells 8 feet in external diameter, and the piers and abutments will be of brickwork.

A brick-field is now being started close to the work, which will also be useful as an auxiliary to the brick-field at Battalen for the Palar bridge. One lac of bricks per mensem will be turned out.

56. There are 63 minor bridges and culverts, varying in size from 1 foot culverts to 20 feet single openings.

Ten of these are completed, with the exception of the parapets, 16 are in various stages of progress, and the remaining 37 are not yet commenced. The sites of the majority of these 37 works have been under water since May 1874.

Building materials are now being conveyed to them as the country dries up sufficiently to admit of bandies passing along.

57. *Stations.*—There are no stations.

58. *Earthwork.*—Out of an estimated amount of 220,700 cubic yards of earthwork, 132,000 have been completed.

59. *Turfing and Fencing.*—About 6¼ miles of line have been turfed and fenced.

60. *Ballast.*—No ballast has been collected yet; good gravel is to be had close to the line at the 40th mile. There is also an inexhaustible supply of sand in the bed of the Palar. The Carangooly end of the district will be worse off for ballast than the Chingleput end.

61. *Permanent-way.*—One mile of permanent-way material has been stacked at the south side of the Palar bridge at Battalen, and a siding has been laid down from the south bank of the river to convey material to the work in the river bed.

62. *Rainfall.*—The average annual rainfall in the Chingleput District is, I believe, under 40 inches, but during the last three years the fall has been considerably greater. According to the Range Office register at Chingleput—

66·60 inches of rain fell in 1872.
42·68 „ of „ „ in 1873.
72·79 „ of „ „ in 1874.

2114/4

Proceedings of the Madras Government, Public Works Department,
27th April 1875.

Since May 1874 there has been but little weather for brick-making, and it was found that the bricks dried in sheds were never sufficiently dried to burn well. The rainfall between May and December 1874 was distributed as follows:—

	Inches.
In May 1874	9·27
In June „	7·44
In July „	5·40
In Aug. „	3·22
In Sep. „	19·24
In Oct. „	17·46
In Nov. „	6·25
In Dec. „	4·51
	72·79

63. This unusually wet season has, with regard to the railway works, simply meant great delay and increase of cost in the preparation of materials, delay in the carriage of materials, and delay in commencing such works as were situated in low ground. Every effort is now being made by the Railway Engineers to make up for the time thus unavoidably lost. Brick burning and the carriage of material is being everywhere vigorously pushed on, and the foundations of such works as lie low are being put in during the dry season, so that they may still be proceeded with during the coming monsoon.

64. Mr. Nicholls tells me that between the unfinished bridge at the public road crossing of the Palar and the Railway bridge now under construction, there are four irrigation channels led away from the Palar, only one of which has a head sluice, and it is out of repair. This will, I presume, be looked to in due course of time by the Irrigation Department, as the line of Railway lies under the influence of all four of these irrigation channels.

DISTRICT No. V.

Inspected 16*th and* 17*th January* 1875.

Commences at 50 miles 0 chains.
Ends at 68 „ 0 „

Engineer in charge, Mr. C. Scott.

65. *Masonry.*—The largest work in this district is a bridge of four 20-feet girder openings at the 63rd mile 58th chain. It is being built of "burnt" stone, and founded on hard rock about 2½ feet below the river bed. A bed has been levelled off in the rock for the foundation of the second pier, and 3 feet 6 inches of masonry has been built on the third pier. Between 30 and 40 cubic yards of stone are on the ground.

66. The next largest work is a bridge of two 25-feet girder openings with a 10 feet arch at each end. It will be constructed of burnt stone, founded at a depth of about 6 feet below the river bed on hard "barber's" stone.

About 70 cubic yards of stone are on the ground.

67. There are 85 other small bridges and culverts in this district; of these eleven are completed, eight in progress, and stone has been collected at the sites of fourteen others. The remainder are all below 6 feet span, and will be built of native brick.

68. The total estimated amount of masonry to be executed is 5,413 cubic yards, of which about 800 cubic yards have been done.

69. *Stations.*—The only stations proposed for this district are a third-class one at Madranticum, which has not been commenced yet, and a third-class station at Acherawauk, the fencing of which is completed. An Engineer's bungalow has also been erected on the station ground, which will eventually be inhabited by the station master.

70. *Earth-work.*—About one-half of the earth-work has been completed, *viz.*, out of an estimated amount of 265,000 cubic yards, 139,000 cubic yards have been done.

In the neighbourhood of Madranticum earth-work has been delayed in consequence of the country being a good deal under water.

At Cudamulapothoor also earth-work has been delayed for the same reason.

71. *Turfing.*—Out of a total length of 18 miles, rather more than 10½ miles have been turfed.

72. *Fencing.*—About 6 miles of fencing have been planted. The aloes in some places are rather too small to take root rapidly and well.

73. *Ballast.*—Ballast is being collected in the 57th, 61st, 62nd, 63rd, and 67th miles, and between the 67th and 68th miles about 2,000 cubic yards have been spread.

74. *Permanent-way.*—None received yet.

75. *Telegraph.*—Material not yet arrived.

DISTRICT No. VI.

Inspected 17th and 18th January 1875.

Commences at 68 miles 0 chains.
Ends at 86 „ 0 „
Engineer in charge, Mr. J. A. Jones.

76. *Masonry.*—The most important work in this district is the bridge over the Gingee river at 85 miles 69 chains. Nine 30-feet girder openings with stone piers and abutments founded on rock about 10 to 14 feet below the river bed.

Between 500 and 600 cubic yards of stone have been collected and are being delivered at the site of the work. The carriage of material has been much delayed owing to the country having been so wet since July last. The stone comes in from various quarries, distant 10 to 14 miles from the bridge.

Work has not yet been commenced, but will be in a few days when sufficient stone has been brought to the site.

77. The next largest work is the Chendoor bridge at 84 miles 29 chains, originally designed to have four 30-feet girder openings; but since the floods of October 1874, it has been necessary to reconsider the design and allow more water-way. It will be founded on wells with a superstructure of brick.

78. Bricks are being made about a mile north of the bridge site, and permanent-way is being laid down on the line to facilitate their carriage to the work.

The wells will probably have to be sunk from 30 to 40 feet before reaching the hard.

79. A bridge at 76 miles 13 chains, originally designed as a one 30-feet girder opening, is now to be constructed with two 30-feet arches, granite abutments and pier founded on rock. The north abutment is up to springing level, and excavations for the south abutment and pier foundations have been completed.

The arches are to be turned in brick with brick backing.

80. At the 77th mile 2½ chains, a bridge of two 10-feet girder openings was to have been constructed, but the floods of October 1874 proved the necessity of altering the design, and substituting a bridge of four 20-feet girder openings.

It is to be founded on hard moram with stone piers and abutments; excavations for the abutments were taken out before October 1874, but were then filled in by floods. Work has not yet been commenced again.

81. There are 58 small culverts and bridges to be constructed beside the four bridges above mentioned; they vary in size from 2-feet culverts to bridges of double 20-feet openings. Seven

of these works are completed to girder bed level, 16 are in various stages of progress, and the remainder have not yet been commenced. Materials are being conveyed to them as the ground dries.

82. *Stations.*—The boundary fence of the Woolacoor station ground at 68 miles 54 chains has been completed and planted with aloes.

At the Tindevanum station ground in the 76th mile, the boundary fence is partially completed. All the land required for the station ground has not yet been handed over, some of it being house property.

The site for the station ground at Chendoor is still under consideration.

83. *Earth-work.*—The earth-work is completed to formation level throughout, with the exception of gaps at bridges, altered gradients, station sidings, and about 50 chains in the 86th mile south of Chendoor river, where the Chendoor Railway Station may possibly be located.

84. *Turfing.*—The district is turfed throughout, with the exception of places where it has been found necessary to raise the gradients.

85. *Fencing.*—Between five and six miles of fencing have been planted.

86. *Ballasting.*—Between one and two hundred cubic yards of red gravel ballast have been collected in the 82nd and 83rd miles. Fair ballast may be had in the 72nd mile at about 2 feet below the surface, and any amount of good sand ballast is procurable from the beds of the Chendoor and Gingee rivers.

87. *Permanent-way.*—One mile and ten chains of permanent-way materials are being delivered in the 84th and 85th miles, and will be laid at once for running in material to the Chendoor river bridge.

88. *Telegraph.*—No posts or wires received yet.

DISTRICT No. VII.

Inspected 18th, 19th, and 20th January 1875.

Commences at 86 miles 0 chains.
Ends at 102 „ 0 „
Engineer in charge, Mr. Bond.

89. *Masonry.*—The Vicravandy bridge at the 92nd mile 13th chain is the largest work in this district. It is to consist of five 30-feet openings (girder) founded on wells. The excavations were taken out before October 1874, but were then filled in again by floods. The piers and abutments will be of stone, the greater part of which has already been conveyed to the site of the work.

Well bricks are being moulded about two miles south-east of the bridge, and work will be recommenced as soon as the river has fallen sufficiently.

90. A bridge of three 30-feet girder openings is being constructed over the Pombay nullah at 97 miles 3 chains. The north abutment, pier No. 1, and cross walls between, are up to 18 inches of river bed level.

An excavation was made for the foundation of the south abutment last year, but was filled in again by the floods of October last. Pier No. 2 and cross walls between piers Nos. 1 and 2 are completed to within five feet of river bed level. The work is to be of brick throughout. It is still covered with water, but it will probably be practicable to commence work again in about a month's time.

91. The next largest works are a bridge of two 20-feet girder openings at 93 miles 64 chains not yet commenced, and a bridge of one 25-feet girder opening at 100 miles 72 chains. The work was commenced last year, but was stopped by floods, and, being situated in the Anangoor tank, has not yet been recommenced. About 20,000 bricks are now at the site.

92. There are 60 other small bridges and culverts to be built varying in size from two feet culverts to small bridges of one 20-feet girder opening.

Four of these are in various stages of progress. The remainder will be commenced shortly as the ground dries, and material can be conveyed to sites of the works.

93. Brick making has been greatly delayed in this as in the other districts by the past unusually wet season. Bricks are, however, now being turned out in seven places on the district, and every effort is being made to lay in a sufficient stock before the next rainy season sets in.

94. *Stations.*—The fencing in of the Vieravandy and Villapuram station grounds has been completed.

95. *Ballasting.*—No ballasting done yet.

Good sand ballast is procurable from the Gingee, Vieravandy, and Pombay river beds.

The south end of the district will probably be ballasted from the Pooniar river bed when permanent-way has been laid down.

96. *Earth-work.*—About 150,000 cubic yards out of an estimated amount of 188,000 cubic yards of earth-work have been executed. The earth-work of the district is, in fact, completed, with the exception of a portion of the 86th mile, gaps where bridges are being constructed, and sidings in station grounds. The earth-work can easily be completed throughout when the bridges are finished and the ground has dried up sufficiently.

97. *Turfing.*—About 11¼ miles of line have been turfed on both sides.

98. *Fencing.*—Between 11 and 12 miles of line have been planted with aloe fencing on both sides.

99. *Permanent-way.*—No permanent-way material received yet.

100. *Telegraph.*—None yet.

DISTRICT No. VIII.

Inspected on the 20th and 21st January 1875.
Commences at 102 miles 0 chains.
Ends at 116 „ 0 „
Engineer in charge, Mr. R. W. Thompson.

101. *Masonry.*—The Pooniar bridge at 105 miles 3 chains is the largest bridge to be constructed on this district. It was originally proposed to have 17 100-feet girder openings; but since the floods of October last, it has become a question whether this is a sufficient amount of water-way. Sections of the river bed are now being taken, from which will be known the amount of water which actually passed down during those unusually high floods, and the question of water-way will be shortly determined.

102. The abutments and piers will be founded on wells, 12 feet in external diameter, which will probably have to be sunk to a depth of 40 feet below the river bed. Bricks for the wells and superstructure are being moulded in bed brick-fields, one on the north and the other on the south of the river. Well sinking has not yet been commenced.

103. The next largest work is a bridge over the "Mullatar," * a tributary of the Pooniar, which the line will cross to the north of that river at the 103rd mile 41st chain. Bricks are being moulded for this work close to its site.

* Three 40-feet girder openings.

104. In addition to these two large bridges, there are 55 smaller bridges and culverts to be constructed, varying in size from 2-feet culverts to bridges of three 25-feet girder openings.

Twelve of these are completed, two are in progress, and the remainder will be started as soon as the country has dried up sufficiently. The floods of October 1874 have shown that the height of the railway embankments and the water-ways of the minor bridges and culverts must be considerably modified to meet "spills" from the Pooniar, unless the banks of that river are to be bunded. This, however, is a question which cannot with any advantage be discussed, until the sections above referred to have been received and other information which the Chief Engineer of the line is now having collected.

105. *Station.*—Bricks are being made in a portion of the ground taken up for the Punrooty station, and an Engineer's bungalow has been built.

The site for the Akadavilly station, on the south bank of the Pooniar, has been abandoned, not without very good reason as the floods of October 1874 have shown.

106. *Ballasting.*—None yet commenced.

Proceedings of the Madras Government, Public Works Department,
27th April 1875.

Ballast will be procured from the bed of the Pooniar and the beds of the two "Mullatars," tributaries of the Pooniar on the north and south of that river.

107. *Earth-work.*—The earth-work of this district has been completed to formation level, with the exception of gaps at bridges, sidings in station grounds, and portions of the line in the 105th and 106th miles where the floods of May and October 1874 broke through. The raising of some gradients and lowering of others is now with the water-ways, a question under consideration.

108. *Turfing.*—Almost completed throughout.

109. *Fencing.*—About 30,000 lineal yards out of an estimated 49,000 of fencing planted.

110. *Permanent-way.*—None yet delivered. A few miles of it would be of great advantage to convey materials down to the Pooniar bridge.

111. *Telegraph.*—No telegraph material yet delivered.

DISTRICT No. IX.

Inspected 22nd to 30th January 1875.
Commences at 116 miles 0 chains.
Ends at 128 „ 0 „
Engineer in charge, Mr. H. C. Baggallay.

112. *Masonry.*—The bridge over the Guddelum at Cuddalore is the largest work on this district. It will consist of 10 girder spans of 100 feet each. The girders ("Warren") will rest on piers and abutments of brick-work, founded on brick wells 12 feet on external and 6 feet in internal diameter. The wells will probably be sunk to a depth of 40 feet below the river bed.

A chunam kiln has been built close to the work, and 400,000 bricks burnt. Well sinking will be commenced as soon as the well curbs arrive from Trichinopoly, where they are being made in the Railway Engineer's Workshops.

113. The next largest work is the bridge over the back-water between Cuddalore and Munjacoopum. It will consist of a 70-feet "Warren" girder opening, with brick piers and abutments founded on wells 12 feet on external and 6 feet in internal diameter; one of the wells has been built up 20 feet and sunk 10. They will probably have to be sunk to a depth of 40 feet each.

114. In addition to the two bridges above mentioned there are 42 smaller bridges and culverts varying in size from one foot culvert to single girder openings of 20 feet span.

Thirty-nine of these works are up to girder level and three are in progress.

115. *Stations.*—The Nellicoopum station at 120 miles 25 chains has not yet been commenced. The boundaries of the station ground have been marked out and partially planted with aloes.

The boundary fence of the Tirupapaloor station at 126 miles 27 chains has been planted on the east side with a bund and aloes, and on the west it is protected by wire fencing. No masonry yet commenced.

At the Cuddalore station in the 128th mile 52nd chain, no fencing or masonry commenced yet.

116. The estimated amount of masonry to be executed in bridge-work is 4,900 cubic yards, of this more than one-half has been executed, *viz.*, 2,540 cubic yards.

117. *Earth-work.*—The estimated amount is 275,500, of this 207,600 cubic yards have been executed.

The "wharf line" from Tirupapaloor to the Old Town, Cuddalore, has been completed to formation level, and permanent-way laid down.

The main line has been brought up to formation level from the 117th to the 127½ miles, and is now ready for ballasting.

118. *Turfing.*—The wharf line and 10½ miles of the main line have been turfed throughout.

119. *Fencing.*—A fence mound planted with aloes has been completed along 10 miles of line on each side, and 12 miles of line have been planted with aloes on the slopes of the banks on each side.

120. *Ballasting.*—About 3 miles of sand ballasting, 9 inches thick, have been done.

121. *Permanent-way.*—Eleven miles of permanent-way have been laid, *viz.*, from the Old Town, Cuddalore, to Tirupapaloor, on the "wharf line," and from Tirupapaloor to Nelliccopum on the main line.

122. *Telegraph Posts.*—Arrangements have been made with the Forest Department for the supply of 30 miles of temporary telegraph posts, but none are yet planted along the line.

123. *Permanent-way material.*—Forty-two miles of permanent-way material have been landed at Cuddalore; about a mile and ten chains has been sent to District No. VI. at Tindevanum.

124. *Girders.*—Girders for the line between Chingleput and Cuddalore, *viz.*, 43 miles to 128 miles, have been landed at Cuddalore; the girders are for minor bridges up to 40 feet spans only.

DISTRICT No. X.

Inspected 22nd to 30th of January 1875.
Commences at 128 miles 0 chains.
Ends at 140 „ 0 „
Engineer in charge, Mr. H. C. Baggallay.

125. *Masonry.*—The bridge over the Paravanaur, between Cuddalore and Porto Novo will be the largest work on this district.

The number of spans and other details connected with it are not yet settled.

126. There will probably be 27 minor bridges and culverts to be constructed, several of which will be girder openings of from 50 feet to 100 feet span.

127. The land for six miles only of this district has been received from the Revenue authorities. The remaining six miles are now being taken over. The water-ways are not yet definitely fixed, and it is not certain what stations, if any, will be required.

128. *Earth-work.*—The total estimated amount of earth-work is 271·150 cubic yards, 97·900 cubic yards, or rather more than one-third of which has already been executed.

Five-and-a-half miles of line are now up to formation level.

129. *Ballasting.*—One mile of line is ballasted.

130. *Turfing.*—Five-and-a-half miles are turfed.

131. *Fencing.*—Four-and-a-half miles of aloe fencing have been planted.

132. *Permanent-way.*—Two miles of permanent-way are laid, one mile of which has been ballasted.

133. *Telegraph.*—No telegraph erected yet.

134. *Engineer's Bungalow.*—The Engineer's Bungalow at Allampaukum has been commenced.

DISTRICT No. XI.

Inspected 3rd, 4th, and 5th February 1875.
Commences at 140 miles 0 chains.
Ends at 151 „ 0 „
Engineer in charge, Mr. Ellis.

135. The land for this district has not been handed over yet by the Revenue authorities, but the staking out of the line is in progress.

136. The largest work will be the bridge to be built over the Vellaur near Porto Novo. The line will cross as nearly as possible perpendicularly to the general direction of the stream above the bridge site or point of crossing; the river at this point has well defined banks, the water has a tolerably even depth, and generally the point selected is the best that could have been chosen.

137. Brick-fields are being opened in several places close to the site of the bridge.

DISTRICT No. XII.

Inspected 2nd February 1875.
Commences at 151 miles 0 chains.
Ends at 156 „ 0 „
Engineer in charge, Mr. J. Rice.

138. The bridge over the Coleroon is the largest work to be undertaken in this district. The details for its construction have not yet been finally determined.

Proceedings of the Madras Government, Public Works Department,
27th April 1875.

139. Mr. Clarke, a Native Assistant Engineer, is at present in charge of the collection and preparation of materials. He has opened a large brick-field on the south bank of the Coleroon, in which excellent brick clay is found.

140. The land for this district has not yet been handed over, but the staking out of the line has been proceeded with.

General Remarks.

141. There is no doubt that the unusually wet season of last year greatly delayed the progress of masonry works between Madras and Cuddalore. The sites of many of the works were for months under water, and brick making and burning were also for a long time at a stand-still.

142. Some vigorous efforts were made to proceed with brick making in spite of the weather, by constructing long lines of drying sheds, but it was found that the bricks did not dry sufficiently in them to burn well.

143. Since dry weather set in, however the Engineers are all proceeding vigorously with the collection and manufacture of building materials, and foundations are being put in as rapidly as possible in such works as are situated in low ground, so that they may be proceeded with without fear of interruption.

144. The character of the masonry and brick-work generally between Madras and Cuddalore is excellent.

145. In some cases where native-made bricks have been used, the work does not appear particularly neat, owing to the joints on the faces of the work being rather coarse; but, as care has been taken to select really well-burnt bricks, and as the chunam is good, there can be no doubt that the work is quite strong and substantial enough. I think it would be well to plaster all works constructed of native brick with chunam mixed with "soorkee."

146. I did not proceed further south than the end of District No. XII. between Chellumbrum and Sheally, as I there met Mr. Logan, the Chief Engineer, with whom I had the pleasure and advantage of going over the line back again to Madras, where we arrived on the 3rd instant.

147. From Punrooty we proceeded up the valley of the Pooniar, past Tiruvananelloor to the Tirukovaloor anicut, examining the river bed and banks with a view to determining what must be done to enable the line of Railway to dispose of such extraordinary floods as those of October 1874.

148. Mr. Rice and Mr. Greswell, two of the South Indian Railway Engineers, have since been employed under Mr. Logan's instructions in taking a series of levels and sections of the river bed, and of various places where the river overflowed.

When the information they are now collecting has been received, the water-ways to be provided in the line will be definitely determined.

BANGALORE, (Signed) ROSS THOMPSON, Captain, R.E.,
24th March 1875. *Offg. Depy. Consg. Engr. for Railways.*

No. 643. ORDER THEREON, 27th April 1875, No. 1,168.

RAILWAY, No. 82.

THE late date at which this report of inspection of 156 miles of the Northern Extension of the South Indian Line, from Madras to the Coleroon river, made between the 6th January and 2nd February, has been submitted by the Deputy Consulting Engineer for Railways, greatly detracts from the usefulness of the information it conveys and makes detailed notice of it unnecessary.

2. Taken in connection with all previous returns, it conveys a general impression of unsatisfactory progress since receipt of sanction by telegram of 29th January 1873 of the proposals for the work to be done on the 128 miles between Madras and

Cuddalore. It seems desirable, therefore, to review the causes of delay. The amalgamation of the Carnatic with the Southern of India Company was, no doubt, a chief source of delay up to the date of concentration of the management and supervision of both lines in the same hands in September 1873. But it then fell to the lot of the Chief Engineer, whose head-quarters were at Trichinopoly, not only to start the works on this sanctioned section, but to revise the designs both of it and the extension to the Coleroon 28 miles, from whence into Tanjore, a distance of 62 miles, he had the entire responsibility of planning the works. For the Tanjore-Cuddalore extension authority to collect materials was given in Government of India telegram of 19th February 1874. But simultaneously with this amount of fresh work was proceeding the construction of 196 miles of line between Trichinopoly and Tuticorin. The working of a length of 168 miles of open line from Negapatam to Erode had also to be supervised. It is not, therefore, to be wondered at that progress in the fair season of 1873-74 was slow, and the year that has since elapsed has been one of unusual floods, the difficulties caused by which are detailed in this and former reports. Altogether His Excellency the Governor in Council cannot but consider that more was attempted than could possibly have been undertaken by one Chief Engineer, without at least a Deputy of experience to aid him in the work of supervision.

3. It would appear that the question of water-way of the large bridges, as well as of the minor bridges and culverts, affected by the floods of rivers near Cuddalore, and of the height to which the Railway embankments should be raised, is still in a very unsettled state. And His Excellency the Governor in Council has no doubt that the Chief Engineer and Consulting Engineer for Railways will give the subject the fullest consideration, and be able to satisfy the Government of India with the decision arrived at; the grounds for which will have to be communicated to them in detail.

4. The result of the reference made to the District Engineer, Chingleput, in respect to sluices for Irrigation channels, and of the inquiries being made on the subject of the withdrawal of labor by Revenue officials will be reported in due course by the Consulting Engineer.

(True Extract.)

(Signed) G. W. WALKER, Colonel, R.E.,
Secretary to Government.

To the Consulting Engineer for Railways.

Exd. A. Grubert.
Spare Copies

2111/8

Govt. of {1875} Madras.

PUBLIC WORKS.

To

THE CONSULTING ENGINEER

FOR RAILWAYS.

Dated April 27th.

Issued

Read. *Encl.*

G. O., 27*th April* 1875, *No.* 1,168.

APRIL.

Nos. 642-643

Northern Extension, South Indian Railway.—Passing orders on the Deputy Consulting Engineer's report of inspection on construction work on the —during the first quarter of 1875.

2111/7

Proceedings of the Madras Government, Public Works Department, 5th August 1875.

Read the following letters:—

No. 76. From Lieutenant-Colonel J. H. M. SHAW-STEWART, R.E., Consulting Engineer for Railways, to Lieutenant-Colonel J. MULLINS, R.E., Officiating Secretary to Government, Public Works Department, dated Madras, 22nd June 1875, No. 358.

At the request of the Agent of the South Indian Railway, I have the honor to lay before Government, his letter, dated the 9th instant, No. 654, giving cover to a letter from the Chief Engineer, in which exception is taken to certain proceedings of the Revenue Authorities in the Chingleput District. A letter* from the Collector of that District, bearing upon the same subject, is also submitted for consideration. The circumstances to which these letters relate may be briefly described as follows.

* No. 341, 19th June 1875.

2. Towards the close of the year 1874, several complaints were made by Mr. Nicholls, the Engineer in charge of No. 4 District, Northern Extension, of difficulties thrown in the way of his work in consequence of the interference and opposition of certain of the Revenue Authorities. These complaints had reference chiefly to three points.

3. The first subject of complaint was the issue of a proclamation by the Sub-Collector of the district, prohibiting the quarrying of stone without license. It afterwards appeared that this proclamation was based upon G. O., No. 80, dated the 14th November 1873; and that a notice upon the subject had been published by the Collector in the District Gazette on the 7th February 1874. By an oversight in this office, the Government Order in question was not communicated at the time to the Railway Authorities; and the notice in the District Gazette seems also to have escaped their attention. The result was that the Sub-Collector's proclamation was looked upon as an order interfering with the quarrying operations of the Company. The complaint was of course withdrawn by the Railway Authorities when the circumstances became known.

4. The second subject of complaint was connected with the removal of stone from the old fort at Karanguly. The railway line passes through this old fort; and in August 1874, at the instance of the Company's officials, the Collector of Chingleput gave permission for the stones being used in the construction of the large bridge over the Karanguly river, upon condition that the Company should agree to pay for the stones, if required by Government to do so. Mr. Nicholls brought to notice that the Revenue officials were not only taking the best stones from the fort for Local Fund works, but were also removing some of the stones from within the Company's lockspitting. The complaint seems to have originated from a misunderstanding on the part of the Railway Engineer, and after some correspondence and explanation it was also withdrawn.

5. The third and principal subject of complaint was the alleged impressment of labor by the Revenue officials, and its withdrawal from the Company's Contractors. Several alleged instances of this were brought to notice by Mr. Nicholls; but, upon being referred to the Sub-Collector, their accuracy was directly denied by Mr Crole, after inquiry made by him. Subsequently the Company's Chief Engineer made a personal investigation into the grounds of the complaints brought forward under this

head by Mr. Nicholls; and the result was that he was satisfied as to their being valid and substantially correct. Mr. Logan accordingly requested that the matter might be re-investigated by the Collector. Upon this the Collector referred the matter to the Sub-Collector, and requested him to hold a formal inquiry into it: but the Railway Authorities protested against the investigation being conducted by that officer, and the inquiry was accordingly adjourned. Subsequently the Railway officials withdrew their protest, and the inquiry was opened upon the 17th May and lasted during eight days. The result is detailed at length in the letters herewith submitted.

6. It will be seen that Mr. Logan protests against the result of that inquiry, and requests that the matter may be laid before Government with a view to its re-investigation. He writes as follows:—

"It appears to me that a searching inquiry into the real state of affairs is urgently required. The feeling of many of the people in the localities under reference is that it is dangerous for them to come forward and state their grievances unless some person of standing, unconnected with the sub-division, is deputed to conduct the inquiry."

7. In order to enable the Government to deal conclusively with the matter, it seems necessary to lay before them the whole of the correspondence which has passed; and it is therefore sent with this letter, accompanied by a précis.

8. During the period covered by these complaints and the inquiries into them, there has been a great press of work upon this department, caused especially by the condition of the North-west Line of the Madras Railway, and the recent Traffic Inquiry Commission. Owing to this cause, I regret that this department has not been able to do much more in the matter of these complaints than act as a channel of communication. Captain Thompson, when inspecting the Northern Extension of the South Indian Railway in January 1875, mentioned* that the delay in the progress of work was attributed by the Railway officials to the impressment of labor by the Revenue Authorities; and he was afterwards present at Karanguly from the 24th to the 26th of February, when evidence was taken by Mr. Logan. Lieutenant Coaker was also present at Chingleput upon the 10th May, the day fixed for the inquiry by the Sub-Collector; but the inquiry was adjourned on account of the protest lodged by the Company; and on the 17th May, when it took place, it was out of his power to attend.

* *Vide* Proceedings of Government, 27th April 1875, No. 1,168.

From R. J. MELVILLE, Esq., Acting Collector, Chingleput District, to Lieutenant-Colonel J. H. M. SHAW-STEWART, R.E., Consulting Engineer for Railways, dated Saidapet, 19th June 1875, No. 341.

I HAVE the honor to address you on the subject of the inquiry recently held at the instance of the officials, South Indian Railway. The inquiry was conducted by the Acting Sub-Collector in the presence of an officer of your department and of the Railway officials, and lasted eight days. In your letter, 1st May, No. 653, you took exception to my stating that the inquiry was to be held at the special request of the Railway officials; but as in your No. 329, dated March 1875, the following appears in paragraph 4:—"the Agent requests that a further inquiry may be held, at which the Railway Authorities may be allowed a hearing. I have the honor to request, therefore, that you will institute a full inquiry, &c., &c." It is quite clear that my statement of the case is correct. There is nothing to show that Mr. Barlow was asked to hold the inquiry in

person, and in any case it did not rest with the Railway Company's officials to prescribe by whom the inquiry was to be held. As the events complained of occurred in the Sub-Collector's division, he was naturally deputed to hold the inquiry.

2. Although the inquiry was principally confined to the alleged impressment of labor, and that of the two earlier complaints that as to quarrying had been grudgingly withdrawn, I think it best to notice the complaints seriatim.

3. QUARRYING.—The first complaint appears in an enclosure forwarded with your letter No. 1,124, dated 27th November 1874, and is to the following effect:—"A proclamation has just been issued by the Sub-Collector prohibiting quarrying of stone, &c. &c." Subsequent complaints to a similar effect were afterwards received; anybody reading the wording of these letters would be led to believe that the Sub-Collector, of his own accord, had issued an entirely new order, interfering with the quarrying operations of the Railway Company; the fact being that he was simply, as in duty bound, giving effect to a notice by the Collector of the district, published in the District Gazette as far back as 7th February 1874, a notice which the Railway Authorities should have made themselves acquainted with and conformed to. I observe in your letter, No. 1,201, dated 16th December 1874, that you excuse the irregular action of the Railway officials by stating that through an oversight in your office the order of Government prohibiting the quarrying of stones without a license had not been communicated to the Agent, South Indian Railway. I would observe that the way in which blame is imputed to the Sub-Collector in this complaint is entirely unjustified by the facts of the case. The order was a general one, issued by the Head of the District, giving effect to orders passed by Government, and the Railway Company officials have only themselves to blame if their work was hindered by their own non-compliance with an order which they should have known. Under all the circumstances, I am unable to understand what is meant by the expression in your letter, which is apparently a quotation from a letter of the Agent, South Indian Railway, "that the Railway Authorities did not take exception to his proclamation, but only to the manner in which it was brought to bear on them." An order prohibiting quarrying, except under certain conditions, can only be enforced by stopping those quarrying who fail to comply with those conditions. There is no other way of enforcing it. It would have been well if the Railway Company had frankly withdrawn this complaint and admitted that they were in fault in making it.

4. REMOVING STONES FROM KARANGULY FORT.—This complaint first appears in a letter from Mr. Nicholls, enclosed in your No. 14, dated January 1875. The complaint is to the effect, "that since permission has been granted by Government to this Company to use stone from Karanguly Fort, a large body of men had been employed by the Sub-Collector to select and remove the best." It was further complained that stone was taken from within the Company's lockspitting.

As to the latter complaint, it appears from the Sub-Collector's letter, dated 17th January 1875, that "some stone *was* actually taken by the wudders, through ignorance, from within the limits alleged, but that it was prohibited and stopped as soon as discovered. It would further appear that it had actually been stopped some time before the 20th December, the date of the Agent's letter. * * * I must also bring to notice that the Department of Public Works sinned in exactly the same way, and also wholly unintentionally * * * * *" Apparently the Sub-Collector was mistaken in supposing that this practice stopped as early as stated; but orders had been issued by competent authority to stop it, and if those orders had not been complied with, the obvious course was to bring the matter to the notice of the officer who had issued the orders. I would also remark that no particular part of the Karanguly Fort, or the stone in it, belonged to the Company, who had only permission to quarry in it in common with other departments. It was no doubt more convenient that stone within the Company's lockspittings should be left to them, but that this was not done at first affords no grounds for imputing special malice to the Revenue officials in the neighbourhood. When brought to notice orders were promptly issued to stop the practice. The Railway Engineer on the spot wrote as if the stone in the fort had been made over exclusively to the Company. In Mr. Smith's report to Assistant

Engineer Nicholls, enclosure to your letter, No. 39, dated 14th January 1875, which was forwarded through Mr. Nicholls to the Agent, and sent on to you by the Agent without remark, Mr. Smith made use of the following expression :—"There are from fifty to sixty carts a day removing stone from the fort, (I do not mean that all the number are removing within the railway boundary,) and we shall be without stones for the bridge at forty-ninth mile stone." Mr. Smith seems clearly of opinion that any one, except the Railway Contractors, taking stone from the fort were trespassers. Similar expression occurs in a letter from the Agent to your office, dated 28th December 1874, and in No. 342, dated 14th January 1875; and more particularly in letter dated 5th November, (evidently a slip of the pen for March 1875,) from the Chief Engineer to the Agent, in which one of the complaints of the Railway Company is stated as follows :—"2nd, that a large body of men has been employed by the Sub-Collector to select and remove the best of the stones for the purpose of making drains in the neighbourhood." In the same letter it is stated that the charge of removing the *best* stones is an exaggeration, the writer being evidently under the impression that if it were true that the best stone had been taken by another department, the Company would have had just cause of complaint. I need hardly point out that the Company have no preferential right to the best or any other stone; they have simply a right in common with the Local Fund Board and the Department of Public Works to quarry in the fort. This is admitted in letter dated November* 1875, from the Chief Engineer to the Agent; but it is difficult to reconcile his assertion, "I never at any time considered that we had a preferential right to any portion of the stone in the Karanguly Fort," with the expressions above quoted.

* March.

In this complaint again, the Sub-Collector's name was unjustifiably dragged in, and things done in the ordinary course of business so represented as to appear as though specially done to annoy the Railway. I need scarcely point out that the Sub-Collector is not the President of the Local Fund Board, under whose sanction these works were carried out. From the above it is clear that the first part of the complaint was made under a misapprehension of the Railway Company as to their right to the stone in the fort, and that the removal of stone from within the Company's limits was the result of an error which was rectified as soon as pointed out. In this case I think the Chief Engineer should have admitted that he had made a complaint which was not justified by the facts of the case; but I am not aware that anything of this sort has been done.

5. I now come to the third and most important complaint, *viz.*, that of impressing laborers employed by one of the Company's Contractors; this would appear to have taken place early in December. This first appears in letter No. 334, dated 12th January 1875, enclosed in your No. 39, dated 14th idem.

In No. 352 from the Agent to your department, referring to this alleged impressment of labor, it is stated, "under existing circumstances it is impossible to carry on work in this section." In the report of the Assistant Engineer, Mr. Nicholls, it is stated that the alleged impressment, "together with prohibition to quarrying stone, or to remove that already quarried from any of the hills, has caused an entire stoppage to the works in this section of the district." Here I would wish you to note the fact that the alleged prohibition to quarry stone, a matter already disposed of, is again raked up and made a subject of complaint. I would now draw attention to Mr. Nicholls' statement at the recent inquiry. In the third sheet of his statement the following appears. "I send three Progress Reports per mensem; I sent such reports in November and December. I do not think there is anything unusual in the reports for these months." So that it appears that either an entire stoppage of work in a section of the line is nothing unusual or that such an event was not thought of sufficient importance to deserve mention in the Progress Reports furnished to the Chief Engineer, presumably with the intention of keeping him informed as to the progress of work in Mr. Nicholls' section. No inquiry was made except from the Inspector, Mr. Smith. Mr. Nicholls confined himself to reporting the matter just as it came from the Contractor to the Chief Engineer. These facts are admitted by Mr. Nicholls in his statement. I shall have to return to this subject later on.

Vide Mr. Nicholls' statement :—
"Before writing my report I made inquiries of the Inspector."

6. The complaint sent with your No. 39 was referred to the Sub-Collector. Previous to this a complaint had reached the Sub-Collector and he had called on the Tahsildar for a report, which was made on 24th December 1874. The Tahsildar therewith forwarded a statement taken from the Contractor, in which he in a categorical manner withdraws his complaint both as to quarrying as well as to impressment of labor; he states that some of his men had gone to work in Karanguly with his brother's consent. The statement given by the Contractor before the Tahsildar was received and abstracted in the Sub-Collector's Office, and was forwarded in original with the Tahsildar's arzi to the Collector with the Sub-Collector's letter, No. 13, dated 7th January 1875. The Sub-Collector in his letter, as well as the Tahsildar in his arzi, both of them at the time forwarding the Contractor's statement, refer to its contents. Mr. Barlow in his letter, No. 26, dated 29th January, Karanguly, in answering your previous letters, refers to an extract from the Contractor's deposition, the original being then before him. I must beg that this may be borne in mind as its importance will appear further on.

7. At the date of writing this letter, and for nearly three weeks at about this time, Mr. Barlow was encamped at Karanguly engaged in the settlement of the taluq. Nothing was said to him about the matter. The complaints might now have been supposed to have been disposed of; but the Railway Authorities were not of that opinion, and Mr. Logan, just as Mr. Barlow was leaving Karanguly after a stay of three weeks, wished to have all the matters re-opened. Mr. Barlow naturally declined to do this. Mr. Logan's reason for wishing a further inquiry seems to have been to enable the Railway Company to be represented at the inquiry. I would here point out that each and every complaint originated with Kistnama Charri, the Contractor. This is evident throughout the correspondence. The extent to which the Chief Engineer identifies himself with his Contractor is shown by the following extract from his statement :—"every witness brought has been produced by Kistnama Charri. I proceeded on information produced by Kistnama Charri through Mr. Nicholls. It is not my duty to say whether I am responsible for this case, or whether Kistnama Charri is responsible for the statements made in this case; it is left for the other side to find that out. I will not state who has engaged the Barrister in this case." The Contractor had before the Tahsildar withdrawn all his complaints. As the Contractor was the sole source from whom the Company's officials received their information there was apparently nothing left to inquire into.

8. On Mr. Barlow refusing to re-open the matter, Mr. Logan himself proceeded to hold an inquiry. He admits in his statement that he confined himself to examining the witnesses produced by the Contractor. It never seems to have occurred to him to examine any of the other Contractors, or to have struck him as strange that when such wholesale impressment was going on, Kistnama Charri should be the only Contractor to suffer.

It was during this inquiry that mention is first made of triangles being set up in Karanguly Fort and village. No previous mention had been made of the matter. Mr. Smith, the Inspector, who states that he saw them, considered it to be a matter of such every-day occurrence as not to be worthy of mention even to his immediate superior, and this when he was in constant communication with him on matters connected with the works. Mention was also made by some of the witnesses that people were flogged, I would now refer to the result of the inquiry in which the Chief Engineer of South Indian Railway was assisted by Counsel. The fact of the impressment; of the setting up of the triangles; the flogging of some person or persons, names unknown, for no witness is able to give the name of any one flogged, or to state that he himself saw any one flogged is testified to by witnesses—coolies mostly in the pay of the Contractor, most of them at the time of giving their evidence under advances from him.

Mr. Smith also deposes to having recognised 150 men at work in Karanguly as having been employed on the work; he subsequently modifies this statement, but still asserts that he recognized from 50 to 60 by sight.

This witness, as before stated, saw the triangles frequently, but was not impressed by such an ordinary sight.

Against this evidence, first, as to the triangle, there is the evidence of Mr. Nicholls, constantly on the spot, who admits that he must have seen the triangles had they been in the place

mentioned by the witnesses who assert that they saw them; second, the evidence of the Special Deputy Collector, who was at Karanguly at the time when it is alleged they were at that place, who was, moreover, in constant communication with Railway Authorities about accommodation works. He states that he neither saw nor heard anything of the matter.

Similar evidence is given by the Inspector of Schools, an entirely independent witness, and the Inspector of Police. That the whole story is an invention is further shown by the fact that nothing was said to Mr. Barlow during his three weeks' stay at Karanguly, within six weeks of the alleged occurrence, although he was in daily communication with the ryots of the taluq, many of whom were employed in the neighbouring works, as is proved by the statement of several of the witnesses produced by the Railway Company that the Jummahbundy put a slight stop to their working on the line.

Anybody at all acquainted with the people of this district is aware that it is not their wont to suffer in silence, and will be slow to believe that people could be flogged in an illegal manner and nothing heard of it except through a Contractor a month after the event. Finally, there is official documentary evidence, evidently genuine, produced by the Tahsildar, to show that the triangles could not have been at Karanguly as they were at a village some miles off, and had been there for some time. I can come to no other conclusion than that the statements as to the triangles and flogging are entirely false.

9. As to the alleged impressment, we have the Contractor's statement, given shortly after the alleged occurrence, to the effect that the few men employed on the Railway who went to work on the Local Fund Works went with his brother's consent.

At the inquiry, part of the deposition referring to impressment was found to have been interpolated, and the inference intended to be drawn was that the word read ஒப்பவில்லை had originally been ஒப்பினார், and that the இ negative had been elided presumably by the Tahsildar.

I have already drawn attention to the fact that this statement of the Contractor was forwarded in original to the Sub-Collector, was abstracted in his office, and was sent in original to the Collector's office, there read to him and referred to, and an extract of it given by him in a letter to you. Had the deposition been then as it now appears, it could not have escaped notice; the words ஒப்பவில்லை are not idiomatic. They are not the words that any one would use in giving, or a Gumastah write down in recording, a deposition; it is as though one should say in English "they went on his dissent." One is as much English as the other is Tamil. It is clear that the document has been tampered with, and tampered with since the inquiry held by Mr. Logan. This is shown by the evidence and conduct of the Contractor. He gave his statement before the Tahsildar on 24th December 1875. The effect of his deposition was made known to the Railway Authorities early in January, and that it had been so made known was no doubt known to the Contractor in that month. In February Mr. Logan, the Chief Engineer, taxed him with having given such a deposition, but it is not till the recent inquiry, which was held in May, had been proceeding several days, that the Contractor for the first time mentions the fact of his deposition having been tampered with.

10. It is easy to account for the way in which the sense of the sentence tampered with has been perverted. Without a great deal of erasure and fresh writing, it would have been impossible to have perverted the sentence in an idiomatic way; the only resource of the tamperer was to add an இ and then elide it. Unfortunately for him the whole statement is written in the form of question and answer, and all but one of the answers remain in their unaltered form, and so contradict the perverted sentence. There is besides the evidence of competent witnesses that the இ and elision was written with the same ink and at a different time to that of the body of the deposition. This is plain to any one who examines the document in question. I therefore came to the unhesitating conclusion that the document has been tampered with in the interests of the Contractor who had every motive to do so. At Mr. Logan's inquiry, Mr. Logan taxed him with having deposed as he did before the Tahsildar. The deposition in its unaltered state was a conclusive answer to the complaint as to impressment which owed its origin to this Contractor, as did each of the other complaints. The Railway Authorities would not be likely to forgive him for misleading them.

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5th August 1875.

11. As to the difficulty of getting at the records so as to have the opportunity of tampering with them, I need only remark that it is notorious that the expenditure of a few rupees have given access to documents of a far more important and secret nature than any in a Taluq Cutcherry, and that in the Presidency town with all possible precautions taken to prevent such access.

I will now proceed to notice the other evidence brought by the Contractor in support of the charge of impressment. He professes to give the names of maistries whose gangs had been impressed. These names he derives from entries taken from another book subsequently produced. The accounts produced by him are unintelligible and incomplete, and the entries mostly undated; but he states that they are the only accounts he keeps. It is clear that no one having dealings with coolies in the number, and making advances on the scale, this Contractor alleges that he does, could carry in his head numerous transactions of all sorts, extending over considerable periods of time. I can therefore come but to one conclusion, viz., that the accounts produced are not this witnesses' real accounts, and that he has motives for the non-production of such accounts. To sum up, I can come to no other decision than that this complaint is as groundless as the other two. The small substratum of fact which has been used as a foundation for this complaint is pretty clear from the evidence given by the Contractor. He admits that when the work is stopped by rain he gives advances to the coolies in his employ to keep them together. It is proved by his own evidence and that of some of his witnesses, that rain sufficiently heavy to put a stop to the works he was carrying out occurred about the time of the alleged impressment of coolies. It is probable that his brother was only too glad to have his coolies kept together free of expense by their being employed on other work in the immediate neighbourhood for which he had not to pay. Subsequently, when taxed with being backward in the performance of his contract, the Contractor accounts for it to his employers by stating that the men had been impressed. I may add that the works then being carried out by the Local Fund Board were not liable to be affected by the rain.

12. The expenditure of much time and paper would have been saved if Mr. Nicholls instead of sending every complaint, just as received from the Contractor without any inquiry deserving of the name, to his official superior, had communicated direct with the Government officials on the spot. This Mr. Logan evidently agrees with me in thinking to be the usual course, as in his deposition he states, "I did consider it singular that none of the Railway Authorities said a word about the irregularities stated to have been committed either to the Acting Sub-Collector or Collector who were at Karanguly," but the Chief Engineer does not seem to have pointed out to his subordinate the expediency of so acting in future. In order to enable us to render effectual assistance, assistance which I shall always be ready to afford and to insist on my subordinates affording, I hope that this course may be adopted henceforth. Much time and unnecessary correspondence will thus be saved.

Vide statement: "I made inquiries of the Inspector. I made no reference to the Tahsildar about Kistnama Charri's complaint."

13. To conclude, I would remark that though there are railway works in other parts of the district, and there are other Engineers and Contractors, this is the only instance, as far as I am aware, in which similar complaints have been brought forward, a circumstance which, I think, should have led the higher officials of the Company to receive such complaints with caution, and should have prevented them endorsing, without due consideration, sweeping assertions and imputations couched in terms which are happily not frequently met with in official correspondence.

No. 76-A. From R. J. MELVILLE, Esq., Acting Collector of the Chingleput District, to Lieutenant-Colonel J. MULLINS, R.E., Officiating Secretary to Government, Public Works Department, dated Saidapet, 20th July 1875, No. 65.

With reference to your official memorandum, No. 547, dated 9th instant, I have the honor to forward the record of the inquiry, held by Mr. Crole into the case of

alleged impressment of Railway workmen, together with the appeal of Kistnama Charri against the sentence of two months' imprisonment and the decision thereon.

2. I have called for the record of the criminal charge brought against Kistnama Charri, and will forward it as soon as received.

No. 76-B. From the same Officer, dated Saidapet, 26th July 1875, No. 69.

REFERRING to paragraph 2 of my letter of the 20th instant, No. 65, I have the honor to forward the record of the criminal charge brought against Kistnama Charri.

No. 77. ORDER THEREON, 5th August 1875, No. 2,260.

RAILWAY, No. 11-A.

AFTER a careful inquiry into the charges brought against the Revenue and Magisterial Authorities of the Chingleput District, the Honorable the Governor in Council is of opinion that these charges have been shown to be unfounded, and he considers it has been satisfactorily shown that no blame attaches to the Tahsildar.

2. It is observed that the Collector's letter, which is a very correct resumé of the whole matter, shows very clearly that all this trouble and ill-feeling between departments, culminating in tampering with an official record, and a criminal prosecution, might have been avoided if either Mr. Nicholls or Mr. Logan had adopted the usual and reasonable course of referring to the official authorities of the district, who were at hand and perfectly willing to render assistance to the Railway Authorities.

(True Extract.)

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

To the Consulting Engineer for Railways.
" Revenue Department.

Exd. S. T. Austin.

Spare Copies

Govt. of {1875} Madras.

PUBLIC WORKS.

To

THE CONSULTING ENGINEER

FOR RAILWAYS,

&c., &c., &c.

Dated August 5th.

Issued

Recd. Encl.

G. O., 5th August 1875, No. 2,260.

AUGUST.

Nos. 76-77

Charges brought against the Revenue and Magisterial Authorities of the Chingleput District by the Chief Engineer, South Indian Railway.—Passing orders on correspondence relating to certain —

To

The Secretary to Public Works Department Madras Government

Name and description of applicant	Description of Records	Purpose for which copies are required	Date of Court's Decree or other authority under which application is made
	G. O. No 2260 dated 5th August 1875 P. W. Department, embodying report of Mr. Melville, the then Collector of Chingleput on the charges brought by the Railway authorities against the applicant while Tahsildar of Madurantakam.	For being produced as evidence in O.S. No 14 of 1888 on the file of the District Court of South Arcot — i.e. — [illegible] Raju (applicant) versus [illegible] and [illegible] [illegible]; the first defendant being [illegible] and the second defendant publisher of a defamatory letter containing certain allegations against plaintiff whereon issues have been framed with respect to which the parties have applied for certain important evidence as to relevant matter which evidence has therefore to be produced before the said District Court by applicant according to law (vide Order of the Court herewith annexed).	Order of the District Court of South Arcot, dated 1st March 1889 a copy of which is herewith annexed

P. Ramaswami Raju

Counsel for Plaintiff

[illegible] the [illegible] P. Ramaswami Raju [illegible] High Court

(Upside-down note in the handwritten form's bottom margin: mostly [illegible])

Proceedings of the District Court of South Arcot

1st March 1889.

Read Civil Miscellaneous Petition No. 62 of 1889, presented by Mr. M. Kumarasawmy Pillai Vakil for the Plaintiff in O.S. No. 11 of 1888 on the file of this Court, praying that Summonses may be issued for the production of the documents mentioned in the list (presented with the petition) before the Commissioners at Madras.

Order. The petitioner must show that he has applied for certified copies of such of these documents as can be procured by such copies and has been refused.

If in any particular instances the production of originals is necessary this must be stated with the reasons very briefly.

Orders will then be passed on the list.

(Signed) R. S. Benson.

1st March 1889 — Dy. District Judge.

(True Copy)

(Signed) Sgd Illegible

25 July 1867

Madras

XIII
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To

The Secretary to Public Works department
Madras Government

Sir,

I request you will be so good as to furnish me with copies of the documents noted in the list herewith forwarded for production before the District Court of South Arcot as will be evident from the marginal note explaining the reasons for the production of the same. I understand that the documents referred to contain very material evidence in favor of Plaintiff's case and therefore request you will be so good as to let me know the charges for furnishing the copies so that the same may be remitted forthwith.

I beg to enclose copy of the order of the District Court concerning the same.

I have the honor to be
Sir,
Your most obedient Servant
Adam Swami Kasa
Counsel for Plaintiff

P

Florida 7255

The Honble W. E. Stoker, C.S.I

For orders.

30/7/85

Copy of the G.O. may be given but not of the other papers in the printed papers.

W.W.
31 July

Ordered that a Copy of G.O. 2260 dated 5 August 1875, ~~with~~ the previous Correspondence printed therewith, be furnished.

K.S. 1/8/85

T. Ramaswami Raju Esqr
Barrister-at-Law