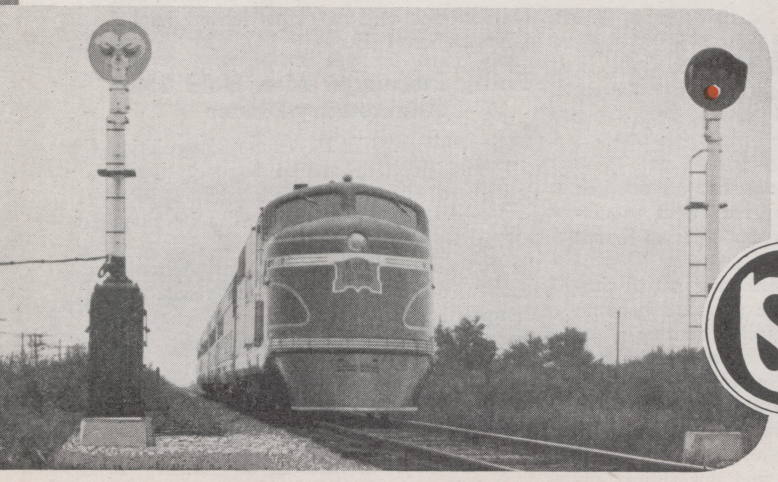
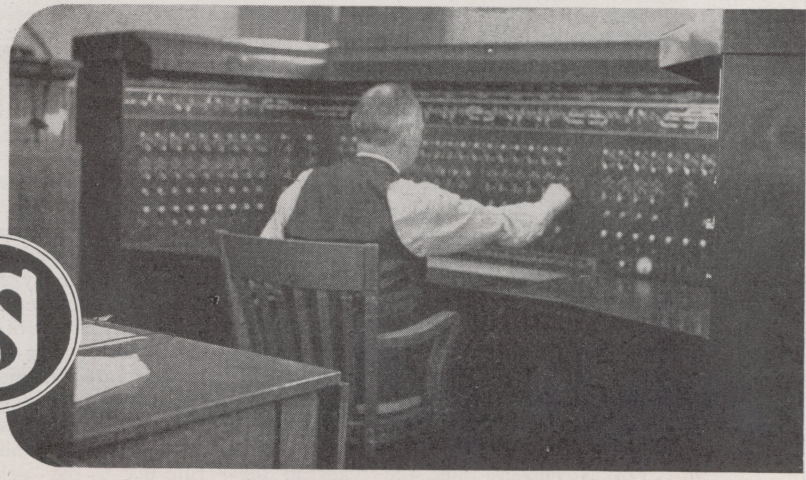
THE ADVANTAGES OF "UNION" SIGNAL SYSTEMS ARE REFLECTED IN OPERATING STATISTICS

WHILE signals were originally installed for safety purposes, and this fundamental principle has never been sacrificed, today they are equally important in facilitating train movements, and their advantages are clearly reflected in operating statistics. How various signal systems have aided in getting trains over the road in less time and at less cost is indicated by the following facts:





AUTOMATIC BLOCK SIGNALS

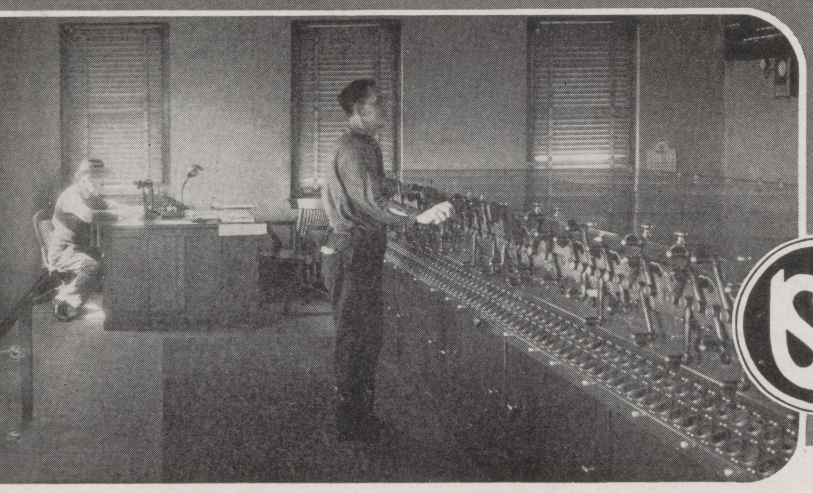
THE increased safety of train operation and the operating benefits gained account for the steady increase in track mileage of automatic block signals. On twelve installations, the freight train hours saved per year ranged from 2,579 to 13,399, with from 42.0 to 157.1 track miles operated; the freight train speed increase ranged from 9 to 55 per cent, while the time saved per train ranged from 18 minutes to 4 hours and 32 minutes. In one instance the overtime hours were reduced 92 per cent. These 12 installations show an average annual return of 26.9 per cent and an average increase of train speed of 20.5 per cent. The actual dollar savings are substantial.

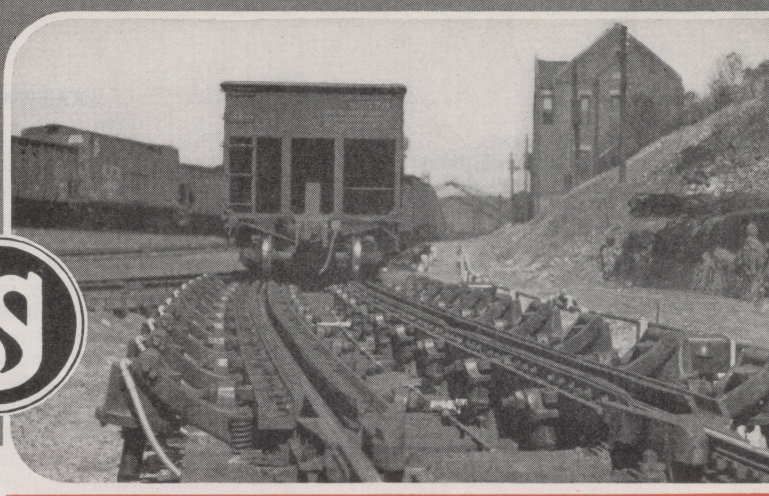
CENTRALIZED TRAFFIC CONTROL

C.T.C. IS ONE of the most important developments in railway signaling in that it combines all of the functions of control over traffic into a centralized system, permitting train operation by signal indication without the use of written train orders and without superiority of trains. C.T.C. practically eliminates the time element in the transmission of orders and results in more efficient dispatching. C.T.C. has postponed second tracking; made possible the handling of additional tonnage; reduced average freight running time; reduced operating costs and permitted reverting from double to single track operation. C. T. C. is a quickly self-liquidating investment.

UNION SWITCH & SIGNAL COMPANY

DISTRICT OFFICES



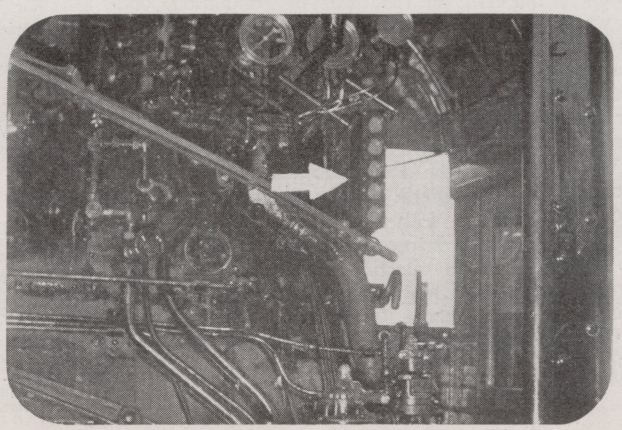


INTERLOCKING

WITH its facility for eliminating train stops, interlocking is an economic means of reducing operating expenses and expediting traffic. In 9 installations of interlocking the return ranged from 21.8 to 94.5 per cent per year. On one installation, with only thirty trains per day, 6,000 train stops were saved per year; on another, with 93 trains per day, 29,400 train stops were eliminated; while on a third, with 27 trains per day, over 20,000 train stops were eliminated. The Union Switch & Signal Company is in a position to furnish all types and systems of interlocking to meet every operating requirement.

CAR RETARDERS

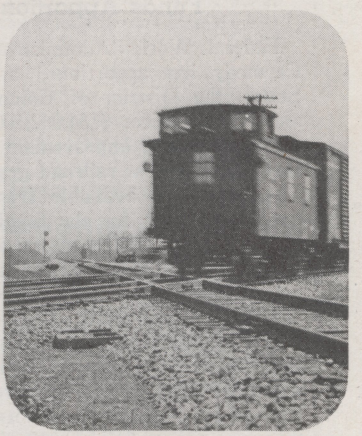
IN addition to their economic advantages, Car Retarders make it possible to keep classification yards in operation at all times. Damage and injury to lading, equipment and personnel is reduced. Car Retarders permit receiving yards to be cleared quickly, resulting in increased capacity. They increase car miles per day and reduce per diem charges. A study of 21 installations shows that Car Retarders have improved the service to shippers and have reduced operating expenses. Installation of "Union" Electro-Pneumatic Car Retarders will produce substantial operating and economic advantages.



CONTINUOUS CAB SIGNAL SYSTEM

CONTINUOUS Cab Signals remove the handicaps under which enginemen operate in maintaining schedules through fog, storms, smoke and other adverse conditions. This system provides a signal that the engineman may always see. The cab signal instantly shows any change in conditions ahead regardless of the location of the train with respect to wayside signals. Maximum protection is provided in the hazardous situation which may arise when traffic conditions in advance become more restrictive after a train has passed a wayside signal location. By the same token, when a less restrictive indication is received, an engineman may increase the speed of his train. Many operating advantages are obtained by installing the Union Continuous Cab Signal System.

Highway Crossing Protection



Automatic Interlocking

Other modern signal systems, such as Highway Crossing Protection, Coded Track Circuit Control, Automatic Interlockings and Remote Control, offer additional opportunities for savings. Consider the installation of "Union" modern signal systems to secure those additional operating and economic advantages that will be favorably reflected in your future operating reports and statistics.

SWISSVALE, PENNA.

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