

when the building is under the direction of a faculty, whose student and staff members spend annually in advertising the university several hundred dollars of their own private funds. To an outsider it looks as if the tail was expected to wag the dog.

But about this Hydraulic building. The apparatus in the laboratory consists of a new American turbine and a McCormick wheel, both of the reaction type, one of which is arranged for experimental work, the other for examination. There is a wheel made by the Escher-Wyss Company, of Switzerland, which also is set up for experimental work, and which represents the most modern development of the turbine in Europe. Several impulse wheels are available—all of the Pelton type, the small Doble wheel having glass sides so that the action of the water may be well seen.

The water for the experiments is supplied by two high-life turbine pumps, one made by Gwynnes, of London, England, and the other by Escher-Wyss, of Switzerland. These pumps are so arranged that large quantities of water can be obtained for reaction turbine work and smaller quantities and very much higher pressure for the impulse turbine work and for friction experiments in pipes and hose. These two pumps are driven by a Belliss & Morcom engine of 130 horse-power. There is also a long trough in the basement about six feet wide, four feet deep and 112 feet long in which experiments on the rating of Pitot tubes and current meters may be carried out.

The Thermo-dynamic laboratory work taken by the third year Mechanical and Electrical men consists in valve setting, indicator practice with steam and gas engines, the determination of mechanical efficiency of engines, and considerable other work of similar nature. When the laboratory is complete they will also take up work on oil-testing and the determination of the driving power of belts and ropes and other similar devices. The fourth year students taking this option spend their time on the examination of steam and gas engines, boilers, etc., determining the relative effects of cut-off, steam pressure, vacuum, etc., on the economy of the machine. Corresponding experiments are also carried on with gas engines with city and suction gas and with a gasoline engine. The apparatus consists of a Brown engine of 50 horse-power, two-stage air compressor with compound steam side, a tandem engine, small high-speed engine, a steam turbine, vertical Willans engine, two valve-setting engines, two gas engines, gas-producer refrigerating machine, and other similar apparatus, steam being supplied by three Babcock & Wilcox boilers, one of which has a superheater. The engines are all specially arranged for testing, and are set up so that they can be run either condensing or non-condensing as desired. Two surface condensers are available for the former method of running.

Many times has Professor Angus been congratulated upon the work in his departments, which was carried on under difficulties in the old, crowded, quarters. May success in his new surroundings still remain with him, and may he receive the support from the Board of Governors, the Faculty Council and the engineering profession that will enable him to continue in the course he so long has successfully followed—of conducting his work for young men who purpose entering the engineering and business world as distinct from those who may follow academic or scholastic vocations.

## EDITORIAL NOTES.

Canadian trade returns for December show an increase of 40 per cent. An increase of over 21 million in the last month of 1909 should indicate an active business year in 1910.

\* \* \* \*

The Winnipeg Street Railway earnings for 1909 are above the million dollar mark, the total being \$1,069,782.83. This is an increase of \$170,150.25 over 1908. This increase in earnings indicates the growth both in population and business of the city. In five years the earnings of the street railway have doubled.

\* \* \* \*

The production of copper in the year just past reached 1,410,000,000 pounds, says a New York journal. There was 700,000,000 consumed and 675,863,000 exported. The estimated consumption for 1906 was 682,000,000 pounds, while that for 1909 was 700,000,000 pounds; 1907 and 1908 sank to 488,000,000 and 480,000,000. The recovery, then, in 1909 has been complete.

\* \* \* \*

In the Canadian Engineer, Vol. 17, and on page 661, there was described the failure of a concrete bridge. Since the bridge was located in the county of York, and Barber & Young are the county engineers for York, some have wondered if the bridge was built from their design. This firm were in no way concerned in the design or construction. If they had been, there would not have been any failure to record.

## ENGINEERING SOCIETY NOTES.

### Canadian Clay Products Manufacturers' Association.

The annual convention of the Canadian Clay Products Manufacturers' Association concluded at Chatham, Ont., with the election of the following officers: President, W. McCredie; vice-presidents, John T. Miner, Kingsville; J. W. Ball, Mimico; W. S. Odell, Ottawa; secretary-treasurer, D. O. McKinnon, Toronto; assistant-secretary, A. B. Farmer, Toronto; executive, George Crain, David Martin, Oliver Baird, J. F. Ollman, John Wardle.

\* \* \* \*

**B. C. Land Surveyors.**—The fifth annual convention of the corporation of British Columbia Land Surveyors was held in Nelson on January 11th, at the board of trade rooms. The business sessions were held in the morning and afternoon, while the annual banquet was held in the evening. Among those present were E. B. McKay, A. I. Robertson, S. A. Roberts, Victoria; N. Humphreys, E. B. Hermon, F. C. Tupper, C. E. Cartwright, Vancouver; F. M. Kerby, J. A. Coryen, Grand Forks; T. T. McVittie, Fort Steele; J. D. Anderson, Trail; C. Moore, Creston; W. J. H. Holmes, Kaslo; O. R. N. Wilkie, Trout Lake; W. S. Drewry, H. C. C. Black, F. P. Burden, Alfred Green, A. L. McCulloch, Frank Fletcher, F. C. Green, Nelson, E. B. McKay, the surveyor-general, was present on behalf of the government. Officers for the ensuing year were elected as follows: President, W. S. Drewry, Nelson, vice-president, W. S. Gore, Victoria; secretary-treasurer, S. A. Roberts, Victoria; board, E. P. Hermon, E. A. Cleveland, G. H. Dawson, Vancouver; J. H. McGregor, Victoria.

\* \* \* \*

**American Institute Electrical Engineers., Toronto Section.**—The regular monthly meeting of the above society will be held Friday, January 21st, at 8 p.m., in the rooms of the Engineer's Club, 96 King Street West. The following paper will be presented: "Recent Progress in Electrical Engineering," by Mr. P. M. Lincoln, Chairman Sections Committee, A.I.E.E., Consulting Engineer, Westinghouse Electric & Manufacturing Company, Pittsburgh. An informal luncheon will be served at the St. Charles Café at 6.30 p.m. sharp, to which all members are requested to invite their friends.