

(No Model.)

C. TRUITT.

MULTIPLE FILAMENT REGULATING INCANDESCENT LAMP.

No. 585,137.

Patented June 22, 1897.

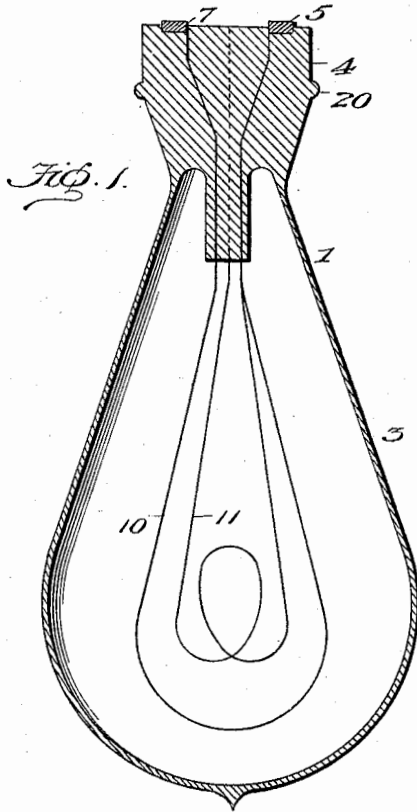


Fig. 1.

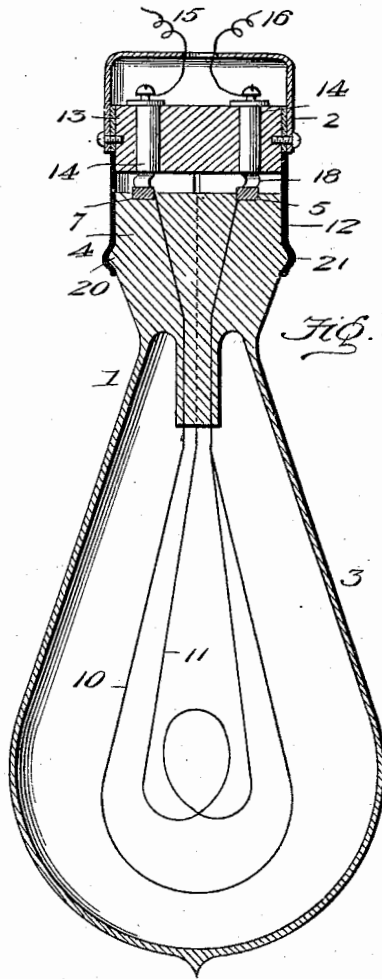


Fig. 5.

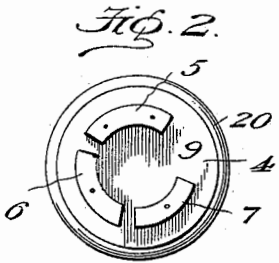


Fig. 2.

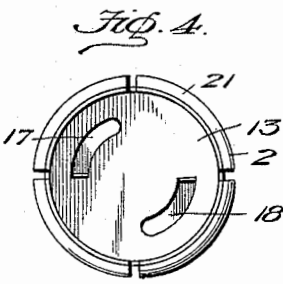


Fig. 4.

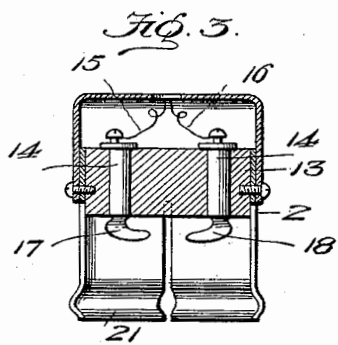


Fig. 3.

Witnesses:  
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# UNITED STATES PATENT OFFICE.

CLARENCE TRUITT, OF COLUMBIA, MISSOURI.

## MULTIPLE-FILAMENT-REGULATING INCANDESCENT LAMP.

SPECIFICATION forming part of Letters Patent No. 585,137, dated June 22, 1897.

Application filed February 15, 1897. Serial No. 623,484. (No model.)

*To all whom it may concern:*

Be it known that I, CLARENCE TRUITT, a citizen of the United States, residing at Columbia, in the county of Boone and State of Missouri, have invented certain new and useful Improvements in Multiple-Filament-Regulating Incandescent Lamps; and I do hereby 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.

My invention relates to improvements in incandescent electric lamps and sockets therefor in which I have provided multiple filaments of different candle-power, together with a switch mechanism, which forms an integral part of the lamp and its socket and which is arranged to cut the lamp out of the circuit or to direct the current into either or all of the filaments of the lamp to vary and regulate the light diffused by said filaments.

The object of my invention is to provide a simple construction and arrangement of parts in which the adjustment of the lamp in the socket operates to cut the filaments out of the circuit, and thus extinguish the light, or to send the current in series through the multiple filament to give a dim light, or to send the current through either of the different candle-power filaments to secure different degrees of light, or to send the current in parallel through all the filaments simultaneously to secure a bright light, the different degrees of light obtained depending entirely upon the adjustment of the lamp in its socket and without the manipulation of devices situated externally to the lamp.

In the simplest embodiment of my invention I construct the lamp with a globe attached to an insulating-block, as usual in lamps of this kind. In this insulating-block I provide a series of terminal plates, three in number for a double-filament lamp, which terminal plates are arc-shaped and are embedded in the insulating-block so as to be out of contact with and insulated from each other, a wider space being provided between two of the terminal plates than between either of the other terminal plates. To one of these terminal plates is attached one end of each of the filaments, to another plate is attached the opposite end

of one filament, and to the third plate is attached the other end of the second filament, whereby the two filaments have the ends thereof attached to a common terminal plate and to insulated independent terminal plates, respectively. With this lamp is combined a split spring-socket arranged to embrace the base of the lamp and securely connect the same mechanically thereto in a manner to permit the lamp to be turned, as on a vertical axis, within the socket, such connection being effected by an interlocking tongue-and-groove joint between the lamp or socket or by an equivalent mechanical construction. Said socket contains a block of insulating material with the usual binding-posts for the attachment of the leading-in wires, and on the face of the block in the socket is attached arch-shaped spring contact-plates arranged to press upon the lamp terminal plates according to the adjustment of the lamp in the socket; and the invention further consists in the novel combination of elements and in the construction and arrangement of parts which will be hereinafter fully described and claimed.

To enable others to understand my invention, I have illustrated the embodiment of the same in a double-filament lamp in the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a sectional elevation through the lamp proper removed from the socket. Fig. 2 is an end face view looking at the base of the lamp. Fig. 3 is a detail sectional elevation of the socket, and Fig. 4 is a face view looking at the inner end of the socket containing the spring contact-plates. Fig. 5 is a sectional elevation of the complete lamp and socket, showing the parts coupled together.

Like numerals of reference denote corresponding parts in all the figures of the drawings, referring to which—

1 designates the lamp, and 2 is the socket. The lamp consists of the globe 3 and the insulating-block 4, united together in the usual manner common to lamps of this nature, said block 4 constituting the base of the lamp. In the end face of the base insulating-block is placed the terminal plates 5 6 7, arranged as shown by Fig. 2 of the drawings. The termi-

nal plates are arc-shaped, and they are arranged in the base-block in a manner to nearly form a circle; but said plates are not continuous or in contact with each other. The  
 5 contiguous ends of the plates 5 7 are separated for some distance to leave a comparatively wide face 9 of the base-block between them, and the plate 6 is arranged between said  
 10 plates 5 7 so its ends are adjacent thereto but far enough away from them to properly insulate the series of plates one from the other. These terminal plates are embedded in the base-block, so as to be held rigidly on the  
 15 base of the lamp and to turn with the lamp when it is rotated or turned on its longitudinal axis, and the faces of said terminal plates are exposed through the lamp-base for the circuit-springs in the lamp-socket to have proper metallic and electrical contact with  
 20 said terminal plates.

Within the globe of the lamp is arranged the filaments 10 11, which are of different candle-power, but made to suit the voltage of the circuit as other lamps of the same kind,  
 25 and the ends of these two filaments are embedded in the base-block to be insulated thereby from each other.

The filament 10 has its ends electrically connected to the terminal plates 5 6, but the  
 30 filament 11 has its ends connected electrically to the terminal plates 5 7, whereby the two filaments each have one end thereof terminating in a single plate 5 common to both filaments, while the other ends of the two  
 35 filaments are attached, respectively, to independent terminal plates 6 7, the latter being thoroughly insulated from each other and from the common terminal plate 5.

The socket 2 has a split metallic ring 12,  
 40 divided at a number of places to form a series of jaws, and in the upper part of said ring is fastened an insulating-block 13, provided with a pair of binding-posts 14, to which are  
 45 connected the leading-in wires 15 16. To the inner end of the block 13 of the socket is applied the contact-springs 17 18, which are housed within the split ring of the socket. These contact-springs are of curved form, and they are arranged on opposite sides of the  
 50 center block 13 and in reversely-inclined positions to each other and to the inner face of the block 13 in the socket. These contact-springs are united electrically to the binding-posts 14, and they have free ends which are  
 55 adapted to bear firmly upon the terminal plates to insure good metallic contact between the lamp and socket.

The split jaws of the socket are elastic or resilient to a certain extent to provide for the  
 60 ready introduction or removal of the lamp-base and to cause the jaws to grip the lamp for the purpose of holding the same firmly in the socket. The lamp and socket are furthermore held together by mechanical connections which should permit the lamp to turn  
 65 freely in the socket, and in one embodiment of the invention the connection is shown in

the form of a rib 20 on the lamp-base and a groove 21 in the jaws of the lamp-socket, the rib adapted to fit in the groove when the lamp  
 70 is placed in the socket.

The form and arrangement of the spring-contacts and the terminal plates are such that the springs may each bear upon two terminal  
 75 plates separately, or one spring may bear upon two terminal plates at once, while the other spring may rest upon one plate only. When the lamp is fitted in the socket and turned so that the spring 17 rests on the terminal  
 80 plate 6 and the other spring 18 rests on the space 9 of the insulating-base, the current cannot pass and the lamp is turned off. The lamp may be turned in the socket to bring the terminal plates where the springs 17 18  
 85 bear upon the terminal plates 6 7, whereby the two filaments are in series and the lamp gives a dim light. By turning the lamp to a position where the springs rest on the plates 5 6 the filament 11 only is in the circuit, but  
 90 by reversing the lamp to cause the springs 17 18 to rest on the plates 5 7 the filament 10 is in circuit. As the two filaments are of different candle-power, the light diffused by the different filaments varies according to the re-  
 95 sistance. The lamp, however, may be turned to a position to cause one spring 17 to bear upon the two plates 5 and 6 and span the space between the same, while the other spring bears upon the plate 7, thus bringing the fila-  
 100 ments in parallel circuit and producing a double light.

It will thus be seen that I have produced a simple incandescent lamp in which multiple filaments are employed in connection with a switch mechanism which is embodied in and  
 105 forms an integral part of the lamp, the whole arranged for service to give different degrees of light by the adjustment of the lamp in its socket.

While I have described as one embodiment  
 110 of my invention a lamp with a double filament and a switch mechanism adapted thereto, it is to be understood that I do not strictly confine myself to the use of two filaments and the switch adapted thereto, because the number of filaments may be increased and the  
 115 switch devices arranged for use in connection therewith to secure lights of greater or less intensity.

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

1. The combination of a lamp, multiple filaments of varying candle-power inclosed within  
 125 said lamp, a socket in which the lamp is fitted for rotation on its longitudinal axis, and a switch mechanism, the elements of which are constructed as parts of the lamp and the socket and have terminal plates, one of which is common to the filaments and the others of  
 130 which are connected individually to separate filaments, said switch mechanism arranged, by adjustment of the lamp, to bring the filaments in series or in parallel, or to direct the

current through the filaments separately, or to cut the filaments out of the circuit, as and for the purposes described.

2. The combination of a socket having 5 spring-contacts on the exposed face thereof, a lamp the base of which is provided on its face opposed to the contacts with terminal plates upon which said spring-contacts press or bear, and multiple filaments within the 10 lamp connected in common to one of said plates and individually with other terminal plates, said lamp being connected with the socket to be limited to axial adjustment therein, for the purposes described, substantially 15 as set forth.

3. The combination of a socket, a lamp fitted therein to be limited to rotation on its longitudinal axis, multiple filaments of varying candle-power contained within the lamp, and 20 spring-contacts and terminal plates carried by the socket and the lamp-base respectively and forming a switch mechanism controllable by adjustment of the lamp in the socket to bring said filaments in series or in parallel or 25 to direct the current through either filament separately, one of said terminal plates being connected in common to all of said filaments and the remaining terminal plates connected 30 individually to separate filaments, as and for the purposes described.

4. The combination with a lamp-socket, of spring-contacts therein, a lamp fitted in said socket for rotation axially therein, terminal 35 plates fixed in the lamp-base in the path of

said spring-contacts and to be engaged there- 35 by, and multiple filaments of varying candle-power, one end of each filament being attached to one terminal plate common to all the filaments and the other ends of said filaments connected separately to independent plates, 40 as and for the purposes described.

5. A lamp-socket split for a part of its length to provide elastic jaws and provided within the terminal of its split portion with a fixed 45 base-block, of spring-contacts fastened to the exposed face of said base-block, a lamp having its base fitted in the jaws of the socket and interlocked therewith to be limited to ad- 50 justment axially within the socket, terminal plates in the lamp-base and engaging with the spring-contacts, and filaments carried in 30 the lamp and connected to said terminal plates, substantially as described.

6. The combination with a socket having spring-contacts, and a lamp-base, of arc- 55 shaped terminal plates united to said lamp-base to be exposed for contact with said springs, and double filaments each having one end attached to a common terminal plate 60 and the other ends of said filaments attached respectively to other independent terminal plates, for the purposes described.

In testimony whereof I affix my signature in presence of two witnesses.

CLARENCE TRUITT.

Witnesses:

F. W. PECK,  
T. G. VIVION.