

## TECHNICAL REVIEW.

McGill University, Montreal, received during 1904, a renewal of a donation of \$400 for a fellowship in electricity.

The entire city of Grenoble, France, is lighted by electricity generated by the power of the mountain streams 27 miles away. The cost of lighting each arc light for the year is only ten dollars.

At a meeting of the Board of Aldermen, of Webster Grove, Mo., an ordinance, taxing telephone companies was passed. It calls for a license of \$25 for the first 50,000 volts and \$25 for each additional 50,000 volts.

In December last, tests were made in the Experimental Engineering Laboratory to determine the relative strength under transverse loading of cold-drawn and hot-rolled elevator guides. The tests, which were made for the Standard Gauge Steel Co., showed the note-worthy result that the transverse strength under the conditions of loading was increased nearly three times in the same bar, due solely to the process of cold-drawing. The results of the work with a discussion of the action on the metal during the process of cold-drawing, was presented in a paper by Prof. A. J. Wood before Section D of the American Association for the Advancement of Science in Philadelphia on Dec. 29. Mr. R. F. Patterson of the Senior class assisted in making the tests.

The Atlas Engine Works, of Indianapolis, is about to start an apprenticeship course in order that it may have a force of properly instructed men to call upon to serve as sales managers, erecting engineers, draughtsmen, and shop foremen in the many sections where its products are to be disposed of.

The course for the average man will take about two years for completion and is divided as follows:

One month in the piston department.

Two months in the shaft department.

Two months in the connecting rod department.

Two months in the automatic shaft and Porter-Allen governor departments.

Two months on the erecting floor where engines up to and including 12-inch cylinder sizes are assembled.

Four months on the erecting floor where the remaining sizes are assembled.

One month in the cylinder department.

Three months on the testing floor; and three months in the sales correspondence department.

In order that the apprentice may pay his way while taking the course, the company pays a small wage per working hour. For the comfort of the employees, and their betterment in their chosen work, there is a Club which provides reading and recreation rooms, class instruction, facilities for discussion on engineering subjects, and other means of diversion usually found in ably conducted institutions of this nature.—Case Tech.

### Civil Engineers and the Panama Canal.

Examinations will shortly be held for the purpose of securing men capable of filling positions as assistant civil engineers, instrument men and allied workers, on the Panama Canal Route. The positions come under Civil Service regulations. The age limit is placed at a minimum of eighteen years for helper, chainman, and rodman; twenty-one for levelman; twenty-five for instrument man and assistant engineers; while the maximum for these classes is respectively forty, forty-five, and fifty

years. Applicant must have from one to seven years' practical experience, according to the position he desires, but may offer his college course in civil engineering as part time.

The compensation for each class is as follows: Fifty dollars a month for helpers, sixty for chainman, seventy-five to eighty-three and a third for a rodman, one hundred to one hundred and twenty-five for level man, one hundred and seventy-five for instrument man, and two to two hundred and fifty for assistant civil engineer.

Chief, division, and resident engineers are otherwise provided for, as are sanitary and revenue officers. Promotion will be made upon the basis of merit, as provided in U. S. Civil Service Rules.

All requirements for health of employees are furnished gratis. Quarters provided by the government may be used free of cost, or an allowance equivalent to eight percent of the salary will be allowed to those choosing to provide their own residence. Six weeks' leave of absence annually on full pay is allowed each employee, and extra sick leave if necessary. Free transportation is provided on assuming the position, as well as on leaving it after satisfactory service, while special rates are obtained when on leave of absence. Applicants physically sound and in good health are the only ones wanted for this class of work.

From a financial viewpoint the positions are seen to be on a par with similar ones near at hand. The opportunity for change of environment will prove attractive to many. The healthfulness of the climate is the most uncertain feature, yet with proper living and eating there seems to be little reason why the work should be unattractive to those who take up the responsibility.—Case Tech.

—The Mallory Studio, Bellefonte, have established R. H. Farrington as student agent. Find him at the Kappa Sigma house.