

B. A. STOWE.

ELECTROLIER.

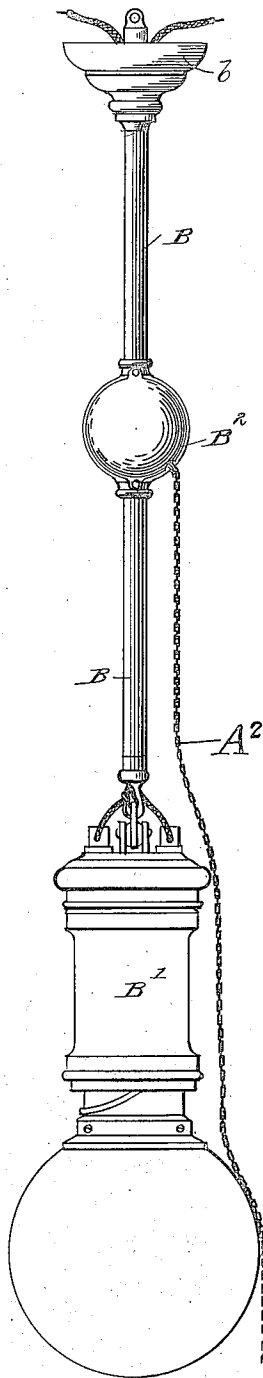
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949,946.

Patented Feb. 22, 1910.

2 SHEETS—SHEET 1.

Fig. 1



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2 SHEETS—SHEET 2.

Fig. 2

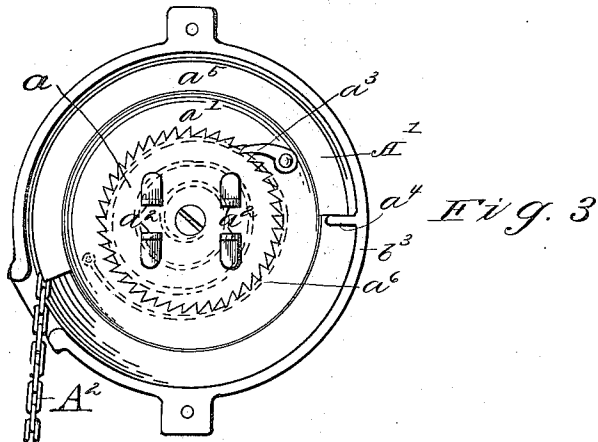
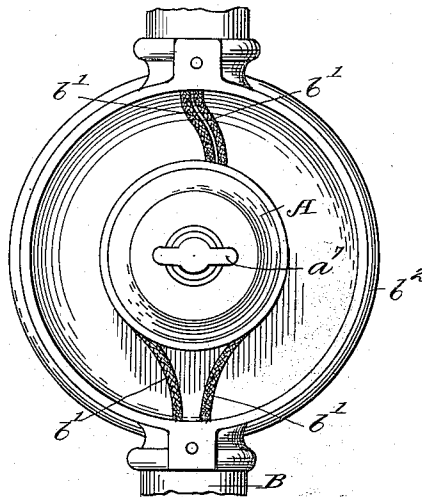
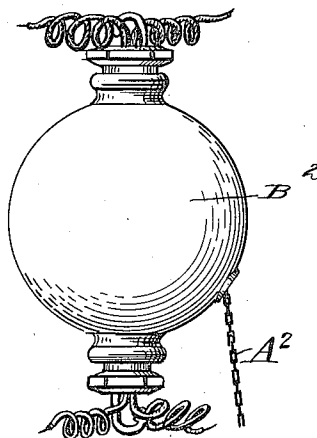


Fig. 4



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UNITED STATES PATENT OFFICE.

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ELECTROLIER.

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To all whom it may concern:

Be it known that I, BERNARD A. STOWE, a citizen of the United States, resident of Cleveland, county of Cuyahoga, and State of Ohio, have invented a new and useful Improvement in Electroliers, of which the following is a specification, the principle of the invention being herein explained, and the best mode in which I have contemplated applying that principle, so as to distinguish it from other inventions.

My invention relates to electric switches and has particular regard to the provision of an electric switch adapted to be incorporated in an electrolier or the like.

The object of thus combining in the electrolier structure the switch, whereby the lamp supported by such structure is controlled, is to overcome the disadvantages more fully pointed out later resident in the provision of switches for controlling such lamps at stations removed therefrom. At the same time, it will be seen that I preserve the neat and artistic effect desired in such electroliers.

To the accomplishment of these and related ends said invention consists of means hereinafter fully described and particularly pointed out in the claims.

The annexed drawings and the following description set forth in detail certain means embodying the invention, such disclosed means, however, constituting but one of various mechanical forms in which the principle of the invention may be used.

In said annexed drawings: Figure 1 represents in side elevation an electrolier supporting a well known type of arc electric lamp in which electrolier has been incorporated my improved type of switch; Figs. 2 and 3 are inside views of the switch structure by itself in its disassembled condition; and Fig. 4 is a side elevation illustrating a modified form of the invention.

Referring first of all to the switch construction shown in Figs. 2 and 3 it may be stated that the specific type of switch A employed is the ordinary one with a rotatable button *a'* that is adapted in successive rotative positions to alternately make and break the connection between the conductor terminals. Such rotatable switch I propose to operate by means of a pawl and ratchet mechanism A' shown in the second of the two figures named. Such pawl and ratchet

mechanism is in turn operated by means of a cord, or preferably a fine chain A², by the pulling of which a definite amount of rotation is imparted to the switch such as is adapted alternately to effect the desired electrical connection and to thereupon break the connection thus made. This switch and switch controlling mechanism I incorporate in the electrolier structure as follows: It is quite general to suspend the electric lamp, whether a cluster of incandescent bulbs or a single arc lamp, as illustrated by means of a hollow tube B extending downwardly from the ceiling of the room, wherever such light is to be used. Such tube B may be secured in any approved fashion to the ceiling, there being usually provided an inverted cap *b* that conceals the manner of attachment as well as the lead wires to the lamp. Such wires are then carried down to the lamp B' within hollow tube B and are connected to the proper terminals on the case of the lamp in the fashion shown in Fig. 1. As an ornamental feature for breaking the continuity of the rod or tube thus utilized to support the lamp a ball B² is very frequently used, such ball usually fitting over the tube and being secured by suitable means thereon intermediate of its ends. It is this ball that I transform into a casing to receive the switch mechanism which has been above recently described. Instead, however, of sliding the ball onto a continuous tube I make the tube into two sections and insert the ball there between, making the latter of two separable portions, one of which *b*² bears the necessary bosses to which are fitted the ends of the tube sections; the other of which *b*³ is attached to the portion thus fixed in the electrolier structure. Firmly mounted in such fixed portion *b*² of the ball casing is the aforesaid rotatable switch device A, to the terminals of which are joined the respective ends of one of the wire conductors *b'* *b'*, passing down through the tube in the manner above described, such wire being severed for this purpose. In the other or detachable portion *b*³ of the ball, I mount the ratchet device A' for rotating or actuating such switch.

Ratchet device A' is quite simple in construction comprising two members *a* *a'* rotatably mounted within ball portion *b*³. Of said members the innermost *a* is a disk-like ratchet wheel, adapted in the assembled

condition of the casing to operatively engage the button of the rotatable switch by virtue of projections or lugs a^2 on its inner face disposed so as to fit on either side of such button. These lugs are conveniently provided by simply striking up portions of the disk forming the wheel. The other a' of said members bears a pawl a^3 that is adapted to engage ratchet wheel a to rotate the same. A stop a^4 is provided, adapted to limit the movement of said pawl-bearing member in either direction. A peripheral flange a^5 on such second member serves the double function of engaging stop a^4 to thus limit the member's rotation and to retain in place a cord or preferably a light chain, one end of which is secured to said periphery, the other of which extends downwardly into convenient reach of persons who may desire to operate the switch. A spiral spring a^6 , located behind member a' , is adapted to normally retain one end of flange a^5 against stop a^4 , the point of attachment of the cord to member a' being such as to cause the rotation effected thereby to be against spring a^6 . The relative disposition of stop a^4 and the length of flange a^5 is so gaged as to permit the rotation of member a' through the proper angle to give the rotatable switch the particular turn requisite to effect its operation, either to break or make the circuit which it controls.

In the assembled condition of the parts just described, (Figs. 2 and 3,) the detachable portion of the "break" ball that bears the switch actuating mechanism last set up, is placed face down upon the fixed portion of such ball. In this position the lugs a^2 projecting from the exposed face of ratchet wheel a , fit on either side of the button of the switch so that rotation of the former effects concomitant rotation of the latter. A suitable aperture is left in the edge of the detachable ball portion a' to permit the free passage therethrough of chain A^2 , which latter is accordingly allowed to depend, as already set forth, into reach of the operator. Assuming the switch now in the assembled condition of the parts, just described, to be in its off position, if the chain be thereupon pulled the ratchet wheel will be partially rotated until pawl bearing member is brought against stop a^4 and a corresponding rotative movement will be given the button of the switch whereby the electric circuit is closed and the lamp lighted. A second pull of the cord effects a second similar rotation with the effect of breaking the connection and such operation may be performed in succession as often as may be desired.

It will of course be understood that the use of my improvement is not limited to electroliers, it being immaterial whether a lamp, or other translating device as for

example an electric fan be supported from tube B. And for that matter where a cable is utilized as the supporting means instead of a tube, I still can conveniently interpose a ball casing corresponding to "break" ball B^2 to house the switch and switch actuating mechanism, see Fig. 4.

Other modes of applying the principle of my invention may be employed instead of the one explained, change being made as regards the mechanism herein disclosed, provided the means stated by any one of the following claims or the equivalent of such stated means be employed.

I therefore particularly point out and distinctly claim as my invention:—

1. The combination with a translating device; of a hollow casing made up of two separable sections, one of said sections being provided at one end with means for attaching it to a support, and at the other, with means for attaching such translating device thereto; means mounted within the same casing section for controlling the circuit of said translating device; and pendent means for actuating said controlling means mounted within the other section and separable therewith from said first section.

2. The combination with a translating device; of a hollow casing made up of two separable sections; a tube attached to one end of one of said sections and adapted to be attached to a support; a second tube attached to the other end of said section and adapted to support such translating device; means mounted within the same casing section for controlling the circuit of said translating device; and pendent means for actuating said controlling means mounted within the other section and separable therewith from said first section.

3. The combination with a translating device; of a support for suspending said device from the ceiling; a hollow casing breaking said support intermediately between its ends; said casing being made up of two sections, one fixed to said support, the other separable therefrom; means mounted within said fixed section for controlling the circuit of said translating device; and pendent means for actuating said controlling means mounted within the other section and separable therewith from said first section.

4. In an electrolier, the combination of a tube for supporting the lamp and carrying the wires thereto; a hollow casing breaking said tube intermediately of its ends and comprising two portions, one separable from the other; a rotatable switch mounted in the fixed portion of said casing for controlling the circuit through said wires; two rotatable members mounted in the other of said portions, one of said members being a ratchet wheel adapted on rotation in the assembled condition of said casing to oper-

ate said controlling device; a pawl borne by the other of said members and adapted to engage said ratchet wheel; stops adapted to limit the movement of said pawl-bearing member; a spring normally retaining said pawl-bearing member against one of said stops; and a cord for moving said member from such normal position.

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5. In an electrolamp, the combination of a tube for supporting the lamp and carrying the wires thereto; a hollow casing breaking said tube intermediately of its ends and comprising two portions, one separable from the other; a switch of the rotatable button type mounted in the fixed portion of said casing for controlling the circuit through said wires; two rotatable members mounted in the other of said portions, one of said

members being a ratchet wheel having lugs on its face adapted to engage the button of said switch, and the other of said members being formed with a flange extending partially around its periphery; a pawl borne by said last named member and adapted to engage said ratchet wheel; a stop adapted to engage said flange to limit the rotation of said second member in either direction; a spring tending to rotate said member in one direction; and a cord for rotating the same in the opposite direction.

Signed by me, this 6th day of Aug., 1908.

BERNARD A. STOWE.

Attested by:

HENRY J. VOGT,
C. ESHLEMAN.