No. 791,085. PATENTED MAY 30, 1905.

F. C. DE REAMER.

THUMB PIECE FOR ELECTRICAL SWITCHES.

APPLICATION FILED DEC. 9, 1902.

Fig. 1.

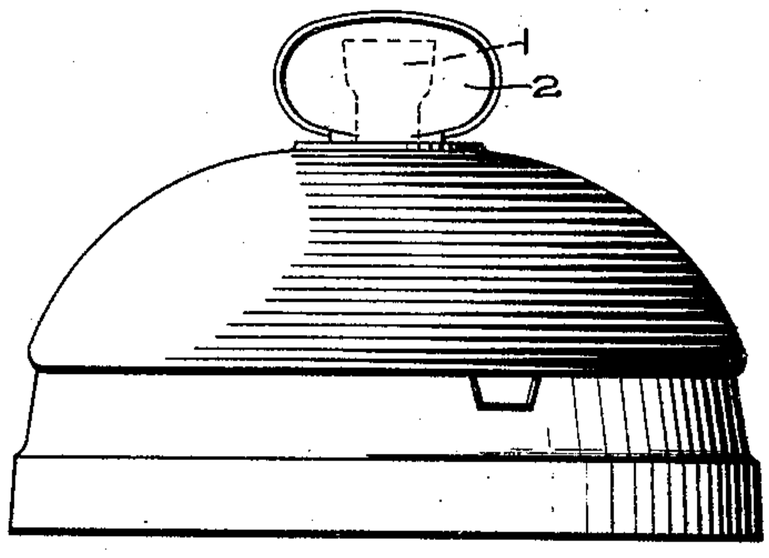

Fig. 2.

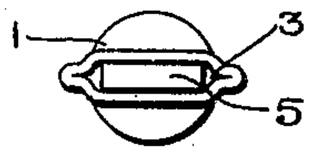

Fig. 3.

Witnesses
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No. 791,085. Patented May 30, 1905.

UNITED STATES PATENT OFFICE.

FRANK C. DE REAMER, OF SCHENECTADY, NEW YORK, ASSIGNOR TO GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

THUMB-PIECE FOR ELECTRICAL SWITCHES.

SPECIFICATION forming part of Letters Patent No. 791,085, dated May 30, 1905.

Application filed December 9, 1902. Serial No. 134,507.

To all whom it may concern:

Be it known that I, FRANK C. DE REAMER, a citizen of the United States, residing at Schenectady, county of Schenectady, State of New York, have invented certain new and useful Improvements in Thumb-Pieces for Electrical Switches, of which the following is a specification.

My invention relates to electric switches, and has for its object to provide an inclosed spring connection between the switch-spindle and the thumb-piece whereby a yielding pressure is exerted upon the cover of the switch to hold it against the base.

The invention will be more readily understood by reference to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is an elevation of an ordinary form of snap-switch having a thumb-piece provided with a spring connection with its spindle, embodying one form of my invention. Fig. 2 is a top plan of the connection between the spindle and the thumb-piece, and Fig. 3 is a vertical section of the same with the spindle shown in full.

As yieldable connections between thumb-pieces and spindles have been constructed heretofore it has been necessary to machine out the thumb-piece for the reception of the sliding parts and secure them in place by screws or similar means. This mode of construction in addition to being very expensive is objectionable on account of the tendency of the parts to work loose and the facility with which they become clogged by dust.

According to my invention I provide a metallic tube-section 1, which carries the movable parts of the device and about which the thumb-piece 2 may be readily molded according to the method heretofore employed for molding insulation about bushings and the like. The upper end of the tube-section 1 is partially collapsed, as shown in Fig. 2, so as to have a narrow rectangular opening 3 therein. Loosely mounted within the tube-section 1 is a cylindrical nut 4, having the opposite sides of its upper end ground off, so as to leave a rectangular blade 5 at the upper end of the nut, adapted to loosely engage the rectangular opening 3 in the tube-section, whereby the said parts are locked against relative rotary movement, while free to move longitudinally with respect to each other. The lower end of the nut 4 is tapped to receive the upper end of the switch-spindle 6. A helical spring 7 surrounds the spindle 6 and thrusts at its upper end against the nut 4 and at its lower end against a shoulder formed by the inturned ears or projections 8 on the lower end of the tube-section 1, so that the tube-section 1 and the thumb-piece 2 thereon will be yieldingly held in depressed position relative to the spindle, and by means of the engagement of the shoulder at the lower end of the tube-section 1 and the upper surface of the switch-cover the pressure of the spring is transmitted to the cover and acts to hold it in permanent contact with the switch-base.

I do not desire to restrict myself to the exact construction or arrangement of parts herein shown, as the same may be varied without departing from my invention.

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

1. The combination with an insulating thumb-piece, of an inclosing metallic tube, a nut movable longitudinally therein and held from relative rotary movement, and a spring located within said tube and thrusting against the said nut.

2. The combination with an insulating thumb-piece, of an inclosing metallic tube having an inner shoulder at one end, a nut movable longitudinally therein and held from relative rotary movement, and a spring located within said tube and thrusting against said nut and said shoulder.

3. The combination of an inclosing tube having one end partially collapsed and an inner shoulder at the other end, a nut located in said tube and provided with a flattened end adapted to loosely fit the aperture in the collapsed end of the tube, and a spring engaging the opposite end of said nut and said shoulder of the tube.

4. The combination of an inclosing tube, a thumb-piece molded about said tube, a nut

longitudinally movable in said tube, means to prevent relative rotary movement of the nut and tube, and a spring acting to force the nut and tube in opposite directions.

5. The combination with an insulating thumb-piece, of a spindle provided with a shoulder near its upper end, an inclosing metallic tube movable longitudinally and held from rotary movement relative to said spindle and provided with an inner shoulder at its lower end, and a spring surrounding said spindle and thrusting against the respective shoulders on the spindle and the inclosing tube.

In witness whereof I have hereunto set my hand this 6th day of December, 1902.

FRANK C. DE REAMER.

Witnesses:

BENJAMIN B. HULL,

HELEN ORFORD.