

Long Island Replaces Interlocking Machine

At Jamaica, L. I., on the Long Island Lines of the Pennsylvania System, a new 123-lever electro-pneumatic interlocking machine has recently been installed to replace a machine which had been in service since 1913.

As many as 712 trains pass through this interlocking in a 24-hour period, and, during the morning and evening rush periods, trains are handled at the rate of as many as 69 per hour. Under these circumstances, when planning the replacement, some scheme had to be devised to change over from the old machine to the new one within a very short period. Floor space was not available in the operating room to set up the new 123-lever machine, either behind or in front of the old one. One idea was to construct a platform outside the end of the tower, on which the new machine would be assembled, and then tear out the brick wall to move the new machine into the tower.

A second idea, which was adopted, was to construct a platform over the old machine, on which the new machine was assembled. The ceiling height in the operating room is 12 ft. 6 in., which allowed a distance of 6 ft. from the floor up to the bottom of the timbers of the temporary platform, and 5 ft. 6 in. from the top of the platform up to the ceiling. When constructing the temporary platform to support the new machine, a cross timber 8 in. thick, 12 in. high, and

long enough to go across between the walls of the tower, was located at the place where each leg of the machine was to be located, a total of nine such timbers being required. Each end of each of these timbers was supported on an 8-in. by 12-in. upright at the walls. These heavy timbers were required because the estimated weight of the new machine was about nine tons.

Having constructed the temporary platform, the new interlocking machine was assembled on the platform. Then the wiring was installed, with connections to terminals which were common to levers of both the old and the new machines. Although no changes were made in the signals and switches of this interlocking, certain changes were made in traffic locking.

Starting at midnight on Saturday, all switches were secured in the desired position. The wires from the terminals to the old machine were cut off. Then an operating test was made of all switches and signals, as then controlled from the new machine. Only three of the forty trains which were scheduled during the period of cut over were moved by Form C card, the rest by proper signal indication. In the meantime, the changes in traffic locking circuits were completed, and the plant, controlled from the new machine, was returned to full service at 8 a.m. on Sunday.

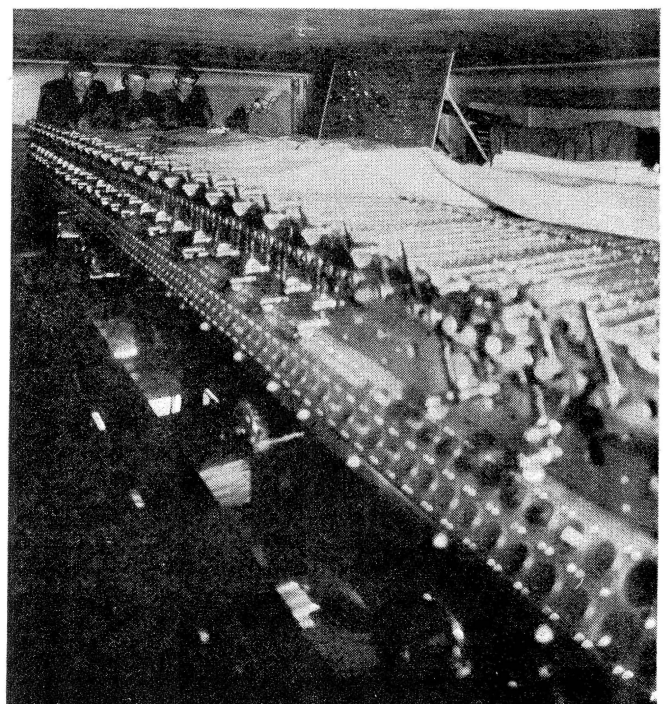
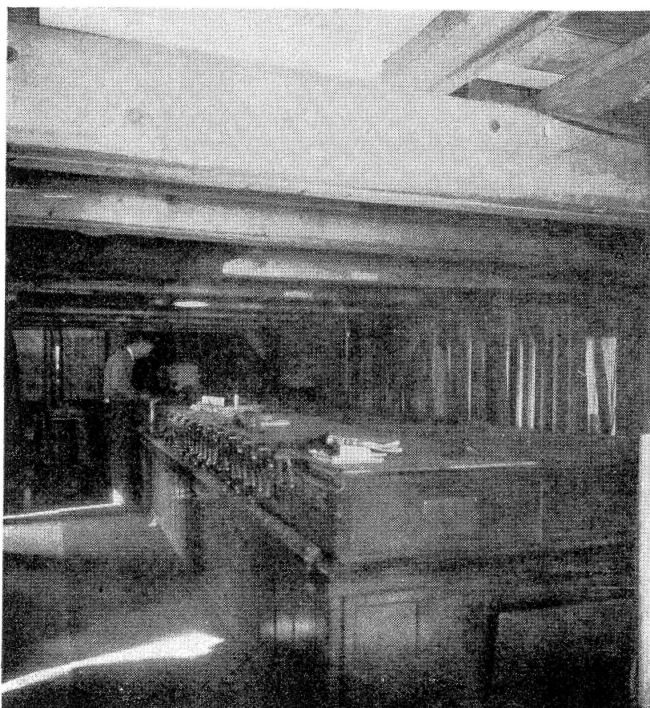
As soon as the old machine was cut

out of service, it was taken apart and carried out of the tower. A pile of cross blocking was laid up under each end of the nine cross timbers. Screw jacks were then used to lower the timbers, platform and machine. When one jack at each location was screwed down to the limit, a second jack was set to take the load; thus 36 jacks were required.

In view of the fact that the interlocking machine was then in service, all the timbers under the nine legs of the machine had to be lowered at exactly the same time and rate of speed. For this reason, a gage was set up at each of the 18 jack stations. At a call from the foreman, each man would lower his jack one inch.

This procedure was followed until the machine was about 4 ft. from the floor of the tower. Then blocking, with jacks, was extended up to planks placed under the upper cross members of the legs inside of the interlocking machine, care being taken to balance the weight of the machine as a whole to keep it level. With the weight thus supported on this blocking, the cross timbers under the machine were removed. Then by using the blocking and jacks inside the legs, the machine was lowered to its final position on the floor.

The removal of the old machine and the lowering of the new one required about 28 hours, with about 50 men, but the new machine was in full service during this period. This interlocking machine change-over was handled under the immediate direction of G. H. White, Supervisor of Telegraph & Signals.



Timbers are mounted above the old machine to support the new machine in the space above