

## The TECHNICAL WORLD

[This Department is devoted to technical subjects of interest. Any question sent to the Editor of the STATE COLLEGIAN or dropped in the box at 323 Main will be answered in subsequent issues by experts in the subject about which information is desired.]

### Electrical.

Within the last decade the original 50,000 horse power electrical generating plant at Niagara Falls was an unique wonder of engineering construction. Since then progress has advanced so rapidly that the waters of Lake Erie are either supplying or will shortly supply over 700,000 horse power to plants in operation or at the present time under construction. Plans are being developed which will increase the utilization of this enormous source of power to over a million horse power. An interesting and popular description of this phenomenal industrial development in and about Niagara Falls may be found in the *Electrical World and Engineer* for Nov. 26, 1904, on page 891.

The telephone is being used extensively by the Russians in carrying on their warfare. Even fire orders are being given by telephone.

A liquid rheostat for starting motors has been invented. It contains all the advantages of the ordinary starting rheostat including the "overload" and "no voltage" releases. A full account of the working of the new appliance can be found in the *Scientific American* of Dec. 3.

A Geisha girl was killed by a trolley car at the St. Louis fair. Strange to say, the funeral party was later carried by the trolley car to the cemetery. At the girl's home the motorman backed off the car to conform with the Japanese custom of the guests retracing their steps.

Probably the greatest electrical engineering feat of the present time is the electrification of the New York Central Railroad by the General Electric Company. Electric locomotives, more powerful and compact than the present steam locomotives, are to replace the latter. A full description of the change is given in the last issue of the *Electrical World and Engineer*.

### Mechanical.

The Junior Mechanicals, who elected Ry. Mechanical Engineering, accompanied by Prof. Wood, made a trip to Bellefonte Saturday to get the Bellefonte Central engine, No. 4, in readiness for a test. The locomotive is being fitted up for a thorough test to be made during a regular run from Bellefonte to the College and return. The preparations are now about completed and the work so far has been very practical and interesting.

The oldest locomotive in use today, according to the "Scientific American," is employed on a branch railroad of Santiago, Cuba. It was first used in 1847 and has been in constant service for over sixty years. It has 14 inch cylinders and an 18 inch stroke. Weighs 18 tons.

### Mining.

#### THE ENGINEERING AND MINING JOURNAL.

Oct. 13th issue.—*Copper Mines of Lake Superior* by T. A. Rickard. This article is a valuable one to mining students and will be found interesting to all. The region is first taken as a whole and geology, labor conditions and natural advantages described. Then the important mines of the region are fully described individually, as to methods of working, financial and business condition, etc.

Oct. 27th issue.—*Dry Air Blast in the Manufacture of Iron* by James Gayley. The author advances a comparatively new idea and gives plans of some apparatus in connection with it.

Same issue.—*Chlorination in Colorado* by Wm. E. Greenawalt. Is a discussion of the chlorination process as carried out in a state where it has been most highly perfected.

Nov. 3rd issue.—*The Bradford Carmichael Process*, by Donald Clark. Gives the essentials of a process for making  $SO_2$  gas for  $H_2SO_4$  at Broken Hill, Australia.

Nov. 17th issue.—*The Iodimetric Determination of Copper* by Andrew M. Fairlie. This is a revision of the old Iodimetric Method and the author claims for it more speed and more reliable results than the old.

Dec. 1st issue.—*The New Chlorination* by Greenawalt is a sequel to article by same author in Oct. 27th issue.

### General.

There is a widespread impression that Comb Honey can be manufactured, that little pure honey of any kind can be purchased, and that there are not enough bees in the country to produce all the honey offered for sale.

At their Convention at St. Louis Sept 27-30 the National Bee-Keepers' Association offered the following resolution:—"In view of the oft repeated statement in the public press that comb honey is made, filled, and capped over by machinery. be it,

Resolved, That the National Bee-Keepers' Association will forfeit the sum of \$1,000 to any party or parties who will furnish proof beyond successful contradiction that said statement is true and produce as part of such evidence two pounds or more of such comb honey that has been manufactured without the use of bees in any way, with sufficient skill to deceive ordinary honey experts."

There is no doubt that some adulterated extracted honey is on the market, but there is far more real honey. There are about as many flavors and kinds of honey as there are varieties of apples. A Baldwin does not taste the same as a Greening, neither does Basswood honey taste the same as Alfalfa. Each flower has a characteristic odor, and honey gathered from each flower will have a characteristic taste and flavor. There are enough bees to produce the honey now sold and when more honey is needed more bees will be forthcoming. With 161,000 swarms of bees in this State and 29,000 Bee-Keepers nearly one million dollars per year are represented. There is room for more bees rightly kept and room for vast improvement in the methods of caring for those already kept.

This large industry is to-day throughout the world threatened with a contagious disease. It rages in this State. Some States have effectual laws concerning it and competent inspectors. The disease can be controlled just as are the contagious diseases of cattle.

Disease, chiefly "Foul Brood" in this State, must be stamped out or controlled. Bee-Keepers must be taught better methods. The Public must be educated concerning honey and its value as a food.