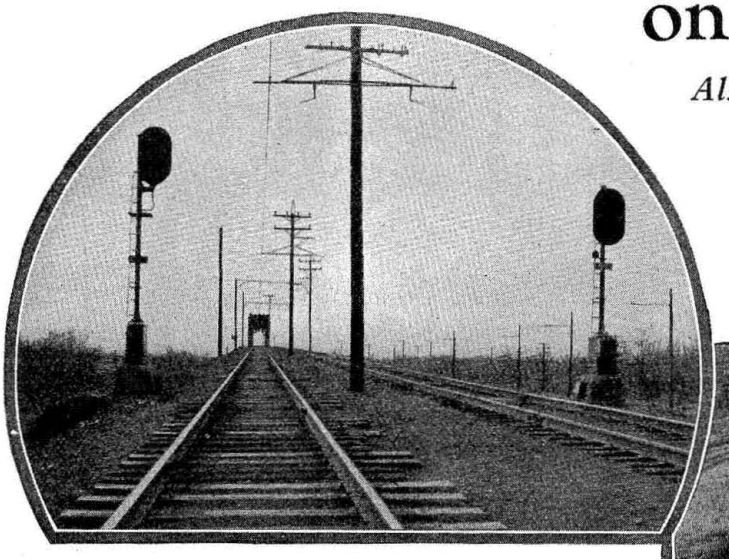
Railway Signaling

Vol. 22 April, 1929 Number 4

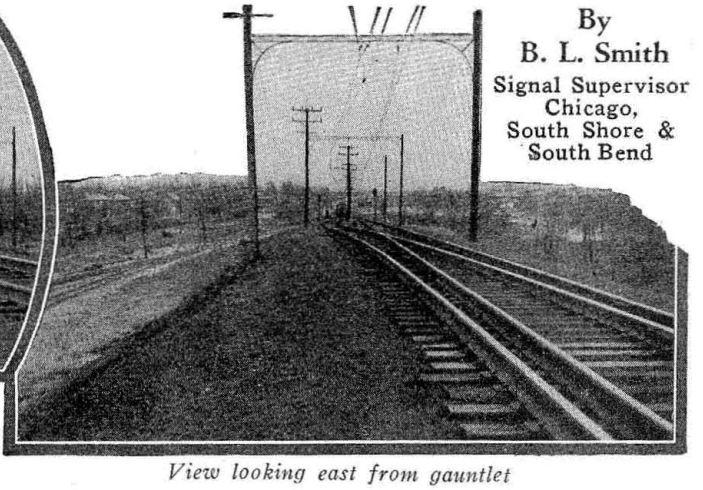
Automatic Gauntlet Signals Installed on the South Shore

Also train movements from interchange track and siding directed by signals

By
B. L. Smith
Signal Supervisor
Chicago,
South Shore &
South Bend



View looking west toward gauntlet



View looking east from gauntlet

THE Chicago, South Shore & South Bend has installed an unique arrangement of automatic interlocked signals for the protection of a gauntlet track near Gary, Ind., an interesting feature of which is that the signals also protect switching movements into and out of an interchange track with the Wabash, as well as passing track movements in this area. The South Shore is handling 44 passenger and 8 to 10 freight trains over this line daily, and, in the summer, as many as 62 passenger trains on Sunday. Passenger trains consist of from 2 to 8 cars, and freight trains, up to 40 cars. The South Shore carries fast l.c.l. freight with overnight service between points on its own lines, and interchanges car loads at several points with steam roads.

The line is double track from Kensington, Ill., to a point about a mile east of Gary, Ind., a total of 17.6 miles. Some of the bridges in this territory were constructed for single track, and over these two tracks run gauntlet. At the point under discussion, the South Shore main line is carried over the Pennsylvania and the Wabash main lines by an overhead bridge, the gauntlet on this bridge being about 758 ft. long. From each direction the tracks approach the bridge on an ascending grade of about 2.5 per cent for 2,100 ft.

Operation of Interlocked Signals

The automatically interlocked home signals, marked *E* and *W* on the diagram, are designated as absolute signals by a lunar white marker light mounted four feet below and to the left of the signal unit. When a train is stopped by such a signal indicating "danger," it is necessary that flagman precede the train over the gauntlet track into the clear on the other side.

The gauntlet signals normally indicate "danger." When an eastbound train passes the second automatic signal in the approach of Signal *E*, the circuits are automatically checked to determine that the gauntlet is unoccupied and that no westbound train is in the westbound approach section. If such a condition exists, Signal *E* changes from "red" to "green" and the first automatic signal in approach No. 621 changes from "yellow" (caution) to "green."

As the train passes gauntlet Signal *E*, the indication is changed from "green" to "red," thus providing rear-end protection. After the train has passed over the gauntlet and proceeded into the clear beyond the first automatic signal, the control for the automatically interlocked gauntlet signal is returned to normal, and is then in a condition to be accepted by other trains approaching in either direction.

The operation is the same for westbound trains except for the fact that westbound trains are superior in class and are given preference. If a westbound and an eastbound train both hit their respective approach sections simultaneously, the signals for the westbound route would be cleared, and the eastbound train would be required to stop. This result is accomplished by using a slow pick-up relay in the eastbound circuits.

Interchange Connection Causes Complications

As shown in the diagram, a connecting track leaving the westbound main line at a point 200 ft. east of the westbound gauntlet signal, extends to a small inter-