F. A. LAVERCOMBE.

ELECTRIC LAMP SOCKET.

APPLICATION FILED JULY 23, 1909.

999,234. Patented Aug. 1, 1911.

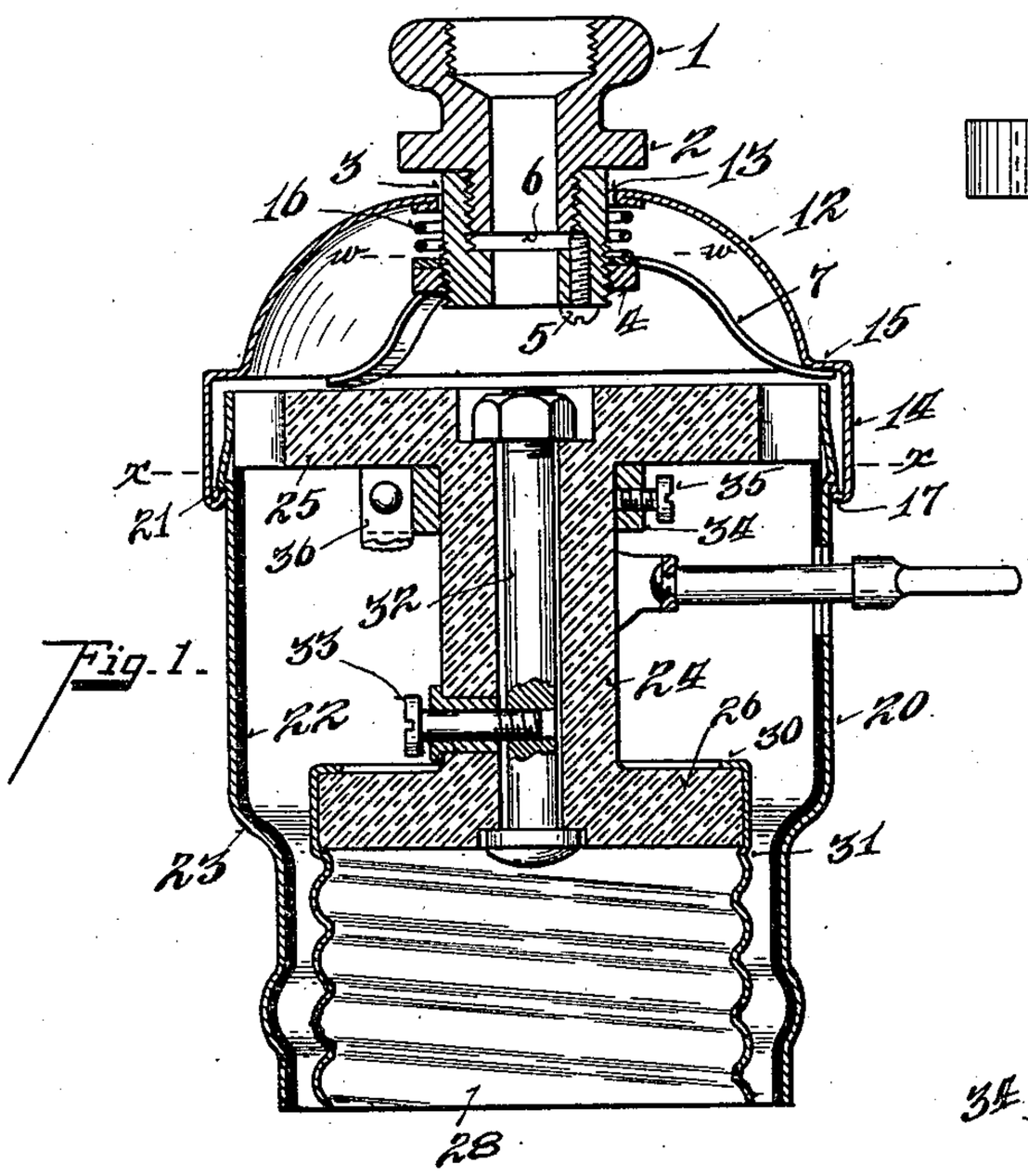

Fig. 1.

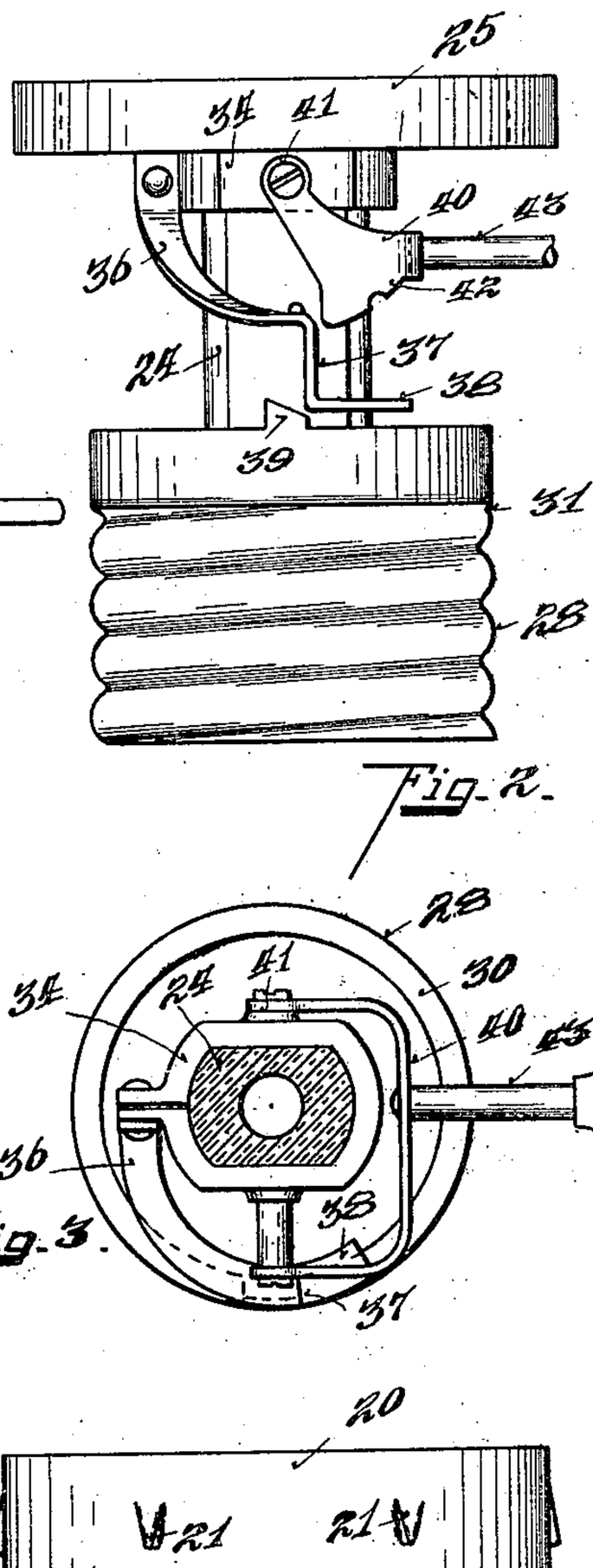

Fig. 2.

Fig. 3.

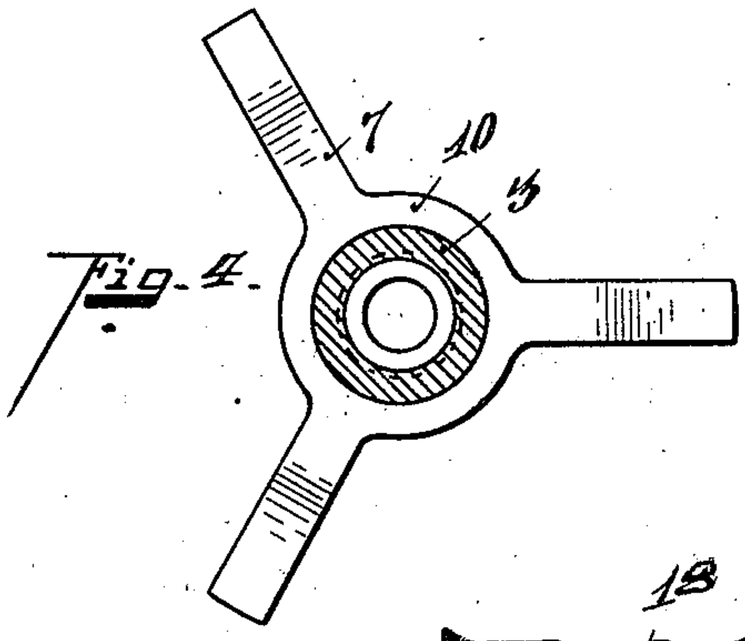

Fig. 4.

Fig. 5.

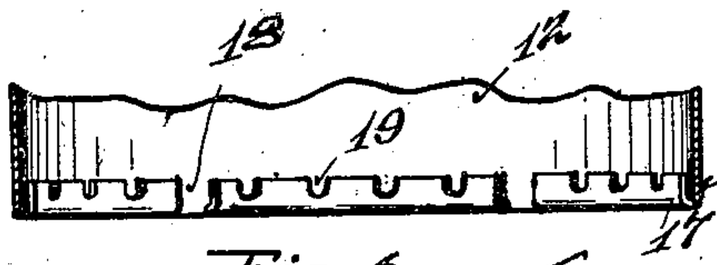

Fig. 6.

Witnesses

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ELECTRIC-LAMP SOCKET.

999,234. Specification of Letters Patent. Patented Aug. 1, 1911.

Application filed July 23, 1909. Serial No. 509,246.

To all whom it may concern:

Be it known that I, FREDERICK A. LAVERCOMBE, a citizen of the United States, residing at Newport, in the county of Campbell and State of Kentucky, have invented certain new and useful Improvements in Electric-Lamp Sockets, of which the following is a specification.

My invention relates to an improvement in an electric light socket.

One of the objects of the invention is to produce an anti-vibration support adapted to prevent the breaking of the filaments, especially in tantulum or tungsten lamps.

Another object of the invention is to produce a socket core so formed as to permit of the socket binding posts being secured upon the outside of the core, thus preventing the necessity of forming wire passages through the body of the core.

Another object of the invention is to produce a core to which the lamp socket can be directly connected without the employment of screws or the like.

Another object of the invention is to produce a core with exteriorly supported binding posts permitting of the use of an exteriorly supported switch of an improved construction.

Other features of the invention relate to means for conveniently and securely attaching and supporting the several parts relative to one another.

Other features and details of the invention will be more fully disclosed in the description of the accompanying drawings, forming a part of this specification, in which:—

Figure 1 is a central vertical section through my improved device the insulated lining being for convenience shown in full line. Fig. 2 is a side elevation showing the porcelain core, switch and lamp socket proper. Fig. 3 is a top plan view partly in section showing the switch. Fig. 4 is a plan view partly in section of the spring support. Figs. 5 and 6 are views showing the means for connecting the cap to the other socket cover or shell.

1 represents the plug or nozzle ordinarily screwed onto the end of the fixture and formed with a central orifice for the lamp wire.

2 represents an annular flange on the plug, the lower end of the plug being screw threaded.

3 represents a supporting sleeve screw threaded on the lower end of the plug, its upper end engaging against the under surface of the flange 2. The sleeve 3 is also exteriorly screw threaded to receive the collar 4. The sleeve 3 is secured against rotation on the plug by means of the screw 5 engaging upwardly through the lower end of the sleeve 3 and impinging against the lower peripheral edge 6 of the plug 1.

7 represents a spring support for the socket. Specifically it is shown in the form of a tripod, Fig. 4, having a central orifice engaging over the sleeve 3, the hub 10 seating on the collar 4 and having the spring blade members radially extending to form a means for suspending the socket.

12 represents a shell or cap formed with a central orifice 13, through which the sleeve 3 passes and formed with a downwardly extended annular flange 14. This construction of the shell forms a shoulder 15, which seats upon the extremities of the blades of spring 7, so as to make an elastic extension support for the lamp and socket members relative to the fixed plug 1. I preferably employ a coiled spring 16, around the sleeve 3, seating upon the hub 10, of the spring 7, the upper extremity of this spring portion supporting the upper peripheral edge of the shell 12. By means of these two spring members the suspended lamp parts have an elastic connection with the plug in both vertical and horizontal planes, so that no vibrations imparted to the plug or the fixture are transmitted to the lamp. The lower extremity of the shell 12 is provided with an inturned edge 17, formed with a series of vertical passages 18, and upwardly extended notches 19.

20 represents the outer socket shell formed with depending lugs 21, on its exterior peripheral surface at the upper end providing the means by which the outer socket shell may be detachably secured to the supporting cap 12, that is, by passing the lugs 21, upwardly through the passages 18, and turning the outer socket slightly so that these lugs are hooked into the notches 19.

22 represents an insulation lining for the outer socket 20, held in position by inturned flange 23, of the socket 20.

24 represents the core formed of porcelain or other non-conductive material. In the preferred form, it has the upward annular

flange 25, and the lower annular flange 26, forming a spool-like structure.

28 represents the inner or loose socket having the ordinary bulb threads, this socket being metallic to form the electric connection with the filament. This socket is formed with the upper inturned flange 30, bent or spun over the upper face of the flange 26. This flange serves to suspend a lamp socket directly from the core without the use of any screws tapping into the core, and it also provides an electric contact surface for the exteriorly supported switch member, to be later described. If desirable, the socket may also be provided with an inturned flange 31, binding against the under surface of the lower annular flange 26, of the core. The outer peripheral edge of the upper flange 25, rests upon the edge of the insulation lining 22, so that the porcelain core with its attached lamp socket are supported by and suspended within the outer socket. Within the bore of the porcelain core is a metallic central contact piece 32 which forms one of the connections to the filament.

33 represents a binding screw, through the hub of the core 24, engaging into the contact piece 32, thus providing the binding post on the outside of the core.

34 represents a collar on the hub of the core provided with a binding screw 35. One of the wires from the plug is connected to the binding screw 33, and the other wires to the binding screw 35.

36 represents a resilient switch-blade depending from the metallic collar 34, its intermediate portion being formed with a cam or an abrupt shoulder 37, its lower extremity being formed with a contact foot 38, adapted to engage with the raised shoulder 39, formed on the flange 30.

40 represents a yoke lever pivoted at 41, on the collar 34, and having a cam segment 42, adapted to engage the switch 36, to depress the foot 38, against the contact shoulder 39.

43 represents a handle for manipulating yoke 40. The outer socket 20 is formed with a vertical slot through which the handle 43 projects and which permits of the vertical rocking movement of the lever necessary to make and break circuit. This vertically moving switch is a very desirable form, as it may be operated by chain or in any other convenient way, and especially useful in its association with the switch located external of the core.

The circuit is established through the binding screw 35, collar 34, switch 36, and shoulder 39 of the lamp socket, to one extremity of the filament, and through contact piece 32, and binding screw 33, to the other extremity of the filament.

By this construction, all of the lamp parts are bodily suspended from the cap 3, and the latter member is loosely and elastically supported relative to the fixed plug 1. This forms a very superior anti-friction socket support for tungsten lamps.

By the herein shown construction of porcelain core, I am enabled to attach the binding posts or screws exteriorly to the core, and also to make and break the circuit by a more durable and efficient switch than is possible with the familiar snap form of switch commonly used.

The parts may be easily separated and reassembled by non-skilled workmen and the relative attachments are very convenient and effective.

Having described my invention, I claim:—

1. An electric lamp fixture comprising, a plug, radially extended springs supported on the plug, a cap supported upon said springs and movable relative to the plug, and lamp socket members suspended from said cap.

2. An electric lamp fixture comprising, a plug, radially extended springs supported on the plug, a cap supported upon said springs and movable relative to the plug, lamp socket members detachably secured to and suspended from said cap.

3. An electric lamp fixture comprising, a plug, radially extending springs on the plug, a cap resting upon the springs and movably supported relative to the plug, an outer socket detachably suspended from said cap, a porcelain core, and a lamp socket supported within said outer socket.

4. In an electric lamp fixture, a plug, a sleeve screw threaded thereon, a screw passing upwardly through the lower end of the sleeve and impinging against the plug to prevent the rotation of the sleeve, a collar on the sleeve, radially extended springs seated on the collar, and cap seated on the extremities of said springs, and a lamp socket detachably secured to and suspended from said cap.

5. In combination with a metallic lamp socket, a porcelain core supporting said socket, a central metallic piece within the core, said socket and said central piece being adapted to contact the terminals of the lamp, a binding post exteriorly supported on the periphery of the core and engaging into said central piece, a second binding post exteriorly supported on the core, and a switch exteriorly supported on the core and serving to connect the last-named binding post with the metallic lamp socket.

6. In an electric lamp fixture, an exterior socket, a spool-shaped porcelain core held within said socket, a metallic lamp socket supported on the lower flange of the spool, a metallic piece through the bore of the spool, an exteriorly disposed binding post engaging through the hub of the spool into

said central piece, a second binding post exteriorly supported on the hub of the spool, and a switch adapted to make and break connection between said last-named binding post and the lamp socket.

7. In a device of the class described, a porcelain core having a lower flange, a metallic lamp socket formed on said flange, a binding post exteriorly supported on the core, a resilient switch blade having connection at one end with the binding post, the free end extending adjacent to the lamp socket, and a lever for operating said resilient switch blade.

8. In a device of the class described, a core formed from a non-conductive material, provided with a central bore, a metallic center contact piece in the core, a binding post engaging through the core and center piece and exposed outside of the core, a second binding post secured on the outside of the core, and a switch for making and breaking circuit connection supported on the outside of said core.

9. In a device of the class described, a hollow core formed from a non-conductive material and provided with a flange at its lower end, a central contact piece in said core, a lamp metallic socket suspended on said flange, exterior binding posts on the core, and a switch on the outside of the core.

10. In a device of the class described, a hollow core formed from a non-conductive material provided with a flange at its lower end, a lamp metallic socket bent over the periphery of said flange, a center contact piece in the core, a binding post extending through said core to the center contact, a second binding post held on the outside of the core, a resilient switch blade on the outside of the core, adapted to connect the second binding post with the metallic socket, and a lever for actuating said switch blade.

11. In a device of the class described, a hollow core formed from a non-conductive material, and provided with a lower flange, a lamp metallic socket bent over said flange and formed connections with said filament, a center metallic piece in the bore of the core also connected with the filament, a binding post engaging through the body of the core and connected with the center piece, a metallic collar around said core, a binding post thereon, a resilient switch blade projecting from said collar into juxtaposition with the metallic socket, and a lever for actuating said switch blade to make and break contact with the lamp socket.

12. In an electric lamp fixture, a plug, a shell supported thereon and formed with a downwardly depending wall, the lower edge of which is notched, and inwardly and upwardly turned to form an internal flange, there being a vertical passage through said flange, a socket formed with an external lug, adapted to be inserted through said passage and to interlock with said notches when the socket is turned, whereby it is suspended from and locked to the shell.

13. In an electric lamp fixture, a plug, a shell supported thereon and having a downwardly depending wall formed with an inturned lower edge constituting a supporting flange, there being a vertical passage through said flange, a socket fitting within said shell and having an external lug, adapted to be inserted through said passage and rest upon the flange when turned.

14. In an electric lamp fixture, a plug, a sleeve nut externally screw threaded thereon, said sleeve being formed with an inwardly extended annular flange occupying the position of vertical alinement with the wall of the plug, and a set screw passing upwardly through said flange and impinging against the lower end of the plug.

15. In a device of the class described, a plug, an outer socket secured thereto, a core supported within the outer socket, a lamp socket attached to the core, an electric switch supported on the core, a vertically rocking lever for operating said switch, said outer socket being formed with a vertical slot, and said lever being formed with a lateral extension passing outwardly through said vertical slot.

In testimony whereof, I have hereunto set my hand.

FREDERICK A. LAVERCOMBE.

Witnesses:

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