

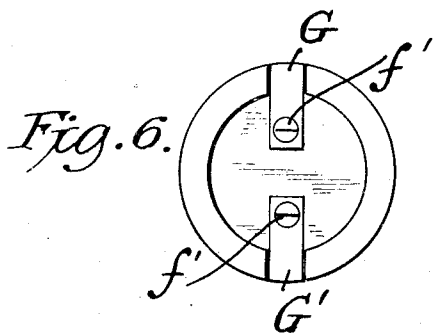
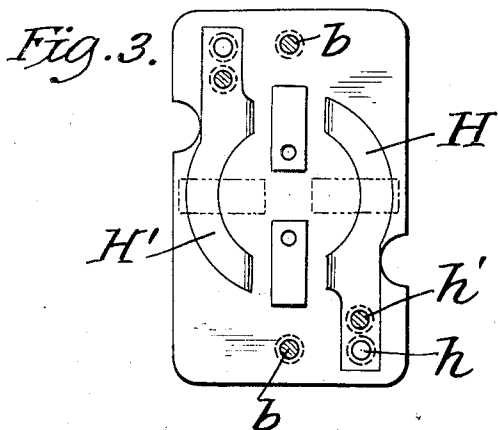
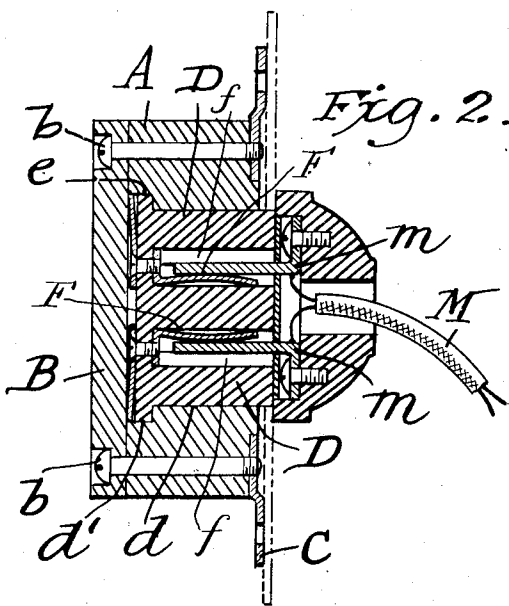
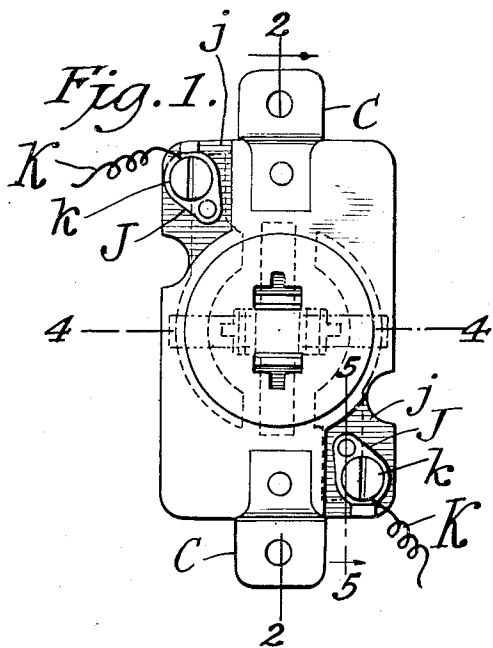
May 15, 1928.

1,669,666

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ELECTRICAL WALL SOCKET

Filed July 3, 1923



Inventor

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By his Attorney

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Patented May 15, 1928.

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UNITED STATES PATENT OFFICE.

HENRY F. LAUB, OF LOGAN, UTAH.

ELECTRICAL WALL SOCKET.

Application filed July 3, 1923. Serial No. 649,208.

This invention is an electrical wall socket, or as it may be designated, a flush receptacle adapted for installation in a wall to occupy a flush relation, or substantially flush relation thereto.

The salient feature of the invention is a switch mechanism unitary with the wall socket and affording means for the attachment of a plug in a manner to complete the electrical connection between certain feed conductors of the wall socket and the conductors usually encased in a cord for supplying said current to any one of a number of articles of household utility, such for example as an electric fan, vacuum cleaner, etc.

The switch mechanism of my invention is mounted for rotative movement within the wall socket, and in one position of said switch the electrical circuit is interrupted, whereas in a reverse position of the switch the circuit is completed. The rotative switch member is constructed for co-operation with the cord plug, and when said cord plug is inserted into the rotative switch member, said cord plug affords means for manually rotating the switch member with the socket so as to shift the switch terminals with reference to the feeder terminals in a manner to complete or to interrupt the electrical circuit.

Other functions and advantages of the invention will appear from the following description taken in connection with the drawings, wherein—

Figure 1 is a front elevation of my wall socket with parts in dotted lines, the cord plug being omitted.

Figure 2 is a vertical sectional elevation through the wall socket on the dotted line 2—2 of Figure 1, the cord plug being attached.

Figure 3 is a detached view of the back member of the wall socket, illustrating the feeder terminals and the switch terminals in the positions they occupy relatively to each other when the circuit is interrupted.

Figure 4 is a horizontal cross section through the wall socket on the line 4—4 of Figure 1, the cord plug being attached as in Figure 2.

Figure 5 is a detail section on the line 5—5 of Figure 1, and

Figure 6 is a rear elevation of the rotative switch member with the switch terminals attached thereto.

A designates the casing of the wall receptacle or socket, the same being of any appropriate form and dimensions and composed of material suitable for the purpose. The receptacle is provided with a back member B separably attached thereto by bolts or screws *b* which pass through the receptacle and fasten in position on the front of said receptacle the holding members or plates C. The receptacle is formed with a cylindrical opening *d*, enlarged at the rear to produce a shoulder *d'*, and within the opening is fitted a cylindrical switch member or bushing D, the same being provided near its rear with a circumferential flange *e* adapted to coact with shoulder *d'* in retaining the bushing against outward displacement relatively to the casing while at the same time permitting the bushing to have rotative movement within said casing whereby the bushing is adapted to serve the function of a rotative switch member.

The bushing is provided with a plurality of sockets *f* within which are encased the spring contacts F, the end of each contact being held in place by a screw *f'*. This screw passes to the rear of the bushing, and it fastens in place a switch terminal G, two of said terminals G G' being positioned against the rear end face of the bushing, radially thereon, as shown in Figure 6, said two switch terminals G G' being fastened in place by the screws *f'* and being in electrical connection with the contacts F, see Figures 2 and 4.

The separable back plate B of the receptacle carries a plurality of arcuate feeder terminals H H' which are positioned in the path of the switch terminals G G' so that in one position of the bushing the switch terminals G G' are free from contact with the feeder terminals H H' as shown in Figure 3 to interrupt the current, but when the bushing or switch member is given a quarter turn the switch terminals make electrical contact with the feeder terminals H H' as shown by dotted lines in Figures 1 and 3 to close the circuit. Said feeder terminals are shown as spring plates which are of arcuate form to lie in the path of the switch terminals, and these feeder terminals on the separable back plate B are held in place and are electrically connected to metal plates I by screws *h*, said plates I being on the back plate B and said plates I being electrically connected by longer screws *h'* to feeder

plates J positioned in recesses *j* provided in the front of receptacle A at the corners thereof. The front feed plates J are held in place by the screws *h'* and to the feed plates J are attached the feeders K K by the binding screws *k*.

L is an ordinary cord plug provided with contacts *m, m*, and M is the usual cord with conductors therein, said cord plug having a milled edge *m'*. This cord plug is adapted to be attached to the bushing D by thrusting the contacts *m, m*, into the sockets *f*, thus bringing the contacts *m, m*, into electrical engagement with the contacts F F, see Figures 2 and 4, whereby the plug is connected mechanically to the bushing so as to afford means for the manual rotation of said bushing which is encased within the wall receptacle. The plug having been coupled to the bushing, the operator now proceeds to turn the plug and the bushing for a quarter turn, and this shifts the switch terminals G G' into electrical contact with the feeder terminals H H', completing the circuit from the feeders K K to the wires of the cord. To interrupt the circuit, the plug L is turned in a reverse direction for shifting terminals G G' out of contact with the feeder terminals H H' (see Figure 3), and thereupon the plug L can be withdrawn by pulling the contacts *m m* out of the sockets *f* and away from the contacts F.

My invention provides means within the wall socket or receptacle itself and operable at will for switching the current on and off, obviating the necessity for dismounting the cord plug from the socket to interrupt the circuit and of replacing the cord plug to switch on the current.

In my electrical wall fixture, the casing is open at the front and the rear, and the rear open side is closed by a back plate, the latter being separate from the casing and being detachably fixed thereto. The feeder terminals H, H', are yieldable and are attached directly to the back plate, so that the back plate and the feeder-terminals are demountable as a unit, thus providing for inspection, cleaning and repairs with facility. Said yieldable feeder terminals are in mechanical engagement with the switch-block D, and said spring terminals apply pressure to the switch member for retaining the latter within the casing for the shoulder *d'* of the switch member to have mechanical engagement with the shoulder *d* of the casing, said shoulders *d, d'* of the switch member and the casing respectively co-operating in precluding the switch member from sliding within the casing, whereby the plug L and its terminals F may be disconnected from the switch member D without pulling the latter out of the casing or disturbing the position of said switch member within the casing.

Having thus fully described the invention, what I claim as new and desire to secure by Letters Patent is:

1. An electrical fixture mountable in flush relation to the surface of a wall comprising a casing provided with a cylindrical switch-receiving opening, said casing being open at the front and the rear, a cylindrical switch-member substantially filling said opening and rotatable therein, the ends of said switch member being substantially flush with the open front and rear of said casing, said switch member being provided with pockets, terminal contacts within said pockets, a plurality of switch contacts attached to the rear face of said switch-member and electrically connected with said encased terminal contacts, a back plate separate from said casing, means for detachably and fixedly fastening said back plate to the casing, and yieldable feeder-terminals fastened directly to the back plate and in opposing relation to the switch contacts for electrical contact therewith when the switch member occupies an operative position, said back plate and the feeder terminals being demountable and attachable as a unit with respect to the casing and the switch member.

2. An electrical fixture mountable in flush relation to the surface of a wall comprising a casing provided with a cylindrical opening extending from the front to the rear of said casing, a back plate separate from the casing and attached thereto for closing the rear part of the casing, a plurality of yielding feeder terminals fixedly attached directly to said back plate, a switch-member substantially filling said cylindrical opening and free to rotate therein, said switch member being provided with encased terminal contacts, switch terminals fastened to the rear face of the switch-member and positioned for electrical contact with the feeder terminals, and co-operating means on the casing and the switch member for arresting sliding movement of the switch member relatively to said casing, said back plate and the feeder terminals being attachable and detachable as a unit relatively to the casing and the switch terminals.

3. An electrical fixture mountable in flush relation to the surface of a wall comprising a casing open at the rear and provided with a cylindrical opening, a switch-member rotatable within said cylindrical opening and with one end exposed at the front end of said casing for free access, said switch-member being provided with encased circuit terminals, a back plate detachably fastened to the rear of said casing, feeder-terminals attached directly to the back plate and demountable therewith from said casing, circuit-contacts fastened to the rear of the switch member and in facing relation to the feeder terminals, means for retaining the

switch member from sliding movement within the casing, and a plug provided with terminals which are insertible into the switch member for electrical contact with said encased circuit terminals, said plug being attached to said switch member by said circuit terminals and said plug affording exposed means for manipulation by hand to impart rotative movement to said encased switch member.

4. An electrical wall fixture embodying a casing provided with a cylindrical opening, the latter being reduced in diameter near the rear and producing a cylindrical shoulder, a back plate fastened detachably to the rear part of said casing, a switch-member provided with a shoulder, said switch member being fitted rotatably within the cylin-

dricial opening for the shoulder thereon to have contact with the shoulder of the casing, whereby endwise movement of the switch member within the casing is arrested by the co-operating shoulders, switch-contacts on the switch member, and yielding feeder-contacts supported by the back plate, said feeder-contacts being in mechanical engagement with the switch-member for applying pressure thereto and operating to retain the shoulder of the switch member in engagement with the shoulder of the casing, and a plug attached to the switch member and affording means for the manual rotation of the switch member.

In testimony whereof I have hereto signed my name this 27th day of June, 1923.

HENRY F. LAUB.