

New Interlocking on Pennsylvania at Harrisburg Replaces Three Old Plants

Fireproof relay cases in tower—Underground wire distribution for entire plant—9,151 lever movements in 24-hour period

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ON account of increased street traffic it was necessary for the city of Harrisburg, Pa., to widen the Market street subway, which passes under the Pennsylvania's tracks near the west end of the passenger station. At about the same time the Commonwealth of Pennsylvania began the construction of a new highway bridge over the railroad tracks at State street which is approximately 1,500 ft. west of Market street, this new bridge being dedicated as a memorial to the soldiers and sailors of the World War.

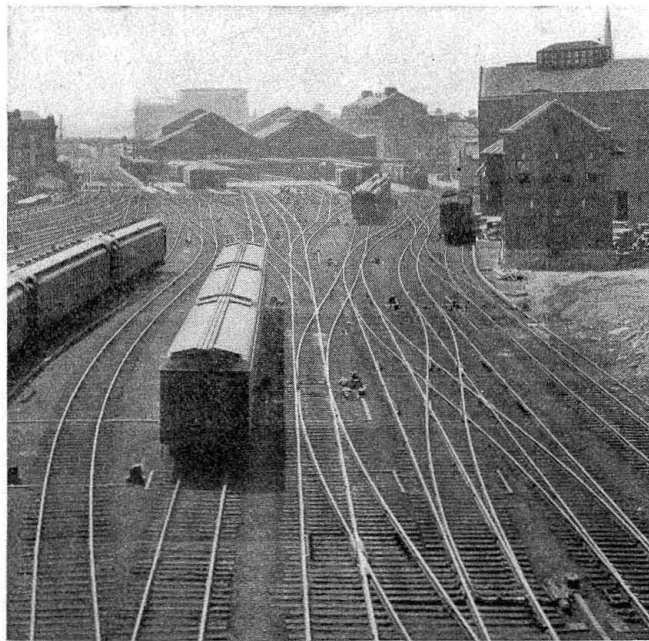
These two projects required considerable rearrangement of the tracks west of the passenger station, and, as longer passenger trains are being operated than formerly, it was also necessary to increase the capacity of existing station tracks. Several of these tracks, including the platforms, were lengthened and one additional station track provided. In connection with these changes, a new electro-pneumatic interlocking was constructed west of the station and placed in service in April, 1930.

New Electro-Pneumatic Interlocking Replaces Three Mechanical Interlockings

A 115-lever, Model-14, Union Switch & Signal Company power interlocking machine was installed. Thirty-five levers operate 82 signals and one is for traffic control. Forty-nine levers operate 74 switches and 8 levers are assigned for direction selection through the station tracks. Twenty-three spare spaces in the machine are available for future growth. It is interesting to note that no slip switches or movable-point frogs are used in the track layout, which extends over a territory 3,250 ft. in length and from 3 to 14 tracks in width.

Three mechanical interlockings of 32, 50 and 56 levers, respectively, were formerly required to operate the switches and signals in the area covered by the new plant.

The track layout and signals are arranged to accom-



Looking east, toward the passenger station and tower

plish quick and efficient shifting of trains at the passenger station, reducing to a minimum the time required to make these movements. Considerable study was given to the construction of this interlocking, with a view of eliminating unnecessary maintenance wherever possible without sacrificing good construction and flexible operation, and at the same time keeping the installation cost as low as practicable.

Interlocking Station and Equipment

The two-story tower, with finished basement, 27 ft. by 37 ft., is of fireproof construction, being built of brick and concrete. The interlocking machine, pneumatic tube system, train-

starting, telephone, telautograph, and loud-speaker equipment, are on the second floor. The relay and terminal cases are on the first floor, and the basement houses the automatic train control switchboard and motor generator set (frequency-changer apparatus) and batteries with charging equipment for the plant. The maintainers' quarters are also located in the basement.

The pneumatic tube system was extended from the passenger station to the tower, and is used primarily for the sending of passenger train reports (train consists) from the telegraph office in the station to the tower. It is necessary for the train director to have the consists for his information in the make-up and shifting of trains at the passenger station. The "tube" is also used for transmitting any other information required in connection with the train movement. The extension of the tube system not only eliminates the necessity for messenger service between the two points, but results in a more rapid and convenient delivery of these reports.

The sending station for the telautograph system is operated from the tower, furnishing information as to arrival of trains, track assignments, etc., to the passenger station forces, the United States Mail Service Station, the Railway Express, the shifting crews and the car inspectors.

