A. E. BLACKMAN.

PANEL BOARD.

APPLICATION FILED OCT. 15, 1908.

938,635. Patented Nov. 2, 1909.

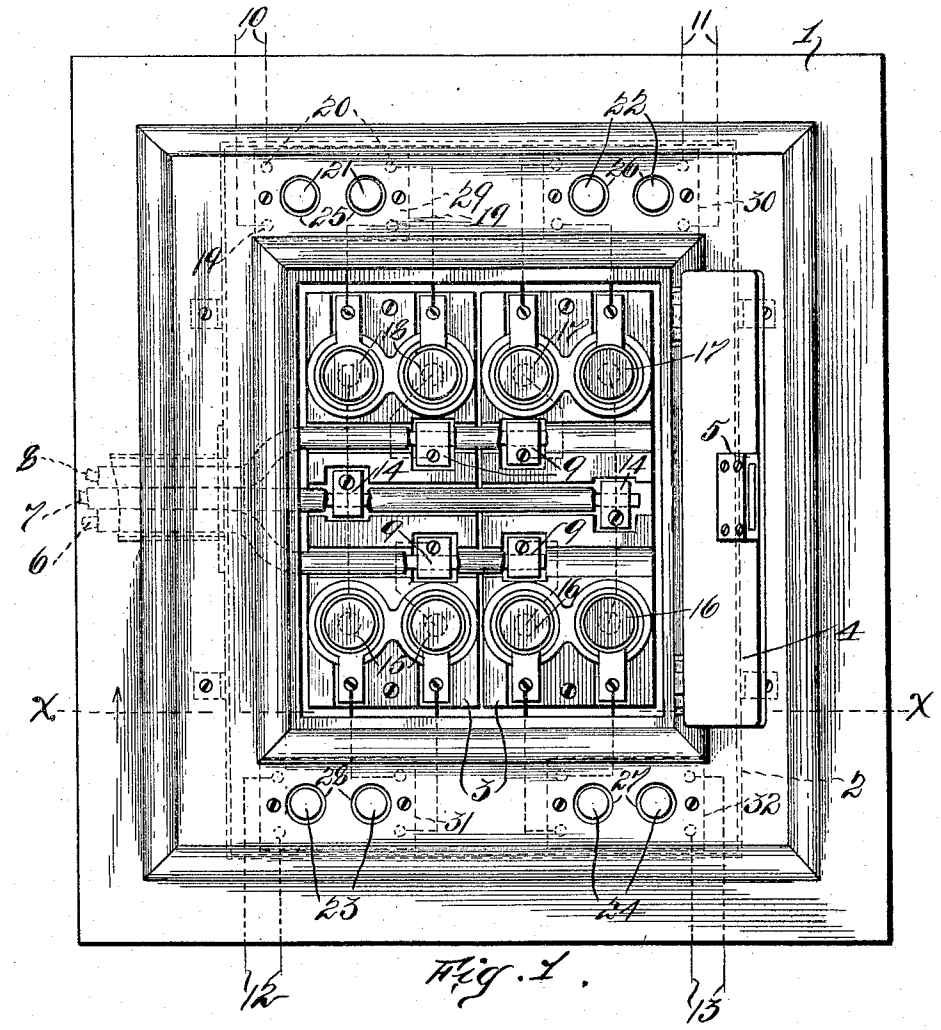

Fig. 1.

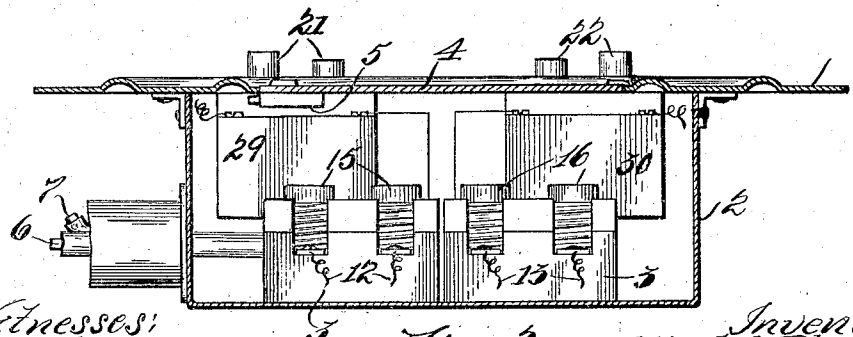

Fig. 2.

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UNITED STATES PATENT OFFICE

ALBERT E. BLACKMAN, OF MOUNT VERNON, NEW YORK.

PANEL-BOARD.

938,635. Specification of Letters Patent. Patented Nov. 2, 1909.

Application filed October 15, 1908. Serial No. 457,790.

To all whom it may concern:

Be it known that I, ALBERT E. BLACKMAN, a citizen of the United States, residing at Mount Vernon, New York, have invented certain new and useful Improvements in Panel-Boards, of which the following is a clear, full, and exact description.

My invention relates to a cabinet for electrical distribution, commonly known as panel boards, and my object is to provide a box, which due to its special construction and arrangement of the devices contained therein, will possess many advantages over the panel boards now in use. As is well known, the purpose of all panel board construction is to comply with the rules laid down by insurance underwriters, which require that all live parts of the electrical circuits necessarily exposed on account of connecting branch circuits with the main circuits, and of the employment of switches and fuses for these branch circuits, shall be securely locked in a compartment and surrounded by fire proof material. This has led to the construction of the cumbersome panel board now commonly used, in which are employed the usual knife switches for controlling the branch circuits and which are constructed of wood lined with some fire proof material. Since the operating parts of such switches are kept locked under cover, convenience sometimes outweighs considerations of safety, and in buildings in which there is occasion for frequent operation of said switches the door of the panel box is kept open to facilitate the handling of the switches. This practice obviously exposes the building to grave danger from fire. Another difficulty with the old form of panel box has been the danger of inexperienced and unskilled persons receiving a shock by coming into contact with live parts of the circuits when they attempt to operate the switches, and some improvements have been made to include in the box a special protective covering for these parts, as in the patent to H. Krantz, No. 705,850 of which I am aware. In my construction of electrical distributing cabinet, however, these dangers are avoided for the reason that all the live parts of the circuit, the fuse connections, etc. may be securely locked up at all times and still the switches may be operated conveniently from the outside of the cabinet. With this construction it then only becomes necessary to unlock the cabinet when a fuse is to be renewed.

My invention will be defined in the claims.

In the preferred construction shown in the drawings, Figure 1 is a plan view of the cabinet with the door open to show the parts contained therein; and Fig. 2 is a section along X—X Fig. 1 looking in the direction of the arrow and showing the door closed.

1 represents the face plate or trim of the cabinet, and 2 represents the body portion thereof secured to the trim in any suitable manner and which contains the various devices for branching the circuits from the main feed wires. Upon the bottom of the body portion 2 I have preferably mounted back plates 3 made of any suitable insulating material, such as porcelain or slate. These back plates, as is usual in most or in all panel boards, are adapted to support the main feed wires and the contacts and fuses for the branch circuits. A door 4 provided with a lock 5 may also be attached to the face plate of the panel box for locking all of the devices therein.

I have preferably shown for the purposes of illustration my device adapted for use with the three-wire system of electrical circuits, and as shown in Fig. 1 these wires are represented by 6, 7 and 8. The contacts for the branch circuits are indicated by 9 and 14 in Fig. 1, the contacts 14 being those which connect the branch circuits with the neutral feed wire. Four branch circuits are shown in this figure, namely, those indicated by 10, 11, 12 and 13, and in each branch circuit is included the usual fuses 18, 17, 15 and 16, one fuse being included in each line of the branch circuit. I have also shown included in each branch circuit a switch device, each switch incased in an insulating protective covering, such as porcelain, indicated by 29, 30, 31 and 32. This switch is preferably shown as one of a double break construction. For instance, in the circuit 10 the two pairs of contacts which indicate the break in each line are designated as 19 and 20, respectively. These switches may be of any convenient construction, and in the present illustration I have conventionally shown a push-button switch, the operating buttons being indicated by 21, 22, 23, 24, although I fully realize that a rotating snap switch of any other convenient form might be used to equal advantage. These switches in the present embodiment are preferably mounted on the underside of the face plate or trim of the cabinet and apertures 25, 26,

27 and 28 are formed in this trim for the purpose of allowing the operating buttons of said switches to extend therethrough. It will be seen by this construction that, although all of the dangerous parts of the panel board are protected within the metal cabinet, still the switches for controlling the branch circuits may conveniently be operated from the outside of the cabinet.

What I claim is:

1. A metallic cabinet for electrical distribution having a body portion forming a compartment and a metallic trim securely fastened thereto and serving as a cover for said compartment, a back plate of insulating material secured to the inside of said compartment and having supported thereon main circuit conductors and branch circuit conductors connected therewith and fuses included in said branch circuits, a single set of switches for controlling said branch circuits, said switches being mounted on the underside of said metallic trim and wholly within said compartment and having operating members extending therethrough closely surrounded by the metal thereof, said trim serving as a metallic face plate for the operating members of said switches.

2. A metallic cabinet for electrical distribution having a body portion forming a compartment and a metallic trim securely fastened thereto and serving as a cover for said compartment, a back plate of insulating material secured to the inside of said compartment and having supported thereon main circuit conductors and branch circuit conductors connected therewith and fuses included in said branch circuits, said metallic trim having an opening opposite said back plate and a locking door to close the same, apertures in said trim disposed around said door opening, a single set of switches for controlling said branch circuits, said switches being mounted on the underside of said metallic trim and wholly within said compartment and having operating members extending through said apertures, each of said switches being separately incased in insulating material.

Signed at New York, N. Y. this 2nd day of October 1908.

ALBERT E. BLACKMAN.

Witnesses:
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