

(3) Connecting Cords and Keys for connecting the operator's telephone, and means for ringing subscribers' bells and clearing out drops.

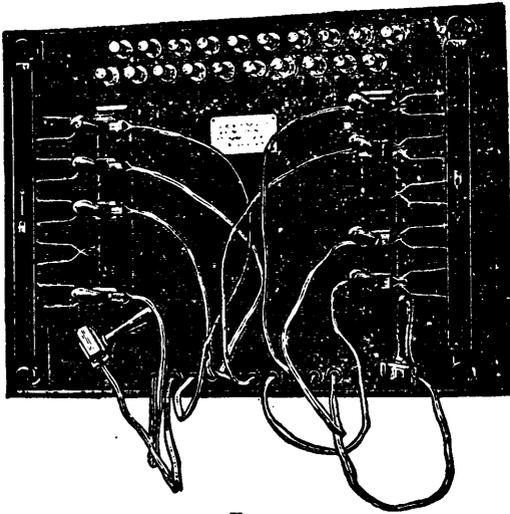


FIG. 59.

In *Electric Light Switch-Boards*, or *Distributing Switches*, spring-jack contacts are connected with the terminals of different circuits, and plug-switches with the dynamo terminals. By these means, any dynamo can be connected with any circuit, or a number of circuits can be connected with the same dynamo, or a number of separate dynamos can be placed in the same circuit, without interference with the lights.

Boat, Electric—A boat provided with electric motive power. Electric power has been applied both to ordinary vessels and for sub-marine torpedo boats.

Body Protector, Electric—A device for protecting the human body against the accidental passage of an electric discharge. To protect the human body from the accidental passage through it of dangerous electric currents, Delany places a light, flexible, conducting wire, A B L L, in the position shown in Fig. 60, for the purpose of leading the greater part of the current around instead of through the body.

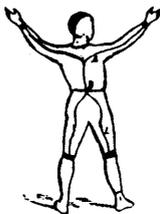


FIG. 60.

Inside insulating shoe-soles for lessening the danger from accidental contacts through grounded circuits have also been proposed.

Boiler-Feed, Electric—A device for automatically opening a boiler-feed apparatus electrically, when the water in the boiler falls to a certain predetermined point.

Bole.—A unit recently proposed by the British Association. One bole is equal to one gramme-kine.

Bolometer, or Langley's Thermic Balance.—An apparatus for determining small differences of temperature, constructed on the principle of the *differential galvanometer*.

A coil composed of two separate insulated wires, wound together, is suspended in a magnetic field, and has a current sent through it. Under normal conditions, the current separates into two equal parts, and runs through the wires in opposite directions. It therefore produces no sensible field, and suffers no deflection by the field in which it is suspended.

Any local application of heat, however, causing a difference in resistance, prevents this equality. A field is therefore produced in the suspended coil, which, though extremely small, is rendered measurable by means of the powerful field produced in the coil, within which the double coil is suspended.

Differences of temperature as small as $\frac{1}{1000}$ degree F. are detected by the instrument.

NEW APPLICATIONS OF THE CROWDUS CONSTANT PRIMARY BATTERY.

By recent important and novel improvements made by Mr. Walter A. Crowdus the output of the primary battery has been so increased that quite a powerful and constant battery is made to occupy a very small space. An idea of this power is best obtained by a comparison with the well known bluestone gravity cell. The Crowdus type of battery, 6 inches square, will, it is stated, develop a current equal to that of 200 bluestone cells, each 6 x 8 inches. Of course the total life of the



CROWDUS BATTERY WITH LAMP.

200 bluestone batteries would exceed considerably that of the Crowdus type; but the attention and handling demanded by the 200 batteries would be far in excess of the small one, doing the