

delightedly, Casey from his perch and Red from the cab window.

"Come on, Red, you drive him off," pleaded Bill the brakeman as he assisted "High-Speed" to his feet. "He's gentle if you don't bother him."

Red grinned and shook his head. "You needn't worry about me botherin' him. I've got to stick to this goat and keep her hot. Besides," he confessed, "I'm afraid of him."

The service of the C. G. R. & W. was threatening to become indefinitely suspended when across the green pasture field appeared a farmer-boy of perhaps fourteen years of age, clad in a blue shirt and overalls. He was carrying a stick with which he knocked the tops off of the mullen as he walked along.

"What's the matter?" he asked when he approached "High-Speed" and Bill. "Did Joe get out on the track?"

"So his name's Joe, is it?" said Bill. "Well Joe has everything pretty much tied up on this C. G. R. & W. right now. We can't turn a wheel."

The boy looked at Bill wonderingly. "You mean you can't run your train?" he asked.

"Correct, Son."

"Why not?"

"Joe won't let us have it."

The boy looked at Bill queerly. It was plain that he

thought the brakeman was trying to "kid" him, to use popular parlance.

"That's right, boy," put in "High-Speed" noticing the lad's skepticism. "Joe's got us completely tied up."

"If that's all's the matter, I'll take him home then," he said at last, although it was plain he couldn't understand how Joe could stop a train. However, he was willing to help if he could and reaching through the fence with his stick he snapped one end of it on the ring in the bull's nose and climbing over the fence gave a tug or two and Joe meekly followed after him towards the distant barn, across the fields.

Casey descended from the signal mast and removed his car from the rails; "High-Speed" climbed into his cab followed by Bill the brakeman and, after giving a couple of toots, "High-Speed" got his train under way.

The rest of the story has already been recorded. It has been recorded in the dispatcher's office as an unnecessarily long and unexplained delay to Extra 5026 West flagging a short overlap block. That was known—the delay—but it remains for Casey to assign some plausible reason for the signal failure, and for the train crew to invent some legitimate excuse for the delay.

Certainly they dare not give the true story, and this brief record, dear reader, is given to you with implicit faith in your ability to keep it confidential.

Superintendents Discuss Form "19"

MORE than one hundred general superintendents, division superintendents and trainmasters met at Kansas City, Mo., on June 13-15, on the occasion of the thirtieth annual convention of the American Association of Railroad Superintendents. This was the first meeting which this association has held since 1916, the war and labor troubles having made it impracticable for operating officers to leave their territories in any numbers in this interval. Many problems coming before the association have, however, been handled by the executive committee, which has met at regular intervals throughout the period since the last convention.

Among the many subjects considered at the convention was one of special interest to readers of the *Railway Signal Engineer*. The train rules committee incorporated in its report a paper advocating the more extensive use of the "19" order. The paper was prepared on this subject by Victor Parvin, superintendent, Ann Arbor, Owasso, Michigan, who advocated a more extensive use of this form of order. An abstract of the report follows:

"In my early days as a train dispatcher, I became very much in favor of the exclusive use of the 19 order and after using this order for two years on the Ann Arbor railroad and without surrounding it with any extra safeguards such as automatic signals, I am thoroughly convinced that it is not only safe but necessary for economical operation. In my opinion, single track railroads cannot do any one thing today outside of installing automatic block signals that will speed up train movements as much as the exclusive use of the 19 train order.

"One of the most important functions in handling train orders is to insure their delivery. The delivery of a train order is accomplished through the medium of the red board and the telegraph operator. The non-delivery of train orders results from the failure of the crew to observe the red board or failure of the telegraph operator to deliver the order after he has copied it. I see no reason why the non-delivery of an order would result any oftener from the use of the 19 order than from the 31.

Once delivered, there is no reason why a train crew is not going to read, understand and comply with a 19 order the same as a 31 order.

"It has been my experience that to divide or in any manner lessen responsibility brings about inefficiency and a lower morale. I have never seen anything put the train crews and telegraph operators on the qui vive as much as the use of the 19 train order. The telegraph operator is on the alert to make delivery of the order and is much more careful in the issuance of his clearance cards. The train and engine crews keep a very close lookout approaching train order stations in order that they may be in a position to receive the orders when handed up and when the orders are delivered, the train and engine men give their first attention to the clearance card to know that it compares with the train orders received. In case it does not, the train is stopped immediately and the error corrected.

"When placed at point of execution the 31 order cannot be made safer than the 19 order as our rules require that trains be brought to a stop before the order is delivered and in the case of the 31 order there is no more assurance that the train will stop at the restricted point than in the case of the 19 order, as both are dependent upon the display of the red board by the telegraph operator and the observance of this red board by the train and engine crews.

"We do not use the middle order in connection with the 19 order. Personally, I have little faith in the middle order for the reason that it cannot always be issued at meeting points due to closed offices or non-telegraph offices. There is no question in my mind but that the men are more careful in handling their orders when the middle order is not in use than they are when it is, as they are bound to take advantage of the second notice which they expect to receive regarding their meeting points. In my opinion, the middle order is in a class with the 31 order as it is used on many railroads where even the telegraph operators are permitted to sign the conductor's name,

which defeats the purposes of the order. This violation of the intent of the 31 order is not only due to the action of the employees, but I have known it to be encouraged by division officers."

Research by the committee indicates the gradual use of the 19 order on various railroads, eliminating the use of the 31 order entirely or in part. Some exceptions are reported as follows: (1) To protect an unsafe condition of a railroad; (2) to act as a holding order; and (3) receipt for new time table.

The use of the 19 order in absolute permissive block signal territory has expedited train movement and effected economies reported by one line of 65 miles, amounting to \$12,000 per year in overtime, fuel, etc., without allowance for damage to equipment on account couplers pulled out, etc., due to stopping and starting trains. The principal lines discontinuing the use of the 31 order all report favorable results, statements being to the effect that not a single accident has occurred due to the use of 19 order, while a material improvement has been effected in the movement of trains and resultant economies.

Discussion

In opening the discussion on this paper, W. S. Williams, general superintendent, I. C., expressed hesitation about abandoning the 31 order. P. B. Luke, general manager, Canton railroad, Baltimore, Md., stated that when on the Virginian railway he found that the heavy trains operated on that road lost 30 minutes every time they were required to stop to sign and pick up a 31 order and that this time was saved when the road adopted the 19 order in its place. V. Parvin, superintendent, Ann Arbor, stated that the overtime of train crews was reduced from 30 per cent to 6 per cent following the adoption of the 19 order and that the trainmen favored this change although it increased their individual responsibility. The road operates without automatic signals. J. M. Reines, trainmaster, C. G. W., stated that the 19 order has been used exclusively on the Eastern division of that road for the last three years. Although this division has been entirely

equipped with automatic block signals, the results have been so satisfactory that he advocated the use of the 19 order on lines without signals. His experience led him to believe that the 19 order is safer than the 31 order because it makes the operators more alert and reduces the chances of a train running by a train order board. Before clearing the train order board for a train for which he holds a 19 order, an operator is required to secure a release from the dispatcher and a clearance card carrying a serial number and showing on it the numbers of the train orders to be delivered with it. Mr. Parvin opposed the use of the clearance card on busy dispatcher's tricks, fearing that this release would be perfunctory. In its place the Ann Arbor requires an operator to bring a train to a stop before delivering to it an order restricting the movement of that train at that station. H. G. Hulze (N. P.) stated that the Northern Pacific has used the 19 order since 1912 on automatic block, manual block and non-signaled lines alike. A yellow board or the middle position of a three-position signal is used to indicate the delivery of train orders unless these orders restrict movement at that point when the red or stop board is used.

Quick Restoration of Wire Service at Broad Street Station

THE BURNING of the train shed of the Pennsylvania railroad at Broad street station, Philadelphia, on June 11, involved partial destruction of about 500 wire circuits, the majority of which were for telephone connections, besides some 35,000 ft. of twisted pairs used for fire alarm connections, call bells and other services; and within 72 hours after the fire started, the telegraph and signal department had 400 pairs of wires ready for use, many of them suspended from the housetops on Filbert street and connected thence to the wire terminal room in the office building



View in Pennsylvania Railroad Station Trainshed, Philadelphia.