

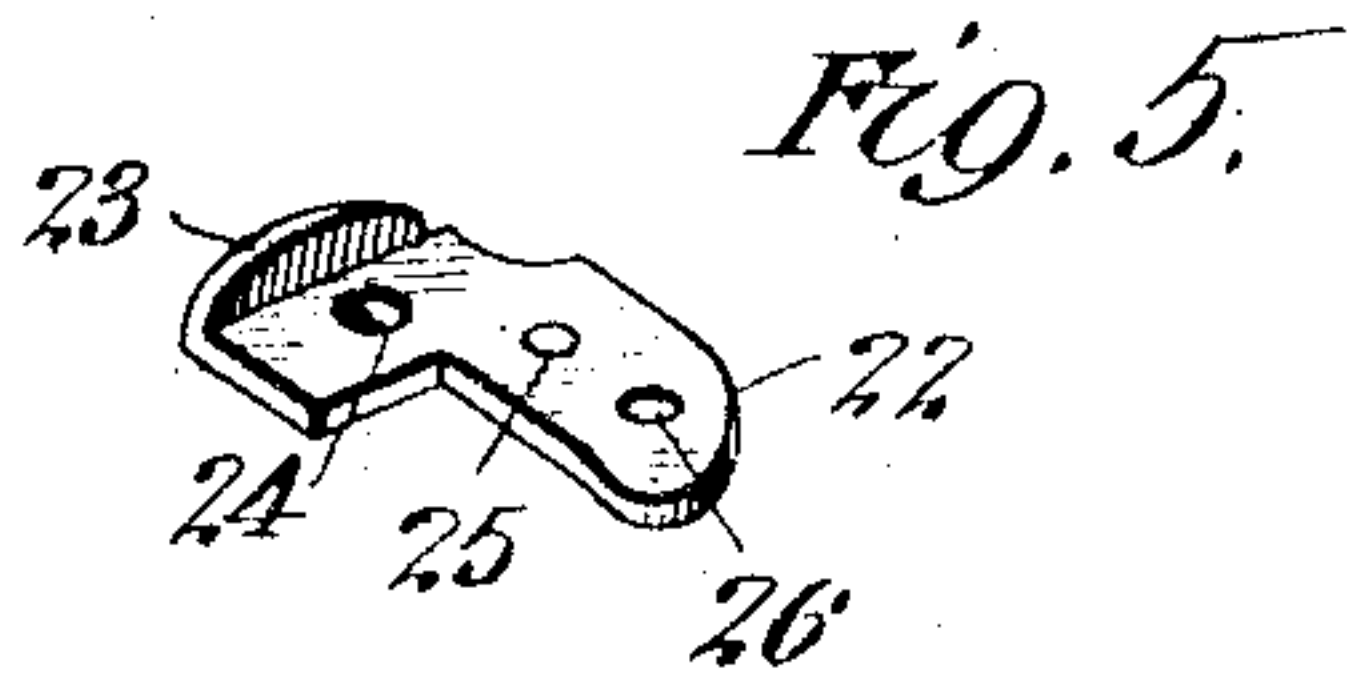
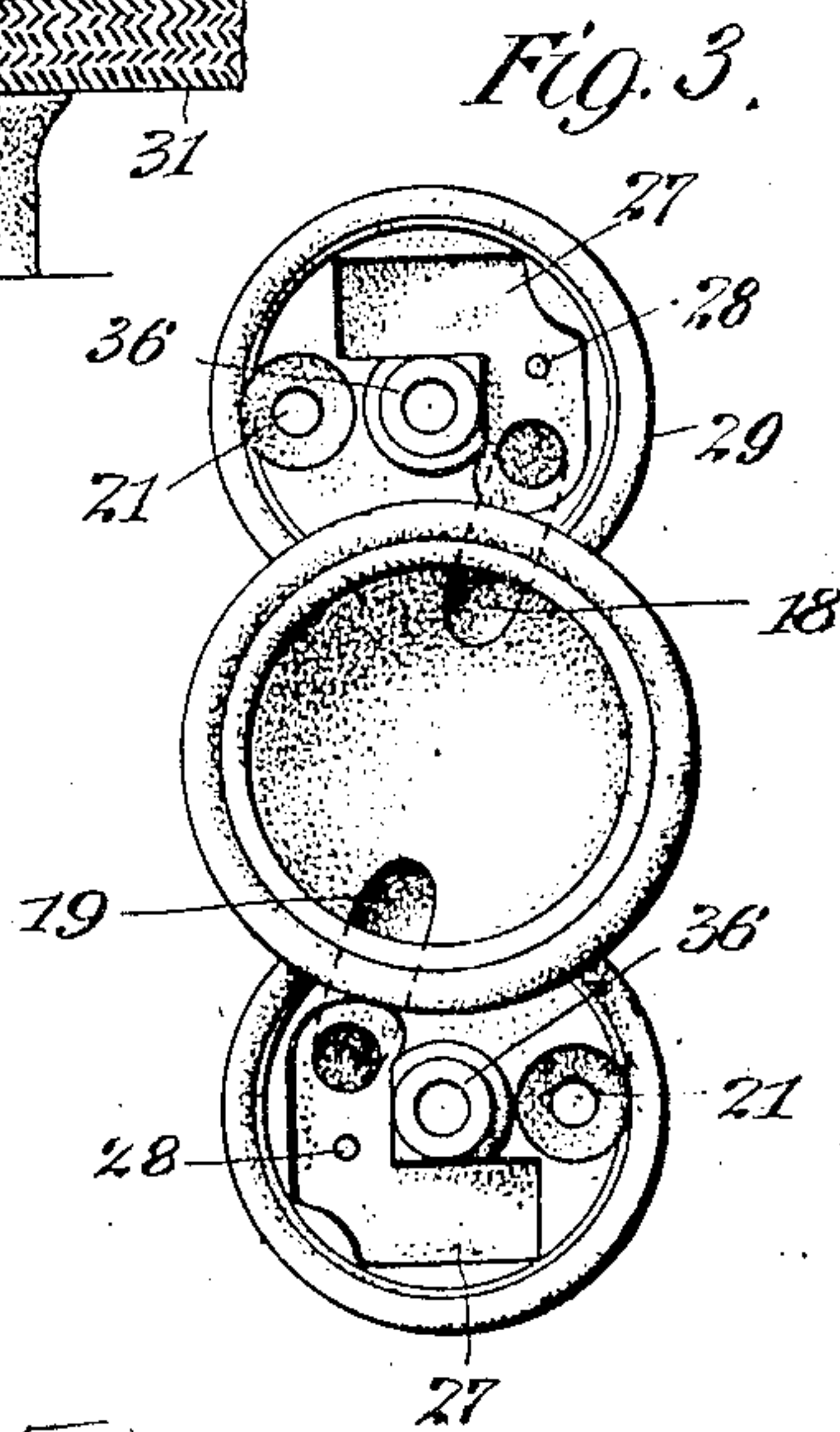
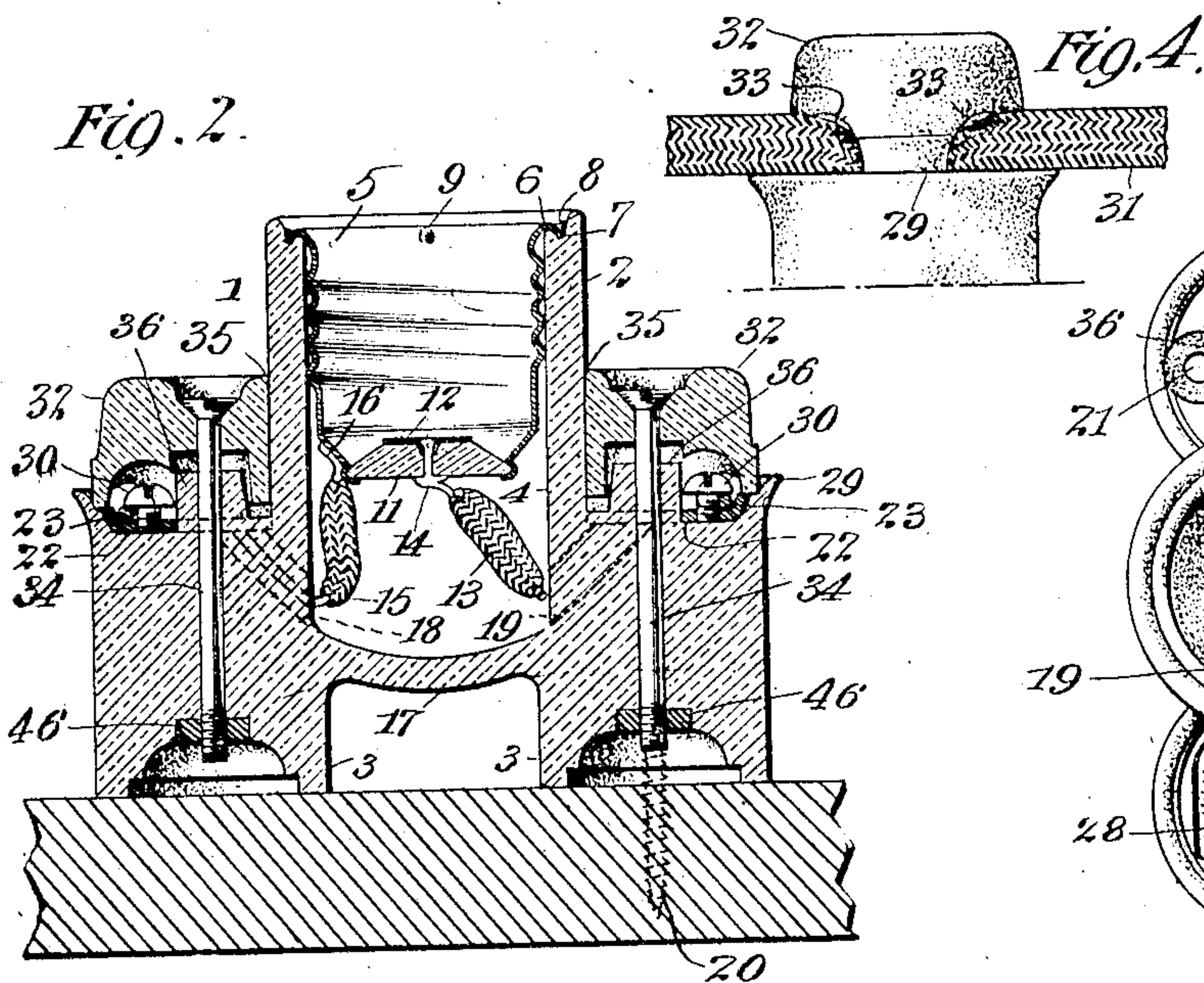
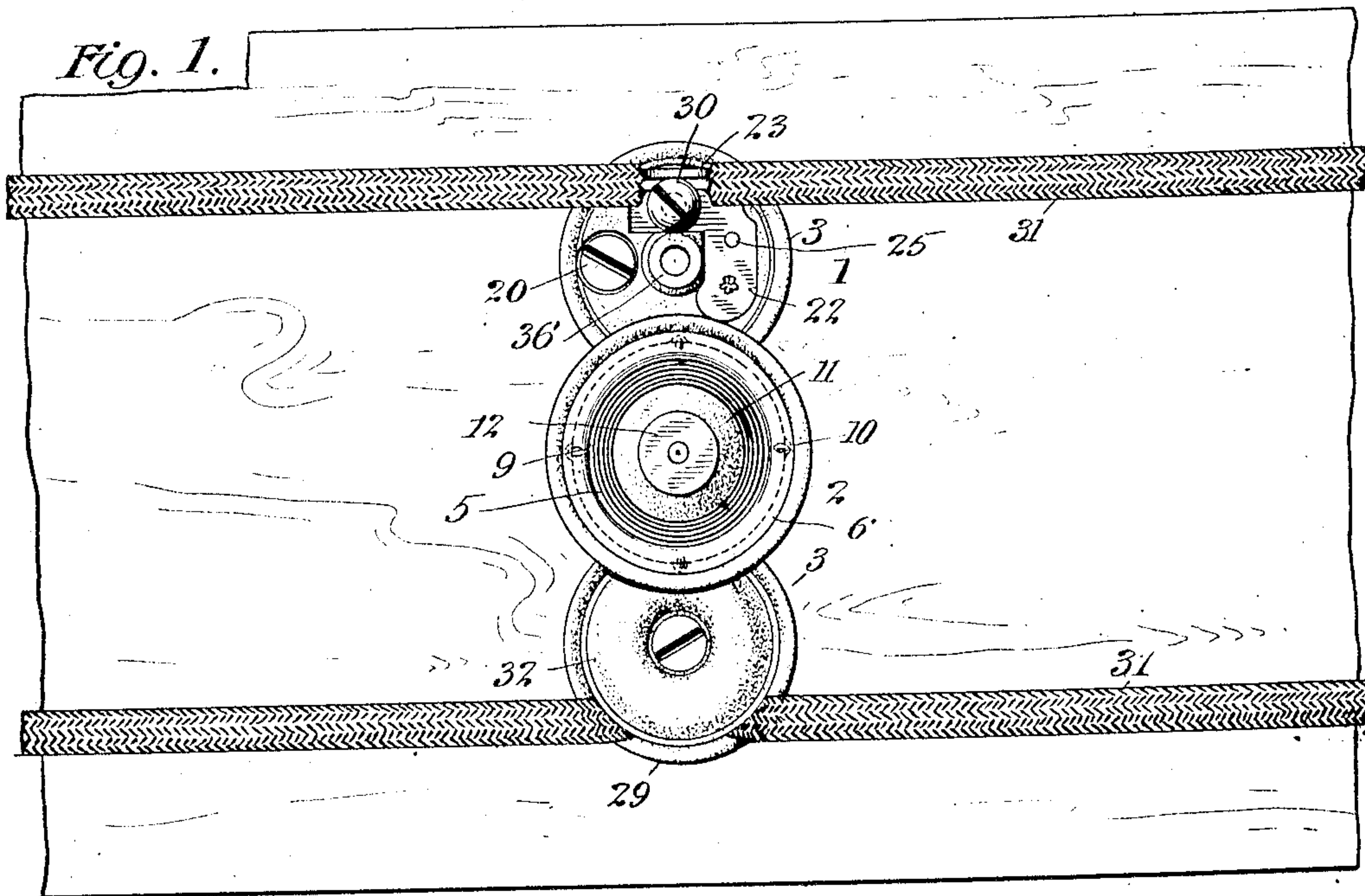
No. 875,964.

PATENTED JAN. 7, 1908.

J. S. STEWART.  
OUTDOOR LAMP RECEPTACLE.

APPLICATION FILED JUNE 13, 1908.

2 SHEETS—SHEET 1.



Witnesses  
*Paul S. Ober*  
*Waldo M. Chapin*

Inventor  
*James S. Stewart*  
 By his Attorneys  
*Rosenbaum & Stockbridge*

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Fig. 6.

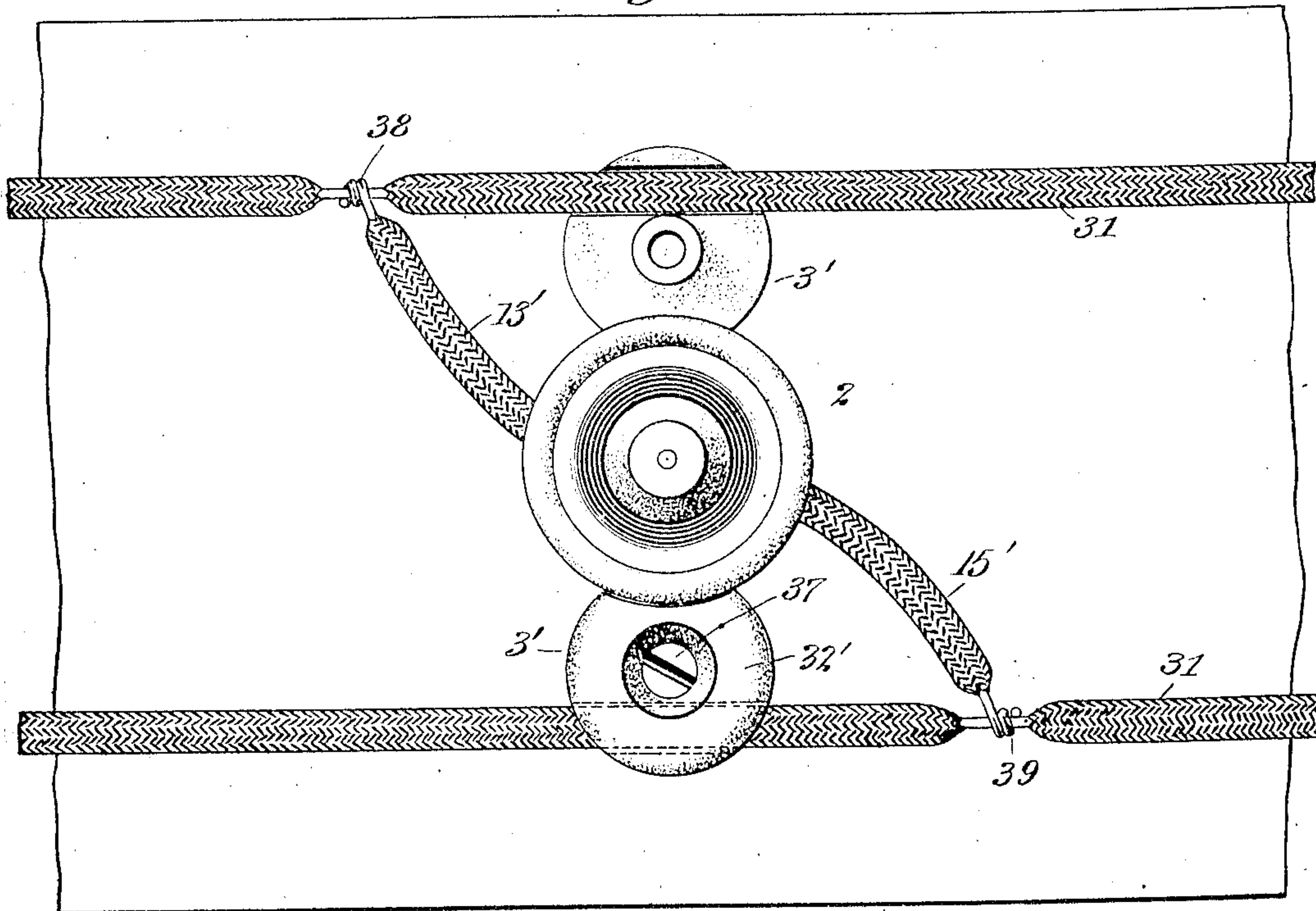
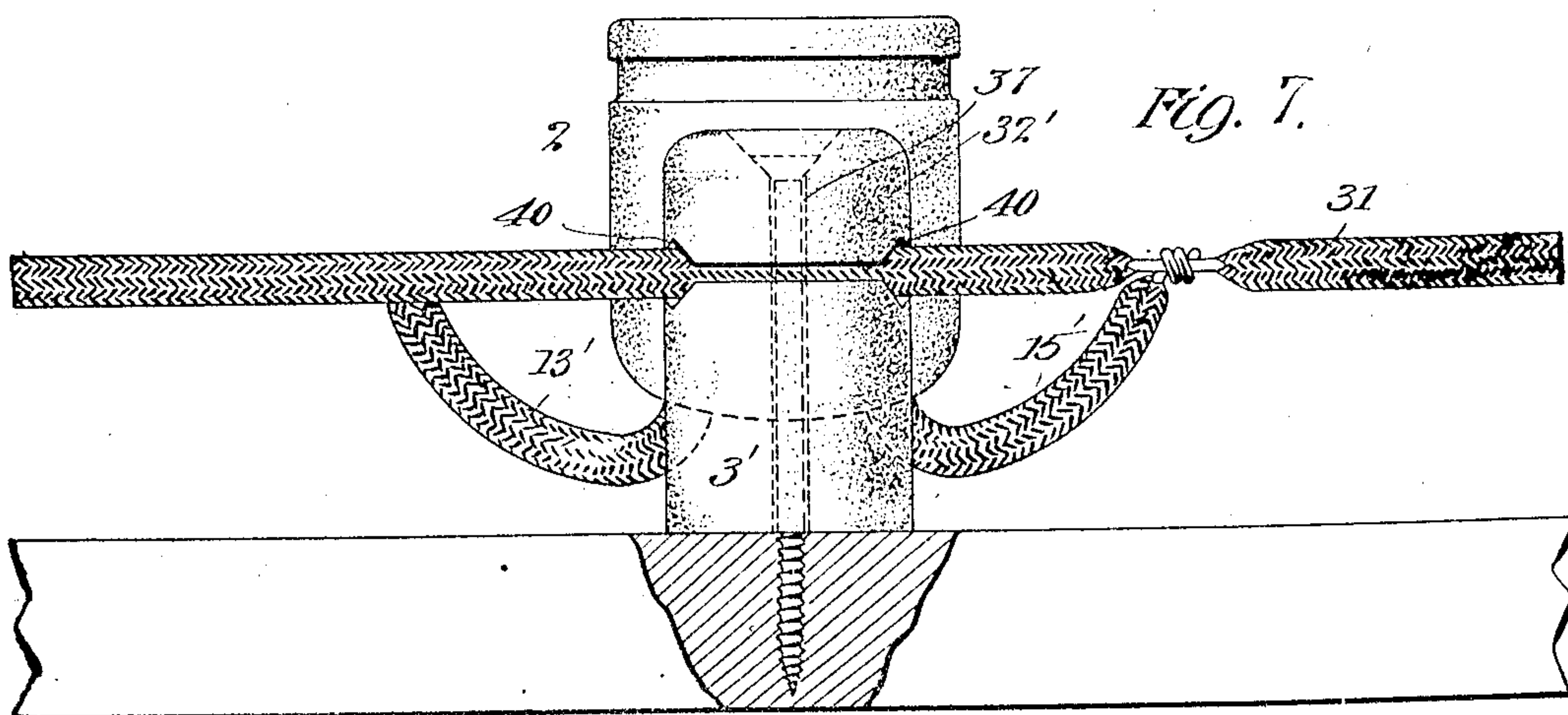


Fig. 7.



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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 LAMP-RECEPTACLE.

No. 875,964.

Specification of Letters Patent.

Patented Jan. 7, 1908.

Application filed June 13, 1906. Serial No. 321,451.

*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 Lamp-Receptacles, of which the following is a full, clear, and exact description.

My invention relates to a receptacle for incandescent lamps, and pertains particularly to that class for use in out-door wiring.

The principal object of the invention is to provide a receptacle which has combined or attached therewith a holding or supporting means, not only for the receptacle itself, but for the circuit wires as well. The circuit wires are furthermore held in properly spaced relation from the ceiling or supporting surface over which they are stretched.

A further object of the invention is to provide an out-door receptacle with special means for clamping the circuit wires, which is very secure, pleasing in appearance, and not liable to breakage, even by careless or ignorant handling.

A still further object of the invention is to secure a receptacle which is absolutely weather-proof for all the interior connections and parts of opposite polarity, and in which the terminals or circuit wire connections are also protected from ingress of rain water, or moisture from any source.

Other objects of the invention are to provide a quick means for making the electrical connection with circuit wires, to improve the fastening by which the usual threaded shell is secured within the porcelain part of the receptacle, and finally to generally simplify and cheapen receptacles of this class, and make them cheaper to manufacture, more durable in use, and more pleasing in appearance.

With these and other objects in view, the 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 view of a receptacle embodying the principles of my invention looking toward the surface on which it is supported; Fig. 2 is a sectional view showing the receptacle mounted on a horizontal supporting surface; Fig. 3 is a

view of the porcelain block or housing with all of the connections and metal parts removed; Fig. 4 is a detail side view; Fig. 5 is a detail perspective view of one of the metallic clips or parts; Fig. 6 shows a modified construction of receptacle also embodying certain features of my invention; Fig. 7 is a view of the same mounted on the upper face of a horizontal base or surface.

In the use of electric lamp receptacles, a great variety of serious difficulties arise, and so far as I am aware, no present form of receptacle fully overcomes all of these difficulties, or even any one of them. Perhaps the most serious defect of the receptacles for out-door wiring is due to the entrance of moisture or dampness which enables an electrolytic action to take place between metallic parts of different polarity, so that these are rapidly disintegrated and destroyed. Even a small amount of moisture is sufficient to cause this result, because if the action once becomes started, the metallic salts formed make the dampness of the receptacle much more conducting, so that the electrolytic action and the disintegration proceed thereafter very rapidly. An additional trouble which is found with out-door wiring arises by the unequal expansion of the porcelain and the metallic parts. The customary construction is to have a porcelain housing cemented around a metallic shell, and since the rates of expansion are unequal, it is usual to have a large percentage of the receptacles ruptured by the cold in winter. Added to these inconveniences, there is the loss by breakage when the receptacles are first connected up to the circuit wires. Porcelain is a brittle material, and the average workman breaks a large percentage of the various fixtures by driving the usual screws too firmly into place. A proper lamp receptacle must, therefore, not only be cheap and efficient, not liable to short circuit, and conformable to the insurance regulations, but must avoid the above mentioned defects so far as this is possible. In carrying out my invention I aim to fully secure all of the purposes and objects mentioned.

Referring now to the drawings in which like parts are designated by the same reference sign, 1 indicates a block, housing, support or frame, and which constitutes the



body of the receptacle, and is conveniently made of porcelain or other insulating substance. In carrying out my invention I make this housing in one integral piece, and specially formed to secure certain important purposes, as hereinafter described. This is conveniently attained by having a central cylindrical part 2, with a pair of integral supporting legs 3. The legs 3 are designed to constitute supports for the circuit wires, and in one form of my invention they are designed to contain the terminals or connections of the receptacle for completing the circuit of the lamp. Before referring to these features, however, I will consider the construction of the socket, and the way it is mounted and held.

Referring particularly to Fig. 2, it will be seen that the central cylindrical portion 2, of the receptacle is chambered out, as shown at 4, forming a cylindrical cavity or recess of sufficient diameter to receive a threaded shell 5, or similar metallic connection for an electric lamp. In practice I make the shell 5 flared or curled over upon its upper edge, as shown at 6, and the porcelain part 2 is channeled out, as shown at 7, so as to receive the flaring lip thus formed. In this channel and surrounding the lip I place a small quantity of cement 8, which is sufficient to prevent the ingress of moisture around the shell. In order to adequately support the shell against turning movement when a lamp is screwed into place therein, the shell is conveniently embossed with spaced protuberances 9, which enter corresponding notches 10 formed in the surface of the porcelain for this purpose. These provide a sufficient anchorage for the shell, but prevent any displacement thereof, so that no strain is put on the cement, and the latter remains effective for its particular function of keeping out the moisture from the interior parts.

The inner end of the shell 5 is peened or riveted over a porcelain button 11, which constitutes a support for the central terminal 12 of the lamp. This terminal is conveniently formed of a washer having a hole punched in its center and soldered to a short section of wire 13. The solder forms a sort of rivet connection for the washer 12, as shown at 14. 15 indicates an additional wire connection which is soldered to the shell at the point 16.

Instead of having the connection wires 13 and 15 issue through holes in the closed end of the housing, I make the closed end 17 entirely imperforate, so that there is no possibility of any water entering, at this point, and I form a pair of ducts or passages 18 and 19 in an inclined direction through the two supporting legs 3, so that the connection wires 13 and 15 may be bent around and led outward through these passages issuing through the flat faces of the legs 3, adjacent to the

central part 2. At these points the terminal connections are made in the preferred form of my invention.

It will be seen that a lamp may be properly supported by the receptacle, making proper connections with the threaded shell, and with the central stud terminal 12, the housing being attached to a wall or ceiling, or any convenient surface, by ordinary wood screws 20, passed through holes 21, in the legs 3, for this purpose. The upper ends of these holes are preferably counterbored or countersunk, so that the screw heads are separated from all of the electric connections. The terminal connections for the circuit wires are formed in practice by metallic clips 22, with bent-over ears 23 thereon.

24 indicates a threaded hole in the clip, and 25 and 26 are additional holes which serve respectively as a means for holding the clip in place, and as a point of attachment for the connections 13 and 15. The faces of the legs 3 are recessed, as shown at 27, to receive the terminal clips.

28 indicates studs projecting upward from the porcelain to which the clips may be screwed or soldered at the holes 25 therein. In this relation the holes 26 come directly in alignment with the passages 18 and 19 before mentioned, so that the wires 13 and 15 may be drawn through said holes and soldered to the clips.

An important feature of my invention relates to the provision of a ledge 29 circumferentially around the edge of the legs 3. The form of this ledge is clearly indicated in Fig. 2, and it will be seen that it has a flaring form adapted to shed water away from the clips and terminal connections when the receptacle is in use and secured in its normal relation upon a roof or ceiling.

30 indicates screws which are received in the threaded holes 24 to constitute the terminal connections, and in this relation the screws cooperate with the ears 23 above mentioned. The bared portion of the circuit wire may be securely clamped against each ear by the corresponding screw 30. In this relation the circuit wires, indicated at 31, are sharply bent at the region where they are secured to the legs 3. This is because of the ledge 29, which supports the circuit wire at two points, and the circuit wire must be sharply bent or deflected between these two points in order to permit of the connection with the terminal clip by the screw 30. I provide means by which this bending or deflection of the circuit wires into the legs 3 is conveniently accomplished, and any excessive strain removed from the terminal clip in use. The means which I employ is illustrated in Figs. 2 and 4, and comprises a pair of caps 32, which have faces recessed to fit over the various screws and terminal parts, and which are of a diameter to be received



inside of the ledge 29. 33 indicates cut-away portions on the periphery of these caps to permit the circuit wires to issue beneath them. These caps are screwed toward the respective legs by any convenient means, such as the bolts 34, axially located in the legs for this purpose. An important feature of these caps lies in the arrangement by which a bearing shoulder 35 is formed on each, and which engages the outside cylindrical surface of the part 2 of the receptacle. By means of this bearing shoulder a turning moment is produced which opposes the turning moment due to the clamping action on the circuit wire 31 when the cap is clamped thereon. This is a very desirable feature because since the circuit wire is at one side of the clamping bolt 34, there would be an unequal strain tending to break the cap, were not a force produced to oppose the otherwise unbalanced clamping action. In practice I provide a boss or protuberance 36, upon each of the legs 3, and which surrounds the bolt 34 so as to insulate the same from the clip 22. Each of the caps 32 is properly recessed to admit the boss 36 of the corresponding leg.

The receptacle is, of course, ordinarily used upon ceilings and in positions where the lamps hang downwardly. The circuit wires 31 are supported upon the ceiling or supporting surface by the nature of their connection with the receptacles, which thereby exercises a double function of supporting the conduit wires, and forming sockets for the lamps. The practice is to first screw the main housing or body in position by means of the screws 20, and the circuit wires being then bared for a short distance, are bent so as to pass under the terminal screws 30. These being tightened it is evident that the bared portions of the circuit wires will be securely clamped against the ears 23 of the terminal clips 22. This completes an electric circuit from the two circuit wires with the lamp terminals. The caps 32 are now positioned and the bolts 34 assembled into place, the nuts 46 therefor being conveniently permanently embedded in the porcelain. When the bolts are tightened, the caps 32 are pressed downward with considerable force but on account of the balanced forces of the shoulder 35 and the reaction of the clamping force, there are no breaking strains imparted to the cap. The circuit wires are, however, forcibly depressed, and firmly clamped in position upon the recessed face of each of the legs 3. In this relation the ledges 29 are effective to constitute a perfect water shed for the metallic terminals and connections. This is true because the legs overlap not only all the connections, but the caps 32, and also the bared portion of the circuit wires, by reason of the deflection of the wires at this point. Accordingly water does not enter into contact with

the metallic parts and corrosion is prevented. The need for perfect protection against ingress of water is not so great at this point, however, as it is for the interior parts of the lamp socket, because there are no metallic parts on either leg of potential or polarity different from one another.

Within the socket where there are metallic parts of different polarity it is almost, or absolutely, impossible for water to enter. The normal position of the parts leaves the open end of the socket downward, so that water drains from the edges, and does not enter at this point. Moreover the cement 8 is effective to prevent ingress of water around the edges of the shell. The closed end 17 of the housing prevents water from entering here, and the passages 18 and 19 are disposed so that water would not enter therethrough, because of their downward direction in normal use. Moreover these passages lead into the recessed parts of the legs 3, protected against water by the ledges 29, and the passages are filled with cement as an additional protection. By all these means it is practically impossible for any dampness to enter the central part of the receptacle where there are metallic terminals of different polarity or potential.

On account of the method by which the shell 5 is held in the housing by the flaring lips 7 and the protuberances 9, there is no body of cement between the shell and the housing to cause the latter to crack by unequal expansion. The connection between the two is sufficiently loose to permit them to expand and contract at different rates without breaking the porcelain.

In Figs. 6 and 7 I have illustrated a form of receptacle having legs 3' similar to the legs 3 already described. There are also provided caps 32' generally similar to the caps 32 of the preceding modification with respect to their feature in clamping the circuit wires 31. Instead of the bolts 34, however, I provide axially disposed wood screws 37 which screw down through the caps and into the ceiling or woodwork which constitutes the support of the receptacle. In this form of the invention the connecting wires 13' and 15' extend through holes in the housing and may be soldered to the circuit wires at the points 38 and 39. This form of the invention has advantages on the ground of cheapness and simplicity, but I regard it as inferior to my preferred form, because of the slightly less certain exclusion of the dampness, and the somewhat greater inconvenience of making the connections by soldered and tapped joints. The engaging surfaces of the legs 3' and the caps 32' may be left plane or flat if desired, or they may be grooved, as shown at 40, so as to more efficiently guide the circuit wires. In either case, the pressure of the clamping force is



balanced by the engagement of the caps with the walls of the central cylindrical part of the housing, exactly as in the preceding modification, and breaking strains are thereby avoided.

What I claim, is:—

1. An out-door lamp receptacle comprising a body or housing having a threaded shell to receive a lamp and having integral legs for supporting it on a supporting surface, said legs having flat lower surfaces said legs constituting on their opposite sides or faces a support for the circuit wires and said body having inclosed passages from said legs to its interior for the circuit wires.

2. An out-door lamp receptacle comprising an integral body or housing having a pair of integral legs, said body having wholly inclosed ducts or passages leading to said legs, and formed throughout by the material of said integral body, fastening means passed through said legs to hold the housing to a supporting surface, means for securing the circuit wires to said legs and wires passed through said ducts or passages for establishing the electric connections.

3. An out-door lamp receptacle comprising a body or housing with a central cylindrical portion and a pair of legs adjacent thereto and integral therewith, and caps cooperating with said legs and bearing against said cylindrical portion and laterally supported thereby for clamping the circuit wires and producing a downward clamping action thereon.

4. An out-door lamp receptacle comprising a body or housing having a central cylindrical portion forming a lamp socket, and legs adjacent to said housing and forming a support therefor and for the circuit wires, said ducts or passages being wholly inclosed throughout their length, said body having inclosed ducts or passages leading to said legs.

5. An out-door lamp receptacle comprising a body or housing having a pair of legs integral therewith, adapted to support the circuit wires, caps cooperating with said legs, said caps being arranged to bear against a

wall of the housing in their clamping action, such wall acting as a fulcrum in the downward clamping action of the caps.

6. In an out-door lamp receptacle, a body or housing having legs integral therewith, said legs having their upper edges overhanging or extending beyond the plane of the central portion thereby constituting ledges for shedding water from the legs, and means protected by said ledges for making the terminal connections of the receptacle.

7. In an out-door lamp receptacle, a body or housing having legs integral therewith, each leg having a circumferential ledge extending beyond and out of the plane of the middle portion and arranged to shed water therefrom, and metallic clips on said legs protected by said ledges for engaging the circuit wires and making the electrical connections of the receptacle.

8. In an out-door lamp receptacle, a body or housing having legs integral therewith, each of said legs having a circumferential ledge extending beyond and arranged to shed water, clips on said legs for engaging the circuit wires, and caps bearing on the circuit wires to depress the same out of the plane of the middle portion and into engagement with said clips.

9. In an out-door lamp receptacle, a housing having a cylindrical cavity, said cavity being recessed or channeled near its open end, and a threaded shell having a flaring edge or lip in said channel and cemented thereto.

10. In an out-door lamp receptacle, a housing having a cavity to receive a threaded shell and having a channel near its open end, a threaded shell having a flaring edge in said channel, and protuberances on said shell engaged with recesses in the housing to anchor the shell against turning movement.

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

JAMES S. STEWART.

Witnesses:

WM. M. STOCKBRIDGE,  
FRANK S. OBER.