

regulated in one of three ways, either by (a) rheostat, (b) a bank of lamps, or (c) a motor-dynamo.

We prefer the storage battery. It is not perfect, but it is more economical, requires less attention, and gives a current of even potential.

In localities where an electric light circuit is not available it will be necessary to substitute a primary battery, of which, perhaps, the Edison-Lalande is the best on account of its large ampere output.

The Leclanche cell, so much used in galvanism, is scarcely suitable for X ray work.

Crookes' Tube. The name "Crookes" conveys to our mind the degree of vacuum of a highly exhausted glass tube, and has no reference to the size or shape of the tube. The degree of

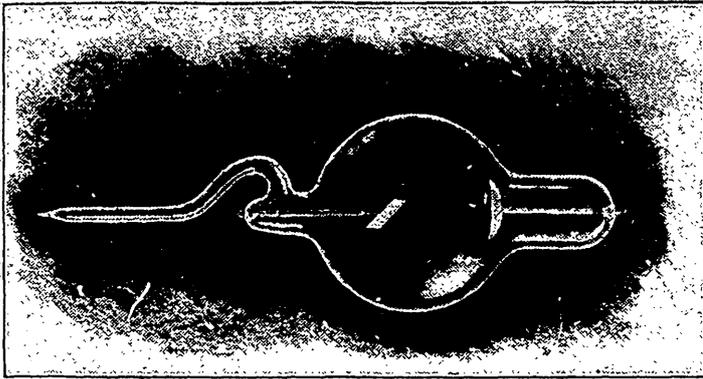


FIG. 2.—FOCUS TUBE.

exhaustion most favorable for the production of phosphorescence is about one-millionth of an atmosphere (an atmosphere being equal to a pressure of 15 lbs. to the square inch). As a matter of fact the vacuum of the focus tube as it leaves the manufacturer's hands is much lower than this, and very properly so, because the vacuum increases as the tube is used, and sooner or later becomes so high that the electric discharge refuses to pass. This gradual hyper-exhaustion, however, can be partially controlled in two ways: (a) Gently heating the tube with a spirit lamp or Bunsen burner lowers the vacuum; (b) sending a *very*