Sept. 14, 1937. L. A. KEMPTON 2,093,321

SWITCH HANDLE

Filed Feb. 11, 1937

Fig. 1.

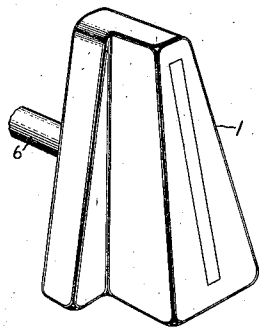


Fig. 2.

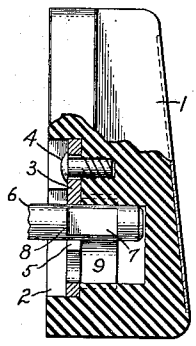


Fig. 3.

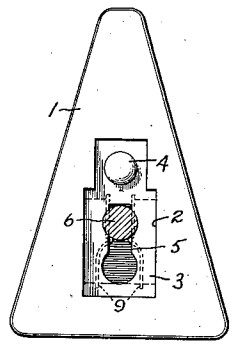


Fig. 4.

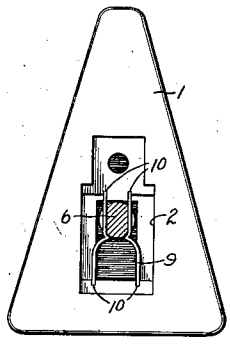
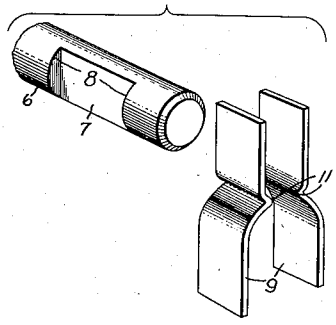


Fig. 5.



Inventor:
Leslie A. Kempton,
by Harry E. Dunham
His Attorney.

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SWITCH HANDLE

Leslie A. Kempton, Chicago, Ill., assignor to Edison General Electric Appliance Company, Chicago, Ill., a corporation of New York

Application February 11, 1937, Serial No. 125,263

6 Claims. (Cl. 200—172)

This invention relates to handles for snap switches rotatable in both directions and has for its objects to provide a handle which may be positively connected or disconnected to the switch shaft by a simple transverse movement thereof and which shall be of a construction adapted for economical manufacture.

One form of the handle is shown in the accompanying drawing, in which Fig. 1 is a perspective view thereof; Fig. 2 is a side elevation with part broken away; Fig. 3 is a rear elevation; Fig. 4 is a similar view with the locking plate removed; and Fig. 5 is a perspective view of an end of the switch shaft and retaining springs in disassembled relation.

The body of the handle 1 is molded of insulating material with one end made pointed to function as a position indicator and at the rear side is a two-story recess 2 of rectangular shape. In the outer story of the recess 2 is a metal locking plate 3 of a shape and size to closely fit the walls of the recess and secured therein by an insert or drive screw 4 extending through one end of the plate and into the body of the handle 1. The locking plate 3 is provided with a keyhole slot 5 with the round portion of a size to permit the end of the rotary switch shaft 6 to enter freely and with the parallel sided portion of a size to closely receive a flattened portion 7 of the shaft.

The shaft 6, as shown, is cylindrical and is flattened adjacent its end by the removal of the metal on both sides and so as to provide abrupt shoulders 8 at the ends of the flattened portion 7. The inner story of the handle recess 2 is shorter and narrower than the outer story and in it are disposed two leaf springs 9 fitted at their ends in spaced notches 10 in the ends of the chamber. The leaf springs 9 are bent midway of their lengths to provide humps 11 and they are assembled so that the humps face each other and with their lower ends spaced sufficiently far apart to permit the free entrance of the switch shaft 6, while the upper parallel ends are spaced apart to correspond with the flattened portion 7 of the shaft.

To connect the handle to the switch shaft, it is only required to enter it over the end of the latter through the round portion of the keyhole slot 5 and force it transversely downward so that the flattened portion 7 of the shaft passes into the narrow parallel sided portion of the slot, as indicated in Figs. 2, 3, and 4. In passing into the narrow portion of the slot, the shaft engages the humps 11 which are forced to yield sidewise until the shaft has moved to the upper end of the keyhole slot, whereupon they spring back so as normally to prevent return transverse movement between handle 1 and shaft 6. When it becomes necessary to disconnect the handle, it is forced transversely upward and the humps 11 yield as before.

The shoulders 8 at the ends of the flattened portion 7 of the shaft, when the handle is in operative position, engage the outer surface of the locking plate 3 and the inner edges of the leaf springs 9 respectively and prevent axial movement of the handle on the shaft when in operative relation.

What I claim as new and desire to secure by Letters Patent of the United States is:

1. The combination with a rotary switch shaft provided with a flattened portion adjacent the end thereof, of a detachable handle provided with means adapted to engage both sides of said flattened portion by a transverse movement thereon.

2. The combination with a rotary switch shaft provided with a flattened portion adjacent the end thereof, of a detachable handle provided with means adapted to engage both sides of said flattened portion by a transverse shaft thereon, and means for retaining the handle in shifted position.

3. The combination with a rotary switch shaft provided adjacent the end thereof with a flattened portion with radial shoulders at each end, of a detachable handle provided with means for engaging both sides of said flattened portion and said radial shoulders by a transverse shift thereon.

4. The combination with a rotary switch shaft provided adjacent the end thereof with a flattened portion with radial shoulders at each end, of a detachable handle provided with means for engaging both sides of said flattened portion and said radial shoulders by a transverse shift thereon, and means for retaining the handle in shifted position.

5. A rotary switch handle comprising an insulating body with a chambered recess, and a locking plate with a keyhole slot secured in said recess.

6. A rotary switch handle comprising an insulating body with a chambered recess, a locking plate with a keyhole slot secured in said recess, and a leaf spring provided with a shaft engaging hump disposed in said recess inside of said plate.

LESLIE A. KEMPTON.