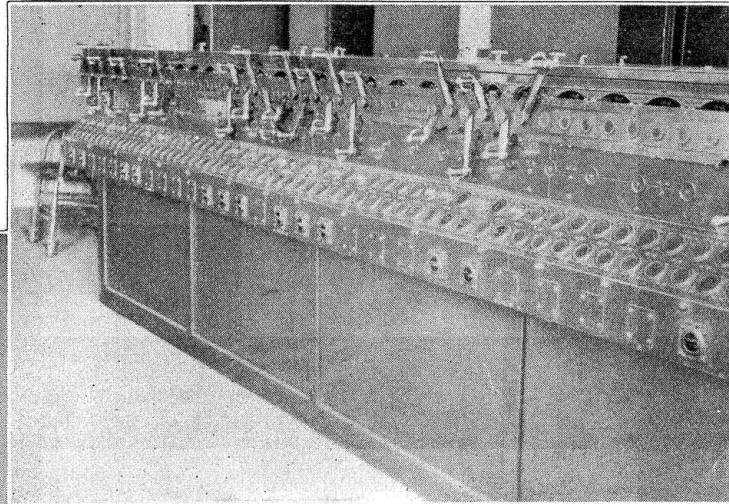
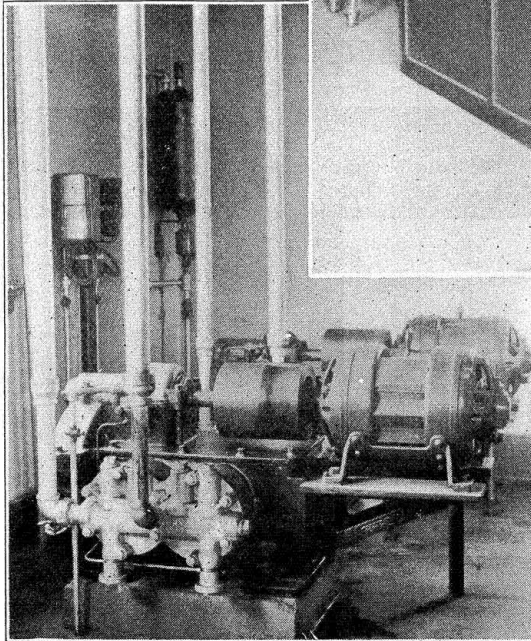


# Pennsylvania Installs an Interlocking Without Derails

*33-lever electro-pneumatic plant handles crossings*



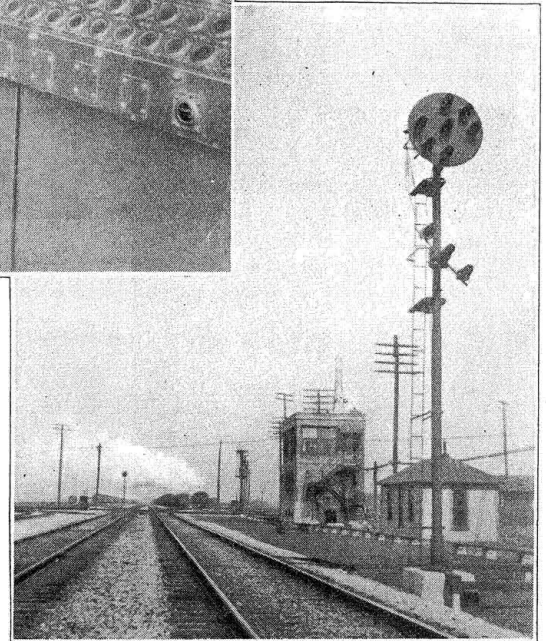
*All control wires are carried in overhead cables*



*Top — Electro-pneumatic machine in tower*

*Left — Motor-driven air compressors are automatically controlled*

*Right — Northbound Pennsylvania home signal*



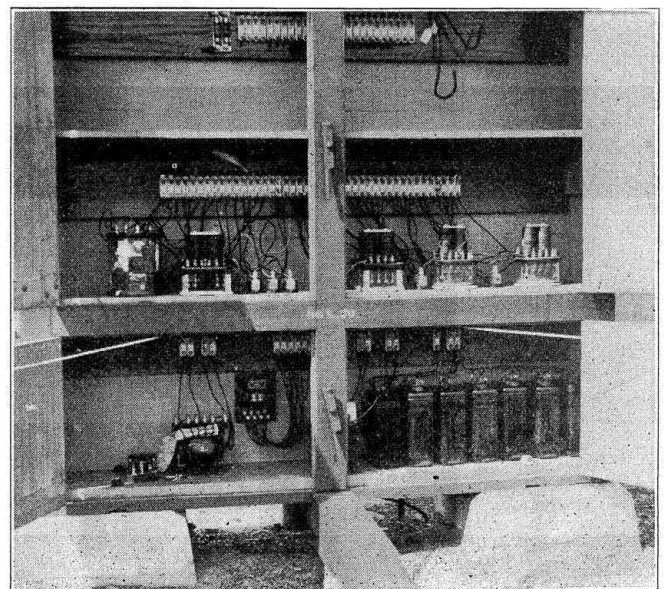
THE most interesting feature about the interlocking plant at Walbridge, Ohio, near Toledo, is the fact that although the main lines of the Pennsylvania, the Hocking Valley, and the Toledo Terminal Railway cross each other at grade, on request to the Public Utilities Commission of Ohio permission was granted to operate without the use of derails in the main tracks. On yard and transfer tracks connecting with main tracks, Hayes derails are used at the clearance. This is a very busy plant, handling from 200 to 300 trains a day.

This layout of crossings had been protected previously by a mechanical plant with 64 working levers constructed in 1902. At the time the terminal line built a second track through this area about a year ago, it was decided to install a new electro-pneumatic plant, manufactured and installed under contract by the Union Switch & Signal Company. The interlocking machine is the Model 14, the switch mechanisms are the Model A-1, and the signals of the position-light type. Direct current polarized SS control circuits are used. The plant was installed under the direction of the Pennsylvania which is the senior road and has charge of the maintenance and operation.

## Plant Extends Over Large Area

This interlocking is scattered over an extensive area, the distance between the home signals on the Terminal Railway being 1,640 ft. and on the Pennsylvania, 2,064 ft. On account of the fact that the signals and switches were so widely scattered, it was decided that the use of lead-covered cables in underground ducts would be

too expensive to be used for the distribution of the wires. It was therefore, decided to use aerial cables supported by standard messenger wire attached to wood poles at a point about 15 ft. above the ground. Where the existing pole line could be used, a stub pole about 15 ft. high was set midway in each span. Three-eighth inch stranded messenger was then strung on these poles,



*Interior of instrument case at one of the home signals*



