

No. 653,068.

Patented July 3, 1900.

W. A. CHURCH.
ELECTRIC LAMP SOCKET.

(Application filed Dec. 21, 1899.)

(No Model.)

Fig. 1.

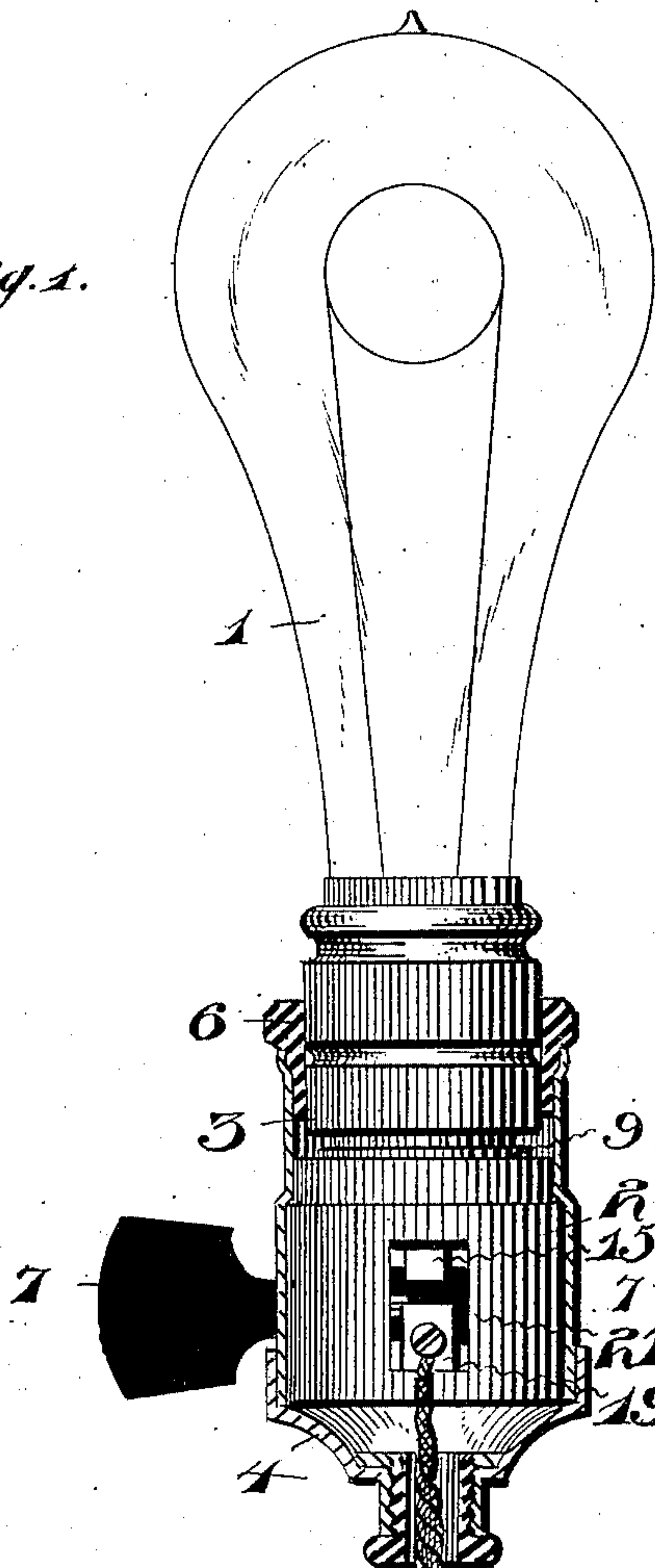


Fig. 9.

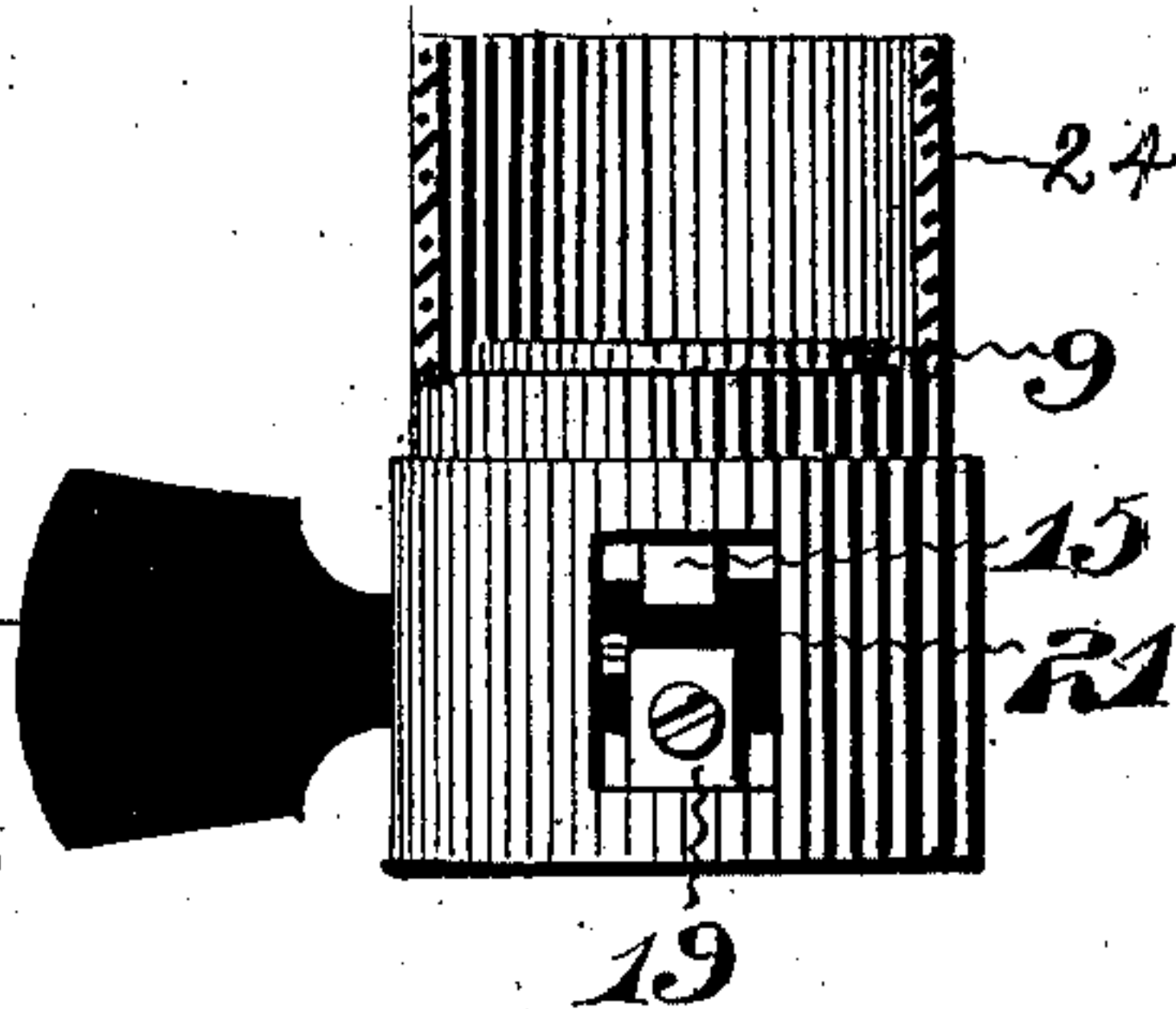
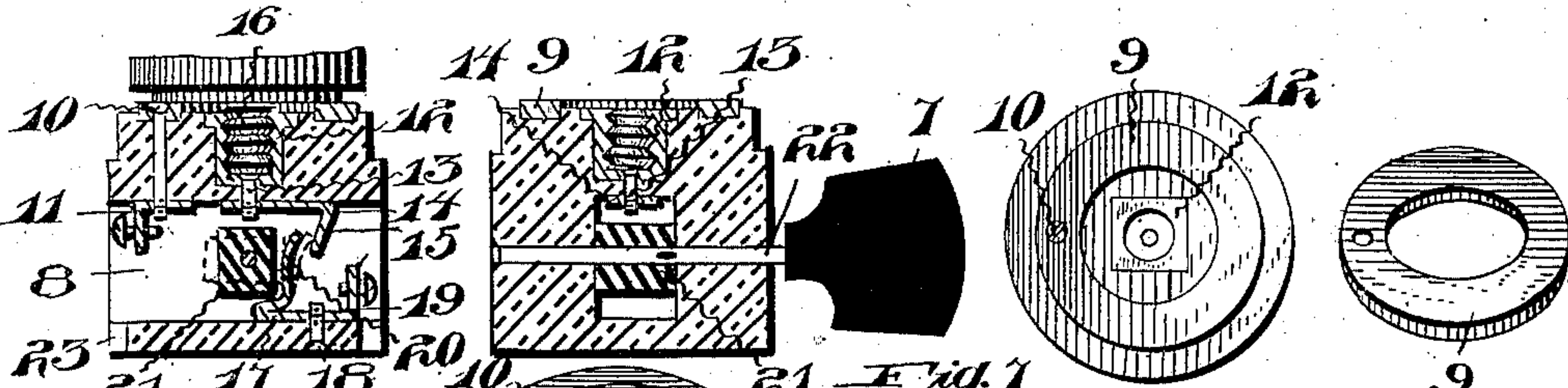


Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.



WITNESSES:

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ELECTRIC-LAMP SOCKET.

SPECIFICATION forming part of Letters Patent No. 653,068, dated July 3, 1900.

Application filed December 21, 1899. Serial No. 741,106. (No model.)

To all whom it may concern:

Be it known that I, WALTER A. CHURCH, a citizen of the United States of America, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Electric-Lamp Sockets, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to certain new and useful improvements in sockets, and is particularly adapted for use in connection with incandescent electric lights.

One object of my invention is to construct a socket of this character which will be thoroughly insulated and prevent short-circuiting, thereby overcoming the burning out of the lamp, as is usually the case in the lamps now in general use.

A further object of my invention is to provide a socket of this character with an improved means for forming a contact.

A further object of my invention is to construct the base of the socket of one piece of porcelain or other suitable non-conducting material, and, if desired, further providing the base with an upwardly-extending collar formed integral therewith and of the same material.

A further object of my invention is to form a contact-forming block of a suitable insulating material, preventing thereby the current passing through the same, as is now the case in sockets generally used.

A further object of my invention is to construct a socket of this character which will be simple in construction, strong, durable, efficient in its use, and comparatively inexpensive to manufacture.

With the above and other objects in view my invention finally consists in the novel combination and arrangement of parts to be hereinafter more fully described, and specifically pointed out in the claims.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, and wherein like numerals of reference indicate corresponding parts throughout the several views, and in which—

Figure 1 is a side view of a lamp as attached

to my improved socket, showing the sleeve therein in vertical section. Fig. 2 is a vertical sectional view of my improved socket. Fig. 3 is a cross-sectional view thereof. Fig. 4 is a top plan view thereof. Fig. 5 is a perspective view of the contact-ring for the negative wire. Fig. 6 is a perspective view of my improved socket. Fig. 7 is a like view of the main contact-spring. Fig. 8 is a similar view of the auxiliary contact-spring. Fig. 9 is a side view, partly in section, showing the collar formed integral with the base of the socket.

Referring to the drawings by reference-numerals, in which I have shown my improved socket as adapted for use in connection with the Thomson-Houston lamp, although the top of the socket can be arranged to be used in connection with any lamp now in use, 1 indicates the lamp; 2, the socket; 3, the sleeve surrounding the same; 4, the cap; 5, the feed-wires; 6, the insulated collar arranged within the sleeve at the top thereof, and 7 the key.

My improved socket 2 is constructed of a solid piece of porcelain or any other desirable non-conducting material and is provided with a transversely-extending opening 8. Within this opening is arranged my improved means for forming a contact. The socket 2 is formed on its upper face with a concentric groove, in which is arranged a contact-ring 9. This ring is secured in position by means of a screw 10, extending through the top of the socket into the transversely-extending opening, and has secured to its lower end a binding-post 11 for the negative wire. The head of this screw 10 is countersunk in the ring, as shown. The upper portion of the socket is also provided with an annular recess, in which is arranged a small sleeve 12, this sleeve 12 being secured in position by means of the screw 13, extending through the same as well as the socket into the transverse opening 8, and has mounted on its lower end an auxiliary contact-spring 14, the free end of this spring being bent downwardly in an inclined manner, as at 15, although the same may be straight, if desired. Mounted in the small sleeve 12 is a contact-screw 16. This screw meshes with the screw-threads formed on the inner face of the sleeve and projects

up above the top of the socket to permit of securing the same in the end of the lamp for retaining the same in position.

17 indicates a main contact-spring which is secured within the opening 8 by means of a screw 18. This portion to which the screw 18 is attached I term the "base" of the main contact-spring. The outer end of the contact-spring is bent upwardly, as at 19, forming the binding-post for the positive wire, and the inner end thereof is bent upwardly in a curvilinear manner, as at 20, and is adapted to be engaged by a contact-constructing block 21 to force the same into engagement with the downwardly-extending end of the auxiliary contact-spring 14.

The contact-forming block 21 is formed entirely of a suitable insulated material and is suitably mounted upon a shaft 22, which extends through the socket and is connected at one end to the key. Of course it will be evident that when the key is turned it will revolve the block 21, forcing the upward end of the contact-spring against the downwardly-extending end of the auxiliary contact-spring, as will be seen in dotted lines in Fig. 2. Each side of the socket, at the lower corners thereof, is cut away, as at 23, to permit of the positive and negative wires passing into the opening 8.

In some instances it may be desirable to form integral with the top of the socket an upwardly-extending collar 24, which is of the same non-conducting material. This dispenses with the insulated collar 6. It will be observed that the socket is provided, as heretofore stated, with the usual sleeve 2, cap 4, and connected together in any desirable manner. This will be seen by reference to Fig. 1 of the drawings.

It will be observed that by forming the contact-forming block 21 of insulated material the current will pass from one spring to the other and not through the contact-forming block, as is the case in the lamps now in general use. This to a certain extent will prevent short-circuiting of the lamp and sparks.

I of course do not wish to limit myself to the exact construction of the top of the socket as illustrated, which is adapted for use in connection with the Thomson-Houston lamp, as the socket may be changed to meet the requirement necessary for attaching thereto any lamp now in general use.

It is thought that the many advantages of my improved socket can be readily understood from the foregoing description, taken in connection with the accompanying drawings, and it will be noted that various changes may be made in the details of construction without departing from the general spirit of my invention.

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

1. The combination with an electric lamp, of

a socket provided with a transversely-extending opening, an auxiliary contact-spring secured to the top of said opening and suitably connected to a lamp, a main contact-spring arranged upon the bottom of said opening and adapted to be connected to a suitable source of electrical supply, a negative binding-post secured to the top of said opening and suitably connected to said lamp, and means suitably arranged in said opening and constructed of non-conducting material and adapted when operated to bring the said contact-springs in engagement with each other, substantially as described.

2. The combination with an electric lamp, of a socket constructed entirely of non-conducting material and provided with a transversely-extending opening, an auxiliary contact-spring secured to the top of said opening and provided with a downwardly-extending end, a main contact-spring mounted upon the bottom of said opening and having its inner end extending upwardly and adapted to engage the downwardly-extending end of the auxiliary contact-spring, said main contact-spring connected to a suitable source of electrical supply, a shaft extending through said socket and provided with a key at one end thereof, a negative binding-post secured to the top of said opening and suitably connected to said lamp, and a circuit-forming block constructed of non-conducting material suitably mounted upon said shaft and adapted to operate the upwardly-extending end of said main spring to bring the same into contact with the downwardly-extending end of the auxiliary spring, substantially as set forth.

3. The combination with an electric lamp, of a socket constructed entirely of non-conducting material and provided with a transversely-extending opening, an upwardly-extending collar of the same material formed integral therewith, a main contact-screw arranged in the top of said socket, an auxiliary contact-spring arranged at the top of said opening, suitably connected to said contact-screw and provided with a downwardly-extending outer end, a main contact-spring mounted upon the bottom of said opening, connected to the binding-post for the positive wire and provided with an upwardly-extending inner end, a binding-post for the negative wire secured to the top of said opening and suitably connected to said lamp, a shaft suitably mounted in the said socket and provided on one of its ends with a key, and a circuit-forming block constructed of a non-conducting material adapted when operated to bring the extending ends of the main and auxiliary springs together, substantially as described.

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

WALTER A. CHURCH.

Witnesses:

JOHN NOLAND,
E. W. ARTHUR.