

No. 879,830.

PATENTED FEB. 18, 1908.

D. L. WEBB.  
ATTACHMENT PLUG.  
APPLICATION FILED APR. 16, 1903.

Fig. 1.

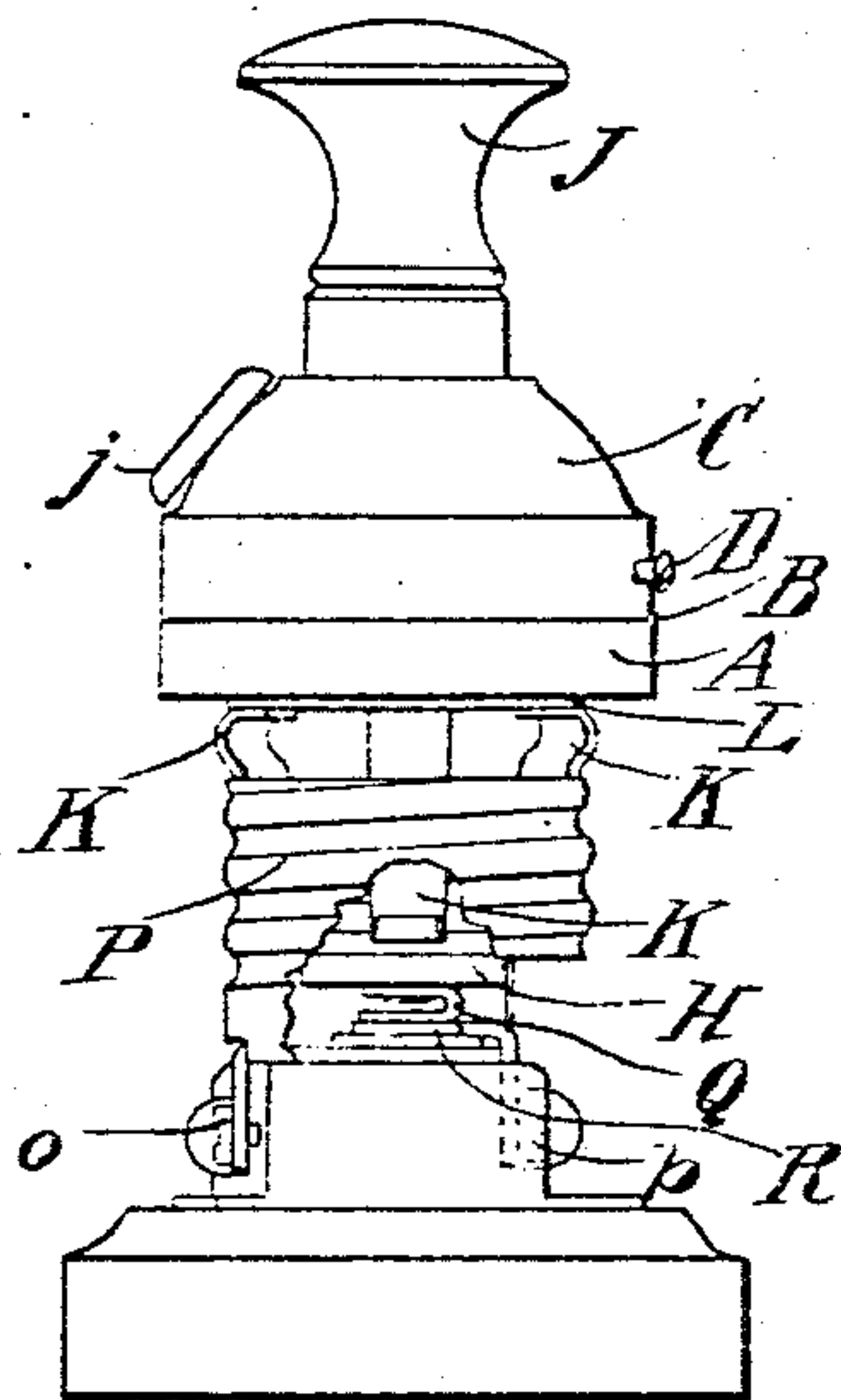


Fig. 2.

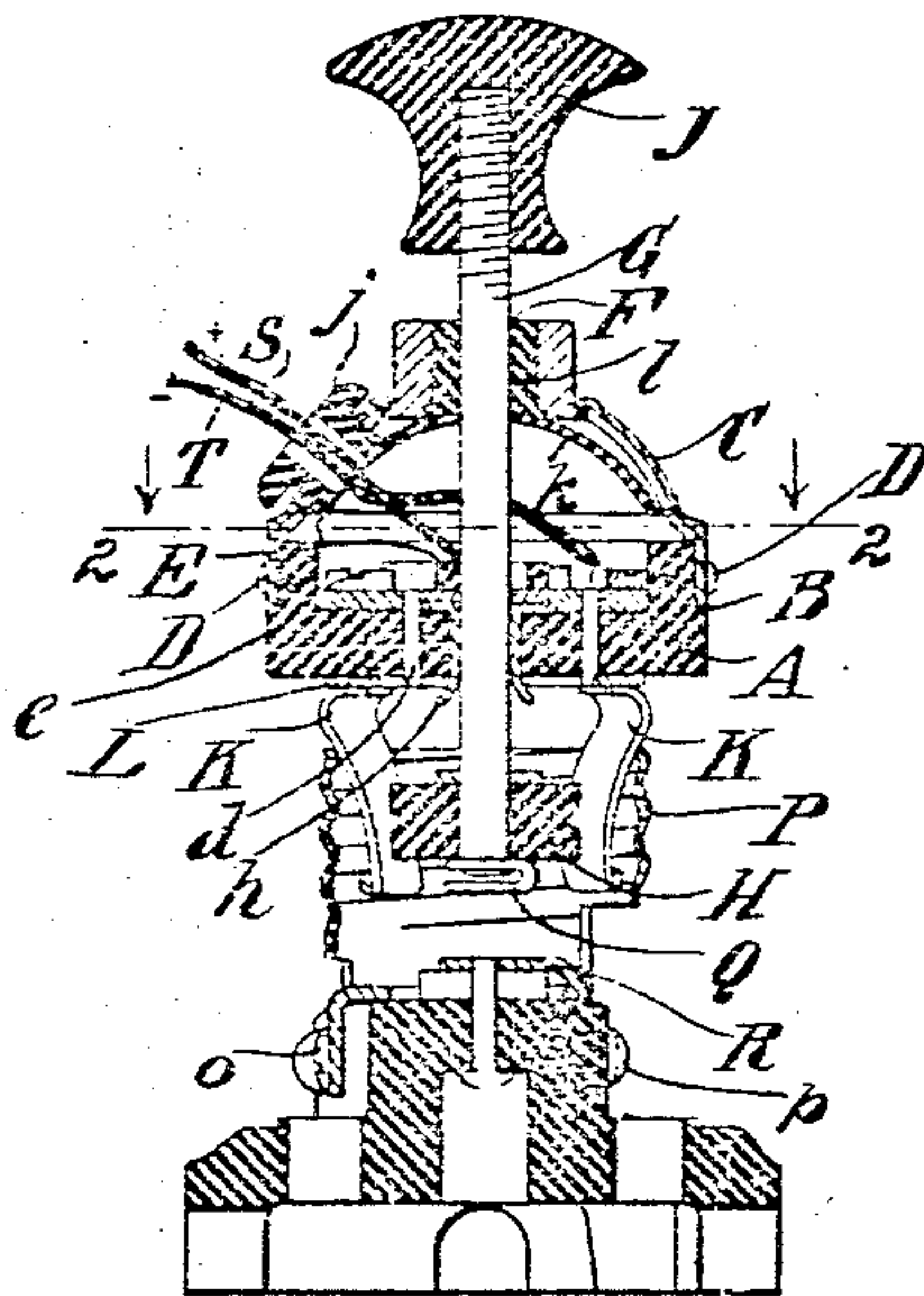


Fig. 3.

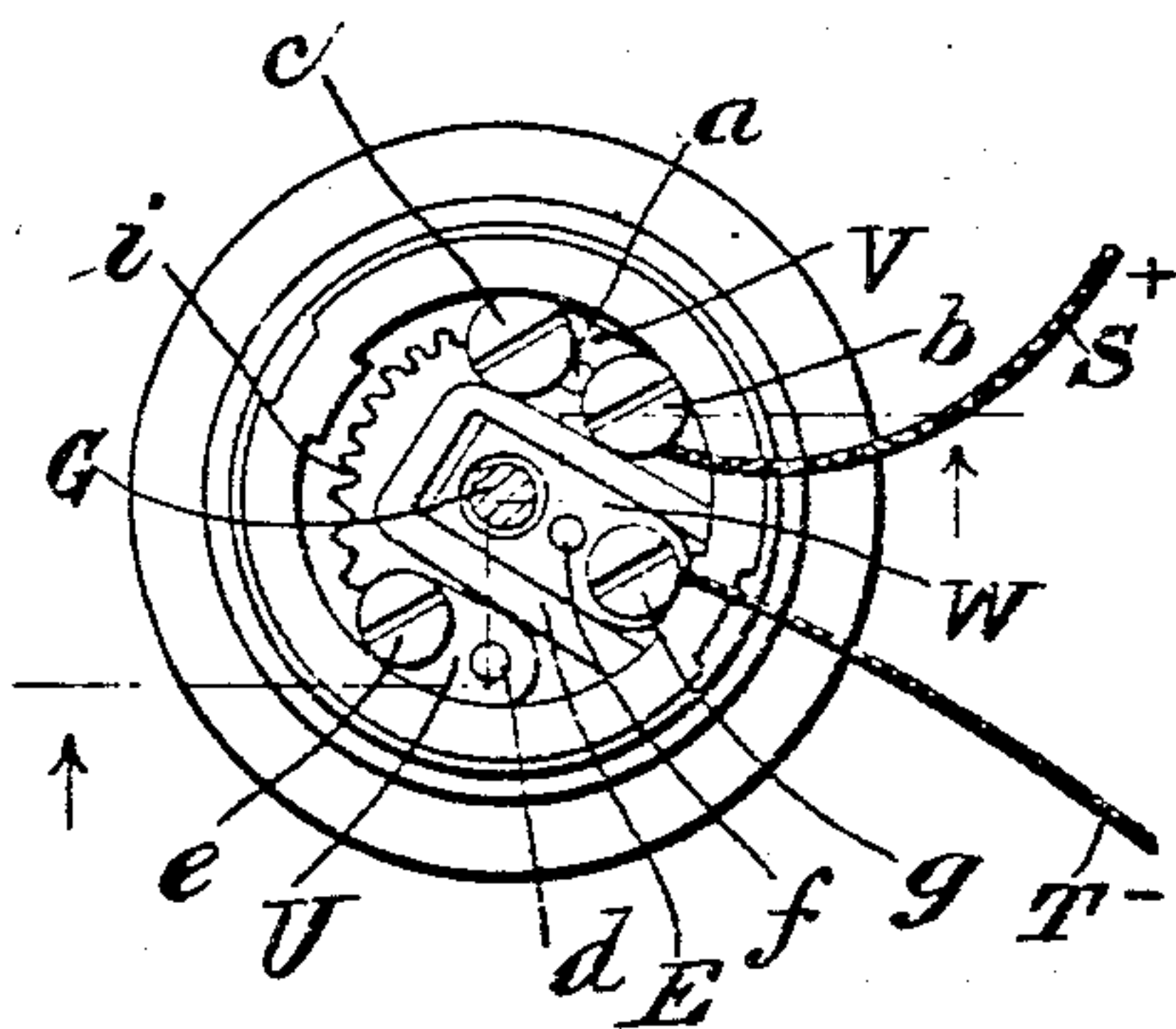
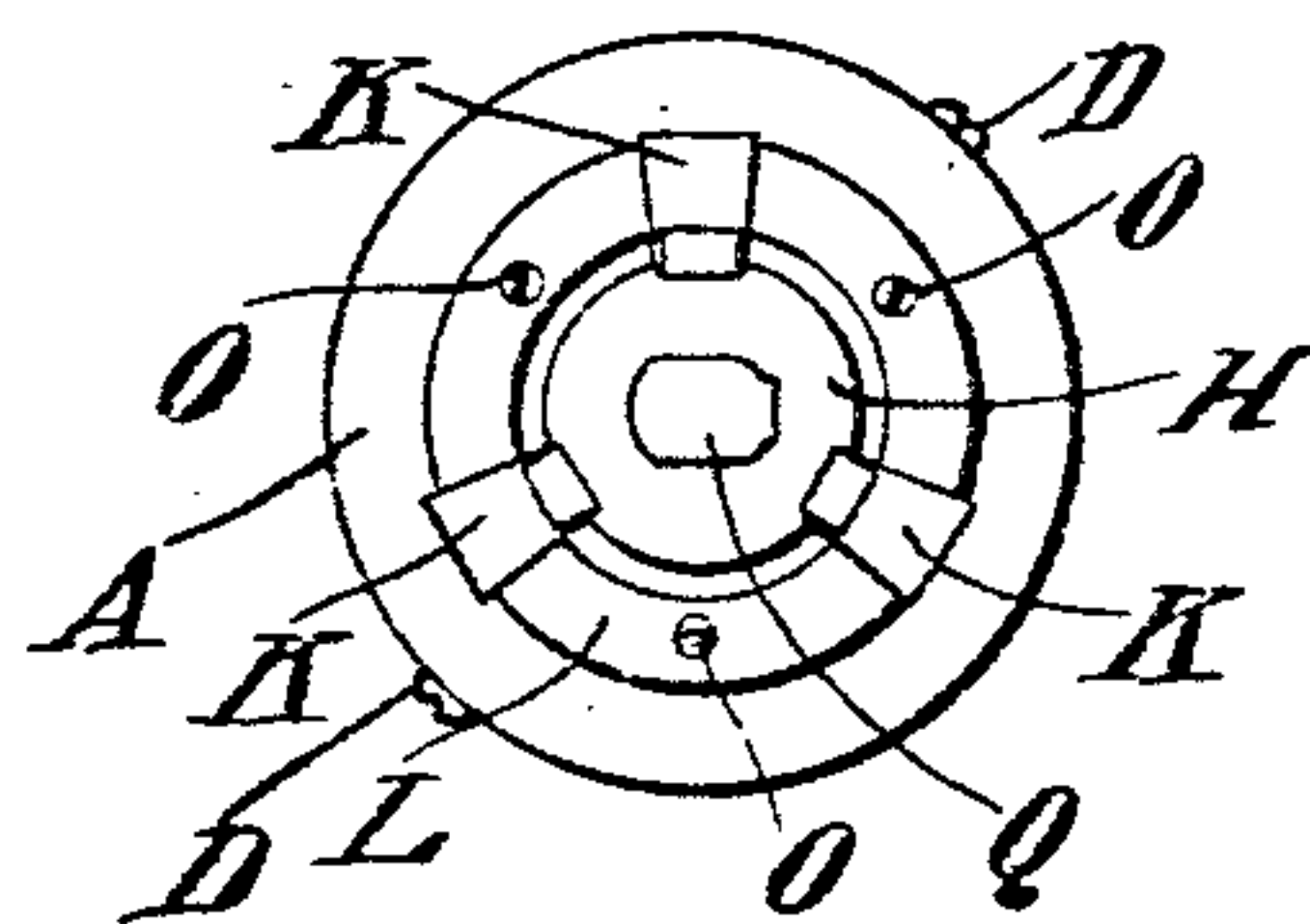


Fig. 4.



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# UNITED STATES PATENT OFFICE.

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ATTACHMENT-PLUG.

No. 879,830.

Specification of the Patent.

Patented Feb. 18, 1908.

Application filed April 16, 1906. Serial No. 152,386.

*To all whom it may concern:*

Be it known that I, DAVID L. WEBB, a citizen of the United States, and resident of the borough of Brooklyn, county of Kings, city and State of New York, have invented certain new and useful Improvements in Attachment-Plugs, of which the following is a specification, accompanied by drawings.

My invention relates to attachment plugs for electric lights, although the invention is not limited to use with such plugs but may be utilized in connection with electric lamp sockets if desired, and in other connections where it may be found applicable.

The objects of my invention are to improve upon the construction of attachment plugs and similar devices, and enable the plug to be readily and expeditiously secured to the cooperating socket by one movement, as for instance, by a simple push, instead of by a twisting or turning operation as has heretofore been customary with cooperating screw-threaded sockets and screw-threaded attachment plugs.

Further objects of my invention will hereinafter appear, and to these ends my invention consists of the device embodying the features of construction, combinations of elements, and arrangement of parts, having the general mode of operation substantially as hereinafter fully described and claimed in this specification and shown in the accompanying drawings in which

Figure 1 is a side elevation of an attachment plug embodying my invention; Fig. 2 is a longitudinal sectional view of the attachment plug and a portion of a cooperating socket; Fig. 3 is a top plan view on the line 2—2 of Fig. 2, with the casing of the plug removed; and Fig. 4 is a bottom plan view of the plug.

Referring to the drawings, my improved plug comprises, as shown, the insulating base or body A which may be of any suitable insulating material, as for instance, porcelain. To this body portion are secured suitable contacts and operative connections hereinafter to be described. While the body portion A may be constructed in any desired manner, I have shown it in the form of a circular disk having an outside flange B forming a seat for the metallic cover or casing C, which may be detachably connected to the body portion by means of suitable set screws D. In this instance the upper por-

tion of the base or disk A is hollowed and provided with a central raised portion E of insulating material. An aperture F passes through the disk for the insertion of a longitudinally movable spindle G, provided with an insulating disk H at one end and an insulating handle J at the other. Secured to the under side of the disk or base A are the spring fingers K, of which there may be any desired number, in this instance three being shown. The fingers K may be suitably attached to the base A, as shown they being secured to a metallic ring L which is suitably fastened to the disk by means of the screws O.

In the operation of my improved device, the construction is such that when the spindle G is moved longitudinally to carry the insulating disk H between the ends of the spring fingers K, said fingers will be forced outwardly and their pressure upon the disk H will maintain the disk between the ends of the fingers.

If desired, the periphery of the disk H may be grooved as shown, to aid in maintaining the disk in position between the ends of the fingers, and the fingers may be curved as shown, to cooperate with the groove in the disk. According to this construction it will be seen that when the plug is placed within the cooperating socket P, pressure upon the knob or handle J will force the spindle G longitudinally through the base A and the fingers will be forced outwardly into contact with the screw-threaded socket, to make electrical contact between the fingers and the socket. As shown, a spring contact Q is provided upon the disk H and in electrical contact with the spindle G, so that electrical contact is made between the spring contact Q and the central contact R of the socket. According to this construction my improved attachment plug is adapted for use with the standard sockets.

Suitable provision is afforded for attaching the positive and negative leading-in wires S and T to the plug. As shown, metallic contacts U and V are suitably secured within the recessed portion of the insulating base A. The contact V is secured to the base A by means of a screw or rivet a, and binding screws b and c are provided upon said contact V. The contact U is suitably secured to the base A by means of the screw or rivet d which passes completely through



the base and makes electrical contact with the metallic ring L, to which the spring fingers K are fastened. A binding screw *e* is provided upon the contact U. Another metallic contact W is suitably secured to the base A as by means of the screw or rivet *f*, and a binding screw *g* is provided upon said contact. The contact W has an aperture in this instance, through which the spindle G passes, and provision is afforded for maintaining the spindle G in constant electrical contact with the contact W, as shown springs *h* being arranged within the aperture F of the base A and secured therein in any suitable manner. The ends of the springs *h* may be bent and clamped between the contact W and the base A, as shown in Fig. 2. According to this construction the spindle G will always be gripped between the springs *h*.

In wiring up the plug, a fuse *i* may be connected between the binding screws *e* and *c*, while one of the leading-in wires, as for instance the positive wire S, is connected to the binding screw *b*. The other leading-in wire T is connected to the binding screw *g* and, as shown, the wires pass through an aperture in the metallic shell C, which aperture may be provided with an insulating sleeve or collar *j*. The inside of the metallic casing or cover C may be lined with insulation *k*, and an insulating sleeve or collar *l* may be inserted in the neck of the casing C.

Only a portion of a suitable socket adapted to cooperate with the plug is shown, it being understood that one of the electric connections to the socket is connected to the binding screw *o* in electrical connection with the shell P, while another electrical connection is made with the binding screw *p* connected to the central spring contact R of the socket.

According to the construction as herein described, it will be seen that when the attachment plug is inserted within the socket and contacts Q and R in contact, while the springs K make contact with the shell P, the circuit will be completed from the binding screw *p* and contact R to contact Q, thence through the spindle G and spring *h* to contact W and the wire T. The return circuit is completed through the wire S to the contact V, through the fuse *i* to contact U, thence through the screw or rivet *f* to the spring fingers K and through the shell P and binding screw *o* and out.

Obviously some features of my invention may be used without others, and my invention may be embodied in widely varying forms, therefore, without limiting myself to the construction shown and described nor enumerating equivalents, I claim and desire to secure by Letters Patent the following:

1. An attachment plug comprising an insulating base, spring fingers supported there-

on, a longitudinally movable spindle, and means connected to said spindle for forcing said fingers outwardly, for substantially the purposes set forth.

2. An attachment plug comprising an insulating base, and spring contacts thereon for making contact with the shell of a suitable socket, a knob or handle adapted to be moved longitudinally of the plug outwardly and inwardly, and means connected to be operated by the movement of said handle for forcing said spring contacts apart, for substantially the purposes set forth.

3. An attachment plug comprising an insulating base having an aperture therein, spring contacts connected to one side of said base, and electric contacts connected to the other side, one of said electric contacts connecting with the said spring contacts, a longitudinally movable spindle passing through the aperture in the base and in electric connection with the other of said electric contacts, an insulating disk on said spindle adapted to force the spring contacts apart when the spindle is moved longitudinally, and a contact on said disk electrically connected to the spindle, for substantially the purposes set forth.

4. The combination with a lamp socket, of an attachment plug having spring fingers adapted to be forced outwardly into contact with the shell of the socket, and a longitudinally movable disk connected to operate said spring fingers, for substantially the purposes set forth.

5. A switch-plug comprising the combination of a body, a longitudinally movable member, a contact-tip, a contact-strip adapted to engage a socket-terminal and means shifting said strip laterally into position to engage a socket when said member is shifted longitudinally in one direction.

6. A switch-plug comprising the combination of a body, a longitudinally movable post, a contact-tip carried by said post, and a contact-strip adapted to engage a socket-terminal and sustained by said body, and shifted laterally into position to engage the socket by longitudinal movement of the post.

7. A switch-plug comprising the combination of a body, a longitudinally movable member, a contact-tip, a contact-strip adapted to engage a socket-terminal and a shank comprising laterally movable sections shifted by longitudinal movement of said member in one direction and shifting the contact-strip into position to engage a socket.

8. A switch-plug comprising the combination of a body, a longitudinally movable member, means operated by longitudinal movement of said member and whereby the body can be attached to a socket, a pair of line-terminals, a pair of contacts adapted to engage the terminals of a socket and a make-and-break connection between one of said



contacts and one of said terminals, operated by shift of said member.

9. The combination with an electric socket having a plurality of projections upon its interior arranged at different elevations, of a contact plug adapted to be inserted longitudinally within the socket, a locking dog carried by said plug adapted to be thrown into engagement with the projecting portions of said socket to hold the plug in position, and means for imparting movement to the dog.

10. The combination with a lamp-receiving socket having a corrugated metallic surface constituting one pole thereof, and having also a center contact located at the bottom of the socket and constituting the other pole thereof, of an attachment plug for coöperation with said socket, said attachment plug having a contact disposed for engagement with the center contact of the socket and having also a side contact disposed to engage the corrugated surface of said socket, said side contact being inwardly movable to permit the same to enter said socket.

11. The combination with a socket having a grooved inner surface constituting one pole and a contact member at the bottom of said socket constituting the other pole, of an attachment plug having a body of insulating material, a contact member carried thereby and so located as to engage the pole at the bottom of the socket, and another contact member arranged to engage the grooved pole of said socket, said last-named contact member being made resilient to permit the same to enter said socket.

12. An attachment plug for coöperation with a socket having a screw-threaded outer contact and a center contact, said attachment plug having a contact disposed for engagement with the center contact of the socket, and having also a side contact disposed to engage the threaded contact of the socket, said side contact being movable inwardly to permit the same to enter the socket.

13. An attachment plug adapted for coöperation with a socket having a center pole and a corrugated side pole, said attachment plug having a body of insulating material, a contact member carried thereby and so located as to engage the center pole of the socket, and having also another contact member disposed to engage the corrugated pole of said socket, said last-named contact member being made resilient to permit the same to enter the socket.

14. An attachment plug for coöperation with a socket having a threaded ring contact and a center contact, said attachment plug having a center contact disposed for engagement with the center contact of the socket and having also a ribbed contact disposed for engagement with the ring contact of the socket, said corrugated contact being made

laterally movable to permit it to enter the socket.

15. The combination with a lamp-receiving socket having a center contact forming one pole thereof and a ring contact forming the other pole thereof, of an attachment plug having a center contact adapted to engage the center contact of said socket, and having also a contact laterally movable into engagement with the ring contact of said socket.

16. The combination with a lamp-receiving socket having a ring contact and a center contact, of an attachment plug having a yieldable center contact adapted for engagement with the center contact of said socket, and having also a contact laterally movable into engagement with the ring contact of said socket.

17. The combination with a lamp-receiving socket having a center contact and a ring contact, of an attachment plug for coöperation therewith having a center contact, and having also a yieldable outer contact adapted for engagement with the ring contact of said socket.

18. The combination with a lamp-receiving socket having a ring contact and a center contact, of an attachment plug for coöperation therewith, said attachment plug being provided with a laterally-movable contact adapted for engagement with said ring contact, and having also a center contact disposed for engagement with said center contact of said socket.

19. An attachment plug for coöperation with a socket having a ring contact and a center contact, said attachment plug having a center contact for engagement with the center contact of the socket, a side contact laterally movable for engagement with the ring contact of the socket, and means for manually moving the side contact into engagement with the ring contact of the socket.

20. An attachment plug for screw threaded electric lamp sockets, comprising an insulating base, a center contact, an outer contact, means for laterally moving said last mentioned contact, and binding posts for the leading-in wires.

21. An attachment plug for screw threaded electric lamp sockets comprising an insulating base, a center contact, an outer contact, means for laterally expanding and contracting said last mentioned contact, binding posts accessible from the front of the plug, and a removable metal casing or cap for said binding posts.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

DAVID L. WEBB.

Witnesses:

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M. CLAYTON.