Jan. 10, 1928. 1,656,152

G. B. THOMAS

ELECTRIC SWITCH

Filed Feb. 4, 1922

Fig. 1.

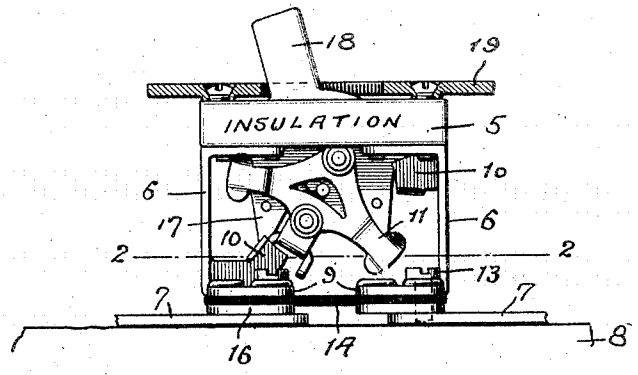


Fig. 2.

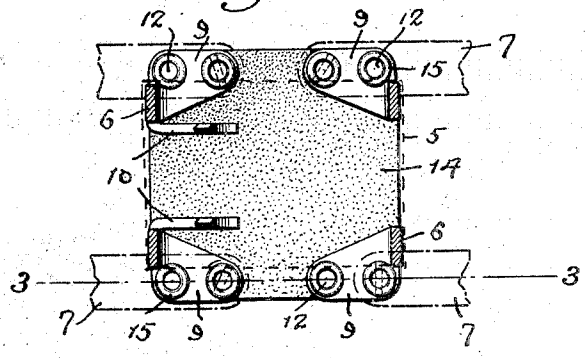


Fig. 3.

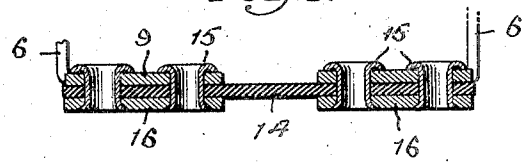
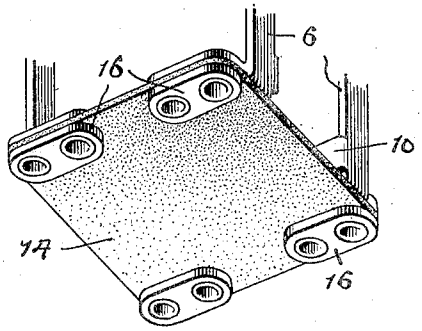


Fig. 4.



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UNITED STATES PATENT OFFICE.

GEORGE B. THOMAS, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR TO THE BRYANT ELECTRIC COMPANY, OF BRIDGEPORT, CONNECTICUT, A CORPORATION OF CONNECTICUT.

ELECTRIC SWITCH.

Application filed February 4, 1922. Serial No. 534,194.

My invention relates to electric switches, and particularly to panel switches. One of the objects of my invention is to provide simple and efficient means for rigidly spacing the combined standards and switch contacts by which the switch is supported from as well as electrically connected to the panel bus bars.

In the accompanying drawings—

Fig. 1 is a side elevation of a switch in which my invention is embodied in one form;

Fig. 2 is a section on the line 2—2, Fig. 1;

Fig. 3 is a section on the line 3—3, Fig. 2;

Fig. 4 is a perspective of the tie web to which the switch standards are connected.

In its main features the present switch is of standard type and comprises an insulating switch base or block 5, from the corners of which depend the standards 6 by which the switch is supported from the bus bars 7. The standards are independent of each other and are ordinarily free from each other at their lower ends, which are connected to the bus bars. Inasmuch as the latter are apt to be improperly spaced upon the panel base 8, or the tapped holes in the bus bars improperly located for registry with the screw holes in foot pieces 9 of the standards when the latter are in normal position, it happens not infrequently that when the switch is installed the standards are bent or warped out of proper position. The switch contacts 10 associated with the standards, are thus thrown out of alignment with the cooperating switch blades 11. By the present invention I have provided means for tying the lower ends of the standards together in rigid, fixed relationship. This construction necessitates the proper spacing of the bus bars on the panel base and the proper location of the taps therein for the securing screws. It also assures the exact registry of the switch blades and contacts, and thus the proper functioning of the switch.

In the construction illustrated, the foot pieces 9 of the standards are not only offset from the standards, but are extended on opposite sides of the switch outside the area defined by the switch block 5. They are also pierced at 12 in their outer area to accommodate the binding screws 13 by which connection with the bus bars is established. This location of the holes 12 outside the area of the base 5 facilitates the manipulation of the screw driver by which the screws are set up.

Underlying the several foot pieces 9 of the standards 6 is a tie web 14 of insulation, such as fiber, rubber, composition, mica or paper. To this web the several foot pieces are secured in any suitable manner. For example, I have indicated hollow rivets 15 passing through the holes 12 in the foot pieces, registering holes in the web 14, and also through washers 16 underlying the web, and against which the projecting ends of the rivets may be spread without danger of injury to the web. Inasmuch as the web is substantially rigid and practically incapable of extension or buckling, it forms a rigid spacer which maintains the standards in fixed relationship. Precise registry of the contacts 10 and switch blades 11 is thus assured. The exact spacing of the bus bars, as well as of the switch contacts, necessarily incidental to this construction, enforces compliance with standard underwriters' requirements.

As a matter of convenience, each foot piece is pierced at a plurality of points, to accommodate bus bars differently spaced. But in any event, the lateral spacing of the bars must conform to that necessitated by the spacing of the foot pieces by the spacer web 14 to meet the requirements of established electrical practice.

The particular construction of the switch mechanism does not enter into the present invention, and need not be described in detail. It suffices to point out that it may be of standard type, mounted on a frame 17 secured to the switch base 5 and operated by a switch lever 18 passing through the cover plate 19, which may be common to a battery of switches mounted on the panel.

While I prefer to use washers 16 and tubular rivets 15, the spacing web 14 may be secured to the foot pieces 9 of the standards in any suitable way, and other types of contacts and standards may be employed without departing from what I claim as my invention. Various modifications of detail and construction will readily be devised to accomplish the ends I claim, without departing from the scope of the invention.

I claim—

1. In a panel board switch, an insulating switch block, a switch mechanism supported thereby and arranged below the same, stand-

ards by which said block is supported, switch contacts associated with said standards for cooperation with the switch mechanism, foot pieces offset from the ends of said standards remote from said base and adapted for mechanical and electrical connection to associated bus bars, together with means engaging the foot pieces of the several standards to rigidly maintain their predetermined spacing and position with respect to the switch mechanism.

2. In a panel board switch, an insulating switch block, a switch mechanism supported thereby and arranged below the same, standards by which said block is supported, switch contacts associated with said standards for cooperation with the switch mechanism, foot pieces offset from the ends of said standards remote from said base and adapted for mechanical and electrical connection to associated bus bars, together with sheet insulation engaging the foot pieces of the several standards to rigidly maintain their predetermined spacing and position with respect to the switch mechanism.

3. In a panel board switch, an insulating switch base, standards depending therefrom having offset feet at their lower ends for connection to bus bars, said feet extending laterally beyond the area defined by the switch base, in combination with a plate of insulation underlying said feet and secured thereto, said plate forming a spacer serving to maintain said standards in predetermined fixed relation.

4. In a panel board switch, an insulating switch base, standards depending therefrom having offset feet at their lower ends for connection to bus bars, said feet extending laterally beyond the area defined by the switch base, in combination with a plate of insulation underlying said feet and secured thereto, said plate forming a spacer serving to maintain said standards in predetermined fixed relation, said feet and spacer being pierced in register to accommodate binding screws in the area outside that defined by the switch bar.

5. In a panel board switch, an insulating switch base, standards depending therefrom having offset feet at their lower ends for connection to bus bars, said feet extending laterally beyond the area defined by the switch base, in combination with a plate of insulation underlying said feet, said feet and insulating plate being pierced in register and united by hollow rivets in the area thereof outside that defined by the switch base.

In testimony whereof I have signed my name to this specification.

GEORGE B. THOMAS.