May 30, 1933. M. BROWN 1,912,252

SWITCH EQUIPPED PLUG

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Fig. 1.

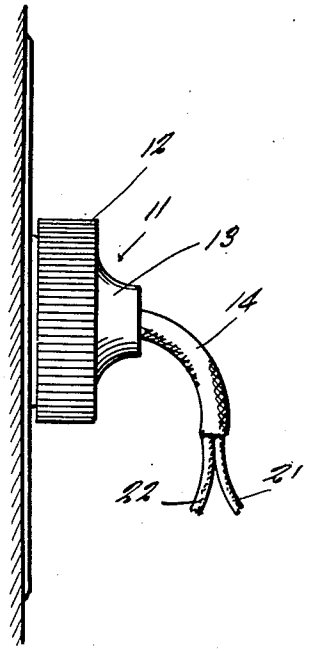


Fig. 2.

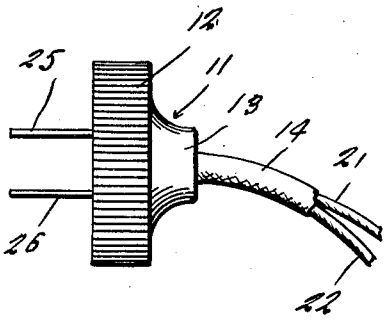


Fig. 3.

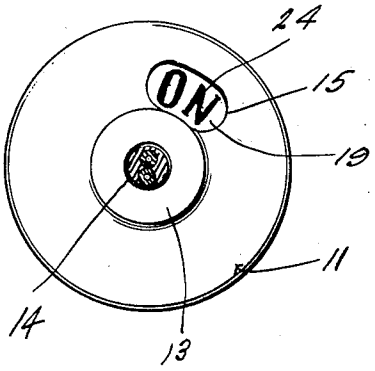
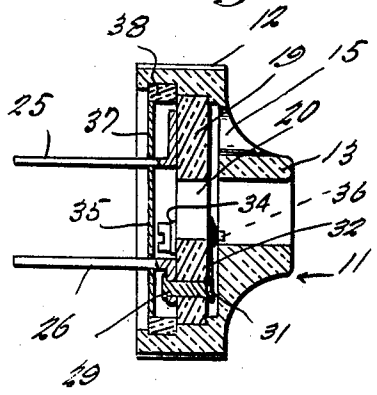


Fig. 4.



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Fig. 5.

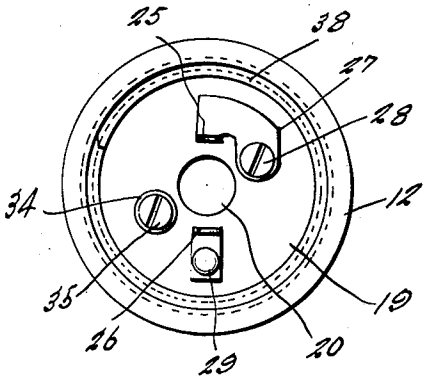


Fig. 6.

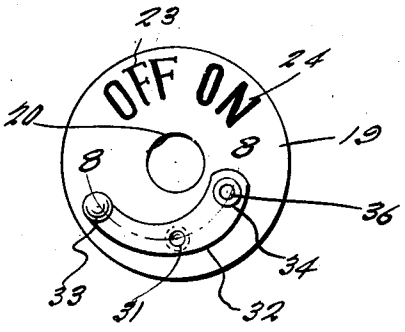
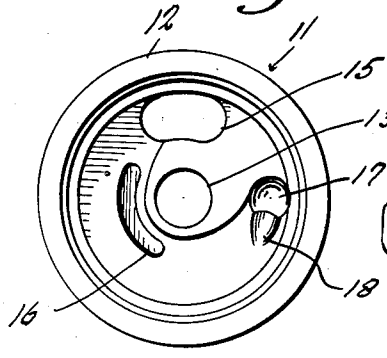


Fig. 8.

Fig. 7.



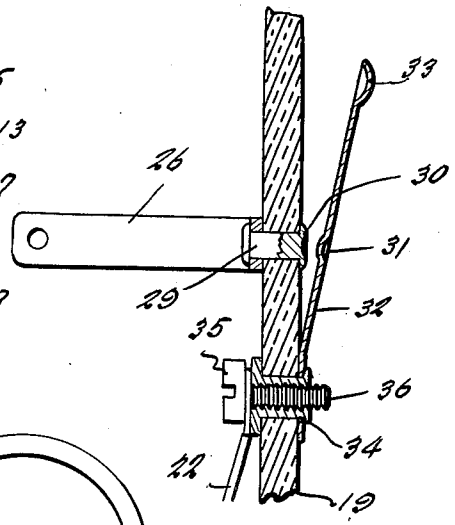
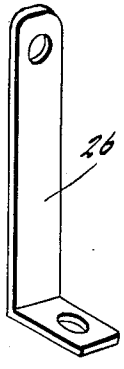


Fig. 9.



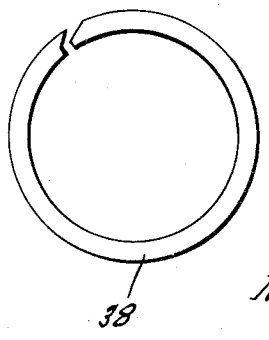


Fig. 10.

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1,912,252

UNITED STATES PATENT OFFICE

MIKE BROWN, OF LIVINGSTON, TENNESSEE

SWITCH EQUIPPED PLUG

Application filed May 25, 1932. Serial No. 613,525.

This invention relates to electrical appliances and more specifically to switches and plugs, and has particular reference to a double pronged type of plug such as is used in making a connection between a wall or floor outlet and an electrical appliance current conducting cord, or cable.

Otherwise stated, the novelty is primarily predicated upon a multiple prong wall and floor plug which has a switch built into it whereby to permit the current to be turned off or on without detaching the plug, this being regarded as a safety and convenience feature.

In developing the inventive conception, I have discovered a simple and economical arrangement of parts capable of expeditious assembly and repair and calculated to fulfill the requirements of an accessory of this class in a highly practical and efficient manner.

The explicit details selected for accomplishing the results desired will become more readily apparent from the following description and the accompanying illustrative drawings.

In the drawings, wherein like numerals are employed to designate like parts throughout the views:

Figure 1 is an elevational view showing the improved switch plug attached to a wall or floor socket or outlet as the case may be.

Figure 2 is a similar view with the plug removed.

Figure 3 is a front elevational view.

Figure 4 is a detail assembled sectional view showing the construction and relationship of details.

Figure 5 is an inside elevational view, that is, a view observing Figure 2 in a direction from left to right with the wires detached.

Figure 6 is an elevational view of the contact equipped side of the removable washer.

Figure 7 is an inside elevational view of the cap or shell with the other parts removed.

Figure 8 is an enlarged or exaggerated sectional and elevational view taken approximately on the plane of the curved line 8—8 of Figure 6.

Figure 9 is a perspective view of one of the prongs.

Figure 10 is an elevational view of the washer retaining ring.

Attention is first directed to the cap or shell 11. This is made of insulation material and formed to provide a receptacle having a knurled finger gripping rim 12 and a centralized neck 13 having a passage to accommodate the cord or cable 14. Formed eccentrically of the neck is an opening 15 which may be designated as a sight.

Looking at Figure 7, it will be observed that the numeral 16 designates an arcuate depression which serves a purpose to be hereinafter described. The numeral 17 designates a clearance recess, adjacent to which is a cam surface 18.

Removably snapped into the grooved inner periphery of the rim of the cap is a fiber insulation washer 19 having a central opening 20 for passage of the terminal ends of the positive and negative wires 21 and 22 respectively. As seen in Figure 6, the outer face of this washer is provided with inscriptions "Off" and "On" as indicated at 23 and 24 respectively. Incidentally, these designations are visible from the exterior through the sight 15.

This washer carries the companion prongs 25 and 26 adapted to fit into the outlet box or socket in the wall or floor as the case may be. As seen in Figure 5, the prong 25 is provided with a lateral extension 27 to offset the binding screw 28 to which one of the wires is connected after being drawn through the opening 20. The other prong 26 as seen in Figure 8 has its lateral end fastened to the disc through the medium of a headed rivet 29, the outer head of which is formed with a shallow depression 30. Incidentally, this rivet 29 forms the fixed contact with which an indentation 31 on the intermediate portion of the relatively movable spring contact 32 is co-operable.

The free or flexible end of this contact spring is provided with a head 33 which

when the switch is off is seated in the clearance depression 17 to allow the contacts 30 and 31 to separate to break the circuit. The opposite end of the spring is secured to an eccentric bushing 34 carried by the washer and threader through this bushing is a clamping screw whose head 35 serves to fasten the remaining wire end to the washer.

The stem 36 projects through and beyond the bushing and is adapted for reception in the aforesaid arcuate slot or depression 16 to limit the rotation of the cap with respect to the washer in either direction. In other words, this feature 36 extending into the slot 16 serves to limit the rotary motion of the cap so as to bring the "Off" and "On" designations 23 and 24 into registry with the sight opening 15 in the cap.

The numeral 37 in Figure 4 designates a closing disc co-operable with the spring snap ring 38 which is snapped into the rim of the cap to hold the washer in assembled position. Therefore, in order to remove the washer to make repairs to the terminal or binding post, all that is necessary is to first remove the parts 37 and 38, whereupon the screws 28 and 35 are exposed for repair purposes.

As before stated, when the cap is rotated to register the "Off" designation 23 with the sight opening 15, the headed end 33 of the spring contact 32 is then seated in the clearance pocket 17. Upon turning the cap a short turn to register the "On" designation 24 with the sight opening 15, it is obvious that the head 33 rides out of the pocket and engages the cam surface 18 whereupon the spring contact moves the button 31 into contact with the rivets 30 to close the circuit.

It is thought that the description taken in connection with the drawings will enable a clear understanding of the invention to be had. Therefore, a more lengthy description is thought unnecessary. While the preferred embodiment of the invention has been shown and described, it is to be undertsood that minor changes coming within the field of invention claimed may be resorted to if desired.

I claim:

1. A switch-plug of the class described comprising a washer of insulation material provided with prongs adapted for reception in the wall socket, means on said washer for attachment of the current conductor wire-ends thereto, a cap mounted for limited rotation on said washer, and a circuit closing switch interposed between the washer and cap and controllable by the rotary motion of the cap, said cap being provided with a sight opening, and the adjacent face of the washer being provided with designations adapted to register with said sight opening to show when the switch is "Off" and "On".

2. In a switch plug of the class described, a washer having a central aperture, a pair of companion prongs for attachment to a wall socket, one of the prongs being provided with a binding post to permit one of the wire ends to be attached thereto, the remaining prong being attached to the washer through the medium of a rivet constituting a stationary contact, an additional binding post for connection of the remaining wire-end, a flexible contact spring electrically connected with the last-named binding post and having its intermediate portion co-operable with said contact, a cap mounted for limited rotary movement on said washer and having a central passage for the current conductor, the free end of said spring contact being co-operable with the adjacent surface of the cap to close the circuit when the cap is in one position and to open the circuit when the cap is in another position.

3. In a switch plug of the class described, a washer having a central aperture, a pair of companion prongs for attachment to a wall socket, one of the prongs being provided with a binding post to permit one of the wire ends to be attached thereto, the remaining prong being attached to the washer through the medium of a rivet constituting a stationary contact, an additional binding post for connection of the remaining wire-end, a flexible contact spring electrically connected with the last-named binding post and having its intermediate portion co-operable with said contact, a cap mounted for limited rotary movement on said washer, and having a central passage for the current conductor, the free end of said spring contact being co-operable with the adjacent surface of the cap to close the circuit when the cap is in one position and to open the circuit when the cap is in another position, said cap having a sight opening registrable selectively with designations on the adjacent face of the washer to indicate the switch positions.

4. As a new article of manufacture, a cap of insulation material adapted for use in connection with a switch plug of the class described, said cap being formed with a recess, a centrally disposed neck for passage of the current conductor cable, being further formed with a sight opening, the bottom of the recessed portion of said cap being formed with an eccentric arcuate slot constituting stop means, and the marginal portion of said bottom being formed with a depression constituting a spring contact clearance pocket.

5. As a new article of manufacture, an insert for use in connection with a receptacle cap of the class described, said insert comprising a centrally apertured washer of insulation material formed on one side with "off" and "on" designations, a socket prong provided with a lateral extension, said lat-

eral extension being provided with a binding screw for connection of one wire-end, a complemental prong, a rivet for connecting said complemental prong to the washer, said rivet constituting a stationary contact element, a bushing mounted in said washer and internally screw-threaded, a screw threaded through said bushing, the head of the screw co-operating with the bushing to provide attaching means for the remaining wire-end, the shank of the screw extending through and beyond the bushing to serve as a stop element.

6. A switch plug of the class described comprising a rotary cap member of insulation material having a central passage and neck for the electricity conductor, the external surface of the rim of said cap being knurled to provide a finger grip, said cap being further formed with a sight opening, and provided on its interior with an arcuate slot eccentric of the central opening, and a clearance depression and an adjacent cam surface, an insulation washer fitting into said cap and having designations for co-operation with said sight opening, and having a central opening in registry with said neck, a prong attached to said washer and provided with a fastening screw for connection of one of the wire ends of the conductor, a complemental prong attached to the washer through the medium of a rivet, said rivet constituting a contact element, a binding post attached to said washer, a spring contact fastened at one end to said binding post, the intermediate portion thereof being adapted for co-operation with said contact rivet, the free end of said spring contact being seated in said clearance depression when the switch is off and engageable with the cam surface to press the contacts together when the switch is on.

In testimony whereof I affix my signature.

MIKE BROWN.