

Oct. 16, 1928.

1,688,078

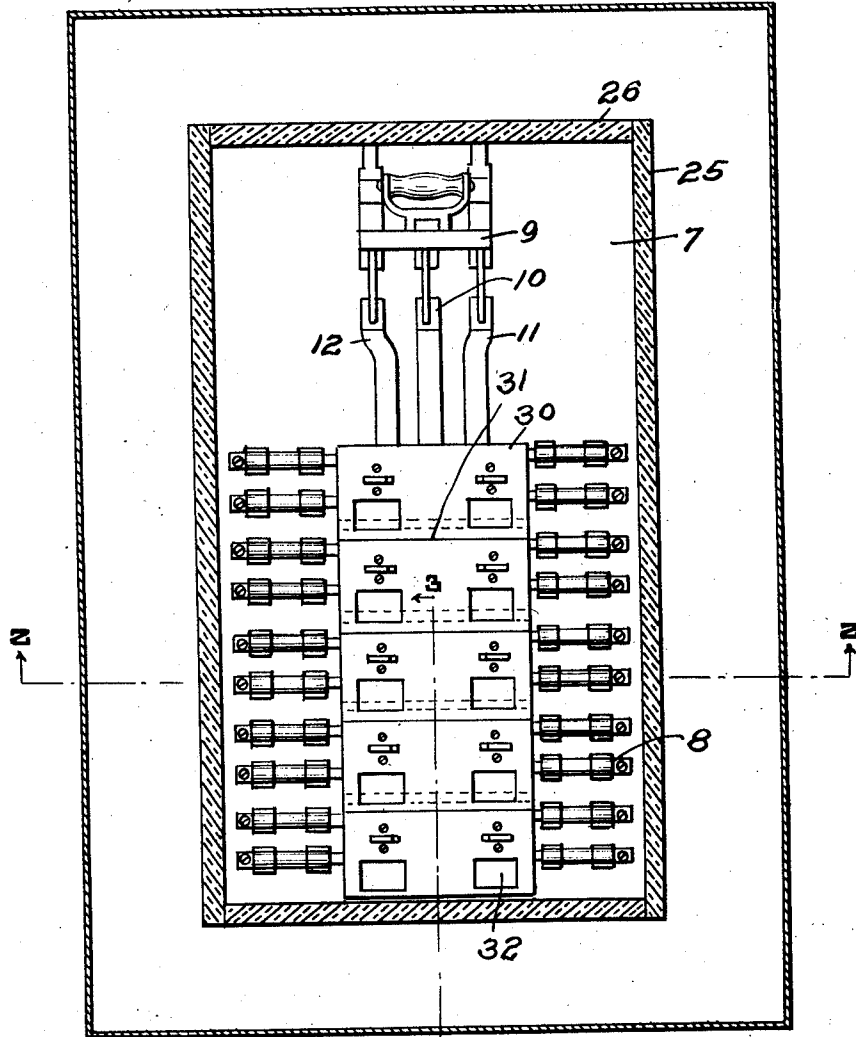
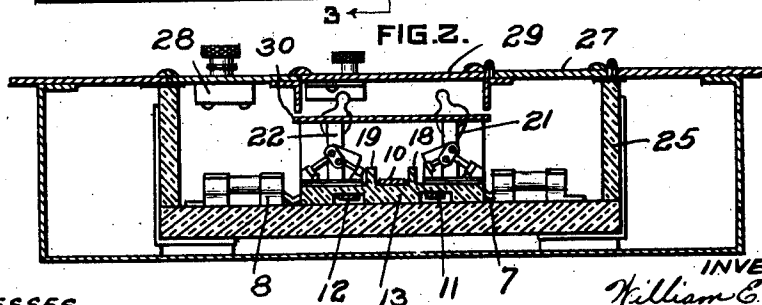
W. E. HAWLEY

SWITCH PANEL

Filed July 25, 1923

2 Sheets-Sheet 1

FIG. 1.



WITNESSES  
*J. Robert Bradley.*

INVENTOR  
*William E. Hawley*  
By *Green and McCallister*  
His Attorneys

Oct. 16, 1928.

1,688,078

W. E. HAWLEY

SWITCH PANEL

Filed July 25, 1923

2 Sheets-Sheet 2

FIG. 3.

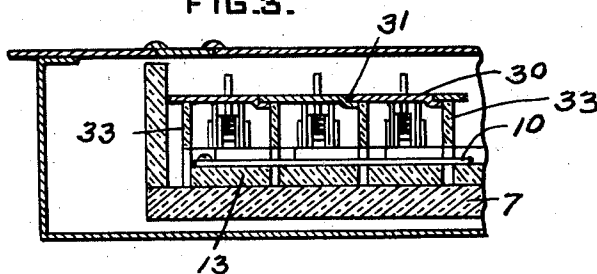


FIG. 4.

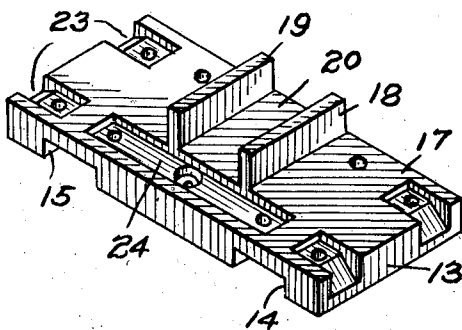


FIG. 5.

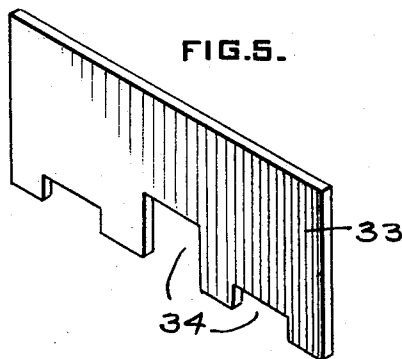
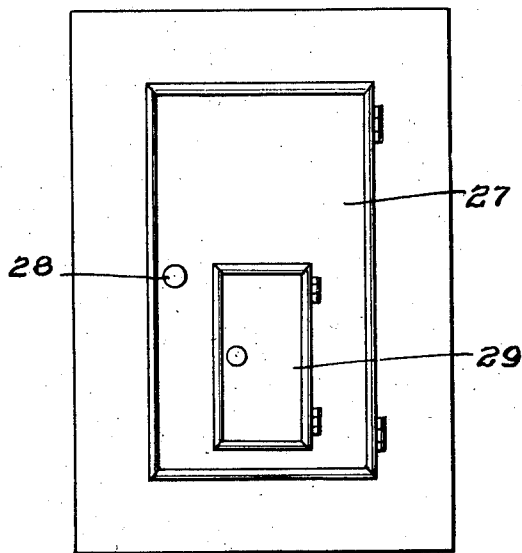


FIG. 6.



WITNESSES

*J. Herbert Bradley.*

INVENTOR

*William E. Hawley*  
*By Green and McCallister*  
*His Attorneys*

## UNITED STATES PATENT OFFICE.

WILLIAM E. HAWLEY, OF PITTSBURGH, PENNSYLVANIA.

## SWITCH PANEL.

Application filed July 25, 1923. Serial No. 653,736.

This invention relates to switch panels and more particularly to safety switch panels of the cabinet type wherein the main switch, fuses and bus bars are normally inaccessible to those operating the series of switches.

It is desirable to have switch panels of this type as compact and narrow as possible so as to occupy but a small amount of space and an object of this invention is to provide a means which enables a more compact arrangement of parts than has heretofore been deemed possible and which at the same time complies with the underwriters' requirements.

In the usual switch panels now in use the bus bars are located centrally thereof with the switches on opposite sides of the bus bars and with the fuses outside of the switches. Such a construction has been necessary in order to obtain the degree of clearance required by the Underwriters.

In order to obtain a more compact and at the same time a safe arrangement of parts I provide a switch supporting block of any desired insulating material, through which the bus bars extend and on which the switches are mounted. By providing such a block I am enabled to mount the switches directly over certain of the bus bars and to bring the fuses closer to the center of the panel which results in an appreciably narrower product without in any way rendering it unsafe.

My invention contemplates an improvement over the safety panel, described in Patent Number 1,313,555, granted August 19, 1919, to William F. O'Neill.

One embodiment of my invention is shown in the annexed drawings in which Figure 1 is a front elevation of a switch panel constructed in accordance with my invention with the door thereto removed, Fig. 2 is a section on the line 2—2 of Fig. 1, Fig. 3 is a section on the line 3—3 of Fig. 1, Fig. 4 is a perspective view of my switch supporting block, Fig. 5 is a perspective view of a partition plate which is provided between the various sets of switches when a plurality of them is used and Fig. 6 is a front elevation of the switch panel showing the small door for access to the series of switches and the large door which is adapted to be locked to prevent access to the fuses and bus bars by an unauthorized person.

As illustrated, my invention includes the

usual base member 7 adapted to directly support the fuses 8 which, although shown as cartridge fuses, may obviously be of any desired type. The usual main switch 9, generally of the knife type, is provided at one end of the base member for connecting the bus bars 10, 11 and 12 with the main circuit.

Centrally mounted on the base member is a switch supporting block 13, shown in detail in Fig. 4. This block has channels 14 and 15 in the inner face which abuts the base member 7, the channels being provided for the reception and support of the bus bars 11 and 12. Integrally formed centrally of the opposite, or outer face 17 of the block are two flanges 18 and 19 which form a channel 20 for the reception and support of the neutral bus bar 10.

On opposite sides of this central channel 20 on the outer face 17 of the block I mount the switches 21 and 22 which may be of any desired type but which are herein shown as ordinary toggle switches. In this way I am enabled to support the switches directly over the active bus bars instead of on opposite sides thereof as has heretofore been customary.

The switch supporting block 13 has formed in the face 17 depressions or slots 23 and 24 for the reception of the fuse contacts and the bus bar connections to the switches.

The base member 7 is provided with side and end members 25 and 26, respectively, on which is mounted the door 27 provided with a lock 28 for preventing access to the live parts of the panel by an unauthorized person, as disclosed in the aforesaid patent. A smaller door 29 is also provided, as disclosed in said patent, for permitting access to the series of switches.

To the outer face of each pair of switches a plate 30 is secured for the purpose of protecting the working parts of the switches and rendering them inaccessible through the small door. One edge of the plate 30 has a groove 31, see Fig. 3, in which the adjoining edge of the cooperating plate rests when a multiplicity of units are employed in a single panel. In the front face of each plate a depressed portion 32 is provided to receive an indicating card for the purpose of showing what circuit the adjacent switch controls.

When a multiplicity of units are used in a single panel, as shown in Fig. 3, I provide partition plates 33, made of any desired in-

insulating material, between each unit. In the lower edge of each partition I provide notches 34 to enable the plate to fit over the bus bars and contact with the base plate 7.

From the construction shown it will be seen that while I have provided a very compact switch panel I have in no way done away with the necessary safety features.

Having thus described my invention what

10 I claim is:—

A switch panel unit including a block of

insulating material provided with channels in one face thereof, spaced flanges forming a channel in the opposite face, switches mounted on said opposite face adjacent said 15 flanges and adapted to be electrically connected to bus bars received within said channels and slots formed in said block adjacent said switches for receiving fuse connections.

In testimony whereof, I have hereunto subscribed my name this 19th day of July, 1923. 20

WILLIAM E. HAWLEY.