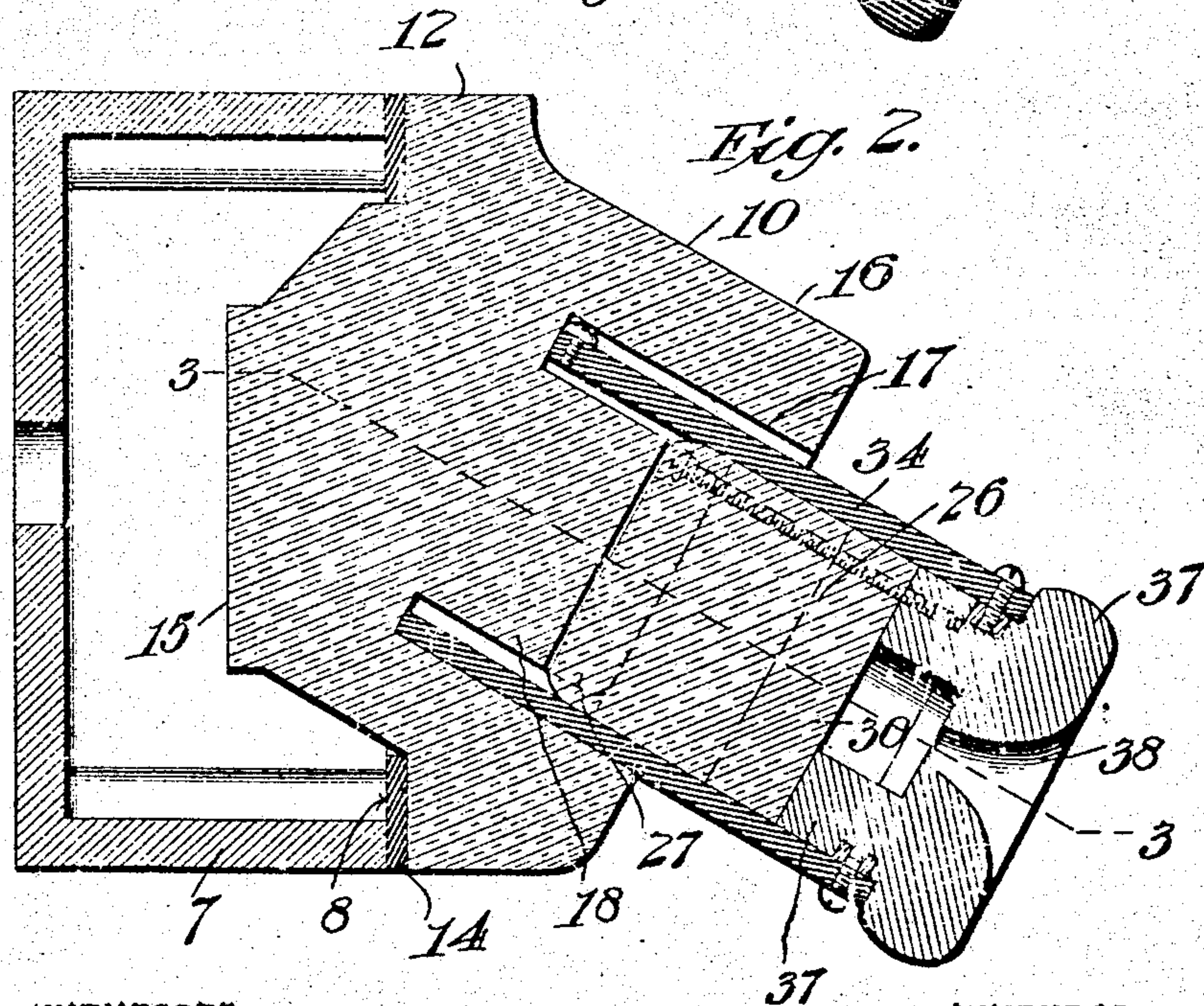
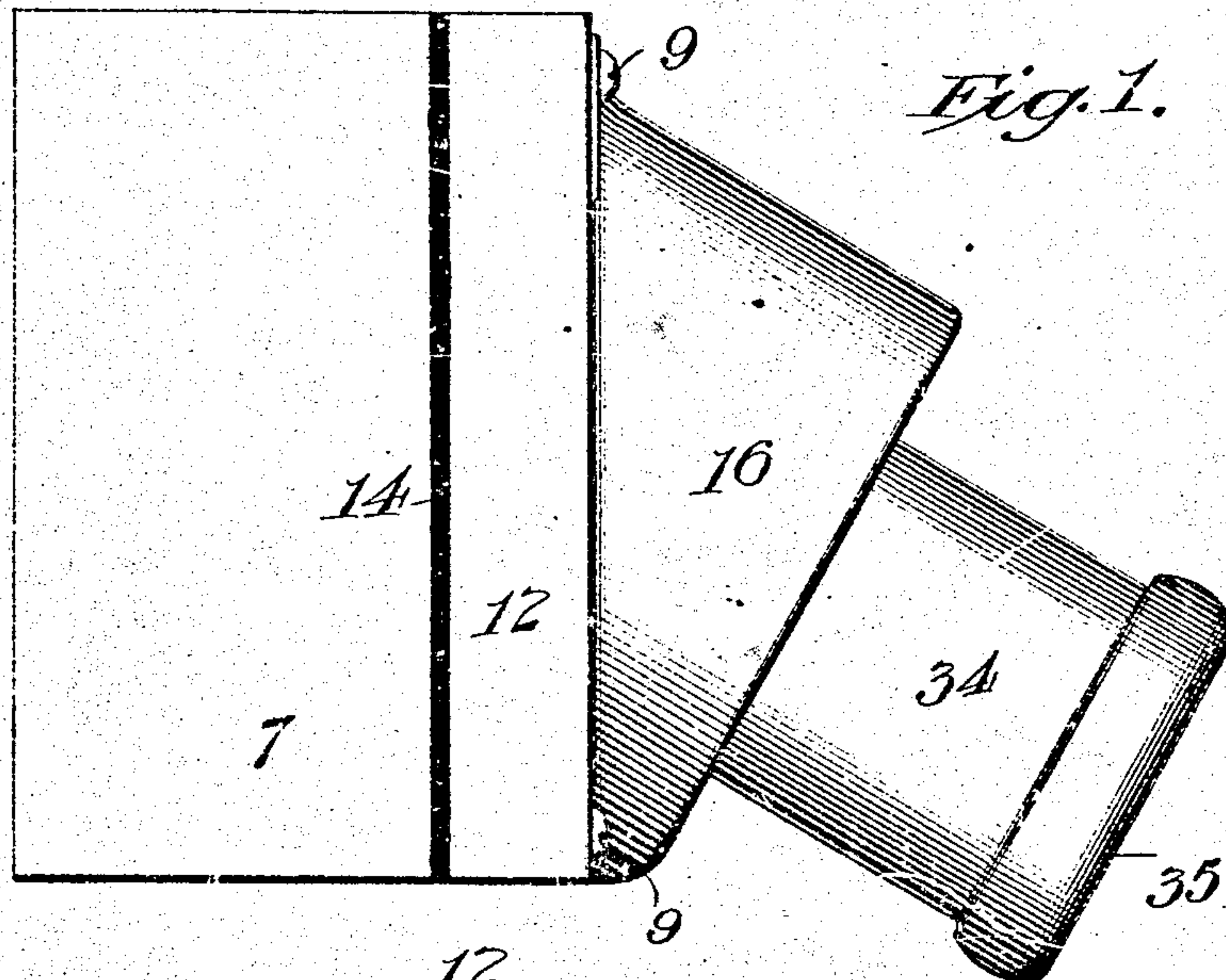


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HIGH VOLTAGE RECEPTACLE AND PLUG.
APPLICATION FILED JULY 21, 1909.

969,409.

Patented Sept. 6, 1910.
3 SHEETS—SHEET 1.



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INVENTOR

Frank J. Russell,

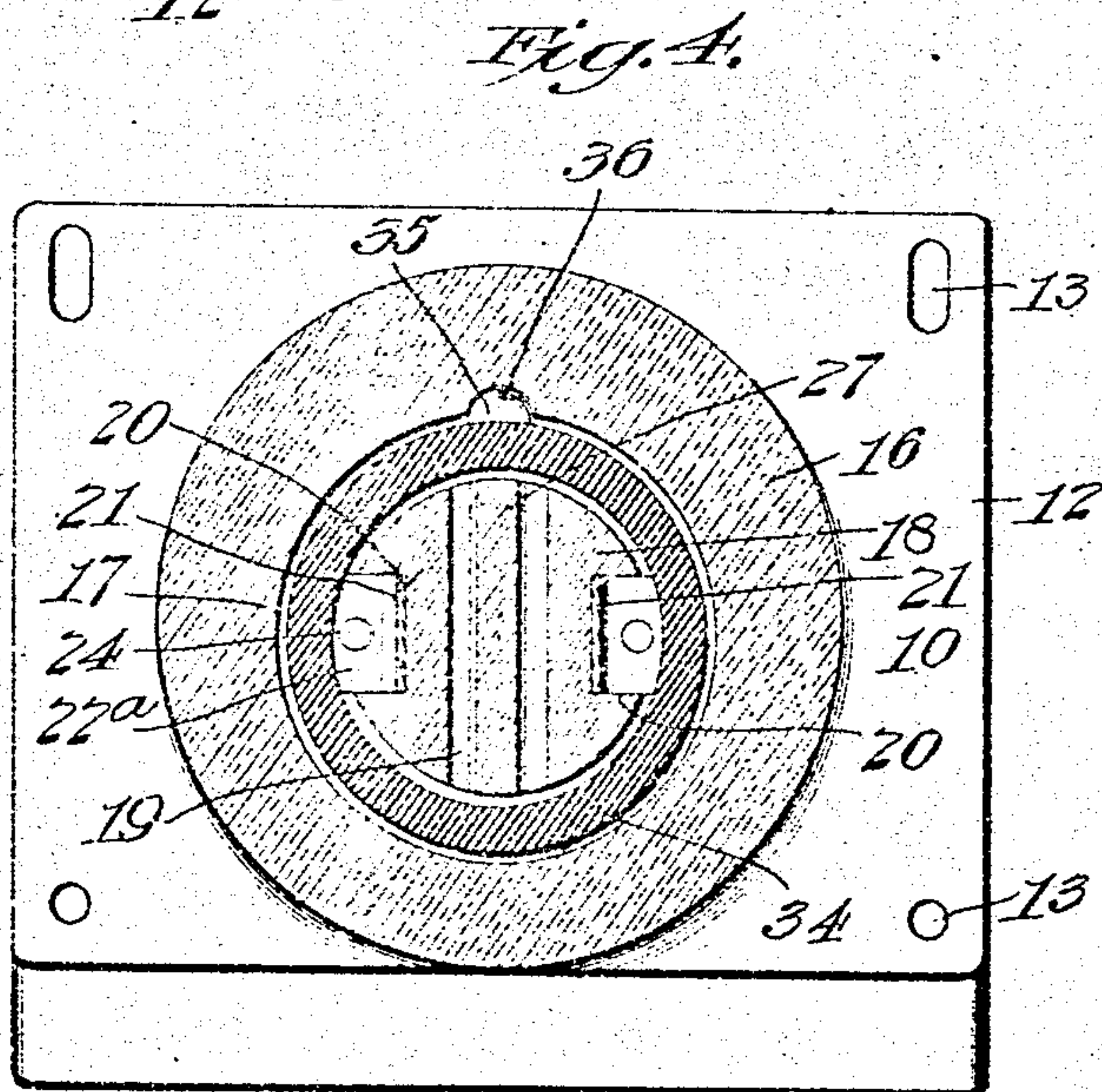
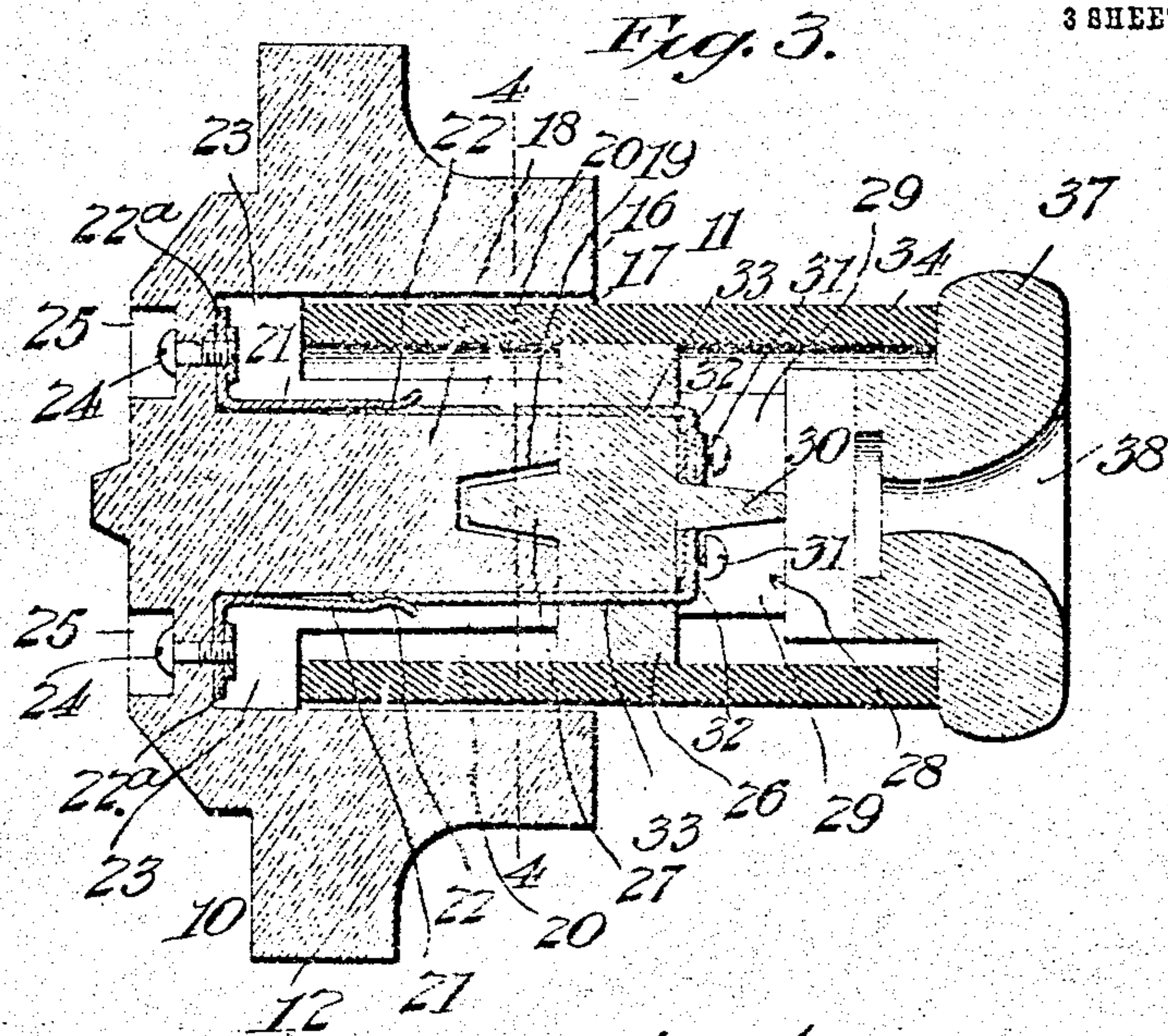
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3 SHEETS—SHEET 2.



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3 SHEETS—SHEET 3.

Fig. 5.

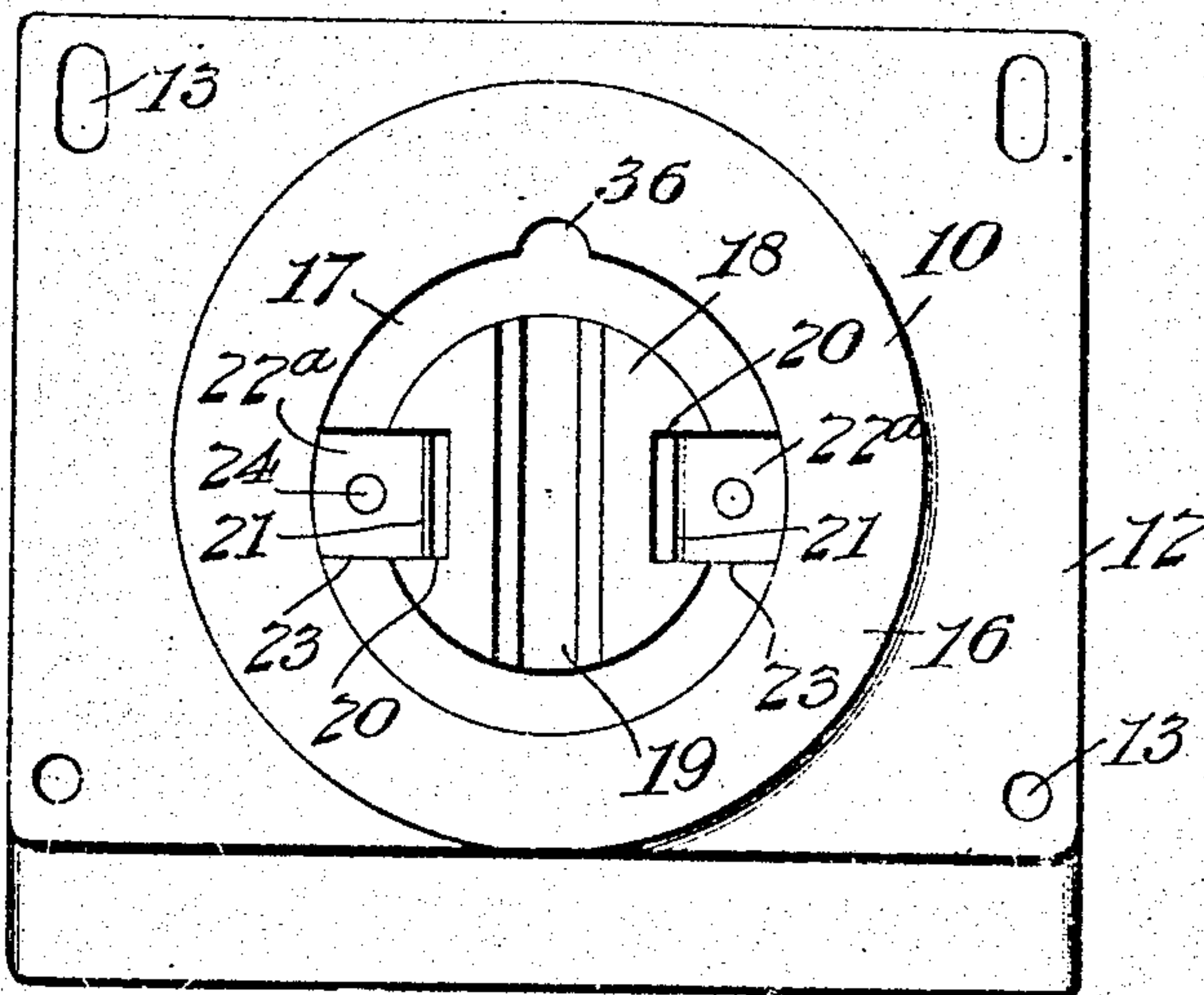
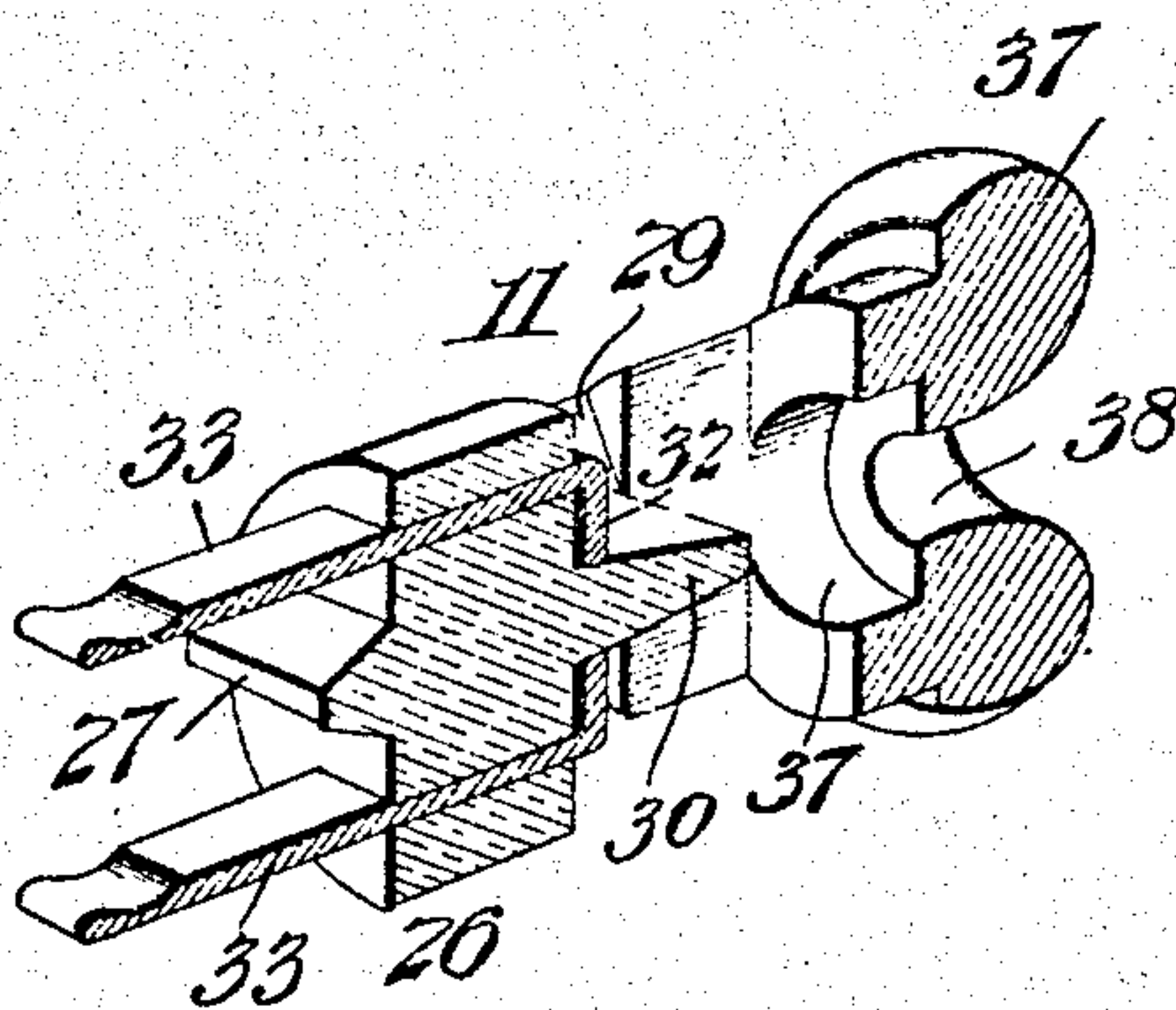


Fig. 6.



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UNITED STATES PATENT OFFICE.

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HIGH-VOLTAGE RECEPTACLE AND PLUG.

969,409.

Specification of Letters Patent.

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Application filed July 21, 1909. Serial No. 508,853.

To all whom it may concern:

Be it known that I, FRANK J. RUSSELL, a citizen of the United States, residing at Brooklyn, in the county of Queens and State of New York, have invented certain new and useful Improvements in High-Voltage Receptacles and Plugs, of which the following is a specification.

The present invention relates to that type of electrical fittings in which a receptacle member and a plug member are employed, the same being particularly useful for running extension circuits for high voltage work for various purposes from a distributing points in the floor or wall, such as in theaters, halls, and like places.

One of the principal objects is to provide a receptacle and plug construction that is extremely simple, not only in structure, but in operation, and the elements of which are so arranged that the danger of short circuiting from moisture or accidental contact is reduced to a minimum, while the contact elements are at all times completely housed and protected, whether the two members are in associated or disassociated relation.

A further and important object is to provide a structure in which the contact elements are relieved of all strains, both when the members are together, and when they are separated, the fitting, moreover, being structurally very strong and rigid, and also being so designed that dirt and dust will not collect therein.

An embodiment of the invention that is at present considered a preferable one is disclosed in the accompanying drawings, wherein:—

Figure 1 is a side elevation of the fitting, showing the two members in associated relation. Fig. 2 is a longitudinal sectional view therethrough. Fig. 3 is a similar view at right angles to Fig. 2 on the line of section 3—3 of the latter figure. Fig. 4 is a cross-sectional view on the line 4—4 of Fig. 3. Fig. 5 is a front end view of the receptacle member. Fig. 6 is a sectional perspective view of the support or body of the plug member and the contacts carried thereby, the guard or armor sleeve being removed.

Similar reference numerals indicate corresponding parts in all the figures of the drawings.

In the embodiment disclosed, the structure may be employed in connection with a junction box 7, of any well-known type, having

an open side 8, which is closed by the fitting, said fitting being mounted exteriorly on the box, and secured by suitable fasteners 9. The fitting consists of two parts, a receptacle member 10, and a plug member 11.

The receptacle member consists of a porcelain or equivalent body having a base 12 forming the cover for the open side of the junction box, and provided with openings 13, through which the fasteners 9 are passed, a gasket of insulating material 14 being preferably interposed between the box and base. The rear side of the base 12 has a rearwardly tapered boss 15, and its opposite side has a projecting socket portion 16 preferably arranged obliquely to the base at a downward inclination and having a deep socket or hole 17 closed at its bottom and open at the outer end. This socket is provided with a thick central wall or post 18 integral with the receptacle body and of the same cross-sectional shape as the outer wall of the socket or hole 17. The said wall or post has in its outer end a tapered transversely disposed slot 19, and longitudinal grooves 20 are also formed in opposite sides thereof, in which are seated yielding contact springs 21, that have their outer ends slightly bowed, as illustrated at 22. The inner right-angled ends of these contact springs are located in recessed seats 23 at the bottom of the socket 17 and receive fasteners 24 that pass through the bottom of the socket and have heads housed in seats 25 formed in the rear side of the base. These fasteners constitute the live wire terminal connections.

The plug member comprises a body or support 26 of insulating material having on its inner end a projecting transversely disposed insulating tongue 27 that is arranged to loosely register in the slot 19. The body furthermore has an outwardly extending portion 28 provided with opposite recesses 29 separated by an insulating bridge 30. Wire terminal binders 31 are located in said recesses and engage the outer inner ends of spring contacts 33 that pass through the main portion of the body or support 26, and project on opposite sides of and in spaced relation to the tongue 27. These contact elements 33 are arranged to slide longitudinally in the grooves 20 upon opposite sides of the center wall or post 18 and pass beneath the curved engaging ends 22 of the contacts 21, as illustrated in Fig. 3. The said insulator support 26 is located and secured within a

cylindrical guard sleeve or armor 34 that is arranged to register in the socket 17 and surround the post 18. This sleeve is preferably made of fiber or other insulating material and it carries on one side of its inner end a head 35 that slides longitudinally in a groove 36 formed in one side of the socket. This head properly directs the plug member to its operative position, and prevents its rotation, as will be obvious. The outer end of the sleeve 34 detachably receives a wooden or equivalent bushing 37 having a tapered opening 38 therethrough, through which the usual extension wires pass.

There are many advantages for the structure as disclosed. In the first place, a deep socket or hole 17 is provided in the receptacle member for the plug member and its contacts, and the thick insulating post or wall 18 arranged between the contacts 21 of said receptacle member affords effectual protection to the terminals against being short circuited by moisture or by coming into contact with outside articles. Furthermore, the slot in the end of the post serves to prevent moisture creeping from contact to contact, and also constitutes an air gap to prevent an arc across the terminals when the plug is pulled. In the plug member, it will be observed that the contacts are completely housed by the armor or sleeve, and said contacts are thus protected both when the plug is in and out of the receptacle. Furthermore, this armor takes all the strain and prevents breakage of the contacts or of the support for said contacts. It will be obvious, therefore, that the arrangement of parts affords a high degree of protection both mechanically and electrically, and said parts are at the same time very compactly combined. The downward angle of the plug when used on a wall is advantageous, inasmuch as it deflects moisture and dirt and prevents its entrance into the socket.

From the foregoing it is thought that the construction, operation and many advantages of the herein described invention will be apparent to those skilled in the art, without further description, and it will be understood that various changes in the size, shape, proportion and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

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

1. In an electrical fitting, a receptacle member having a socket, an insulating post

located in the socket and having a slot in one end, contacts arranged on opposite sides of the post, a plug member comprising a support having a tongue that engages in the slot of the post, and contact elements carried by the support and cooperating with the contacts of the receptacle member.

2. In an electrical fitting, a receptacle member having a socket, a post arranged in the socket in spaced relation to the side walls thereof, contact elements arranged alongside the post, and a plug member comprising a body or support of insulating material, contacts carried by the same, a sleeve surrounding the body or support and fitting in the socket, said sleeve surrounding the post, and said post having a slot in its outer end and the body having a tongue that engages in the slot.

3. In an electrical fitting, a receptacle member having a socket, a longitudinally disposed insulating post located in the socket and having a slot in its outer end, contacts arranged on opposite sides of the post, a plug member comprising a support having a tongue that engages in the slot of the post, a guard sleeve that extends into the socket, and surrounds the post, and contact elements carried by the support and cooperating with the contacts of the receptacle member.

4. In an electrical fitting, a junction box having an open side, a receptacle member mounted on the exterior of said junction box and having an angularly disposed socket, a post arranged in the socket in spaced relation to the side walls thereof, contact elements disposed alongside the post, and a plug member comprising a body or support of insulating material, contacts carried by the same, an armor sleeve surrounding the body or support and fitting in the socket, said sleeve surrounding the post, said post having a slot in its outer end and the body having a tongue that engages in the slot, and a bushing arranged in the outer end of the armor sleeve.

5. In an electrical fitting, a receptacle member having a plug-receiving socket and a wall of insulating material arranged within said socket between the receptacle contacts and provided at one end with a groove forming an insulating air gap.

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

FRANK J. RUSSELL.

Witnesses:

THOS. W. SIDWELL,
J. EDGAR MYERS.