

H. HUBBELL.
 OPERATING MECHANISM FOR PULL SOCKETS.
 APPLICATION FILED MAY 6, 1912.

1,053,179.

Patented Feb. 18, 1913.

Fig. 1

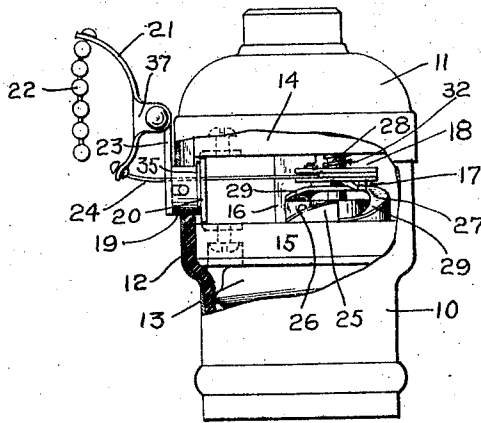


Fig. 2

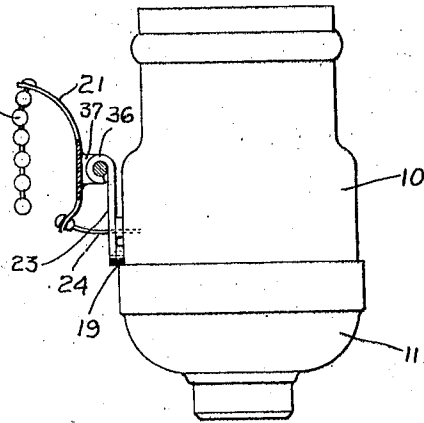


Fig. 4

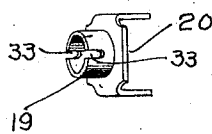


Fig. 5

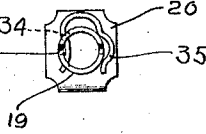


Fig. 6

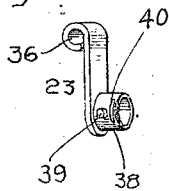


Fig. 7

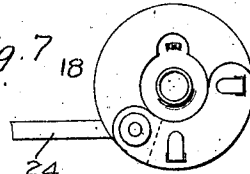


Fig. 8

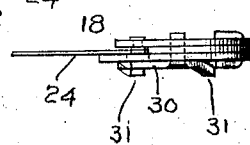
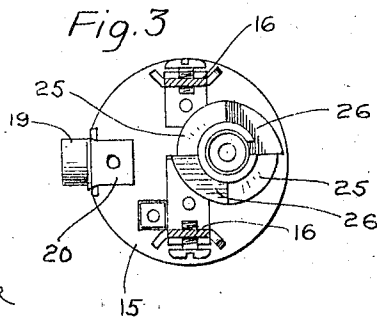


Fig. 3



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OPERATING MECHANISM FOR PULL-SOCKETS.

1,053,179.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HARVEY HUBBELL, a citizen of the United States, residing at Bridgeport, county of Fairfield, State of Connecticut, have invented an Improvement in Operating Mechanism for Pull-Sockets, of which the following is a specification.

This invention relates to pull sockets for incandescent electric lamps, which are especially constructed and arranged to permit the use of a relatively small shell with switch mechanism amply large to meet the requirements of use and with a large clearance between the switch mechanism and the current carrying brackets, this being accomplished by placing the switch mechanism eccentrically to the insulating blocks and on the far side from the operating mechanism, and the invention has for its object to produce a socket of this type in which, in lieu of a chain, the connecting member between the operating lever and the operating member of the switch mechanism shall be a thrust bar, thus doing away with the part most likely to break and which is a frequent cause of trouble in pull-sockets as ordinarily constructed.

With this and other objects in view, I have devised the novel pull socket which I will now describe, referring to the accompanying drawing forming a part of this specification and using reference characters to indicate the several parts.

Figure 1 is an elevation of a pull socket, partly broken away to show the switch mechanism and showing the application thereto of my novel operating mechanism; Fig. 2, an elevation of a pull socket in the reverse position showing the manner in which the operating mechanism may be reversed; Fig. 3, a plan view of the lower insulating block, the current carrying brackets being in section, showing the position of the switch relatively thereto; Fig. 4, a perspective of the hub and its bracket, detached; Fig. 5, a front elevation of the hub and its bracket with the locking spring in place; Fig. 6, a perspective of the operating lever bracket detached; Fig. 7, a plan view on an enlarged scale of the switch operating member detached, showing the connection thereto of the thrust bar; and Fig. 8 is an edge view corresponding therewith.

10 denotes the socket shell, 11 the cap, 12

the insulating lining, 13 the screw shell, 14 and 15 the insulating blocks, 16 the current carrying brackets by which the insulating blocks are connected, 17 the switch mechanism, 18 an operating member therefor, 19 a hub which passes through the insulating lining and the screw shell and is carried by a bracket 20 which is secured to the upper and lower insulating blocks, 21 the operating lever to which a pendant 22 is connected, 23 the operating lever bracket and 24 the thrust bar which is pivotally connected to the operating lever and to the switch operating member. The lower insulating block is provided with inclines which terminate in abrupt shoulders, alternate inclines carrying plates 26 which are in the circuit.

27 denotes the contact plate which, as well as operating member 18, turns freely on a pin 28. The contact plate is provided with spring arms 29 which engage the inclines and is itself engaged and operated by the operating member, oscillation of which produces rotary movement of the contact plate. The operating member is an insulating member and is shown in the present instance as comprising plates of insulating material which are secured together and to a metallic plate 30 which is provided with teeth or lugs 31 adapted to engage the contact plate. Further description of the operating member is not thought to be required as it is described and claimed in a pending application of even date herewith.

32 denotes a spring which returns the operating member to its normal position after each actuation, one end of said member being connected to the pin and the other to the operating member. The tension of the operating spring may be adjusted by turning the pin, the spring additionally acting to hold the angular head of the pin in a socket in the upper insulating block which retains it against rotation. Fuller description of the operation of the switch is not thought to be required as it has been illustrated, described and claimed in patents previously granted to me.

Hub 19 is provided in its outer face with recesses 33 and in one side with a slot 34 which is adapted to receive one arm of a U-shaped locking spring 35, as will be more fully explained. Operating lever bracket 23

is provided with an eye 36 to which the operating lever is pivoted, said lever being shown as provided with wings 37 which lie on opposite sides of the eye, the pivot passing through both wings and the eye. The opposite end of bracket 23 is provided with a sleeve 38 which is adapted to pass within hub 19 and is provided with lugs 39 which engage recesses 33 to prevent rotation of the bracket and on opposite sides with grooves or slots 40, either of which is adapted to be engaged by the arm of the locking spring lying in slot 34 in the hub when the groove and slot are in alinement, to detachably secure the bracket and operating lever in place. The inner end of the sleeve is beveled, as shown, which makes it easy to expand the locking spring when the sleeve is forced into the hub, after which the operative arm of the spring engages one of the grooves or slots in the sleeve.

To reverse the socket, that is to change it from the position shown in Fig. 1 to that in Fig. 2, or vice versa, it being understood that the operating lever should always project upward, the operator takes hold of the operating lever bracket and pulls it directly outward against the power of the locking spring and the operating spring of the switch. It should be understood that the locking spring retains the operating lever and its bracket securely in place under the ordinary conditions of use, but its power may be readily overcome by a direct pull outward upon the bracket. As soon as the bracket has been entirely disengaged from the hub, the operating lever and the bracket are given a half turn, the lever turning freely on the thrust bar, and then the sleeve is pressed into the hub, the beveled end of which expands the locking spring, which an instant later snaps into the groove or slot in the sleeve which is in alinement with the slot in the hub, thus locking the bracket and operating lever in place again. In reversing the socket it is unnecessary to interfere in any way with the shell or cap or any of the mechanism within the shell.

The mode of operation will be obvious from the drawing. A pull upon the pendant swings the upper end of the operating lever outward and the lower end inward, forcing the thrust bar inward and causing it to oscillate the operating member of the switch, which in turn operates the switch in the usual manner. After each actuation, the operating spring of the switch returns the operating member to its normal position, forcing the thrust bar outward and returning the operating lever to its normal position. No possible injury to the switch can result from a strong pull upon the pendant as the inward movement of the lower arm of the lever will be stopped by its engagement with the operating lever bracket.

Having thus described my invention, I claim:

1. In a pull socket, the combination with insulating blocks, switch mechanism and a hub secured to the insulating blocks, of a reversible bracket secured to the hub, an operating lever pivoted to the bracket and a thrust bar intermediate the switch mechanism and the operating lever.

2. In a pull socket, the combination with a shell and switch mechanism, of an insulated hub independent of the shell, a bracket therefor, a second bracket detachably secured to the hub, an operating lever pivoted to the second bracket and a thrust bar intermediate the operating lever and the switch mechanism.

3. In a pull socket, the combination with an insulated hub, of a reversible bracket secured thereto, an operating lever pivoted to said bracket, a thrust bar pivoted to the operating lever and means for detachably locking the bracket to the hub.

4. In a pull socket, the combination with an insulated hub having recesses in its face and in one side a slot, of a bracket having a sleeve adapted to pass within the hub, said sleeve having lugs adapted to engage the recesses and one of the grooves, an operating lever pivoted to the bracket, a thrust bar pivoted to the lever and passing through the sleeve and hub, and a U-shaped locking spring adapted to engage the slot and one of the grooves to detachably lock the bracket to the hub.

5. In a pull socket, the combination with a shell, insulating blocks and a switch operating member, of a hub secured to the insulating blocks, a reversible bracket having a sleeve engaging the hub, means for locking the sleeve to the hub, an operating lever pivoted to the bracket and a thrust bar intermediate the operating lever and the switch operating member.

6. In a pull socket, the combination with a shell and a switch operating member, of an insulated hub secured within and extending through the shell, a reversible bracket secured to the hub, an operating lever pivoted to the bracket and a thrust bar intermediate said lever and the switch operating member and passing through the hub.

7. In a pull socket, the combination with a shell, insulating blocks and a switch operating member, of a hub secured to the insulating blocks and having recesses in its face and in one side a slot, a bracket having a sleeve adapted to pass within the hub and having lugs to engage the recesses and opposite grooves adapted to align with the slot, a locking spring engaging the slot and one of the grooves, for the purpose set forth, an operating lever pivoted to the bracket and a thrust bar intermediate the operating lever and the switch operating member.

8. In a pull socket, the combination with
insulating blocks and a hub secured thereto,
of a reversible bracket having a sleeve en-
gaging the hub, means for locking the sleeve
5 to the hub, an operating lever pivoted to the
bracket and a thrust bar pivoted to the
lever and passing through the hub.

In testimony whereof I affix my signature
in presence of two witnesses.

HARVEY HUBBELL.

Witnesses:

S. W. ATHERTON,
H. W. MEADE.