

The
VIRTUAL MUSEUM
of the
LANCASHIRE & YORKSHIRE RAILWAY

Accident Reports.

21 June 1877

BoT Report into Accident at
Southport.

(2 Pages).

that gentleman's opinion exonerated him.) Whenever a boilermaker goes into a fire-box we expect him to take a look round, which this man did. Our general experience is, that after undergoing a thorough repair an engine is safe to run till it goes into shop again for thorough repairs. In addition to this, there is an examination to see that all waterways are free from deposit. The boiler is washed out once a week. It is the duty of the man in charge of an engine to examine all waterways once a week and wash them clean. We have hitherto found these precautions sufficient to keep us free from any occurrence of this kind. We never remove the midfeather except there is some appearance of danger. We are at the present time building engines with midfeathers. The midfeathers are not so large as these. Our large broad-gauge 8-foot express passenger engines have midfeathers quite as large. We don't in recent years make them quite so large; do not place them sloping so much; make them vertical. We consider them a source of strength because they act as a kind of support to the sides. In future we propose to take some additional precautions. A thing of this kind we all regret, and shall take the best course we can to prevent such a case occurring again. We propose to take special steps to ascertain the exact thickness of the plates by a small tool, sufficient to gauge the thickness. It is simply the height of the midfeather we reduce. The smallest part of plate when new would be capable of taking six times its working pressure. I have not made any calculation as to what it would bear now.

Alfred Wilkes.—I am an engineer in practice at Oakengates. Have been in practice about 12 years. Have had experience in locomotive engines in building at Lilleshall yard. I saw this engine after the accident about 9.30 a.m. I wished to see what part of the boiler had exploded, and looked through the door of the fire-box, and saw a partition running across the fire-box, called the midfeather, placed there to give additional heating surface. The plates had drawn away from each other, and drawn the tubes out of one side, and caused the explosion by the steam escaping. I did not take any particular notice of the valves. The pressure of steam caused the

tubes to leave the plates. The fire-box would no doubt be worn in that part, but I did not examine it particularly on that point. I saw where it had exploded, and that satisfied me. I did not examine the valves at all.

Conclusion.

It appears that this is the first explosion that the company's officers can recollect occurring in this part of a fire-box. Although stays and tubes frequently leak they are easily repaired, and do not under ordinary circumstances lead to explosions. As the midfeather is in a slanting position the front plate is liable to wear from the friction of the coals and fire.

A boilermaker had been sent into the fire-box on the 18th of the month previous to the explosion, to caulk a leak in a small patch at the angle where the midfeather joins the side of the fire-box, which had been reported by the engine-driver, but he did not observe anything else wrong inside the fire-box.

The engine safety valves, one of which is locked, had been regulated to bear a pressure of 130 lbs. to the inch. On examining these valves, I found that the unlocked safety valve did not appear to bear more than 123 lbs. to the inch at the time of the accident, probably owing to the spring balance having become a little weak, but the engine-driver while running to Oakengates had put a wrought iron link on to the end of the lever, which would add about 7 lbs. to the pressure. This slight additional pressure no doubt caused the explosion at the time that it occurred, but the front midfeather plates were so reduced from wear, that the explosion would in any case have occurred very soon.

The accident was caused by the plates of the midfeather being so much reduced in the thickness that they could not hold the stays.

I think that the means that the locomotive engineer of the Great Western Railway proposes to adopt in future of examining the state of the fire-box by cutting a hole in it so as to test its exact thickness will prevent any more accidents of the kind.

I have, &c.,

*The Secretary,
(Railway Department),
Board of Trade.*

*F. H. RICH,
Colonel R.E.*

Printed copies of the above report were sent to the Company on the 27th October.

LANCASHIRE AND YORKSHIRE RAILWAY.

SIR, *Manchester, 10th August 1877.*

I HAVE the honour to report, for the information of the Board of Trade, in compliance with the instructions contained in the Order of the 25th June, the result of my inquiry into the circumstances connected with the collision which occurred on the 21st June at Southport station on the Lancashire and Yorkshire Railway.

In this case, as the 6.15 p.m. passenger train from Manchester was entering the Southport station at 7.46 p.m., one minute late, it came into collision with a train of empty carriages which had formed the 6.50 p.m. passenger train from Liverpool, due at Southport at 7.40 p.m., which carriages were being shunted after having discharged their passengers.

In the Manchester train four passengers were slightly injured, and the guard received a cut over the eye. The last carriage and rear van of this train were damaged.

In the train of empty carriages the rear van was damaged.

The junction of the lines from Manchester and Liverpool takes place close to the entrance of the Southport station, which is provided with ample platform accommodation. As a rule the Manchester trains arrive and depart on the north side of the

station, and the Liverpool trains on the south side. Up to the 19th instant the levers working the points and signals had been concentrated and interlocked in a raised junction cabin, but on the morning of that day this signal cabin had been destroyed by a fire originating in a lamp room underneath the cabin. In consequence the points and signals had to be worked from the ground during the reconstruction of the cabin; and this collision, which could not have happened had the interlocking been in force, occurred owing to the facing-points which led from the up Liverpool to the up Manchester line having been inadvertently left open for the latter line while the signals were off for the train from Manchester to enter the station.

The collision occurred on a crossing 40 yards from the facing-points.

The evidence is as follows:—

1. *John Lewis*, signalman in the Lancashire and Yorkshire Company's service about 9 months in cabin A., Southport.—The cabin had been burnt down on Tuesday morning, the collision occurring on Thursday evening, and meantime the points and signals were being worked from the ground by levers near them. I was in more immediate charge of the points

adjoining the platform, and my mate was at the Manchester junction, a platelayer being at the Liverpool home-signals; we communicated with each other by flag by day, and lamp by night. A train from Liverpool due at 7.40 p.m. had been admitted to No. 4 platform by the lowering of the proper signal by the platelayer. On discharging its passengers, the engine kicked the empty train through the cross-over road No. 31, and the carriages should then have gone on the up Liverpool line to stand there until the engine, after being turned, would get to the other end and back them on to No. 3 platform before starting for Liverpool at 8 o'clock. A platelayer shifted the points of the cross-over road while I had gone over to No. 1 platform to see that the points there were right for the incoming train from Manchester. About three or four minutes before this, I had seen facing-points No. 30 lying right for the up Liverpool line, but they must have been turned unknown to me while I was at No. 1 platform, as the empty carriages ran through them along the up Manchester line, and met the train coming in from Manchester at the crossing. These points, No. 30 had been last used about half an hour previously by an engine, and I had turned them myself right for the Liverpool line after it had passed through them. I did not see the carriages taking the wrong line till it was too late. I was going across to No. 1 platform when the signalman at Manchester junction told me a Manchester train was coming, and I said "all right," and went and set the road. The platelayer denied having meddled with points No. 30, and stated that he had only turned the two ends of cross-over road No. 31. There were other men at work close by at the time. I had told the shunters I was right for the empty train to set back. I am confident that I left points No. 30 right for the Liverpool line before crossing to No. 1 platform. I was fined 10s. for the mistake, but have left the service, believing I was not in fault.

2. *James Bond*, platelayer.—I was assisting the signalmen at Southport on the evening of the collision. Lewis told me to turn the cross-over-road points No. 31, after the arrival of the Liverpool train. I accordingly did so, first turning the far end, and then the end next the train, but I did not notice how No. 30 points were lying, and I am quite positive I did not touch these points. Before the carriages came through the cross-over road, Lewis shouted to me from near No. 30 points not to put back the points of the cross-over road, as he had some empty carriages to put into No. 4. I thought that the empty Liverpool train would go along the up Liverpool road, and I was standing in the 6-ft. space when it set back, and it had taken the wrong road before I was aware of it. There is only 10 ft. between the No. 30 and 31 points, but I did not happen to notice how the latter were lying, nor did I see anyone meddle with them. The lever handle of No. 30 was

near the platform end. Saxby and Farmer's men were not about at the time.

3. *Benjamin Tyldesley*, driver 19 years.—I was bringing in the 6.15 p.m. train from Manchester, and was running into Southport about one minute late, the signals being off. I had six coaches on the train, and I was not aware that the empty carriages were backing on the wrong line till I felt them strike the last coach but one. The engine was at that time close to the platform end, and Lewis was standing with a flag in his hand close to No. 23 points. My speed at the time was three or four miles an hour. We stopped as soon as we could with the tender break, not running more than three or four yards. The two rear vehicles were off the rails. Lewis said that No. 30 points were right for the Liverpool line when he left them.

4. *Thomas Hewitt*, guard 2½ years.—I was in charge of the 6.15 p.m. train from Manchester to Southport. It consisted of six coaches and a van, of which the three last were coupled to the van with Fay's continuous breaks. We were running into Southport, where the signals were right for us, one minute late. I had my break partly on, preparing to stop at the platform, when I saw the Liverpool empty train backing, but was not aware it was on the wrong line till it just grazed the carriage next but one to the van and struck the one next the van. The rear draw-bar of the carriage next the van was pulled out. Our speed at the time was four miles an hour, and that of the Liverpool carriages somewhat slower. I was cut over the eye and stunned. I was 14 days off duty, and still feel the effects. The collision occurred at 7.46.

This collision was caused by a set of facing-points having been left in a wrong position, most probably by ex-signalman Lewis, owing to which a train of empty carriages was turned across the path of the incoming train from Manchester.

The occurrence of this collision affords a conspicuous instance of the advantages of interlocking, both as regards safety and economy. As regards the safety, but for its temporary disuse, owing to the fire which had destroyed the signal cabin two days previously, this collision would have been prevented; and as regards economy, three men (and at certain periods of the day four men) had to be employed to do the work of one signalman.

The cabin was rebuilt and at work within a fortnight after the fire, and the lamp room has now been built (of iron) away from it.

I have, &c.

The Secretary,
(*Railway Department,*)
Board of Trade.

C. S. HUTCHINSON,
Major-Gen. R.E.

Printed copies of the above report were sent to the Company on the 30th August.

LANCASHIRE AND YORKSHIRE RAILWAY.

Board of Trade,
(*Railway Department,*)
18th August 1877.

SIR,

I HAVE the honour to report, for the information of the Board of Trade, in compliance with the instructions contained in the Order of the 9th ult., the result of my inquiry into the circumstances connected with the collision which occurred on the 7th ult., at Victoria station, Manchester, on the Lancashire and Yorkshire Railway.

In this case the 7.30 a.m. passenger train from Victoria station to Rochdale came into collision with the 7 a.m. passenger train from Rochdale to Victoria

station as the former was leaving and the latter was entering the station punctually at 7.30 a.m.

Twenty-seven passengers were injured, though none of the injuries are believed to be serious. The driver of the incoming train was also injured.

The only damage to rolling stock was to the buffer plank of the engine of the outgoing train.

The bays at the Yorkshire end of Victoria station are used indifferently for the arrival and departure of trains; each bay has its own arrival and departure signal properly interlocked with the points and with each other, and worked from cabin No. 1, at the entrance of the station. In the present case the