H. HUBBELL.

PULL SOCKET.

APPLICATION FILED JULY 21, 1910.

994,518. **Patented June 6, 1911.**

Fig. 1.

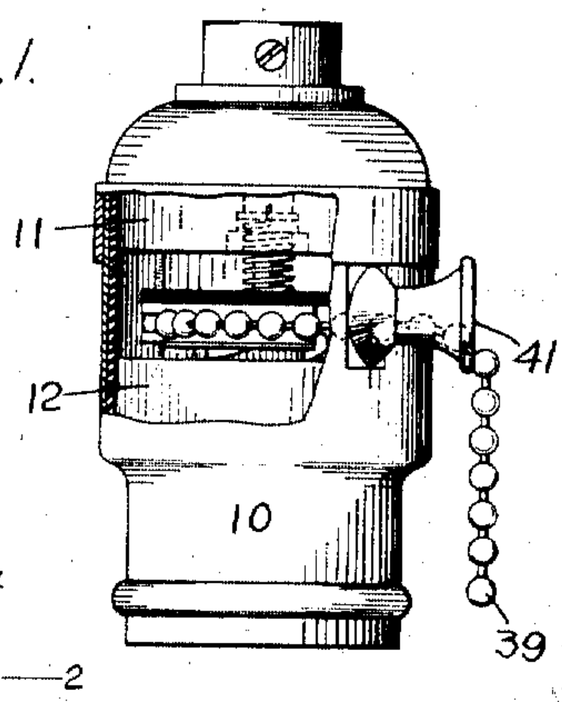


Fig. 3.

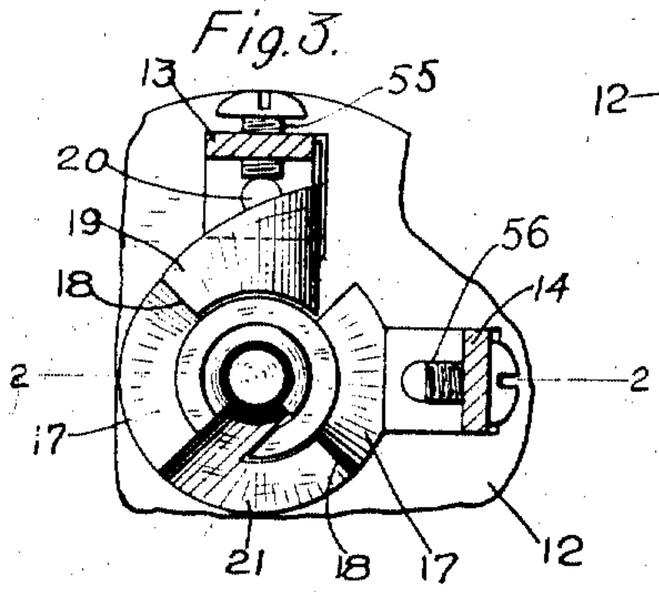


Fig. 2

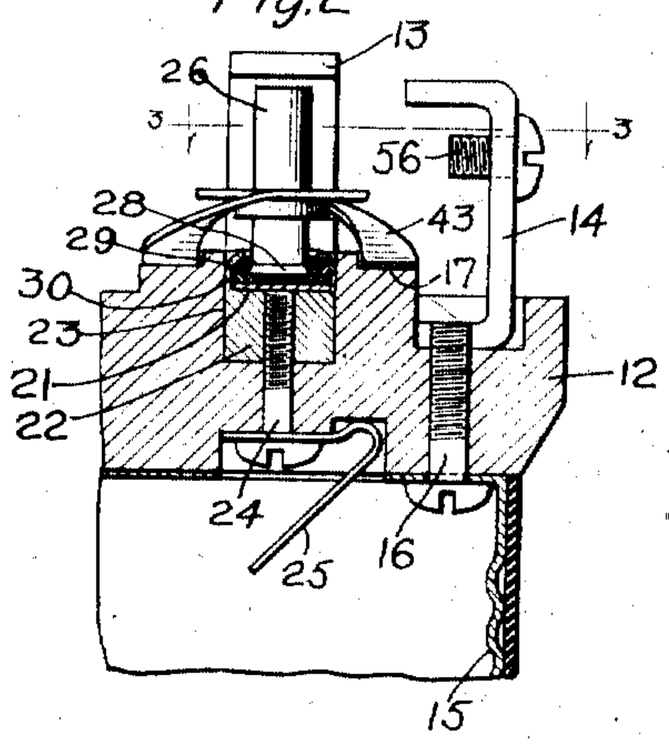


Fig. 6 Fig. 7

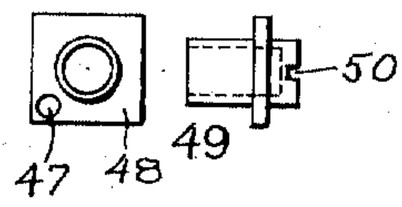


Fig. 8

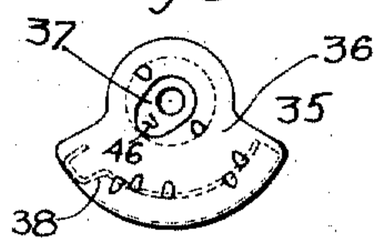


Fig. 9

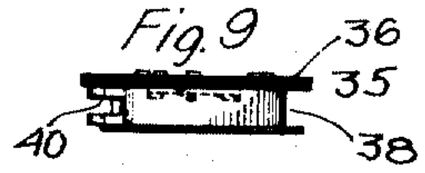


Fig. 10

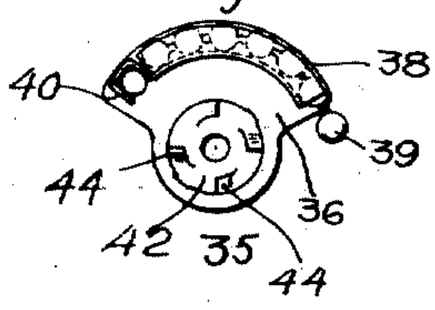


Fig. 4

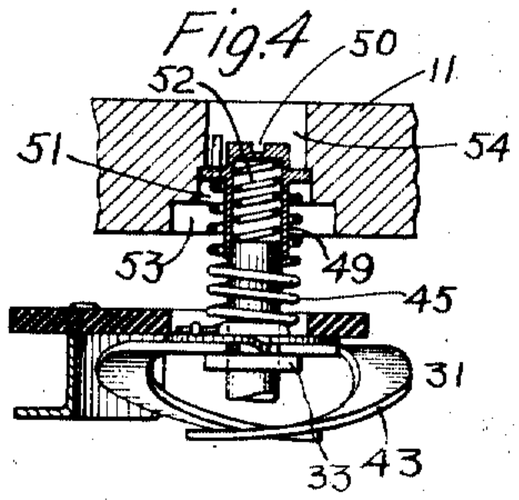
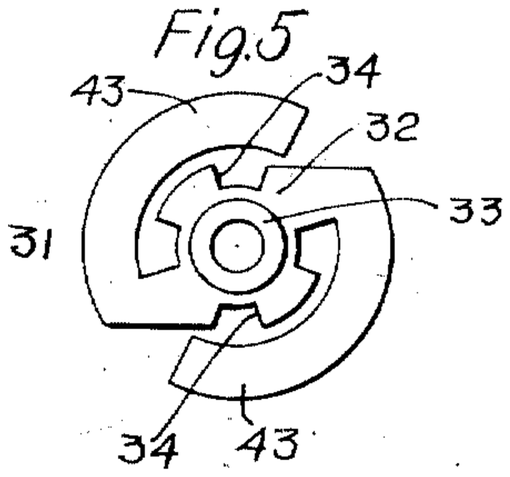


Fig. 5



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PULL-SOCKET.

994,518. specification of Letters Patent. **Patented June 6, 1911.**

Application filed July 21, 1910. Serial No. 572,958.

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 Pull-Sockets, of which the following is a specification.

This invention has for its object to simplify, cheapen and to generally improve the construction and mode of operation of electric pull sockets, and especially to provide a compact and ornamental pull socket which shall operate in such a manner as to break the circuit at two points simultaneously. With this and other objects in view I have devised the novel structure hereinafter described and then particularly pointed out in the claims hereunto appended.

In the accompanying drawing forming a part of this specification: Figure 1 is an elevation of my novel socket partly broken away to show the operating mechanism; Fig. 2 a detail sectional view, on an enlarged scale, on the line 2—2 in Fig. 3; Fig. 3 a plan view, the standard being in section on the line 3—3 in Fig. 2 looking in the direction of the arrows; Fig. 4 a detail sectional view illustrating the mode of regulating the tension of the operating spring; Fig. 5 an inverted plan view of the contact plate detached; Figs. 6 and 7 are respectively a plan view and elevation of the adjusting sleeve, and Figs. 8, 9 and 10 are respectively plan, edge and inverted plan views of the operating wheel.

10 denotes the socket shell. 11 and 12 the upper and lower insulating blocks which are held rigidly in place by standards 13 and 14, and 15 the screw shell held in place by a screw 16 which passes through the lower insulating block and engages standard 14. The upper surface of the lower insulating block is provided with four inclines 17, each terminating in an abrupt shoulder 18. 19 denotes a plate lying upon the surface of one of these inclines and having an extension which is turned under the base of standard 13 and is held in close engagement therewith by the screw 20 which secures said standard in place.

21 denotes a plate lying upon the surface of the incline diametrically opposite to the incline having plate 19, and having an extension which is secured to a metal block 22 lying in a central socket 23 in the lower insulating block. It will be noted that two of the inclines 17, diametrically opposite to each other, are left uncovered. These I term insulating inclines as will presently be described. Block 22 is secured in place by a screw 24 which secures the center contact 25 in place, passes up through the lower insulating block, engages block 22 and the end of which lies in close contact with the extension of plate 21, as clearly shown in Fig. 2. The center contact shown is a spring contact of ordinary construction but any other form of center contact may be substituted if preferred.

26 denotes the center post which is provided at its lower end with a head 28.

The upper end of block 22 is provided with a socket 29 into which the extension of plate 21 passes and which receives insulation 30 which is closed about the head of the center post, said insulation and the center post being rigidly secured in place by closing the wall of socket 29 about them, (see Fig. 2) the closed in wall of the socket, however, being wholly out of contact with the center post which is completely insulated from plate 21, block 22, screw 24 and the center contact.

31 denotes the contact plate which comprises a body 32 in which a central hub 33 is rigidly secured and which is provided with engaging walls 34 and with two downwardly extending spring arms 43 which are adapted to engage the inclines and shoulders on the lower insulating block. The contact plate engages and is adapted to rotate on the center post.

35 denotes the insulating operating wheel which comprises an insulating plate 36 having an opening 37 and a metal plate 42 covering said opening on one side and having an opening with a bearing flange which receives the center post on which the operating wheel oscillates. At the periphery of the operating wheel is a trough shaped chain holder 38 in which the operating chain 39 lies and which is provided at its inner end with a suitable catch 40 with which the end of the chain is detachably engaged. The chain is preferably of the ordinary ball construction and passes along the chain holder and out through a guide 41 which is rigidly secured in the socket shell.

The operating wheel lies over the contact plate as clearly shown in Fig. 4. Plate 42 on the operating wheel is provided with lugs

44 which are adapted to engage walls 34 on the contact plate to carry the latter forward when the operating wheel is oscillated by a pull upon the chain. The operating wheel is returned to its normal position after each actuation by an operating spring 45 one end of which engages a lug 46 on plate 42, the other end engaging a hole 47 in an angle plate 48 carried by an adjusting sleeve 49 which has a slidable engagement with the upper end of the center post. The upper end of the adjusting sleeve is closed and is provided with a slot 50 adapted to be engaged by a screwdriver. The upper insulating block is provided with an angular recess 51 which is adapted to receive angle plate 48 loosely and retain the adjusting sleeve against rotation. A spring 52 lying within the adjusting sleeve and bearing against the top of the center post and the closed upper end of the sleeve acts to normally retain angle plate 48 in the angular recess.

An enlarged recess 53 in the under side of the upper insulating block extends up to the angular recess, and above the angular recess is a hole 54 which extends through the block and permits the insertion of a screwdriver from above to engage slot 50 in the adjusting sleeve when it is required to adjust the tension of the operating spring. To adjust this spring the operator presses the adjusting sleeve downward against the power of spring 52 until the angle plate is out of the angular recess when the sleeve and angle plate may be rotated in either direction as may be required to adjust the tension of the spring. After adjustment of the operating spring the angle plate is placed in alinement with the angular recess and spring 52 will seat the angle plate in the recess when the pressure upon the sleeve is relieved. Standard 13 is provided with a binding screw 55 and standard 14 with a binding screw 56 to which conducting wires, not shown, are attached. The current passes from standard 13 to plate 19, to the contact plate, to plate 21 and through screw 24 to the center contact. Returning through the lamp, not shown, the current passes to screw-shell 15 and through screw 16 to standard 14 and binding screw 56. It will be obvious, therefore, that when the spring arms of the contact plate are in engagement with plates 19 and 21 the current will be on.

An actuation of the operating wheel, as already described, will carry the spring arms off plates 19 and 21 said arms dropping over the abrupt shoulders and into engagement with the insulating inclines thus breaking the current simultaneously in two places. The next actuation of the operating wheel carries the spring arms of the contact plate off from the insulating inclines and into engagement with plates 19 and 21 thus closing the circuit again.

Having thus described my invention I claim:

1. In a pull socket the combination with a lower insulating block having inclines, plates on certain of said inclines and in the circuit, leaving insulating inclines between the plates, and an upper insulating block having an angular recess, below said angular recess an enlarged recess and above the angular recess a hole, of a metallic block socketed in the lower insulating block, a center post rigidly secured in the metallic block and insulated therefrom, a rotating contact plate and an oscillating operating wheel mounted on the center post, an adjusting sleeve slidably engaging the center post, and carrying an angular plate, a spring acting to retain the angular plate in engagement with the angular recess and an operating spring connected to the operating wheel and to the angular plate, whereby said wheel is returned after each actuation.

2. In a pull socket the combination with a lower insulating block having inclines, plates on certain of said inclines and in the circuit, leaving insulating inclines between the plates, and an upper insulating block having an angular recess, of a center post rigidly secured in the lower insulating block, a rotating contact plate and an oscillating operating wheel mounted on the center post, a closed ended slotted adjusting sleeve slidably engaging the center post, an angular plate carried thereby, a spring bearing on the sleeve and the center post and acting to hold the angular plate in engagement with the angular recess and an operating spring, for the purpose set forth, connected to the operating wheel and to the angular plate.

3. In a pull socket the combination with an insulating block having inclines and plates on certain of said inclines and in the circuit, leaving insulating inclines between the plates, of a metallic block socketed in the insulating block and having a socket, a center post having a head seated in said socket, insulation between the center post and the metallic block, said center post being retained in place by closing the metal of the socket about the insulation, a rotating contact plate mounted on the center post and electrical connections.

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

HARVEY HUBBELL.

Witnesses:
A. M. WOOSTER,
ULAH L. COATES.