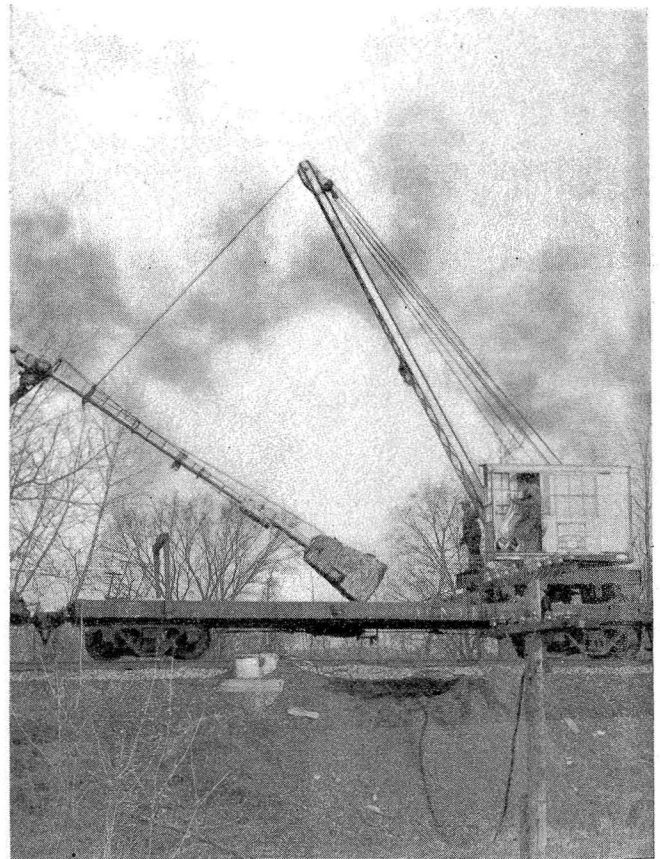


Removal of 203 signals and re-location of 12 others on 365 miles of line provides for increased train stopping distance and adapts the system to modern operating requirements of the trains

Chicago, Indianapolis



THE Chicago, Indianapolis & Louisville has recently completed an extensive program of respacing automatic block signals on 365 miles of single-track line, involving changes in the location of 12 signals and the removal of 197 one-arm ground signals, six pipe bracket poles with two signals each and a second arm from three ground signals.

The primary purpose of rearranging the signaling was to lengthen the blocks in accordance with the longer braking distance now required. Train operation has changed since the signaling was installed and, furthermore, many short side tracks not used as passing tracks by through trains were removed or else one switch was taken out. Therefore, the signaling could be revised accordingly, which accounts for the fact that a comparatively large number of signals could be removed. Automatic block, using two-position

upper-quadrant signals, was installed on the 29.5 miles of single-track between Lafayette, Ind., and Monon in 1912. The signaling on the remainder of the 335.5 miles included three-position upper-quadrant semaphores, using the absolute permissive block, was installed in various sections during 1911, 1912, 1917 and 1929. The signaling equipment was furnished by the General Railway Signal Company. The control system of circuits is based on one line wire in connection with common for the control of signals for each direction. Direct-current signal mechanisms, d-c. polar-line relays and d-c. neutral track circuits were used throughout.

At the time this signaling was installed, the Monon operated a large number of freight trains daily. On account of the sizes of the locomotives, the trains were short and were operated at comparatively lower speeds of

25 to 30 m.p.h. as compared with present day speeds. Train stopping distances were comparatively short. On account of the number of trains, passing tracks were provided on a rough average of about every five to six miles, and each passing track was long enough to hold one of the short freight trains of that date. When installing the signals, double-location head-block signals were provided at each end of these numerous passing tracks. On account of the short trains and comparatively low speeds, the train stopping distances were short and, therefore, in order to provide the maximum train capacity, many of the blocks were approximately 2,500 to 3,000 ft. in length. As the years went by, the nature and the volume of the traffic changed, and newer locomotives were purchased with capacities to haul longer trains at higher speeds. Certain passing tracks at spacings of 10

