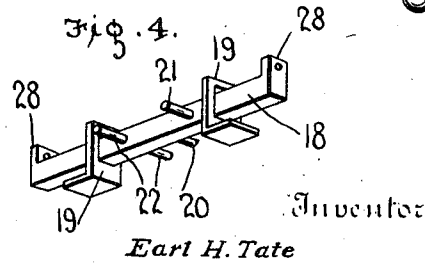
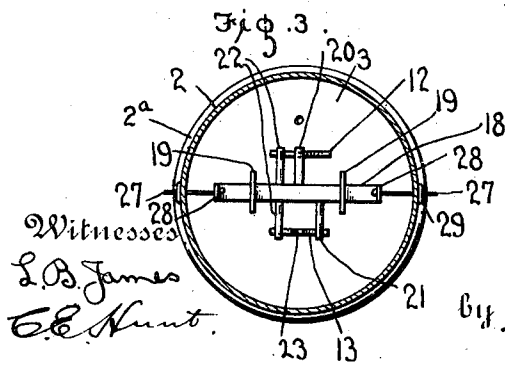
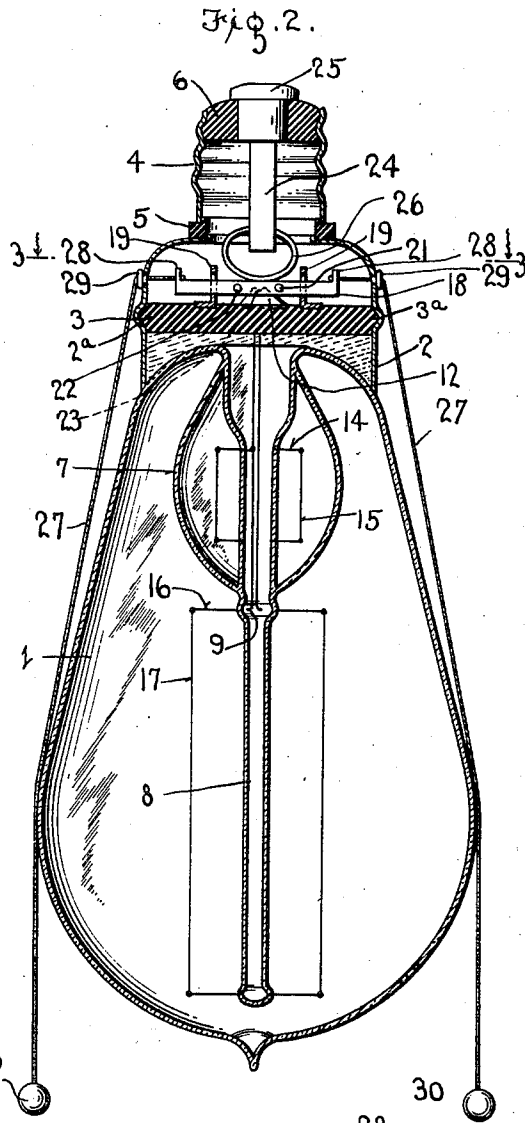
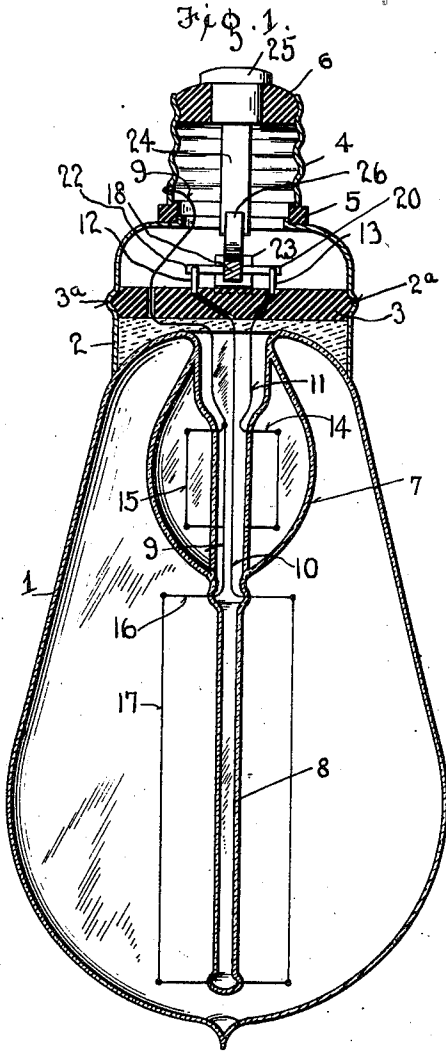


E. H. TATE.
 INCANDESCENT ELECTRIC LAMP.
 APPLICATION FILED SEPT. 21, 1911.

1,038,681.

Patented Sept. 17, 1912.



by *H. B. Wilson & Co.*
 Attorneys

UNITED STATES PATENT OFFICE.

EARL H. TATE, OF LOS ANGELES, CALIFORNIA.

INCANDESCENT ELECTRIC LAMP.

1,038,681.

Specification of Letters Patent.

Patented Sept. 17, 1912.

Application filed September 21, 1911. Serial No. 650,628.

To all whom it may concern:

Be it known that I, EARL H. TATE, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Incandescent Electric Lamps; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in incandescent electric lamps.

One object of the invention is to provide a lamp of this character having means whereby either or both of two lights of different strength or candle power may be produced.

Another object is to provide an incandescent electric lamp having main and supplemental filaments and an improved construction and arrangement of switch whereby either or both of said filaments may be connected with the circuit wires of the lamps.

With these and other objects in view the invention consists of certain novel features of construction, and the combination and arrangement of parts as will be more fully described and claimed.

In the accompanying drawings: Figure 1 is a central vertical section of a lamp constructed in accordance with my invention; Fig. 2 is a similar view taken at right angles to Fig. 1; Fig. 3 is a horizontal sectional view on the line 3—3 of Fig. 2; Fig. 4 is a detail perspective view of the movable member of the switch.

In the embodiment of the invention I provide an outer bulb 1 which may be of the usual or any suitable shape and to the inner end of which is cemented or otherwise secured a hollow casing 2 in which is arranged a base plate 3 of porcelain or other insulating or non-conducting material, said base plate having on its outer edge an annular rib 3^a which is adapted to engage an annular groove 2^a in the adjacent portion of the casing 2 whereby said base plate is firmly secured in the inner end of the casing as shown. On the outer end of the casing 2 is secured the usual screw threaded socket engaging base 4, said base being insulated from the casing by an insulating ring 5 or in any other suitable manner. In the outer end of the base 4 is arranged the usual plug or

block 6 formed of porcelain or other insulating material.

Arranged in the inner end of the outer bulb 1 is an inner smaller bulb 7 through the center of which and projecting down into the outer bulb 1 is a filament supporting post or standard 8 which is preferably formed of glass and which is welded or formed integral at its inner end with the inner ends of the inner and outer bulbs. The outer end of the inner bulb is formed integral with or is suitably secured to the inner portion of the post or standard 8 as shown.

The inner portion of the filament supporting post or standard 8 is preferably larger than the outer portion and in said larger inner portion of the post is arranged the negative terminal wire 9 for the filaments of both the larger or outer and the smaller or inner bulbs of the lamp. In said larger portion of the post are also arranged the positive terminal wire 10 of the filaments for the large bulb and the positive terminal wire 11 of the filaments for the smaller bulb as shown. The inner end of the negative terminal wire 9 passes through a suitable aperture in the base plate 3 and through a hole in the threaded base 4 with which it is connected as shown. The inner end of the positive terminal wire 10 for the filaments of the outer bulb passes through an aperture in the base plate 3 and is connected with a contact plate 12 of a switch mechanism hereinafter described. The inner end of the positive terminal wire 11 for the filament of the inner bulb passes through an aperture in the base plate 3 and is connected with a contact plate 13 of said switch mechanism. The negative terminal wire 9 is connected to the filament supporting arms 14 for the filaments 15 of the inner or smaller bulb and is also connected at its outer end to the filament supporting arms 16 of the filament 17 of the outer or larger bulb as shown. The positive terminal wire 10 is connected at its outer end to the filament supporting arms 16 of the filament 17 for the outer bulb while the positive terminal wire 11 is connected at its outer end with the supporting arms 14 of the filaments 15 for the inner bulb 7.

The improved switch mechanism hereinbefore referred to comprises a switch bar 18 slidably mounted in suitable supporting brackets 19 secured to and spaced a suitable distance apart on the base plate 3 adjacent

to the ends of the contact plates 12 and 13. The switch bar 18 has projecting laterally from one side thereof a contact arm 20 which is adapted to be brought into engagement with the contact plate 12 of the positive terminal wire for the filaments 17 of the outer or large bulb whereby the electrical circuit is completed through said filaments and the outer bulb thus illuminated.

Projecting from the opposite side of the switch bar 18 from the arm 20 and spaced a suitable distance therefrom is a contact arm 21 adapted to be brought into engagement with the contact plate 13 for the positive terminal wire of the filaments 15 of the inner or smaller bulb 7 whereby an electric circuit is completed through said filaments and the inner bulb thus illuminated. Also formed on the switch bar 18 are laterally projecting contact arms 22 said arms being arranged in line with or opposite to each other and are adapted to be simultaneously brought into engagement with both of the contact plates 12 and 13 for the positive terminal wires of the filaments for both the outer and inner bulbs whereby the electric circuit is completed through both of said sets of filaments and both the outer and inner bulbs thus illuminated.

The contact plates 12 and 13 have their opposite ends beveled or inclined and have formed in their upper edges notches or recesses 23 adapted to receive the contact arms on the switch bar 18 when the latter is shifted to its various positions for bringing said arms into engagement with the contact plates as hereinbefore described. In order to provide a shifting or sliding contact between the switch bar 18 and the positive terminal for the lamp I provide a positive current conducting shaft or post 24 having on its outer end a head 25 secured in the block or plug 6 of the threaded base 4 of the lamp, the outer side of said head forming a contact point which when the lamp is screwed into its socket is engaged with and forms an electrical connection with the positive terminal in the socket. The inner end of the post 24 extends through the threaded base 4 and has secured therein an elliptical shaped contact spring 26 which bears with yielding pressure on the switch bar 18 and forms an electrical contact or connection between the post 24 and the switch bar 18 and also serves as a means for holding the contact arms of the switch bar in firm engagement with the recesses 23 of the contact plates 12 and 13 as will be readily understood. The switch bar when thus arranged may be shifted in either direction and in any suitable manner to bring the contact arms thereon into engagement with the contact plates 12 and 13. Said bar is here shown and is preferably provided with shifting cords 27 having their inner end

secured to apertured lugs 28 formed on the ends of the bar, said cords passing through guide apertures 29 formed in the opposite sides of the casing 2 and from said apertures the cords may extend down any desired distance and preferably have secured to their lower ends operating balls or knobs 30 whereby said cords may be readily grasped and the switch bar shifted in the desired direction for bringing any of the circuit closing arms thereon into engagement with the contact plates 12 and 13 thus completing the circuit through the filaments of either or both of the bulbs of the lamp. By this arrangement of the filaments and the circuit controlling mechanism of the lamp as herein shown and described it will be seen that the candle power of the lamp may be quickly and easily changed.

It will be noted that the switch bar 18 is square in cross section and that the supporting brackets 19 thereof are provided with rectangular bar receiving passages, said passages being of greater width vertically than the vertical width of the switch bar so that when said bar is shifted over the contact plates 12 and 13, said bar will be permitted to move up or down against the pressure of the contact spring 26 on the end of the main terminal contact post 24.

From the foregoing description taken in connection with the accompanying drawings the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention as claimed.

Having thus described my invention, what I claim is:

1. In a switch, the combination with guides, fixed and spaced triangular contact plates between the guides and at right angles thereto and having notches in their upper corners, and a spring above the space between said plates; of a switch bar movable through the guides between said plates and under said spring, and arms disposed in said bar and adapted respectively to be moved into or out of contact with the plates, for the purpose set forth.

2. In a switch, the combination with guides, fixed and spaced triangular contact plates between the guides and at right angles thereto and having notches in their upper corners, and a spring above the space between said plates; of a switch bar movable through the guides between said plates and under said spring, contact arms projecting from opposite sides of said bar out of line with each other whereby they are adapted to be engaged with said notches at different times, other contact arms projecting from

opposite sides of said bar and in alinement with each other whereby they are adapted to simultaneously engage said notches, and means for adjusting the bar in its guides,
5 for the purpose set forth.

3. In an independent electric lamp, the combination with contact plates within the lamp casing; of a slidable switch bar moving between said plates, two arms on said bar
10 out of alinement with each other for engagement with said plates at different times, and two other arms on the bar in alinement with each other for simultaneous engagement with said plates, all as and for the purpose set forth.
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4. In an incandescent electric lamp, the combination with a pair of spaced supporting brackets having alined rectangular passages constituting guides, a pair of spaced

contact plates disposed at right angles to said brackets and having notches at their upper edges, the brackets and plates being supported on an insulating base plate, an upright conducting post above these elements, and an elliptical spring carried by the post; of a rectangular switch bar movable through said guides and under and in contact with the spring, and a plurality of arms carried by the bar and adapted to engage the notches in said plates as hereinbefore described.
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In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

EARL H. TATE.

Witnesses:

SARA THACKER,
CLEO ROSE.