

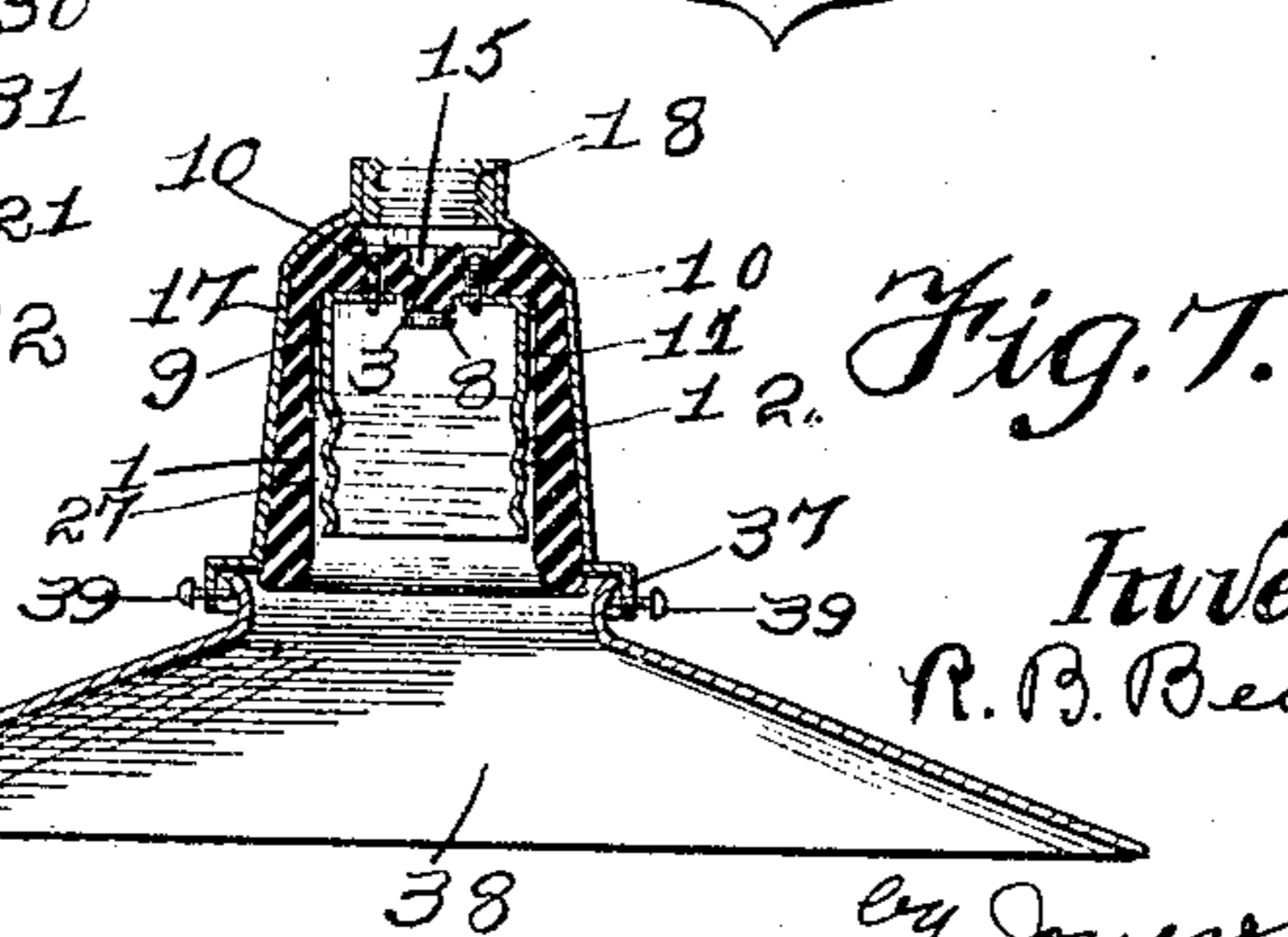
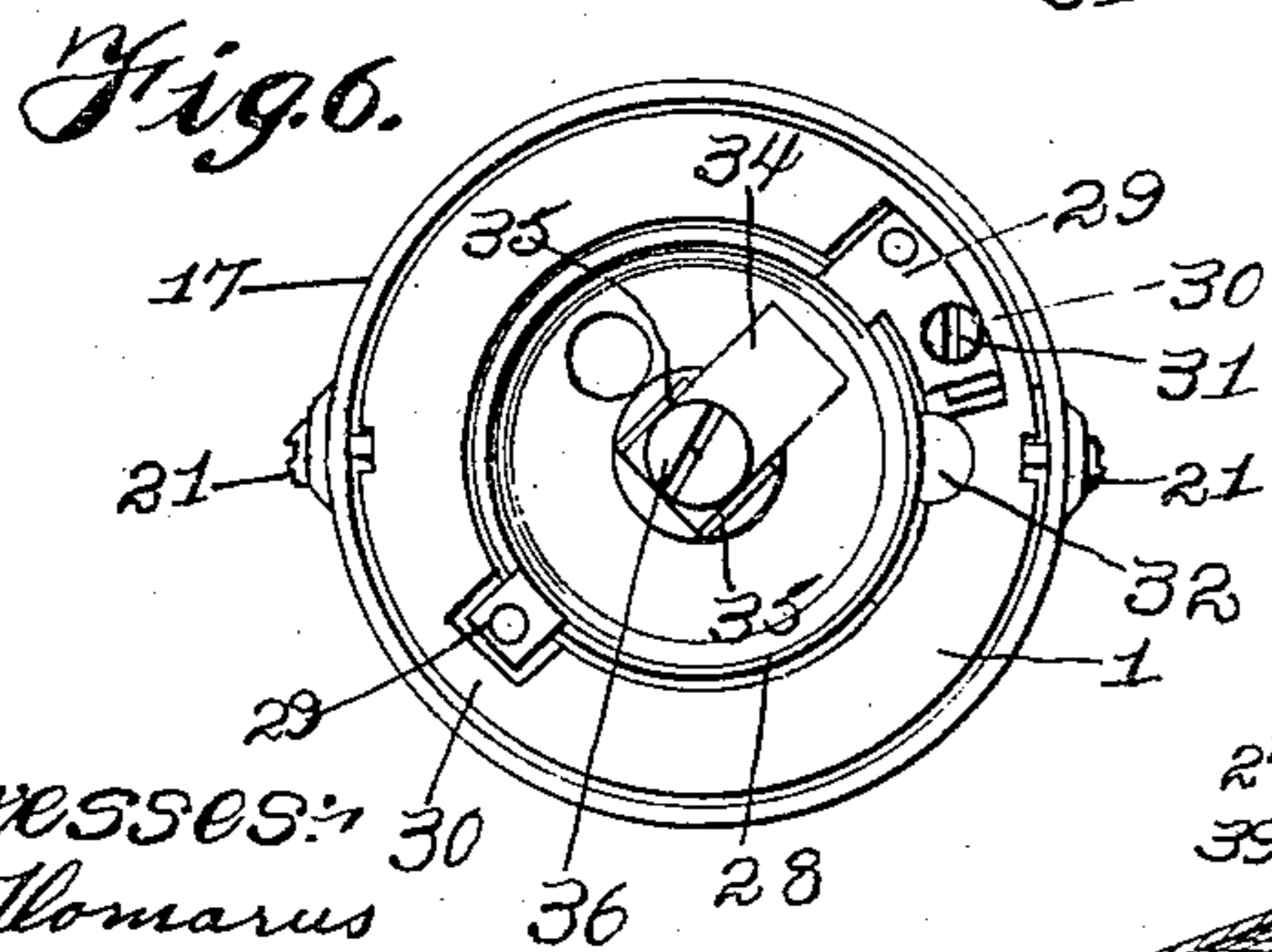
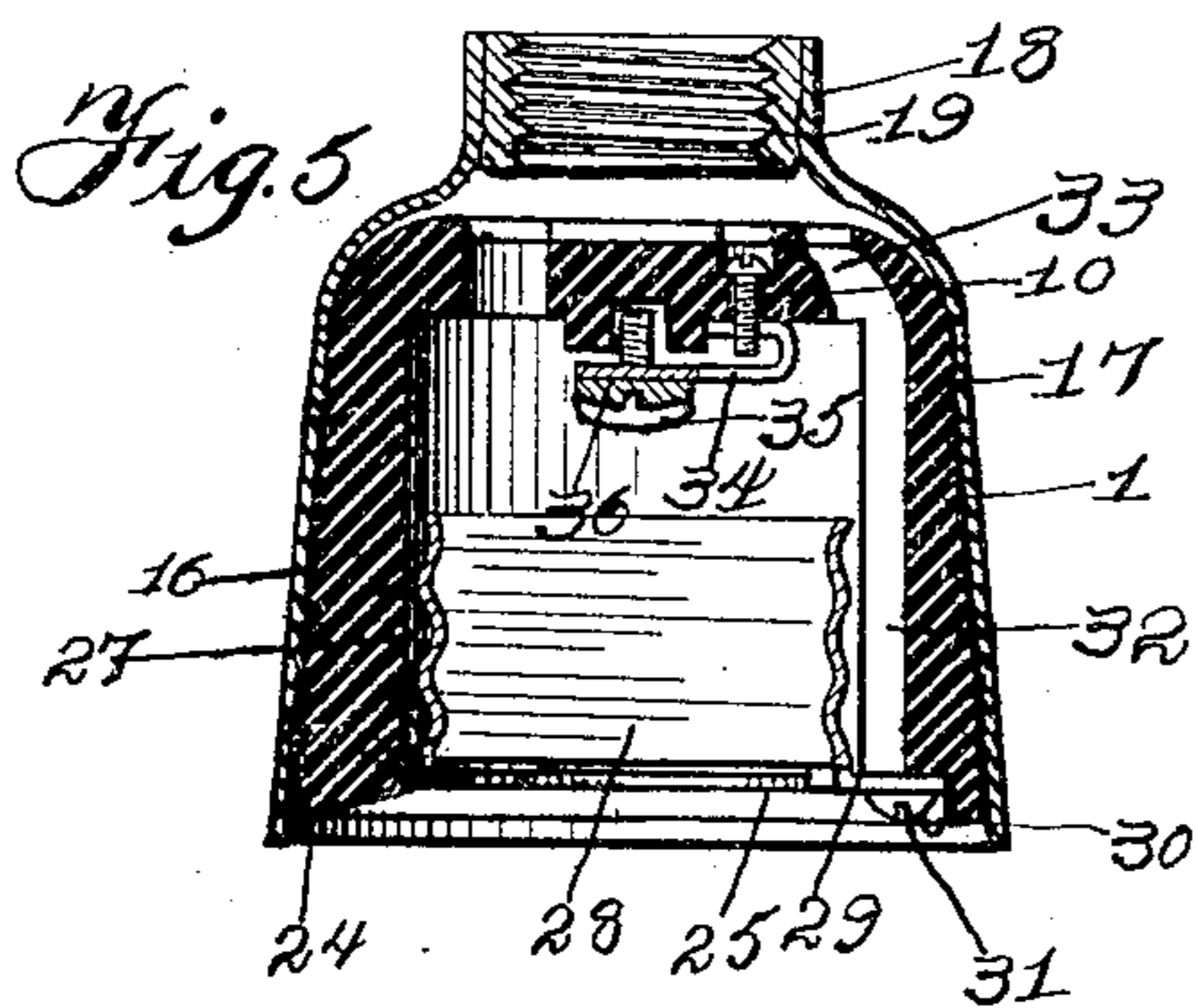
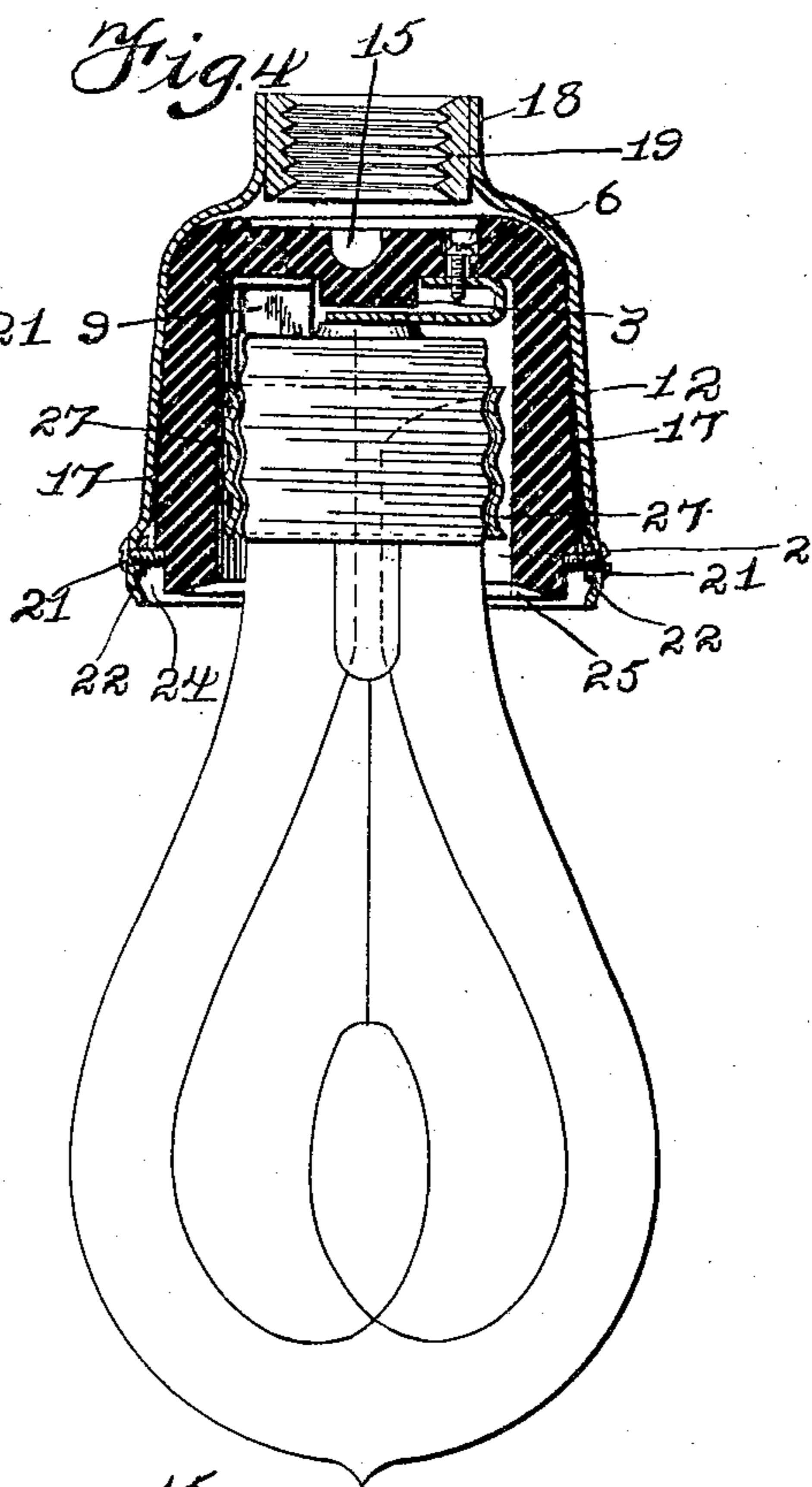
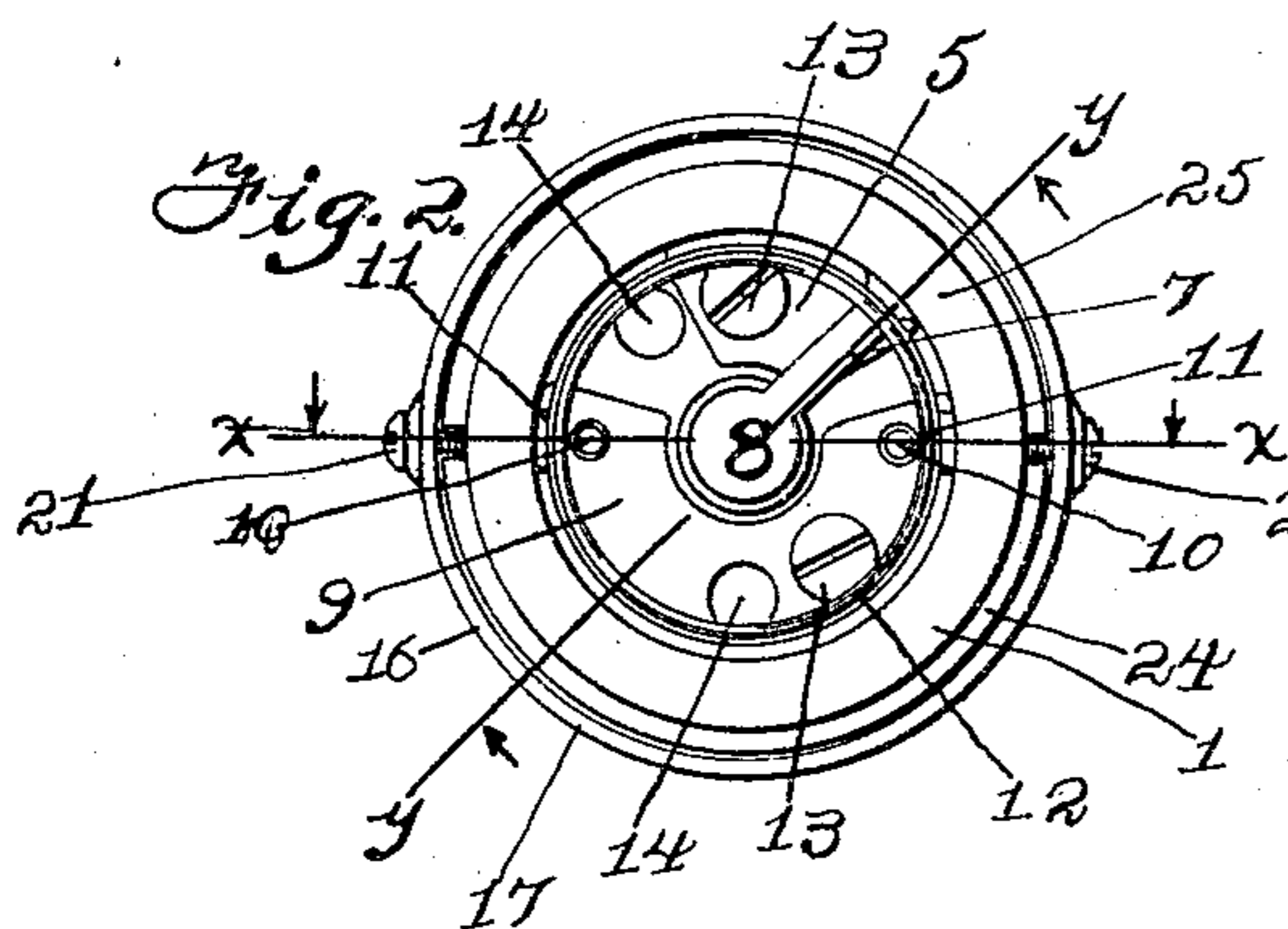
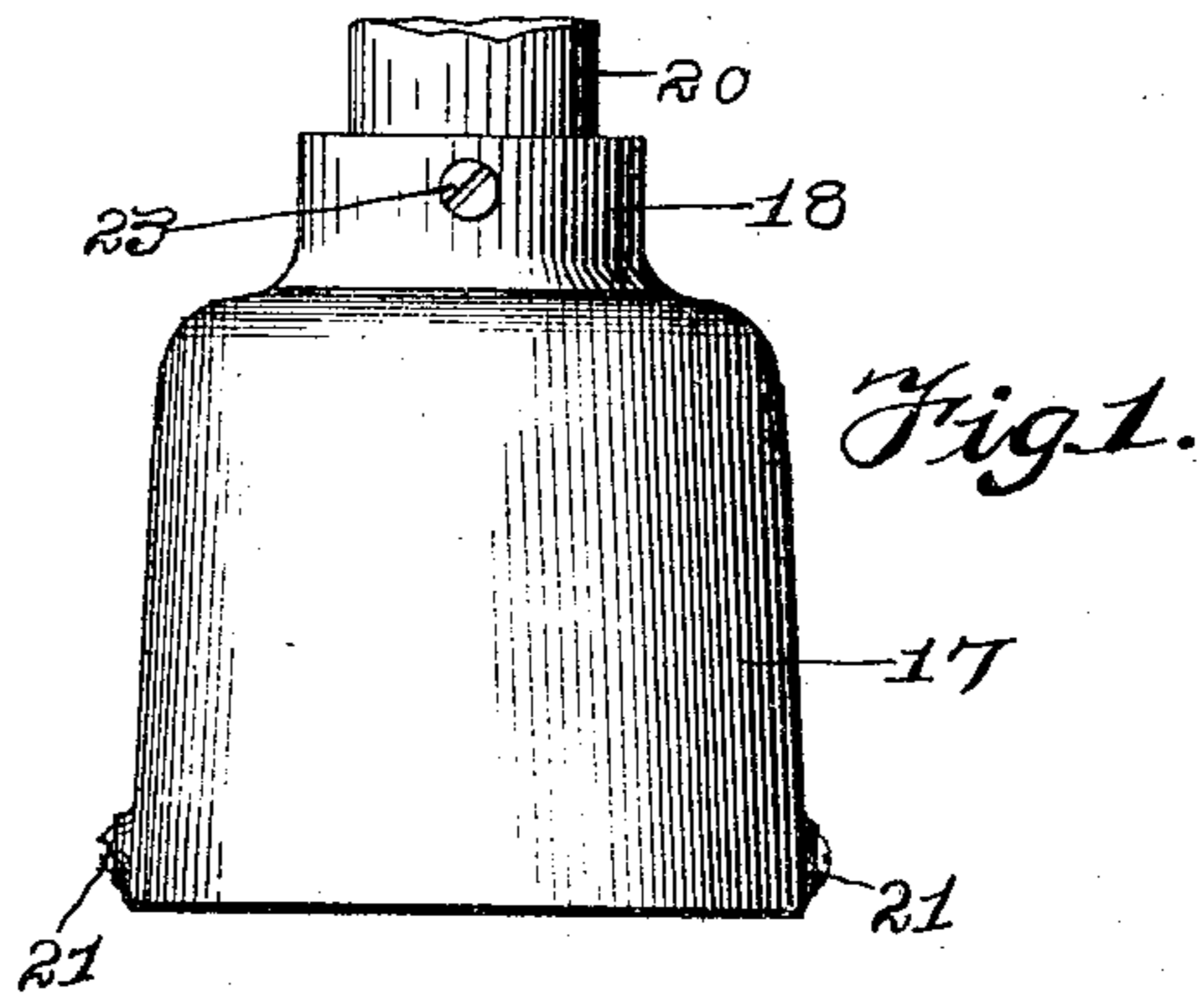
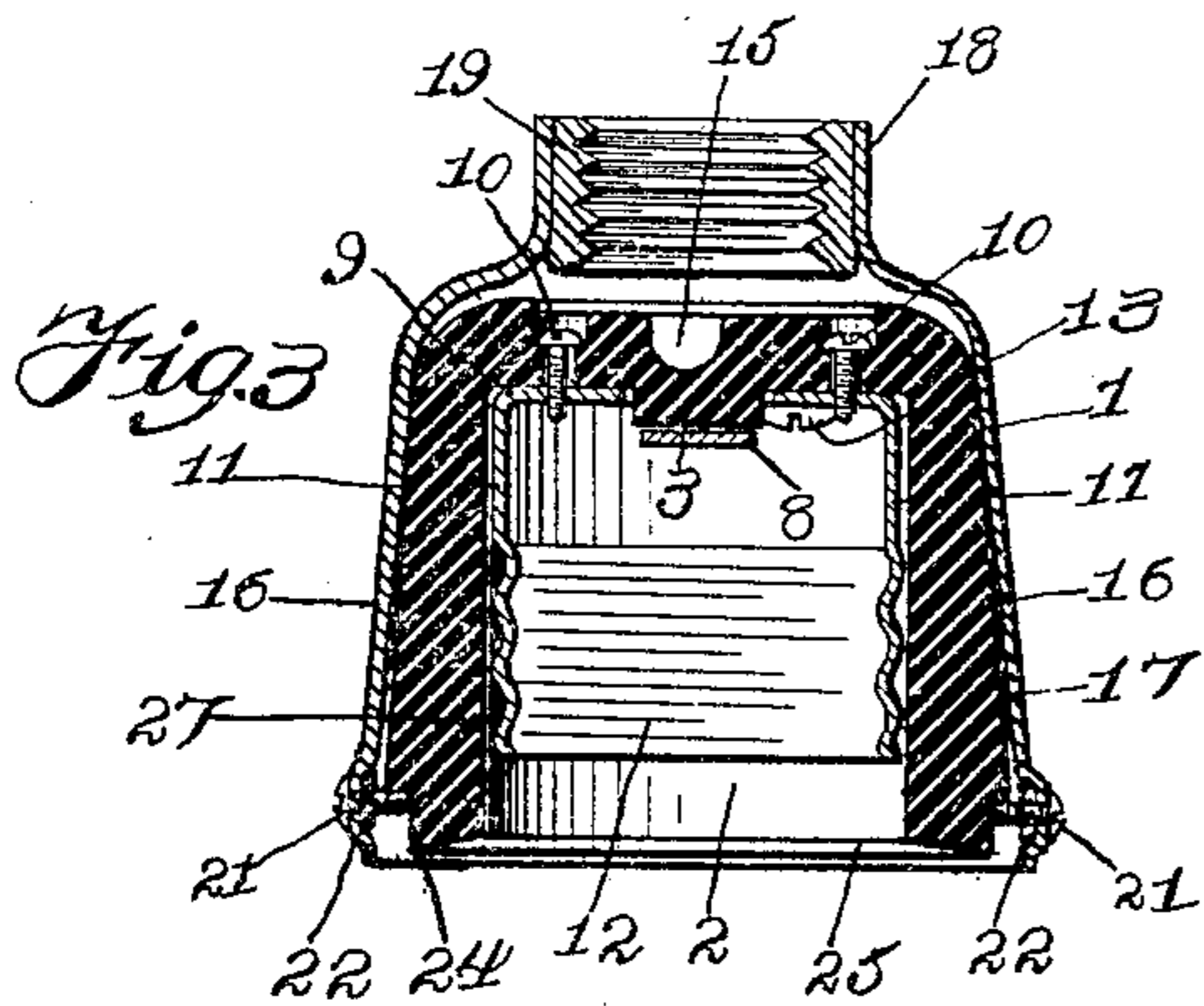
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PATENTED AUG. 30, 1904.

R. B. BENJAMIN.
WEATHERPROOF LAMP SOCKET.

APPLICATION FILED MAR. 21, 1903.

NO MODEL.



Witnesses:
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UNITED STATES PATENT OFFICE.

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WEATHERPROOF LAMP-SOCKET.

SPECIFICATION forming part of Letters Patent No. 768,786, dated August 30, 1904.

Application filed March 21, 1903. Serial No. 148,861. (No model.)

To all whom it may concern:

Be it known that I, REUBEN B. BENJAMIN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Weatherproof Lamp-Sockets, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to improvements in electric-lamp sockets.

The present invention has for its object to arrange the binding-posts for the contacts of the socket in a position where they and the wires connected therewith will be protected from making accidental electrical connection with parts which should be insulated therefrom and to arrange them in a position where they will be readily accessible from the front of the socket, so that the casing for the socket may be made in one piece.

A further object of the invention is to produce perfect insulation about the socket and to design a construction which may be cheaply manufactured, which is strong and durable in use, and which will be thoroughly weatherproof.

In the accompanying drawings, illustrating the preferred embodiment of my invention, Figure 1 is a side view of my improved lamp-socket. Fig. 2 is a front view thereof. Fig. 3 is a sectional view taken on the line *x x* of Fig. 2. Fig. 4 is a sectional view taken on the line *y y* of Fig. 2 and showing a lamp in position in the socket. Fig. 5 is a sectional view similar to that shown in Fig. 3, which illustrates a modified form of my invention. Fig. 6 is a front view of the same construction as shown in Fig. 5, and Fig. 7 is a still further modification of my invention.

Throughout these drawings like reference characters designate similar and corresponding parts.

Referring now to the drawings by reference characters, therein is illustrated a suitable base 1, preferably of porcelain, which is provided in its front with a recess or socket

2, adapted for the reception of the base of an electric lamp. Said recess is preferably cylindrical and has a flat bottom, which is arranged, preferably, substantially at right angles to the side walls of the said socket. From the center of the bottom of said socket rises a projection 3. In the channel between said projection and the side walls of said socket or recess is arranged a plate 5, which is held in position preferably by a screw 6, which passes through the base and is threaded in said plate. Said screw has its head preferably countersunk in the rear or back of said base. Preferably formed integral with this plate at its outer edge is a strip 7, which is bent back over the same so as to have its extremity 8 extend to a point substantially above the projection arranged on the bottom of said recess. The extremity of this strip constitutes the center contact for the lamp and is preferably enlarged, so as to provide greater contact-surface. This extremity of said strip is preferably arranged away from said projection, whereby the same is adapted to spring. Also within the channel above mentioned is a second plate 9, separated from the plate of the center contact and of similar shape. This plate is insulated from the first-mentioned plate by the base and is held in position preferably by screws 10, which pass through the base and have their heads countersunk in the rear thereof. This plate is preferably provided with two upstanding strips or lugs 11, which are formed integral therewith and are preferably arranged along the side walls of the recess in the base. At their upper ends they support a ring or shell 12, which is preferably screw-threaded. This shell is adapted to have the lamp-base screwed thereinto and constitutes the outer contact for the lamp.

Upon each of the plates, arranged in the socket, is a binding-screw 13, to which the supply-wires are adapted to be connected. Arranged in proximity to each of said binding-screws is a hole 14, which passes through said base, and said holes are preferably connected by a channel 15 in the rear of the base. The leading-in or supply wires are adapted

to be laid in said channel or groove and have their ends passed through the holes in said base and connected to their respective terminals in the socket.

5 The exterior side walls 16 of the base are preferably tapered inwardly from the front to the rear of the base, and a correspondingly internally tapered tubular casing 17 surrounds the same. This casing is contracted
10 at the rear end, as at 18, and within said contracted or neck portion thereof is preferably arranged a threaded sleeve 19. This sleeve is adapted to be screwed upon a conduit 20, as illustrated in Fig. 1, for the supply-wires
15 and supports the lamp-socket in position. The outer ends of said casing preferably extend beyond the porcelain base, so as to protect the edges thereof from being struck by external objects, and the shell or outer contact of the
20 socket is arranged sufficiently back from the front of the base to avoid all danger of the current jumping between the shell and the outer casing.

The base is made to fit snugly within the
25 casing, so that moisture, &c., cannot pass between the same, and it is held in position preferably by screws 21, passing through the sides thereof, which engage recesses or notches in the side walls of the base. These
30 screws are preferably threaded through nuts 22, which are held in recesses in the inner wall of the casing, which are preferably formed by punching up the metal of the casing. A screw 23 also passes through the
35 contracted or neck portion of the casing and the sleeve therein for setting the device in position upon a suitable support.

The simplicity of the construction of my improved device and the points of advantage
40 therein over previous devices of this character, it is thought, will be obvious. By the arrangement of the binding-posts upon the front of the base they are thoroughly protected from contact with the exterior casing for the socket,
45 and the danger of the bare portions of the wires, which are connected therewith, engaging the casing or other metallic parts of the socket, which should be insulated, is obviated. Furthermore, the casing which surrounds the base
50 thoroughly protects the same from the weather and moisture, and by the tapering construction thereof the base and casing are adapted to fit snugly to each other, and thereby the danger of moisture, &c., passing between the casing
55 and the base is avoided. Also the arrangement of the binding-screws upon the front of the base makes them readily accessible from the front of the socket, and therefore it is made possible to cover the base with a one-piece
60 shell, which is stronger and neater in appearance than a sheath or casing made in two parts. When the binding-screws are placed upon the rear of the base, it is necessary to have the casing made in two parts, which may be separated

so that the binding-screws may be reached or
65 to remove the base from the casing when it is desired to attach the wires to the binding-screws.

As this socket is particularly intended for outdoor use, it is necessary to guard against the
70 water which may collect thereon in wet weather bridging between the contacts of the socket and the casing or sheath. The water which collects upon the casing will run down and drip off the front edges of the casing, which
75 projects beyond the front of the base. To avoid all danger of this water running around upon the base, I groove the front face of the base around the outer edge, as at 24, to provide an air-space between the base and the casing,
80 which it will be difficult for the water to bridge. The front face of the base is also inclined outwardly from the edges of the recess to said groove, as at 25, so that the moisture which collects upon the face of the base or which may
85 come thereon from the recess will flow away from said recess and drip off the edges of the base. The air-space between the casing and the base will not be likely to be bridged by water which may collect upon the socket; but
90 in order to still further avoid all possible chance of the casing and the contacts becoming electrically connected by moisture a second air-space 27 is provided between the shell-contact and the base. The screws which secure
95 the casing in position on the base are preferably made to have their heads bent upon the casing after they are set in position, so that they will not be liable to be loosened by vibration of the socket when it is in use. 100

In Figs. 5 and 6 is shown a modification of my invention. Therein the binding-posts for the respective terminals are mounted upon the front of the base, as in my preferred construction; but in this instance one is arranged
105 upon the face of the base, while the other is arranged in the socket therein. In this structure the threaded shell 28 has lugs 29 formed integral therewith and projecting laterally therefrom, which bear in depressions in the
110 face of the base and support the shell in the recess in said base. The shell is arranged in the recess somewhat below the front face of the base, so as to provide a larger air-space between the sheath or casing, and the depression
115 for the supporting-lugs for the shell are formed with a wall 30 between them and the casing, which thoroughly insulates the lugs upon the casing. One of said lugs has an extension which carries a binding-screw 31 for
120 connecting one of the supply-wires with the shell or outer contact for the lamp, and a channel 32 is formed in the side wall of the recess in the base for the reception of the wire. This channel extends from a point near
125 the binding-post or terminal to the bottom of the recess and communicates with a hole 33, passing through the base from the bottom of

the recess. The center contact 34 is of somewhat similar construction to that used in the preferred embodiment of my invention. However, the extremity of the strip connected with the plate has upstanding lugs 35 provided at each side, between which is arranged a binding-screw 36 for connecting thereto one of the supply-wires. These lugs all make contact with the center contact of the lamp.

A still further modification of my invention is shown in Fig. 7. The general design of the socket is substantially the same as that in the preferred form of my invention save that the outer end of the casing is enlarged, as at 37. This enlarged portion of the casing is formed integral with the body or main portion of the casing and is adapted to receive the central or supporting flange of a lamp-shade 38, which may be secured or held therein by screw 39.

It is manifest that many changes may be made in the details of construction, arrangement, and combination of parts as herein set forth without in any way departing from the spirit or principle of my invention and the same yet remain intact and be protected.

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

1. In a weatherproof electric-lamp socket, the combination with a base of insulating material having a recess formed in the end thereof for the reception of a lamp-base, of a one-piece casing fitting on said base from the rear and inclosing said base on its sides and rear; and means independent of the leading-in wires for securing said base and casing together to form a self-contained unitary structure, said casing having means at its rear end for making weatherproof connection with a suitable conduit or support for leading-in wires and binding-posts on said base for detachably securing the leading-in wires, said binding-posts being independent of the lamp-contacts and accessible from the front of the base without removing said casing, whereby the electrical parts are housed in a weatherproof casing and effectively insulated therefrom.

2. In a weatherproof electric-lamp socket, the combination with a base of insulating material having a recess formed in the end thereof for the reception of a lamp-base, of a one-piece casing fitting on said base from the rear and inclosing said base on its sides and rear and means independent of the leading-in wires for securing said base and casing together to form a self-contained unitary structure, said casing having means at its rear end for making weatherproof connection with a suitable conduit or support for leading-in wires and binding-posts in the bottom of said recess for detachably securing the leading-in wires, said binding-posts being independent of the lamp-contacts and accessible from the front of the

base without removing said casing, whereby the electrical parts are housed in a weatherproof casing and effectively insulated therefrom.

3. In a weatherproof electric-lamp socket, the combination with a base of insulating material having a recess formed in the end thereof for the reception of a lamp-base, of a one-piece casing fitting on said base from the rear and inclosing said base on its sides and rear and means independent of the leading-in wires for securing said base and casing together to form a self-contained unitary structure, said casing having means at its rear end for making weatherproof connection with a suitable conduit or support for leading-in wires, said base having separate passages formed therein for said wires communicating with binding-posts in the bottom of said recess, said passages being insulated from each other and from said casing by said base, said binding-posts for detachably securing the leading-in wires, said binding-posts being independent of the lamp-contacts and accessible from the front of said base without removing said casing, whereby the electrical parts are housed in a weatherproof casing and effectively insulated therefrom.

4. In a weatherproof electric-lamp socket, the combination with a base of insulating material having a recess formed in the end thereof for the reception of a lamp-base, of a one-piece casing fitting on said base from the rear and inclosing said base on its sides and rear, said casing having means at its rear end for making weatherproof connection with a suitable conduit or support for leading-in wires, said base having an annular groove formed in the front face thereof forming an air-space between said base and said casing, and binding-posts on said base and accessible from the front thereof without removing said casing, whereby the electrical parts are housed in a weatherproof casing and effectively insulated therefrom.

5. In an electric-lamp socket, the combination with a lamp-receiving base made of insulating material, of a one-piece metal casing adapted to surround said base on its sides and rear, said base having a groove formed in the front face thereof, and screws or rivets carried by said casing and engaging said groove to hold said base in position in said casing, substantially as described.

6. In a weatherproof electric-lamp socket, the combination with a base of insulating material having a recess formed in the end thereof for the reception of a lamp-base, of a one-piece casing fitting on said base from the rear and inclosing said base on its sides and rear, said casing having means at its rear end for making weatherproof connection with a suitable conduit or support for leading-in wires, said casing having an extension at the forward

edge for attaching a lamp-shade to said casing, and binding-posts on said base and accessible from the front thereof without removing said casing, whereby the electrical parts
5 are housed in a waterproof casing and effectively insulated therefrom.

In witness whereof I have hereunto sub-

scribed my name in the presence of two witnesses.

REUBEN B. BENJAMIN.

Witnesses:

M. R. ROCHFORD,

EDWIN B. H. TOWER, Jr.