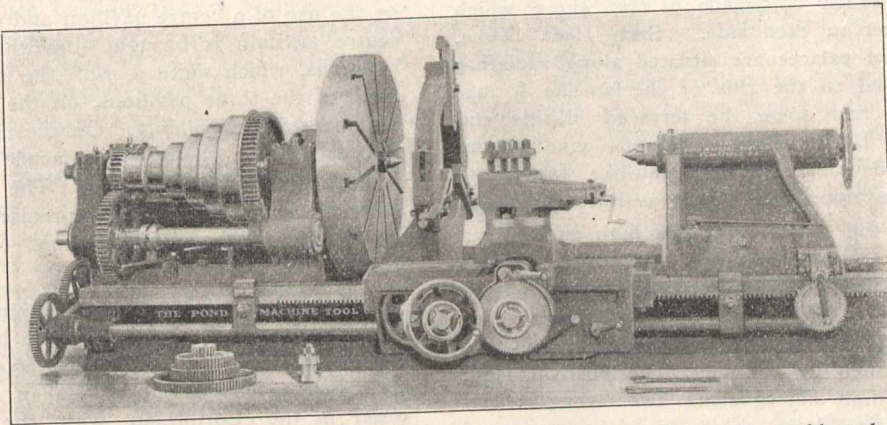


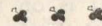
The spindle bearings are lined with bronze. The carriage is fitted with compound swiveling tool slide, and has screw cutting attachment, and longitudinal, cross and angular feeds. The feeds are entirely independent and their direction may be changed at the carriage. The bed is of box

pressure of 1,500 lbs. per square inch. It has a check valve at the base, and a rod is provided for regulating the action of the pump. The use of an accumulator in a hydraulic plant is of an immense advantage, as the pump may be of comparatively small size and run continuously, the ac-



form and wide enough to prevent the tool over-hanging the front when turning full swing on the lathe. This lathe is designed for use of modern high-power tool steels and is an especially powerful machine.

cumulator furnishing the sudden demand for water. In the accumulator, illustrated below, the sheet iron tank as it moves up when water is pumped in, is held in position by guides.



MAJESTIC ARCHITECTURE.

Miles of Magnificent Buildings for World's Fair Uses. Facts about the Exhibit Palaces.

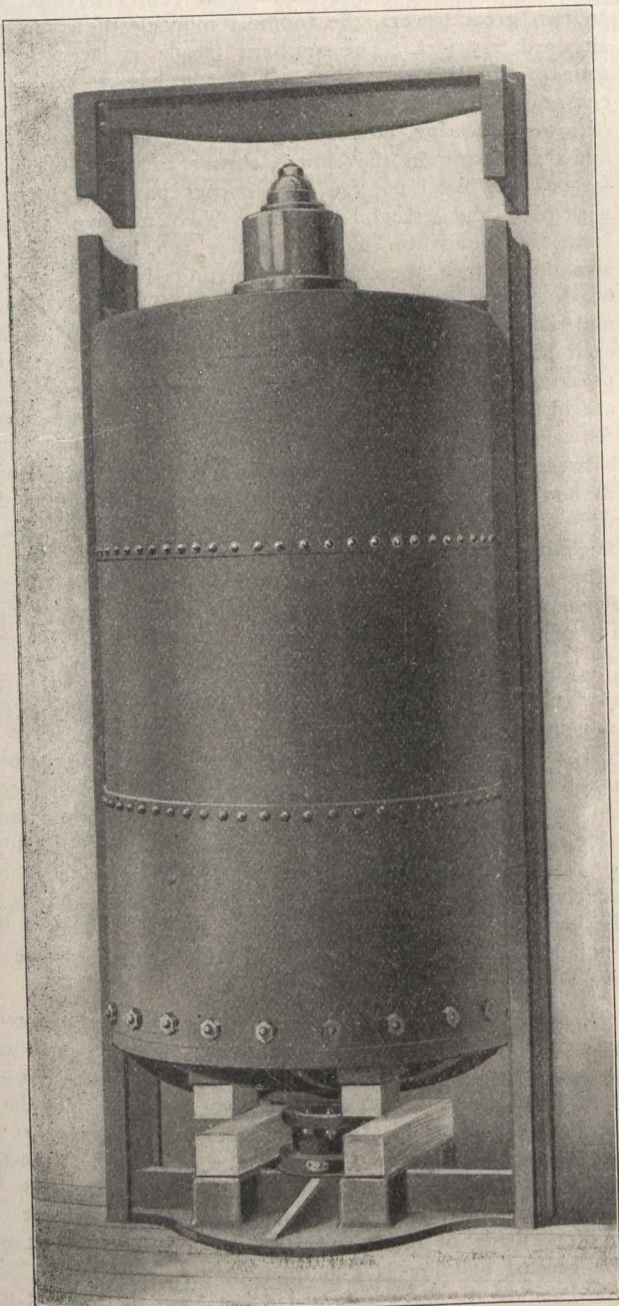
St. Louis, Mo., when the gates of the Louisiana Purchase Exposition swing open on April 30th, 1904, an achievement which reaches the highest climax in the display of art and industry, will mark an epoch in the history of civilization.

In immensity this Exposition far excels all others ever dreamed of during any nation's progress. This World's Fair of 1904, occupies one thousand two hundred and forty acres, situated on the beautiful undulating ground of the far-famed Forest Park. A few comparative figures reveal this wonderful immensity at a glance. The World's Columbian Exposition, at Chicago, covered 633 acres; the Exposition of 1900, at Paris, 336 acres; the Pan-American, at Buffalo, 300 acres; the Centennial, at Philadelphia, 236 acres, and the Trans-Mississippi, at Omaha, 150 acres. So, it is seen, that the World's Fair of 1904, at St. Louis, embraces within its boundaries an acreage equalling three-fourths the aggregate of all these named, and is equal in size to the Columbian Exposition, the Paris Exposition, of 1900, and the Pan-American, combined.

Pursuing these comparative figures further, it is seen that the roofing of the main exhibit buildings at St. Louis covers 128 acres, while Chicago had but 82 acres; Buffalo, 15, and Omaha, 9. Any one of the four single buildings at St. Louis embraces more exhibit space than was found in the entire Pan-American Exposition. Then, too, the Louisiana Purchase Exposition introduces an elaborate feature which was practically slighted in all other expositions, and that is the large space devoted to outdoor exhibits. These open-air displays cover more than 100 acres at St. Louis, and many of them challenge the indoor exhibits for popularity and attractiveness.

However, while the scope of the World's Fair of 1904 comprehends the art and industry of the entire world of to-day, yet it is not an Exposition of "dead" products alone, but pre-eminently one of life and motion. Beside the finished products, the hum of whirling machinery is heard, as skilled workmen from the four quarters of the globe are busy showing how these products are made. The World's Fair of 1904 stands uniquely alone in this phase of activity.

The first impression of any Exposition is produced by the architectural outline of the buildings. And in this feature the Louisiana Purchase Exposition has never been excelled. The main group of Exposition palaces, twelve in number lies in the northwestern portion of the grounds. These buildings are arranged in a way to take the best pos-



The Hydraulic Accumulator was built by the Bement-Niles Works. The piston is 12 inches in diameter. The sheet iron tank shown in the illustration is bolted to the platform and holds the punchings, scrap iron, or other material used as a weight. It is designed to be used at a water