

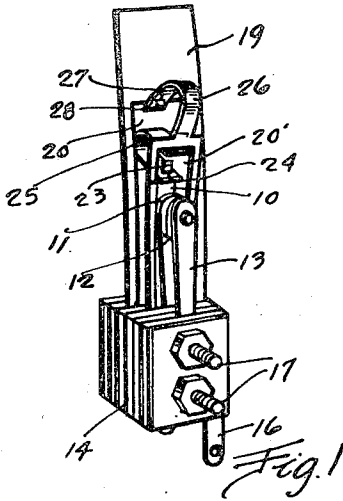
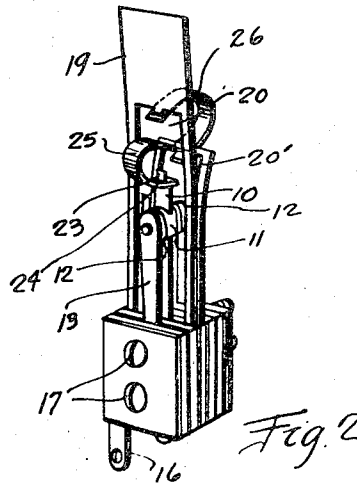
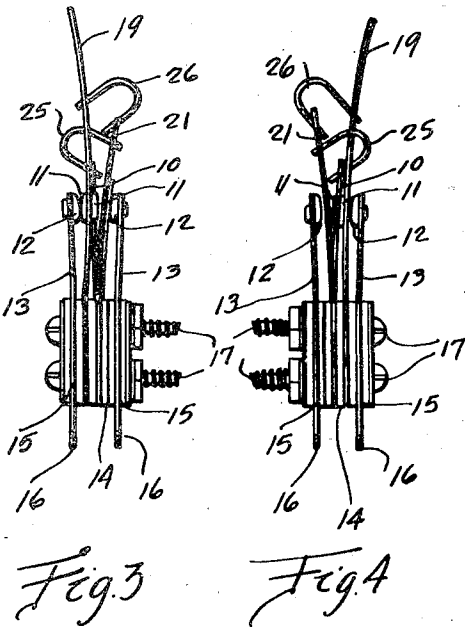
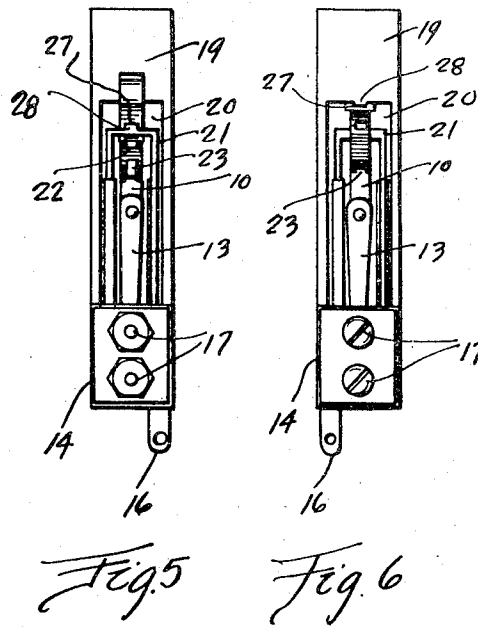
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SNAP-ACTION SWITCH

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SNAP-ACTION SWITCH

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1 Claim. (Cl. 200—67)

1

It is an object of the present invention to provide a snap-action switch which will snap in trigger-like action to make a positive contact and one which cannot be easily jarred apart and yet will have all the sensitivity required of certain apparatuses of this character.

Other objects will appear hereinafter.

The invention consists in the novel combination and arrangement of parts to be hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawing showing the preferred form of construction, and in which:

Figs. 1 and 2 are perspective views in reverse order of the snap-action switch embodying the invention;

Fig. 3 is a side view of the same;

Fig. 4 is a view similar to Fig. 3 but showing the parts in different positions with respect to each other;

Figs. 5 and 6 are front and rear views, respectively, of the switch embodying the invention.

Referring to the drawing, 10 indicates a flexible contact blade having on opposite sides thereof contact heads 11. These heads 11 are adapted to engage contact points 12 arranged on opposite sides of the blade 10 in the path of movement of the contact blade 10 and are carried by conductor arms 13.

The contact blade 10 is of resilient material whereby to move in trigger-like action from and into alternate engagement with the points 12. The conductor arms 13 are preferably formed of substantially rigid plate material and formed as an integral part of enlarged portions 15, each providing an extended portion 16 for connection with a circuit or conductor wire (not shown). The contact blade 10 and enlargements 15 of the arms 13 are mounted in a mounting block 14 and separated from each other by laminated sheets of insulating material which sheets constitute the block 14 and are secured together by nut bearing bolts 17, one of which bolts 17 has contact with the contact blade 10 and to this bolt is connected a circuit or conductor wire (not shown).

Carried by the block 14 and insulated by the sheets thereof from the arms 13 is an actuating arm 19 provided with a medial slotted portion 20. A second actuating arm 21 of a smaller size than the arm 19 and a size sufficient to occupy the major portion of the cut-out portion 20 is carried by the block 14 and likewise insulated by the sheets thereof from the arms 13. The second actuating arm is likewise provided with a medial slot 20' occupied by the contact plate 10. It also provides a depending lip 22. The blade 10 is provided with upstanding lip 23, these lips 22 and 23 projecting into slots 24 formed in the opposite end portion of a U-shaped spring element 25 which is so biased as to throw the blade 10 in alternate action on opposite sides of its lon-

2

gitudinal axis. Acting upon this second actuating arm 21 is the outer arm 19, and it is connected for this purpose with the inner arm 21 by means of a U-shaped spring element 26 having its opposite end portions provided with slots 27 which receive extending lips 28 provided by the inner and outer arms 21 and 19, respectively. This spring element 26 is located with respect to the arm 19 on the side opposite to where the spring 25 is located with respect to the arm 21. The arrangement is such that this spring 26 is biased to act upon the inner arm 21 to snap the inner arm 21 alternately on opposite sides of its longitudinal axis in a direction opposite to the snap-action movement of the blade 10 by the spring element 25.

By the use of a switch constructed in accordance with the foregoing description read in the light of the accompanying drawing, not only is the sensitivity of the switch maintained, but it is greatly increased over prior switches of this general type. Also, by the employment of the double-acting spring elements, an increased snap-action results in the operation of the switch, and these spring elements cooperate together not only for this last stated purpose but also to assure a positive contact, one that is not easily jarred apart by shock or other disturbances.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the precise details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claim.

Having thus described my invention, what I claim as new and desire to protect by Letters Patent is:

A snap-action switch comprising a switch blade having a contact head extending on opposite sides thereof, an insulating mounting block for said blade, contact arms carried by said mounting block out of contact with said blade, and provided with contact plates adapted to be alternatively engaged by the contact head, an actuating arm carried by said block and insulated thereby from said contact arms, a spring connection between said arm and said blade for biasing the blade on opposite sides of its longitudinal axis, a second actuating arm carried by said block and insulated thereby from said contact arms, and spring means connecting said second actuating arm with said first-mentioned actuating arm for biasing said actuating arm alternately on opposite sides of its longitudinal axis in a direction opposite to the biasing of the contact blade by said spring means connecting said second actuating arm to said blade.

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