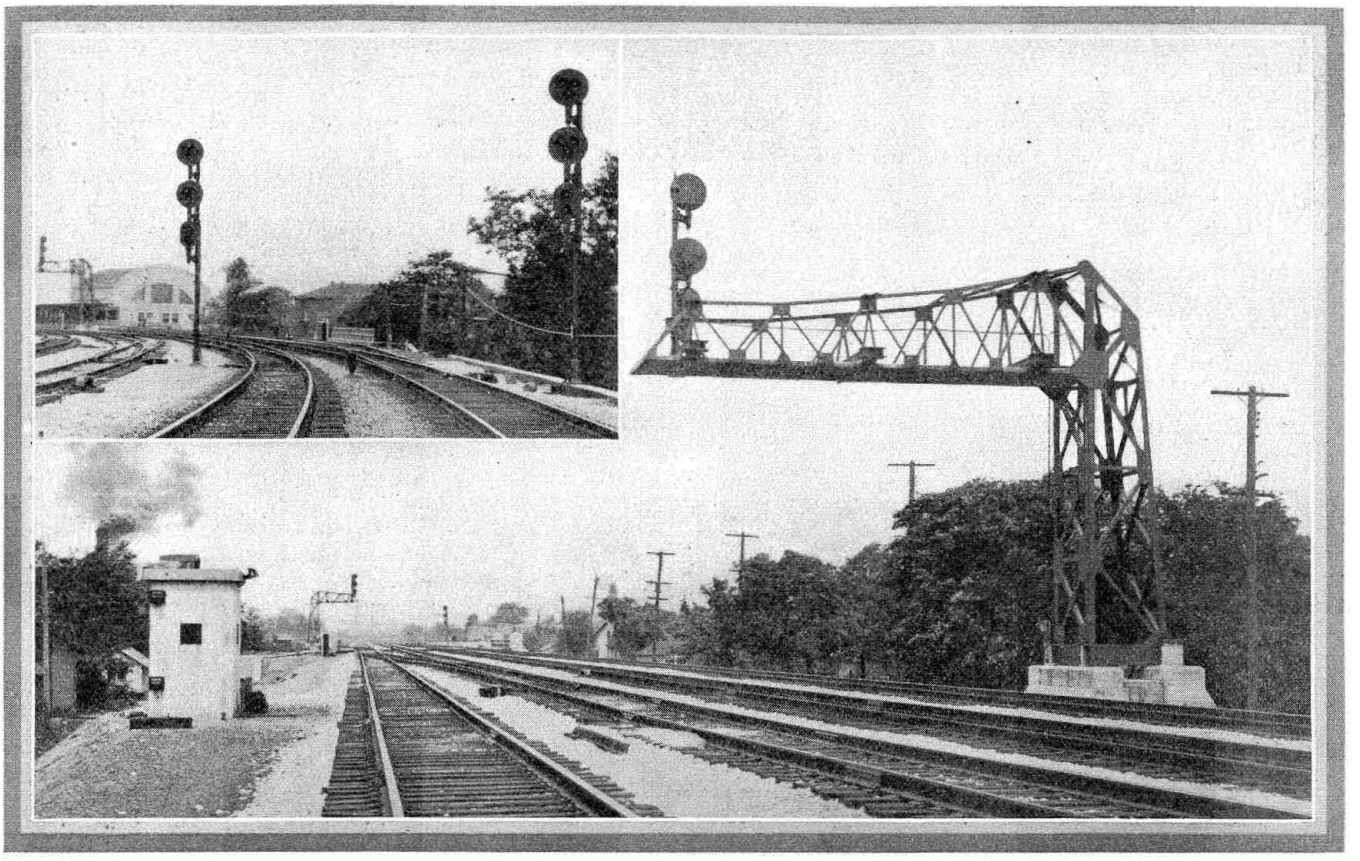

Top—View approaching station from the east Bottom—One of the three-track cantilever bridges

New York Central's Reconstruction Program at South Bend Involves

New Electric Interlocking

with Design Which Minimizes Maintenance Costs

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THE New York Central's recent reconstruction program at South Bend, Ind., motivated by the desirability of separating the grade at important heavy-traffic street crossings, involved the construction of an extensive electric interlocking plant. The track layout within this territory includes: The ends of double track, at each end of the plant, leading to the center, or yard, tracks, two double-track junctions of the Grand Trunk; a double-track junction with its own Illinois division line; and a single-track crossing of the latter over its four-track main line. The distance between the east and west home signals is approximately 3.68 miles.

Where, formerly, 18 city street crossings presented a serious crossing-protection problem, there is now an elevated earthwork track structure nearly three miles long with 14 street bridges. A new passenger station was built, which also accommodates the Grand Trunk as a tenant line. The traffic through this plant each 24 hours consists of 40 Grand Trunk trains, 70 New York Central trains, and about 6 yard movements.

The interlocking installation is based on the principles of the General Railway Signal Company's all-electric system, the Model-5B interlocking machine, with latch locking, being used. This machine has 259 working levers, 9 spare levers, and 36 lever spaces in a 304-lever frame, which is enclosed in a steel cabinet, finished in olive green. Electric locking is effected by the use of 102 forced-drop electric locks, which are applied to the lever latches. Ninety-two time releases, adjustable from 0 to 90 sec. operation time are applied to various levers, as required. In addition, the machine is equipped with 662 six-way banks of low-voltage relay-type controller contacts, 2 ammeters, 1 voltmeter, and G. R. S. standard ground-detector switches. It is proposed to install, at a later date, transit lights over the switch levers to indicate that the switch is full normal or full reverse. Switchboard lamps will be used, and will be mounted in a hole drilled in the case of the machine. The indication will be effected by inserting a 100-ohm relay in series with the *SS* relay, the transit light to be controlled through a back contact of this series relay.

An illuminated track diagram, 3 ft. wide by 24 ft. long, mounted on the wall back of the machine, consists of 111 track sections, outlined in color, each