

C. W. EISENMANN.
 SWITCH HANDLE.
 APPLICATION FILED OCT. 7, 1911.

1,025,691.

Patented May 7, 1912.

Fig. 1.

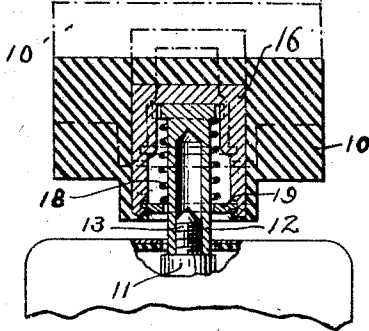


Fig. 2.

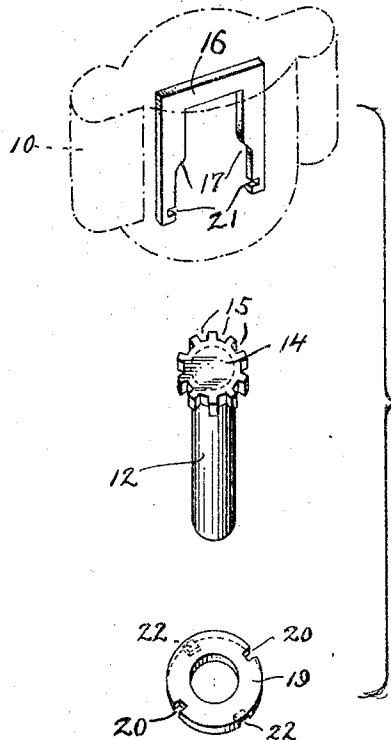


Fig. 3.

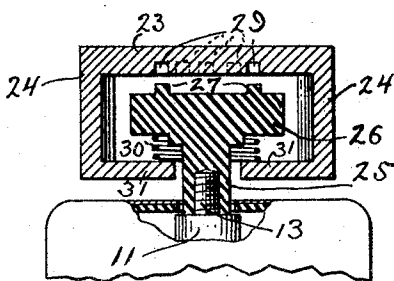
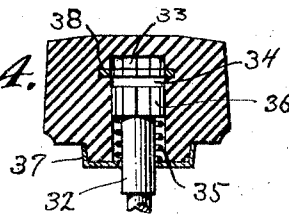


Fig. 4.



Attest:
W. H. L. L. L.
 L. H. L. L.

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UNITED STATES PATENT OFFICE.

CARL W. EISENMANN, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE PERKINS ELECTRIC SWITCH MANUFACTURING COMPANY, OF BRIDGEPORT, CONNECTICUT, A CORPORATION OF CONNECTICUT.

SWITCH-HANDLE.

1,025,691.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CARL W. EISENMANN, a subject of the German Emperor, residing in Chicago, in the county of Cook and State of Illinois, have invented a certain new and Improved Switch-Handle, of which the following is a specification.

My invention relates to switch handles, particularly for rotary snap switches, the object of my invention being to provide an adjustable actuating engagement between the handle and the switch spindle by means of which the thumb piece may be positioned in definite desired relation to the position of the switch blades after the handle has been attached to the switch.

Exemplary embodiments of my invention are shown in the accompanying drawing in which,

Figure 1 is a vertical section through a switch handle; Fig. 2 is a perspective of certain parts thereof detached; Figs. 3 and 4 are vertical sections through other forms of switch handle.

As ordinarily constructed the position of the thumb piece or key of a rotary switch after the handle has been secured in position, bears no predetermined particular relation to the position of the contact blades of the switch mechanism and it is consequently impossible to tell anything about the position of the switch contacts from the position of the thumb piece. Indicating dials mounted on the switch spindle or other indicating devices of similar nature have consequently been employed commonly for the purpose of disclosing whether or not the switch blades are in the "on" or "off" position.

By my present invention the necessity for such a dial or other indicating device is eliminated, by so constructing the switch handle that after it has been secured in position its thumb piece may be rotarily adjusted to a position in definite relation to the switch contacts so that its position will indicate with precision the "on" or "off" condition of the switch. This may be accomplished in various ways and I have illustrated merely three exemplary embodiments of the invention. The first of these is shown in Figs. 1 and 2. Here the handle comprises the usual winged thumb piece 10 of insulating material, centrally recessed from

below to receive the means for operatively connecting the same to the switch spindle 11. In this example the connection is secured through a metal stem 12 threaded at its lower end to receive the threaded end 13 of the switch spindle. The upper end of the stem 12 is provided with a head 14 having cut around its periphery a series of slots 15 in which engage the opposite upper vertical edges of a metal yoke 16 embedded in the thumb piece 10 and projecting into the central recess thereof. The lower vertical edges of this yoke are cut away at 17 until they are spaced apart a greater distance than the diameter of the head 14 of the stem. Consequently when the thumb piece is pulled up into the position indicated in dotted lines Fig. 1, the head 14 is disengaged from the yoke 16 and the thumb piece may therefor be freely rotated without actuating the switch spindle, and may be turned to such position in definite relation to the switch blades as may be desired. The thumb piece is returned to and normally held in actuating engagement with the stem by the coil spring 18 which presses the thumb piece down so that the upper portion of the yoke engages the slotted head 14 of the stem. This spring 18 may be confined in any suitable manner. Here I have shown it compressed between the washer 19 and the head 14. As a convenient method of securing the washer in position I have made it of slightly greater diameter than the lower ends of the yoke 16 and slotted at 20 so that it may be passed up to the recesses 21 on the opposite sides of the yoke and then turned and seated in the depressions 22 in the lower face of the washer so that it is held against rotation.

In the example shown in Fig. 3 the thumb piece comprises a metal disk 23 with diametrical arms 24 bent down beneath the head 26 of the insulating stem 25 which is screwed onto the switch spindle. A pair of lugs 27 on the upper face of the head 26 engage opposite recesses in the series 29 in the inner face of the disk 23 and are normally held in engagement by the coil spring 30 interposed between the inturned lower ends 31 of the arms 24 and the head 26.

In the example shown in Fig. 4 the head 36 of the metal stem 32 is rectangular, and is seated in the rectangular bottom 33 of the

cylindrical recess 34 in the insulating handle where it is normally held by the coil spring 35 interposed between said head 36 and the washer 37 crimped to the base of the handle. A rectangular metal washer 38 may be embedded in the handle to prevent wear of the angles of the recess.

In all of the forms illustrated it is obvious that the thumb piece may be freed from its actuating engagement with its stem (and thus with the switch spindle) by longitudinally displacing the thumb piece against the action of the coil spring the latter serving to return the thumb piece again into actuating engagement with the stem in such a different position as may be desired in order to definitely relate the position of the thumb piece to the position of the switch blades.

The structures shown are but illustrative embodiments of my invention as will be readily understood.

I claim as my invention:—

1. A switch handle comprising a thumb piece, means for securing the same to a switch spindle and means operative in assembled condition of the parts for rotarily adjusting said thumb piece with relation to its securing means for the purpose described.

2. A switch handle comprising a securing stem, an actuating thumb piece and a rotarily adjustable actuating connection between said stem and thumb piece operative in assembled condition of the parts.

3. A switch handle comprising means for securing the same to a switch spindle, and an actuating member angularly adjustable with relation thereto during the undisturbed assembly of the handle upon the switch spindle.

4. A switch handle comprising for securing the same to a switch spindle, a thumb piece longitudinally and angularly displaceable in assembled condition with relation to said spindle and means for locking the same against angular displacement during part of its longitudinal displacement.

5. A switch handle comprising for securing the same to a switch spindle, a thumb piece longitudinally and angularly displaceable in assembled condition with relation to said spindle and means for locking the same against angular displacement during part of its longitudinal displacement, and means to hold said thumb piece in such locked position.

6. A switch handle comprising for securing the same to a switch spindle, a thumb

piece longitudinally and angularly displaceable in assembled condition with relation to said spindle and means for locking the same against angular displacement during part of its longitudinal displacement, and yieldable means to hold said thumb piece in such locked position.

7. A switch handle comprising a securing stem, a thumb piece and an angularly adjustable actuating connection between the same operative in assembled condition.

8. A switch handle comprising a securing stem, a thumb piece longitudinally displaceable thereon and an actuating engagement against relative rotary displacement of said parts operative in assembled condition during only portion of said longitudinal displacement, said engagement against relative rotary displacement being operative in various relative rotary positions of the parts.

9. A switch handle comprising a securing stem, an operating thumb piece having limited longitudinal displacement thereon, and a rotarily adjustable engagement against relative rotary displacement operative in assembled condition during only portion of said limited longitudinal displacement, for the purpose described.

10. A switch handle comprising a securing stem, an operating thumb piece having limited longitudinal displacement thereon, and a rotarily adjustable engagement against relative rotary displacement operative in assembled condition during only portion of said limited longitudinal displacement, together with means for maintaining said parts in the position in which said engagement against relative rotary displacement, is operative.

11. In a switch key, the combination of a stem and a handle therefor, means for preventing the handle from being displaced from said stem when the handle is moved longitudinally of said stem and means carried by said stem and said handle for permitting the handle to have adjustable engagement with the stem, said first named means also permitting relative movement of the handle and stem for changing said adjustable engagement.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses.

CARL W. EISENMANN.

Witnesses:

ANTON ABRAMIS,
BERTHOLD BOENICKE.