

Inv-2316

INTERSTATE COMMERCE COMMISSION

Washington

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REPORT OF THE DIRECTOR

BUREAU OF SAFETY

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ACCIDENT ON THE

ERIE RAILROAD

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HOWELLS JUNCTION, N. Y.

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DECEMBER 5, 1938

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INVESTIGATION NO. 2316

SUMMARY

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Inv-2316

Railroad: Erie

Date: December 5, 1938

Location: Howells Junction, N. Y.

Kind of accident: Derailment; wreckage struck by  
opposing train on adjacent track

Trains involved: Freight : Passenger

Train numbers: Extra 3342 : 65

Engine numbers: 3342 : 2549

Consist: 115 cars and : 4 cars  
caboose

Speed: About 10 m.p.h. : 25 m.p.h. at  
at time of derail-: time of collision  
ment

Operation: Timetable, train orders, and automatic  
block-signal system.

Track: Double; 2°33' curve; 0.76 percent des-  
cending for east-bound trains

Weather: Dark, foggy and raining

Time: 6:55 p.m.

Casualties: 6 injured

Cause: Low coupler

January 30, 1939.

To the Commission:

On December 5, 1938, there was a derailment of a freight train on the Erie Railroad near Howells Junction, N. Y., the wreckage of which was struck by a passenger train traveling in the opposite direction on an adjacent track, which resulted in the injury of five passengers and one employee.

#### Location and Method of Operation

This accident occurred on that part of the New York Division which extends between Jersey City, N. J., and Sparrow Bush, N. Y., a distance of 89.8 miles. In the vicinity of the point of accident this is a double-track line over which trains are operated by timetable, train orders and an automatic block-signal system. The derailment occurred on the eastward track at a point one-half mile east of the station at Howells, where one of the derailed cars was struck by the passenger train moving in the opposite direction. Approaching from the west there is a 1°33' curve to the right 1,320 feet in length, then tangent track a distance of 8,340 feet followed by a 2°33' curve to the right 2,750 feet in length; the accident occurred on this last-mentioned curve at a point approximately 616 feet from its western end. Approaching from the east there is a 2°04' curve to the left 1,850 feet in length followed by tangent track a distance of 2,850 feet and then the curve on which the accident occurred. The grade for east-bound trains is descending several miles, the grade varying from 0.06 percent to 1.09 percent, then 0.29 percent ascending 1,121 feet, 0.76 percent descending 4,541 feet to the point of derailment and a few feet beyond where it changes to 0.24 percent ascending a distance of 2,067 feet. In the immediate vicinity of the point of accident the tracks are laid on a 26-foot fill; the tracks are well maintained.

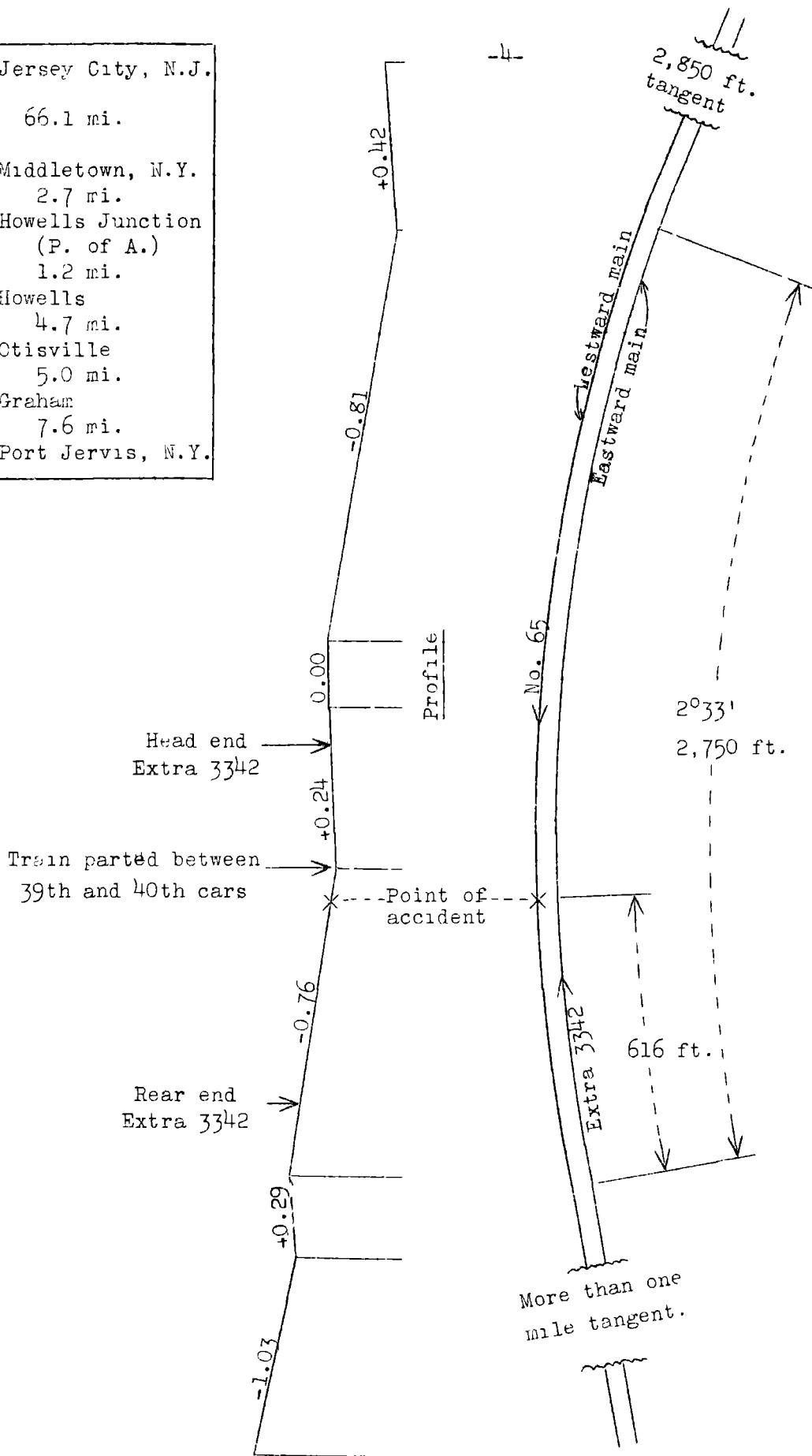
A double-track low-grade freight line, known as the Graham Line, extends between Graham and Newburgh Junction; freight trains are normally operated over this line but because of repairs to a tunnel the freight line was temporarily out of service and the freight train involved was being operated over the main line.

The weather was dark and foggy and a heavy rain was falling at the time of the accident which occurred about 6:55 p.m.

#### Description

Extra 3342, an east-bound freight train, consisted of 113 loaded cars, 2 empty cars and a caboos with 2 pusher engines

○	Jersey City, N.J.	
		66.1 mi.
○	Middletown, N.Y.	2.7 mi.
⊗	Howells Junction (P. of A.)	1.2 mi.
○	Howells	4.7 mi.
○	Otisville	5.0 mi.
○	Graham	7.6 mi.
○	Port Jervis, N.Y.	



Inv. No. 2316  
 Erie Railroad  
 Howells Junction, N. Y.  
 Dec. 5, 1938

and a rider caboose at the rear, hauled by engine 3342, and was in charge of Conductor Skinner and Engineman Weiss. This train departed from Port Jervis Yard, 18.5 miles west of Howells Junction, at 3:45 p.m., stopped at Graham, 7.6 miles beyond, for train No. 2 to pass, and stopped at Otisville, 5.9 miles west of Howells Junction, at 6:15 p.m., where the pusher engines and rider caboose were cut off. At 6:25 p.m. the train proceeded eastward and when approaching Howells Junction, where a cross-over movement was to be made to the Graham Line, and while traveling at a speed of 10 miles per hour preparing to stop, it parted between the thirty-ninth and fortieth cars and recoupled, causing the forty-sixth car, N.Y.O. & W. 19123, and the forty-seventh car, W.M.X. 1995, to become derailed, the forty-sixth car fouling the westward track.

No. 65, a west-bound passenger train, consisted of four coaches of all-steel construction, hauled by engine 2549, and was in charge of Conductor Wynne and Engineman Crane. This train departed from Middletown, 2.7 miles east of Howells Junction, at 6:47 p.m., according to the train sheet, 2 minutes late, passed Howells Junction shortly after Extra 3342 had stopped and was traveling at an estimated speed of 25 miles an hour when it collided with the car which was fouling the westward track. The train stopped about 1,000 feet beyond the point of accident.

The left side of engine 2549 was considerably damaged and the four coaches were slightly damaged; none of the equipment in this train was derailed. The forty-sixth car of Extra 3342 was practically demolished, its body and contents remaining on the roadbed; the forty-seventh car stopped down the fill to the south of the eastward track and was considerably damaged. Erie 51597 the thirty-ninth car in the train, sustained a split draw-head on the west or "B" end as a result of the impact which occurred when the train, after parting, recoupled. None of the remaining equipment was derailed or damaged. The employee injured was the fireman of No. 65.

#### Summary of Evidence

Engineman Weiss, of Extra 3342, stated that at Port Jervis a test was made of the air brakes and all brakes were working. Two stops were made en route prior to the accident and the brakes functioned properly. In the vicinity of Vances Cut, about 1 mile west of Howells, a 10-pound brake-pipe reduction was made, reducing the speed from 35 to 25 miles per hour, and while passing Howells, 1.2 miles west of Howells Junction, a reduction of 8 or 10 pounds was made, and when approaching a point about three-fourths mile east of Howells, a further reduction of 8 or 10 pounds was made and the brake-pipe exhaust had not ceased when

the train stopped about 35 or 40 car lengths west of Howells Junction. He stated that the second reduction had slowed the speed of the train more than he had anticipated and he did not release the brakes but made a final reduction to avoid slack action at the stop. After the train stopped he moved the brake-valve to full release for about 15 seconds and then placed it in running position and noted by the air gauge that brake-pipe pressure was being restored. At no time before the stop did he release the brakes after the first reduction was made in the vicinity of Vances Cut. On two previous occasions when handling similar trains via the main line he had made a 10-pound brake-pipe reduction at Vances Cut and, because this resulted in slack action on the head end, he decided to prevent a recurrence of this nature and he therefore made the reduction on this trip shortly before reaching that point and as a result this train handled more smoothly and there was no unusual surge or slack action noticed. It was raining and very foggy when his train stopped at about 6:50 p.m. The two brakemen who were on the engine got off and went forward to make the necessary arrangements for the cross-over movement to the Graham line. The train had been standing only 3 or 4 minutes when No. 65 passed his engine. His first intimation of anything wrong was when the conductor arrived at the head end of the train and informed him of the accident.

The statement of Fireman Pound, of Extra 3342, substantiated that of Engineman Weiss.

Head Brakeman Carey, of Extra 3342, stated that he and Brake-man Smith boarded the engine at Port Jervis. After the train left Otisville the speed was about 35 miles per hour and when about 1 mile west of Howells he noticed the engineman make a brake-pipe reduction and another was made near Howells station, the train being stopped about 35 or 40 car lengths west of Howells Junction. He stated he observed nothing out of the ordinary about this stop. He believed that there was full brake-pipe pressure throughout the train and he had no reason to believe before he left the engine that the train had parted. Before he and Brakeman Smith reached the phone booth at Howells Junction No. 65 passed them.

Middle Brakeman Smith, of Extra 3342, corroborated the statement of Engineman Weiss concerning events up to the time the train stopped near Howells Junction. When he reached the telephone it was in use and he recognized the voice of his conductor who was advising the train dispatcher that there was no air on the caboose and that the train might be parted. In the meantime No. 65 had passed the phone booth and shortly thereafter he heard an unusual noise and his first knowledge of what had happened was when informed some time later by the conductor that

the train had parted and a derailed car fouling the westward track had been struck by No. 65. The stop was normal with no unusual shock; he did not feel that it was necessary to provide protection for No. 65 as there was no indication of anything being wrong with his train.

Conductor Skinner, of Extra 3342, corroborated the statement of Engineman Weiss with respect to the movement from Port Jervis to Otisville. When leaving Otisville he observed that the air gauge in the caboose registered 65 pounds pressure. In the vicinity of Vances Cut the speed was about 35 miles per hour when he noted a brake-pipe reduction of 15 pounds, following which there was a slight run-in but no severe slack action; near Howells an additional reduction was made, after which the gauge registered 40 pounds. There was no run-in or slack action following the additional reduction and when the caboose was about opposite Howells station the train came to a sudden stop and the indicator on the air gauge dropped to zero. He immediately called the dispatcher from the station phone and told him that he thought the train had parted and inquired if the head brakeman had reported. Shortly thereafter Brakeman Smith called on the phone and said that there was full air pressure on the engine when he left it. He went back to the caboose but found that no air had been restored, and returning to the phone he informed the brakeman that the train had parted and for him to look after the head end; at this time he learned that No. 65 had passed Howells Junction. He then started toward the head end of his train and found that the forty-seventh car was down the bank, the forty-sixth car had buckled out of the train to the left, fouling both tracks and that this car had been side-swiped by No. 65. When he arrived at the fortieth car he discovered that the train had been parted and had recoupled; the knuckle lock on the east end of this car was in raised position; the coupler head on the west end of the thirty-ninth car was split or broken and the air hose was doubled up with the coupling end wedged between the coupler head and carrier iron in such manner that the discharge of air was prevented, thereby allowing the brake-pipe pressure on the forward portion of the train to be restored and maintained at full pressure. He stated that the slack action was normal in the train as compared to other trains of which he had been in charge over this line, and it was his opinion that the accident was caused by the lock block in the coupler on the fortieth car becoming raised.

The statement of Flagman Morgan, of Extra 3342, added nothing of importance.

Engineman Crane, of No. 65, stated that due to rain and fog the visibility of signals was restricted to a distance of 800 or 900 feet and that the reflection from the headlight of his engine

penetrated the fog a distance of not more than 200 feet. Approaching Howells Junction his engine exploded two torpedoes; he eased off on the throttle and reduced the speed of his train from 40 to 25 miles per hour. When passing the junction he saw a white light at the phone booth and observed the headlight of a train on the eastward track but could not say whether it was moving. The last automatic signal east of the point of accident was displaying a proceed indication and his first intimation of anything wrong was when the air brakes became applied in emergency as a result of the brake pipe on the left side of the engine being broken when the derailed car of the train on the adjacent track was struck. He stated that the throttle was closed at this time as he was preparing to make the station stop at Howells. He thought the train ran about 1,080 feet after the brakes became applied.

Fireman Coleman, of No. 65, stated that approaching Howells Junction, he was working on the fire and when his engineman called a clear block-signal indication, he left the fire and got up on the seat box on the left side, noted the signal indication and replied "clear". He corroborated the statement of his engineman with respect to the visibility, the explosion of the torpedoes and the speed. He was maintaining a sharp lookout ahead from the left side and observed the headlight of a train on the eastward track but could not state whether the train was standing or moving. Due to the curvature to the left he could not see the derailed car of the train on the adjacent track.

Conductor Wynne, of No. 65, stated that when approaching Howells Junction he was passing through the vestibules between the third and fourth coaches and noticed a train on the eastward track, but was uncertain whether it was moving. He heard the exhaust of the air pumps on the engine of this train and also what he thought to be a slight impact like the slack of a train running in and shortly thereafter the brakes on his own train became applied in emergency as a result of the collision; his train stopped about 6:55 p.m.

The statements of Head Brakeman McKean and Flagman Venturini, of No. 65, corroborated those made by other members of that crew.

Shop Superintendent Nitrauer, who arrived at the scene of accident at 9:20 p.m., inspected the rear portion of Extra 3342, including the fortieth car, and stated that the train had apparently parted immediately ahead of this car. Erie 51597, a gondola, and Erie 32216, a hopper, the thirty-ninth and fortieth cars, respectively, loaded with coal, were set aside for further inspection which disclosed that the thirty-ninth car was equipped on the west or "B" end with an A.A.R. type "D" coupler with a standard "D" type knuckle and Minor A-18 draft gear. There was



no excess free slack in this gear; the distance from top of shank of the coupler to bottom of the striking casting measured three-fourths inch and a shim had been welded to the carrier iron to maintain proper coupler height which measured 33-3/8 inches. The coupler was broken, the coupler head being split in the center through the lock-pin hole. Erie 32216 was equipped on the east or "A" end with an A.A.R. type "D" coupler complete and Farlow Sessions draft gear which had 1-9/16 inches of free slack and a clearance of 1 1/4 inches between the coupler shank and bottom of the striking casting. The coupler height measured 30-3/16 inches high, 1-5/16 inches lower than the standard height prescribed for couplers. Both cars were equipped with cross keys in the draft gear which were in proper position and in good condition, as were also the truck springs and other parts of the cars which would affect coupler heights. N.Y.O. & W. 19123, a hopper car loaded with coal, was built in October, 1916; its capacity was 110,000 pounds, load limit 132,600, light weight 36,400, and cubic-foot capacity 1,800. The center-sill construction consisted of 15-inch channels, 3-inch flange and three-eighths inch web, extending from the outside of the body bolsters at each end of the car; the pressed steel draft irons were attached to center sills with 1x15-inch steel plate being riveted and extending approximately 8 inches back of the bolster; the cover plate on the top of the center sills on each end of the car extended 8 3/4 inches back of the center pin-hole. The sills in general were in good condition. He believed that this car had not buckled as a result of any weakness in its construction. He further stated that there were no other defects found on any of the equipment that would have contributed to the accident. It was his opinion that the cause of the train parting was a low coupler on the fortieth car together with the free slack in the draft gear and clearance between the coupler shank and the bottom of the striking casting, also the weather conditions prevailing at the time. The broken coupler on the thirty-ninth car was a result of the impact which occurred when the train recoupled after parting, and the initial cause of derailment was the train parting.

#### Observations of Commission's Inspectors

An examination made by the Commission's inspectors in company with officials of the railroad revealed that there were definite scars on the top of the coupler knuckle on the east end of Erie 32216, and also on the bottom of the coupler knuckle on the west end of Erie 51597, which clearly indicated that the one had slipped over the other, causing the train to part at this point. No other defects were found on these cars that would contribute to the train parting; an inspection of the track failed to disclose any marks or indications of derailment west of the point of accident. The general condition of the track was good. An

inspection of N.Y.O. & W. 19123, which was destroyed as a result of the accident, indicated that in general this car had been in good condition prior to the accident; the center sills were badly bent but not broken. The general condition of this car and the damaged condition of M.W.X. 1995 indicated that they were knocked off the track and crushed by the impact when the rear portion of the train ran-in following the parting; the further damage to N.Y.O. & W. 19123 and H.W.X. 1995 resulted from being struck by the engine of No. 65.

### Discussion

The evidence indicates that about 2 miles west of the point of accident Extra 3342 was traveling at a speed of about 35 miles per hour when the engineman made a 10-pound brake-pipe reduction, reducing the speed to about 25 miles per hour; about 1 mile east thereof another reduction of 8 or 10 pounds was made, reducing the speed to about 10 miles per hour. The speed of the train was reduced more than the engineman had anticipated and a release of the brakes was not practicable. To avoid a run of slack at the stop, he made a further reduction which was still in progress and the brake-pipe exhaust was still blowing when the train stopped about 35 car lengths short of the desired point. The brake-pipe pressure was restored on the head end and according to the statement of the engineman there was no indication of a break in the brake-pipe line; after the train brakes were applied in the vicinity of Vances Cut, no release was made until after the train stopped. There was no slack action noted and the engineman did not know of his train having parted and of the accident which followed until the conductor told him. The two brakemen who were on the engine noticed nothing unusual about the stop and immediately left the engine for the phone booth at Howells Junction to make arrangements for a cross-over movement; about the time they arrived at the phone booth No. 65 passed them. The middle brakeman found the phone was in use and overheard the conductor reporting to the dispatcher that possibly their train was parted as there was no air on the caboose. A few seconds later the brakeman heard an unusual noise from the vicinity of his train and immediately went out to flag the westward track. As there was a full brake-pipe pressure at the time he and the head brakeman left the engine he did not feel that it was necessary to protect for No. 65. The conductor's statement with respect to the manner in which his train was operated down the grade was practically the same as the engineman's; however, after the second brake-pipe reduction the caboose air gauge registered 40 pounds pressure and this was suddenly depleted as the train came to a sudden rough stop. The caboose stopped at 6:50 p.m. and he immediately went to the telephone near by to inform the dispatcher that he thought the train had parted. He rechecked the air gauge in the caboose and returned to the telephone and

was informed by the brakeman that No. 65 had passed Howells Junction; he proceeded at once toward the head end and found that the forty-seventh car of his train was down the bank and the forty-sixth car was fouling both tracks and that it had been struck by No. 65. The conductor discovered that the train had parted and recoupled between the thirty-ninth and fortieth cars. The lock lift on the east end of the fortieth car was in raised position and the coupler on the west end of the thirty-ninth car was split. The air hose on the west end of the thirty-ninth car was kinked in such manner that the hose coupling end was wedged between the coupling shank and the striking casting of the car, shutting off the discharge of air and allowing the brake pipe on the head end to be recharged.

The last automatic block signal east of the point of accident was displaying a proceed indication for No. 65 which shows that the derailed car had not disturbed the track circuits. When the engine exploded two torpedoes a short distance east of the point of accident the speed was reduced from 40 to 25 miles per hour. The foggy weather and the track curvature restricted the fireman's view from the left side of the engine and neither he nor the engineman had any warning of the impending danger until their engine collided with the derailed car.

Measurements of the coupler and coupler attachments on the east end of the fortieth car of the freight train developed that the height of the coupler was  $30\text{-}\frac{3}{16}$  inches, or  $1\text{-}\frac{5}{16}$  inches lower than the minimum standard; there were  $1\text{-}\frac{9}{16}$  inches of free slack in the draft gear and  $1\frac{1}{4}$  inches clearance between the top of the coupler shank and the bottom of the striking casting. The height of the coupler on the west end of the thirty-ninth car was  $33\text{-}\frac{3}{8}$  inches. There was no free slack in the draft gear and the distance between the shank and the striking casting was three-fourths inch. There were definite scars on the bottom of the knuckle of the thirty-ninth car and on the top of the knuckle of the fortieth car which established that the knuckle of the latter car had slipped under the bottom of the knuckle of the former, causing the parting of the train. The investigation indicated that the separation occurred at a point where the gradient changed from 0.76 percent descending to 0.24 percent ascending. The physical characteristics of the grade contributed to the force of the impact when the detached portion of 74 cars of coal and 1 empty descended a grade of 0.76 percent and collided with the front portion which was on a 0.24 percent ascending grade. As a result of the impact the coupler head on the west end of the thirty-ninth car was split; apparently this condition permitted the two portions to recouple. Evidently the raised position of the lock block was caused by the impact.

Conclusion

This accident was caused by Extra 3342 parting between the thirty-ninth and fortieth cars, due primarily to a low coupler and a contributing factor being free slack in the draft gear, and the collision of the two portions of the train causing the train to buckle and foul an adjacent track where it was struck by a passenger train.

Respectfully submitted,

W. J. PATTERSON,

Director.