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MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

G.O. No.

1354

(27)

Press

Mis.

Dated

20.4-

1877.

Not to be folded or roughly handled

No. 479. Read the following letter from Lieutenant-Colonel J. H. M. SHAW-STEWART, R.E., Consulting Engineer for Railways, to the Secretary to Government, Public Works Department, dated Madras, 27th January 1877, No. 66:—

In continuation of the papers printed with the Proceedings of Government under date the 5th instant, No. 8, I have the honor to report as follows upon the collision which occurred near the Amboor Station on the 25th December 1876.

2. I regret that I have not been able to lay this before Government at an earlier date; and even now the report which I am able to make is far from being complete or conclusive. The causes for these shortcomings are connected with the general question of the investigation of Railway accidents, regarding which I shall address Government separately.

3. The down mail train on the South-West Line of the Madras Railway is timed to leave Jollarpett at 12-30 A.M. Before the 17th December 1876, it ran from Jollarpett without a halt as far as Goriattum, a distance of 36 miles, arriving at Goriattum at 2 A.M. In consequence of the pressure of grain traffic, a revised time-table was introduced from the 18th December; in accordance with which a goods special left Vellore daily at 11-30 P.M., meeting the down mail train at Amboor, midway between Jollarpett and Goriattum, at 1-20 A.M. In the time-table* in ques-

* Page 7.

tion the necessary instructions were given for the guidance of the officials concerned:—

"Amboor.—The 11-30 P.M. special from Vellore and the 10-15 A.M. mail from Baypore must both be at Amboor before either is allowed to proceed."

4. On the morning of the 25th December the mail train left Jollarpett, 17 minutes late, or at 12-47 A.M.; but Sullivan, the Driver, appears to have entirely forgotten that he had to meet the special goods train at Amboor, and ran through the station without stopping. After passing the station, the train ran on for nearly 2 miles at a speed of 30 miles an hour, when the lights of the special were sighted in advance.

The Driver of the mail appears to have then made every attempt to stop his train, but the two trains came into violent collision at 110th mile 18th telegraph post from Madras.

5. Reid, the Chief Guard, and Dale, the Under Guard of the mail train, appear to have been fully aware that their train was timed to meet the goods special at Amboor. Both allege that they put on their brakes before reaching that station; but Dale says that, when he found the train was not stopping, he released his brake. Neither of the Guards appears to have done anything with a view to attract the Driver's attention, either by applying his brake or waving a lamp, as laid down in Section XII, Clause 13, of the Rules and Regulations.

6. The rule laid down for the guidance of the station staff at meeting stations is as follows:—

THE STATION SIGNAL shall be lowered either by day or by night as soon as the train arrives in sight, and the Station-master has satisfied himself that the Pointsman is on the alert, except at stations where trains are required to meet or pass between the hours of 8 P.M. and 6 A.M.

when the station signal shall be kept at "danger" until the train in either direction has come to a stand at the station points, which is to be indicated by the pointsman showing a "caution" signal to the station *and then and not until then* shall the signal be lowered as an intimation that the train may draw into the station. This order will not apply to trains entering the Jollarett and Coopum Stations from the east, or the Walliar Station from the west. A fixed GREEN light will be exhibited *between the hours of 8 P.M. and 6 A.M.*, at the points of all meeting or passing stations, not provided with distant signals. At stations furnished with distant signals both the distant and station signals shall be kept at DANGER until the Station-master has received a "caution" signal from the pointsman in charge of the points, to show that he is on the alert. *This Rule will not prevent an Engineman from drawing his train within the protection of the distant signal provided he is satisfied that the line is clear.* Whenever it may be necessary to stop trains at the extreme points on either side of a station for the purpose of attaching wagons to the train, or to stop a train at a station where it is not booked to stop, the station signal shall be kept at danger, and the Engineman warned to perform the shunting or to draw up to the platform, under the protection of the danger signal.

7. The evidence with regard to the action of the station staff is contradictory. There is no distant signal at Amboor. The Assistant Station-master states that the station signal was kept at danger until the down mail was about three telegraph posts from the points, when, on the pointsman showing a caution signal, the station signal was lowered to caution. He further states that, when he saw the train had not stopped at the station, he and the porters made a noise, and signalled with their arms in order to stop the train, but failed to attract the Driver's attention: also that the pointsman at the east points signalled danger, but by that time the engine and part of the train had passed.

8. Upon the other hand, the Driver asserts that no red signal was shown at Amboor; and as, while asserting this, he admitted that he was bound to stop at Amboor whether a danger signal was shown or not, and as he took upon himself the entire blame for the collision, full reliance should be placed upon his statement. The Chief Guard also states that, as he approached Amboor, he noticed that there was a green signal; and he adds these remarkable words, "which was what I expected: I should have thought something was wrong if I had seen a red signal." The Under Guard also states that the caution signal was shown to his train.

9. It appears probable that the provisions of the rule quoted above in paragraph 6 were altogether neglected upon this occasion. The inquiries which have been made tend to show that the station signal was not kept at danger, and that the incoming train was not brought to a stand-still. The Assistant Station-master admits that there was no fixed green signal at the points, as required by the rule. Whether the rule had been habitually disregarded in these respects cannot be said; but the Guard's remark, that he "should have thought something was wrong if he had seen a red signal," tends to that inference.

10. The investigations which have been made into the cause of the accident are, in my opinion, far from being complete and satisfactory; but the conclusion at which I arrive is that the blame for the accident must be shared by the station staff at Amboor by the Driver of the mail train, and by the Guards of that train. First, and chiefly, the station staff appear to be in fault, for gross disregard of rules; second, the Driver, for forgetting that Amboor was a meeting station; and third, the Guards, for not attempting to communicate with the Driver.

11. In view of the gross carelessness and neglect of duty which appears to have been manifested by the Amboor station staff, it is questionable whether any mere change of system would have availed to prevent the accident. The "absolute block" is the best system that has yet been devised for the avoidance of collisions; but its excellence depends entirely upon care and attention on the part of the staff by whom it is worked; and, in the event of its adoption, it would have had to be worked by the same persons who showed such flagrant disregard of rule. The adoption of some efficient means of communication between Guard and Driver, such as Mr. Winter's system bids fair to be, might have prevented the collision, by enabling the Guards to warn the Driver of his error; but the Chief Guard appears to have been too excited to do any thing, and the Under Guard appears to have at once acquiesced in the Driver's action, when he found that the train was passing through the station.

12. I am, however, of opinion that a change in the system under which the Madras Railway has hitherto been worked is desirable. That system is fully explained in the papers printed with the Proceedings of Government, under date the 19th October 1874, No. 2,981. As remarked by Government, it was well adapted to the light traffic of the line in ordinary times; but it is altogether unsuited to the high pressure under which the line is now being worked. An early opportunity shall be taken to discuss this important subject with the Railway officials, and proposals for a change of system shall in due course be laid before Government.

13. With regard to the securing of a means of communication between Guards and Drivers of trains in motion, the adoption of Mr. Winter's system has already been recommended; and the severe experimental tests to which that system has been subsequently subjected seem to establish conclusively its efficiency. The cost of adopting the system would be small; and, if viewed simply in an economical light, the expenditure would be amply repaid by the prevention of one such accident as that which occurred near Amboor on the 25th December.

14. The collision resulted in the immediate death of eight passengers by the mail train. Of these one was a European, by name Alfred Octavius Lewis, and seven were natives. Fifteen other passengers were more or less seriously injured; of these two have since died in hospital. One of these two is a European, Sub-Conductor James Shaw, of the Gun Carriage Factory, and one a native. The remainder are understood to have recovered, with the exception of two, who are still in hospital.

15. The Driver of the mail train jumped off his engine immediately before the collision, and escaped without serious hurt. One of his firemen also jumped or was thrown off, and was badly shaken. The other fireman remained on the engine and was killed. The two Guards of the mail train were badly shaken. It does not appear whether the Driver and firemen of the special goods train stuck to their engine but they, as well as the Guard, escaped without serious injury.

16. The damage sustained by the permanent-way was as follows, it was slight:—

- 1 65-lb. rail broken.
- 1 do. do. bent.
- 13 pot-sleepers broken.
- 1 tie-bar do.
- 13 do. bent.

Details of the damage sustained by the rolling stock have not yet been received.

17. The first investigation into the circumstances connected with this collision was conducted at the site of the accident by the Joint Magistrate of North Arcot on the 25th December. There was however no officer of this department present, their attendance having been rendered impossible by the late hour at which notice of the accident was received. An inquest, presided over by the Joint Magistrate, was held over the bodies of those who had been killed; and the finding of the Jury was to the effect that the accident had been immediately caused by the negligence of the Driver of the mail train. The investigation appears however to have been only partial and inconclusive; there cannot be much doubt that, if the inquiry had been more thorough, a different verdict would have been recorded.

18. Subsequently, on the 30th December, a meeting was held for the purpose of considering the conduct of the Company's servants concerned in the accident. The meeting was attended by the Heads of the Railway Departments and by Captain Coaker, Deputy Consulting Engineer, on behalf of Government. The only witness examined was the Assistant Station-master of Amboor; and it was determined, in consequence of his evidence, to take measures for the prosecution of the Station-master as well as the Driver of the mail train. Captain Coaker understood that the inquiry was adjourned; but, on my pointing out the importance which I attached to a re-examination of the Guards, and to an examination of certain officials and subordinates of the Traffic and Locomotive Departments, the Agent replied that, as there would be a public investigation into the circumstances of the case, he did not propose to make any further departmental inquiry. It is necessary to mention these facts in detail, in order to account for the failure to comply with the instructions of the Government of India upon the subject.

19. I now learn from the Agent that warrants for the apprehension of the Driver of the mail train, and of the Station master and Assistant Station master of Amboor, were issued on the 13th instant; and that on the 21st instant Sullivan, the Driver, was committed for trial on charges under Sections 25, 27, and 29 of Act XVIII of 1854, as amended by Act XXV of 1871, also on charges under Sections 304 and 304A, of the Indian Penal Code. His trial will take place at the next Sessions of the High Court. The Station-master and the Assistant Station-master have not yet been arrested.

20. The papers enclosed are letters from Agent, Madras Railway, No. 1,417, 28th December 1876, and No. 62, 9th January 1877.

The letter from the Joint Magistrate of North Arcot, dated the 26th December 1876, No. 369, is also re-submitted.

No. 206.

Report upon the Railway Collision at Amboor on 25th December 1876.

In accordance with the instructions contained in the Proceedings of Government, under date the 9th February 1877, No. 150, my letter No. 66, of the 27th January, is re-submitted with its enclosures together with the undermentioned papers:—

Copy of Proceedings of Committing Magistrate in the case of John Sullivan, Driver of mail train on 25th December 1876

Copy of the Honorable Mr. Justice Kindersley's Notes taken at the trial of Sullivan before the High Court.

Copies of Notes of Evidence taken by Government Pleader at the trial of Station-master and Assistant Station-master of Amboor before the District Magistrate of North Arcot.

Copies of Calendars Nos. 1 and 2 of 1877, in the Court of the District Magistrate of North Arcot.

2. Sullivan was tried before the High Court under Section 304A of the Indian Penal Code, for causing death by rash and negligent act. He pleaded guilty, and was sentenced to a fine of Rupees 1,000, in default of simple imprisonment for six months.

3. The Station-master of Amboor, Ramasami Naidu, and the Assistant Station-master, Ahmed Alli Khan, were tried before the District Magistrate of North Arcot under Sections 25, 26, 28 and 29 of Act XVIII of 1854, as amended by Act XXV of 1871. They were both found guilty, and were sentenced, the first to rigorous imprisonment for six months, and to a fine of Rupees 500, in default to further rigorous imprisonment for six months; the second to rigorous imprisonment for one year and to a fine of Rupees 500, in default to further rigorous imprisonment for six months.

4. In the papers now submitted there is nothing to induce me to alter the opinion already recorded, viz., that the station staff at Amboor must be held mainly responsible for the collision on account of gross violation of rules. In paragraph 6 of my letter No. 66 the rule laid down for the guidance of the station staff at meeting stations is given at length. In that rule it is provided that "at stations where trains are required to meet or to pass between the hours of 8 P.M. and 6 A.M. the station signal shall be kept at danger until the train in either direction has come to a stand at the station points, * * *." The evidence taken before the District Magistrate of North Arcot leaves no doubt not only that this rule was violated upon the 24th and 25th December, but that it had been habitually violated at the Amboor Station. It also appears highly probable that the rule in question had, up to the date of the collision, been generally violated at all stations on the Madras Railway; and although the Traffic Manager stated that he considered it a breach of duty if any servant of the Company failed to report any deviation from rules, he added that he took no steps against the Driver and the Guard of the mail train on the 24th December, for failing to report the violation of the rules at Amboor. It is highly desirable that measures should be taken by the Traffic Department, by frequent inspection and otherwise, to insure the observance of the rules laid down for working the train service, upon which the safety of the public so greatly depends.

5. With regard to Sullivan's share in the accident, although the extraordinary failure of his memory was undoubtedly the direct cause of the collision, yet I cannot

Enc. 2 is re-submitted with the report on 20th April 1877.

hold him so much in fault as the station staff, whose duty it was to supplement and assist his memory by the exhibition of visible and unmistakable signals, a duty which it is clear they were in the habit of systematically neglecting.

6. With regard to the mail train Guards, I am of opinion that they also failed in their duty in not attempting to attract the Driver's attention, and that they are in so far responsible for the collision. When examined before the District Magistrate of North Arcot, they alleged that they endeavoured to attract the Driver's attention by waving their red lights from their vans; but in the statements made by them immediately after the collision, when the facts were fresh in their minds, no mention was made of this, and it is probably altogether imaginary. In the Rules and Regulations it is laid down that the Guard is to communicate with the Driver, (1) by means of the cord and bell, (2) by means of his brake; (3) by waving his flag or lamp.

Section I, Clause 6,
Section XII, Clause 13.

The cord and bell system of communication has been abandoned in this Presidency on account of the varying heights

of vehicles in the trains, which are all mixed trains, and on account of the necessity for frequent shunts. No attempt seems to have been made to attract the Driver's attention by alternately screwing down the brake, and suddenly releasing it, or by waving a red light.

7. This accident exemplifies the importance of adopting an improved means of communication between Guards and Drivers. No better system than that invented by Mr. Winter has yet come before the public. Its chief recommendations are (1) its extreme simplicity; (2) its efficiency, which has now been conclusively established under the most unfavorable circumstances; (3) the light cost at which it can be applied to existing rolling stock; (4) the absence of any difficulty connected with mixed trains, or frequent shunts. The adoption by one Company of Mr. Winter's, or any other system, would of course be comparatively useless, unless its adoption were made compulsory upon other Companies; but it is to be hoped that some steps in this direction will at last be taken. Attention is drawn to the Proceedings of this Government, under date the 3rd July 1874 and the 21st August 1876, Nos. 1,784 and 2,209, in which the system is fully explained.

8. In their letter No. 337 R, dated 6th February 1877, the Government of India take the opportunity afforded by the Amboor collision to press upon this Government the necessity for introducing either the "line clear" or the "absolute block" system of working. Although it is by no means clear that the accident would have been avoided if the block system had been previously in force, there can be no doubt that a change of system is called for, and the Government are already aware that it has been determined to introduce the "absolute block" system upon the Madras Railway. *Vide* Proceedings of Government, dated 19th March 1877, No. 950.

9. The report of the Locomotive Superintendent upon the damage sustained by the rolling stock during the collision is herewith submitted.

5th April 1877.

(Signed) J. H. M. SHAW-STEWART, Lt.-Col., R.E.,
Consulting Engineer for Railways.

No. 479-A. From R. B. ELWIN, Esq., Agent and Manager of the Madras Railway Company, to Lieutenant-Colonel J. H. M. SHAW-STEWART, R.E., Consulting Engineer for Railways, dated Madras, 28th December 1876, No. 1,417.

In continuation of my letter of the 26th instant, No. 1,411, I have the honor to forward herewith a copy of the record of the proceedings at the inquiry made by the Acting Joint Magistrate of Vellore into the circumstances attending the fatal accident that occurred near the Amboor Station on the 25th idem.

2. I propose that a meeting of Heads of Departments shall be held in my office on Saturday next, the 30th instant, at 12 o'clock noon, for the purpose of considering the conduct of the servants of the Company who were concerned, and the course to be adopted with regard to those in fault. I trust that you will be able to make it convenient to be present.

Notes of Evidence on the Inquest held by the Acting Joint Magistrate of North Arcot and the following Jury regarding a Railway Accident which took place on the 25th instant between Amboor and Melpatti Railway Station.

Jurors.

CHRISTOPHER E. PHIPPS, Assistant Locomotive Superintendent.
GEORGE HARDINGE, Resident Engineer, 1st Division.
RICHARD B. WARD, Foreman, Perambore Workshop.
WILLIAM TUTT, Fuel Inspector.
JOHN POPE, Chargeman, Perambore.

President.

DUNCAN IRVINE, Acting Joint Magistrate.

The jurors having viewed the bodies find that there are nine native men and one European deceased.

Notes of Evidence.

William Elder, Consulting Physician, Madras Railway, states:—I have seen all the dead bodies and consider the cause of death to be from injuries and shock resulting from the Railway accident.

John Sullivan, Engine Driver on the Madras Railway, states:—I was driving the 10-15 A.M. mail train from Beypore which left Beypore on the morning of the 24th. I left Jollapett 17 minutes late, or at 12-47 A.M., 25th. I did not stop at Vaniembady. I ought to have stopped according to the rules prescribed at Amboor Railway Station to meet the 11-30 P.M. of the 24th special goods from Vellore. I did not do so. I forgot all about it until I saw the lights of the advancing special. I was then running at good 30 miles an hour. I shut off steam first and whistled for the Guard's brakes. I then ran to the lever and reversed it as far as possible, and opened out steam full. I saw that the collision could not be averted, and therefore when about 10 yards from the advancing engine I jumped off, calling to my firemen to do so also. I jumped off on the north side. One of the firemen jumped off on the other side. The other remained on the engine and was killed. When I jumped I lighted on my feet and then I felt a sudden shock and do not know what happened after that. I have been furnished with a copy of the time-table No. 96 now produced. Since these rules came into force I have once driven the same train and on that occasion I stopped at Amboor. No red signal was exhibited at Amboor. The signal was partly green and partly white. I was bound as Driver of the train to stop at Amboor whether the danger signal was shown or not. I lay all the blame of the accident to myself. I drove the train from Jollapett only. I had been there resting for eight or nine hours. I was quite sober. I have been 16 years and 10 months on the Railway, and I have had

*Proceedings of the Madras Government, Public Works Department,
20th April 1877. No. 1,354.*

no serious accidents. I recovered myself about 15 or 20 minutes after I jumped and found myself on my hands and knees on the side of the permanent-way about 2 feet from the ballast. It was about 2 miles from the Amboor Station where this occurred. I was going as fast as I am allowed.

*William Reid, Chief Guard, Madras Railway:—*I took charge of the 10-15 mail of the 24th at Salem. We left Jollarett at 12-46, 16 minutes late. We ought to have stopped at the Amboor Station according to the time-table now produced, of which I had received a copy. I expected the train to stop at Amboor. I applied my brakes in order to do my part of stopping it. I was the rear guard. Mathew Dale was the other guard. The train passed the east point of Amboor Station and I then felt inclined to jump out because I was afraid there would be an accident. As the special goods was then due at Amboor Station. I think it was then about 1-30 A.M., but I did not look at my watch. After leaving Amboor I did not hear the deep-toned whistle, that is the whistle which the driver ought to put on to tell the Guards to put on their brakes, nor did I hear any whistle from the other train. The first I heard was a crash and I was knocked over in my brake-van. I was knocked completely out of breath. I lost my senses for a minute, and then I came to and found that the train had run into the special goods train. As I approached Amboor I had noticed that there was a green signal which was what I expected. I should have thought something was wrong if I had seen a red signal. I did not speak with Driver Sullivan at the Jollarett Station. After the accident I asked the Driver Sullivan how it was he had run past the stopping station, and he said it had slipped his memory. He said nothing about having put on the deep-toned whistle.

*By Mr. Elwin:—*I was in a great state of excitement, and I cannot positively state whether the whistle was sounded or not. All the shutters of my van were up. I could not have done anything more than I did if I had heard it.

*Mathew Dale, Under Guard on the Madras Railway states:—*I joined the 10-15 mail train at Salem. We left Jollarett late. I cannot recollect. I was in the front part of the train alone in my van when the accident occurred. I knew that the train ought to stop at Amboor and put on my brake. But when I found the train was not stopping I released it. I heard the deep-toned whistle a few seconds before the accident occurred, not before that. I saw the caution signal at Amboor. It was about 4ths green. I was in my brake-van when the collision occurred, and the brake-van was crushed upon me. I was in the act of putting on my brake. I had just put it on when the collision occurred. The train was then going about 20 to 23 miles an hour.

*John Doyle, Fireman on the Madras Railway:—*I came with the mail train from Jollarett. The Driver put on the deep-toned whistle as soon as he saw the light. I saw him also reverse his lever. I ran to my brake and was pitched off by the collision. I did not notice the signal at Amboor.

*Fredrick Augustus Hodson, Inspector of Police at Tuticorin:—*I was a passenger by the mail train from Erode. I had not been asleep at all since I left Erode. I heard the engine whistle just after we passed a station. I did not know what station it was. I thought the whistle was an extraordinary whistle and a few seconds after I was thrown forward, I was not injured at all. I helped to take the injured people out of the train. Most of them I helped out were alive. Two, I think, died afterwards. The European who is dead was found this morning in a broken carriage on the top of the engine. I found a letter and *carte de visite* of a lady and three cards in his portmanteau. His name appears to be Lewis, Alfred Octavius Lewis.

Taken down by me

25th December 1876.

(Signed) G. D. IRVINE,
Acting Joint Magistrate.

*Finding:—*The Jury having heard the evidence and examined the bodies of the deceased find that the nine natives whose names are unknown and the European, whose name is supposed

*Proceedings of the Madras Government, Public Works Department,
20th April 1877. No. 1,354.*

to be Alfred Octavius Lewis, met their death in consequence of the accident to the mail train on the morning of the 25th instant, and find further that this accident was immediately caused by the negligence of the Engine Driver John Sullivan.

(Signed) C. E. PHIPPS,
Asst. Loco. Superintendent.
(") G. HARDINGE,
Resident Engr., 1st Divn.,
South-West Line.

(") R. B. WARD,
Foreman, Perambore Works.

(") W. T. TUFT, Fuel Inspector.

(") J. POPE,
Chargeman, Loco. Dept.

(") DUNCAN IRVINE, C. S.,
Ag. Joint Magistrate, President.

(True Copy.) (Signed) D. IRVINE,
Ag. Joint Magistrate.

FORWARDED to the Agent and Manager of the Madras Railway.

(True Copy.) (Signed) R. B. ELWIN,
Agent and Manager.

From R. B. ELWIN, Esq., Agent and Manager of the Madras Railway Company, to Lieutenant-Colonel J. H. M. SHAW-STEWART, R.E., Consulting Engineer for Railways, dated Madras, 9th January 1877, No. 62.

In accordance with the request contained in your letter of yesterday, No. 22, I have the honor to enclose you a copy of the evidence of the Assistant Station-master of Amboor taken at the meeting held in this office on the 30th ultimo.

2. As was arranged at the meeting, the Solicitors have been instructed to take proceedings against Sullivan the engine driver, and Ramasawmy the Station-master at Amboor. There will therefore be a public investigation of the whole of the circumstances of the case, and pending this I do not propose to make any further departmental inquiry.

3. The Solicitors state that no active step can be taken in the prosecution until the two guards are sufficiently recovered to appear as witnesses.

AMBOOR ACCIDENT.

25th December 1876.

At a Meeting held in the Agent and Manager's Office on the 30th of December 1876.

PRESENT.

Captain W. H. COAKER, R.E., Deputy Consulting Engineer.

Mr. W. R. ROBINSON, Chief Engineer.

Mr. H. E. CHURCH, Traffic Manager.

Mr. F. H. TREVITHICK, Locomotive Superintendent.

Mr. R. B. ELWIN, Agent and Manager.

THE only Witness examined was Ahmed Ally Khan, who deposed as follows:—

I am the Assistant Station-master at Amboor. I was on duty on the night of the 24th of December and the morning of the 25th. I had not received a copy of special time table No. 96, but the Station-master had, and had shown it to me. I knew that the 10-15 A.M. mail and the

11-30 P.M. goods special were to meet at Amboor. The 6 P.M. from Madras passed Amboor at 11-55 P.M. on the 24th of December. There were no other trains between that and the arrival of the 10-15. When the 6 P.M. had passed the danger signal was put on and kept on until about 1-20 A.M. when the 10-15 was sighted. The pointsman then showed a caution signal and the station signal was then lowered to caution also. I was on the platform and saw the 10-15 approaching from the west. The station signal showed danger until the train was about three telegraph posts from the points. The train did not stop at the station but ran through. I and the porters made a noise and signalled with our arms to try and stop the train, but did not attract the attention of the driver. The pointsman at the east points signalled danger with his lamp when he heard us making noise. The engine and a part of the train had passed the east points before the pointsman's signal was shown.

I am well acquainted with the Rules contained in the Company's Working Time Book. I know the Rule printed at page 81, viz:—

"The station signal shall be lowered either by day or by night as soon as the Train arrives in sight, and the Station-master has satisfied himself that the pointsman is on the alert, except at stations where trains are required to meet or pass between the hours of 8 P.M. and 6 A.M., when the Station signal shall be kept at "danger" until the train in either direction has come to a stand at the station points, which is to be indicated by the pointsman showing a "caution" signal to the station, and then and not until then shall the signal be lowered as an intimation that the train may draw into the station."

But my particular attention had not been drawn to it prior to the accident. The way I worked the signals on this occasion was in accordance with the practice at Amboor and with the orders of the Station-master. I have been the Assistant Station-master at Amboor for a year and a half, and during that time the same practice has always been in force. There is no fixed green signal at the points. News of the collision reached my station at about 2-40 A.M. The Under Guard brought the message, and was followed shortly afterwards by Driver Sullivan, who telegraphed to the Locomotive Foreman at Jollarepett.

I was on night duty on alternate nights taking my turn with the Station-master. Since the 25th instant the meeting of trains at Amboor has been arranged in accordance with the Rule printed at page 81 of the Working Time Table, by order of the Traffic Manager.

(Signed) AHMED ALLY KHAN.

The Traffic Manager was requested to see the Solicitors and arrange for the prosecution of Ramasawmy Naidu, the Station-master at Amboor, as well as Sullivan, the Driver.

From F. H. TREVITHICK, Esq., Locomotive Superintendent, to R. B. ELWIN, Esq., Agent and Manager, Madras Railway Company, dated Perambore Works, 5th February 1877, No. 100.

Your endorsement to the Consulting Engineer's letter No. 76, dated 19th January 1877. Report of the injuries sustained by rolling stock in the collision near Amboor on the 25th December 1876.

This was a collision between the mail train from Beypore and a goods train from Vellore; they met on a straight piece of road on a high embankment, and it is believed that both trains must have been moving at a speed of about 20 miles an hour at the moment of the collision.

Neither engine swerved or reared, but the heavy goods engine forced its way 3 feet into the lighter passenger engine. The buffer beams were found plastered all about the front ends of both engines in a sort of pulp, and the cylinders of the smaller engine were broken into small pieces and forced completely out from between the frames.

The vehicles of both trains piled up to a considerable height at the back of each engine and some of the debris was forced out sideways and down the bank on either side; but it was noticeable that all the vehicles, engines included, which had any wheels left to stand on remained in their proper positions on the rails quite close to them. Both of the engines

and tenders were very seriously damaged, so that they must be taken entirely to pieces and rebuilt.

Two passenger vehicles and six goods vehicles were entirely destroyed, and two passenger vehicles very badly damaged, besides trivial injuries to several others which have not been specially recorded.

LIST OF THE STOCK DAMAGED AND DESTROYED.

Engine S. C. Class, No. 53 (attached to mail train).

Cylinder pistons and valves, Leading springs, brackets and hangers, Leading and trailing hornplates, Leading axle-boxes, Buffer beam and buffers, Smoke-box, Blast pipe, Steam pipe, Awning over foot-plate, Frames and motion plate bent, Leading axle bent, Pumps and gear much damaged, Smoke-box tube-plate spring, Back of fire-box casing and fire-box dinged,	Entirely destroyed.
	Damaged, but repairable.

Tender.

One back plate, two side plates, and One top plate, Both drag boxes, One axle box,	Destroyed.
---	------------

Engine S. A. Class, No. 96 (attached to goods train).

Crank axle, Driving axle-box, One cylinder, R. H. piston rod cross head, Blast pipe, Sand boxes, Life guards, Buffers and buffer beam, Smoke-box, Framing bent, R. H. piston-rod bent, Drag bar, &c. &c., Smoke-box tube-plate spring, Leading axle bent,	Entirely destroyed.
	Repairable.

Tender.

Two front plates, two side plates, And one back plate, Coupling block between engine and tender, A No. 25 double saloon, first-class night carriage. R. B. V. No. 6 B No. 34, composite night carriage, D No. 159, third-class passenger carriage, H. S. O. G. No. 141 open goods wagon, " " 884 " " " 1,621 " " " 1,803 " " " 621 " C. G. No. 243 covered goods South Indian Railway.	Destroyed. One end knocked in. One side sole broken, one end knocked in and brake gear damaged. Entirely destroyed.
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*Proceedings of the Madras Government, Public Works Department,
20th April 1877. No. 1,354.*

No. 255.

THE Consulting Engineer for Railways for information.

MADRAS,

7th February 1877.

(Signed) J. W. MELLIS,
for Agent and Manager.

No. 479-B. Endorsement of the Chief Secretary to Government, Judicial Department, dated Fort St. George, 28th December 1876, No. 2,302.
From G. D. IRVINE, Esq., Acting Joint Magistrate of North Arcot, to the Chief Secretary to Government, Fort St. George, dated Vellore, 26th December 1876, No. 369.

I HAVE the honor to make a brief report of an accident which occurred on the Madras Railway near Amboor Station, within the limits of my sub-division on the morning of yesterday the 25th instant, at about 1-30 A.M.

2. On my return from visiting some relief works I received the following telegram at 9-30 A.M.:-

"From Traffic Manager, Madras Railway.

"A collision took place early this morning between the mail train and a special goods train near Amboor. There has been loss of life. If you wish to hold inquiry please be ready to go on by 7 A.M. train from Madras."

3. I at once communicated with the Assistant Superintendent of Police and went to the station, where I found a special train, containing a party of the Railway officials, with the Agent and Manager, Mr. Elwin. We proceeded to the scene of the accident, arriving there at about 12-45 P.M.

4. A considerable portion of the wreck had been removed from the line and thrown down the embankment, but there was ample evidence that the collision had been a very terrible one.

5. Mr. Elwin had brought the Consulting Physician of the Madras Railway and several subordinates with him from Madras, and the Apothecary from Jollarett had been at the spot for some time. The first care was of course to render aid to the living, and I then proceeded to hold an Inquest on the bodies of the dead. A copy of the proceedings is enclosed.

6. There were nine dead natives (all males), only one of whom, the second fireman of the mail train, could be identified. The other eight were passengers, and I claimed all knowledge even of their names, or where they had come from.

7. Only one European was killed, a second-class passenger, and from a letter and some visiting cards discovered among his effects, we found that his name was Alfred Octavius Lewis, and that he had come from Bangalore. The letter had been written by himself to his sister, Mrs. Townsend Fowler, Adyar, Madras, and he had evidently intended to send it off on his arrival at Madras. Having viewed the bodies we took a statement from the Doctor as to the cause of death, and then heard what the Driver and Guards had to say on the matter. The former, as will be seen from

*Proceedings of the Madras Government, Public Works Department,
20th April 1877. No. 1,354.*

his recorded statement, confessed that he had utterly forgotten the printed directions published for his guidance, an extract from which is given here:-

"Amboor.—The 11-30 P.M. special from Vellore and the 10-15 A.M. mail from Beypore must both be at Amboor before either is allowed to proceed."

This rendered the duty of the Jury a comparatively simple one, and they unanimously gave their verdict as recorded, in which I entirely concur.

8. The Driver's statement shows that he completely forgot the order to stop at the Amboor Station and ran past at about 30 miles an hour. About 2 miles from the station he saw the lights of the advancing engine, and it then flashed across him that he ought to have stopped. He appears to have done all that could be done in so short a time, but as at about 100 yards from where the accident occurred there is a sharp turn on the line, rendering it impossible to see anything beyond that distance, it is of course obvious that no effort upon his part could then have prevented the collision. The engines met in full force, and the shock must have been a terrible one.

9. The number of persons injured is, I think, small, considering what the violence of the collision must have been. Only two Europeans were injured, one a Mr. Mechay, connected with the Railway, and the other a subordinate of the Gun Carriage Factory at Madras, named Shaw. There were fifteen wounded natives, whose names and descriptions I was unable to learn at the time. They were, however, all taken to Madras in invalid carriages brought for the purpose, and the Railway authorities have no doubt ere this furnished Government with the descriptive list of them.

10. The corpse of Mr. Lewis was brought to this place, as being the nearest Christian burial ground, and will be interred this evening. The native corpses were left to be buried at the spot, under the superintendence of the Village Munsif of Amboor, to whose care also were entrusted the money, jewels, cloths, &c., found among the debris of the broken carriages, and supposed to belong to the deceased. The Inspector of Police was also left in charge of this property.

11. The Village Munsif of Amboor was, I believe, on the spot at 5-30 A.M., and rendered all the assistance in his power. He had communicated with the Tahsildar of Vellore, who, however, was unable to reach the spot, as he did not receive the report in time to catch the special train, and there were no others. I am not aware whether the Sub-Magistrate of Vaniembady was communicated with, but he did not come to the place.

12. The Village Munsif was directed to forward all the property without delay to the Office of the Sub-Magistrate here, and I have directed the Sub-Magistrate himself to go to the spot this day and get any further information he can. The Inspector of Police was directed by the Assistant Superintendent to make a descriptive roll of the native corpses, showing their apparent age, caste, &c., and I expect to receive a copy of this as soon as he returns.

13. I have thought it advisable to write to you direct on this matter to avoid the delay which would occur if the letter was transmitted through the usual channel. I have at the same time written to the District Magistrate informing him of the course I have adopted.

14. Any future details I may be able to learn will be at once communicated to you.

Proceedings of the Madras Government, Public Works Department,
20th April 1877. No. 1,354.

TRANSFERRED to the Public Works Department (Railway).

(Signed) W. HUDLESTON,
Chief Secretary.

No. 480.

ORDER THEREON, 20th April 1877, No. 1,354.

RAILWAY, No. 67.

THE opinion formed by His Grace the Governor in Council with regard to the causes which led to this unfortunate collision, is confirmed by the results of the prosecutions reported in these papers.

2. In connection with this accident, there appear to be two questions which especially require notice; first, the system under which the trains are worked upon the Madras Railway; and, second, the want of some efficient communication between the Guards and Drivers of trains.

3. Of these the first has already been decided by the Proceedings of Government, dated the 23rd February 1877, No. 615, in which a change of system was ordered.

4. With regard to the second question, the Governor in Council is of opinion that Mr. Winter's invention is very ingenious, and appears to have every element of success; but it requires every vehicle to be specially fitted for the purpose. Pending the introduction of it, or of some better system, the adoption of the following measures is suggested:—

- (1.) The placing of the Guards' van next to the tender.—This would always enable the Guard, in cases of emergency, to communicate with the Driver. This practice is almost universally followed in England with passenger trains.
- (2.) Communication by Cord and Bell.—No practical difficulty is found with trains of moderate length in effecting communication by this means from Guard to Guard or Driver; provided that it is invariably employed to give the starting signal, so as to insure its proper connection. It has not answered with certainty as a means of communication for passengers in the middle of a train; but it is simple, and is not much affected by the interposition of an unfitted vehicle.

(True Extract.)

Lieut.-Col., R.E.,
Joint Secy. to Govt., P.W.D.,
Railway Branch.

To the Consulting Engineer for Railways.
Public Department.
Ed. S. T. Austin.
Spare Copies

P. W. DEPARTMENT.

READ the following:—

From the Consulting Engineer
for Railways No. 206 of 5th April/77

The decision is that when
expected from first accident
FOR ORDERS.

The only question requiring
notice on the communication
guard & driver — the
system of working — the latter is already decided.

The placing of 1st Guards
van next Tender is usually
would enable him always in
case of emergency to communicate
with driver — then does not
appear to be any good reason for
this practice almost universally
followed with Pass & Goods trains in England
not being ordered to —

2nd is no practical difficulty
is found with trains of moderate
length in effecting communication
by cord & bell — from Guard to
Guard or Driver — provided
it is used invariably as the starting
signal so as to insure its proper
connection — it has not answered

with certainty as a communication
for passengers in the middle of
a train — it is simple & is
not affected much by the interposition
of an unfitted vehicle — it
answers perfectly in America —
Mr. Winter is very ingenious &
appears to have every element of
success — but requires every vehicle
to be fitted — or the communication cannot
be maintained — I think Guard
some better system — cord & bell
might be small train from Guard
to driver — 13th 9/4

FOR ORDERS

Rev. J. G. 100

Madras Railway Company
Loco. Superintendent's Office
Perambur Works 5th Feby 1877.

The Agent and Manager
My dear Sir,

Your endorsement to the Consulting Engineer's letter of 76 dated 19th January 1877.

Report of the injuries sustained by rolling stock in the collision near Stumbar on the 25 December 1876.

This was a collision between the mail train from Beyfere and a goods train from Vellore; they met on a straight piece of road, on a high embankment, and it is believed that both trains must have been moving at a speed of about 20 miles an hour at the moment of the collision.

Neither engine swerved or reared, but the heavy goods engine forced its way three feet into the lighter passenger engine. The buffer beams were found flattened all about the front ends of both engines in a sort of pulp, and the cylinders of the smaller engine were broken into small pieces and forced completely out from between

40203 April 77 L₄ 13574

the frames.

The vehicles of both trains piled up to a considerable height at the back of each engine, and some of the debris was forced out sideways and down the bank on either side; but it was noticeable that all the vehicles, engines included, which had any wheels left to stand on remained in their proper positions on the rails or quite close to them. Both of the engines and tenders were very seriously damaged, so that they must be taken entirely to pieces and rebuilt.

2 Passenger vehicles and 6 goods vehicles were entirely destroyed, and 2 passenger vehicles very badly damaged, besides trivial injuries to several others which have not been specially recorded.

List of the stock damaged and destroyed.

Engine N. C. class, no 60 (attached to mail train)

Cylinder Pistons and Valves
Leading springs, brackets & hangers
Leading and trailing hanger plates
Leading axle boxes
Buffer beam and buffers
Smoke box
Blow pipe
Steam pipe
Turning over footplate.

entirely
destroyed.

12 14
Frames and motion plate bent
Leading axle bent
Pumps and gear much damaged
Smoke box tube plate spring
Back of firebox casing and
firebox dinged.

} damaged,
but repairable

Tender.

1 Back plate, 2 side plates and
1 top plate.
Both drag boxes
1 axle box

} destroyed.

Engine S. A., class, no 96 (attached to goods train)

Crank axle
Driving axle box
one Cylinder
P. H. Piston rod cross head
Blow pipe
Sand boxes
Life guards
Buffers and buffer beam
Smoke box

} entirely destroyed.

Steaming bent
P. H. piston rod bent
Drag bar
new year

Smoke box tube plate spring
Leading axle bent.

} Repairable

Tender.

2 Front plates, 2 side plates
and 1 back plate
Coupling block between
engine and tender

} destroyed

15
A. cp 25 Double Saloon } one end knocked in
1st class tight carriage

R. B. V cp. 6.

outside sole broken
one end knocked in
and brake gear
damaged.

B. cp 34 Composite tight } entirely destroyed
Carriage

D cp 159 III class Pass Carriage do do

H. S. O. G. cp 141 open goods waggon do do

" " 884 " do do

" " 1621 " do do

" " 1803 " do do

" " 621 " do do

C. G. cp 2113. Covered goods } entirely destroyed
South Indian Railway

Yours faithfully
H. H. Trevithick
Loco. Superintendent

Gene Cope,

J. W. Nellis

Joint Agents & Managers

cp 255

The Consulting Engineers for Railways
for information

Madras }
7th Feb 1877 }

No 1417.

MADRAS RAILWAY.

AGENT AND MANAGERS OFFICE.

Madras, 28th December 1876.

From

Robert B. Elwin Esq.

Agent and Manager.

M. R. Co.

To

Lieut Colonel J. H. M. Shaw Stewart R.E.

Consulting Engineer for Railways.

Sir,

In continuation of my letter of the 26th instant, No 1411, I have the honour to forward herewith a copy of the Record of the proceedings at the inquiry made by the Acting Joint Magistrate of Vellore into the circumstances attending the fatal accident that occurred near the Amboor station on the 25th idem.

2. I propose that a meeting of Heads of Departments shall be held in my office on Saturday next the 30th instant at 12 o'clock noon for the purpose of considering the conduct of the servants of the company who were concerned, and the course to be adopted with regard to those in fault. I trust that you will be able to make it convenient to be present.

I have the honour to be

Yours most obedient servant

MADRAS RAILWAY.
The Agent and Manager.

The Consulting Engineer.

for Railways.

28th December 1876.

No 2417.

Reporting the circumstances done to the Railway. Attributed by the Commission near Amboor.

P.W.D.
31 JAN 77
No. 996

No. 62.

50 15 6
MADRAS RAILWAY.

AGENT AND MANAGER'S OFFICE.

Madras, 9 January 1877.

From

Robert B. Elwin Esq.
Agent and Manager. M.R.C.

To

Lieut Colonel J. H. M. Stewart
Consulting Engineer for Railways. R.C.

Sir,

In accordance with
the request contained in your letter
of yesterday at 22, I have the
honour to enclose you a copy of the
evidence of the Assistant Station
Master of Amboor taken at the
meeting held in this Office on the
30 ultimus.

2. As was arranged at the
meeting, the Solicitors have been
instructed to take proceedings
against Sullivan the Engine Driver
and Ramaswamy the Station Master
at Amboor. There will therefore
be a public investigation of the
whole of the circumstances of the
case, and pending this I do not

Enclosed a copy of the
Record of the proceedings
at the inquiry made by the
Magistrate at Amboor into the circumstances
attending the fatal accident
that occurred near the
Chembur Station on the
25 December 1876.

From
The Agent and Manager.
To
The Consulting Engineer
for Railways.
Dated 28th January 1877
Recd. 29th Jan. 1877
No. 1417.

propose to make any further
departmental inquiry -

3. The Solicitors State that
no active step can be taken in the
prosecution until the two funds
are sufficiently recovered to appear
as witnesses -

I have the pleasure to
say
Yours most obedt servt

W. H. Jones

Agent and Manager

Print

Amboor Accident.

25th December 1876.

At a meeting held in the Agent
and Manager's Office on the 30th of
December 1876.

Present.

Captain W. H. Cooker, R. E. Deputy Consulting Engineer
Mr. W. R. Robinson, Chief Engineer
Mr. H. E. Church, Traffic Manager
Mr. E. H. Sprinthick, Locomotive Superintendent
Mr. R. B. Elwin, Agent and Manager

The only witness examined was Ahmed Ali Khan who deposed as follows:—

I am the Assistant Station Master at Amboor. I was on duty on the night of the 24th of December and the morning of the 25th. I had not received a copy of special Time Table N: 96 but the Station Master had, and had shewn it to me. I knew that the 10-15 A.M. mail and the 11-30 p.m. goods special were to meet at Amboor. The 6 p.m. from Madras passed Amboor

The working copy
of the pedigree of
the Cerro Platan Forest
of the Barro Colorado
Island has been
sent to the
National Herbarium.

Diesel

9th May 1877
10. M.

10

70

From

MAUDRA'S RAILWAY

The Agent and Manager:

The Consulting Engineer

for Railway

18.11 9

at 11.55 p.m. on the 24th of December. There were no other trains between that and the arrival of the 10-15. When the 6 p.m. had passed the Danger signal was put on and kept on until about 1.20 A.m. when the 10-15 was sighted. The pointsman then showed a Caution signal and the Station signal was then lowered to Caution also. I was on the platform and saw the 10-15 approaching from the West. The Station Signal showed Danger until the train was about three telegraph posts from the points. The train did not stop at the station but ran through. I and the porters made a noise and signalled with our arms to try and stop the train but did not attract the attention of the Driver. The Pointsman at the East points signalled Danger with his lamp when he heard us making a noise. The Engine and a part of the train had passed the East points before the pointsman's signal was shown.

I am well acquainted with the Rules contained in the Company's Working Time Book. I know the Rule -

printed at Page 81 namely:-

"The Station Signal shall be lowered either by Day or by Night as soon as the Train arrives in sight, and the Station Master has satisfied himself that the Pointman is on the alert, except at Stations where Trains are required to meet or pass between the hours of 8.0 pm. and 6.0 Am., when the Station signal shall be kept at 'Danger' until the Train in either direction has come to a stand at the Station Points, which is to be indicated by the Pointman showing a 'Caution' signal to the Station and then and not until then shall the signal be lowered as an intimation that the Train may draw into the Station."

but my particular attention had not been drawn to it prior to the accident. The way I worked the signals on this occasion was in accordance with the practice at Ambour and with the orders of the Station Master. I have been the Assistant Station Master at Ambour for a year and a half, and during that time the same practice has always been in force. There is no

fixed green signal at the points.
News of the collision reached my station
at about 2-40 A.M. - The Under Guard brought
the message and was followed shortly
afterwards by Driver Sullivan who
telegraphed to the Locomotive Foreman
at Jollarpett.

I was on night duty on alternate
nights taking my turn with the Station
Master.

Since the 25th instant the meeting
of trains at Amboor has been arranged
in accordance with the Rule printed at
Page 81 of the Working Time Table, by order
of the Traffic Manager.

(Signed) Ahmed Ali Khan.

The Traffic Manager was requested to
see the Solicitors and arrange for the prose-
cution of Ramasawmy Naidu, the Station
Master at Amboor as well as Sullivan
the Driver.

P.W.D.

31 JAN 77

996

RAILWAY DEPARTMENT.

CONSULTING ENGINEER'S OFFICE,

Madras,

27 Jan 77

1877

No. 66

FROM

LIEUT. COLONEL J. H. M. SHAW-STEWART, R.E.,
Consulting Engineer for Railways,

TO

MAJOR-GENERAL G. W. WALKER, R.E.,
Secretary to Government,
Public Works Department,
Fort Saint George.

SIR,

In continuation of the
papers presented with the Proceedings
of Government under date the 5th
instant, also, I have the honour to
report as follows upon the collision
which occurred near the Ambur
station on the 25th December 1876.

I regret that I have
not been able to lay this before Govern-
ment at an earlier date; and
even now the report which I am
able to make is far from being

complete or conclusive. The
causes for these shortcomings are
connected with the general question
of the investigation of Railway
accidents, regarding which I
shall address Government
separately.

3. The down mail train
on the South-West line of the Madras
Railway is timed to leave Jolarpett
at 12-30 a.m. Before the 17th
December 1876, it ran from Jolarpett
without a halt as far as Goriattum,
a distance of 36 miles, arriving at
Goriattum at 2 a.m. In
consequence of the pressure of
grain traffic, a revised time-table

page 7.

was introduced from the 18th Decem^r,
in accordance with which a goods
special left Vellore daily at 11-30
p.m., meeting the down mail train
at Ambur, midway between
Jolarpett and Goriattum, at 1-20
a.m. In the time-table in question,
the necessary instructions were
given for the guidance of the
officials concerned:

"Ambur. - The 11-30 p.m.
Special from Vellore and
the 10-15 a.m. mail from
Bengalore meet both here at
Ambur before either is
allowed to proceed."

4. On the morning of
the 25th December the mail train left
Jollisfelt 17 minutes late, or at
12:47 a.m.; but Sullivan, the
driver, appears to have entirely
forgotten that he had to meet
the special goods train at
Auboor, and ran through the
station without stopping.

After passing the station, the
train ran on for nearly 2 miles
at a speed of 30 miles an hour,
when the lights of the special
were sighted in advance.

The driver of the mail appears

to

to have then made every attempt
to stop his train, but the two
trains came into violent collision
at $\frac{110}{18}$ miles from Madras.
5. Reid, the Chief Guard,
and Dale, the Under Guard of the
mail train, appear to have been
fully aware that their train was
timed to meet the goods special
at Auboor. Both allege that
they put on their brakes before
reaching that station; but
Dale says that, when he found
the train was not stopping, he
released his brakes. Neither
of the Guards appears to have
done

done any thing with a view to
attract the driver's attention,
either by applying his brakes or
waving a lamp, as laid down
in Section XII Clause 13 of the
rules and regulations.

The rule laid down
for the guidance of the Station
Staff at meeting stations is as
follows:—

The Station Signal shall be lowered either by Day or by
Night as soon as the Train arrives in sight, and the Station-Master
has satisfied himself that the Pointsman is on the alert, except
at Stations where Trains are required to meet or pass between the
hours of 8-0 P. M. and 6-0 A. M., when the Station Signal shall
be kept at "Danger" until the Train in either direction has
come to a stand at the Station Points, which is to be indicated
by the Pointsman showing a "caution" Signal to the Station
and then and not until then shall the Signal be lowered as an in-
dication that the Train may draw into the Station. This Order
will not apply to Trains entering the Jollarpett and Coopum Sta-
tions from the East, or the Walliar Station from the West. A
fixed Green light will be exhibited between the hours of 8-0 P. M.
and 6-0 A. M., at the Points of all Meeting or Passing Stations,
not provided with Distant Signals. At Stations furnished with
Distant Signals both the Distant and Station Signals shall be
kept at **Danger** until the Station-Master has received a
"caution" Signal from the Pointsman in charge of the points,
to show that he is on the alert. This Rule will not prevent an En-
gineman from drawing his Train within the protection of the Dis-
tant Signal provided he is satisfied that the Line is clear. Whenever
it may be necessary to stop Trains at the extreme Points on
either side of a Station for the purpose of attaching Wagons to
the Train, or to stop a Train at a Station where it is not booked
to stop, the Station Signal shall be kept at **Danger**, and the En-
gineman warned to perform the Shunting, or to draw up to the
Platform, under the protection of the Danger Signal.

The evidence with
regard to the action of the Station
Staff is contradictory. There
is no distant signal at
Subor. The Assistant
Station Master states that the
station signal was kept at
danger until the down mail
was about three telegraph posts
from the point, when, on the
pointsman showing a caution
signal, the station signal
was lowered to caution. He
further states that, when he saw
the train had not stopped at
the station, he and the porters
made a noise, and signalled
with

with their arms in order to stop
the train, but failed to attract
the driver's attention: also that
the pointman at the east point
signalled danger, but by that
time the engine and part of
the train had passed.

8. Upon the other
hand the driver asserts that
no red signal was shown at
Auboot; and as, while asserting
this, he admitted that he was
bound to stop at Auboot
whether a danger signal was
shown or not, and as he took
upon himself the entire blame
for

20
for the collision, full reliance
should be placed upon his
statement. The Chief Guard
also states that, as he approached
Auboot, he noticed that there
was a green signal; and he
adds these remarkable words,
"which was what I expected."
"I should have thought something
"was wrong if I had seen a red
signal." The Under Guard
also states that the caution
signal was a blow to his train.
It appears probable
that the provisions of the rules
quoted above in paragraph 6

were altogether neglected upon
this occasion. The inquiries
which have been made tend to
show that the station signal
was not kept at danger, and
that the incoming train was
not brought to a stand-still.
The Assistant Station Master
admits that there was no fixed
green signal at the points, as
required by the rule. Whether
the rule had been habitually
disregarded in these respects
cannot be said; but the Guard's
remark, that he "should have
thought something was wrong if
"he had seen a red signal," tends
to

to that inference. 10. The investigations
which have been made into the
cause of the accident are, in my
opinion, far from being complete
and satisfactory; but the con-
-clusion at which I arrive is
that the blame for the accident
must be shared by the Station
Staff at Funchess by the driver
of the mail train, and by the
guards of that train. First,
and chiefly, the Station Staff
appear to be in fault, for
gross disregard of rules: second,
the driver, for forgetting that
Funchess

Amboor was a meeting station;
and third, the guards, for not
attempting to communicate with
the driver.

In view of the gross
carelessness and neglect of
duty which appears to have been
manifested by the Amboor
Station Staff, it is questionable
whether any mere change of
system would have availed
to prevent the accident. The
"absolute block" is the best system
that has yet been devised for
the avoidance of collisions; but
its excellence depends entirely
upon care and attention on the
part

part of the Staff by whom it is
worked; and, in the event of its
adoption, it would have had
to be worked by the same persons
who have shown flagrant
disregard of rules. The adoption
of some efficient means of
communication between guards
and driver, such as the
system here, might have
prevented the collision by enabling
the guards to warn the driver
of his error; but the Chief Guard
appears to have been too excited
to do any thing, and the Under Guard
appears to have at once acquiesced
in the error.

in the driver's action, when he found
that the train was passing through
the station.

12. I am however of
opinion that a change in the
system under which the Madras
Railway has hitherto been worked
is desirable. That system
is fully explained in the papers
printed with the Proceedings of
Government under date the 19th
October 1874, No 2981.

As
remarked by Government, it
was well adapted to the light
traffic of the line in ordinary
times; but it is altogether unsuited
to

23
to the high pressure under which
the line is now being worked.

An early opportunity shall be
taken to discuss this important
subject with the Railway Officials,
and proposals for a change of
system shall in due course be
laid before Government.

13. With regard to the
securing of a means of commu-

cation between guards and
drivers of trains in motion, the

adoption of Mr. Winter's system
has already been recommended;

and the various experimental tests
to which that system has been

subsequently subjected seem to

Proceedings of
Govt.
3rd July 1874
No 1784.

establish conclusively its efficiency. The cost of adopting the system would be small, and, if viewed simply in an economical light, the expenditure would be amply repaid by the prevention of one such accident as that which occurred near Ambros on the 25th December.

14. The collision resulted in the immediate death of eight passengers by the mail train. Of these one was a European, by name Alfred Octavio Lewis, and seven were natives. Fifteen other passengers were more

24 24
more or less seriously injured; of these two have since died in hospital. One of these two is a European, Sub-Conductor James Shaw, of the Gun Carriage Factory, and one a Native. The remainder are understood to have recovered, with the exception of two, who are still in hospital.

15. The driver of the mail train jumped off his engine immediately before the collision, and escaped without serious hurt. One of his firemen also jumped or was thrown off, and was badly shaken. The other fireman remained on the engine and was killed. The two guards of the mail train were badly shaken.

It does not appear whether the driver and fireman of the special goods train stuck to their engine; but they, as well as the guard, escaped without serious injury.

16. The damage sustained by the permanent way was as follows, it was slight:-

1 65 lb rail broken

1 Do Do bent

13 foot sleepers broken

anchors & bars broken

13 Do Do bent

Details of the damage sustained by the rolling stock have not yet been received.

17. The first investigation into

30th 25
into the circumstances connected with this collision was conducted at the site of the accident by the Joint Magistrate of North Street on the 25th December.

There was however no officer of this Department present, their attendance having been

rendered impossible by the late hour at which notice of the accident was received.

An inquest, presided over by the Joint Magistrate, was held over the bodies of those who had been killed, and the finding of the jury was to the effect that the accident had been immediately caused by

the negligence of the driver of the mail train. The investigation appears however to have been only partial and inconclusive; there cannot be much doubt that, if the inquiry had been more thorough, a different verdict would have been recorded.

18. Subsequently, on the 30th December, a meeting was held for the purpose of considering the conduct of the Company's servants concerned in the accident.

The meeting was attended by the heads of the Railway Departments and by Captain Coaker, Deputy Consulting

26
Engineer, on behalf of Government. The only witness examined was the Assistant Station Master of Ambour; and it was determined, in consequence of his evidence, to take measures for the prosecution of the Station Master, as well as the driver of the mail train. Captain Coaker understood that the inquiry was adjourned; but, on my pointing out the importance which I attached to a re-examination of the guards, and to an examination of certain officials and subordinates of the Traffic and Locomotive

Departments, the Agent replied that, as there would be a public investigation into the circumstances of the case, he did not propose to make any further departmental inquiry. It is necessary to mention these facts in detail, in order to account for the failure to comply with the instructions of the Government of India upon the subject.

19. I now learn from the Agent that warrants for the apprehension of the driver of the mail train, and of the Station Master and Assistant Station Master of Ambikoot, were issued

324 27
issued on the 13th instant; and that on the 21st instant Sullivan, the driver, was committed for trial on charges under Sections 25, 27, and 29 of Act XVIII of 1854, as amended by Act XXV of 1871, also on charges under Sections 304 and 304 A of the Indian Penal Code. His trial will take place at the next Session of the High Court. The Station Master and the Assistant Station Master have not yet been arrested.

20. The papers enclosed are letters from Agent, Madras Railway No 1417, 28th December 1876.
Do Do No 62, 9th January 1877.

P.W.D.
31 JAN 77
998

Your most obt. servant
 A. M. M. M. M.
 L. C. C. C. C.

Consulting Engineer
for Railways

902 1784-7-3-7-74
" 485 " Leo-
" 2982- " 19-10-4
" 8 " 5-4-77

Sept 14/79

John H. Thompson

Luteoalluvial

Hudson

Aug 1-2

27th. Rand^m 1876.
No. 66

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

To

The Consulting Engineer
for Railways,

From

RAILWAY DEPARTMENT.

Consulting Engineer's Office,

Madras, 5 April 1877

Report upon the Railway Collection
at Amboor on 25 December 1876

No. 206

SUBMITTED

~~CONFIDENTIAL~~

In accordance with the instructions contained in the Proceedings of Government under date the 9th February 1877, L^o 150, my letter L^o 66 of the 24th January is re-submitted with its enclosures, together with the undermentioned papers:-

Copy of Proceedings of Commis-
sioner of Police in the case of John Sullivan, driver of mail
train, on 25th December 1876.

Train on 25th December 1975

and Assistant Station Master of Amboor before the District Magistrate of North Arcot.

Copies of calendars Nos 1 and 2 of 1874, in the Court of the District Magistrate of North Arcot.

2. Sullivan was tried before the High Court under Section 304 A of the Indian Penal Code, for causing death by rash and negligent act. He pleaded guilty; and was sentenced to a fine of Rs 1000, in default of simple imprisonment for six months.

3. The Station Master of Amboor, Ramasami Naidu, and the Assistant Station Master, Ahmed Ali Khan, were tried before the District Magistrate of North Arcot under sections XXV, XXVII, XXVIII and XXIX of Act XVII of 1854, as amended by Act XXV of 1871. They were both found guilty; and were sentenced, the first to rigorous imprisonment for six months and to a fine of Rs 500, in default to further rigorous imprisonment for six months; the

second

31.
second to rigorous imprisonment for one year and to a fine of Rs 500, in default to further rigorous imprisonment for six months.

4. In the papers now submitted there is nothing to induce me to alter the opinion already recorded, namely, that the Station Staff at Amboor must be held mainly responsible for the collision, on account of gross violation of rules. In paragraph 6 of my letter No 66 the rule laid down for the guidance of the station staff at meeting stations is given at length. In that rule it is provided that "at stations where trains are required to meet or to pass between the hours of 8 p.m. and 6 a.m., the station signal shall be kept at danger until the train in either direction has come to a stand at the station points, &c."

The evidence taken before the District Magistrate of North Arcot leaves no doubt not only that this rule was violated upon the 24th and 25th December, but that it had been habitually violated at the Amboor station. It also appears highly probable that the rule in question had, up to the date of the collision, been generally

generally violated at all stations on the Madras Railway; and although the Traffic Manager stated that he considered it a breach of duty if any servant of the Company failed to report any deviation from rules, he added that he took no steps against the driver and the guard of the mail train on the 24th December, for failing to report the violation of the rules at Ambur.

It is highly desirable that measures should be taken by the Traffic Department, by frequent inspection and otherwise, to ensure the observance of the rules laid down for working the train service, upon which the safety of the public so greatly depends.

With regard to Sullivan's share in the accident, although the extraordinary failure of his memory was undoubtedly the direct cause of the collision, yet I cannot hold him so much in fault as the Station Staff, whose duty it was to supplement and assist his memory by the exhibition of visible and unmistakable signals, a duty which it is clear they were in the habit of systematically neglecting.

With regard to the mail train guards, I am of opinion that they also failed in their duty,

Section I
Clause 6.
Section II
Clause 13.

35
in not attempting to attract the driver's attention, and that they are in so far responsible for the collision. When examined before the District Magistrate of North Arcot, they alleged that they endeavoured to attract the driver's attention by waving their red lights from their van; but in the statements made by them immediately after the collision, when the facts were fresh in their minds, no mention was made of this, and it is probably altogether imaginary. In the Rules and Regulations, it is laid down that the guard is to communicate with the driver, (1) by means of the card and bell, - (2) by means of his brake, - (3) by waving his flag or lamp.

The card and bell system of communication has been abandoned in this Presidency on account of the varying heights of vehicles in the train, which are all mixed trains, and on account of the necessity for frequent shunts. No attempt seems to have been made to attract the driver's attention by alternately screwing down the brake, and suddenly releasing it, or by waving a red light.

This accident exemplifies the importance of

of adopting an improved means of communication between guards and drivers. No better system than that invented by Mr. Winter has yet come before the public. Its chief recommendations are, (1) its extreme simplicity; - (2) its efficiency, which has now been conclusively established under the most unfavourable circumstances; (3) the light cost at which it can be applied to existing rolling stock; (4) the absence of any difficulty connected with mixed trains, or frequent shunts. The adoption by one Company of Mr. Winter's, or any other system, would obviously be comparatively useless, unless its adoption were made compulsory upon other Companies; but it is to be hoped that some steps in this direction will at last be taken.

Attention is drawn to the Proceedings of this Government under date the 3rd July 1874 and the 21st August 1876, L^{ts} 1784 and 2209, in which the system is fully explained.

8
In their letter L^{ts} 337 R dated 6th February 1877, the Government of India take the opportunity afforded by the Amboor collision to press upon this Government the necessity for introducing

36 36
introducing either the "line clear" or the "absolute block" system of working. Although it is by no means clear that the accident would have been avoided if the block system had been previously in force, there can be no doubt that a change of system is called for; and the Government are already aware that it has been determined to introduce the "absolute block" system upon the Madras Railway. Vide Proceedings of Government dated 19th March 1877, L^{ts} 950.

9
The report of the Locomotive Superintendent upon the damage sustained by the rolling stock during the collision is herewith submitted.

W. M. Stewart
S. M. R. E.

Secy. for Railways

4.5.1877.

My dear Mr. Pingle

The annex: from
ment. of papers printed the Cons. Eng. for R.M.
with G.O. No. 1354, of 20.
April 1877, is all right. Dated 5th April 1877.

-SR-206

Encls: 16.

But please have
the order to strict
If again in accordance
with the copy herewith
sent.

Yrs. Sinc.
Thos. A. Doyle

Encl. 6-4-77

1354 Public Works Department.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

Under date the 20th April 77.

Read the following:—

(As before)

Order Thereon 20th
April 1877 No. 1354.

The opinion
formed by His Grace the
Governor in Council with
regard to the causes which
led to this unfortunate
collision, is confirmed by
the results of the proce-
dures reported in these

papers.

The

2. In connection with this accident, there appear to be two questions which especially require notice: first, the system under which the trains are worked upon the Madras Railway; and, second, the want of some efficient communication between the Guards and Drivers of trains.

3. Of these the first has already been decided by the Proceedings of Government, dated the 23rd Feb. 1877, No. 615, in which a change of system was ordered.

4. With regard to the second question, the Governor in Council is of opinion that Mr. Winter's invention is very ingenious, and appears

394
appears to have every element of success; but it requires every vehicle to be specially fitted for the purpose.

Pending the introduction of it, or of some better system, the adoption of the following ^{measures} is suggested:-

(1) The placing of the Guards van next to the tender. - This would always enable the Guard, in cases of emergency, to communicate with the Driver.

This practice is almost universally followed in England with passenger trains.

(2)

(2) Communication by cord and bell.—No practical difficulty is found with trains of moderate length in effecting communication by this means from Guard to Guard or Driver, provided that it is invariably employed to give the starting signal, so as to insure its proper connection. It has not answered with certainty as a means of communication for passengers in the middle of a train; but it is simple, and is not much affected by the interposition of an unpeppered vehicle.

U.

No 1354 ^{40/4} Public Works Department. 37 Pj
PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the 20 April/77
Read the following—

From
The Comptroller
for Railways { H. C. M. 2064/5 April/77

In connection with this accident, His Grace the Governor in Council is of opinion that there are two questions which especially require notice: first, the system under which the trains are worked upon the Madras Railway; and, second, the want of some efficient communication between

the guards and drivers of trains.

2. Of these, the first has already been decided by the

Proceedings of Govt.

dated the

1877

X

No. in which a

X

change of system was ordered.

3. With regard to the second question, the Governor-in-Council is of opinion that

Mr. Winkler's invention is very ingenious, and appears to have every element of success;

but it requires every vehicle to be specially fitted for the purpose. Pending the introduction of it, or of some better system, the adoption of the following measures is suggested:-

(1) The placing of the guards near the tender. This would always enable the guard, in cases of emergency, to communicate with the driver. This practice is almost universally followed in England with

Passenger trains.
(2) Communication
by cond. and bell.
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trains of moderate
length in effecting
communication by
this means from guard
to guard, or driver;
provided that it is
invariably employed
to give the starting
signal, so as to insure
its proper connection.
It has not answered
with certainty as a
means of communication

42# 30
for passengers in the
middle of a train; but
it is simple, and is
not much affected
by the interposition
of an unjettied vehicle.

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C. E. Forkyp. ✓
Public Dept. ✓
Sept. 17-5-77

996
No 3571
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Govt. of India
PUBLIC WORKS.

To

The Comr. Engrs. for W.P.

Dated

Issued

Recd.

Encl.

G. O. No. 1354
1877, No. 1354

U - Nos. 479 - 480

Collision at Ambour
on the 25 December 1876
at Ambour on the Madras
Railway line - Reports
relating to the late
accident

For Mr. P. J.