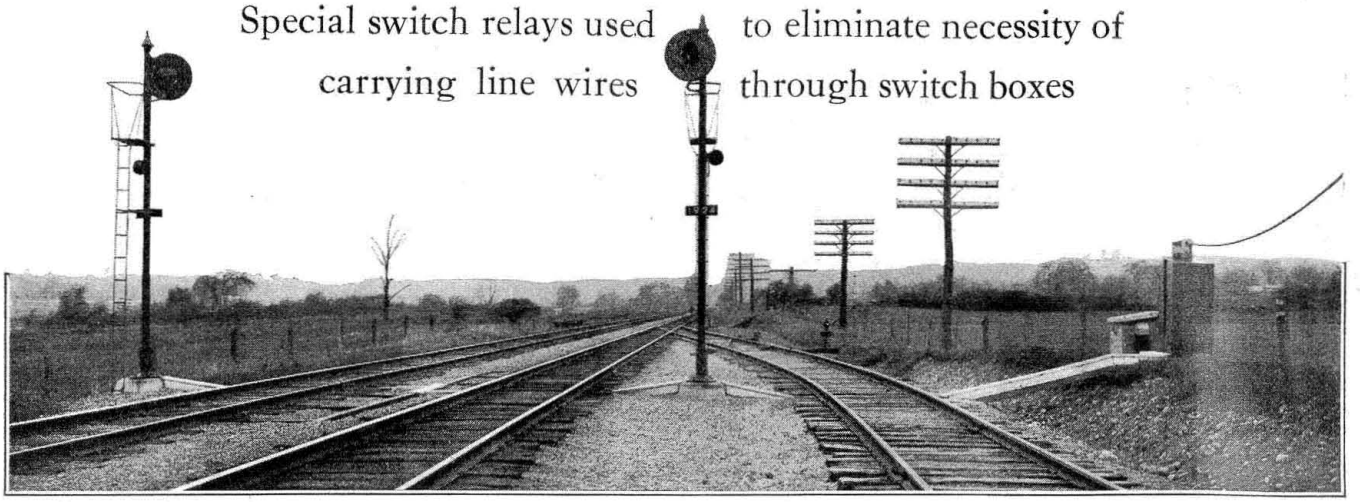
Color-Light Automatic Block Signals Installed on the New York Central

Line control employed with center-fed track circuits—Special switch relays used to eliminate necessity of carrying line wires through switch boxes



Typical double location on West Shore

DURING the last few years the New York Central (Buffalo and East) has carried on an active signal construction program to equip the West Shore line with color-light automatic block signals, especially on the section of the West Shore from Selkirk, N. Y., to Utica and from Syracuse west to Buffalo. This line is used as a through double-track freight line to relieve congestion on the New York Central main line.

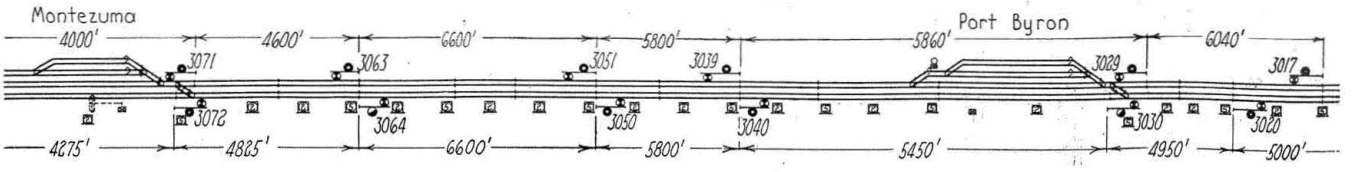
Light Signal Symbols				
Color	Non Automatic	Semi Automatic	Automatic	Fixed
Red and Yellow	●	◒	◔	
Red and Green		◑	◕	
Red, Yellow and Green		◓	◙	
Red				○

Chart of aspects for searchlight type color-light signal

As this is a comparatively low grade line, the major portion of which is equipped with 105-lb. rail with good ties and stone ballast; tonnage freight trains of about 100 cars operate in high speed through runs without interference from passenger trains, so that except in case of emergency the freights keep moving without entering the passing tracks. As traffic on this line became heavier it was decided that automatic signals should be provided as the best means of reducing the spacing between trains with safety. The signaling program was, therefore, started in 1924, in which year signals were installed from Rotterdam Jct., N. Y., to Harbor, 66.7 miles, and from Amboy to Lyons, 39 miles, while in 1925 and 1926 the installation from Lyons to Buffalo, 130 miles, was completed.

As additional protection all turnouts are equipped with pipe connected bolt-locked derails and all crossovers are provided with interlocked pipe-connected bolt locking, as will be described in detail later. Signal protection as shown in the location chart is provided at practically all crossovers and the automatic signals between crossover layouts are spaced about one mile apart, depending on curves, grades, etc.

As this is primarily a freight line, special means were provided to prevent train stops at certain signals and yet insure adequate braking distance when stops were required. For example, it is especially desirable that trains are not stopped on grades where it would not be possible to start without pushing or doubling the train. At such locations a second signal unit is used as a slow-speed or grade signal. This slow-speed signal shows red in the same manner as a marker when the upper light displays yellow or green, but if the block is occupied and the top light is red, the lower light may be yellow, displaying a slow-speed indication and indicating that following trains may proceed into the block at slow speed without stopping, prepared to stop short of a train or obstruction. The display of a yellow light



Track and signal plan showing typical location of signals