with No. 2 normal. When switch No. 4 is reversed, signal 1288A is independent of lever control.

The second lever when thrown to the left clears signal 1282A, or when thrown to the right clears 1282. The third lever when thrown to the left clears 1281, or to the right causes the "S" take-siding indicator to be lighted. The fourth lever when thrown to the left clears signal 1277 or when to the right clears 1278.

The track diagram includes lamps which are lighted when the corresponding track sections are occupied. Near the symbol representing each switch there are two lamps, the one marked N is green and is lighted when the corresponding switch is normal, or the R lamp which is red is lighted when the switch is in the reverse position. A lamp in the face of each signal lever is lighted when the signal being controlled is cleared.

This signaling at Orestod junction was installed by the D. & S. L. forces under the jurisdiction of B. W. Molis, signal engineer, the major item of equipment being furnished by the General Railway Signal Company.

Head-End Collision In Manual Block

On April 11, 1944, there was a head-end collision between a passenger train and a freight train on the Wabash Railroad near Gallatin, Mo., which resulted in the injury of four employees. An abstract of the report of the Interstate Commerce Commission, concerning this accident, is as follows:

This accident occurred on the 18th District, extending eastward from Stanberry to Brunswick, Mo., 107.5 miles. This was a single-track line over which trains were operated by timetable and train orders, and a manual-block system for following movements only. The accident occurred 42.3 miles east of Stanberry, and, respectively, 1.8 miles and 1.25 miles west of the station and the west siding-switch at Gallatin.

Discussion

During the 30-day period preceding the day of the accident, the average daily movement in the vicinity of the point of accident was 5.8 trains.

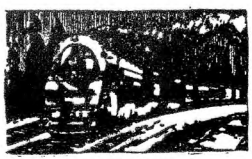
The rules governing operation on this line provide that an inferior train must keep out of the way of opposing superior trains, and an inferior train must clear the time of opposing superior trains not less than five minutes. If an inferior train fails to clear the time of an opposing superior train, flag protection must be provided.

The crews of both trains held copies of train order No. 11, which required No. 11, a westbound passenger train, to wait at Gallatin until 2:15 a.m., and at Jameson, 6.7 miles west of Gallatin, until 2:35 a.m., for No. 92, an eastbound freight train. No. 92 was inferior by class and was required to be into clear at Gallatin not later than 2:10 a.m., if it proceeded to that station for No. 11. Number 11 departed from the station at Gallatin at 2:15 a.m. and, about 2:18 a.m., when it was 1.25 miles west of the west siding-switch at Gallatin, it collided with No. 92.

As No. 11 was approaching the point where the accident occurred, the speed was about 30 m.p.h. The engineer was maintaining a lookout ahead, and the fireman was tending the fire. The first they knew of anything being wrong was when the engine reached a point about 700 ft. east of the point where the accident occurred, and the engineer saw the reflection of the headlight of the approaching train. He immediately moved the brake valve to emergency position and called a warning to the fireman. Number 11 had practically stopped at the time of collision.

Engineer Misread His Watch

The members of the crew of No. 92 had compared time, and there was a variation of only a few seconds in their watches. They understood that their train was inferior to No. 11 and that, at the points designated in train order No. 11, their train was required to clear the times specified not less than 5 minutes. As No. 92 was approaching Jameson, the engineer looked at his watch and read the time as 2 a.m. He was confident that sufficient time remained for his train to proceed to Gallatin to clear for No. 11 not later than 2:15 a.m. The front brakeman, who was on the engine, said that he observed the time as 2:05 a.m. when No. 92 was passing the station at Jameson, and he warned the engineer there was not sufficient time remaining for their train to proceed to Gallatin to clear for No. 11. The engineer said he understood the front brakeman to ask if sufficient time remained to proceed to Gallatin, and he was not aware that he had misread his watch until after the accident occurred.



The front brakeman took no further action to prevent the accident. The fireman was tending the fire and he did not observe the time, nor give any attention to the authority for the movement of the train. The conductor and the flagman were in the caboose. They said their train passed Jameson about 2:07 a.m., and they were aware that there was not sufficient time remaining to proceed to Gallatin to clear for No. 11, but they expected the engineer would take action to stop the train in time to provide flag protection if it became necessary. As No. 92 was approaching the point where the accident occurred, the speed was about 30 m.p.h. The engineer and the front brakeman were maintaining a lookout ahead. They saw the reflection of the headlight of the approaching train about 1,400 ft. distant, and the engineer immediately moved the brake valve to emergency position. The speed of No. 92 was about 18 m.p.h. when the collision occurred.

Conclusion and Recommendation

The carrier's book of operating rules contains manual-block rules which provide for blocking of opposing movements, but these rules were not in effect in the territory involved. If an adequate block system had been in use in this territory, these opposing trains would not have been permitted to occupy the same block simultaneously, and this accident would not have occurred.

It is found that this accident was caused by an inferior train occupying the main track on the time of an opposing superior train.

It is recommended that the Wabash Railroad Company establish an adequate block system on the line on which this accident occurred.

By the Commission, Chairman Patterson.

W. P. Bartel, Secretary.