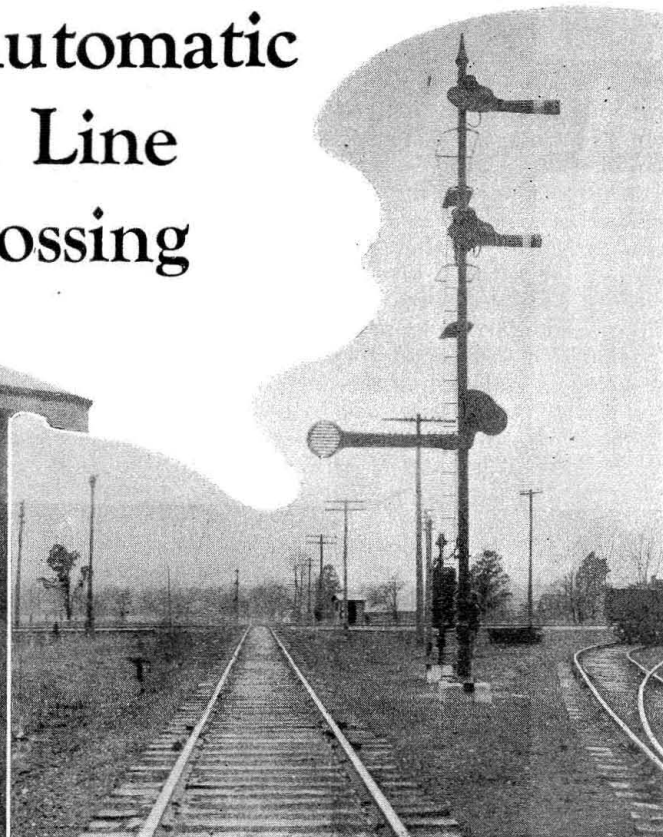
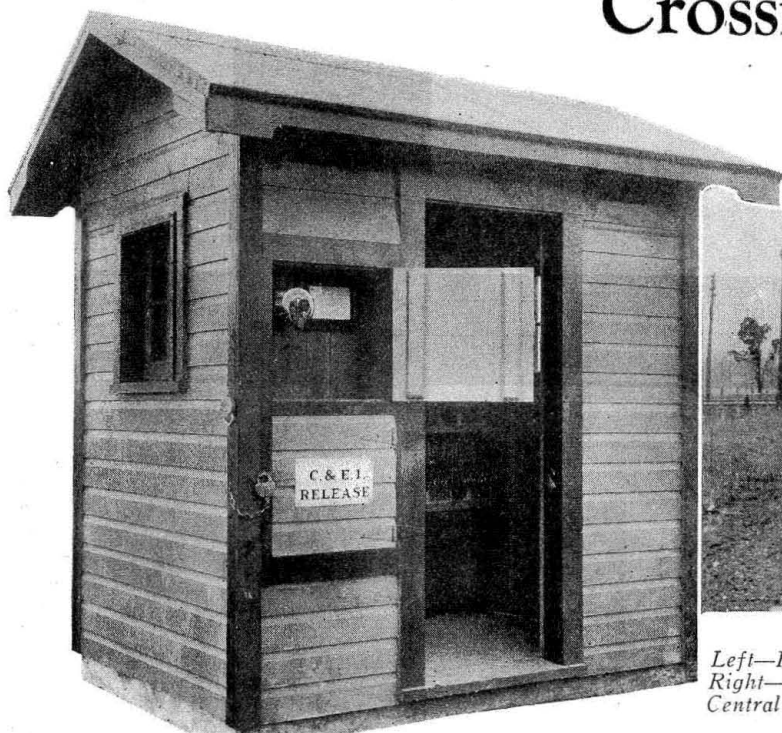


C. & E. I. Installs Automatic Interlocker at Main Line Crossing



Left—Relay shelter at crossing
Right—Westbound home signal and smashboard on Illinois Central

Smashboards required by Indiana Public Service Commission—Presence of two interchange tracks necessitated special control circuits

AT the crossing of the single-track main line of the Chicago & Eastern Illinois with the branch line of the Illinois Central at Sullivan, Ind., 25 miles south of Terre Haute, the installation of an automatic interlocking plant with smashboards has eliminated the necessity of stopping approximately 50 trains a day. These new facilities cost \$11,600, of which amount about \$3,200 represents the investment required for the four smashboard mechanisms and associated control equipment. It is conservatively estimated that the elimination of approximately 18,000 train stops a year represent a saving of \$12,000. The installation is thus expected to pay for itself in a year.

Train operation on both railroads has been noticeably benefitted since the automatic interlocker was installed. Immediately east of the crossing there is a 1¼ per cent adverse grade westbound on the branch line of the Illinois Central. There is an adverse grade northbound of about 0.8 per cent approaching the crossing on the C. & E. I. Because of the adverse grades the elimination of train stops at the crossing has speeded up train movements materially.

Semaphore Type Home Signals and Smashboards

Briefly, the protection consists of automatic semaphore home signals so controlled through track circuits and interlocked that a train approaching the

crossing on one road causes the home signal for that movement to change from the "stop" to the "proceed" indication, provided that no train is approaching the crossing either from the opposite direction or on the crossing line. The train then moves over the crossing on the authority of the "proceed" indication of its home signal without making a stop. All this operation is automatic, no manual attendance is necessary. On each road, the home signal conforms to the standard two-arm interlocking signal. On the C. & E. I., the home signal top arm is a Union three-position upper-quadrant semaphore and, in addition to governing movements over the crossing, is connected into the regular automatic block signal system. The lower arm is fixed and is used only as a marker. This is the C. & E. I. standard signal arrangement for interlocking plants where there are no diverging routes.

Approach Lighting

The I. C. home signal is slightly different, owing to the fact that the top arm is fixed and the bottom arm is a Union two-position, upper-quadrant semaphore, operating from 0 to 45 deg. This is the I. C. standard slow-speed home signal for interlockers. The night indication of these home signals is obtained from electrically-lighted lamps, fitted with Lebbly lenses and 13.5-volt, 5.6-watt bulbs. With the exception of the eastbound home signal on the Illinois Central, all of the lamps are lighted only while the approach section is occupied. On account of the short approach section for the eastbound home signal on the I. C. it was necessary to make it constantly lighted. The distant signals on the C. & E. I.

