The Chicago, North Shore & Milwaukee has installed automatic block signals on 3.5 miles of double track between Indian Hill, Ill., and Glencoe. This installation was made following the completion of a grade crossing elimination project which involved the depression of 2.52 miles and the elevation of 1 mile of the Shore Line Route to eliminate 11 grade crossings. Previously, trains were operated at restricted speed throughout this territory, because of the numerous street crossings. The new three-indication color-light signaling was installed to facilitate and increase the safety of all train movements, because of the increased speeds at which trains are now operating, and increased smoke and fog hazard.

The newly signaled territory includes six passenger stations, Indian Hill, Willow Road, Elm Street, Eldorado Avenue, Hubbard Woods and Glencoe, all of which are the high-platform type, except for Indian Hill. The passenger cars are of a standard width of 8 ft. 10 in., and the platforms are constructed 4 ft. 8 in. from the center line of track to the edge of the platforms accordingly. The result is that the platforms will not clear freight cars or service cars of the railroad. In order to move such cars past the station platforms, a detour track in the form of a gauntlet was constructed on each main track at each station, the rails of the gauntlet being 12 in. farther from the platform than the corresponding main line rails. The switch at the entering end of each gauntlet track is operated by a hand-throw stand, and the leaving end by a spring switch. If the stations were built to permit both passenger and
Special gauntlet track signal control circuits are a feature of recent installation on new double-track electrified line.

Gauntlet tracks extend through the limits of the station platforms to provide full clearance for freight cars.
low when the entire train has passed signal 198. The freight train will have to stop a short distance in approach to the station, and a trainman will operate the hand switch to permit the train to enter the gauntlet track. The stick relay SBWSR is energized by negative power on wire WN and positive power through a normal position contact of the hand-throw switch circuit controller, on wire SBWS1, and through a front contact of the same relay. When the hand-throw switch is reversed, the normal position contact is opened, thus releasing the stick relay, which keeps the positive power feed of the home relay 198HR open. Therefore, whether or not the track circuit on the gauntlet track is shunted, signal 198 is sure to remain at the most restrictive indication. The stick relay will not pick up again until the hand switch at the entering end of the gauntlet has been restored to the normal position, and the train has passed through the spring switch at the opposite end and onto the main line again. When the spring switch is sprung to the reverse position, positive power is taken through a normal position controller contact of the hand switch circuit controller, providing this switch has been restored, on wire SBWS1, through a circuit controller contact which is only closed when the spring switch is between the normal and reverse positions, on wire SBWS, and a train lost a shunt while on the rusty gauntlet rails, the signals would not be properly controlled.

The signal line control circuits throughout this installation are in Kerite mummy finish underground cable, which was laid in a ditch, on the west side of the right of way. The circuits for this installation were designed by the Union Switch & Signal Company, the majority of material being supplied by this company. The work was planned and the equipment was installed by the regular North Shore signal forces under the direction of J. S. Hyatt, chief engineer; F. J. Kramer, engineer; W. G. Fitzgerald, signal supervisor; and H. G. Mason, assistant engineer.

Head-On Collision Due to Train-Order Operation

On March 10, a head-on collision occurred between two freight trains near Delaware, Iowa, on the Dubuque District of the Illinois Central. The following information concerning this accident was abstracted from a report of the Interstate Commerce Commission, Bureau of Safety.

In the vicinity of the point of accident, this is a single-track line over which trains are operated by timetable and train orders, no block system being in use. A train order, which had been delivered to the members of the crews of both trains, read as follows: "Third 72 Eng 2929 meet No. 73 Eng 2982 at Delaware."

According to the evidence, the crew of No. 73 understood that their train was required to enter the east switch of the siding at Delaware for Third 72. When No. 73 was about 4,000 ft. east of this switch and while it was moving about 30 m.p.h., the engineman observed an eastbound train approaching at a point east of the east siding switch. The engineman applied the brakes in emergency, and the train stopped at a point 3,076 ft. east of the switch, and immediately afterward it was struck by Third 72.

The crews of both trains held copies of a train order which provided that these trains would meet at Delaware and that No. 73 would enter the siding. According to the statements of the engineman and the fireman of Third 72, the order was clear and legible; however, the fireman, who read the order first, because the engineman was occupied with the operation of the engine when they received the orders, read the meeting point aloud as Dyersville instead of Delaware, and then repeated the meeting point as Dyersville. The fireman could not explain the reason for his failure to read the order correctly.

Later, when the engineman was reading the meet order, he observed that "D" was the first letter in the name of the meet point and assumed that the word was Dyersville, because that name had been impressed upon his mind when the fireman read the order aloud. The engineman did not give the name of the meeting point (Continued on page 372)