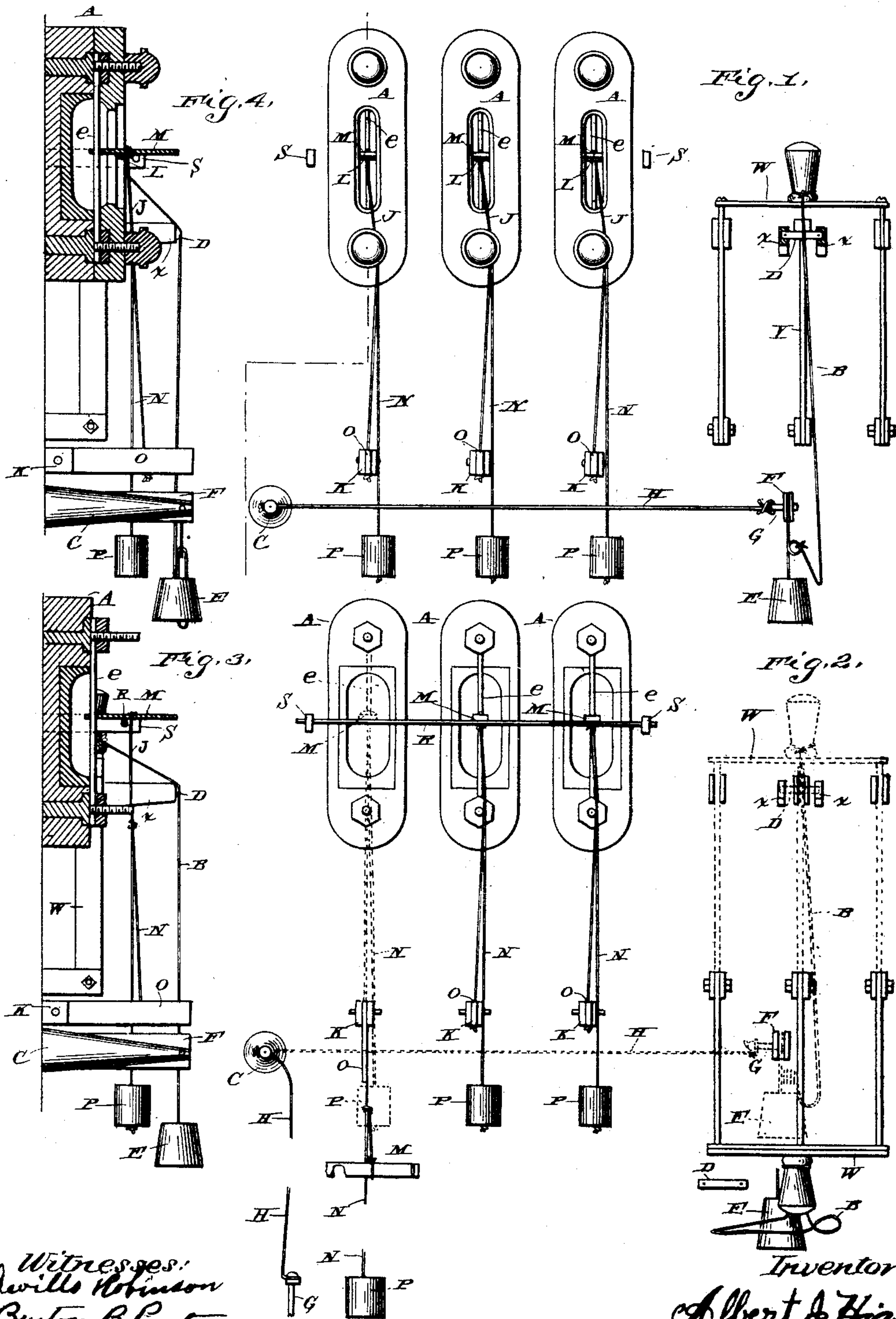


A. J. HIGGS.
CIRCUIT BREAKING DEVICE.

(Application filed Dec. 22, 1900.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses:
Lewis Robinson
Benton B. Porter

Inventor:
Albert J. Higgs

No. 696,172.

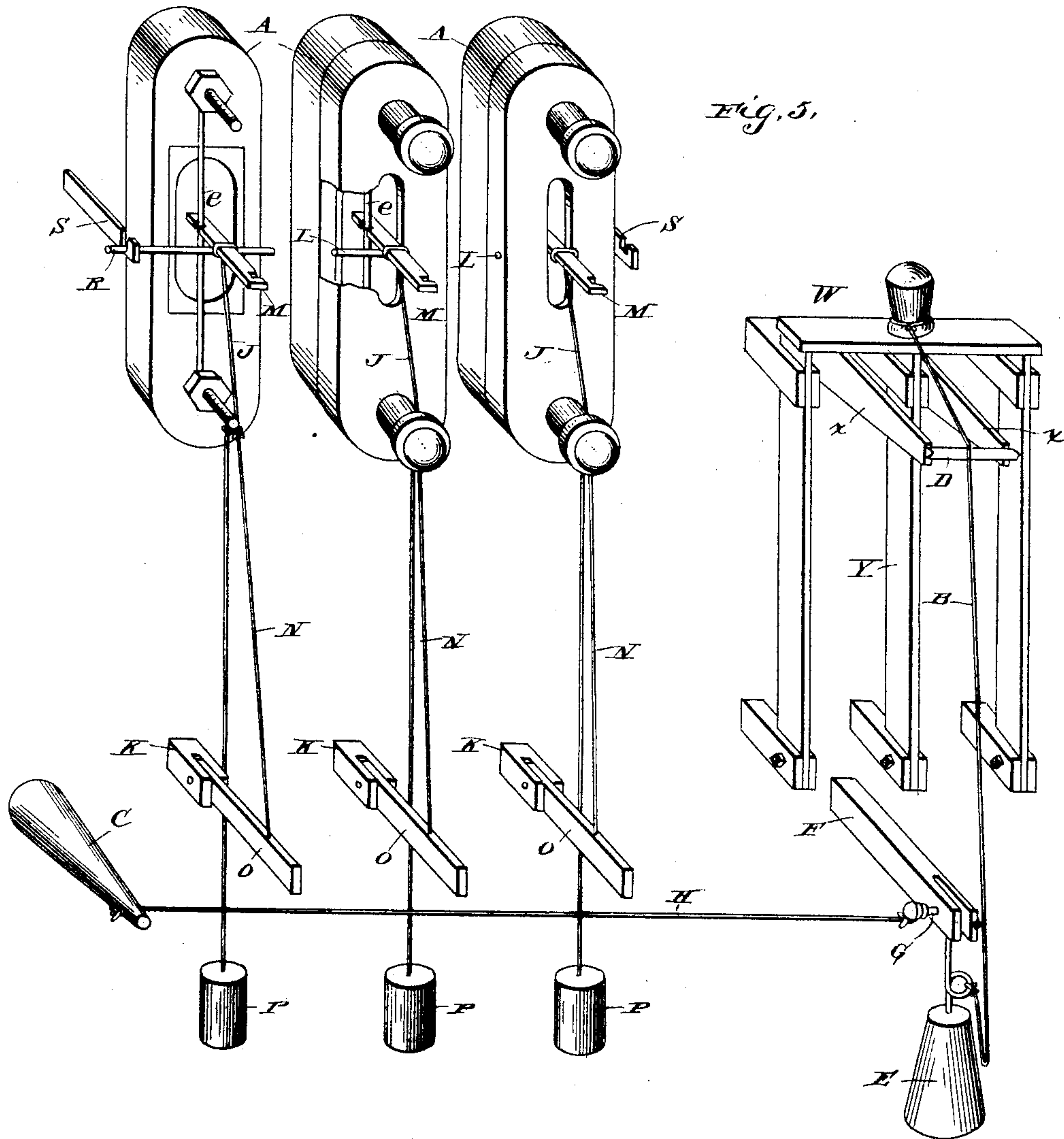
Patented Mar. 25, 1902.

A. J. HIGGS.
CIRCUIT BREAKING DEVICE.

(Application filed Dec. 22, 1900.)

(No Model.)

2 Sheets-- Sheet 2.



Witnesses:
Devillo Robinson
Barton B. Porter

Inventor:
Albert J. Higgs

UNITED STATES PATENT OFFICE.

ALBERT J. HIGGS, OF COLTON, CALIFORNIA.

CIRCUIT-BREAKING DEVICE.

SPECIFICATION forming part of Letters Patent No. 696,172, dated March 25, 1902.

Application filed December 22, 1900. Serial No. 40,817. (No model.)

To all whom it may concern:

Be it known that I, ALBERT J. HIGGS, a citizen of the United States, residing at Colton, in the county of San Bernardino and State of California, have invented a new and useful Circuit-Breaking Device, of which the following is a specification.

My invention relates to the improvement on an electrical switchboard in which the circuit is broken by the fusion of a fusible strip of metal known as the "fuse." My appliance is to work in conjunction with an electrical current and the switch and fuse now used.

The object of my invention is to provide a safety automatic switch wherever an electrical switch is required. The particular object, however, for which my appliance is designed is to afford a safety automatic switch where motors are used to transmit power for the running of machinery. To illustrate, suppose we are running a pumping plant with a three-phase system of electricity and using a motor to transmit the power. Our line is short-circuited or traversed by a current of abnormal strength, and one of the fuses is fused. The amperage is therefore thrown onto two wires, and consequently the induction-wires of the motor are heated to an abnormal degree and liable to destruction. With the old switch it is necessary that it be thrown by hand in order to cut the current from the motor, in which case delays are unavoidable and oftentimes dangerous. My device throws the switch as soon as one of the fuses is melted, thus cutting off the current from the motor, thereby relieving the strain that would otherwise be on it. I attain this result by the mechanism shown in the accompanying drawings, in which—

Figure 1 is a front view of the entire switchboard in use. Fig. 2 is a front view of switchboard with covers to fuse-blocks removed and the switch thrown by the burning of one of the fuses. Fig. 3 is a side view of the switchboard, showing the attachment of the lever to the fuse and the weight to switch, covers to fuse-blocks removed. Fig. 4 shows the same as Fig. 3, except fuse-blocks are covered. Fig. 5 is a perspective view of the entire switchboard.

Similar letters refer to similar parts throughout the several views.

In the accompanying drawings, W represents switch, A fuse-blocks, and *e* the fuse. These parts are old, and the detailed description of their different parts is omitted.

x shows projections fitting onto switchboard to contain block D. This block is made detachable, so when used on a three-phase switch leg Y strikes the block, knocking it out of position when switch is thrown, thus giving the switch perfect freedom to drop. The object of this block and projections *x* is to hold silk cord B, which attaches to handle of switch and weight E, in such a position as to pull switch when weight E is dropped.

F is a slotted projection to receive stem of weight E and pin G. When switch is in use, pin G passes through stem of weight E and projection F, thus supporting weight E.

N is a silk cord, one end of which is attached to weight P, the other to lever O.

J is also a silk cord, one end being tied to cord N, the other to lever M.

L is a wooden pin extending across the opening in the fuse-blocks, the object being to support lever M, which attaches to the fuse, a notch or slot being fitted near the end of the lever, so as to hook lightly onto the fuse. While the fuse remains intact this lever by means of cords N and J holds up lever O and weight P. When the fuse is burned or destroyed, lever M falls out of position, causing weight P and lever O to drop. (It will be seen that the attachment to each fuse acts independently, and one or more fuses may burn out, causing the switch to be thrown, while the other fuse may remain intact.) This lever is attached to the switchboard by means of a projecting hinge K and when let fall strikes cord H, thereby pulling pin G. Cord H is connected to pin G at one end and projection C at the other. S designates projections on which to fasten cross-bar R, which is shown in Fig. 2.

Fig. 2 shows the switch thrown by one of the fuses "*e*" being burned, *e* and *e* remaining intact. Dotted lines show position of switch in use. Dotted letters show position of the various parts they represent when in use. R represents a cross-bar extending across all

the fuse-blocks, the covers being removed. This cross-bar serves the same purpose here as pin L in Fig. 1.

Synopsis: When fuse is destroyed, lever M
5 falls out of place, causing weight P and lever O to drop. Lever O falls on cord H, thus pulling pin G and causing weight E to drop, thereby pulling switch.

I am aware that prior to my invention
10 switchboards have been used in various forms. I do not therefore claim such an invention broadly; but

What I claim as my invention, and desire to secure by Letters Patent, is—

15 In a circuit-breaking device, a base, a switch, a weight, a cord connecting the handle of the switch with the weight, a pin to support the weight when the switch is closed, an apertured projection to receive said pin, a projec-
20 tion and block to hold said cord in such a position that it will pull the switch open when the weight is released, a stationary support,

a second cord connecting one end of the pin with the support, a lever pivoted to the base, a second weight, a third cord connecting the
25 free end of the lever with the second weight, a fuse-block and fuse, a cross-bar extending across the front of the fuse-block, a lever with a notched end adapted to rest on the cross-
bar, the notched end being adapted to engage
30 the fuse, a fourth cord connecting the notched lever with the third cord, all so arranged that the melting of the fuse will cause the pivoted lever to withdraw the pin from the apertured
projection thus allowing the weight to open
35 the switch, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALBERT J. HIGGS.

Witnesses:

BENTON B. PORTER,
DEVELLO ROBINSON.