

No. 871,192.

PATENTED NOV. 19, 1907.

J. S. STEWART.  
OUTDOOR RECEPTACLE.  
APPLICATION FILED JUNE 6, 1906.

Fig. 1.

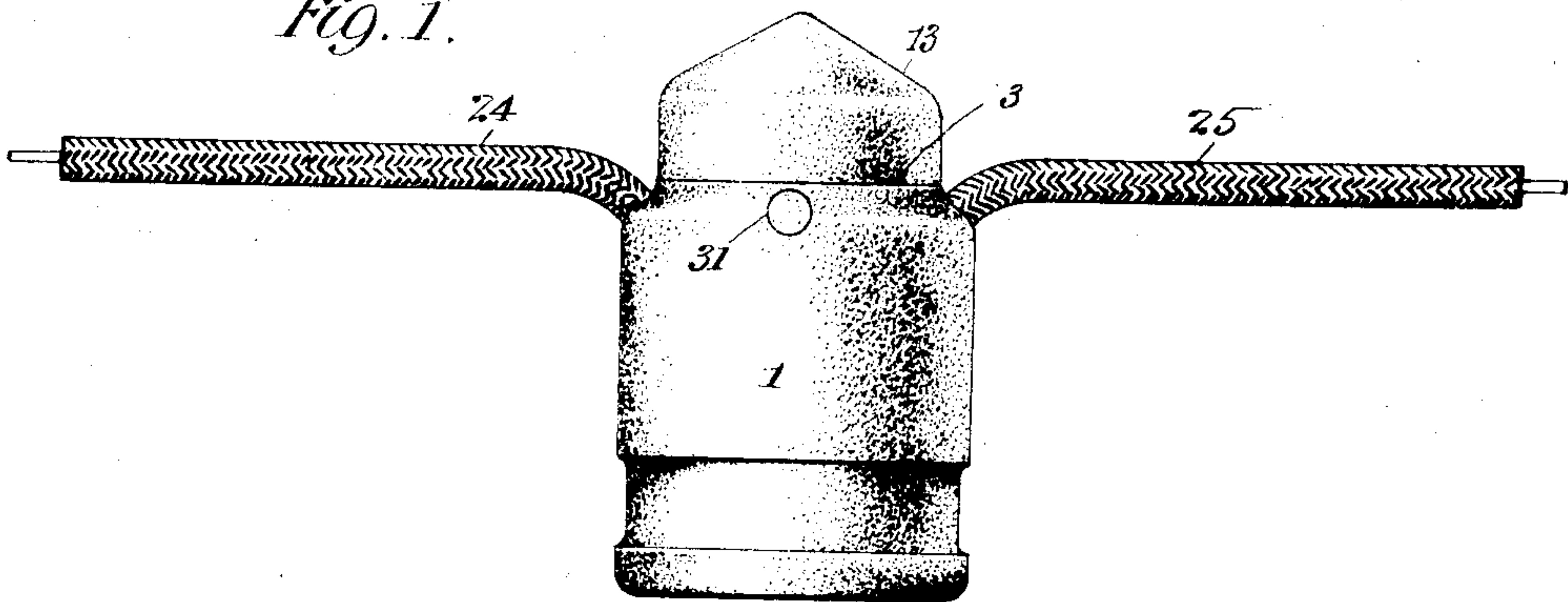


Fig. 2.

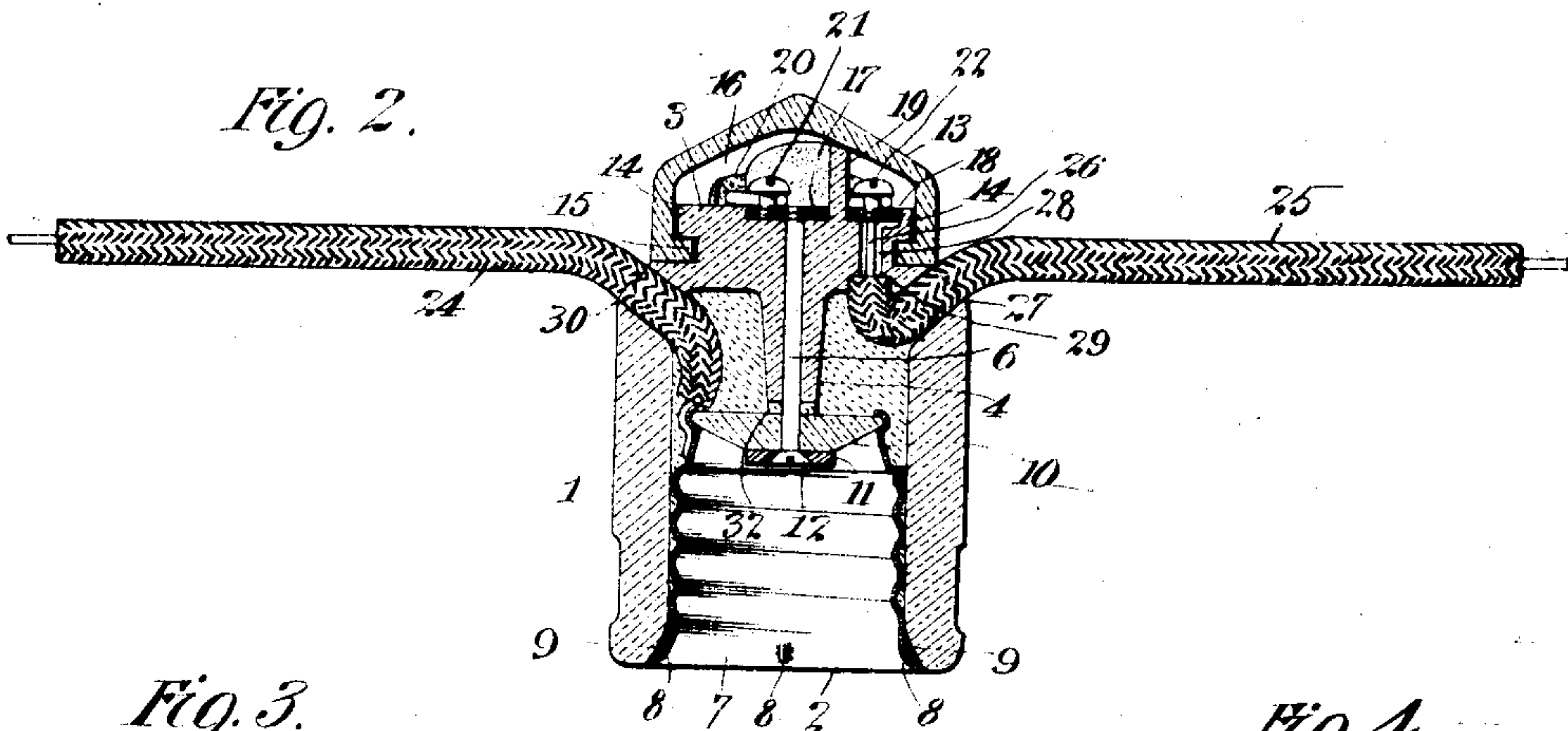


Fig. 3.

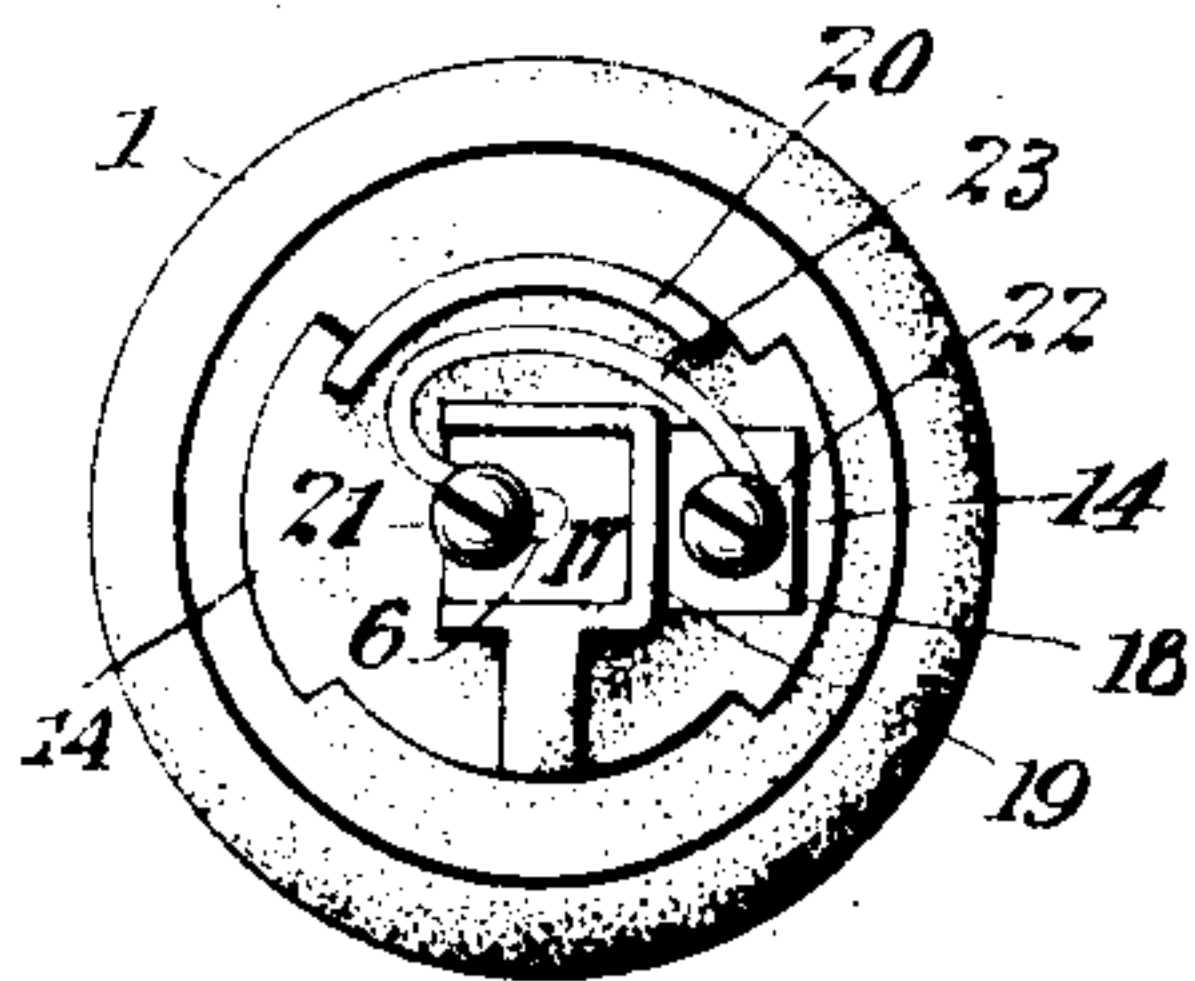


Fig. 4.

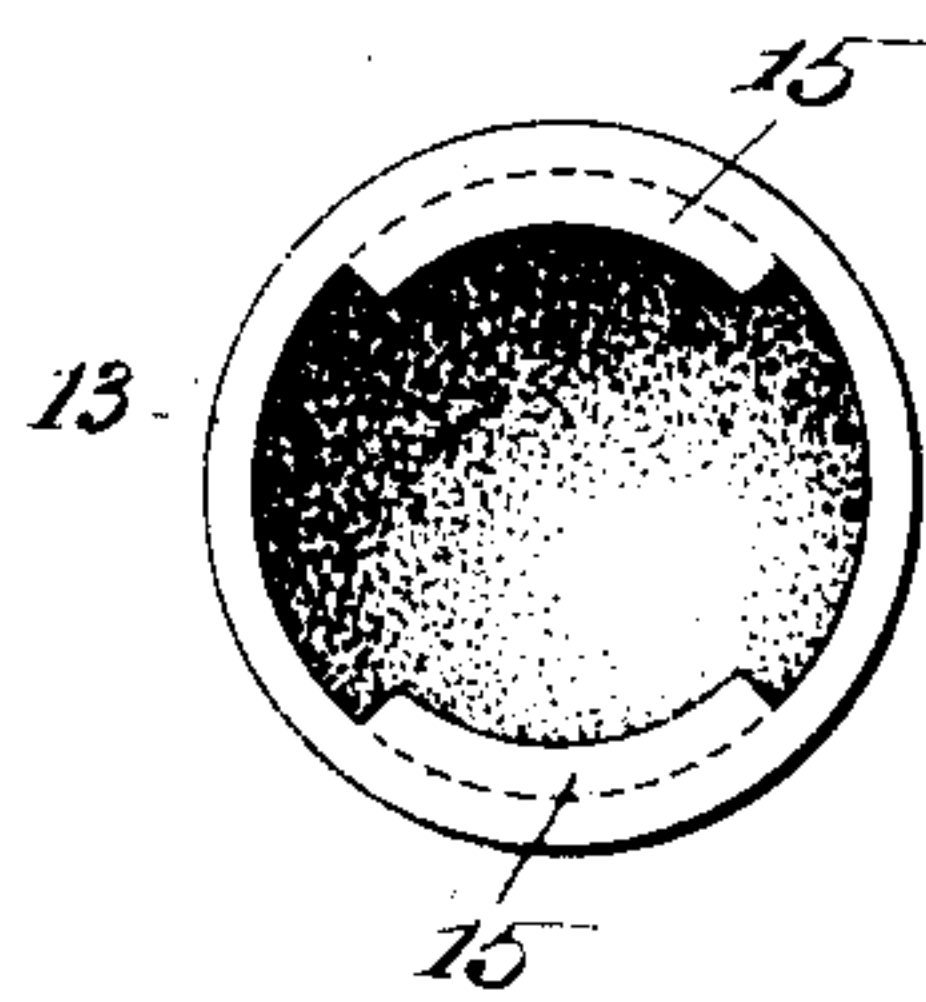
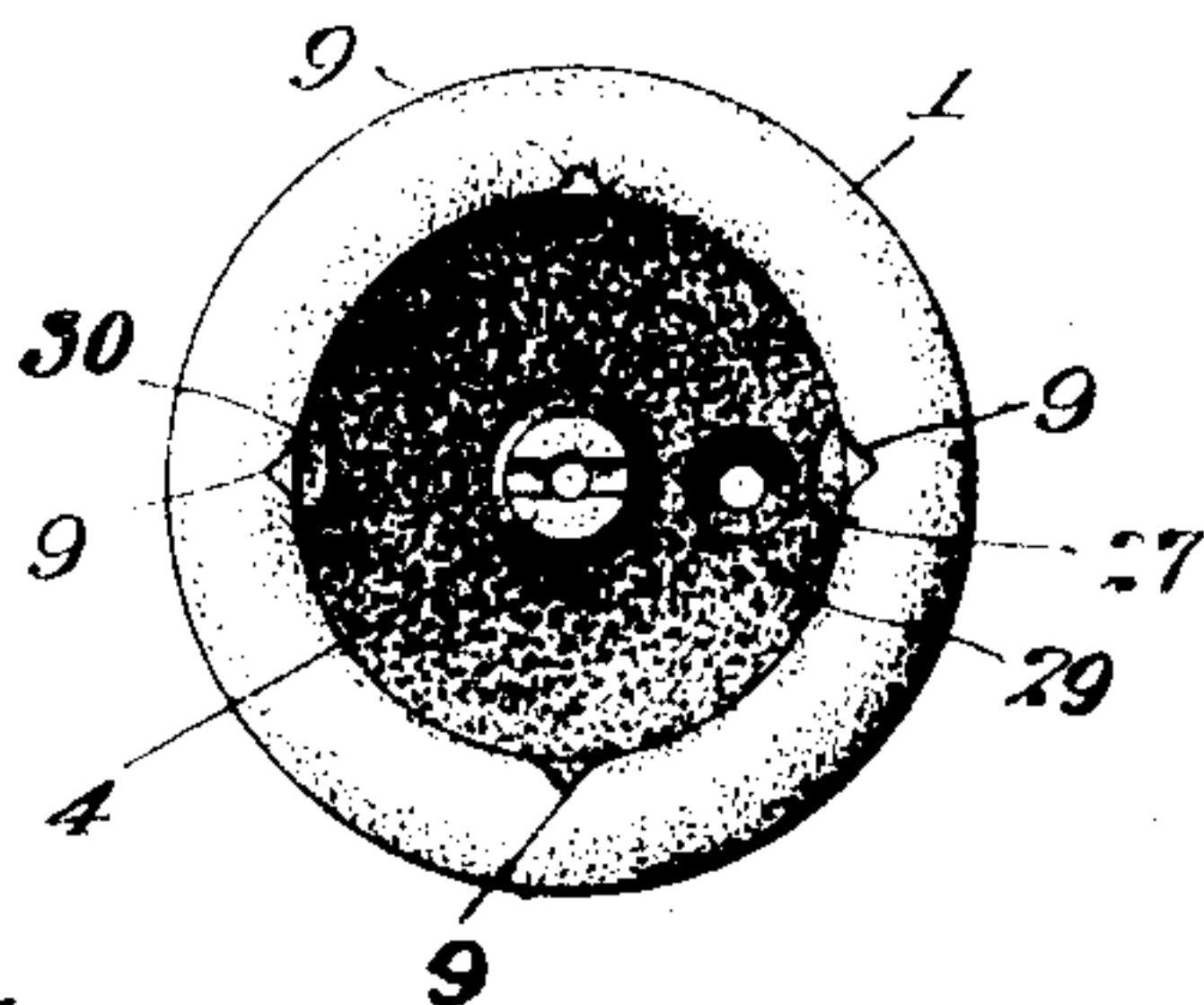


Fig. 5.



Witnesses

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# UNITED STATES PATENT OFFICE.

JAMES S. STEWART, OF NEW YORK, N. Y., ASSIGNOR TO ANNIE STEWART, OF NEW YORK, N. Y.

## OUTDOOR RECEPTACLE.

No. 871,192.

Specification of Letters Patent.

Patented Nov. 19, 1907.

Application filed June 6, 1906. Serial No. 320,400.

*To all whom it may concern:*

Be it known that I, JAMES S. STEWART, a citizen of the United States, residing at the city of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Outdoor Receptacles, of which the following is a full, clear, and exact description.

My invention relates to a form of incandescent lamp receptacle particularly adapted for out-door wiring.

The principal object of the invention is to provide a receptacle of this class, which is absolutely protected against the weather and storms, or ingress of water from any source.

A further object of the invention is to devise a receptacle of this class, which has a fuse embodied therein.

Still further objects are to provide for the wide separation of all parts which are at a difference of electric potential in use, and finally to obtain a complete practical and efficient lamp socket, which is economical to manufacture, and durable in use.

With these and other objects in view, my invention consists in the construction, combination, in the location and in the arrangement of parts, as hereinafter set forth and shown, and finally particularly pointed out in the appended claims.

In the drawings: Figure 1 is a side elevation of a receptacle embodying the principles of my invention; Fig. 2 is a vertical sectional view of the same; Fig. 3 is a top view with the fuse cap removed; Fig. 4 is an inside view of the fuse cap; Fig. 5 is a bottom view of the receptacle with the usual threaded shell removed.

In all out-door wiring, the most serious difficulty arises by reason of water and dampness getting into the interior parts of the lamp sockets, where the metallic portions and terminals are exposed. This dampness forms a path for the electric current between all parts or terminals of different potential, and the electrolytic actions, which are set up, immediately disintegrate and destroy the metals subjected to it. In carrying out my invention I arrange to protect the metallic parts against ingress of water so far as this is possible to be attained, and I further arrange that the parts of widely different potential in normal use are widely separated in the socket, so that

the electrolytic action will be very feeble, even if a little moisture should get into the socket by any possible contingency. In addition to the above purposes I also incorporate a fuse in each receptacle so arranged that it is perfectly protected against moisture, and further in such a way that it is impossible for the fuse to be wrongly connected into the socket by ignorant or careless workmen. In this way the circuit is adequately protected by the fuses of the individual lamps, so that the danger and annoyance of line fuses blowing frequently, is wholly overcome. In carrying out my invention, I make use of a porcelain housing, which is formed and apertured with the necessary holes, and which is adapted to receive and hold the metallic parts. With this porcelain housing is associated a cap which closely engages the housing and which forms a supplemental chamber or housing for the fuse.

Referring now to the drawings in which like parts are designated by the same reference sign, 1 indicates the housing of porcelain or suitable material, which is open at its lower end 2, but which is completely and integrally closed at the upper end 3, except for certain holes or perforations hereinafter described. The housing, therefore, forms an inverted cup all of integral porcelain and having a central protuberance or boss 4, which extends axially of the housing toward its open end 2. This boss or protuberance is axially apertured to receive a metallic stem 6, which constitutes the central terminal for the lamp.

The threaded shell is indicated at 7, and is of the ordinary form, except that in practice I slightly emboss the metal at the points 8, so as to enter corresponding recesses 9, in the housing. The purpose of this is to give a firm anchorage against the shell being turned when the lamp is screwed into place. The inner end of the shell receives a porcelain button 10, which also has a central hole to receive the stem 6.

11 designates a metallic washer, which is held in place on the button 10, by a headed part 12, of the stem 6. The details of the washer 11 and the fastening 12 may be of any desired character in practice.

The shell 7 is designed to be held firmly in place by cement, which also embeds itself around the various metallic connections. This cement is poured into place after the



shell has been positioned and the connections are made, as will hereinafter appear, but before considering these connections I will refer to the details of the fuse and its

# 5 chamber.

13 indicates the fuse cap, and in practice I make this part and the housing 1 with interlocking bayonet joints, which are integrally molded in the construction. The housing 10 has ribs 14, and the cap has ribs 15, which are engaged together by properly positioning the cap and housing and turning them relatively to one another through a predetermined angle. The form of the cap 13 is such as to form within it a chamber 16, which I shall term the fuse chamber.

The upper surface of the end of the housing 1 is inset with metallic plates 17 and 18, and the wall or partition 19 conveniently of porcelain, and integral with the body of the housing is interposed between the two plates. As clearly indicated in Fig. 3, this wall or partition 19 is formed so as to almost wholly surround the central plate 17, which is connected to the central stud terminal of the lamp. This connection is conveniently made by screwing the stem 6 into the plate 17.

20 indicates a second partition or wall which is curved concentrically with the axis of the housing in practice. The arrangement of the walls 19 and 20 is such as to form a circuitous groove or channel between them, and in this channel the fuse is designed to be placed.

35 21 and 22 indicate screws which constitute binding posts for the reception of the fuse wire 23.

I will now refer to the necessary operations by which the parts of the receptacle are conveniently assembled. For this purpose, a wire 24 is first soldered to the shell 7, and another piece of wire 25 is bared at one of its ends 26. The wire 25 is then inserted with its bared end foremost through the counterbored entrance of a hole 28, and the other end of the wire is passed through another hole 27 in the housing. The purpose of having the hole 28 of counterbored form is to bar the entrance of the wire beyond the point where the insulation or unbared portion brings it against the shoulder formed by the reduced portion of the hole. The construction is clearly indicated in Figs. 2 and 5, in which the shoulder against which the insulation brings up, is indicated at 29. The extremity of the wire projects upward into the chamber 16, and is soldered to the plate 18, which may be drilled with an opening for this purpose. In this way the wire 25 is firmly locked into place snugly within the upper part of the receptacle and a direct connection established with the plate 18. The shell 7 to which the wire 24 is attached, is now drawn into place by the expedient of passing the wire 24 through a hole 30, and

drawing it tight. In this relation the button 10 is central with respect to the boss or protuberance 4, so that the stem 6 may be positioned and screwed into the plate 17. It

is now merely necessary to pour in the cement which can be done through any convenient hole or opening 31 (Fig. 1). The cement flows around the shell 7 and around all of the exposed parts of the wires 24 and 25 and their connections. The cement also flows into the stud or protuberance 4 so as to embed the stem 6 properly into place and firmly hold the central stud terminal. Channels or recesses 32 are conveniently left in the end of the protuberance for this purpose. The fuse wire 23 now being connected up in an obvious manner between the screws 21 and 22, and the cap 13 being fastened into place, the receptacle is complete and ready for use.

A feature of the invention relates to the relation between the wall or partition 19 and the cover 13. This partition has its top edge formed to closely conform to the inside surface of the cap, and the relation of these is so close fitting that if an ignorant or careless workman connects the fuse across the top of the partition, instead of through its proper channel, the fuse will be cut off by the engagement of the cap. Thus the fuse cannot be operatively connected except through its proper circuitous channel, and this channel is so long and so round-about that danger from an arc is altogether obviated, even if the receptacle is used with high voltage lamps. In addition to this object, the partition serves to preclude any improper connection with the fuse terminal by wire nails or thick wires, or other improper connecting means. All of the exposed terminals within the fuse chamber are, of course, normally at about the same potential because of the negligible resistance of the fuse. Accordingly the presence of dampness in this chamber, while desirable to avoid, is not necessarily fatal to the proper working of the lamp. However, I shape the cap 13 pointed on its upper surface so as to shed water, and it will be observed that the edges of the cap overlap the adjacent surfaces of the housing, so that the water is shed away from the housing, and does not enter the fuse chamber.

The parts whose potential is widely different, that is to say, the wire 24 and the wire 25, and also the shell 7 and the stem 6, are not only very thoroughly shielded against ingress of water, but are widely separated and have interposed porcelain walls, so that electrolytic action is almost wholly precluded. It will be seen that the wires 24 and 25 enter the housing at diametrically opposite points where they are completely embedded in cement. The central protuberance or boss 4 is long enough to prevent the shell 7 being drawn into the socket and



undue distance, and in practice I make the protuberance 4 so long that the shell is held widely apart from the wire 25, which is snugly located at the extreme inner part of the cavity. There is, therefore, a considerable distance between the parts of different potential, and a thick insulating barrier of cement. The stem 6 is wholly surrounded by the porcelain boss, so that its insulation is absolute, and the button 10 serves to shield the central washer 11 from the wire 24. Thus the parts which it is important to insulate thoroughly and protect against moisture adequately, are so protected and electrolytic action is insured against.

The socket is connected to the circuit wires by soldering the connection wires 24 and 25 thereto. In this relation the receptacle hangs down and the water is shed off its lower edge. The only place where there is any possibility of water entering is at the holes 27, 30 and 31, but these are at this time packed with the cement which has been injected so that the water cannot enter. Since the receptacle always hangs with its open end downward, its dry condition is bound to be maintained.

What I claim, is:—

1. A lamp receptacle for out-door wiring, comprising a housing in the form of a cup with a central boss or protuberance, a shell having a wire extension drawn into said housing and having a button bearing against said protuberance, and a central stud connection for the lamp extending through said protuberance.

2. A lamp receptacle for out-door wiring, comprising a housing in the form of an open ended porcelain cup with a central boss or protuberance, a pair of connection wires passed through holes in said housing, a central stud connection from one of said wires through said boss or protuberance and a

threaded shell having a button bearing against said protuberance.

3. A lamp receptacle for out-door wiring, comprising a housing having a pair of holes for the wires or connections, said wires being embedded in cement, and a fuse chamber having connections for one of said wires.

4. A lamp receptacle for out-door wiring, comprising a housing containing a central boss or protuberance, a stem in said protuberance constituting a central stud terminal for the lamp, and a recess or groove in said protuberance for the entrance of cement around said stem.

5. A lamp receptacle for out-door wiring, comprising a vitreous housing open at its lower end and having a central boss or protuberance, a threaded shell cemented into said housing and having a button bearing against said protuberance, and a central stud terminal extending through said protuberance.

6. A lamp receptacle comprising a housing having a hole in its upper end and additional holes with a pair of connection wires extending therefrom into the housing, one of said wires being bent around to issue through the hole in the upper end of the housing, and a fuse terminal connected to said wire.

7. A lamp receptacle comprising a housing having a counterbored hole in its upper end and a pair of additional holes with a pair of connection wires extending therefrom, one of said wires being bent around to issue through the counterbored hole in the upper end of the housing, and a fuse terminal connected to said wire.

In witness whereof, I subscribe my signature, in the presence of two witnesses.

JAMES S. STEWART.

Witnesses:

FRANK S. OBER,  
WALDO M. CHAPIN.