

G. H. HART.
ELECTRIC SWITCH.
APPLICATION FILED JAN. 18, 1921.

1,430,645.

Patented Oct. 3, 1922.

Fig. 1.

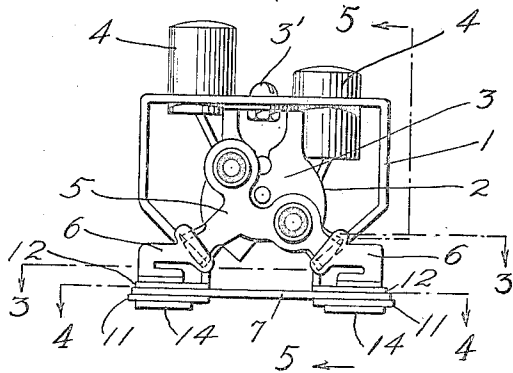


Fig. 2.

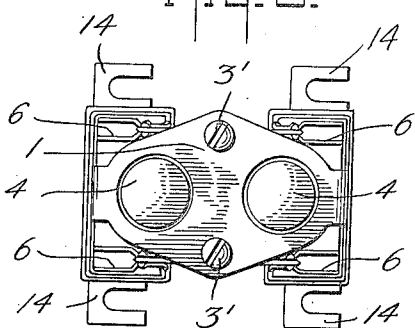


Fig. 3.

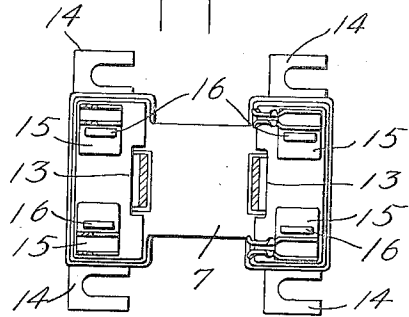


Fig. 4.

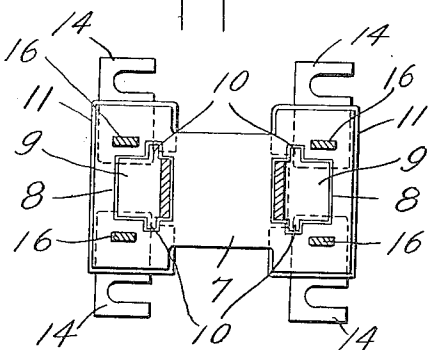
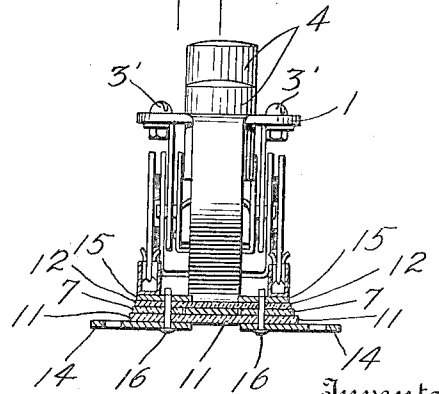


Fig. 5.



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UNITED STATES PATENT OFFICE.

GEORGE H. HART, OF HARTFORD, CONNECTICUT.

ELECTRIC SWITCH.

Application filed January 18, 1921. Serial No. 438,095.

To all whom it may concern:

Be it known that I, GEORGE H. HART, a citizen of the United States, residing at Hartford, county of Hartford, State of Connecticut, have invented a certain new and useful Improvement in Electric Switches, of which the following is a full, clear, and exact description.

My invention relates to improvements in electric switches and has for its object to provide an improved switch of the panel-board type the improvement consisting in a frame supporting the switch mechanism and its connection with a built up base carrying the switch contacts and terminals. One object of my invention is to provide a frame for guiding the push-buttons, the switch mechanism being supported from a portion of said frame adjacent to said switch buttons. Another object of my invention is to make an improved built up base and to firmly secure the ends of said frame to said base.

The following is a description of a switch embodying my invention, reference being had to the accompanying drawings, in which,

Fig. 1 shows a side elevation of a switch embodying my invention;

Fig. 2 shows a plan view of the same;

Fig. 3 shows a section on the line 3—3, Fig. 1;

Fig. 4 shows a section on the line 4—4, Fig. 1 and

Fig. 5 shows a section on the line 5—5 Fig. 1.

Referring more particularly to the drawings 1 is a frame composed of a continuous strip of metal having its lower free ends secured to a built up base and its closed end carrying a switch mechanism so as to form a switch of the panel-board type. 2 is the switch mechanism of the push-button type having a support 3 secured to the frame 1 at points 3' adjacent to the push-button. 4—4 are the switch buttons which pass through the frame and are guided thereby and actuate the switch mechanism in any well known manner. 5 is the switch-arm of the switch mechanism. In the double pole type such as shown in the drawings there are of course two such arms. 6 are four switch contacts carried by the base constituting two pairs with each of which one of the switch-arms 5 is adapted to engage.

In building up the base portion of the

switch I take a strip of fiber 7 or other similar insulating material and form in it two holes 8 as shown in Fig. 4 for receiving the out-turned lower ends 9 of the frame. These holes are preferably provided with lateral recesses and the ends of the frame are preferably provided with lateral extensions 10 adapted to fit therein. Beneath each end of the switch I provide a strip 11 of similar insulating material and above each end of the switch I provide another strip 12 cut away at one edge 13 so as to partially embrace the corresponding leg of the frame as shown in Fig. 3. I then place beneath the lower switch four terminals 14 and above the upper strips four plates 15 carrying the contacts 6 adapted to be engaged by switch-arms and pass through the terminals and through the plates rivets 16 which hold the terminals 14 and plates 15 together and also hold the insulating strips together as shown in Fig. 5. This results in a built up base composed of a plurality of parts to which the frame carrying the switch mechanism is firmly secured. It is a construction easily assembled and one in which corresponding terminals and contacts are efficiently insulated from other terminals and contacts and yet are electrically connected and furthermore the frame is insulated from all other metallic portions except switch mechanism; as shown in Fig. 1 the switch-arms are insulated from the other portions of the switch mechanism.

As will be evident to those skilled in the art, my invention permits of various modifications without departing from the spirit thereof or the scope of the appended claims.

What I claim is:

1. In a switch the combination of an inverted U shaped frame having its ends outwardly turned, a switch mechanism depending from the closed end of said U shaped frame and an insulating base secured to said out-turned ends and carrying switch contacts and terminals adapted to be electrically connected by the switch-arms of said mechanism, said base being composed of a plurality of parts and means passing through said parts and said contacts and terminals and holding them fixed relatively to said out-turned ends.

2. In a switch the combination of an inverted U shaped frame having its ends outwardly turned, a switch mechanism depend-

ing from the closed end of said U shaped frame and an insulating base secured to said out-turned ends and carrying switch contacts and terminals adapted to be electrically connected by the switch-arms of said mechanism, said base being composed of an insulating member having openings adapted to receive both of the out-turned ends of said frame, supplemental insulating members above and below said first member and adapted to enclose said out-turned ends, switch contacts above the upper member, switch terminals below the lower member and rivets passing through said members securing the contacts and terminals together.

3. In a switch the combination of an inverted U shaped frame having its ends outwardly turned, a switch mechanism depending from the closed end of said U shaped frame and an insulating base secured to said out-turned ends and carrying switch contacts and terminals adapted to be electrically connected by the switch-arms of said mechanism, said base being composed of an insulating member having openings adapted to receive both of the out-turned ends of said frame, supplemental insulating members above and below said first member and adapted to enclose said out-turned ends, switch contacts above the upper member, switch terminals below the lower member and rivets passing through said members securing the contacts and terminals together the out-turned ends of said frame having lat-

eral projections and said intermediate member having corresponding recesses.

4. In a switch the combination of an inverted U-shaped frame having its ends outwardly turned, a two pole switch mechanism depending from the closed end of said U-shaped frame and a built-up base composed of a plurality of layers of insulating material and secured to said outturned ends, switch terminals and corresponding switch contacts at each of the four corners of the built-up base, and securing means mechanically connecting the respective terminals and contacts and also holding the layers of said base together.

5. In a switch the combination of an inverted U shaped frame having its ends outwardly turned, a switch mechanism depending from the closed end of said U shaped frame and a built up insulating base secured to said out-turned ends and carrying switch terminals and contacts adapted to be electrically connected by the switch-arms of said mechanism said base being composed of an insulating intermediate member having holes for the ends of said frame, said holes being closed on four sides so as to entirely enclose said ends, and insulating members above and below said ends, secured to said intermediate member, and contacts and terminals also secured to said intermediate member.

GEORGE H. HART.