

INTERSTATE COMMERCE COMMISSION

REPORT OF THE CHIEF INSPECTOR OF SAFETY APPLIANCES COVERING HIS INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE MISSOURI PACIFIC RAILWAY AT BRANT, MO, ON MAY 21, 1913

JULY 11, 1913

TO THE COMMISSION

On May 27, 1913 there was a head-end collision between two passenger trains on the Missouri Pacific Railway at Brant, Mo, resulting in the death of 3 employees and 1 mail clerk and the injury of 28 passengers, 13 persons carried under contract, 5 employees, and 2 trespassers. The investigation of this accident was participated in by representatives of the Interstate Commerce Commission and the Public Service Commission of Missouri, and on May 28 a hearing was held at Jefferson City, Mo. As a result of this investigation I beg to submit the following report.

Eastbound train No 12 consisted of 3 mail cars, 1 club car, 2 sleeping cars, and 1 chair car, hauled by engine No 6415, and was in charge of Conductor Conkle and Engineman Ford. The first 4 cars were of steel construction, the 2 sleeping cars were of wood, while the chair car had a steel underframe. At Sedalia, Mo, the crew of train No 12 received a copy of train order No 4, reading as follows:

No 3 Eng 6409 meet No 10 Eng 5524 at Clarksburg and No 12 Eng 6415 at Tipton. No 10 take siding No 11 Eng 112 meet No 10 Eng 5524 at Centertown & No 12 Eng 6415 at McGirk's.

McGirk's, the meeting point between trains Nos 11 and 12 named in the order, is the regular meeting point of these two trains. After receiving this order train No 12 departed from Sedalia, passed Tipton, Mo, 18.2 miles west of McGirk's, at 3:27 a. m., 9 minutes late and at 3:49 a. m. collided with train No 11 near Brant, which is a nontelegraph station located 2.3 miles west of McGirk's.

Westbound train No 11 consisted of 1 deadhead chair car, 1 club car, 2 sleeping cars, and 1 chair car, hauled by engine No 112, and was in charge of Conductor Sullivan and Engineman McDonald. The first chair car and the two sleeping cars were of wooden construction. The club car was of steel construction, while the last chair car had a steel underframe. At Jefferson City, 19.4 miles east of

McGirk's, the crew in charge of this train received a copy of train order No 4, reading as follows

No 11 Eng 112 meet No 10 Eng 5524 at Centretown and No 12 Eng 6415 at Tipton

It will be noted that the meeting point between trains Nos 11 and 12 named in this order, Tipton, is 18.2 miles west of McGirk's the meeting point named in the order held by the crew of east-bound train No 12. This error in issuing train order No 4 therefore resulted in what is known as a lap order. Train No 11 entered the block at McGirk's at 3:44 a. m., one minute late, and collided with train No 12 at Brant, as previously stated. The speed of each of the trains at the time of the collision was estimated to have been about 40 miles per hour.



No 1—View looking easterly, showing steel mail car on head end of train No 12

Illustration No 1 is a general view of the wreckage, looking in an easterly direction. The first mail car on train No 12 was telescoped a distance of about 25 feet, the forward end being practically destroyed. The rear portion of this car is shown by the illustration to have escaped with very little damage. Illustration No 2 is a view looking westerly, and shows the remains of the deadhead chair car on the head end of train No 11, this car having been destroyed by fire which broke out in the wreckage.

A remarkable circumstance attending this collision is the fact that with the exception of the destroyed chair car in train No 11 and the first mail car of train No 12, which were the first cars in their re-

spective trains none of the cars in either train was derailed, and all of the remaining cars in train No 11 were returned to service on the same day, while four of the cars in train No 12 were likewise returned to service

The employees killed were both enginemen and the porter of the destroyed chair car The mail clerk who was killed was riding in the first mail car of train No 12

The division of the Missouri Pacific Railway on which this accident occurred is a single-track line, trains being operated by train orders under the manual block system The block in which this accident occurred extends from McGirk's to California, Mo, a distance of 5.7 miles, Biant being 2.3 miles from McGirk's and 3.4 miles from California The collision occurred at a point 534 feet east of the



No 2--View looking westerly showing remains of wooden chair car on head end of train No 11

east switch at Biant on a curve of about 3° , 2,000 feet in length The vision of the engineman of train No 12 was obscured on account of being on the outside of the curve, while the vision of the engineman of train No 11 was limited to about 600 feet on account of a grove of trees on the inside of the curve The grade at the point of the collision is slightly descending for eastbound trains The weather at the time of the accident was clear

At the hearing held in Jefferson City, Mo, on May 28, Train Dispatcher Roach stated that the collision was due to his failure to send train order No 4 simultaneously to both trains When he sent the

order to train No 11 at Jefferson City to meet train No 12 at Tipton he apparently was looking at the word "Tipton" in the train order as transmitted to train No 12, wherein Tipton was named as the meeting point between trains Nos 3 and 12. He could offer no other explanation for his error.

Operator Tice, located at McGirk's, stated that he gave the block to the operator at California for train No 12 at 3 31 a m. When he first heard train No 11 approaching from the east it was nearing the road crossing located about 500 feet east of the station, and the engineman was whistling for the board, which at that time was in the stop position. Forgetting that he had already pledged the block for the use of train No 12 he stated that he then called on the dispatcher's wire to find out where trains Nos 11 and 12 would meet, and someone replied "C A," meaning California. He then went to the telephone, called the operator at California, and told him that trains Nos 11 and 12 would meet at that point, and to block for train No 11. He claimed the reply was "all right." He then hung up the receiver and cleared the signal for train No 11. As the train was passing the station he again called California on the telephone and said that train No 11 was entering the block and to put them in at 3 44 a m. The operator at California then told him that train No 12 had already entered the block.

Operator Manford, located at California, stated that eastbound train No 10 cleared the block at McGirk's at 3 30 a m, and he at once secured the block for train No 12, this train entering the block at 3 43 a m. He reported train No 12 to the dispatcher at 3 44 a m and the operator at McGirk's then broke in on the wire and said "block for 11 except 12," meaning that he wanted the block for train No 11 after train No 12 had cleared. Soon afterwards the operator at McGirk's called on the telephone and said, "block for 11 make it 3 44 and put them in at 3 45." Operator Manford stated that while this conversation was in progress he could hear train No 11 passing the station at McGirk's. He then told the operator at McGirk's that train No 12 had already entered the block.

As previously indicated, this accident was caused primarily by the issuance of a lap order, for which Dispatcher Roach is responsible. He had had 15 years' experience as an operator and dispatcher, and his record was clear from the time he entered the service of the Missouri Pacific Railway on June 7, 1912. His general condition and appearance, discrepancies in his train sheet on the day of the accident, and his total collapse after making a brief statement at the hearing, indicated that he was not in physical condition for the proper performance of his duties. At the time of the accident he had been on duty 4 hours and 19 minutes, after a period off duty of 16 hours.

Operator Tice, located at McGirk's, is equally at fault for his negligence in failing to stop train No 11 at the entrance of the block, this failure being due to his forgetting that more than 10 minutes previously he had pledged the block to the operator at California for the use of train No 12. Operator Tice entered the service of the Missouri Pacific Railway on December 20, 1911, and his record on this road was clear. He had been a telegrapher for about nine years, and had been employed by many different railroads. It is noted that he had been discharged by the Chicago, Burlington & Quincy Railroad for using intoxicants. At the time of the accident he had been on duty 6 hours and 49 minutes, after a period off duty of 14 hours.

This accident directs attention to the fact that as long as the human element is involved, errors will be made which will result in accidents. The human element probably can never be eliminated, but the remedy would seem to lie in reducing the opportunity for such disastrous errors to a minimum. On this division of the Missouri Pacific Railway trains were formerly operated under the train-order system. In order to guard against the errors which were bound to occur more or less frequently under that system the company installed a manual block system. Yet in this case the block system failed to prevent an accident arising out of one of the particular errors which it was supposed to detect. Dispatcher Roach failed to obey an operating rule requiring him to send train orders simultaneously, and the result was that he sent a "lap order." This mistake, however, would not have resulted in the collision had Operator Tice obeyed the rules governing the operation of the manual block system, in fact had either of these employees properly performed his duty this accident would not have occurred.

In the case of Dispatcher Roach it is apparent that he was not in physical condition properly to perform his duties. The requirements of safety demand that there should be some means of knowing that employees are in proper physical condition before they are required or permitted to go on duty.

Because it eliminates the human element in a greater degree, the automatic block system is believed to be a safer method of train operation and yet that system will fail to afford the protection for which it is intended if the employees fail to be governed by signal indications.

This accident affords an exceptionally interesting opportunity for comparison between wooden and steel equipment. Both trains were traveling at about the same rate of speed, and one had a wooden car immediately behind the locomotive, while the other had a steel car in a similar position. The wooden car was completely wrecked and was

destroyed by fire which broke out afterwards, while the steel car was badly damaged only on the end adjoining the locomotive, even the window glass in the other part of the car not being broken, all this notwithstanding the fact that the steel car had the weight of six cars behind it while the wooden car had the weight of only four cars

Respectfully submitted

H W BELNAP
Chief Inspector of Safety Appliances

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