

## INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY CONCERNING AN  
ACCIDENT ON THE MAINE CENTRAL RAILROAD NEAR CORNISH,  
ME., ON JULY 21, 1933.

November 20, 1933.

To the Commission:

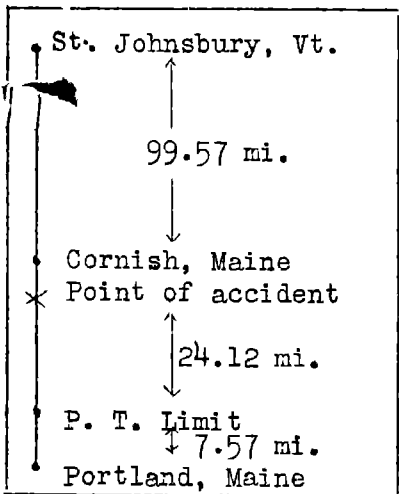
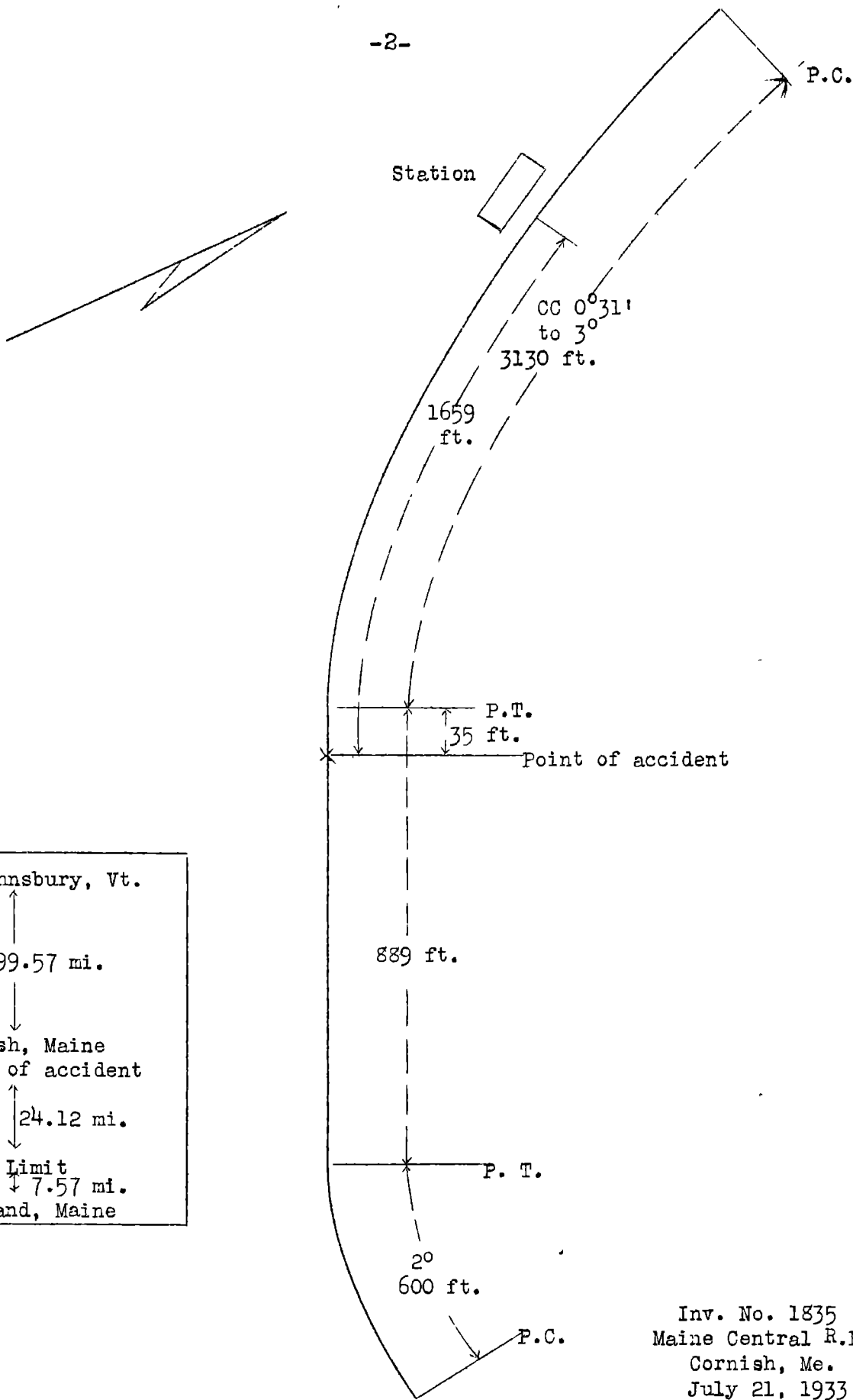
On July 21, 1933, there was a head-end collision between a freight train and a light engine on the Maine Central Railroad near Cornish, Me., which resulted in the death of 1 employee and the injury of 3 employees. This accident was investigated in conjunction with a representative of the Public Utilities Commission of Maine.

## Location and method of operation

The accident occurred on the Mountain Subdivision of the Portland Division, which extends between St. Johnsbury, Vt., and P. T. Limit, near Portland, Me., a distance of 123.69 miles; this is a single-track 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 1,659 feet east of the station at Cornish; approaching this point from the east, the track is tangent for a distance of approximately 2,104 feet, followed by a 2° curve to the right 600 feet in length and then tangent track for a distance of 889 feet, the accident occurring on this tangent track at a point 35 feet from its western end. Approaching from the west, there is a compound curve to the left approximately 3,130 feet in length, the curvature varying from 0°30' to 3°, followed by the tangent track on which the accident occurred. The grade for west-bound trains approaching the point of accident is descending, varying from 1.26 percent to 0.85 percent; the grade for east-bound trains is ascending, varying from 0.24 percent to 0.85 percent, the accident occurring on the 0.85 percent portion of the grade.

The view approaching the point of accident from either direction is limited due to a 40-foot slope on the inside of the curve just west of the point of accident; this bank was covered with a heavy growth of trees and brush. The point of collision could be seen by a west-bound engineman for a distance of 1,320 feet, and when 262 feet west of the point of accident a clear view could be had for a distance of 1,477 feet.

There were intermittent heavy showers, accompanied by thunder and lightning, at the time of the accident, which occurred at 6:05 a.m.



Inv. No. 1835  
 Maine Central R.R.  
 Cornish, Me.  
 July 21, 1933

### Description

West-bound freight train extra 351 consisted of 10 cars and a caboose, hauled by engine 351, and was in charge of Conductor Dunphy and Engineman Coates. At Tower 2, Rigby Yard, Portland, the crew received a copy of train order no. 9, form 19, as follows:

Eng. 351 run extra Cumberland Mills to Bartlett with right over extra 615 east and wait at Steep Falls until 5.10 five ten a.m. Mattocks until 5.20 five twenty a.m. Cornish until 5.50 five fifty a.m. Bridgton Jct. until 6.15 six fifteen a.m. Brownfield until 6.40 six forty a.m. for extra 615 east. Eng. 615 run extra Bartlett to Cumberland Mills. Extra 351 west will not protect rear against following extra trains between Cumberland Mills and Bartlett.

The order was made complete at 1:47 a.m. Extra 351 departed from Portland at 3 a.m., according to the train sheet, and was approaching Cornish when it collided with extra 615 while traveling at a speed estimated to have been between 25 and 30 miles per hour.

East-bound extra 615 consisted of engine 615, running light, and was in charge of Engineman Chandler and Fireman Lewis. This engine had helped train no. 376 from Portland to Crawford Notch, N. H., and then returned eastward to Bartlett, N.H., under protection of a flagman left at that point. Bartlett is 38.52 miles west of Cornish. At Bartlett the crew of engine 615 received a copy of train order no. 9, form 19, which had been addressed to the engineman at that point, and the engine departed from that point at 5 a.m., according to the train sheet, passing the station at Cornish and colliding with extra 351 while traveling at a speed estimated to have been between 30 and 35 miles per hour.

Engine 615 was derailed and badly damaged, while engine 351 and the first car in the train were so badly damaged as to be considered destroyed. The employee killed was the fireman of extra 615, while those injured were the engineman of extra 615 and the engineman and fireman of extra 351.

### Summary of evidence

Engineman Coates, of extra 351, stated that he was on the lookout for engine 615 at Steep Falls and also at Mattocks, located 7.06 miles and 5.33 miles, respectively, east of Cornish, and that he passed Mattocks about 5:50 a.m. As the train started down the hill east of Cornish he shut off steam and after traveling a short distance he made a service application of the brakes, probably 10 or 12 pounds, in order to steady the train, and had released the brakes when he saw the headlight of

engine 615 coming around the curve. He immediately applied the brakes in emergency, called to the fireman to jump and sounded the whistle to warn the approaching engineman, and then jumped off himself as quickly as possible. He estimated the speed of his train to have been between 25 and 30 miles per hour when he first saw engine 615, and thought this had been reduced to 20 miles per hour, or slightly more, at the time of the accident.

The statements of other members of the crew of extra 351 substantiated those of Engineman Coates. Fireman Bolduc added that when talking with Engineman Chandler after the accident, the engineman stated that he had made a mistake in the time, having figured his time wrong on the wait order. Conductor Dunphy and Head Brakeman McWilliam stated that while they were waiting at the station for the doctor they talked with Flagman Smith of the light engine, who told them that he had not seen the train order nor did he know its contents, although he had heard Engineman Chandler say at Bartlett that they had just about time enough to make Mattocks.

Engineman Chandler, of engine 615, stated that on arriving at Bartlett he received a copy of train order no. 9, which he read aloud in the presence of the operator and the flagman; the flagman at that time was registering the departing time of their engine. He heard either the flagman or the operator say "make it 5", referring to his departing time, and said "Yes", after which he looked at his watch, which indicated that the time was 4 a.m., and he made the remark that he had just time enough to make Mattocks, no one calling attention to the fact that it was then 5 a.m., and not 4 a.m. as he supposed. He then went to his engine, gave the order to his fireman, and assumed that the fireman read the order as the latter afterwards placed it in Engineman Chandler's pocket; he did not show the order to the flagman, assuming that the flagman had a copy of his own. Engineman Chandler looked at his watch several times after leaving Bartlett and on passing the station at Cornish he noted that it was 5:02 a.m. At that time he was operating his engine at a speed of about 20 miles per hour, but after passing the road crossing just east of the station he opened the throttle and had attained a speed of between 30 and 35 miles per hour when the fireman called to him to stop; he at once shut off steam and applied the brakes and was looking out of the window for live stock on the track, but the first thing he saw was the fireman of the opposing train after the latter had jumped. After the accident he found his watch crushed; it had stopped at a little past 5 o'clock and the minute hand was broken off, but he did not show the watch to any one or call to the attention of any one the time as shown by his watch. Engineman Chandler further stated that he compared his watch with a standard clock on the previous evening and found it to be 5 seconds fast; his watch had been given the regular inspection about 5 or 6 days prior to the occurrence of the accident and was in good condition.

He had noted the time to be 3:55 a.m. when arriving at Crawford Notch on the west-bound trip on train no. 376 and only 4 a.m. on leaving Bartlett east-bound, although the latter station is 14.51 miles from Crawford Notch, yet he did not notice the discrepancy, and it appeared from his statement by way of possible explanation that he had operated this helper engine frequently and ordinarily left on his eastward trip about an hour earlier than he did on this trip. Engineman Chandler was satisfied that his watch lost an hour between Crawford Notch and Bartlett.

Flagman Smith, of engine 615, stated that on the west-bound trip on train no. 376, he got off at Bartlett, at 2:35 a.m., to await the return of his engine from Crawford Notch. When the engine arrived he handled the switches in turning it on the wye and then went to the office and asked Engineman Chandler if he should register out for him, which he did, putting the time down as 5 a.m. He did not hear Engineman Chandler read the train order aloud, although he saw him holding the order and heard him make the statement that Mattocks was the best he could do. Engineman Chandler did not offer to show the order to him, nor was a copy provided for him by the operator, although he had had plenty of opportunity to read the order while he was waiting for the return of his engine, the order having been lying on the operator's desk for several hours. He said he should have known the contents of the order before leaving Bartlett, and could give no reason for his neglect; he also said it was the custom for flagmen to get copies of orders everywhere except at Bartlett.

Operator Burwood, on duty at Bartlett at the time of the accident, stated that when Engineman Chandler came to the office for his order he read it aloud and then made some remark to Flagman Smith, but the operator did not know what it was as he was busy with other matters. He made three copies of the order, but did not give the flagman a copy; the order was made complete at 1:50 a.m. and had been lying on his desk several hours. He further stated that there was no uniform practice as to furnishing flagmen of light engines with copies of train orders, and that the flagmen occasionally refused to accept them when he offered copies to them.

Agent Saunders arrived at the station at Cornish while Enginemen Coates and Chandler were being attended by a doctor and he said that on asking Engineman Chandler who was at fault the engineman replied that he had made a mistake, and, when Agent Saunders asked him what the mistake was, Engineman Chandler replied that he had looked at his watch wrong and made a mistake of one hour in the time. Nothing was said about a damaged watch nor did Agent Saunders see Engineman Chandler's watch.

#### Conclusions

This accident was caused by the failure of Engineman Chandler, of extra 615, to know the correct time, with the result that his train failed to clear for an opposing superior train in accordance with a train order.

The evidence indicates that Engineman Chandler made a mistake of one hour in figuring his time against the opposing superior train; when receiving the train order he figured that he would be able to reach Mattocks, 44.15 miles east of Bartlett, for extra 351 by 5:20 a.m., the time named in the order, thinking that he was leaving Bartlett at 4 a.m. when in reality he departed from that point at 5 a.m. He said his watch was broken as a result of the accident and that it stopped a little after 5 o'clock, and he thought that it lost the hour while he was between Crawford Notch and Bartlett, although immediately after the accident, when talking with the other employees, he at no time produced the broken watch nor did he say anything about his watch losing time; instead, he admitted that he had figured his time wrong.

Engineman Chandler said he gave the order to the fireman to read, and he assumed that the fireman read the order as the fireman later placed the order in the engineman's pocket, but apparently nothing was said as to its contents and nothing is known as to whether the fireman had any knowledge as to how his engine was being operated against extra 351. Flagman Smith had ample time in which to read the train order involved, as he was waiting at Bartlett several hours for the return of his engine from Crawford Notch and during that time the order was lying on the operator's desk. Flagman Smith registered the engine out of Bartlett and heard Engineman Chandler make the statement that they could reach Mattocks, yet at no time did he attempt to learn the contents of the order and his statements indicated that he was not interested in any way in where his engine was going or how it was going to get there.

Statements of witnesses indicated there was no definite procedure followed in the matter of furnishing copies of train orders to the flagmen of helper engines, and it also appeared that there was considerable laxity in making sure that all concerned were acquainted with the orders received; in addition it is noted that Engineman Chandler permitted Flagman Smith to register for him before leaving Bartlett east-bound instead of attending to that duty himself. Not only is there no excuse for the lack of a uniform procedure in handling train orders, but it seems necessary to point out that rigid enforcement of rules on the part of officials is always necessary and this is particularly true when trains are operating entirely by time table and train order authority. The dangers resulting from carelessness under this method of operation are well known; operating officials of this railroad should take immediate steps to correct the conditions disclosed in this investigation. In this particular case, even strict observance of the last paragraph of rule 211, which rule relates to train orders on form 19, would have been sufficient to result in detection of Engineman Chandler's error had any of the employees checked their time as they should have done when reading the order; the paragraph in question reads as follows:

"Enginemen must show train orders to firemen and when practicable to forward trainmen. Conductors must show train orders when practicable to trainmen. Trainmen and firemen should keep informed of all train orders affecting the movement of train".

This accident again directs attention to the fact that under the time table and train order system of operation errors are likely to occur which may result in accidents. It has frequently been pointed out in these reports that the block system provides a greater measure of safety, and while traffic on this line was not heavy nevertheless consideration should be given to the advantages which would result from the adoption of some form of block signal system.

Respectfully submitted,

W. P. BORLAND,

Director.