

mechanical ventilating system installed throughout the building. From the preliminary soundings made on the site, no difficulty is expected in constructing the foundation for the structure, although it is possible that some caissons will have to be used under one corner.

The central portion of the second floor will contain banking offices, meeting rooms, etc. The upper portion of the building will surround a light court 145 ft. by 109 ft. in size. The office area on each floor will be completely divided in the middle; one-half to be used by the Great Northern and the other by the Northern Pacific. A typical office floor contains a total area of about 40,000 sq. ft. inside the enclosing walls. The woodwork in these office floors will be of oak and the trimming throughout will be made severely plain.

The design and construction of the building are being handled by a committee representing the three owners, consisting of R. Budd, assistant to the president of the Great Northern; W. L. Darling, chief engineer of the Northern Pacific, and E. H. Bailey, president of the First National Bank. Charles S. Frost, Chicago, is the architect and Max Toltz, St. Paul, the structural steel engineer. The contract for the structural steel has been let to the Cambria Steel Company, Johnstown, Pa., and for the general construction to Grant Smith & Co., St. Paul, Minn.

### HEAVY TURNTABLE FOR THE LAKE SHORE

The accompanying illustration shows a portion of the new roundhouse for the Lake Shore & Michigan Southern at Air Line Junction, Ohio. The turntable, on which is shown a heavy Mallet switching locomotive, is 90 ft. long and is designed for 250 ton locomotives. The depth of girders of the table at the center is 6 ft. 8 in., and 3 ft. 2 in. at the ends. The table turns

the east of the electric current. The condition shown in the photograph is one of the worst, as with the long locomotive it is impossible to balance the turntable.

### PSYCHOLOGY ON THE PENNSYLVANIA

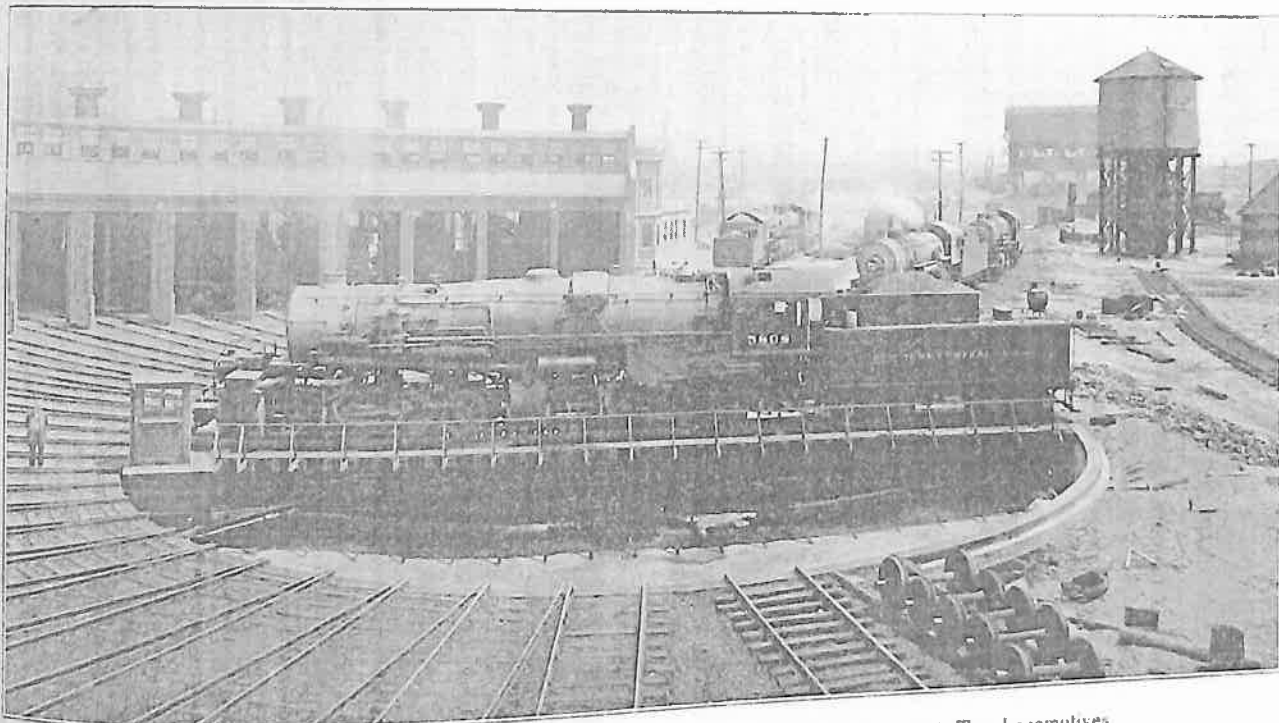
Recent newspaper items have said that the Pennsylvania was making plans to examine prospective employees with more care and greater scientific accuracy than heretofore, and that Professor Muensterberg's psychic theories and methods would be employed.

Insofar as there is a basis of truth for these items, they appear to refer to certain experimental tests made by G. V. Fry, on about twenty locomotive engineers, at Altoona some weeks ago. Mr. Fry gave some lectures in Altoona which were looked upon by the officers of the railroad with such favor that they engaged him to test the sensitiveness of a number of engineers, including some of those having the best records as well as some of the opposite kind. The apparatus used by Mr. Fry consists of ten colored electric lights on a revolving disk, controlled by an operator. The tests were similar to those used in experimental work in psychological laboratories. The ten lights were arranged in two rings, the outer showing the seven spectrum colors and the inner the three colors used in railroad signals—red, green and white. The lights were flashed on and off while the disk was revolving and the man being tested was required to record, by means of a set of push-buttons, his quickness and accuracy of perception. The tests were devised to ascertain—

First, how quickly a man's mind acts in response to what he sees; that is, how quickly he sees, and how quickly he acts upon it.

Second, whether he acts correctly or incorrectly.

Third, whether the impressions he receives from what he sees are strong and positive or weak and easily shaken, as, for instance, by a companion in the locomotive cab miscalling a signal.



Turntable for the Lake Shore at Air Line Junction, Ohio, Designed for 250 Ton Locomotives

on a phosphor bronze disc 24 in. in diameter. It is operated by an electric tractor manufactured by Geo. P. Nichols & Brother, Chicago. The tractor is equipped with a 22 h. p. 3 phase, 25 cycle, 440-V. A. C. motor taking current through a self-contained slip ring center collector located underneath the check of the turntable. The normal speed of rotation is one complete revolution per minute. A tractor of this type will turn engines at a power cost of from  $\frac{1}{4}$  to  $\frac{1}{2}$  cent per movement, depending on

**ORIENTAL RAILWAY DISPUTE.**—The negotiations which have been going on for months between the Austro-Hungarian and Servian governments regarding the Oriental railways—that is, those parts of them which run through the territory recently conquered by Servia—have been broken off. It is stated that the foreign office in Vienna will send Servia a note demanding the restoration of the lines to their owners, the Oriental Railway Company, most of whose shares are held by Austrians.