

having 24 signals on a busy double track line has a record nearly as good as the one just mentioned. These are scattered instances and there are probably many other men with records as good or better. Such men take a great pride in their work and with the gradual diffusion of this sense of appreciation of skill throughout the signal field the signal departments will establish a record of efficiency to be exceeded by none.

The Train Control Situation

TRAIN control, that discordant element in railroad affairs of which the brunt of the grief has been borne by signal engineers for the past three years, has now settled down to a long haul status insofar as the first order is concerned. Of the 46 roads on which the order of June 13, 1922, is now effective 8 have completed an engine district. These include the three older installations of the ramp type, the Miller on the Chicago & Eastern Illinois; the Regan on the Chicago, Rock Island & Pacific, and the American on the Chesapeake & Ohio, the first two have been inspected and approved by the Commission with certain reservations. One other complete divisional installation, that of the Union two-speed continuous type of the Oregon-Washington Railroad & Navigation, was inspected by representatives of the Commission in April. Among other divisional installations now completed are the Atchison, Topeka & Santa Fe, the Norfolk & Western, and the Reading, all three of which have the Union three-speed continuous system. Two other roads having a division of train control in service are the Southern Pacific and the Galveston, Harrisburg & San Antonio, both of which are using the National intermittent inductive system. The Union Pacific installation of the Union continuous stop system is practically finished.

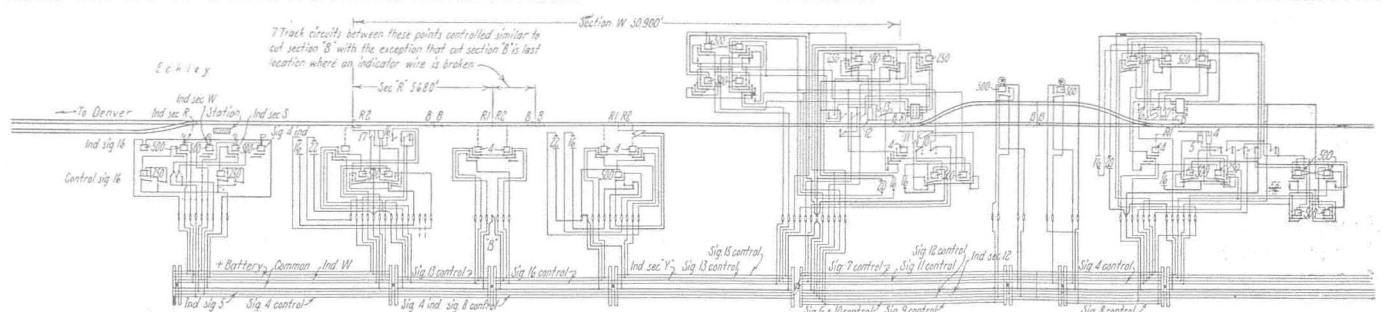
Of the remaining 36 carriers included in the order at least 24 have preliminary test sections of 20 miles or more in service with an equivalent proportion of engines equipped. The Commission has inspected and rendered interim reports on 14 of these preliminary test sections, 12 of which are the intermittent inductive, 1 the continuous two-speed and 1 the continuous stop system. The 12 roads are the Southern Pacific, the Missouri Pacific, the Chicago & Alton and the St. Louis-San Francisco using the National; the Great Northern, the Burlington, the Northern Pacific and the Monon with the Sprague; and the Cincinnati, New Orleans & Texas Pacific, the Lehigh Valley, the Kansas City Southern and the Atlantic Coast Line using the General intermittent auto-manual. The Illinois Central test section is of the Union continuous two-speed type, while the New Haven has the continuous stop type with both Union and General locomotive equipment. The Pennsylvania test installation on 45 miles of single track on the Sunbury division, which is outside specified territory, is the Union continuous

three-speed system. Among other preliminary installations of train control in operation and approximately ready for inspection are the Chicago & North Western, the Boston & Maine, the Louisville & Nashville, the Michigan Central, the Pittsburgh & Lake Erie, the Chicago, Milwaukee & St. Paul and the New York Central. Progress on train control installations is reported from every quarter.

In view of the magnitude of the order of the Commission, the necessity for intensive development on the part of the manufacturers and the change in the requirements on the part of the Commission, it is gratifying to see that approximately 20 per cent of the full engine divisions under the first order, including 758 miles of road and 451 locomotives, are now in service. Of the remaining 3,926 miles of line and 3,005 locomotives in this order, 525 miles of road and 481 locomotives are equipped and construction is being pushed on over 3,000 miles.

For the first time the merits of the order requiring the railroads to install automatic train control have been made the subject of a judicial decision. The district court of the United States for the Southern district of New York has rendered a decision in the Delaware & Hudson suit, as recounted elsewhere in this issue, sustaining the action of the Interstate Commerce Commission in the issuance of the train control order with one exception. Three judges rendered a definite decision: that the train control order was not unconstitutional; that the Commission had made adequate investigations as to the state of the train control art, and that the government rightfully requires the railroads to make experiments, it being necessary that these be made under actual traffic conditions.

An important detail in the court decision is the point that when the Commission revised its order in July, 1924, and allowed the use of a forestalling feature on the locomotive in connection with the train stop system, it thereby modified requirements so radically that the two-year period must be begun over again. According to the decision of this court the completion of the D. & H. installation is, therefore, not required until July, 1926. Providing this decision is not reversed by the higher courts it may reasonably be supposed to apply to any carrier which had planned to install train control but which with the change of July, 1924, decided to install a train stop system with a permissive feature. This decision on the extension of time may not be of any great consequence on account of the fact that the Commission has been liberal in granting extensions of time wherever there is evidence that the carriers are endeavoring to complete their installations. The situation may, therefore, be said to be in the hands of the carriers to continue the status quo by seeing that no undue cause is given whereby the Commission can complain of unnecessary delays.



Track and Circuit Plan for Automatic Signaling Between Wray, Colo.,