

A Harrison Wharton 12-horsepower boiler.

A 50-horsepower Brown machine. This engine was constructed specially for experimental investigation. It is steam jacketed and has three alternative exhausts, to the open air, to a jet condenser, and to a Wheeler surface condenser, kindly presented to the School by Mr. F. M. Wheeler of New York, the inventor.

There are also a Blake circulating pump, a Knowles air pump and a Blake feed pump, the latter of which was a gift from the manufacturers.

A machine for testing lubricating oils and measuring journal friction, built by Riehle Bros., of Philadelphia.

The hydraulic division of the laboratory is furnished with a three-throw pump with double acting cylinders. It has a capacity of 500,000 gallons per 24 hours. There are also large tanks furnished with orifices and weirs, measuring tanks, etc. A three feet jet turbine forms a part of the same equipment.

The electrical division of the laboratory is equipped with the following dynamos:—

Edison, Ball, Thomson-Houston, two Gulcher machines, a Westinghouse alternator with transformers, a Crocker-Wheeler and a Kay motor, also two small fan motors.

There are also a Roberts storage battery, a gravity primary battery and a good equipment of lamps, arc and incandescent, of different types.

The power department is equipped with the usual measuring instruments, indicators, gauges, gauge testing apparatus, scales, brakes, dynamometers, a variety of electrical measuring apparatus, including a Thomson electrical balance.

The shafting is driven by a 7-horsepower Otto gas engine, and by the Brown Engine above described.

In the geodetic and astronomical department are a 100 feet and a 66 feet standard of length; a 10 foot Rogers comparator with graduating attachment; a Howard astronomical clock and electro-chronograph; a Troughton & Simms 10 inch theodolite and all the ordinary surveying instruments.

THE CHEMICAL LABORATORIES.

The chemical laboratories comprise a laboratory for qualitative analysis with accommodation for 40 students working at one time, a laboratory for quantitative analysis capable of accommodating 20 students and smaller rooms for special work such as water analysis, technical gas analysis, etc. The laboratories are fitted with the usual appliances.