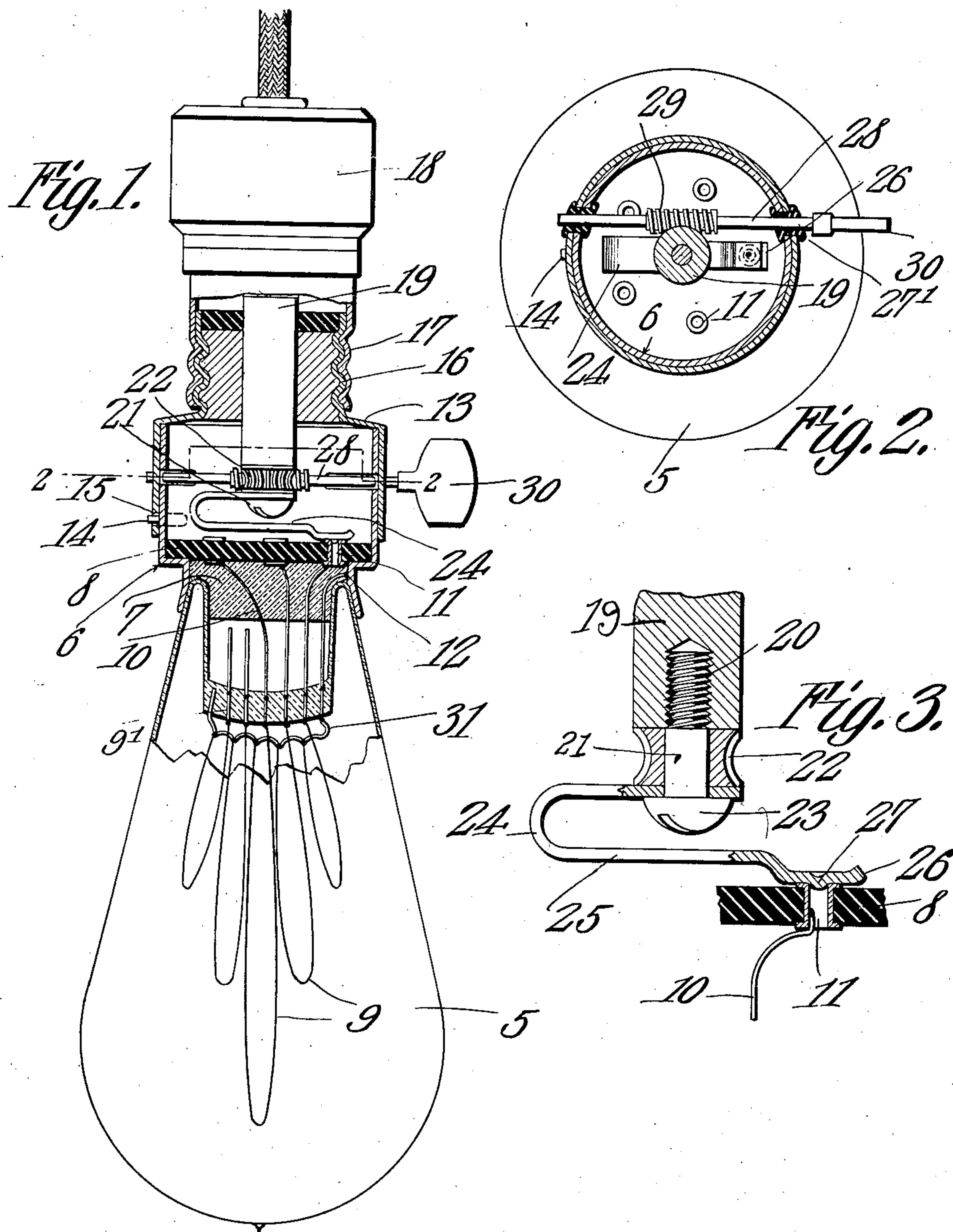


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SECTIONAL INCANDESCENT LAMP.
APPLICATION FILED SEPT. 24, 1908.

955,748.

Patented Apr. 19, 1910.



Witnesses

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UNITED STATES PATENT OFFICE.

GEORGE EDWIN BILL AND ALBERT DEWEEZE REDMAN, SR., OF HARRISBURG,
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SECTIONAL INCANDESCENT LAMP.

955,748.

Specification of Letters Patent.

Patented Apr. 19, 1910.

Application filed September 24, 1908. Serial No. 454,498.

To all whom it may concern:

Be it known that we, GEORGE EDWIN BILL and ALBERT DEWEEZE REDMAN, Sr., citizens of the United States, residing at Harrisburg, in the county of Dauphin, State of Pennsylvania, have invented a new and useful Sectional Incandescent Lamp, of which the following is a specification.

This invention relates to sectional incandescent lamps.

The object of the invention is generally to improve the lamp on which Letters-Patent No. 860,627 were granted to us July 23, 1907, and particularly the means for successively cutting the filaments into circuit, one at a time, in either order, to the exclusion of the other filaments.

Further objects and advantages will appear in the following description, it being understood that various changes in form, proportions and minor details of construction may be resorted to within the scope of the appended claims.

In the accompanying drawings forming a part of this specification: Figure 1 is a side elevation partly in section of an incandescent lamp provided with a socket controller or regulator constructed in accordance with our invention. Fig. 2 is a transverse sectional view taken on the line 2-2 of Fig. 1. Fig. 3 is an enlarged detail sectional view of the movable spring contact and its associated parts.

Similar numerals of reference indicate corresponding parts in all of the figures of the drawings.

The device consists of a vacuum bulb or globe 5 depending from a metal cap 6 and secured in position by a plug or matrix of plaster of paris, porcelain or other suitable insulating material, indicated at 7, there being a plate 8 also preferably formed of insulating material extending transversely across the top of the matrix and disposed in contact therewith, as shown.

Arranged within the bulb 5 are a plurality of filaments 9 formed of carbon or other suitable material and each connected by a platinum lead wire 9' with a conductor 10, there being a bridge wire extending transversely across the upper ends of the filaments and provided with a series of loops each of which is connected with one of the

strands of each filament. These conductors connect the lead wires 9' with stationary contacts 11, one of said conductors being soldered or otherwise rigidly secured to the metal cap 6, as indicated at 12.

The contacts 11 are preferably in the form of eyelets, the opposite ends of which are bent or inclined laterally into engagement with the plate 8, the ends of the conductors 10 being extended into the eyelets and soldered or otherwise secured to the interior walls thereof.

Disposed in spaced relation to the plate 8 is a mating cap 13 having a segmental slot or groove 15 which is engaged by a radial projection 14 on the cap 6, whereby said caps are locked against accidental separation.

The cap 13 is formed with terminal threads 16 adapted to engage the corresponding threads 17 of an ordinary incandescent lamp socket, indicated at 18, so that the device may be conveniently connected in a lighting circuit, one terminal of the circuit being connected to the cap 13 and the opposite terminal thereof to a metallic rod or pin 19 carried by said cap.

The lower end of the pin 19 terminates short of the plate 8 and is provided with a threaded socket 20 for engagement with a correspondingly threaded pin or screw 21, there being a worm wheel or gear 22 interposed between the base of the pin 19 and the head 23 of the screw, as shown.

The gear 22 is free to revolve on the screw 21, that portion of the screw between the base of the pin 19 and the head 23 being devoid of threads to permit free rotation of said gear.

Secured to and mounted for rotation with the gear 22 is a contact member 24 preferably formed of a single strip of spring metal, one end of which is fastened to the gear, while the opposite end thereof is bent upon itself and thence extended laterally to form a spring tongue 25 terminating in an upwardly curved lip 26.

That portion of the spring tongue 25 adjacent the lip 26 is provided with a depression defining a projection 27 arranged to enter the sockets of the contacts or eyelets 11, thereby to temporarily lock the spring tongue in engagement with said contacts.

Journalled in insulated bearings 27' in the walls of the caps 6 and 13 is a transverse rod 28 having its intermediate portion provided with a worm gear 29 adapted to mesh with the gear 22, there being a finger piece or knob 30 secured to one end of the rod 28 and by means of which the rod may be actuated to rotate the gear and thus cause the spring tongue to successively engage the different contacts when it is desired to cut the different filaments into or out of circuit.

The filaments 9 are of different lengths and of different cross sectional areas so that by cutting the different filaments into circuit the candle power of the lamp may be varied at will.

When it is desired to vary the intensity of the light the rod 28 is rotated by turning the finger piece 30 thus causing the worm 29 to engage the teeth of the gear 22 and rotate the contact member 24.

As the spring tongue of the contact member travels over the upper surface of the plate 8, the projection 27 of said tongue will enter the socket of the adjacent eyelet or contact 11, thus closing the circuit through the first filament of the series or bank and causing the same to become incandescent.

When the contact 24 is in the position shown in Fig. 1 of the drawings the current will flow through the pin 19 and movable contact 24 to the adjacent stationary contact or eyelet and thence through the loop or filament connected with said stationary contact and off to the line through the cap 6. When the movable contact 24 is again rotated the spring tongue of said contact will engage the next succeeding stationary contact, in which event the current will flow through the second loop or filament and thence through the bridge wire or common return 31 to the cap 6 and then off to the line. It will thus be seen that the several filaments may be successively cut into circuit, one at a time, in either order, to the exclusion of the other filaments, each filament having a different candle power and therefore permitting variation in the intensity of the light.

Attention is here called to the fact that the lug or projection 27 on the spring tongue of the movable contact will enter the sockets of the stationary contacts as the tongue successively registers therewith so as to temporarily lock the movable contact in circuit closing position, it of course being understood that the projection is held in engagement with the sockets only by the spring action of the tongue so that a relatively quick turning movement exerted on the finger piece 30 will disengage the projection 27 from the socket of the adjacent stationary contact and thus permit the movable contact 24 to be positioned over the next succeeding stationary contact when a fur-

ther rotary movement is imparted to said finger piece. The resiliency of the movable contact will cause it to engage the stationary contact with a light, sharp, clicking sound, so that should there be a defective connection to one of the conducting wires, the engagement of the movable and stationary contacts will be announced by the usual clicking sound, but will not be followed by the flashing of the corresponding filament. The presence of a defect will thus be made known, when it would not be discovered if the only notice given of the engagement of the contact was the lighting up of the filament. It will also be noted that the bridge wire or common return 31 is formed of a plurality of loops each of which is connected with one of the strands of each filament so that when one filament of the bank is cut into circuit the remaining filaments of the series or bank will be cut out, the current following the path of the least resistance and passing through the bridge wire or common return to the cap 6 and thence off to the line in the manner before stated.

The lamps may be made in different sizes and shapes and provided with any number of filaments. It will also be understood that the filaments and lead wires may be formed of carbon, platinum or other suitable material without departing from the spirit of the invention.

Having thus described the invention what is claimed is:—

1. In an incandescent lamp having a plurality of filaments, the combination of a plate extending horizontally across the lamp above the filaments, stationary tubular contacts piercing the said plate, connecting wires leading from the filaments and having their ends secured within the bores of the tubular contacts, a conducting pin within the upper portion of the lamp, a resilient contact mounted on the lower end of the said pin and arranged to sweep over the tubular contacts, the free end of said resilient contact being provided with a projection adapted to enter the upper end of a stationary tubular contact, and means for rotating said resilient contact.

2. A lamp having a sectional cap and provided with a plurality of filaments, stationary contacts connected to the filaments, a pin depending from the cap and having a threaded socket formed in its lower end, a screw engaging the threads of the socket and provided with an enlarged head, said screw having an intermediate portion thereof devoid of threads, a gear wheel mounted for rotation on the unthreaded portion of the screw, and a movable contact carried by the gear to engage the stationary contact.

3. In a lamp of the character set forth, the combination of a plurality of stationary tubular contacts, an operating shaft dis-

posed horizontally above said contacts, a gear driven by said shaft, and a contact member having one end secured to said gear, extending radially therefrom and
5 then bent back on itself to present a free spring arm having a projection on its under side to enter one of the tubular contacts.

In testimony that we claim the foregoing

as our own, we have hereto affixed our signatures in the presence of two witnesses.

GEORGE EDWIN BILL.

ALBERT DEWEEZE REDMAN, SR.

Witnesses:

C. H. BACKENSTOE,

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