

No. 730,975.

PATENTED JUNE 16, 1903.

H. R. SARGENT.  
CONTACT DEVICE.

APPLICATION FILED AUG. 31, 1900.

NO MODEL.

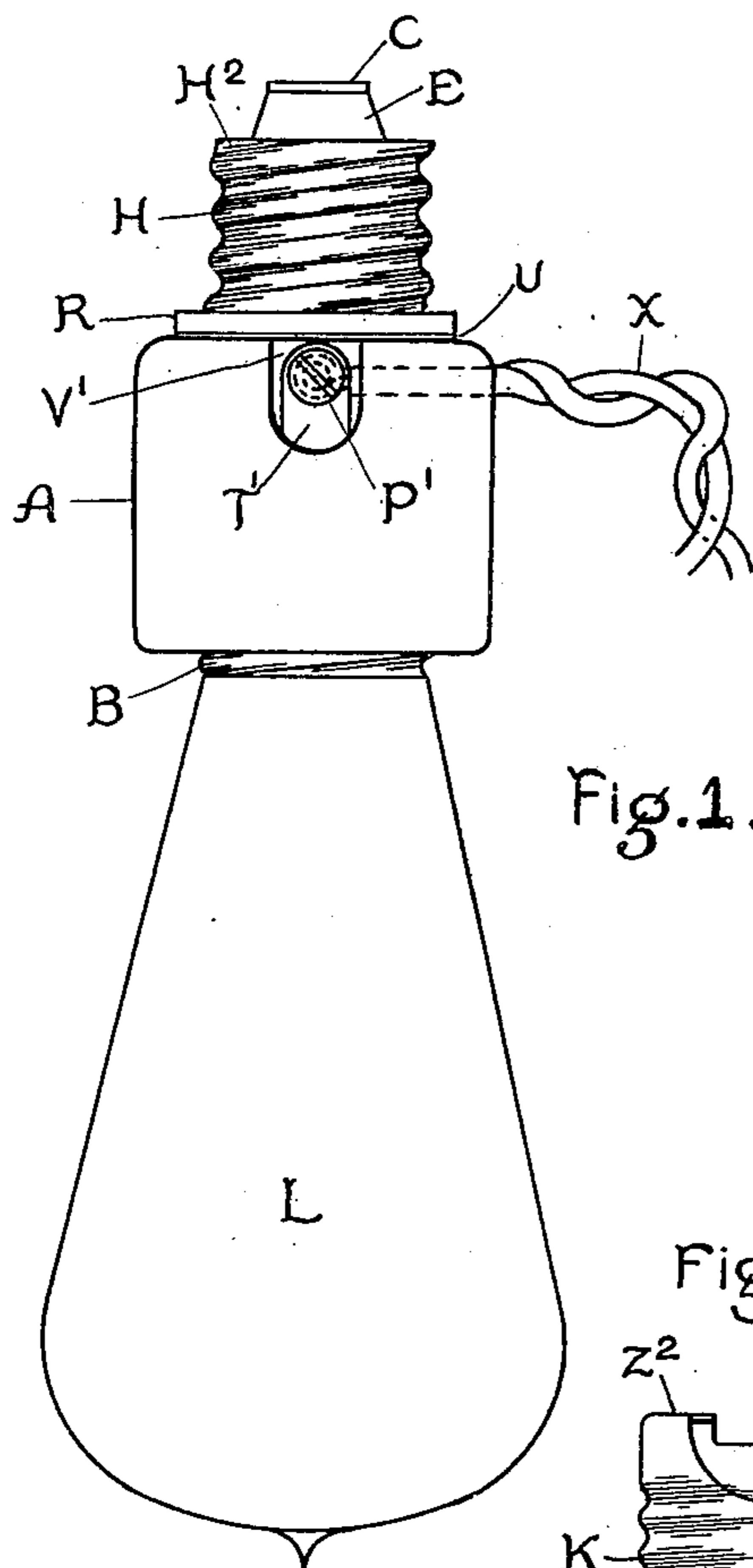


Fig. 1.

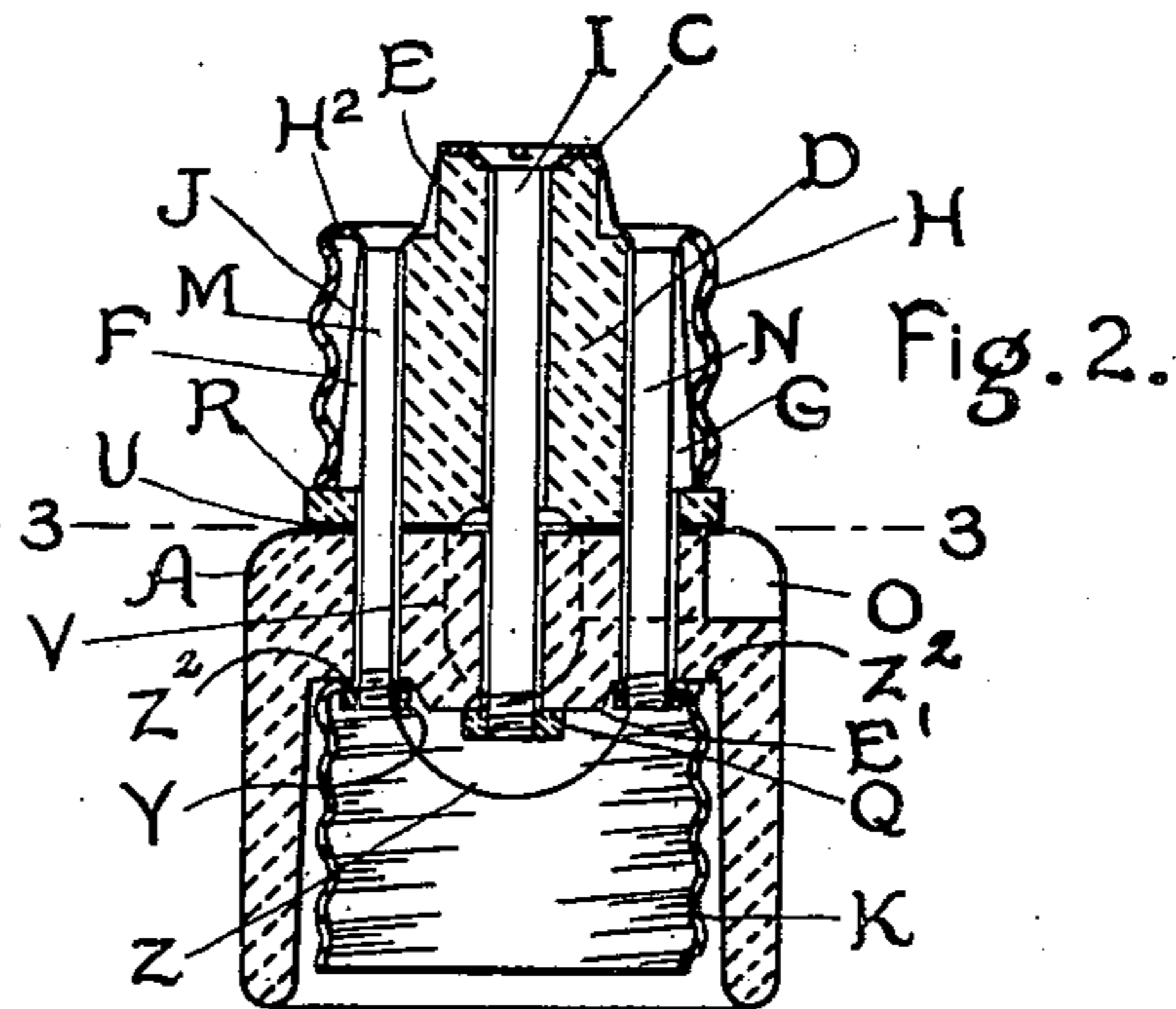


Fig. 2.

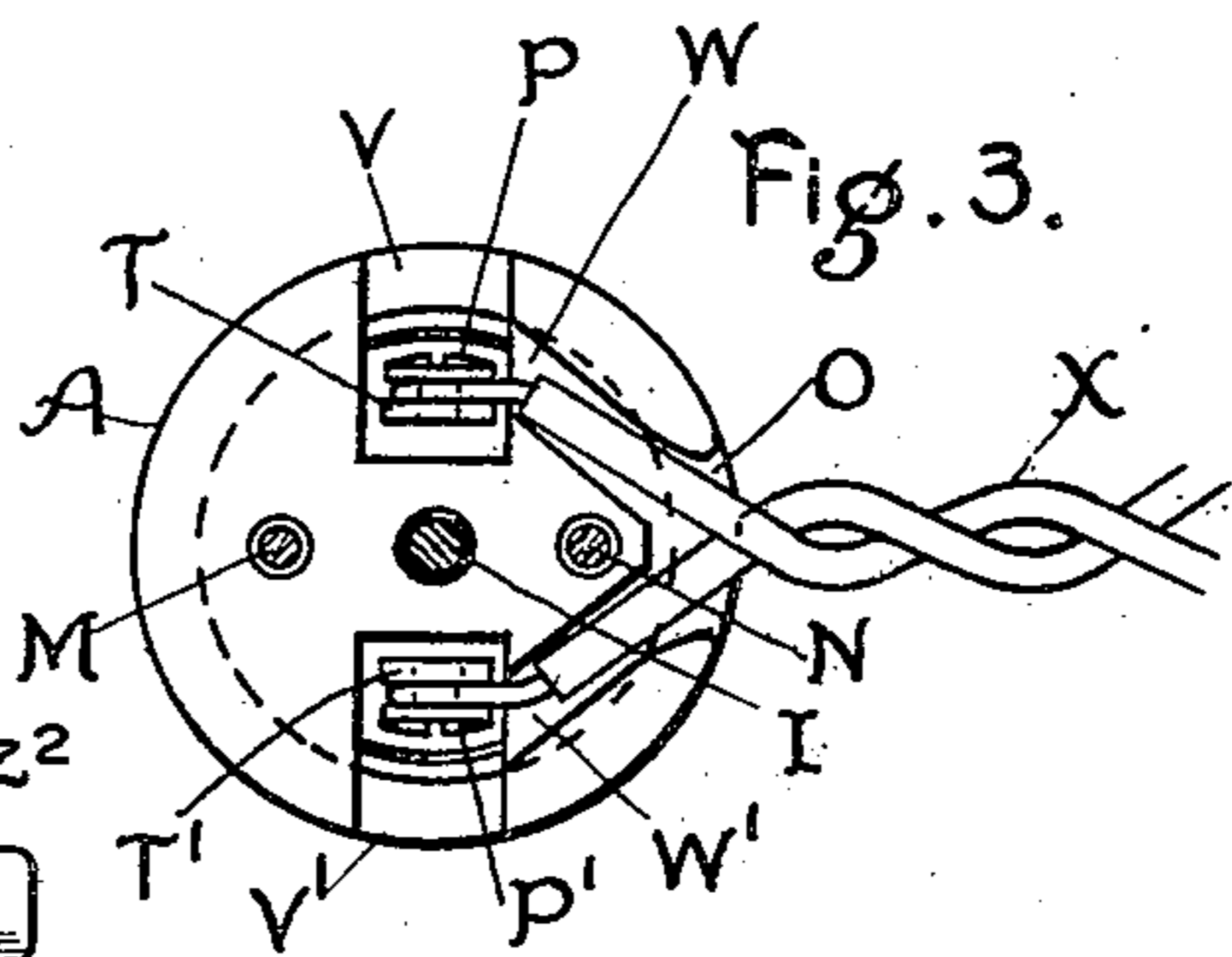


Fig. 3.

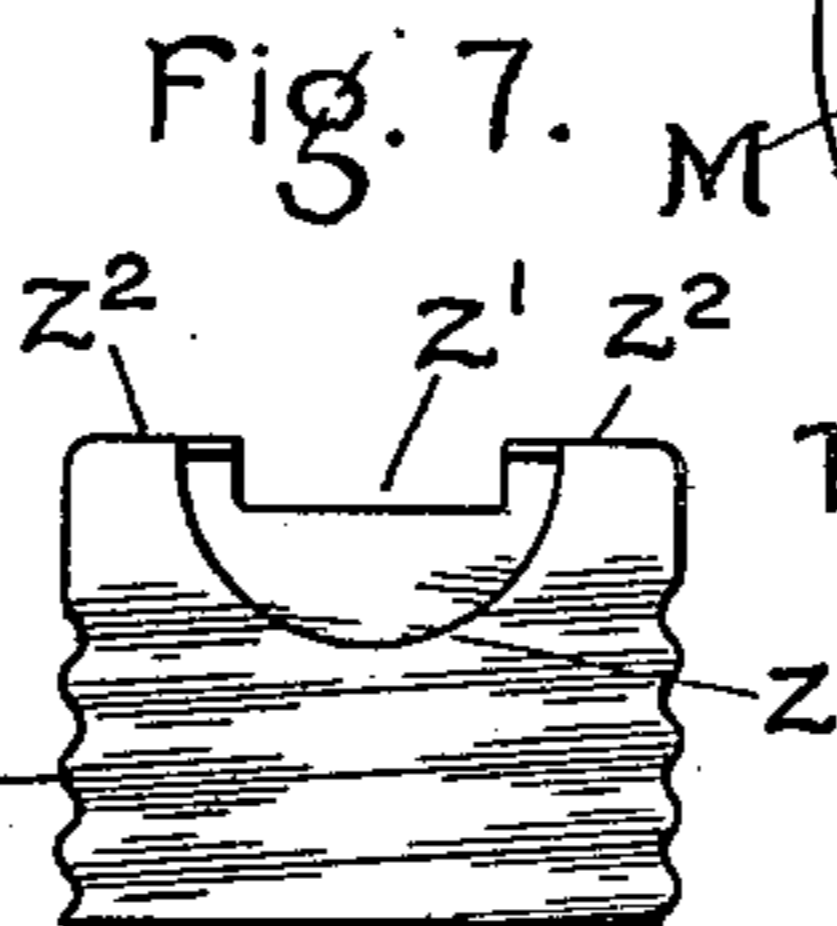


Fig. 7.

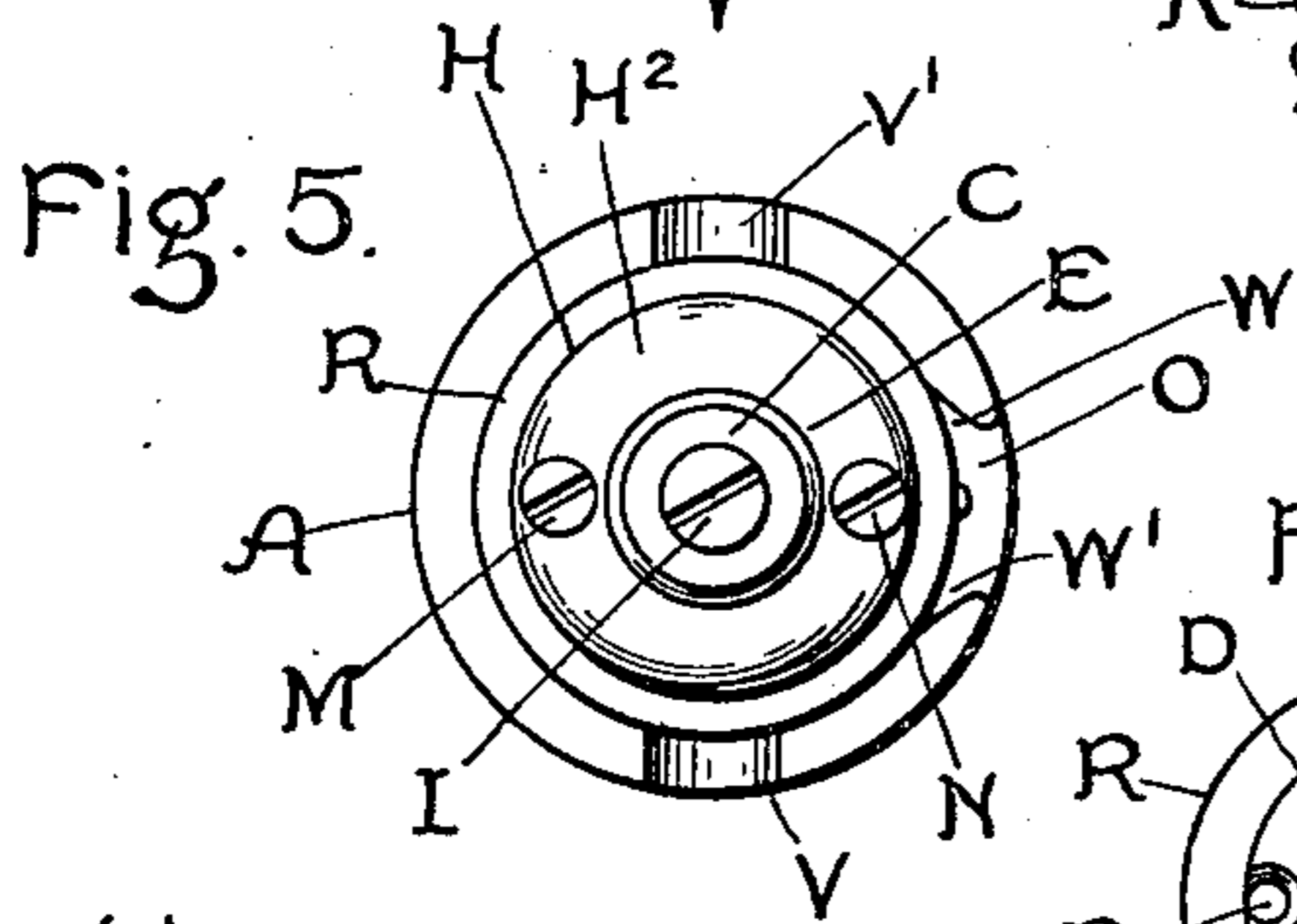


Fig. 5.

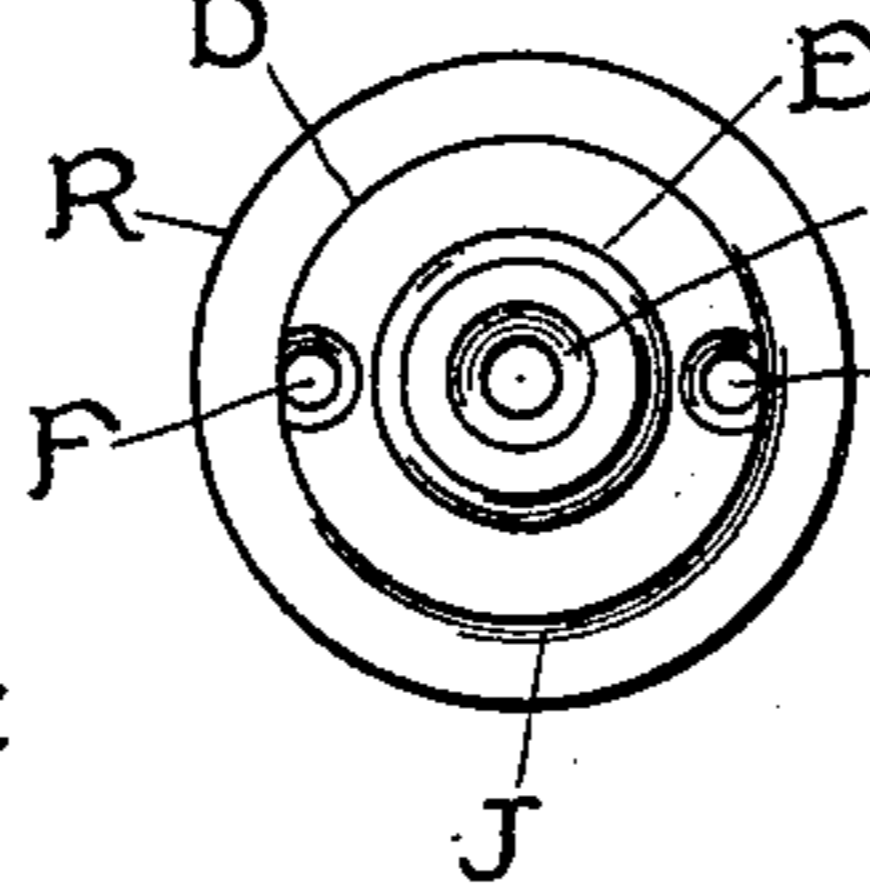


Fig. 6.

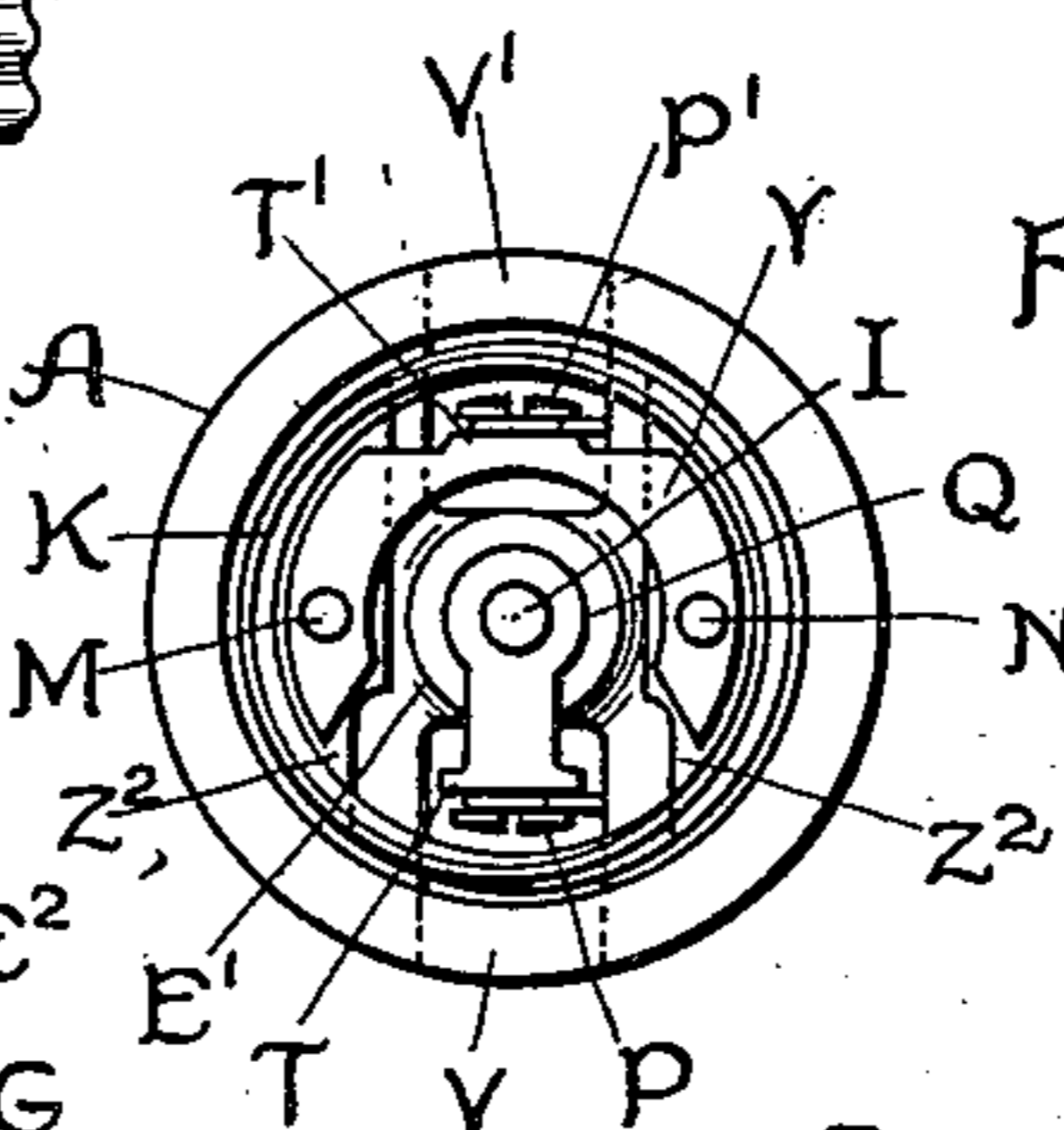


Fig. 4.

Witnesses.

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# UNITED STATES PATENT OFFICE.

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## CONTACT DEVICE.

SPECIFICATION forming part of Letters Patent No. 730,975, dated June 16, 1903.

Application filed August 31, 1900. Serial No. 28,656. (No model.)

*To all whom it may concern:*

Be it known that I, HOWARD R. SARGENT, a citizen of the United States, residing at Schenectady, county of Schenectady, State of New York, have invented certain new and useful Improvements in Contact Devices, of which the following is a specification.

The object of this invention is the provision of means whereby a lamp, together with another translating device, can be electrically connected with a single socket of the well-known type.

Figure 1 is an elevation showing the application of the device wherein the lamp L instead of being inserted directly into the ordinary socket is screwed into a socket forming a portion of the contact device, another portion of the contact device being adapted to be screwed into the ordinary socket wherein the lamp would ordinarily be inserted. Fig. 2 is a longitudinal section of the device shown in Fig. 1. Fig. 3 is a transverse section taken along the line 3 3 of Fig. 2 and looking downward. Fig. 4 is an end view of the larger end of the device looking into the opening. Fig. 5 is an end view looking at the outside of the smaller end of the device. Fig. 6 is an end view of the upper portion of the device with the contacts removed, and Fig. 7 is an elevation of the shell which is secured in the cavity in the larger end of the device.

In Fig. 1, C is a center contact on the smaller or plug end portion of the device. This center contact is mounted on an end extension E and is adapted to engage with the center contact of the common socket, as is customary. H is a screw-threaded metallic shell mounted below the center contact C on the smaller or plug end portion of the device, which portion is of suitable insulating material. This shell H is adapted to engage in a similar shell in the common socket, as is also customary. The larger or socket end part A of the device is also made of suitable insulating material and is cup-shaped to receive the base B of the lamp L, which carries the lamp-contacts in the usual way. In the side walls and base of the socket part A are formed openings V V', Figs. 3 and 5, and located therein are binding-screws P P', which are secured to terminals T T', in turn connected with the

contacts Q and K, Fig. 2, with which the lamp-base engages inside the socket part A. These binding-screws are readily accessible from outside the cup-shaped socket part A and are adapted to secure the ends of the auxiliary circuit-wires X. The lamp may be partially unscrewed from the socket part A or entirely removed therefrom, so that the translating device connected with the wires X can operate alone, or the lamp may be inserted and operated independently of the other translating device connected with the branch wires X, or, in addition, when it is desired, both the lamp and the other translating device can be connected simultaneously in the circuit from a single socket of the familiar type.

As shown in Fig. 2, the center contact C is secured to the extension E by the screw I, which extends through a hole in the insulating plug or base part D. The insulating plug or base part D constitutes a projection J, Figs. 2 and 6, from the lower cup-shaped insulating part A. The plug or base part D is formed with a rim R around its lower portion, and a screw-threaded metallic shell H is mounted around the plug or base part, with its lower edge resting on the rim R. The shell H is formed with a shoulder H<sup>2</sup> at its upper portion, and this shoulder rests on the upper portion of the plug or base part D, from which projects the extension E.

As shown more clearly in Fig. 6, holes or grooves F and G extend longitudinally through the plug or base part D and register with holes in the rim R, and, as seen in Fig. 2, screws M and N pass through holes in the shoulder H<sup>2</sup> of the shell H, into the grooves F and G, respectively, and through the holes in the rim R to secure the shell in position.

With respect to certain features of my invention it is not essential that the portions of the device which are composed of insulating material be formed in two parts; but additional advantages are secured by this construction. The material which is preferable to use for this purpose is porcelain, and hence it is advantageous to interpose a disk of fiber or other suitable material between the insulating parts D and A in order to serve as a buffer and prevent breakage of the parts.

Fig. 3 is a top view of the lower cup-shaped insulating part A, the plug or base part D being removed and the screws M, I, and N being shown in transverse section. The dotted circle indicates the inner wall of the cavity in the lower portion of the support. V and V' indicate holes, described above, which are formed in the base and sides of the support in order that the auxiliary contacts T and T', which are connected to the terminals in the cavity, may be connected with the branch circuit-wires X. The portions of the holes which extend through the side walls of the support permit the insertion of a screw-driver for turning the binding-screws P and P', which secure the branch wires X to the auxiliary terminals T and T', and the portions of the holes which open through the base are connected with grooves W W', which are joined together at the common lateral opening O and are adapted to receive the ends of the wires X. When the upper plug or base part D is placed upon the socket part A, it serves with its lower rim R to inclose the lower openings and the grooves in the base of the socket part A to form passages through which the wires X may be inserted to engage with the auxiliary terminals T T'. The portions of the holes V V' which extend through the side walls are permanently open, so that the binding-screws are always accessible. Thus while it is true that the branch wires can be readily connected to the device before the parts are assembled they may be quite readily inserted and removed when the parts of the device are all secured together.

Fig. 4 shows the inside of the cup-shaped socket part A, which is adapted to receive the lamp-base. This portion of the device is shown in longitudinal section in Fig. 2, and in Fig. 7 is shown in elevation the screw-threaded metallic shell K, which is secured in the cavity in the socket part A and is adapted to receive the corresponding shell of the base B of the lamp. This shell K, Fig. 4, is provided with shoulders Z<sup>2</sup> on diametrically opposite sides of one end, and on these shoulders respectively rest the arms of a yoke Y, of conducting material. The screws M and N, which secure the shell H to the plug or base part D, extend through the part D, the bottom of the part A, the shoulders Z<sup>2</sup> of the shell K, and engage the arms of the yoke Y, thereby securing all the parts together and electrically connecting the shells K and H. From the upper or middle portion of the yoke Y extends an integral connecting portion or terminal T', which is bent over to extend upwardly into the opening V' in the base of the support A, as shown in Fig. 1, so that the binding-screw P', which is secured in the terminal T', is accessible through the portion of the opening V' which extends through the lateral wall of the support A and so that one of the branch wires X, which extends through the groove W', can engage between the terminal T' and the binding-screw P'. Upon

the central elevation E' on the interior of the bottom of the cup-shaped part A (shown in Fig. 4) is mounted a center contact Q, which is adapted to be engaged by the center contact of the base B of the lamp L. This contact is held in position by the end of the screw I, which secures the center contact C to the extension E on the other end of the device. This screw I extends through the plug or base part D, the bottom of the socket part A, and the interior center contact Q to hold all said parts securely in position and electrically connects the center contacts C and Q. Extending from the center contact Q is an integral connection or terminal T, which is bent over and extends up into the hole V in the bottom of the socket part A, so that in a manner similar to that shown in Fig. 1 the binding-screw P, which is secured in the terminal T, may be accessible from the outside through that portion of the hole V which extends through the lateral wall of the socket part A, and, as shown in Fig. 3, the end of the other branch wire X, which extends through the groove W, may be firmly secured between the terminal T and the binding-screw P.

Fig. 5 is a plan of the device looking at the smaller end which is adapted to be inserted in the ordinary socket. Only a small portion of the openings and grooves in the outside of the support A appear, as the greater part of them is covered up by the upper plug or base part D, upon which is mounted the threaded shell H. However, small portions of the openings V V' appear, showing how the binding-screws are accessible from outside, and the lateral opening O, in which the grooves W and W' meet, is shown, indicating the place of entrance of the branch wires X.

Fig. 6 shows the upper insulating plug or base part D stripped of all its contacts. As described above, it consists of a main plug or base part D, which constitutes the projection or plug of the entire device. It is formed with a rim R at one end and at the other with an extension E, which is countersunk at E<sup>2</sup> for the reception of the screw which secures the center contact to the extension. A hole extends entirely through the center of the part. F and G are grooves in the lateral surface of the plug or base part D for the reception of the screws M N, which secure the two supports and their shell-contacts together, and these grooves are continued as holes through the rim R.

Fig. 7 is an elevation of the shell K, which is secured in the cavity of the cup-shaped part A and is adapted to receive the lamp-base B. Z<sup>2</sup> represents the shoulders (shown also in Fig. 4) by which the sleeve is secured in the socket part. Z' is a portion cut away from one side of the shell between the shoulders Z<sup>2</sup> for the purpose of providing a passage for the auxiliary terminals T'. Z is a larger cut-away portion of the opposite side of the shell, also between the shoulders Z<sup>2</sup>, for the purpose of providing a passage for

the auxiliary terminal T, which requires a larger opening in the shell, because it is mounted on the elevation E' of the base, whereas the shell-contact with which the terminal T' is integral is mounted on the bottom of the base.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a connecting device, the combination with an insulating-support having a projection on one end and a cavity in the other end, of plug-contacts on the projection, lamp-socket contacts in the cavity, auxiliary terminals connected with the socket-contacts in the cavity, lateral openings through the support into the cavity, for the reception of the auxiliary leads, and the binding-posts mounted in said auxiliary terminals and accessibly located in said lateral openings, for securing the auxiliary leads to said auxiliary terminals.

2. In a connecting device, the combination with an insulating-support having a projection on one end and a cavity in the other end, of plug-contacts on the projection, lamp-socket contacts in the cavity, auxiliary connections in the cavity with the socket-contacts and provided with binding-posts inside the device, and lateral openings through the support leading from the outside to the binding-posts for the passage of branch circuit-wires thereto.

3. In a connecting device, the combination with an insulating-support having a projection on one end and a cavity in the other end, of plug-contacts on the projection, lamp-socket contacts in the cavity, binding-posts in the cavity electrically connected with the lamp-socket terminals, and lateral openings through the support into the cavity to permit the passage of branch circuit-wires to the binding-posts.

4. The combination with a lamp-carrying insulating part formed with two openings from its bottom to the interior, and with grooves in the bottom extending from the openings through the lateral wall of the part, of an insulating plug or base part abutting against the bottom of the first part, the second part covering the openings and grooves in the base of the first, both parts being formed with registering holes, and screws extending through the holes to secure the parts together.

5. The combination with a lamp-carrying insulating part, of a plug-shaped insulating part abutting against the bottom thereof, a center contact on the end of the plug part, a center contact on the bottom of the lamp-carrying part, a conducting-screw extending through the plug part, the bottom of the lamp-carrying part, and the two center contacts, an opening in the side of the lamp-carrying part and communicating through the bottom with the interior thereof, for the passage of lead-wires, and an auxiliary terminal provided with a binding-screw located in said

opening, said terminal being connected with the center contact in the lamp-carrying part.

6. The combination with a lamp-carrying insulating part, of a plug-shaped insulating part abutting against the bottom thereof, a screw-threaded metallic shell on the plug part, a screw-threaded metallic shell in the lamp-carrying part, conducting-screws extending through the plug part, the bottom of the lamp-carrying part, and the two metallic shells, an opening in the side of the lamp-carrying part and communicating through the base with the interior thereof, and an auxiliary terminal in said opening and connected with the metallic shell in the lamp-carrying part.

7. The combination with an insulating-support formed with an end cavity and openings through the walls thereof, of a screw-threaded metallic shell in the cavity, conducting-screws for securing the shell therein and for electrically connecting the shell with the line-circuit, a center contact in the cavity, a conducting-screw for securing the contact therein and for electrically connecting it with the line-circuit, and binding-screws in the wall-openings of the support, said screws being connected to said shell and contact respectively, and adapted to receive branch circuit-wires through the openings in the wall of the support.

8. The combination with an insulating-support formed with an end cavity, depressions in the bottom of the cavity, and openings through the walls of the support into said depressions, of a threaded metallic shell in the cavity, conducting-screws for securing the shell therein and for electrically connecting the shell with the line-circuit, a center contact in the cavity, a conducting-screw for securing the contact therein and for electrically connecting it with the line-circuit, connections from the shell and center contact respectively, which are bent over into the depressions in the bottom of the cavity, in order not to be in the way of the lamp which the shell is adapted to receive, and binding-posts mounted in the connections, which are adapted to receive branch circuit-wires through the openings in the wall of the support.

9. An electric connecting device constructed at one end to engage in a lamp-socket and at its other end to receive a lamp-base, the latter end being constructed with holes and grooves, binding-screws located in the holes and connected with the contacts of the lamp-supporting end of the device, said grooves serving to receive the leads which extend therethrough for attachment to the binding-screws in the holes.

10. A cup-shaped porcelain support formed with two openings, each of which extends from the interior through a portion of the side wall and base, said support being also formed with two grooves in the base, which extend from those portions of said openings which

extend through the base, said grooves meeting at a common opening in the side wall of the support.

11. The combination with an insulating-support, of a screw-threaded metallic shell having an annular shoulder on one end and adapted to receive and fit around the support, so that said shoulder rests against the end thereof, a lamp-supporting contact, and screws extending from the shoulder into the support and into the contact, the screws serving to hold the contact and shell in place on the support and to connect the contact and the shell together.

12. The combination with an insulating-support, of a contact on the end, a screw extending through the contact into the support, a screw-threaded metallic shell having an annular shoulder on one end and adapted to fit around the outside of the support, so that the shoulder rests on the end thereof, and screws extending through the shoulder into the support.

13. An insulating plug or base part of a support formed with a central extension on one end and an enlarged rim around the other end, a hole entirely through the central extension and the main body of the support, longitudinal grooves in opposite surfaces of the main body of the insulator, and holes through the rim, which register with the grooves.

14. In a connecting device, the combination with an insulating-bottom formed with a socket projection adapted to receive a center contact, of a ring-contact surrounding said projection, auxiliary terminals leading from said contacts, and a threaded metal shell formed with attaching-shoulders and with cut-away parts of different sizes adapted to receive said auxiliary terminals.

15. The combination with an insulating-support having a projection on one end and a cavity in the other end, of plug-contacts on the projection, lamp-socket contacts in the cavity, a lateral opening in the wall of the support into the cavity, for the reception of branch circuit-wires, and means in the interior of the support which is readily accessible for connecting the wires with the circuit.

16. In a connecting device, the combination with an insulating lamp-support, said support being formed with holes and grooves, of

lamp-socket contacts mounted on said support, auxiliary terminals leading from said contacts through said holes, and binding-screws in said auxiliary terminals for securing the wires which are led inside the device through the grooves.

17. In a connecting device, the combination with two porcelain parts, of plug-contacts on one, socket-contacts on the other, and conducting-screws for holding the two parts together and for retaining all the contacts on their respective parts.

18. In a connecting device, the combination with two porcelain parts, of plug-contacts on one and socket-contacts on the other, grooves for leads in the end of the latter part, which grooves are closed by the former part and binding-screws accessibly located between the outlet of the grooves and the circuit-terminals to which the screws are connected.

19. The combination with two porcelain parts, one formed with a projection and the other with a cavity, of plug-contacts on the one and socket-contacts on the other respectively, and metal screws which hold the parts together and retain all the contacts on their respective parts.

20. In a connecting device, the combination with two porcelain parts, of plug-contacts secured on one and socket-contacts secured on the other, the latter part being formed with holes and grooves which are closed by the former part when the two parts are assembled, means for holding the parts together, and means for connecting in circuit the lead-wires which can be inserted in said grooves.

21. In a connecting device of the class described, the combination with two porcelain parts, one provided with plug-contacts and the other with socket-contacts, the latter being provided with grooves for the reception of auxiliary binding-posts connected to the socket-contacts, of means for securing said parts together, and suitable material between the parts to serve as a buffer to prevent breakage.

In witness whereof I have hereunto set my hand this 30th day August, 1900.

HOWARD R. SARGENT.

Witnesses:

BENJAMIN B. HULL,  
EDWARD WILLIAMS, Jr.