INTERSTATE COMMERCE COMMISSION

WASHINGTON

REPORT OF THE DIRECTOR

BUREAU OF SAFETY

ACCIDENT ON THE

OREGON-WASHINGTON RAILROAD
& NAVIGATION COMPANY,
UNION PACIFIC SYSTEM

SOUTH JUNCTION, ORE.

DECEMBER 4, 1935.

INVESTIGATION NO. 2023

SUMMARY

Railroad:	Oregon-Washington Railroad & Navigation Co.	
Date:	December 4, 1935	
Location:	South Junction, Ore.	
Kind of accident:	Collision	
Trains involved:	Oregon Trunk freight	Oregon Trunk; runaway cars from another freight train
Train Numbers:	310	Extra 450
Engine Nos.	GN 3352	SP&S 450
Consist:	41 cars and helper engine	33 cars; 6 cars ran away
Speed:	Unknown	30 miles
Track:	Sharp curves and short tangents; accident occurred on tangent	
Weather:	Dark and misty	
Time:	5:35 a.m.	
Casualties:	2 killed and 5 injured	
Cause:	Rear portion of train ran away, due to defective coupler yoke and air brakes being inoperative on account of being handled behind a locomotive crane on which brake pipe was defective.	

January 31, 1936.

To the Commission:

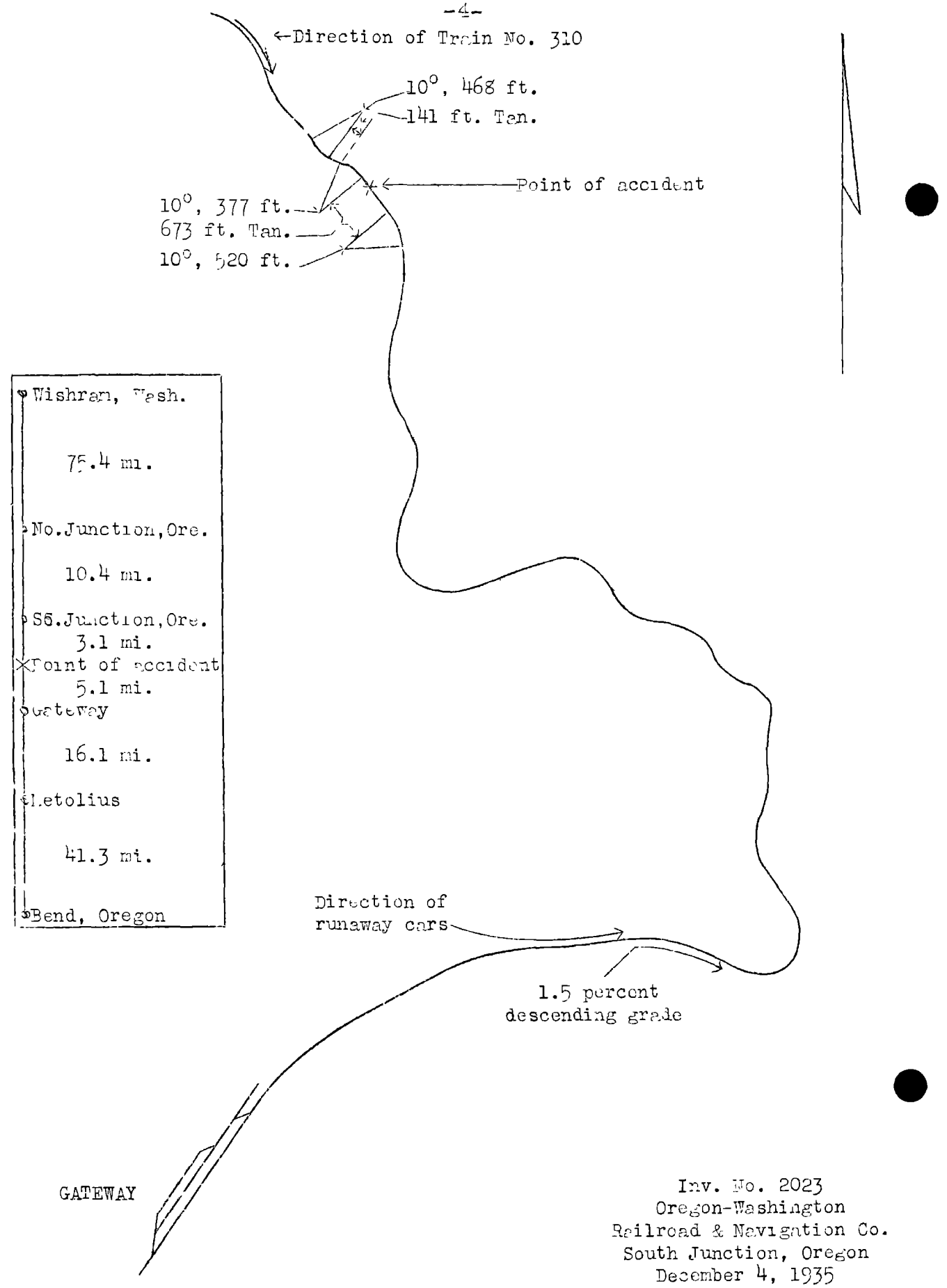
On December 4, 1935, there was a collision between a freight train and the runaway rear portion of another freight train of the Oregon Trunk Railway on the line of the Oregon-Washington Railroad & Navigation Company, near South Junction, Oregon, which resulted in the death of 2 employees, and the injury of 4 employees and 1 other person.

Location and method of operation

The Oregon Trunk Railway, a subsidiary of the Spokane, Portland & Seattle Railway, extends between Wishram, Wash., and Bend, Ore., a distance of 151.5 miles; within this territory trains are operated over the line of the Oregon-Washington Railroad & Navigation Co., hereinafter referred to as the O.-W.R.& N.Co., between South Junction and Metolius, Ore., a distance of 24.3 miles, and the accident occurred on the latter line, over which trains are operated by time table and train orders, no block-signal system being in use. The accident occurred at a point about 3.1 miles east of South Junction and 5.1 miles west of Gateway. The track within this territory consists of many sharp curves and short tangents, the curvature varying from 3° to 15°; when closely approaching the point of accident from the west there is tangent track for 141 feet, a 10° curve to the right 377 feet in length, and then tangent track for a distance of 673 feet, the accident occurring on this latter tangent at a point about 118 feet from its western end. Approaching from the east, the track is tangent for a distance of 586 feet and then there is a 10° curve to the left 520 feet in length, followed by the tangent on which the accident occurred. The grade is 1.5 percent descending for west-bound trains for practically the entire distance from Gateway to the point of accident. On account of the generally rough nature of the surrounding country, with extreme curvature and many cuts, the view is very much restricted. It was dark and misty at the time of the accident, which occurred about 5:35 a. m.

Description

Oregon Trunk Extra 450, an east-bound freight train consisting of SP&S engine 450 and a caboose, in charge of Conductor Coleman and Engineman Bigham, departed from Wishram, Wash., at 11 p.m., December 3. Thirty-three cars were picked up at Kaskela, 5.5 miles west of South Junction, and on leaving that point the train consisted of 27 empty cars, 1 loaded car, a locomotive crane, an idler, a water car, 2 outfit cars consisting of a coach and a box car, and a caboose. This train arrived



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at Gateway, 8.2 miles east of South Junction, at 5:20 a. m. December 4. A few minutes after arrival, and while making a back-up movement in order to clear the switches for a following train, the rear portion of the train, consisting of 5 cars and a caboose, broke loose and ran down the grade westward for a distance of about 5 miles, and while traveling at a speed estimated to have been about 30 miles per hour collided with Train No. 310.

Oregon Trunk train No. 310, an east-bound freight train, consisted of GN engine 3352, 40 cars, caboose, and helper engine 506, and was in charge of Conductor Votaw and Engineman Brown. This train departed from North Junction at 4:45 a.m., according to the train sheet, 2 hours and 14 minutes late, and was struck by the rear portion of Extra 450 while proceeding up the grade toward Gateway.

The three rear runaway cars and caboose, all of wooden construction, were demolished and the wreckage caught fire and was destroyed. The idler, which was of steel-underframe construction, and the locomotive crane, were not derailed or damaged. Engine 3352, of Train No. 310, was badly damaged but not derailed; the ninth and the twenty-third to the twenty-sixth cars, inclusive, were derailed and damaged, two of these cars being destroyed. The employees killed were the pilot conductor in charge of the locomotive crane and a crane laborer, and those injured were a roadmaster, a rail inspector, a crane operator, and a laborer.

Summary of evidence

Engineman Bigham, of Extra 450, stated that after assembling his train at Kaskela he made an application of the brakes and in about a minute or a minute and a half he received a proceed signal from the rear end. At about this time the conductor boarded the engine and they departed; shortly afterwards the conductor sat down on the seatbox behind him and told him that there was no air in the outfit cars. Engineman Bigham asked him if he was going to take them up the hill that way and the conductor replied that he had his instructions to take them, air or no air, and Engineman Bigham said he then told the conductor not to do it but to call the dispatcher at South Junction and get instructions. He reduced speed at South Junction and the conductor dropped off at the depot, the engine continuing to the water tank where water was taken and the train then pulled up so as to clear the passing-track switch. After an opposing engine arrived, he received a proceed signal from the rear end and they departed. He had difficulty however, in making the grade and cut in the booster,

and it was soon necessary to stop on account of lack of steam. He then started the train again and Train No. 102 coupled to the rear end and assisted them into Gateway. On arriving at Gateway he pulled up far enough for Train No. 102 to enter the switch, stopping his train with the straight air brake. He saw Train No. 102 head in on the siding, but due to the headlight shining in his face he was unable to see signals from the rear end of his own train. After Train No. 102 had entered the passing track, he released and allowed his train to drift back, but kept it stretched by using the independent brake and thought that there was no slack in the train. When the engine was clear of the switch at the east end of the passing track he applied the straight air brake and later was informed that the rear cars in his train had run away. Engineman Bigham stated that he did not talk with the conductor after he left the engine at South Junction, but on receiving the proceed signal from the rear end he assumed that the conductor had obtained instructions relative to the outfit cars, saying that otherwise he would not have left that point; he realized it was his duty, however, to know that the conductor had instructions before proceeding with the brakes inoperative on these cars.

Conductor Coleman, of Extra 450, stated that he was not present when the air-brake test was made at Kaskela but was informed that there was no air in the last six cars, the brake pipe on the locomotive crane being broken; he also had been apprised of the situation by a roadmaster who boarded the train at Nathan, 6.7 miles west of Kaskela, and told him there were some cars without air which were to go with the train. Conductor Coleman stated that he intended to call the dispatcher at South Junction and ask for instructions relative to the outfit cars, but while he was checking the register, engine 506 arrived and his train was ready to go, and he gave the engineman a proceed signal and they departed. On arriving at Gateway, with Train No. 102 assisting, his own train stopped on the main line 8 or 10 car-lengths beyond the switch, with the intention of having Train No. 102 run through the siding. After instructing his flagman to go forward to help set out five cars on the head end, he started back toward the west switch to close it behind Train No. 102. He then returned toward his caboose to give his engineman a slow back-up signal so as to clear the east switch; however, the cars were moving and soon realizing that his train was backing up too fast he gave a stop signal and also tried to board the rear end but failed to get on either the caboose or the idler car; he then realized that the cars were running away. Conductor Coleman further stated that when picking up the train at Kaskela he gave no thought to switching the defective locomotive crane behind the caboose, but at the same time he said he did not think

it would have been safe to handle the heavy crane behind the wooden caboose and wooden outfit cars. Conductor Coleman was familiar with the grades on this railway and was fully aware of the hazard in handling cars without air brakes, in violation of the rules and of the law, but said he thought he could do it safely. Conductor Coleman added that his flagman protested against handling those cars, while the enginemen told him to get instructions from the dispatcher.

Head Brakeman Wilson, who was making his first trip, stated that he did not take any part in the air-brake test that was made at Kaskela; he was busy getting car numbers for the conductor at the time it was made and did not know how many cars in the train had operative air brakes; on entering Kaskela, before picking up the train, the flagman had told him that a train line was broken, but he did not know on which car this condition existed.

Flagman Harrigan, of Extra 450, stated that when Roadmaster Corey said there was no air in some of the cars to be picked up at Kaskela he advised the conductor to call the dispatcher and get instructions relative to handling them, and again at North Junction he told the conductor that if he were the conductor he would protest handling the cars without air. On arriving at Kaskela he assisted in making up the train on the main track and then examined the air brakes on some of the cars until the engine again coupled to the train and the brakes were released. After the train line was charged and the brakes applied he continued toward the rear of the train as far as the locomotive crane, where he found a bad leak in the train line, and on seeing that he could not get the air through that car to the cars in the rear, he closed the angle cock on the car ahead of the crane, and then gave a release signal to the engineman. When the train arrived at Gateway he went to the head end to set out cars, as instructed by the conductor, not having applied hand brakes on the rear cars in view of the fact that the conductor was at the rear of the train to protect it.

Roadmaster Corey stated that soon after boarding the caboose of Extra 450 at Nathan, about 2:30 a.m., he asked the conductor if he had been advised that there was no air on the crane outfit at Kaskela. He then fell asleep and did not awaken until he heard a train passing, and on getting up and going out to the rear platform he saw they were at Gateway and that Train No. 102 was passing. About that time there was a violent jerk and the caboose started rolling backwards; expecting a shock both he and Crane Helper Lee braced themselves, but instead of stopping, the speed of the cars increased. They then went to the rear platform and by the time they discovered that the cars were running away the

speed was pretty high. They set the hand brakes on the caboose and box car and Helper Lee jumped over to the coach to set the brake on that car, but Roadmaster Corey remained where he was until just before they collided with Train No. 310, when he jumped off. He thought the hand brakes held, as the speed was reduced before the accident occurred, and he estimated it to have been about 40 miles per hour at the time of the collision. Roadmaster Corey further stated that he did not hear Brakeman Harrigan protest to the conductor about handling the cars without air brakes. Roadmaster Corey had been with this outfit on Extra 500 on the previous day, and was advised that there was no air on the locomotive crane but that arrangements had been made so that it could be taken through to Bend, also that Crane Operator Magee would keep up steam so that he could operate the straight air brake if necessary.

Crane Operator Magee stated that he was on the crane when it left Wishram on November 26 and the machine then was in good condition. The crane was set out at Nena, 22 miles west of South Junction and was engaged in ditching work and loading rock until December 3. On Sunday afternoon, December 1, he discovered that the triple valve was broken, the branch line broken, and the train line cracked; the crane had been derailed on the previous afternoon and he was of the opinion that the damage was done at that time and was afraid that something might be broken under the frame. Knowing that he had fittings enough to get the brake pipe through providing it was not broken under the frame, he notified the chief dispatcher and said he thought he could fix it and the dispatcher told him to go ahead, which he did; he was not satisfied, however, and when the pilot-conductor returned Sunday evening he discussed the situation with him, and the conductor was of the opinion that the crane could be fixed at Bend, and that if Magee could work the straight air with which the crane was equipped, they had plenty of men to hold it. Operator Magee did not know whether the conductor called the dispatcher and said that no air-brake test on the crane was made until the arrival of Extra 500 on December 3, at which time it was found that there was a bad leak somewhere within the frame. Operator Magee stated that he and his helper kept up the steam on the crane until the engine of Extra 500 failed that night, when it was decided to tie up at Kaskela. He and his helper then went to bed, and the next thing he knew was when the cars broke loose from Extra 450, at Gateway. He jumped out of bed and went to the platform and set the hand brake on the coach and on the water car, and about that time Helper Lee jumped over on the water car and he told the helper to set the brake on the idler. Operator Magee said that the brake held on the coach, but he did not think it held on the water car as he did not have a brake club with which to set it,

nevertheless the speed was reduced before the accident occurred. Crane Operator Magee said he would not have raised any objection to handling the crane and idler on the rear of the train; in fact they often have been handled in that manner.

Helper Lee stated that when the cars broke away he got the two brake clubs which he had seen the flagman place in the coalbox on leaving Kaskela, and he and Roadmaster Corey then started to set the hand brakes, and he was setting the brake on the idler car when he saw the headlight of Train No. 310 around the curve. He went back to the water car, down on the platform, and swung his flashlight in an effort to warn the engineman of Train No. 310. Helper Lee stated that he thought the markers on his caboose were burning.

Rail Inspector Westergard, who boarded the caboose of Extra 450 at Nathan with Roadmaster Corey, stated that he heard some conversation between the roadmaster and the conductor relative to the lack of air on the outfit cars and later on heard Flagman Harrigan protesting about the proposed program for the following day, but he did not hear any protest about handling the cars without air brakes. He then slept until Helper Lee entered the caboose at Gateway for the brake clubs. Rail Inspector Westergard also stated that the markers on the rear of the caboose were burning, saying that just before he jumped off he could see Roadmaster Corey in the reflection of the green light.

Engineman Brown, of Train No. 310, stated that his first knowledge of anything wrong was when he saw the swinging flashlight of Helper Lee and immediately thereafter the caboose showed up in the rays of his headlight; he closed the throttle but did not even get his hand on the brake valve before the collision occurred. At first he thought the light was from a track walker, and he said he did not see any marker lights on the rear of the caboose. After the accident he walked up to the crane and saw the draw bar hanging down on the east end and was of the opinion that the knuckle was open when the draw bar dropped as a result of the breaking of the yoke.

Conductor Whitmore, of Extra 500, stated that his train picked up the outfit cars and crane at Nena on the day preceding the accident and handled them until his engine failed, when he was forced to tie up at Nathan, 1.8 miles from North Junction, and another crew handled his train to Kaskela, 4.9 miles beyond North Junction, where the outfit cars were later picked up by Extra 450. He stated that he knew of the defective condition of the train pipe on the crane, but he was working on a practically level track and considered it safe to handle them ahead of the caboose without air, saying that the cars were protected

by him, or by a brakeman, at all times; he knew, however, that handling these cars in this manner was in violation of the rules. He did not notify the dispatcher or other officer regarding the defective condition of the train pipe, although he said he intended to get instructions at North Junction.

Engineman Madden, of Extra 500, stated that when Conductor Whitmore advised him of the lack of air on the outfit cars he told him he should advise the superintendent, to which the conductor replied that he would do so at North Junction.

Flagman Terhune, of Extra 500, stated that on being advised that there was no air on the five rear cars he took precautions against possible trouble by supplying himself with a brake club and took the slack out of the brake chains on the caboose and two rear cars. He knew that such handling of the cars was in violation of the rules, but thought it was safe under the circumstances.

Master Mechanic Dickson, of the Spokane, Portland & Seattle Ry., stated that the coupler yoke on the east end of the locomotive crane broke between the two bolts which held the yoke to the coupler; the ends showed an old defect, the fracture having extended through the metal, both top and bottom, but in his opinion the defect was so located with respect to the end sill that it could not have been discovered by ordinary inspection. The location of the fracture resulted in there being only one bolt that was holding and this bolt was sheared in the accident. The yoke was made of 1 1/8 by 4-inch bar iron, which is standard for the size of this equipment, while the coupler was a Sharon coupler, with a 5 by 5-inch shank; the knuckle was in good condition, and there had been no occasion for removing the coupler for repairs for more than a year. Master Mechanic Dickson stated that a severe shock, such as described by Roadmaster Corey, would have been sufficient to shear the remaining bolt and allow the coupler to drop.

Discussion

The evidence indicates that when Conductor Coleman picked up his train at Kaskela he knew there was a broken train pipe on the fifth car from the rear and that therefore there were no operative air brakes on the five rear cars and caboose, yet he did not make an inspection of the car reported to be defective nor of the other cars in the train to learn if the car could be switched to the rear of the train and handled safely to the nearest necessary repair point, nor did he communicate with the dispatcher or other officer to obtain instructions for handling the defective equipment, although means of

communication were near at hand and accessible at all stops. Upon his arrival at Gateway he did not take any action to secure the rear of the train by means of the hand brakes nor did he require his flagman to do so, although he was familiar with the 1.5 percent grade at that point; but instead he left the caboose to attend to a switch for a following train and instructed his flagman to go to the head end and do some switching.

At the time of the accident Extra 450 was being handled over joint track and under the transportation rules of the Union Pacific System, but the crew was also working under the transportation rules of the Spokane, Portland & Seattle Railway, and were governed by such rules where not in conflict.

Rules 704, 707, 715, and 718, of the S.P.& S. rules, read as follows:

> 704.- Train pipe must be connected to permit the operation of air brakes throughout the train.
>
> 707.- If air brakes become so defective while on the road as to interfere with proper control of train or to require special arrangement, report same to superintendent by telegraph and get authority before proceeding.***
>
> Rule 715.- When necessary to haul a car of any description behind the caboose it must be chained thereto as well as coupled unless the air brake is in good condition and is being operated or the hand brake is in good condition and a trainman stationed on such car. In all cases car in rear must have a connection to train pipe on train so brakes will apply if car breaks off. If necessary a hose with angle cock can be coupled to rear hose of caboose and fastened to rear car.
>
> Rule 718- When necessary to cut off engine on steep grades, before detaching the engine, the air brakes must be released and the train held with hand brakes.

Rule 804 of the Union Pacific Transportation rules provides in part as follows:

> When standing on a descending grade, hand brakes must be set on the head end; when on an ascending grade they must be set on the rear end.

> Union Pacific Rule 824 reads as follows: Inspection must be made of the running gear, brake and draft rigging of trains as often and as closely as practicable while on the road, remedy as far as possible any defects discovered and remove from the train cars that are unsafe to run.

All of the men concerned in handling the outfit cars stated they were familiar with the requirements of the rules involved, and yet they did not hesitate to violate the rules, and in no case did any one take any means to get information or instructions as to the proper handling of the train.

Engineman Bigham had been advised by the conductor after leaving Kaskela that there was no air on the six rear cars and at that time Engineman Bigham advised the conductor to obtain instructions at South Junction. Conductor Coleman did not obtain instructions, however, and Engineman Bigham departed without knowing whether or not the conductor had obtained the proper instructions or authority. Flagman Harrigan followed the conductor's instructions and went to the head end to set out some cars, the head brakeman being inexperienced, thus leaving the conductor with the duty of safeguarding the rear of the train.

Conductor Whitmore, of Extra 500, was the first conductor to handle the defective car with the outfit cars in the condition in which they were later picked up by Extra 450. Both Conductor Whitmore and Engineman Madden knew of the defective condition of the car, yet made no attempt to report its condition and failed to make the switch necessary to place it in a safe position in their train.

The investigation of this accident indicates a serious lack of proper supervision by the officials directly in charge.

Conclusions

This accident was caused by the rear portion of a freight train, consisting of five cars and a caboose, running away after a break-in-two which resulted from a defective coupler yoke, and by the further fact that the air brakes were inoperative in this portion of the train because of a defective train pipe at the head end of a locomotive crane, the fifth car from the rear.

Recommendation

It is recommended that the proper officials take the necessary steps to see that the rules governing the operation of air brakes, and the handling of defective equipment, are rigidly observed and strictly enforced.

Respectfully submitted,

W. J. PATTERSON,

Director.