

with the tender severed, so that it is not possible to know whether the feed-pumps were working aright. In conclusion, I have to regret that this report has not been earlier transmitted to the Commissioners, but circumstances over which I have had no control have intervened to prevent it.

Appendix No. 61.

South Devon
Railway.

I have, &c.,

Capt. Harness, R.E.,
&c. &c.

J. L. A. SIMMONS, Capt. R.E.,
Inspector of Railways.

NOTICE TO ENGINEMEN AND FIREMEN.

Paddington, July 5, 1849.

A serious accident having occurred on the South Devon Railway, in consequence of the roof of the fire-box giving way, the engine-men and firemen are desired strictly to observe the following order:—

The engine-man must once every week *himself* examine both his safety-valves, and ascertain that they are in proper working order, and that the spring valve is not screwed down to a pressure beyond 75 lbs. on the square inch in the old engines, and 100 lbs. in the engines built at Swindon. The lever-valve to be kept at 4 or 5 lbs. below these pressures; but should any of the spring balances not be long enough to act beyond the 70 or 95 lbs., as the case may be, the pressure in the boiler must in that case be kept less, so that it may always be at least 5 lbs. *below* the greatest range of the balance. The engine-man after he has examined his safety-valves each week, must make a written report in the engine report-book, kept at his station, of his having done so. Both engine-men and firemen are strictly forbidden on any account to *hold down* the lever-valve after it is screwed to the proper pressure, or at any time to press the boilers beyond the pressures allowed by this order.

(Signed) DANIEL GOOCH.

Office of Commissioners of Railways, Whitehall,
October 18, 1849.

SIR,

I HAVE been directed by the Commissioners of Railways to transmit to you the enclosed copy of a report made to them by Captain Simmons, on the fatal accident which occurred on the South Devon Railway, on the 27th June, by the bursting of the boiler of a locomotive engine, and to request you to call the attention of the Directors of the Company thereto, and particularly to the observation made by Captain Simmons on the high pressure to which the second safety-valve, or that not under the control of the engine-driver, had been adjusted, and on the metal employed for the safety-plug in the fire-box. The first of these points appear only to require the strict enforcement of a simple regulation, but the second appears to deserve the careful consideration of the locomotive Superintendent of the Company, and the Commissioners are desirous to be informed of any modifications in the composition or arrangement of the safety-plug which he may after such consideration recommend for adoption in the engines belonging to the Company.

I have, &c.,

The Secretary of the
South Devon Railway Company.

H. D. HARNESS,
Capt. Royal Engineers.

SIR,

Plymouth, October 29, 1849.

I HAVE the honour to acknowledge the receipt of your letter of the 18th instant, enclosing the report of Captain Simmons on the fatal accident which occurred at Plympton on the 27th June last.

Your letter and Captain Simmons' report have been duly laid before the Directors, and I am instructed, in reply, to explain that the locomotive arrangements of the line are entirely under the management of the Great Western Railway Company, but that the Board of Directors have, through their engineer, Mr. Brunel, communicated Captain Simmons' report to the locomotive Superintendent of the Great Western Company, and have requested particular attention to the recommendations which it conveys.

I have, &c.,

Capt. Harness, R.E.,
&c. &c.

W. CARR.

APPENDIX No. 62.

Appendix No. 62.

LANCASHIRE AND YORKSHIRE RAILWAY.

Lancashire and
Yorkshire Railway.

SIR,

Railway Commissioners' Office, October 27, 1849.

I HAVE the honour to lay before you, for the information of the Commissioners, the result of my inquiry into the circumstances attending a collision which occurred between two trains on the evening of the 20th September last, upon the Lytham Branch of the Lancashire and Yorkshire Railway.

The Lytham Branch is a single line 5 miles in length, connecting the seaport of Lytham

Appendix No. 62.
Lancashire and
Yorkshire Railway.

with the lines of the Preston and Wyre Railway, with which it forms a junction near the Kirkham station.

The ordinary traffic upon this single line is managed with one engine, which runs to and fro between Lytham and the Kirkham junction, where it meets the trains upon the Preston and Wyre lines. During some of the summer months, however, a considerable local traffic springs up between places along the coast, and to accommodate this local or coast traffic, local trains are run between Lytham and Fleetwood, wholly independent of the ordinary Preston and Wyre trains. This local traffic renders it necessary to have a second engine running upon the single branch, but the times of starting are so arranged as not to interfere with the regular branch trains.

In addition to the preceding two sets of passenger-trains, it is continually happening that the branch engine, in the intervals between its passenger-trains, is employed in running special or goods-trains between Lytham and the Kirkham junction, and occasionally, when there is a great demand for coal at Lytham, a third or special engine is sent from Preston with a coal-train. In all such cases, however, the special, or goods-train, if proceeding towards Lytham, is bound to wait at the Kirkham junction till a regular passenger-train to Lytham has passed, when it follows it down the single line; and if returning from Lytham, it must in like manner wait till a passenger-train has started, when it again follows it up the single line. These regulations, if strictly adhered to, would provide for the safety of the traffic,—for the regular trains being expected at the other end, the line is kept clear for them, and on reaching that end, they give notice of the special or goods-train which follows.

In the month of September last the two sets of trains were running upon the single line, and on the 20th of that month there was an agricultural meeting held at Lytham, with a show of agricultural implements and cattle, and an unwonted increase took place in consequence in the traffic upon the Lytham Branch. This meeting is of rare occurrence, taking place, as I am informed, only once in three years.

As it was feared that, in consequence of such a sudden increase of traffic, the ordinary staff of the Lytham station would prove inadequate to the occasion, two of the Company's servants, a Foreman of the locomotive department, and a Superintendent of Goods traffic, went down from Fleetwood, the former to superintend the working of the passenger-trains, and the latter to take charge of the traffic in agricultural implements and cattle.

The last passenger-trains for Fleetwood and for the Kirkham junction leave Lytham on ordinary occasions immediately after one another at 10 minutes before 7, the branch engine returning to Lytham, and the Fleetwood engine remaining at Fleetwood for the night. On this occasion the trains were to have started at the usual time, but as it had been arranged to run two extra or special trains from Lytham at 9 P.M., the locomotive Foreman directed the Fleetwood driver to come back to Lytham, and to bring back with him some empty carriages to help to make up the special trains; he told him he would keep the line clear for him from $\frac{1}{4}$ past 8 till 9.

These directions were given by the locomotive Foreman at $\frac{1}{4}$ past 6, and had the trains started at the appointed time—10 minutes before 7—there would have been ample time to carry them out. The Fleetwood driver might have reached Fleetwood, got some empty carriages together, and returned with them to Lytham by a $\frac{1}{4}$ to 9. The Foreman's arrangement therefore was a good one if punctually carried out.

But the same Foreman, instead of starting the trains at 10 minutes before 7, allowed them to be detained to wait for passengers till 20 minutes before 8, and even then the Fleetwood train started behind the branch one, and was therefore sure to be delayed some time before it could pass it at the Kirkham junction. Under these circumstances, the instructions given at $\frac{1}{4}$ past 6 were no longer applicable, for the Fleetwood driver could not possibly get back to Lytham before $\frac{1}{4}$ past 9: yet the Foreman gave no fresh instructions; he took it for granted that the driver knew that the branch special-train would start at 9, and he trusted to the man's prudence for keeping out of its way; this was an unfortunate omission.

It is probable that the Fleetwood driver, who knew that the branch train was timed to leave Lytham at 9, would have acted as the Foreman supposed, namely, on reaching the Kirkham junction on his return at 20 minutes past 9, have waited there till the branch special-train had come up, had he been left to the exercise of his own discretion, but such was not the case.

The wording of the Foreman's instructions, telling the driver "to bring back empty carriages to help to make up the special-trains," led the man to believe that the special-train could not be made up till he came back, and this belief was strengthened by his observing that when the two trains started at 20 minutes to 8, there was not a single carriage left at the station. To make sure, however, as he thought, he asked the Superintendent of Goods traffic (who at this moment appears to have left his own branch of the traffic to direct and expedite the arrangement of the passenger-trains) whether he was to bring back carriages for the special-trains? and the Goods Superintendent, seeing no carriages left at the station, and falling into the same error as the man himself laboured under, took it upon himself, without any consultation or communication with the locomotive Foreman, to order the man "to return with as many carriages as he could get together, as they had not a single carriage to go on with, and to make all haste back."

Now there were at that time 10 empty carriages unknown to the Fleetwood driver or to the Goods Superintendent, standing upon the Dock line, about a mile from the Lytham station, and the locomotive Foreman, who was aware of their being there, had determined to send for them to make up the branch special-train, which he would thus be enabled to start at the proper time,—9 o'clock. He knew nothing of the order given by the Goods Superintendent.

Acting up to the Goods Superintendent's instructions, the Fleetwood driver reached Fleetwood

at 25 minutes to 9, remained there 15 minutes to get a train ready, and then starting with 10 empty carriages, made all haste to the Kirkham junction, which he reached at 20 minutes past 9; there, at the entrance to the single line, he asked the pointsman whether they had received any fresh instructions for him, but they replied that they had not heard a word, at the same time reminding him that a special-train was to have left Lytham at 9, and might then be on the single line. The driver answered that he was aware such a train was to have started, but that he was taking empty carriages to it, that he had been told to make all haste back, and that he durst not stop; he therefore passed on to the single line at the very time that, ignorant of the order this man had received, the locomotive Foreman was starting the special-train from the other end. Here we have a strong instance of the danger that is likely to ensue, when orders to engine-drivers are issued by two different persons in the same station, without any communication with one another.

On leaving the junction, the driver made all haste to reach Lytham, and had got about half way, when on drawing near to the Moss-side station, he perceived a-head, and rapidly approaching the white light an engine bears in front. The distance at which he perceived it he estimates to have been 800 yards, but it is extremely difficult to form a correct estimate of the distance at which a light is seen at night, and upon this portion of the evidence, therefore, no reliance can be placed. He immediately reversed his engine, and sounded the whistle for the stoker and guard to apply their breaks, and when the engines had approached within about 10 yards, their speeds being by that time reduced to a very slow motion, he jumped off.

The foreman having sent for the 10 carriages from the Dock line, proceeded with these and three others which had been brought back by the branch engine from Kirkham, to make up the branch special train. At 9 it was to have started, but having been delayed by the great number of passengers, it was in reality only started at 20 minutes past 9, the foreman directing the driver to see the Fleetwood driver, who would be waiting at the Kirkham junction, and to tell him to remain there, and leave the single line clear for a cattle train that was to start from Lytham with a third engine that had been employed in the sidings, shifting and arranging the cattle trains.

The branch train therefore started at 20 minutes past 9, and was approaching the Moss-side station when the driver perceived the lights of the other train a-head. He sounded his whistle and reversed the engine, and the stoker and guard applied their breaks, but both trains, and particularly the one coming from Fleetwood, must have been running at a high speed, and the engines came into collision before they could be quite stopped.

The branch engine was not hurt, neither was the tender nor any of the carriages, and the passengers escaped with a few scratches and a violent shake. The Fleetwood engine also escaped injury beyond a bending of the foot-plate, from the tender being forced under it. The tender was slightly injured, and the coupling of one of the carriages gave way. Altogether, the shock appears to have been slight.

I attribute the occurrence of this accident to two causes:—

- 1st. The omission of the Foreman of the locomotive department to give the Fleetwood driver fresh instructions, when he had allowed the train to be delayed so long that it was no longer possible for the man to carry out his original instructions in safety; and
- 2ndly. The mistaken zeal of the Superintendent of Goods traffic, in venturing to direct the movements of the passenger trains without previously consulting with the locomotive Foreman, and his neglecting to inform that Foreman of the orders he had given.

It seems scarcely necessary to make any suggestions, for I believe these two officers are already fully aware of the nature of the mistakes they made; and there is this to be said in their excuse, that the occasion was an unprecedented one, no such sudden influx of traffic having, as I am informed, occurred on any previous occasion since the branch was opened.

In conclusion, I would remark how much the working of this and of all other single lines would be facilitated and rendered comparatively safe by the adoption of the electric telegraph. It is, in my opinion, a point worthy of the serious consideration of all Railway Companies possessing single lines, whether the application of the electric telegraph to them would not be a judicious measure even as a mere economical arrangement, for the consequences of a single collision may some day cost them in a moment a sum that would suffice to defray the expenses of the telegraph for years.

I have, &c.,

Capt. Harness, R.E.,
&c. &c.

R. M. LAFFAN,
Capt. Royal Engineers.

Office of Commissioners of Railways, Whitehall,
October 29, 1849.

SIR,

I HAVE been directed by the Commissioners of Railways to forward to you the enclosed copy of the report made to them by Captain Laffan upon the circumstances which attended the collision on the 20th ultimo, upon the Lytham Branch of the Lancashire and Yorkshire Railway, and to request you to call the attention of the Directors of the Company to the observations made by Captain Laffan thereon, and particularly to his suggestion that the electric telegraph should be adopted on the branch in question.

I have, &c.,

The Secretary of the
Lancashire and Yorkshire Railway Company.

H. D. HARNESS,
Capt. Royal Engineers.
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