

valve, when not properly adjusted, cause improper timing of the forestaller. A ball out of round or a blow past the leather tends to shorten the timing, while dirt or certain improper adjustment of the needle valve tends to lengthen the forestalling time. While the shortening of the forestalling time may result in undesired stops, any excessive lengthening of time may render it unnecessary to acknowledge at succeeding stop magnets. Trouble having been experienced in keeping this valve properly timed, it is important that the inspection shall be such that variation from standard adjustment will be promptly detected and remedied.

5. The clearances in the valve assembly of the duplex control valve are such that freedom from dirt, oil, gum, moisture, etc., must be maintained to prevent false clear failures. Should the duplex control valve strainer or the connection between the stop valve and duplex control valve be stopped up by accumulations of scale, dirt, ice, etc., false clear failures would result. This feature also should continue to receive adequate attention.

6. Careful adjustment of the control valve magnet armatures is essential to a proper operation of the device. Improper adjustment by means of shims may render the armature so sensitive that it will release from the pole pieces too easily, resulting in undesired brake applications, or held too forcibly against the pole pieces, might result in failure to initiate a brake application. This should be carefully watched.

7. Periodical inspection and test to insure that there has been no deterioration of the magnetic qualities of the track magnets should be consistently continued, reports being made on a form provided for that purpose and forwarded by the inspector to a designated officer. Record should be kept of these periodical tests.

8. The circuit plans should be checked with the roadside installation, whenever changes are made, to insure correctness of circuits. The importance of this is emphasized by the improper connections found at Signal 824 on July 14.

9. The type of fouling protection employed at sidings and crossovers should be given careful consideration, with a view to the possibility of providing increased protection.

## Derail Failure Results in Collision on Crossing

ON AUGUST 29, 1926, there was a side collision between a Chicago, Rock Island & Pacific passenger train and a Pennsylvania freight train at the intersection of the tracks of these railroads at West 91st street, Chicago, resulting in the death of two employees and the injury of 18 passengers and four employees.

A summary of the report of the Bureau of Safety is as follows:

At the point of accident both roads are double-track lines over which trains are operated by timetable, train orders, and a manual block-signal system. The line of the Rock Island extends north and south, while that of the Pennsylvania extends northwest and southeast. The crossing is protected by an interlocking plant, the tower being located in the northwest angle of the intersection. This interlocking plant, of the mechanical type, is operated by the Rock Island; the machine is a 12-lever Saxby & Farmer machine.

Approaching the point of accident on the Pennsylvania from the northwest, which by time-table direction is west, the line is tangent for more than one-half mile, followed by a 1°30' curve to the right 772.8 ft. in length, and then 156 ft. of tangent to the crossing, this tangent extending for a considerable distance beyond. The grade is practically level. There is a block office located beside the tracks of the Pennsylvania at a point 743 ft. west of the crossing; the home interlocking signal governing movements on the

Pennsylvania over the crossing is located 366 ft. west of the crossing, while the derail, which is of the Wharton lift type, is located 51 ft. east of the signal. A link-type detector bar, 49 ft. 2 in. in length, overlaps the derail a distance of about 3 ft.; an approaching train encounters the detector bar 46 ft. before reaching the derail. With a wheel of a train on the detector bar the derail point and home signal can not be changed. The line of the Rock Island is tangent for about 1 mile south of the crossing, while the grade is descending for northbound trains, varying from 0.75 to 0.86 per cent. The home signal on the Rock Island is located 383 ft. south of the crossing and the derail is located about 50 ft. north of the signal. The weather was clear at the time of the accident, which occurred at about 10:57 p. m.

### Description

Pennsylvania eastbound freight train consisting of four cars, hauled by engine 7082, departed from 71st street yard at 10:47 p. m., en route to deliver the four cars to a train that was stalled, it stopped at the block office near the crossing at about 10:52 or 10:53 p. m., received orders, and departed shortly afterwards, passed the home signal, which was displaying a stop indication, encountered the derail, which failed to perform its proper function, and while moving over the crossing at a speed estimated to have been about 10 miles an hour the engine was struck a glancing blow on the right side by the engine of the Rock Island train.

The Rock Island northbound passenger train No. 182 consisting of three all-steel suburban passenger coaches, departed from 95th street station at 10:55 p. m., on time, and while making a station stop at 91st street collided with extra 7082 while traveling at a speed estimated to have been between 3 and 10 miles an hour.

Both engines were derailed; Pennsylvania engine remained upright and was only slightly damaged, while the Rock Island came to rest on its left side, quite badly damaged, with many of the appurtenances stripped from its right side. The employees killed were the engineman and fireman of the Rock Island train.

### Summary of Evidence

On arrival at the block office extra 7082 was brought to a stop, at which time, according to Engineman Schreckenghaust and Fireman Kline, the interlocking signal was displaying a clear indication. A clearance card and train order were received and these employees said that when the train started, about a minute or two after first stopping, a clear indication was still displayed at the interlocking signal, and continued to be displayed until the engine was within from 3 to 5 car-lengths of the signal, with which statement Conductor Gaumer agreed; after this point had been reached they did not pay any more attention to the signal indication. On reaching a point about 20 or 25 ft. from the crossing, traveling at a speed of about 10 or 12 miles an hour, Engineman Schreckenghaust noticed the Rock Island train approaching the crossing and immediately applied the air brakes in emergency, but it was too late to avert the accident. Engineman Schreckenghaust admitted that he did not observe the interlocking signal while passing it, that there was nothing to obscure his view of the signal, such as smoke, fog, steam, etc., and that after calling the position of the signal, immediately after departing from the block office, he engaged Conductor Gaumer in conversation

relative to the work to be performed and noticed nothing unusual while passing over the derail. After the accident these employees observed that the derail was damaged; the engineman and fireman also noticed that the interlocking signal was displaying a stop indication, and the engineman stated that if the derail and signal were set against his train it must have been done before his engine reached the detector bar.

Towerman Brown, stationed at the interlocking tower, stated that he lined the route over the crossing for the Pennsylvania train at about 10:53 p. m., but on observing that train stop at the Pennsylvania block office he changed the route, lining it for the Rock Island train; he was of the opinion that the Pennsylvania train was stopped at the time he changed the route, and was unable to account for the fact that it was not derailed when it encountered the derail east of the signal.

Superintendent of Signals and Telegraph Lantz, of the Pennsylvania Railroad, stated that he inspected the derail after the accident. It showed indications of having been run over while in normal position, the point rail being curved and twisted, and marked its entire length on the gage side, apparently by a wheel flange. The angle bars were twisted and the bolt in the angle bar on the follower-rail end was broken, while a piece about 2 ft. long was broken off the end of the follower rail next to the point rail. Marks on the base and head of the stock rail indicated that the point rail had been forced tight against the stock rail the entire length of the point rail; the spikes and ties indicated that the stock rail had been pushed outward about  $\frac{3}{4}$  in. at a point 4 ft. from the west end of the derail. There were also marks on top of the point rail apparently made by wheel flanges.

### Conclusions

This accident was caused primarily by the failure of Engineman Schreckenghaust, of Pennsylvania extra 7082, properly to observe and obey the indication of the interlocking signal governing train movements over the crossing.

Towerman Brown maintained that he was of the opinion that the Pennsylvania train was stopped at the block office, at the time he changed the route. Whether or not he changed the route at that time or just after the train departed from the junction tower the fact remains that the route was changed immediately prior to the collision. Had Towerman Brown not changed the route practically in front of the Pennsylvania train the collision probably would not have occurred.

Inspection of the derail after the accident disclosed that it had been run over while in normal, or derailling, position. Failure of the lifting rail to raise the engine wheels over the south running rail permitted the flanges to remain on the gage side of the rail, thereby crowding the left wheels against the point rail with such force that the 70-lb. point rail, not being fastened securely at any point, was unable to withstand the pressure exerted against it and consequently gave way, the wheels continuing on the securely spiked and well maintained 100-lb. running rail. Marks on the left front driving wheel indicated that this was the wheel which bent and twisted the point rail. The weight of the engine, which was 591,900 lb., engine and tender loaded, apparently contributed to the failure of the derail to function, thereby raising a doubt as to whether or not this type of derail can be depended upon to function properly under similar circumstances.

## Sudden Ravings

I AM servin' on the jury  
 With a Turk named Patrick Drury  
 And a cock-eyed Lithuanian, known as Mike;  
 There's a big blond Swede named Ole;  
 A Dutchman roly-poly,  
 And a shifty, hook-nosed Hebrew known as Ike.  
 There's a Greek—"Apollinaris,"  
 An Englishman named Harris;  
 There's an Angus; there's a Tony; also a Polish Pete—  
 There's a painter and a rigger  
 And we only need a nigger  
 To make our "polyglotomy" complete.

The council stops to wrangle  
 Over each peculiar angle,  
 Each phase of "human nature," we may show;  
 We are questioned very neatly,  
 Diplomatically—discreetly—  
 On our age and occupation and everything we know.  
 They grade each degree of dumbness;  
 Our exact reactive numbness  
 With a negative equation (like a fox).  
 If we show the slightest glimmer  
 Our chances then get slimmer  
 Of settin' any longer—in the box.

Although perjury is forbidden—  
 Some think the clerk is kiddin'  
 When they swear, by God Almighty, to tell the solemn  
 truth  
 And questions, sharp as briars,  
 Never touch these crafty liars;  
 Who run from grand-dads down to flaming youth.  
 There are motions and corrections;  
 Withdrawals and objections;  
 And "Hizonner" makes a ruling now and then.  
 Ohmigod how it does "gnaw yer"  
 When some smirk and smilin' lawyer  
 Concedes the jury (present) is a *learned* set o' men.

Chop Suey and Con Carni,  
 Mixed with Blah and Blarney,  
 Is the dish that's served up daily—to each ox-eyed Geek,  
 And we must then digest it,  
 Taste every word and test it—  
 For from the scrambled evidence, a verdict we must eke.  
 If they'd let us use our noodle  
 And forget the judge's twaddle,  
 Which he *states* is some synopsis of the law;  
 We would hang a lot of beggars,  
 Acquit the good boot-leggers,  
 And sock a lot of liars—in the jaw.

As opposing counsel pleaded,  
 I *thought* "Justinian's needed  
 To take a flock of Blackstones and erect a legal pyre;  
 Put this technique in the middle  
 And, like Nero, play his fiddle—  
 While the briefs were used to kindle, a hot and roaring  
 fire.  
 Take the goofs of this profession,  
 Congregate them in a session;  
 Squirt gobs of seething ether through the keyhole in the  
 door,  
 And when complete asphyxiation  
 Frames its final arrogation  
 We'd have peace and human kindness—ever more."

W. H. F.