

(No Model.)

C. G. BERGQUIST.
ELECTRIC SWITCH.

No. 558,343.

Patented Apr. 14, 1896.

Fig: 1.

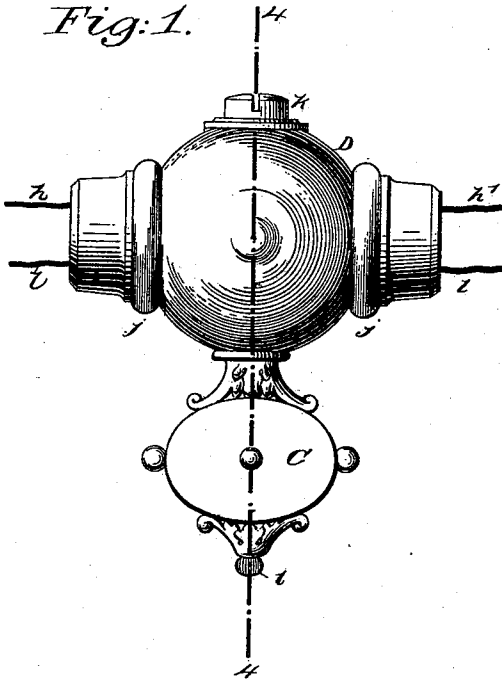


Fig: 2.

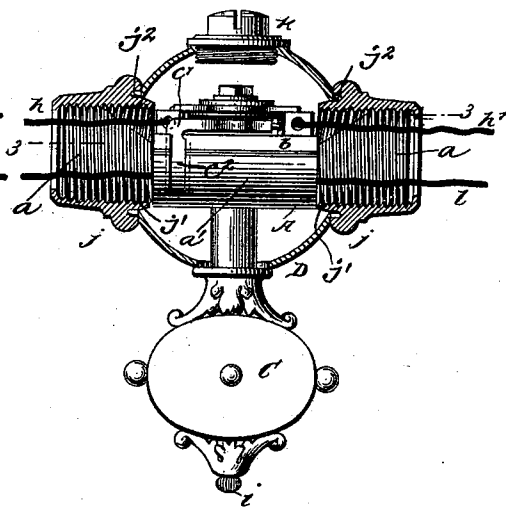


Fig: 3.

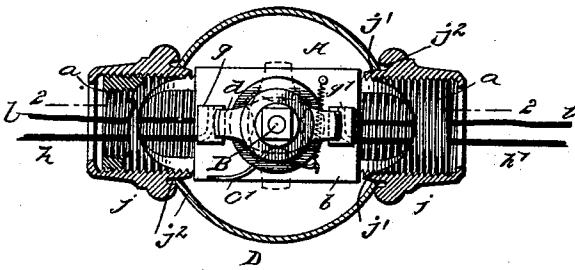


Fig: 4.

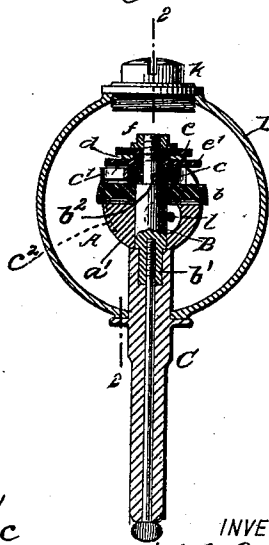
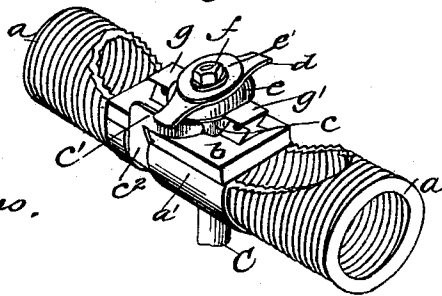


Fig: 5.



WITNESSES:

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CHARLES GUSTAF BERGQUIST, OF CHICAGO, ILLINOIS.

ELECTRIC SWITCH.

SPECIFICATION forming part of Letters Patent No. 558,343, dated April 14, 1896.

Application filed June 25, 1895. Serial No. 554,038. (No model.)

To all whom it may concern:

Be it known that I, CHARLES GUSTAF BERGQUIST, of Chicago, in the county of Cook and State of Illinois, have invented a new and Improved Electric Switch, of which the following is a full, clear, and exact description.

The object of my invention is to construct a simple, compact, and effective electric switch for attachment to electric fixtures, which will have the appearance of a gas-key, and in which the electricity will be turned on and off by the movement required in operating the gas-key.

My invention consists in a support for the switch, an insulated switch-arm carried by a revoluble tubular shaft, two contacts for receiving the wires, a ratchet-wheel attached to the tubular revolving shaft, and a pawl attached to the support and adapted to engage the teeth of the ratchet-wheel.

It also consists in a spherical casing held in place around the switch by caps screwed onto the body of the switch, and in a key passing into the spherical casing and screwing into the tubular shaft of the switch, all as will be hereinafter more fully described.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of my improved electric switch. Fig. 2 is a longitudinal section taken on lines 2 2 in Figs. 3 and 4. Fig. 3 is a horizontal section taken on line 3 3 in Fig. 2, and Fig. 4 is a transverse section taken on line 4 4 in Fig. 1. Fig. 5 is a perspective view showing the operative parts of the switch, the casing being omitted.

As shown in the views, the improved switch comprises a body A, consisting of a tube or rod having a circular cross-section and having its end portions *a* interiorly and exteriorly screw-threaded, the central part *a'* thereof being recessed or cut away and flattened on its upper side, as clearly seen in the drawings.

On the flattened central part of the body A is arranged a flat plate *b*, of insulating material, having a general rectangular form, and in said central part *a'* of the body is journaled a shaft B, extending at right angles to the flattened upper face thereof and having its

lower end *b'* reduced and squared and also provided with an axial interiorly-threaded socket, as seen in Fig. 4, its upper end being also reduced, as seen at *b''*, to receive a ratchet-wheel or toothed plate *c*, also constructed by preference of insulating material and arranged flush on the plate *b*.

The teeth of the ratchet-wheel or plate *c* are arranged to be engaged by a bent leaf-spring *c'*, having an angular depending shank *c''*, arranged to be slid into a groove or channel formed in one side of the plate *b* and body A, the sides of said groove being undercut, as clearly shown, in order to hold said shank, which is curved concentric with the curved face of the body A, securely in place.

Above the ratchet-wheel or plate *c* are arranged two washers *e e'* on the reduced upper end *b''* of shaft B, and between said washers is arranged a switch-arm *d*, insulated from said shaft by means of a projection on one of said washers *e e'*, which extends through the central opening in said switch-arm *d*, as clearly seen in the sectional view, Fig. 4. The upper end of the portion *b''* of shaft B is screw-threaded to receive a nut *f*, which is squared, as seen in Figs. 3 and 5, and serves to hold the various parts in place on said shaft. As seen in the drawings, the lower washer *e* projects beyond the ratchet-wheel or plate *c*, so as to engage the upper side of the spring *c'*, whereby said spring is held against slipping up out of the groove wherein it is held when the parts are assembled.

At opposite ends of the plate *b* of insulating material are arranged contact-points *g g'*, adapted to be engaged by the opposite projecting ends of the switch-arm *d* when the same is turned so as to stand in the position seen in Fig. 3; but when the said arm *d* is turned so as to stand in the position seen in Fig. 5 the ends thereof are moved out of contact with said contact-points and the electrical connection between said contact-points is broken.

Wires *h h* serve to convey the electricity to and from the switch, these wires being carried through the tubular ends *a* of the body, and when desired said tubular body may be employed as a protector or conduit for other electric circuits, as shown at *l* in Figs. 3 and 4. Said wires may be inclosed in tubes screw-

ing inside the tubular ends *a* of body A, as will be readily understood.

A casing D of general spherical form is herein shown inclosing the switch, being provided with openings at its ends to receive the reduced projecting ends *j'* of thimbles *j*, screwing on the screw-threads exteriorly formed on the ends of body A, said thimbles having open ends and being provided with annular seats *j''* to receive the edges of the shell or casing D, and at top and bottom said casing is also provided with apertures, the opening in the top being closed by a screw-plug *k*, as seen in the drawings.

The openings in the top and bottom of casing A are alined with the upper and lower ends of shaft B, so that when the screw-plug *k* is removed a tool may be inserted to loosen the nut *f*, and through the opening in the bottom of the casing passes the stem of the key C of the device, which key is formed with a square socket in its upper end to receive the squared lower end *b'* of shaft B, and is provided with a perforation extending axially through it to receive the threaded stem of a bolt *i*, screwing into the socket in the lower end of said shaft B and provided with a head at the base of said key, as seen in Fig. 4.

The device as above described is of an extremely simple and inexpensive construction and is well adapted for use on all electric circuits where it is desired the operative parts shall be exposed as little as possible to prevent deterioration. The construction is also such that the casing may be readily removed so as to expose the whole device, since the key may be detached by simply removing the bolt *i*, and the casing may be removed by unscrewing the thimbles *j*.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a switch, the combination of a body having screw-threaded end portions and a cen-

tral portion recessed on one side, a flattened plate of insulating material held in the recess in the body a shaft mounted to turn in said central portion of the body and projecting from said plate of insulating material at right angles to the flattened face thereof, insulated contact-points on said central part of the body, a switch-arm carried on said shaft to engage said contact-points, a casing having openings to permit of said body being passed through it, and thimbles screwing on the ends of the body and serving to hold said casing in place, substantially as set forth.

2. In a switch, the combination of a body having a dovetailed groove and a flattened surface, a shaft mounted to turn in said body and projecting therefrom at right angles to said flattened surface, insulated contact-points on the body, a switch-arm on the shaft to engage said contact-points, a ratchet-wheel on the shaft, and a spring having a shank to engage said dovetailed groove in the body and arranged to engage the teeth of said ratchet-wheel, substantially as set forth.

3. In a switch, the combination of a body having a flattened surface and provided with a groove at an angle thereto, a shaft mounted to turn in said body and projecting therefrom, at right angles to said flattened surface, a ratchet-wheel on said shaft, a washer of insulating material on said shaft above said ratchet-wheel and of greater diameter than the same, contact-points on the body, a switch-arm on the shaft to engage said contact-points, and a spring arranged with one end engaging the teeth of said ratchet-wheel and held under said washer, the other end of said spring being provided with a shank to engage said groove in the body, substantially as set forth.

CHARLES GUSTAF BERGQUIST.

Witnesses:

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