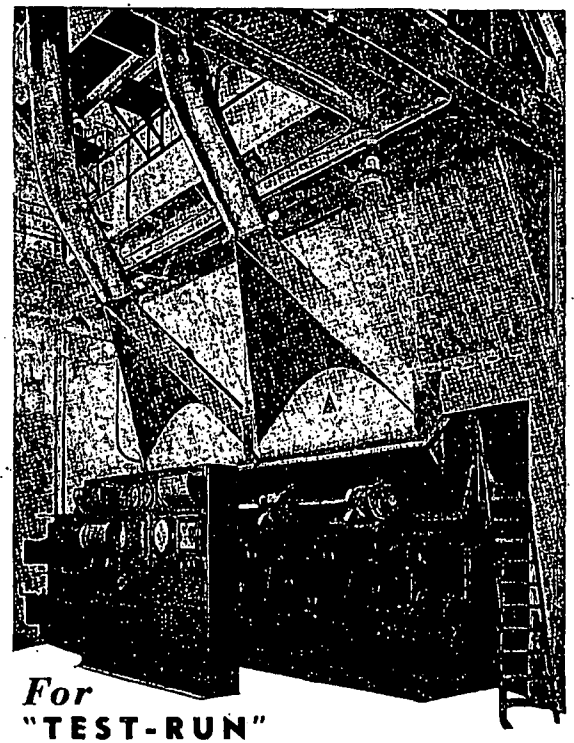

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hot cathode to anode, which is assumed to do here.

When light shines on the photoelectric tube's cathode, Fig. 13, the tube conducts and current flows from battery *D* through resistor *R*, as indicated. Current flowing through resistor *R* causes a voltage drop across it equal to the current times the resistance. If we assume a 5-megohm resistor (5,000,000 ohms) and a 2-microampere current, voltage drop across resistor *R* is 10 v.

This voltage opposes that of battery *C*, just as if the photoelectric tube were eliminated and resistor *R* replaced by a 10-v battery. This battery connected in circuit to give the polarity shown on *R* would oppose grid battery *C* and reduce potential on the grid by an equal amount. The tube can now conduct as indicated for battery *B* to energize the relay coil and cause it to close its contact. *Interrupting the light beam* on the photoelectric-tube cathode restores the conditions in Fig. 12, and the relay opens.

This is one of many ways photoelectric tubes control circuits. Others will be explained later.

Alabama Power Co expects to install a new 60,000-kw unit in the Gorgas steam plant, according to President Thomas W. Martin. This unit and the 40,000-kw unit, to be installed in the Mobile district, have been contracted for earlier delivery. These two units bring to 242,000 kw the total capacity that the company now has on order. Martin pointed out that the new capacity to be added to the company system means a total investment of $50,000,000, including transmission lines, substations and other facilities.

Aluminum Co of America plans construction of an aluminum-producing plant at Point Comfort, near Port Lavaca, Texas, and construction of an 80,000-kw capacity electric-generating plant. The new plant, which will use natural gas for fuel, marks the first peacetime use by Alcoa of electricity generated by other means than water power. I W Wilson, vice-president in charge of operations, and Thomas D Jolly, vice-president and chief engineer, say it will require about two years to complete the plant.

Canadian General Electric Co has been awarded a contract by B. C. Power Commission for fabrication and installation of two 12,500-kva generators at the new Whatshan-Arrow Lakes hydro project. Contract price of $348,535 includes spare parts, coolers and certified factory tests. First unit will be delivered in 18 months, the second in 19 months. H G Acres & Co has been retained as general consultant. The generators will be 15,000-hp 720-rpm reaction wheels operating under 690-ft head. The plant is being designed for four units, only two of which are to be installed in the initial development.

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