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ELECTRIC PUSH-BUTTON SWITCH

2,504,380

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FIG. 1

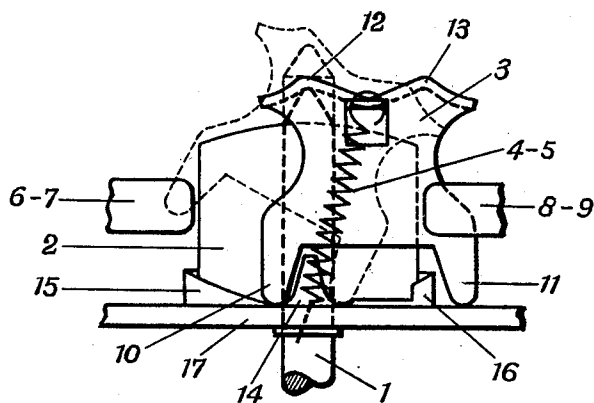
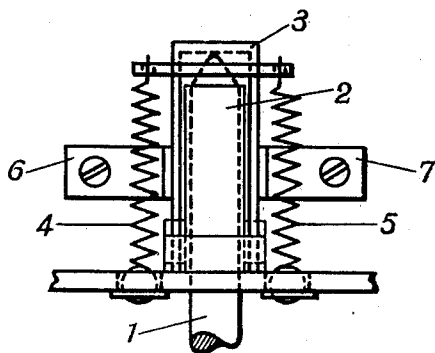


FIG. 2



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ELECTRIC PUSH-BUTTON SWITCH

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1 Claim. (Cl. 200—68)

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This invention relates to electric switches of the push-button type.

An object of this invention is to provide a push-button switch which in the present instance embodies pairs of opposed contacts with a bridging element between the contacts and with the latter floatingly mounted for positioning between either pair of contacts and movable from one pair of contacts to the other by means of a spring which is tensioned by movement of a push button.

Another object of this invention is to provide a switch of this kind embodying a rocking bridging member and a spring for laterally shifting the bridging member as the latter is rocked or tilted.

A further object of this invention is to provide a switch of this kind wherein the spring for laterally shifting the bridging member will automatically reset the bridging member for movement in the opposite direction.

In the drawing,

Figure 1 is a detail side elevation, partly broken away, of a switch constructed according to an embodiment of this invention,

Figure 2 is a detail end elevation of the device.

Referring to the drawing the numeral 17 designates a base which is preferably formed of insulating material and which has secured thereto an upstanding body 2 also formed of insulating material. A pair of contacts 6 and 7 are disposed at one end of the body 2 in a position above the base and a second pair of contacts 8 and 9 are disposed in opposed relation to the contacts 6 and 7 at the opposite end of the body 2.

A bridging element 3 of U-shaped configuration in transverse section loosely engages over the body 2 and is provided at the ends of the parallel sides thereof with spaced fingers or lugs 10 and 11. These lugs or fingers 10 and 11 are rounded at their lower ends and the bridging element 2 is adapted in one position thereof to be disposed in a position between one pair of the contacts such as contacts 8 and 9 and in the other position thereof to be disposed in bridging relation between the contacts 6 and 7.

A pair of springs 4 and 5 are secured to the bridging element 3 in substantially the center between the ends thereof, and at the upper end of the bridging element 3 and are secured at their opposite ends to the base 17. These springs

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4 and 5, as shown in Figure 1, will be inclined to the vertical in any position of the bridging element 3 so that the latter will be biased to movement in the opposite direction when the bridging element 3 is elevated as will be hereinafter described, to provide for lateral movement thereof. The bight of the bridging element 3 is formed with a pair of spaced detents or recesses 12 and 13 in a selected one of which the pointed end of an insulating operating rod or bar 1 is adapted to engage. As shown in Figure 1, the operating rod or bar 1 is engaged in the recess or detent 12.

The insulating body 2 is formed adjacent the base 17 with abutments 15 and 16 which are adapted to be initially engaged by one of the fingers 10 or 11, depending on the position of the bridging member 3. An intermediate abutment 14 is disposed between the abutments 15 and 16 and is adapted to prevent lateral movement of the bridging member 3 while at the same time permitting rocking movement thereof when the bridging member is elevated by inward movement of the operating member 1.

In the use and operation of this switch, assuming that the bridging member 3 is in the full line position shown in Figure 1, inward movement of the operating member 1 will raise bridging member 3, the fingers 10 being elevated a greater distance than the fingers 11. When the fingers 11 are raised over the abutment 16, the springs 4 and 5 which are under increased tension at this time and are inclined to the vertical and to the right, will swing the bridging member 3 on an increased angle, causing fingers 11 to swing laterally to engagement with the abutments 14. When operating member 11 is released, springs 4 and 5 will rock bridging member 3 from the dotted line position shown in Figure 1, to a position where the fingers 10 will be disposed to the left of abutment 15 and the parallel sides of bridging member 3 will be disposed between contacts 6 and 7.

What I claim is:

A switch comprising opposed pairs of contacts, an insulating body between said contacts, a bridging member U-shaped in transverse section loosely engaging over said body, a spring connected between said body and the central portion of the bight of said member, said body having

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a pair of recesses in the bight thereof on opposite sides of said central portion, outer abutments fixed relative to said body and selectively engageable with said member, an intermediate abutment carried by said body medially between said pair of abutments, pairs of arms carried by the sides of said member selectively engageable with said abutments, and an endwise movable operator slidably carried by said body engageable alternately in said recesses whereby to rock said member to lift said arms over an outer abutment, said spring upon rocking of said member shifting

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the latter in the opposite direction for bridging engagement between the other pair of contacts.
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REFERENCES CITED

The following references are of record in the file of this patent:

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