LECTURE TABLE DEMONSTRATIONS

BY

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LIQUID OXYGEN

Abstract.—This paper has to do with the liquefaction of oxygen as a lecture table experiment. The apparatus consists of a single bulb (pyrex) and the operation need last but 30 seconds and yet results in the formation of 2 to 3 cc of liquid. The process may be projected on a screen.

A NEW EXPERIMENT SHOWING THAT CATHODE RAYS LEAVE THE CATHODE SURFACE NORMALLY

Abstract.—This fact is so well established that a suggestion of an experiment to show it seems trite. The cathode is a cylinder around which are placed a number of rings of wire equally spaced. These wires are conductors yet they cast distinct shadows on the walls of the discharge tube. The experiment is novel and at first perplexing yet easily understood. To make the phenomenon visible throughout the room the vessel is primed with helium.

A RECTIFIER HAVING COLD ELECTRODES

Abstract.—When one refers to rectifiers we at once think of discharge tubes having a hot cathode. This new rectifier makes use of the principle, established years ago by Hittorf, that in order for a current to pass through a discharge tube the electrodes must be so located that the Crookes dark space can form freely. By preventing this in the case of one of the electrodes, in a simple discharge tube, and placing this tube in series with the secondary of, say, a ½ kilowatt transformer, the resulting high potential alternating current may be rectified. Experiments showing an alternating and a rectified discharge through a vacuum tube will be performed.