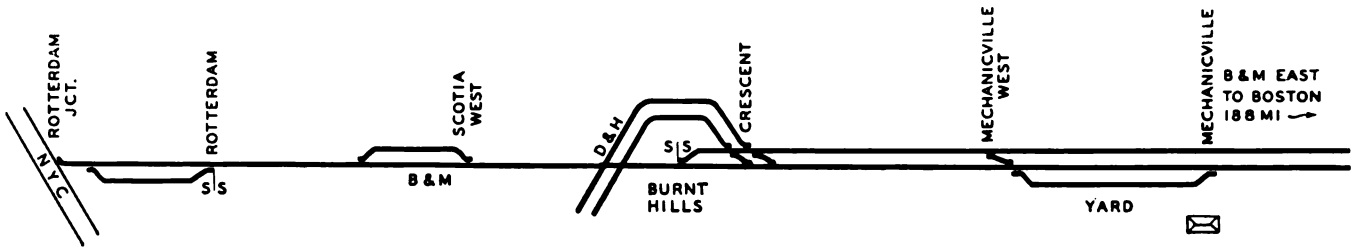


SECOND MAIN TRACK was removed between Rotterdam and Burnt Hills

CTC Reduces Operating Expenses

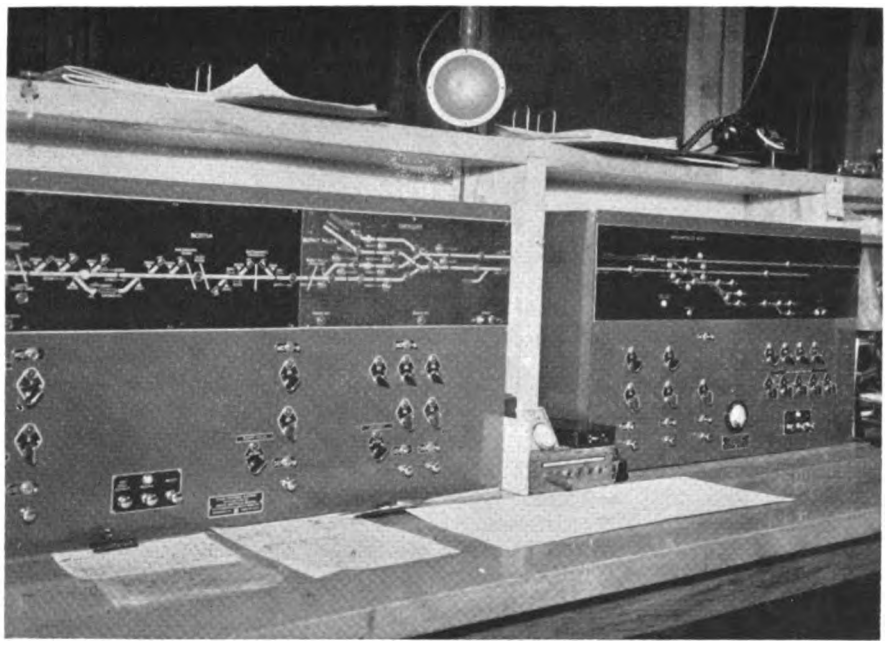
Eight miles of second main track removed, with CTC for control on remaining track layout, including two junctions and two ends of double track

ONE OF THE IMPORTANT freight traffic routes of the Boston & Maine extends west from Boston 188 mi. to Mechanicville, N.Y., and then 22 mi. further west to Rotterdam Junction. The B&M interchanges freight with the Delaware & Hudson at Mechanicville yard. Joint B&M and D&H double track extends from Mechanicville west to Crescent which is the junction with the D&H line extending west for 147 mi. to Binghamton, N. Y. where connections are made with the Erie in an overall Boston-Chicago through route, also to Wilkes-Barre, Pa., a distance of 216 mi. where connections are made with railroads serving the southwest. At Rotterdam Junction, 12 mi. west of Crescent, the B&M connects with the New York Central on the route west to Chicago.

For the interchange of freight between the B&M and the NYC, about four trains are operated each way daily between Mechanicville yard and Rotterdam Junction. A local freight is operated daily to serve industries and warehouses in this area. The D&H operates seven scheduled freight trains each way between Mechanicville yard and Crescent. No passenger trains are operated in this territory.

Interlocking Remotely Controlled

At the junction of the D&H and the B&M at Crescent, the D&H formerly had an electric interlocking which was operated by B&M towermen. As part of the program, this electric interlocking is now remotely controlled from the B&M yard office at Mechanicville Yard. This Crescent layout includes two single switches, one movable frog, one crossover and six home signals.



LEFT PANEL CONTROLS CTC from Rotterdam to Crescent, right panel Mechanicville west

Second Track Removed

Formerly the B&M was double track 12 mi. west from Crescent to Rotterdam Junction. A few years ago, one of the main tracks was removed on 7 mi. between Burnt Hills, 1.3 mi. west of Crescent, and Scotia West. Last year, second main track was removed between Scotia West and Rotterdam, 1.6 mi. Also the east end of the three storage tracks were shortened, and the new end of double track was located west of Amsterdam Road at Rotterdam, so that only one track now crosses that highway. A portion of the old eastward main track, about 5,100 ft. long, was left in service as an industry track just west of Scotia West. Thus double track was left in service only between Rotterdam and Rotterdam Junction. As part of the changes, a spring switch mechanism was installed at the end of double track at Rotterdam.

In the completed new system now in service, the switches and signals at Mechanicville West, Crescent, Burnt Hills and Rotterdam are all controlled remotely by line coding system from CTC machines in the Boston & Maine yard office at Mechanicville yard, and train movements over these tracks between Mechanicville West and Rotterdam are authorized by signal indication.

Locks on Hand-Throw Switches

As part of this project, electric locks were installed on main track hand-throw switches which connect

to spurs or industry tracks. For movement from main track to a siding track, an electric lock is automatically released when any part of a train occupies a track circuit 100 ft. in approach to the facing point of a switch. For a movement from a siding track to the main track, a member of the train crew such as the conductor, must use the telephone to secure permission from the operator at Mechanicville yard. Then the conductor opens the electric lock door and pushes a button. This sets all signals involved at Stop, and initiates a fixed time interval (8 min.) after which the lock is released.

Interlocking at West End of Yard

Previously, eastbound trains stopped on the main track while the brakeman or switch tender went ahead to line up the yard entrance switch and the switches to route the train to the designated yard track in the Mechanicville receiving yard. Late in 1953 the west end of the Mechanicville yard was extended, and new switches and a crossover were installed to connect with the main line. Power switches and signals were installed in this layout, known as Mechanicville West, which is remotely controlled from a CTC type machine in the operator's room in the Mechanicville yard office.

Electric Operation of Yard Switches

As a further aid in preventing delays to eastbound trains pulling into this yard, the project included the installation of direct-acting power switch machines at three yard switches X69, X71 and X73 at the west end (entering end of this receiving yard, as shown on the diagram). No signals govern movements over these switches. Each switch has a target lamp with yellow and green lights, and day discs. These power switches are lever controlled by the operator in Mechanicville yard office. The switches are not interlocked, but they cannot be operated when local track circuits are occupied, extending from the clearance on the turnouts to a point 100 ft. west of the switches.

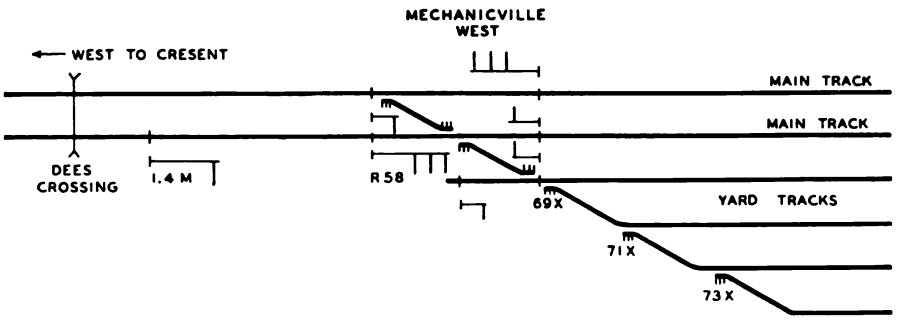
Yard-Track Indicators

As a further aid in reducing delays to inbound (eastward) trains, a track indicator, which is controlled by the operator as Mechanicville yard office, was installed at Mechanicville West interlocking near home signal R58. When lighted, this indicator shows a lunar white number (1 to 10) indicating the track in the receiving yard on which the train is to enter.

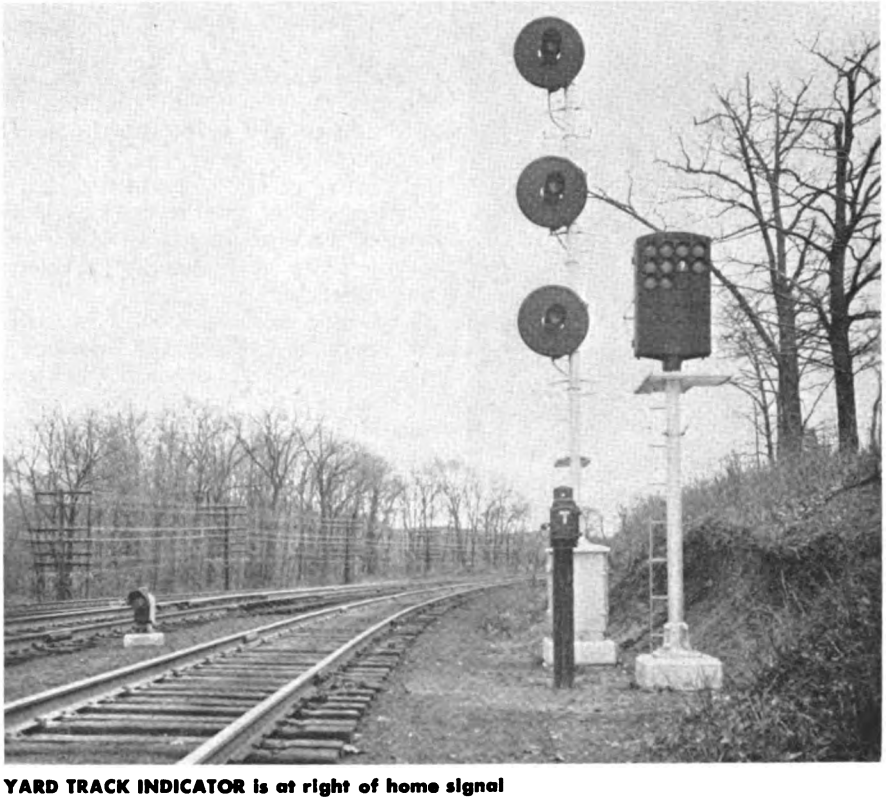
An approach Yard Indicator was installed on automatic signal M4.1. This indicator, when lighted, displays a lunar white letter Y, indicating that the eastward home signal at Mechanicville West is cleared, displaying the restricting aspect for the route into the receiving yard, and that the track indicator is lighted showing the yard track on which the train is to pull in. Thus, a train approaching on the main track can enter the yard without a stop.

On the other hand, if the "Y" yard indicator is not lighted on the mast of signal M4.1, an eastbound train is required to stop short of Dee's Crossing, and call the operator at Mechanicville yard by telephone. This is done to avoid blocking two

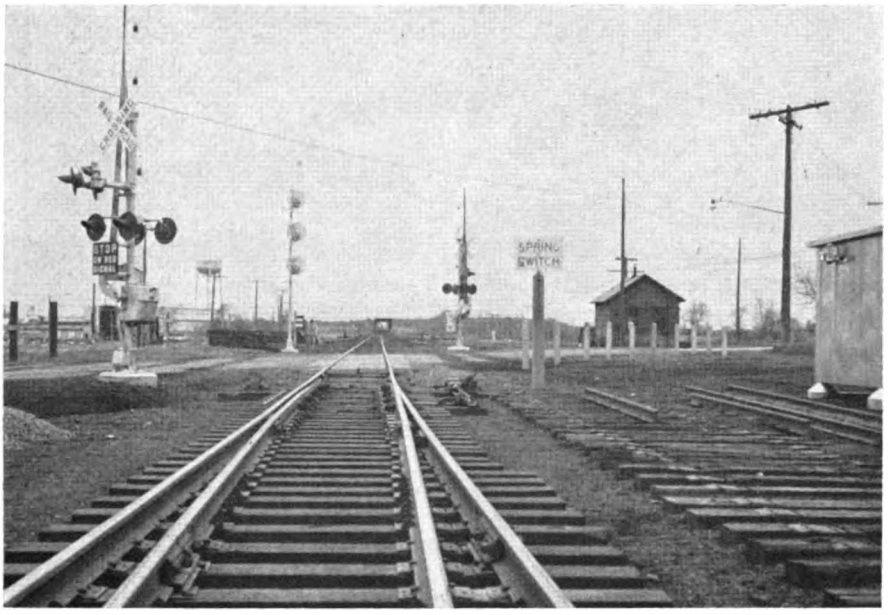
NON-INTERLOCKED POWER SWITCH machines on yard track switches



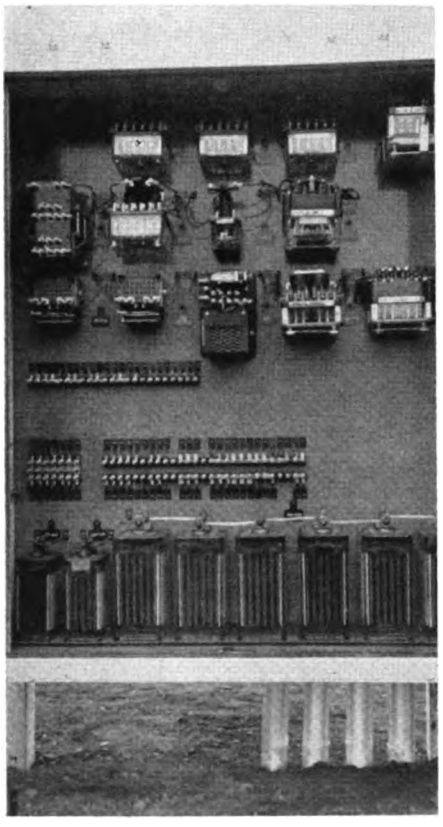
POWER SWITCHES ELIMINATE STOPS at yard entrance at Mechanicville West



YARD TRACK INDICATOR is at right of home signal



NEW END OF DOUBLE TRACK is just east of Rotterdam Road where new crossing gates were installed. At right are ties of track removed



METAL RELAY CASE at Rotterdam Road

public highways by trains which may not be able to enter the yard immediately.

Crossing Gates at Amsterdam Road

Previously the Amsterdam Road crossing was protected by mechanical gates which were controlled manually by gatemen on duty 24 hours every day. As part of the improvements, these old gates were replaced by new automatically controlled electric half gates with flashing-light signals. As a general rule, it is not the practice on the Boston & Maine to use half-gates in conjunction with flashers at a single-track crossing. However, at this location the end of double track is just west of Amsterdam Road, which at certain hours is a heavily traveled high speed highway.

On some occasions, an eastward train may be held by the interlocking signal on the eastward track of the double track, waiting for a westward train on the single track. In such instances, and with flashers only, an autoist seeing the eastward standing train might overlook the opposing westward approaching train, disregard the flashers, and continue over the crossing. For these reasons, it was decided to make a complete half-gate installation.

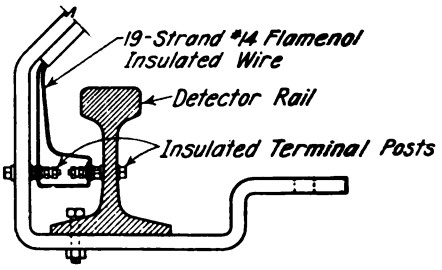
The major items of signal material were furnished by the Union Switch & Signal Division of Westinghouse Air Brake Co. Wire and cable items were purchased from the Simplex Wire & Cable Co., and storage batteries from the Electric Storage Battery Co. At Crescent, the necessary changes to convert the existing electric interlocking to operate by remote control were handled by D&H forces under the direction of C. H. Tobin, Signal Engineer and Superintendent of Telegraph. The remainder of the overall project was done by B&M forces under the direction of E. N. Fox, Engineer of Signals and Communications.

SP Load Detector

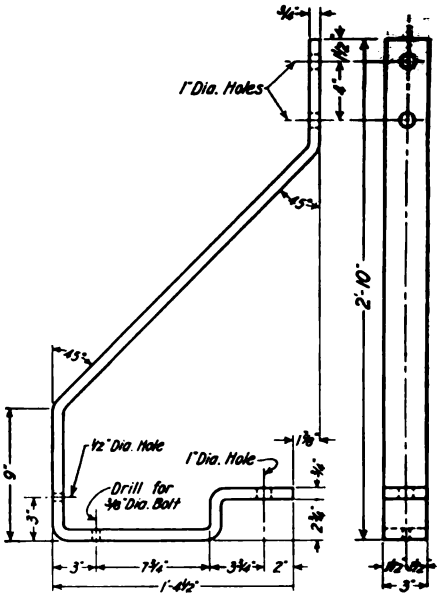
(*Continued from page 27*)

in the time table explains that the "P" on the two signals approaching this bridge relates to the high-load detectors, and that when such a signal indicates Stop, the train is not to cross the bridge until it is inspected by qualified railroad men such as bridge inspectors and track foremen.

Two of the three installations of these highway high-load detectors



DETECTOR WIRE SECTION, a typical view



DETECTOR RAIL BRACKET, a side view

are in centralized traffic control territory in Oregon. When either of these detectors is operated, a corresponding indication lamp is lighted on the dispatcher's CTC control panel so that he can immediately notify the bridge, track and signal men to go to the bridge.

The reason for using a rail as the movable detector element is to have sufficient weight so that the detector will not be operated when struck by a force that would not affect the bridge. These high-load detectors were developed by the Southern Pacific signal department, under the jurisdiction of H. B. Garrett, signal engineer.