

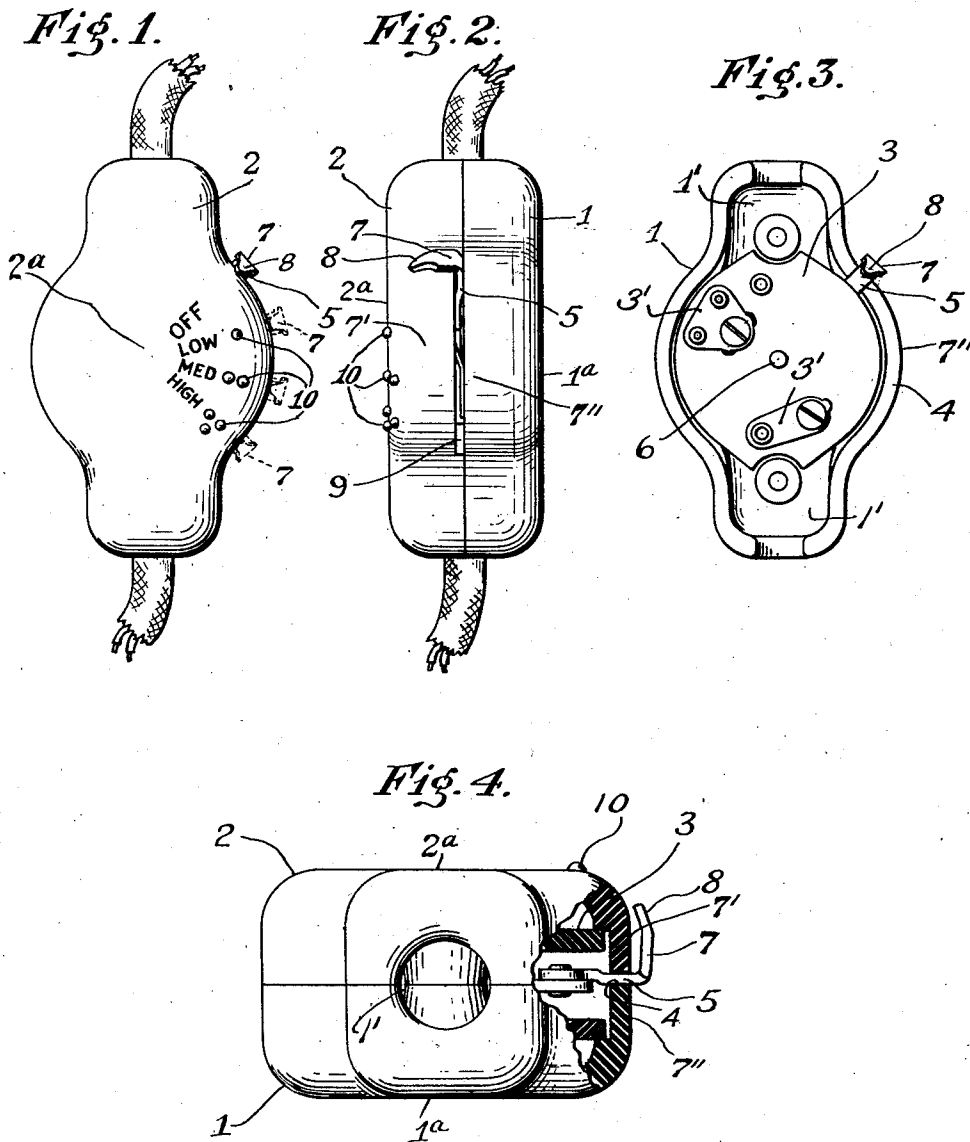
July 21, 1931.

J. G. PETERSON

1,815,635

ELECTRIC SWITCH

Filed Dec. 16, 1927



INVENTOR
JOHANN G. PETERSON
BY *[Signature]*
ATTORNEY.

UNITED STATES PATENT OFFICE

JOHANN G. PETERSON, OF WEST HARTFORD, CONNECTICUT

ELECTRIC SWITCH

Application filed December 16, 1927. Serial No. 240,438.

My invention relates to electric switches.

It has for its object to provide an improved switch. A further object of my invention is to provide an improved switch having improved actuating means, and also improved indicating means adapted to cooperate with said actuating means. Other objects of my invention are to provide an improved switch of the through type used on electric heater pads or the like and also, more particularly, to provide such a switch equipped with improved actuating means whereby accidental operation is minimized when the switch is pulled by the cord in the bed, and the operation of adjusting the switch is facilitated and made more convenient, while improved cooperating indicating means are also provided whereby the position of the switch, in any of its various positions, may be readily determined either by sight or touch. These and other objects and advantages of my improved construction will, however, hereinafter more fully appear.

In the accompanying drawings I have shown, for purposes of illustration, one embodiment which my invention may assume in practice.

In these drawings,—

Figure 1 is a front view of a switch equipped with my improvement, the switch actuating member being shown in dotted lines in different positions of adjustment;

Fig. 2 is a side elevation of the same with the switch actuating member shown in the "off" position;

Fig. 3 is a plan view of the switch casing with the cover thereof removed, and

Fig. 4 is an end view of the switch with a portion broken away to facilitate illustration.

In this illustrative construction, I have shown a switch of the through switch type comprising a two-part, longitudinally divided casing having a base portion 1 and a cover portion 2, each provided with usual conductor apertures 1', 2' in their ends, and which enclose between them a switch mechanism of any suitable form, herein indicated generally as a unit 3 having usual external conductor terminals 3' and a pivoted actuat-

ing member movable within the limits of a slot extending longitudinally of one side of the casing, both the casing and the actuating member for this switch being herein of improved form, as hereinafter more fully brought out.

More particularly considering the structure shown, it will be noted that the casing member 1, while adapted to receive and position the switch unit 3 therein in a well known manner, i. e. as shown in Fig. 3, is herein provided with a side wall 4 which is of uniform height all around the switch aperture. Moreover, it will be noted that the switch 3 is provided with an operating member 5 adapted in a usual manner to move about a pivot 6, and so projecting from the switch mechanism 3 that the actuating end portion of the member 5 which extends outside the casing member 1 is disposed in a plane above the wall 4 of that casing. Thus, it will be observed that no special slotting of the casing member 1 is required and that, since it is identical at each end, the switch 3 may be assembled therein in the position in Fig. 3 with great facility and despatch regardless of which end of the casing 1 is at either end of the switch unit 3, no particular relative position of the switch mechanism or unit 3 and the casing member 1 being required.

Here it will also be noted that the actuating member 5 is provided with a laterally disposed portion 7 extending laterally to one side of its body portion and toward the front of the casing member 2. It will also be noted that this portion 7 moves outside the casing member 2 closely adjacent the latter and in a path substantially conforming to the outwardly curved side 7' of that casing member and, since the casing member 1 is provided with a similar side 7'', also in a path conforming substantially to the curvature of the latter side. This portion 7 is herein also provided with a pointer or indicator forming end 8, preferably also slightly inclined at its outer end toward the adjacent corner leading to the more flat supporting surface 2^a of the casing 2, as shown in Fig. 4. The outwardly curved side 7' of the casing 2 is here-

in also provided with a slot 9 extending longitudinally thereof and in the edge thereof adjacent the member 5, this slot being adapted to permit free movement of that member into a series of different positions spaced longitudinally along the slot and the curved sides 7' and 7'' of the casing as the member 5 is moved into the different positions of the switch. Moreover, the casing 2 is herein also provided on its more flat supporting face 2^a with suitable indicating means, including the indications "Off", "Low", "Med." and "High", radially disposed opposite the different positions of the actuating member 5 and each so arranged as to be in alinement with the pointer or indicator end 8 of the actuating member when the same is in that position, and thereby with the pointer or indicator cooperate to indicate clearly the position of the actuating member and of the switch.

Here it will also be noted that between these indications and the path of the pointer or indicator end of the actuating member, cooperating indicating means are provided enabling the position of the switch actuating member to be determined by touch. Herein, these indicating means are at the edge of the surface 2^a and between the indications "Off" etc. and the surface 7' and are in the form of a series of spaced projections 10, three projections, for example, being placed opposite the word "High", two opposite the abbreviation indicating "Medium", and one opposite the word "Low", while none is provided opposite the word "Off". Thus, with the switch actuating member in any position an operator, simply by the sense of touch and feeling with the same finger or thumb which actuates the actuating member and in a zone closely adjacent the outer end of the latter member, may determine the position of the switch even in the dark.

As a result of my improved construction, it will be observed that it is made possible to make one of the casing members, herein the casing member 1, of reversible construction and to confine all special construction to the cover member 2, both the slot and all the stationary indicating means being on this cover member. Thus not only is the cost of the casing member 1 reduced, but the process of assembly of the switch units therein is expedited, only one member, namely the cover, being provided which requires any special location relative to the switch unit. Further, by the provision of my improved actuating member it will be noted that an exceedingly effective actuating means is provided adapted to be moved without effort or undue bending back or rubbing of the thumb or finger of the hand holding the switch. Further, it will be noted that, due to its construction and arrangement substantially flush with the outwardly curved side of the casing and between the more flat supporting sides 1^a and

2^a thereof, any tendency of the actuating member to catch or hook in other things, as for example in bed clothes, clothing, or the like, is minimized, with a resultant minimizing of accidental operations of the switch which are sometimes highly dangerous. More particularly, it will be noted that the new actuating end or portion is so constructed and disposed as not only to be close to the outer surface of the curved portion 7' in its various positions, but, in its end, or full "off" and full "on" positions, very effectually shielded or shrouded by rounded portions 7', 7'', the middle portions of which project laterally beyond the actuating end when in these positions in such manner as to form a shroud therefor and thereby minimize catching of the actuating end and resultant dangerous accidental operation thereof when the switch is pulled longitudinally by its conductors. The new actuating end also herein cooperates effectively as a part of the indicating mechanism, pointing to each written indication on the casing member 2 and moving into adjacency to the touch indicator means so that the position of the switch may be readily determined either by sight, or by feeling in the dark. These and other advantages of my improved construction will, however, be clearly apparent to those skilled in the art.

While I have in this application specifically described one embodiment which my invention may assume in practice, it will be understood that the same is shown for purposes of illustration only and that the invention may be modified and embodied in various other forms without departing from its spirit or the scope of the appended claims.

What I claim as new and desire to secure by Letters Patent is:

1. In combination, a switch casing normally holdable in the hand and having an outwardly curved side and a slot extending longitudinally in said side, a switch mechanism enclosed in and insulated by said casing having a projecting swinging actuating member movable in said slot, and an actuating portion for said member disposed substantially at right angles to said projecting member and substantially flush with the surface of said curved side outside said slot and normally operative by a finger of the hand holding said casing.

2. In combination, a switch casing normally holdable in the hand and having a longitudinally disposed outwardly curved side and a slot extending longitudinally in said side, a switch mechanism enclosed in and insulated by said casing having a projecting swinging actuating member movable in said slot, and an actuating portion for said member disposed transversely relative to said slot closely adjacent said curved side and having an engaging surface substantially flush

with the external surface of the latter and normally engageable by a finger of the hand holding said casing.

3. In combination, a switch casing normally holdable in the hand and having substantially flat sides normally supporting said casing on one or the other, a longitudinally disposed outwardly curved side therebetween, and a slot extending longitudinally in said curved side, a switch mechanism enclosed in and insulated by said casing having a swinging actuating member movable in said slot, and an actuating portion for said member disposed substantially flush with the surface of said curved side and normally operable from outside said slot by a finger of the hand holding said casing.

4. In combination, a two part longitudinally divided through switch casing normally holdable in the hand and having one part adapted to co-operate with the other in receiving a switch and also having an outwardly curved side, while the other part has a slot therein extending longitudinally of said side adjacent the latter, a switch enclosed in and insulated by said casing having a projecting swinging actuating member movable in said slot into different longitudinally spaced positions along the latter, and an operating portion for said member extending laterally over said slotted part away from said first mentioned part and having a working surface substantially flush with the curved side of said first mentioned part.

5. In combination, a switch casing normally holdable in the hand and having an outwardly curved side and a slot extending longitudinally of said side, a switch mechanism enclosed in and insulated by said casing having a projecting actuating member movable in said slot along said curved side, and a laterally extending actuating portion for said member and extending only to one side of said slot and having an engaging surface normally engageable by a finger of the hand holding said casing and substantially flush with the surface of said curved side.

6. In combination, a switch casing normally holdable in the hand and having an outwardly curved side and a slot extending longitudinally of said side, a switch mechanism enclosed in and insulated by said casing having a projecting actuating member movable in said slot along said curved side, and a laterally extending actuating portion for said member and extending only to one side of said slot and having an engaging surface normally engageable by a finger of the hand holding said casing and substantially flush with the surface of said side and a pointer portion at its extremity deflected inward to a point more closely adjacent the surface of said casing.

7. In combination, a switch casing normally holdable in the hand during switch

operation and having an outwardly curved side and a longitudinal slot in that side thereof, a switch mechanism enclosed in and insulated by said casing having a projecting swinging operating member movable relative to said slot longitudinally of said casing, a laterally extending actuating portion therefor outside said slot normally engageable by a finger of the hand holding said casing and moving in an arc substantially conforming to the curvature of said curved side, and means on said casing and disposed adjacent the path of said portion comprising a series of different projections opposite different positions thereof.

8. The combination with an electric through switch casing having conductor apertures in its ends, a longitudinally disposed outwardly curved side therebetween having its intermediate portion projecting farther than its ends from the longitudinal center line of the casing, and a slot extending longitudinally of said curved side, and a switch mechanism enclosed in and insulated by said casing having conductor connections at its ends for conductors extending through said apertures, and a single swinging actuating member movable longitudinally of the curved side of said casing and having a plurality of different operating positions in said slot including off and on positions at opposite ends of the latter and an intermediate position between said ends, of an actuating portion for said actuating member having a working surface substantially flush with said curved side, said actuating portion being disposable in its off and on positions behind said intermediate portion and protected thereby in said off and on positions.

In testimony whereof I affix my signature.
JOHANN G. PETERSON.