

IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON
THE NEW YORK CENTRAL RAILROAD AT BUFFALO, N. Y.,
SEPTEMBER 19, 1919.

November 5, 1919.

On September 19, 1919, there was a rear-end collision between two passenger trains on the New York Central Railroad at Buffalo, N. Y., which resulted in the injury of 11 passengers. After an investigation conducted jointly with the Public Service Commission of the State of New York, the Chief of the Bureau of Safety reports as follows:

The Niagara Falls Subdivision of the Buffalo Division of the New York Central Railroad, on which this accident occurred, extends between Buffalo and Lewiston, N. Y., a distance of 29.18 miles. It is a double track line, over which the Michigan Central Railroad has trackage rights between Exchange Street Station, Buffalo, and Black Rock, N. Y., a distance of 4.75 miles. Approaching the point of collision from Exchange Street Station the track is tangent for about 400 feet, then there is a 1° curve to the right about 100 feet long, then a tangent of 475 feet, followed by a 12° curve to the right about 700 feet long. The collision occurred on this curve about 100 feet from its eastern end, where the track is in a subway with walls about 15 feet high. The grade is $1\frac{1}{2}\%$ ascending westward. The speed restriction for trains passing through the subway is 8 miles an hour.

The movement of trains arriving at and departing from the west end of Exchange Street Station is governed by the signals of a pneumatic interlocking plant operated by a leverman

in Tower 54. This tower is located in the yard west of Exchange Street Station, between tracks Nos. 4 and 5, and about 350 feet east of the point where all of the tracks converge to double track. All signals are of the 3-position, lower quadrant type, with square end blades and are placed either on masts at the side of tracks or on bridges spanning the tracks. Dwarf signal No. 3 is located on track 3, fifteen feet west of Tower 54, and has two positions, stop and caution, red and yellow lights being used at night for these respective indications. Signal No. 4 is located 173 feet west of Tower 54, on a signal bridge spanning the tracks. This is a single-blade, 2 position signal and indicates stop and clear, red and green lights being used at night for these respective indications. Signal No. 5 is a semi-automatic signal and is located 413 feet west of Tower 54, on a mast on the north side of the west bound track, between Washington and Main Street bridges. This signal is located on the tangent east of the 1st curve. It is a 3-arm, lower quadrant signal; the upper arm governing westbound trains moving with the current of traffic, while the lower arm governs cross-over movements from the westbound to the eastbound track just west of Main Street bridge. It also displays two indications, stop and clear, the respective night indications being red and green lights. At a point 660 feet west of signal No. 5, an automatic block signal of the disc type is located, which displays two indications: proceed and proceed with caution, the respective night indications being green and yellow lights.

This disc signal is located at the east end of the 12° curve. When the signal displays a yellow light, it indicates to an engineman approaching it that the track between that signal and the next disc signal, located at Seneca Street, 610 feet distant, is occupied, but permits him to proceed at low speed prepared to stop within range of vision. Signal No. 5 cannot be placed in proceed position by the towerman until a train has passed the disc signal. Between the two signals is Main Street bridge, 177 feet wide, the disc signal being 294 feet from the west side of the bridge. Because of the 1° curve, previously described, the disc signal cannot be seen by an engineman when at signal No. 5; when approaching the disc signal the engineman's view is obstructed by Main Street bridge over the track. While passing around the 12° curve west of this signal, the engineman's view of the track ahead is limited by the subway wall on the inside of the curve.

The trains involved in this accident were New York Central westbound passenger extra 3376, on route from Buffalo, N. Y., to Niagara Falls, N. Y., and Michigan Central westbound passenger train No. 303, en route from Buffalo to Chicago, Ill.

Extra 3576 was an excursion train received from the Pennsylvania Railroad. It consisted of New York Central locomotive 3576, 1 dining car, 6 Pullman cars, 1 combination car and 3 coaches and was in charge of Conductor Connors and Engineman Schrader. One Pullman car, the three coaches and the dining car were of all-steel construction, while the other Pullman

cars had steel underframes and wood superstructures. Extra 3578 left track 5, Exchange Street Station at 8.34 p.m., and stalled in the subway about 1,100 feet west of the station and about 100 feet west of the first disc signal, on account of the engine slipping on wet rails. The collision occurred at this point at about 8.42 p.m.

Train No. 303 consisted of Michigan Central locomotive 8434, 1 baggage car, 1 club car, 3 coaches and 6 Pullman cars and was in charge of Conductor Shoemaker and Engineman Wilson. Maine Central baggage car No. 309, the second car in the train was of all-wood construction; the other 10 cars in the train were of all-steel construction. Train No. 303 left track 3, Exchange Street Station, at 8.40 p.m., 10 minutes late, due to waiting for New York Central train No. 3 from the east. Train No. 303 departed from Exchange Street Station 6 minutes after extra 3578, and at about 8.42 p.m. collided with extra 3578 shortly after extra 3578 had come to a stop.

Maine Central car No. 309 was entirely demolished by the impact of the collision, being telescoped by Michigan Central club car No. 161. None of the other cars in this train was end of locomotive 8434 was damaged to some extent. The force damaged. The front of the collision was not sufficient to move extra 3578 forward but one pair of wheels of the last car in the train was derailed and the draft gear and diaphragm were damaged. The coupler in the head end of the dining car, the head car of the train, was broken, as were also the windows of the vestibule.

At the time of the accident it was dark, rain was falling and a heavy wind was blowing.

Engineman Schrader, of extra 3575, stated that when they left Exchange Street Station it was raining and the rails were very slippery. He stated that the speed of his train was not over 3 or 4 miles an hour at any point after leaving Exchange Street Station, and after passing Main Street he did not think that the speed exceeded 3 miles an hour. The wind was from the southeast and blew the smoke down ahead of them, rendering signals barely discernible. The engine began to slip, even when using sand, and after getting into the subway, continued to slip until the train came to a standstill with the engine about at Terrace Station, .5 mile from Exchange Street Station. He estimated that approximately 8 minutes elapsed from the time they started until they were struck and said the train had just come to a stop when they received a hard bump on the rear of the train. He further stated that he gave no indication to the trainmen that it would be necessary to flag, as he did not expect the train to stall.

Fireman Conlin, of extra 3576, stated that he looked at his watch when they pulled out of the station, and it was 8.35 p.m. He thought their speed was about 3 miles an hour when they passed Main Street viaduct and that it did not reach a higher rate. He and the engineman had no conversation concerning the train stalling and he did not anticipate that it would stall. He stated that the engine had slipped and the train was just about to stop when they were struck.

Conductor Connors, of extra 3578, stated that when his train departed from Exchange Street Station he saw train No. 303 in the yards and assumed it would depart at its scheduled time and would follow his train. He stated that time table rules permitted him to leave without train orders, ahead of any scheduled train, and he governed by block signal indications. He said he had instructed the flagman to protect the train from the rear and in addition he saw that the markers were lighted and in place; he stated that he did not take them off, as they intended using them again when they returned to Buffalo. He did not think his train had exceeded a speed of 8 miles an hour at any time after leaving the station; after the train came to a stop the engineer attempted to start it two or three times and at the time of the collision he thought his train was just moving. He thought two or three minutes had elapsed since the train first stalled.

Flagman Schumann, of extra 3578, stated that before they left Exchange Street Station he had been instructed by Conductor Connors to protect the rear of the train and he was riding on the rear platform of the last car. He stated that, acting under orders received from the crew dispatcher, he had removed the markers from their brackets and had placed them on the rear platform, but they were both burning. It was raining and the smoke hung very low. He stated that the train started out at fair speed but when it entered the subway it began to slow down and at the time it passed under Main Street bridge

was moving no faster than a man could walk and he thought then it was going to stall. When the rear end of the train passed the disc signal west of Main Street bridge he took his red and white lanterns, got off just before it stopped, began walking back toward the station and had reached the east end of the cross-over, 408 feet east of the disc signal, when he heard train No. 303 approaching, but he could not see it because of the low-hanging smoke, which was so dense that it obscured the electric headlight of the engine hauling the train. He said he was aware conditions called for a lighted fusee and admitted that, from that/the time he first thought the train was going to stall, before he got off the platform he had time enough to light a fusee. He stated that he got off his train 3 or 4 minutes before he heard train No. 303 coming, but did not light a fusee or place a torpedo on the rail, notwithstanding that he had a fusee in his hand and torpedoes in his pocket. He began to swing his red and white lanterns, but could not see the train approaching because of the smoke blowing down in the subway. He said Engineman Wilson did not answer his signals in any way and the engine passed him working steam and continued to work steam until the collision occurred. When engine 3434 passed him he shouted to the engine crew, although he could see neither of them. The point where he said he was standing when train 303 passed him was approximately 140 feet east of the rear end of his train and after the trains had collided he was about opposite the head end of the second car, with the engine and one car west of the point where

he was standing. He stated that after the collision he asked Engineman Wilson if he did not see his lanterns, and Engineman Wilson replied that he did not. When asked why he did not light a fusee and throw it on the track when he saw the train was going to stall, he said he did not think of it.

Brakeman Pfeister, of extra 3576, estimated the speed of his train at about 6 or 7 miles an hour when it entered the subway, but said it later began to decrease. He realized the wet rails would retard their speed and probably necessitate the flagman's going back to flag and that he also might have to assist in flagging. When he noticed the train slackening speed he started toward the rear to join the flagman. The train stalled, and two or three attempts to start were made. He had reached the baggage car and the train was just coming to a stop when he felt the shock of collision. When he reached the last car and was getting down on the ground, he met the flagman, who was then getting up on the platform of the last car.

Engineman Wilson, of train No. 303, stated that he had been running over this section for about 10 years and was familiar with the physical characteristics of the road and the signals governing movements out of Exchange Street Station and through the subway. He did not notice extra 3576 pulling out ahead of him, as he was watching the rear of his train. His engine was equipped with an electric headlight, which he had turned on full power; he had previously made a terminal test of the air brakes and thought that all worked satisfactorily. He stated that he

knew the speed restriction through the subway was 8 miles an hour and his train did not exceed this speed at any time after leaving the station. Because of smoke blowing down while a train is passing under Main Street bridge, it is impossible for an engine-man to see signals or lights west of the bridge until the engine is out from under the bridge. While going through the subway, on account of the close clearance of the sidewall, it was impossible for an engineman to look out of the side cab window to observe signals, but he was looking through his clear vision window in front of cab. The first signal he received after leaving the station was dwarf signal No. 3, which was clear; signals 4 and 5 both were in lower position and displayed green lights or clear indications; the next signal is the disc signal, which was yellow or caution, but he stated that on account of the wind blowing from the southeast, carrying the smoke and steam ahead of the engine in the subway, he was unable to see the disc signal until his engine was about up to it; he did not see the rear end of extra 3578, which stood about 100 feet west of the disc signal, until his engine was about at the disc signal. He said he saw a red light, which diverted his attention from the disc signal and caused him to look the second time; he was not sure whether or not it was a train on his track, as the red lights were not in the position of marker lights, but when the smoke cleared away and he could see more clearly he made an emergency application of the brakes. At the time of collision he estimated his train was moving about 3 or 4 miles an hour. He

did not see the flagman until after the collision, nor did he hear anyone hollering just prior to the accident. It was his understanding that when this disc signal displayed caution, it indicated that there was a train between that signal and the next disc signal at Seneca Street, but that on finding the disc signal at caution, he would have a right to proceed under control. He further stated that after the accident he asked his fireman where the flagman of extra 3576 was standing and the fireman replied that he was about opposite the forward end of their engine on the eastbound track. He thought that if a fusee had been lighted it would have been visible to him and would have warned him of the presence of the preceding train.

Fireman Dunn, of train No. 303, stated that about 5 minutes before they departed from the station, he noticed a train pulling down the subway, but did not notice the markers on it. He did not think their speed after leaving the station exceeded 10 miles an hour; the only signal he observed was the first one, which indicated clear; he could not see the others on account of the smoke. He further stated that when they started into the subway he was putting in a fire and the first he knew there was a train ahead was when Engineman Wilson applied the brakes in emergency when they were about a car length from the rear end of extra 3576. The first he saw of the flagman of extra 3576 was immediately after the accident, when, on looking out of the gangway, he saw him standing on the eastbound track, about opposite the engine.

Signal Supervisor Newman stated that the first disc signal west of Exchange Street Station gives two indications, green or clear, and yellow or caution. When this signal is yellow, it indicates that the track between it and the next disc signal is occupied, and an engineman receiving that indication is permitted to proceed expecting to find the track occupied. The next disc signal to the west gives similar indications. He stated he has been given authority to replace these disc signals with 3-position upper quadrant signals and this work was in progress at the time of the accident; approximately two weeks will be required to complete the alteration.

Assistant Superintendent Welch stated he would recommend that signal No. 5 be replaced by a 3-position, upper quadrant signal.

The primary cause of this accident was the failure of Flagman Schumann, of extra 3578, properly to protect his train. A contributing cause was the failure of Engineman Wilson of train 303 to operate his train under full control as required by the indication of the disc signal.

Rule No. 99 of the operating rules of this road reads:

"99. When a train stops under circumstances in which it may be overtaken by another train, the flagman must go back immediately with flagman's signals a sufficient distance to insure full protection, placing two torpedoes, and when necessary, in addition, displaying lighted fuses.

When a train is moving under circumstances in which it may be overtaken by another train, the flagman must take such action as may be necessary to insure full protection. By night, or by day when the view is obscured, lighted fuses must be thrown off at

proper intervals.

Flagman's signals: Night signals: - A red light, a white light, torpedoes and fuseses."

The testimony given at the investigation shows that Flagman Schumann was negligent in the performance of his duty. He had been stationed at the rear of his train and was equipped with all the necessary signals to afford his train full protection. He knew there would be other trains following his train through the subway and knew that his train was about to stall. He acknowledged that conditions called for the use of fuseses and later admitted that, although he had sufficient time to light a fusee before he got off, he did not do so. According to his own statements, three or four minutes elapsed from the time he dropped off from his train, which was then still moving, until the following train approached. This estimate of the time available to flag is supported by the statements of other members of the train crew as well as by the fact that signal No. 8 was clear for train No. 303, and extra 3578 must therefore have been beyond the disc signal before train No. 303 passed signal No. 5. The investigation disclosed, however, that not only did he fail to go back as far as possible in the time available, but he also used only his lanterns to signal the approaching train when he had more effective means readily at hand for warning the engineman of impending danger. A proper observance of Rule 99 should have prompted him to throw off a lighted fusee at the first indication that the train was likely to stall, also to carry a lighted fusee when he started back to flag.

Engineman Wilson was a man of long experience and had been operating trains out of Exchange Street Station for about 10 years. He was thoroughly familiar with the track in this vicinity, and was fully aware that when the first disc signal indicated caution he might find a preceding train at any point between that signal and the next one. On account of the unfavorable weather conditions which resulted in his view being materially obscured, as well as the physical characteristics of the track which under any circumstances limited the range of vision, he should have exercised extraordinary caution, and when he received the caution indication of the disc signal he should immediately have taken whatever measures were necessary to bring his train under such control that he could stop within his range of vision.

Engineman Wilson had been employed as an engineman on the Michigan Central Railroad since 1898 and had a good record. The engine crew of extra 3576 had been on duty 2 hours and 43 minutes, after 8 hours and 45 minutes rest; the train crew had been on duty only 43 minutes, after varying periods of rest. The engine crew of train 303 had been on duty 1 hour and 13 minutes, after 12 hours and 30 minutes off duty, while Conductor Shoemaker and crew had been on duty 45 minutes, after 10 hours and 30 minutes off duty.