

Oct. 16, 1928.

1,687,569

W. ILE

TWO-WAY SOCKET UNIT

Filed Dec. 12, 1925

2 Sheets-Sheet 1

Fig. 1.

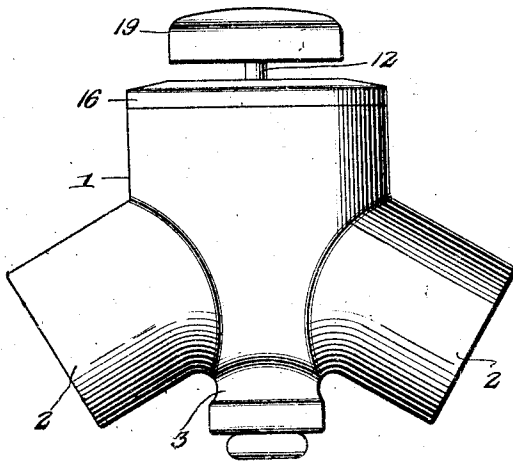


Fig. 3.

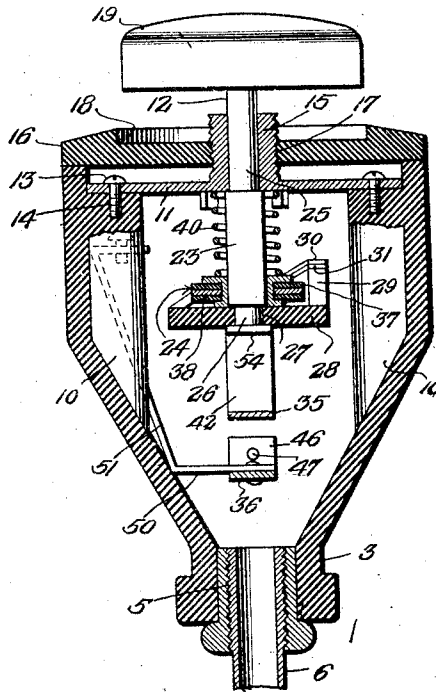
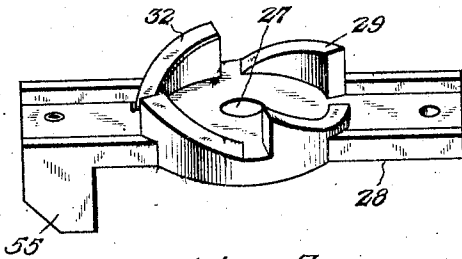


Fig. 5.

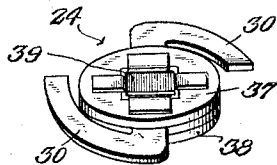
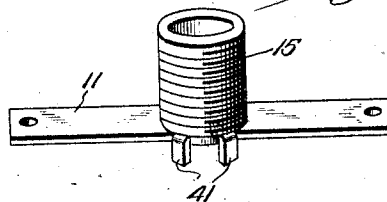


Fig. 6.

Fig. 7.



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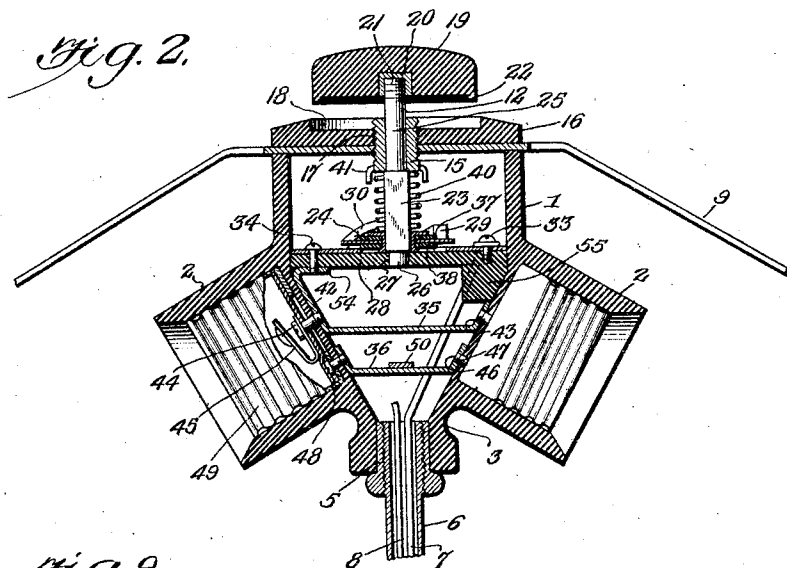
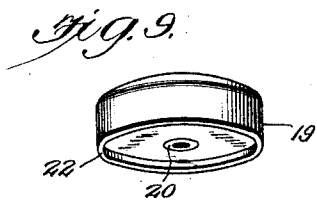
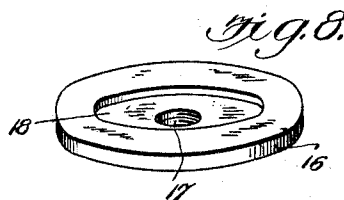
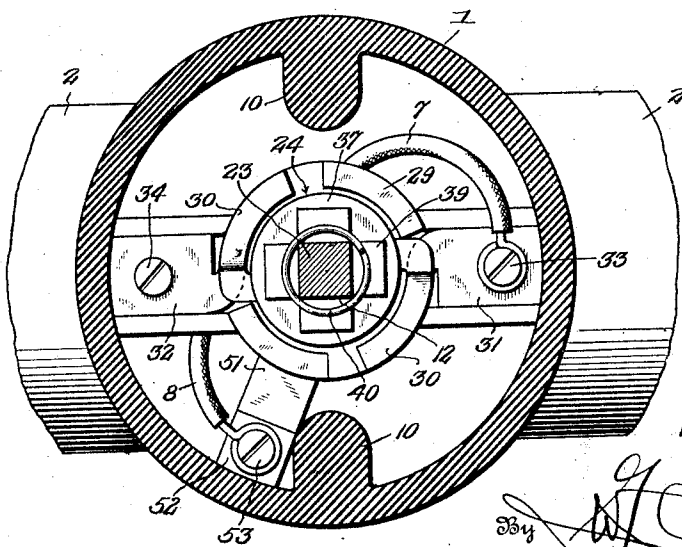
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TWO-WAY SOCKET UNIT

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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE.

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TWO-WAY-SOCKET UNIT.

Application filed December 12, 1925. Serial No. 75,119.

This invention relates to a two way socket unit for floor lamps, table lamps and various other kinds of fixtures where pull chain sockets have generally been previously employed.

5 The object of the present invention is to provide a single unit two way socket which will eliminate and render unnecessary much of the wiring and the addition of pull chain sockets which have heretofore been necessary.

10 A further object of the invention is to provide a two way socket unit of this character equipped with means for enabling it to be readily mounted in position on the standard of a lamp or analogous portion of other fixtures and provided also with means for clamping a lamp shade in position.

15 Another object of the invention is to equip the two way socket unit with an interiorly arranged switch mechanism having means located exteriorly of the lamp shade at the top thereof for operating the switch.

20 With these and other objects in view the invention consists in the construction and novel combination and arrangement of parts hereinafter fully described and illustrated in the accompanying drawings and pointed out in the claims hereto appended, it being understood that various changes in the form, proportion and minor details of construction within the scope of the claims may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

25 In the drawings:

Figure 1 is a side elevation of the two way socket unit constructed in accordance with this invention;

30 Fig. 2 is a vertical sectional view taken longitudinally of the two way socket unit and illustrating the manner of mounting the same and of clamping a lamp shade thereon;

Fig. 3 is a similar view taken transversely of the two way socket unit;

35 Fig. 4 is a horizontal sectional view through the upper portion of the two way socket unit and illustrating the arrangement of the switch mechanism;

Fig. 5 is a detailed perspective view of the stationary switch member;

Fig. 6 is a detailed perspective view of the movable switch member;

Fig. 7 is a detailed perspective view of the upper transverse supporting bar;

Fig. 8 is a detailed perspective view of 55 the shade clamping disk;

Fig. 9 is a detailed perspective view of the switch operating button.

In the accompanying drawings in which is illustrated the preferred embodiment of the invention, the two way socket unit is provided with an insulating body 1, constructed of molded bakelite or other suitable insulating material and consisting of an approximately cylindrical upper portion and downwardly 60 diverging integral sockets 2 and having at the bottom a central depending neck 3. The depending neck has mounted in it a metallic bushing which is interiorly threaded at 5 to receive the upper end of a metal tube 6 or other portion of a lamp or fixture. The metal tube 6 which forms a support for the two way socket unit also provides a conduit for the wires 7 and 8 which are connected with and controlled by the switch mechanism hereinafter described. The threaded bushing is preferably embedded in the insulated body during the molding of the latter and in practice the two way socket unit will be supplied to the trade without the conducting wires as will be readily understood. The conducting wires, the metal tube 6, and the lamp shade 9 being shown in the drawings for the purpose of illustrating the application of the invention to a floor or similar lamp but the two way 85 socket unit may be employed for various kinds of fixtures and may be readily connected thereto as will be readily understood. The hollow cylindrical upper portion of the insulating body houses the switch mechanism hereinafter described and is provided at opposite sides with vertical ribs 10, forming seats for and supporting the upper transverse bar 11 which forms the upper bearing for a vertical switch operating shaft 12. The upper 90 transverse bar which extends across the body 1 at the top thereof is rigidly secured in position upon the said ribs by screws 13 which engage threaded apertures 14 in the upper ends of the vertical supporting ribs of the insulating body. The upper edge of the body is cylindrical and horizontal and the supporting bar 11 which is located adjacent to the upper edge of the body, is provided with a central exteriorly threaded sleeve 15 which 105 forms the bearing for the upper portion of the switch operating shaft 12 and which is also adapted to receive a shade clamping disk

16. The shade clamping disk 16 is provided with a central threaded opening 17 and it screws on the exteriorly threaded sleeve 15 and is adapted to clamp the lamp shade 9 between it and the upper edge of the insulating body. The shade clamping disk is preferably of the same diameter as the upper end of the body and it forms a cap or closure for the same. The clamping disk 16 is provided in its upper face with a central circular recess 18 which is of a diameter to receive the switch operating button 19 having embedded in its lower face a threaded sleeve 20 for engaging the upper threaded end 21 of the switch operating shaft 12. The button is preferably recessed at its lower face as shown to provide a peripheral flange 22 which preferably extends into the recess of the clamping disk but the switch operating button may be arranged in spaced relation with the upper face of the disk as will be readily understood. When the button is secured on the upper end of the switch operating shaft it is adapted to be turned to rotate the shaft for operating the switch as hereinafter fully described.

The switch operating shaft 12 has an intermediate squared portion 23 for the reception of a rotary switch member 24 and has round upper and lower portions 25 and 26 which are journaled respectively in the upper transverse bar 11 and in a center bearing opening 27 of a stationary switch member 28. The stationary switch member 28 consists of a transverse bar having a central circular enlarged portion provided with curved ratchet teeth 29 which are approximately triangular and which are adapted to be engaged by blades 30 of the rotary switch member. The ratchet teeth 29 are preferably four in number and two opposite teeth are provided with stationary contacts 31 and 32 consisting of plates or pieces of conducting material having attached portions which are secured to the end portions of the stationary switch member by screws 33 and 34. The screw 33 constitutes a binding screw for securing the wire 7 to the stationary contact 31 of the switch. The other screw 34 secures the stationary switch member to one of a pair of transverse conductor bars 35 and 36. The rotary switch member 24 consists of a central circular hub having a square opening to fit the squared portion of the shaft and provided at its periphery with the switch blades 30 which are curved and arranged at a slight inclination as shown to fit the ratchet teeth of the stationary switch member. The ratchet teeth extend upwardly from the stationary switch member and present inclined faces to the switch blades and vertical edges which form stops for preventing retrograde movement of the rotary switch member. The hub may consist of a metallic disk having the integral blades as shown, and upper and lower rings or disks 37 and 38 secured

together and to the central metallic disk by a bushing 39 forming the said rectangular opening and having a flange or head at one end to engage the ring or disk 38. The rotary switch member is yieldably maintained in engagement with the stationary switch member by means of a coiled spring 40 arranged on the lower portion of the switch operating shaft and interposed between the upper transverse bar and the rotary switch member. The upper end of the spring is arranged within lugs 41 rigid with and projecting downwardly from the upper transverse supporting bar. When the switch operating shaft is rotated the blades are carried over the teeth of the stationary switch member and are carried into electrical contact with the stationary contacts and out of contact with the same to close or break the circuit, as desired.

The conductor bar 35 which is constructed of suitable material extends across the body between the sockets and it has inclined upwardly extending terminal portions 42 and 43 which fit against the opposite walls of the hollow body at the inner ends of the sockets and are connected by screws 44 with center contacts 45 of the sockets. The other conductor bar 36 has inclined upwardly extending terminal portions 46 which are connected by suitable fastening devices 47 with the flanges 48 of screw shell contacts 49. The lower conductor bar is centrally connected with the lower end 50 of an upwardly extending conductor bar 51 which is provided at its upper end 52 with a horizontally disposed portion carrying a binding screw 53 for securing the wire 8 to the conductor bar 51. The conductor bars connect the center and shell contacts of the sockets and the conductor bar 35 is provided at its end 43 with a terminal portion 54 to which the stationary switch member is secured by the screw which secures one of the stationary switch contacts to the stationary switch member. The stationary switch member is provided at the opposite end from that which is attached to the conductor bar, with a depending portion 55 which rests upon the conductor bar 35 and supports that end of the stationary switch member. While the socket unit illustrated in the accompanying drawings is shown provided with two opposite sockets yet it will be readily understood that the number of the sockets may be varied as will be readily understood.

What is claimed is:

1. A socket unit of the class described including a hollow body of insulating material open at the upper end and provided at the lower portion with sockets for the reception of electric light tubes, switch mechanism housed within the body for controlling the feed of current to the electric light tubes and provided with an operating shaft projecting beyond the top of the body, a fixed sleeve forming a bearing for the operating shaft

and having exterior screw threads, and a clamping member having a threaded opening to receive the sleeve and engaging the threads thereof and of a size to cover the open top of the body.

2. A socket unit of the class described including a hollow body of insulating material open at the top and provided at the lower portion with sockets for the reception of electric light tubes, switch mechanism housed within the body for controlling the feed of current to the electric light tubes and provided with an operating shaft projecting beyond the top of the body, a transverse bar extending across the body at the top thereof and rigidly mounted thereon and provided with a central exteriorly threaded sleeve forming a bearing for the operating shaft of the switch and a shade clamping disk having a threaded opening mounted on the sleeve said disk being of a size to cover the open top of the body.

3. A socket unit of the class described comprising a hollow body of insulating material open at the top and provided at its lower portion with projecting sockets for the reception of electric light tubes, said body being also provided with vertical ribs arranged interiorly of the said body and extending to the upper portion thereof and forming opposite seats, a horizontal cross bar having its ends secured upon the said seats, said cross bar being provided with a centrally arranged upwardly projecting exteriorly threaded sleeve, switch mechanism housed within the hollow body and having a vertical operating shaft journaled in the said sleeve and extending above the same, and a horizontal clamping member having a threaded opening to receive the sleeve and engaging the threads thereof and being of a size to cover the open top of the body.

4. A socket unit of the class described comprising a hollow body of insulating material open at the top and provided at its lower portion with projecting sockets for the reception of electric light tubes, said body being also provided with vertical ribs arranged interiorly of the said body and extending to the upper portion thereof and forming opposite seats, a horizontal cross bar having its ends secured upon the said seats, said cross bar being provided with a centrally arranged upwardly projecting exteriorly threaded sleeve, switch mechanism housed within the hollow body and having a vertical operating shaft journaled in the said sleeve and extending above the same, a horizontal clamping member having a threaded opening to receive the sleeve and engaging the threads thereof and being of a size to cover the open top of the body and an operating button mounted on the shaft and located above the clamping member.

5. A socket unit of the class described com-

prising a hollow body of insulating material open at the top and provided at its lower portion with projecting sockets for the reception of electric light tubes, said body being also provided with vertical ribs arranged interiorly of the said body and extending to the upper portion thereof and forming opposite seats, a horizontal cross bar having its ends secured upon the said seats, said cross bar being provided with a centrally arranged upwardly projecting exteriorly threaded sleeve, switch mechanism housed within the hollow body and having a vertical operating shaft journaled in the said sleeve and extending above the same, a clamping disk having a centrally threaded opening and arranged on the threaded sleeve and being of a size to cover the open top of the body, said disk being provided in its upper face with a recess, and an operating button mounted on the said shaft and located above the disk and adapted to extend into the recess thereof.

6. A socket unit of the class described including a hollow insulating body provided at its lower portion with opposite sockets and having tubular attaching means at the bottom between the sockets, center and shell contacts located within the sockets, spaced transverse conductor bars extending across the body and connecting the center contacts with each other and the shell contacts with each other, switch mechanism housed within the hollow body and comprising a stationary switch member extending across the hollow body and secured to and supported by one of the conductor bars and having spaced contacts, one of the contacts being electrically connected with one of the conductor bars, and a movable switch member having switch blades adapted to be carried into and out of engagement with the contacts of the stationary switch member.

7. A socket unit of the class described comprising a hollow body of insulating material and provided at its lower portion with opposite sockets, center and shell contacts arranged within the sockets, spaced conductor bars extending across the body and connecting the center contacts with each other and the shell contacts with each other, a stationary switch member secured to and supported by one of the conductor bars and consisting of a transverse bar having a central enlarged portion provided with curved ratchet teeth and having spaced contacts located at two opposite teeth, one of the contacts being electrically connected with one of the conductor bars, and a rotary switch member having curved blades arranged to be carried into and out of contact with the contacts of the stationary switch member and cooperating with the teeth thereof for holding the rotary switch member against retrograde movement.

8. A socket unit of the class described com-

prising a hollow body of insulating material and provided at its lower portion with opposite sockets, center and shell contacts arranged within the sockets, spaced conductor bars extending across the body and connecting the center contacts with each other and the shell contacts with each other, a stationary switch member mounted upon one of the conductor bars and having curved ratchet teeth at its central portion, spaced contacts carried by the stationary switch member one of the said contacts being electrically connected with one of the conductor bars, a vertical switch operating shaft journaled in its lower end in the stationary switch member, a rotary switch member consisting of a hub mounted on the operating shaft and provided with curved inclined blades arranged to cooperate with the ratchet teeth of the stationary member and adapted to be carried into and out of electrical engagement with the contacts of the stationary switch member; and a fixed sleeve connected with the body of the upper portion thereof and forming a bearing for the operating shaft.

9. A socket unit of the class described comprising a hollow body of insulating material and provided at its lower portion with opposite sockets, center and shell contacts arranged within the sockets, spaced conductor bars extending across the body and connecting the center contacts with each other and the shell contacts with each other, a stationary switch member mounted upon one of the conductor bars and having curved ratchet teeth at its central portion, spaced contacts carried by the stationary switch member one of the said contacts being electrically connected with one of the conductor bars, a vertical switch operating shaft journaled in its lower end in the stationary switch member, a rotary switch member consisting of a hub mounted on the operating shaft and provided with curved inclined blades arranged to cooperate with the ratchet teeth of the stationary member and adapted to be carried into and out of electrical engagement with the contacts of the stationary switch member, a cross bar secured to the body at the upper portion thereof and having a sleeve forming a bearing for the operating shaft, and a coiled spring interposed between the cross bar and the said rotary switch member.

10. A socket unit of the class described comprising a hollow body of insulating material and provided at its lower portion with opposite sockets, center and shell contacts arranged within the sockets, spaced conductor bars extending across the body and connecting the center contacts with each other and the

shell contacts with each other, a stationary switch member mounted upon one of the conductor bars and having curved ratchet teeth at its central portion, spaced contacts carried by the stationary switch member one of the said contacts being electrically connected with one of the conductor bars, a vertical switch operating shaft journaled in its lower end in the stationary switch member, a rotary switch member consisting of a hub mounted on the operating shaft and provided with curved inclined blades arranged to cooperate with the ratchet teeth of the stationary member and adapted to be carried into and out of electrical engagement with the contacts of the stationary switch member, a cross bar secured to the upper portion of the body and having a center sleeve forming a bearing for the upper portion of the operating shaft, said cross bar being also provided with spaced downwardly projecting lugs and a coiled spring interposed between the cross bar and the rotary switch member and having its upper end confined within the said lugs.

11. A socket unit of the class described including a hollow insulating body provided with opposite sockets, center and shell contacts located within the sockets, spaced conductor bars connecting the center contacts with each other and the shell contacts with each other, one of the conductor bars being provided with an upwardly extending supporting portion at one end, a stationary switch member secured to the supporting portion of the said conductor bar and provided at the opposite end thereof with a depending portion resting upon such conductor bar, said switch member being provided with curved ratchet teeth, contacts mounted on the stationary switch member at the ends thereof and having curved inclined portions arranged at two opposite ratchet teeth, one of the contacts being connected with one of the conductor bars and having a binding screw, the other conductor bar being provided with an upwardly extending member having a binding screw, a vertical operating shaft mounted at its lower end in the stationary switch member, a rotary switch member consisting of a hub having an opening to receive the operating shaft and slidably interlocked with the same, said rotary switch member having curved blades to cooperate with the contacts of the stationary switch member, and yieldable means for maintaining the rotary switch member in engagement with the stationary switch member.

In testimony whereof I have hereunto set my hand.

WILLIAM ILE.