No. 629,198. Patented July 18, 1899.

A. H. MILLER.

INCANDESCENT LAMP.

(Application filed Sept. 22, 1898.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 2.

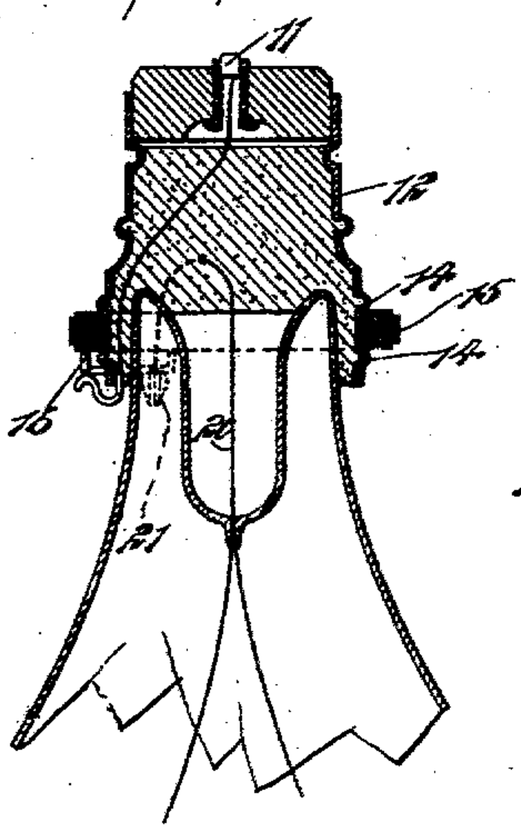


Fig. 1.

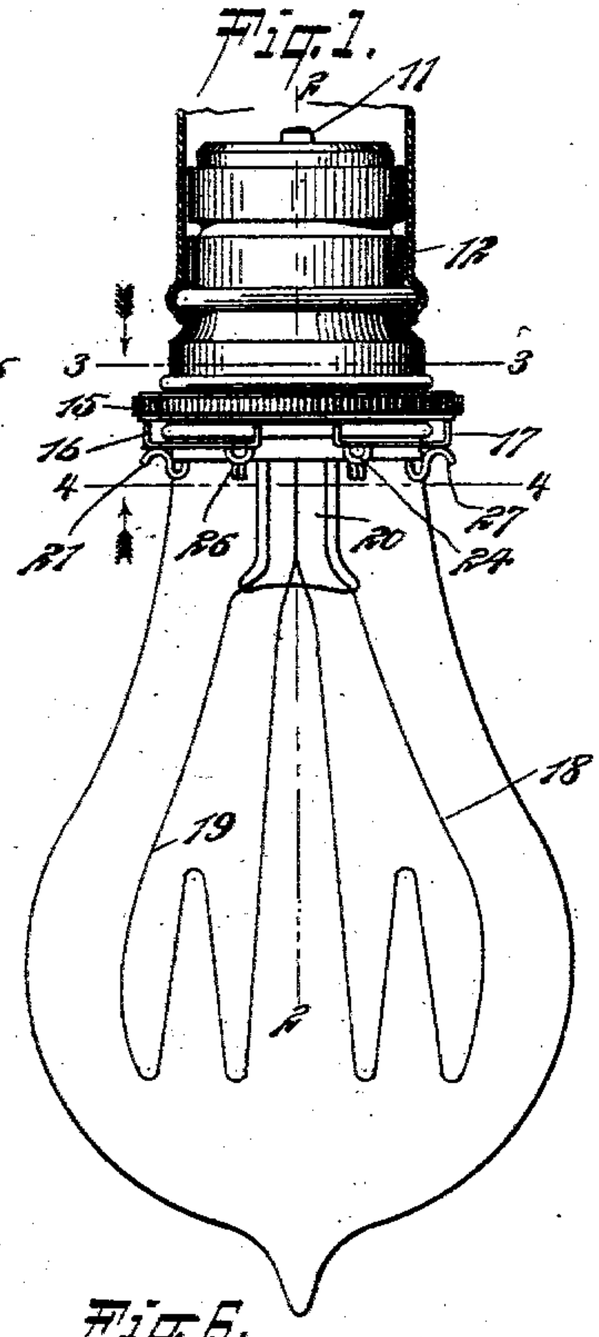


Fig. 3.

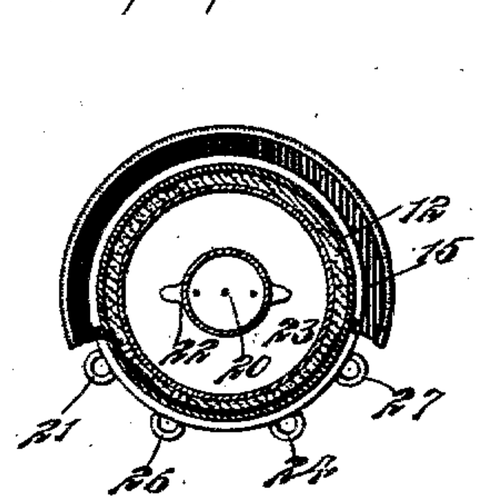


Fig. 4.

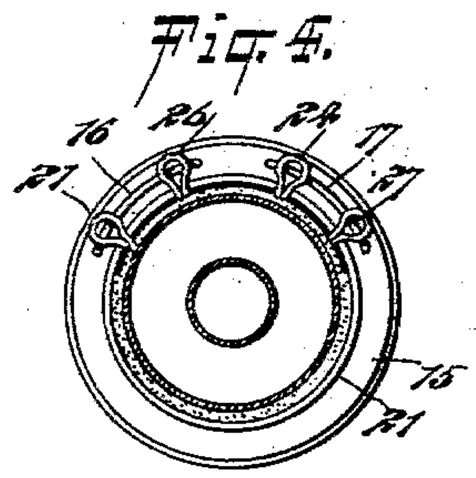


Fig. 5.

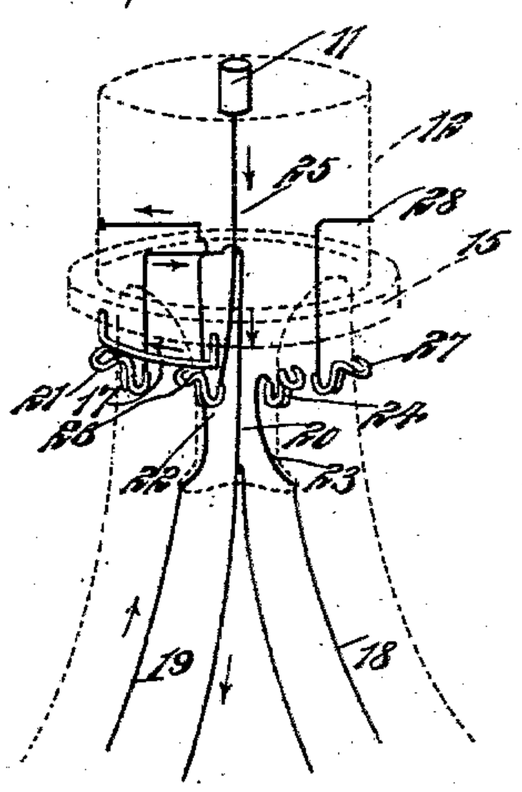


Fig. 6.

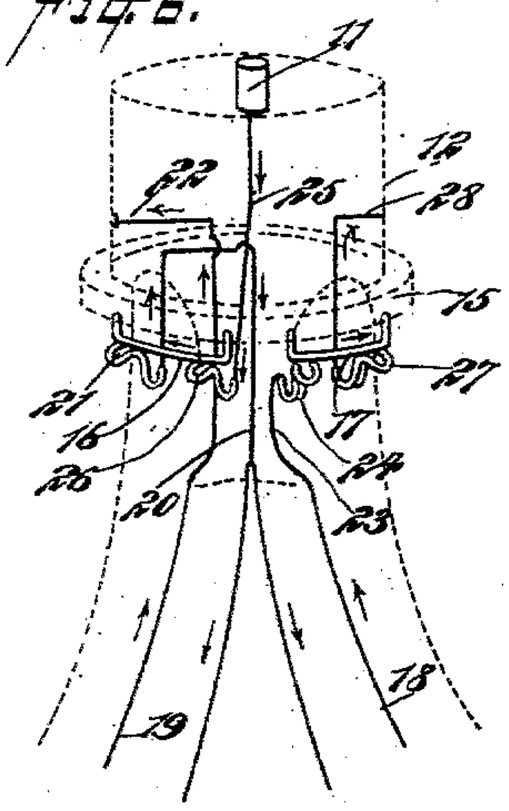
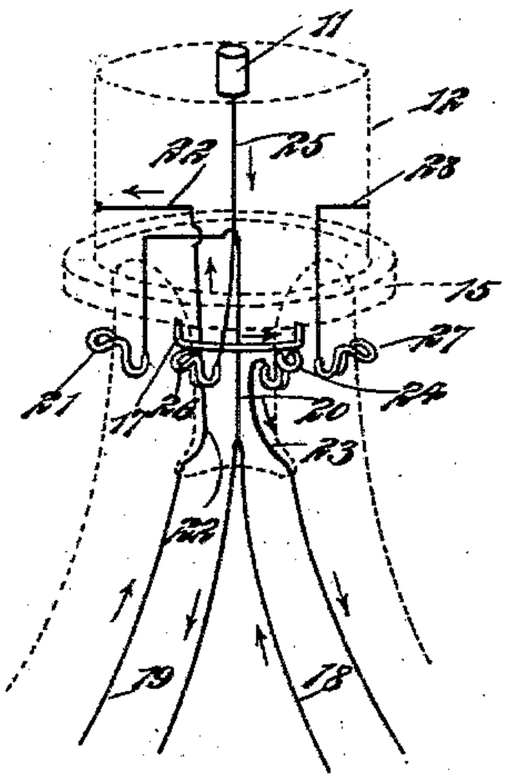


Fig. 7.



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No. 629,198. Patented July 18, 1899.

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Fig. 8.

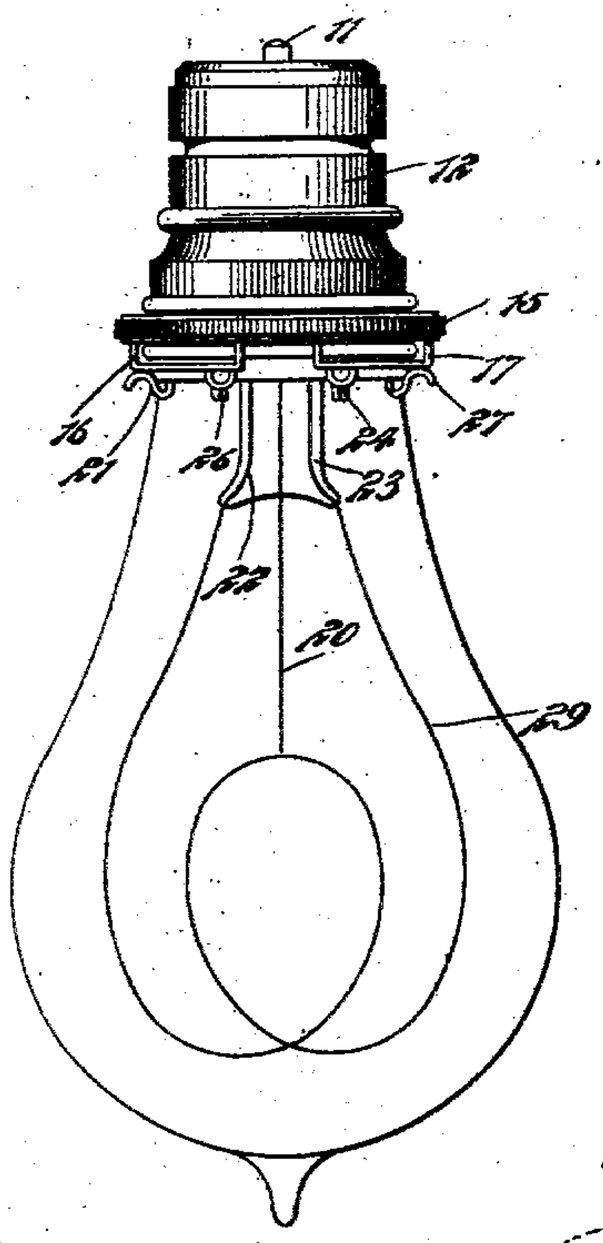


Fig. 9.

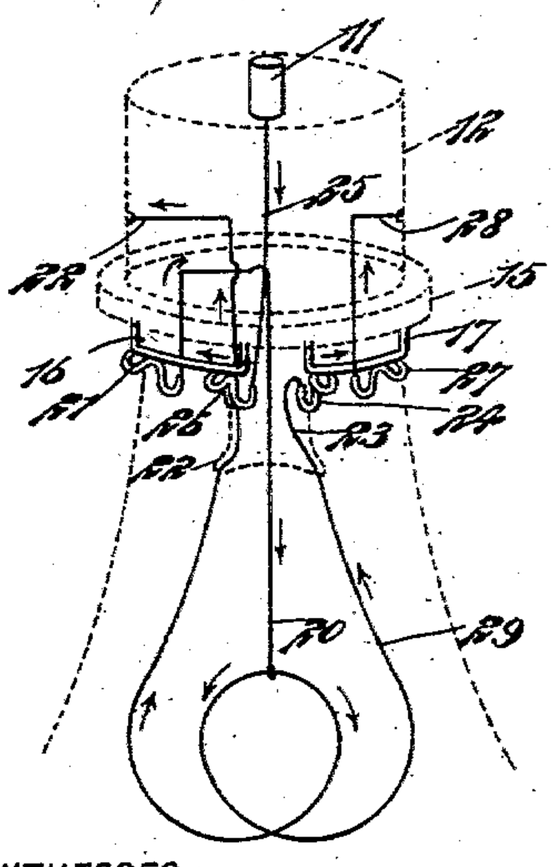
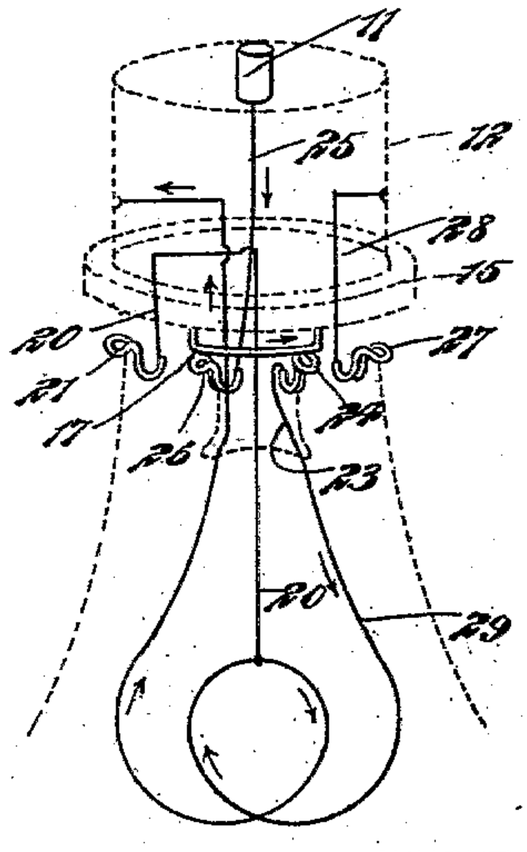


Fig. 10.



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UNITED STATES PATENT OFFICE.

ANDREW H. MILLER, OF CENTRAL CITY, COLORADO, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE MILLER IMPROVED INCANDESCENT LAMP COMPANY, OF DENVER, COLORADO.

INCANDESCENT LAMP.

SPECIFICATION forming part of Letters Patent No. 629,198, dated July 18, 1899.

Application filed September 22, 1898. Serial No. 691,632. (No model.)

To all whom it may concern:

Be it known that I, ANDREW H. MILLER, of Central City, in the county of Gilpin and State of Colorado, have invented a new and Improved Incandescent Lamp, of which the following is a full, clear, and exact description.

This invention relates to an incandescent lamp the filament of which is in two sections, and associated with such connections as permit the filament to be cut in and out of circuit in a variety of ways, thus permitting the regulation of the power of the lamp.

This specification is the disclosure of several forms of my invention, while the claims define the actual scope of the invention.

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 figures.

Figure 1 is an elevational view of the invention. Fig. 2 is a sectional view on the line 2 2 of Fig. 1. Fig. 3 is a sectional view on the line 3 3 of Fig. 1. Fig. 4 is a sectional view on the line 4 4 of Fig. 1. Figs. 5, 6, and 7 are diagrammatic views illustrating three adjustments of the connections. Fig. 8 is an elevational view illustrating a slight modification in the form of the filament, and Figs. 9 and 10 are diagrammatic views showing two of the adjustments of the form shown in Fig. 8.

Referring to the first seven figures, my improvements may be adapted to a base of the usual form, in which the positive pole is the contact 11 and in which the negative pole is the metallic sheathing 12 of the base of the lamp. The base of the lamp is formed with two annular ribs 14, between which is held to move circumferentially an insulating-ring 15, provided with two contact-wires 16 and 17. This ring 15 may be turned around on the base to any position, so as to effect the various adjustments of the lamp, as will be fully described hereinafter.

The lamp is provided with a double filament, the sections 18 and 19 thereof being joined to a common leader 20, that passes up into the base and has electric connection with a spring contact-finger 21 on the base at a point directly beneath the ring 15. The other end of the filament-section 19 is connected with a leader 22, that passes up through the base of the socket and is electrically joined to the sheathing 12 of the base. The end of the filament-section 18 that is not connected with the leader 20 is connected with a leader 23, which passes up into the base and is electrically joined to a spring contact-finger 24 similar to the finger 21 and similarly situated. A leader 25 passes down from the contact 11 and is electrically connected with a spring contact-finger 26 similar to the fingers 21 and 24 and similarly situated. A fourth spring contact-finger 24, similar to those previously described, is connected with a leader 28, that passes up into the base and is electrically joined to the sheathing 12. It will thus be seen that there are four spring contact-fingers 21, 26, 24, and 27, all of which are arranged in the same circumferential line immediately below the ring 15, so that various connections may be made between the spring-fingers and the contact-wires 16 and 17. The contact-fingers 21, 26, and 24 are insulated from each other and from the sheathing 12 by any suitable means—such, for example, as insulating-tape. With this construction it is possible to effect three adjustments of the lamp, by each of which a different candle-power will be given forth.

The adjustment shown in Fig. 5 is such as brings into play only one of the filament-sections—for example, the filament-section 19. This adjustment is effected by turning the ring 15 so that the contact-wire 17 will bear between the fingers 21 and 26. The current now entering from the positive contact 11 passes down the leader 25 and runs through the finger 26, contact-wire 17, and finger 21, and from such wire passes by the leader 20 into the filament-section 19. From the section 19 the current passes by the leader 22 to the sheathing 12 of the base.

The adjustment shown in Fig. 6 is such as throws into circuit both filament-sections in a manner so that there is given forth the maximum power of the lamp. The adjustment here is such as causes the contact-wire 17 to engage between the fingers 24 and 27 and the contact-wire 16 to engage between the fingers 21 and 26. The current passing from the

positive contact 11 runs through the leader 25 to the contact-finger 26, contact-wire 16, and finger 21, and passes from the finger 21 by the leader 20 to both sections 18 and 19 of the filament. The current passes from the section 19 by way of the leader 22 to the sheathing 12 of the base, and the current passes from the section 18 by way of the leader 23 to the finger 24, contact-wire 17, and finger 27 and from said finger 27 to the sheathing 12 of the base through the leader 28. By this adjustment—that is, that shown in Fig. 6—both filament-sections are employed to exercise the maximum capacity of the lamp, which is due to the fact that the current is divided and passes half through each filament-section.

The adjustment shown in Fig. 7 employs both filament-sections, but causes the current to be passed wholly through both sections, thus offering a greater resistance to the current and producing a dimmed light. In this adjustment the contact-wire 17 is made to bear between the fingers 26 and 24, so that the current passing in from the positive contact 11 flows through the leader 25 to the finger 26, through the contact-wire 17 to the finger 24, from the finger 24 to the leader 23, to the section 18, from the section 18 to the section 19, and from the section 19 by the leader 22 to the sheathing 12 of the base.

It will thus be seen that by means of my invention three distinct adjustments of the lamp may be attained and three distinct candle-powers exercised. This renders the lamp especially advantageous in hotels and hospitals where it is desired to vary the power of the lamp, and since it is possible to adapt the invention to the ordinary base it is clear that the invention may be employed without undue expense.

In Fig. 8 there is shown a filament which is practically continuous and in which there is not that marked division into sections as in Figs. 1 to 7. In Fig. 8 the filament 29 is looped once within the globe and joined to the leader 20 at approximately its middle. This form does not differ in any essentiality from that previously described, the adjustment and operations being practically the same. Figs. 9 and 10 correspond, respectively, to the adjustments shown in Figs. 6 and 7. It is also possible, of course, to effect that adjustment shown in Fig. 5.

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

1. An incandescent lamp having a base with a positive contact-point, a filament, a leader passing from the positive contact-point, a contact-finger with which said leader is connected, a second contact-finger, a leader passing from the second contact-finger and connected with the filament at a point intermediate the length thereof, a leader passing from one end of the filament to the base-sheathing, a third contact-finger, a leader between the third contact-finger and the remaining end of the filament, a fourth contact-finger, a leader between the fourth contact-finger and the base-sheathing, a ring turning on the base, and contact-wires held on and moving with the ring and coacting with the several contact-fingers.

2. An incandescent lamp having a filament, a leader connected to the filament at a point intermediate the length thereof, a contact on the base of the lamp with which said leader is connected, a feed-leader, a second contact on the base of the lamp and in connection with the feed-leader, a third contact in connection with one end of the filament, the other end of the filament being in connection with the base-sheathing, a fourth contact-finger also in connection with the base-sheathing, a ring turning on the base, and contacts on the ring and coacting with the several contact-fingers.

3. An incandescent lamp having a base, a feed or positive leader running in the same, a stationary contact on the base with which said feed-leader is connected, a filament, a second stationary contact on the base and connected with the filament at a point intermediate the length thereof, a third stationary contact on the base and in connection with one end of the filament, a leader passing from the other end of the filament to the sheathing of the base, a fourth stationary contact on the base and in connection with the sheathing of the base, a member adjustable on the base, and two contacts carried thereby and coacting with the four stationary contacts to throw the filament, in whole or in part, into circuit.

4. An incandescent lamp having a filament in two sections, the sections being in connection with a common leader, a contact-finger on the base of the lamp with which said common leader is connected, a feed-leader, a second contact-finger on the base of the lamp and connected with the feed-leader, a third contact-finger in connection with one section of the filament, a leader passing from the other section of the filament and connected with the sheathing of the base, a fourth contact-finger in connection with the sheathing of the base, a ring turning on the base, and two contact-wires held on the ring and coacting with the four contact-fingers to throw the sections, in whole or in part, into circuit.

ANDREW H. MILLER.

Witnesses:
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WM. JOB.