M. R. RODRIGUES.

SAFETY PLUG.

APPLICATION FILED NOV. 17, 1913.

1,187,010. Patented June 13, 1916.

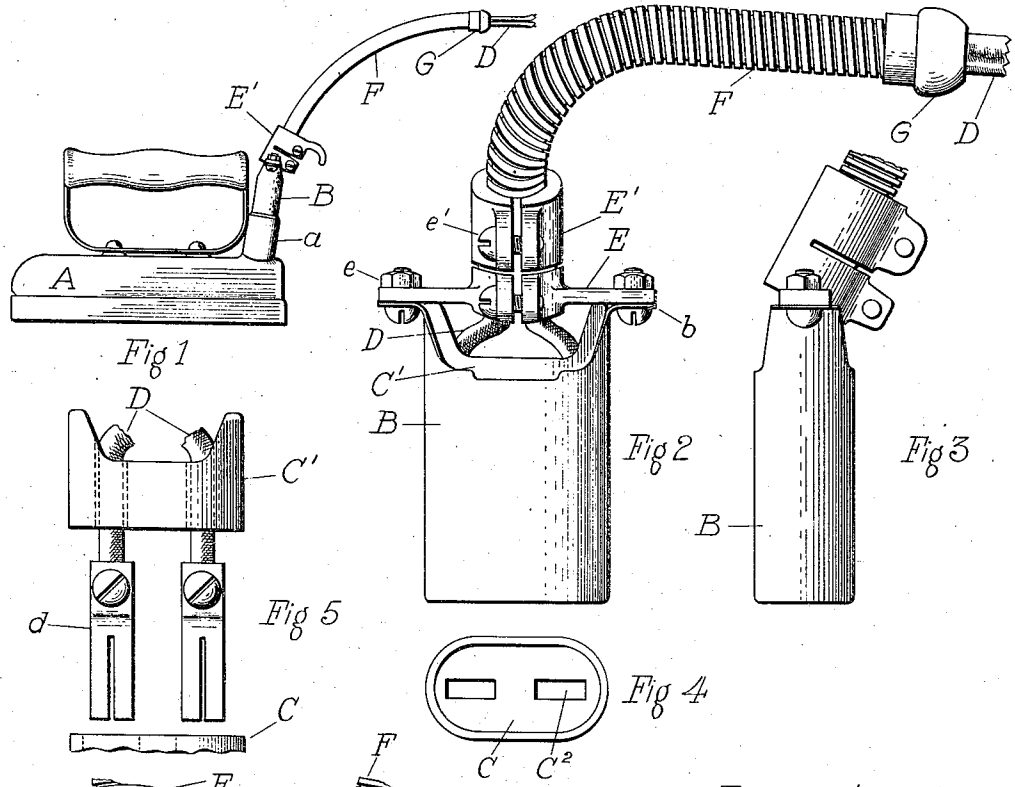


Fig 1 Fig 2 Fig 3

Fig 5

Fig 4

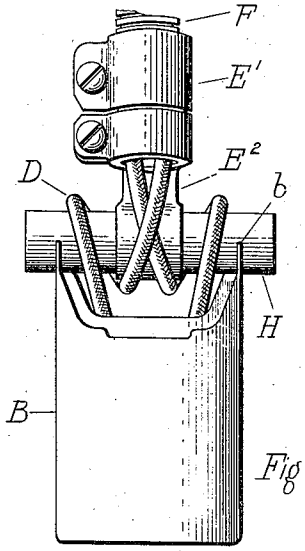


Fig 6

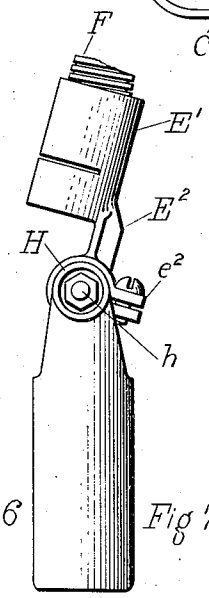


Fig 7

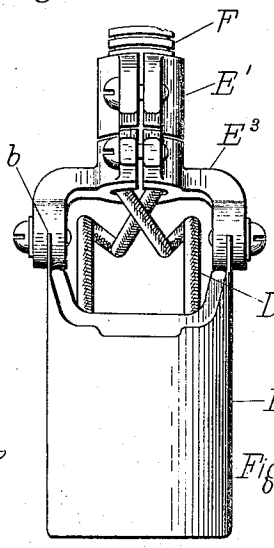


Fig 8

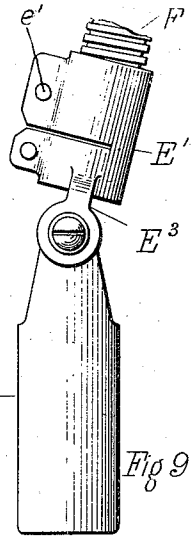


Fig 9

WITNESSES:

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MANUEL R. RODRIGUES, OF BROOKLYN, NEW YORK.

SAFETY-PLUG.

1,187,010. Specification of Letters Patent. Patented June 13, 1916.

Application filed November 17, 1913. Serial No. 801,412.

To all whom it may concern:

Be it known that I, MANUEL R. RODRIGUES, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented a certain new and useful Safety-Plug, of which the following is a specification, the same being a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention pertains to a detachable and interchangeable switch plug adapted for use in connection with various electrically heated appliances, as for example, sad irons, cooking utensils, etc., and it has especial relation to means whereby the electrical conductors are so protected and held in proper position as to prevent the same from becoming broken in use, and thereby to avoid accidents and injury to persons and property that might otherwise occur.

To attain the desired end, my invention consists in the construction, arrangement and operation of novel devices and combination of devices as hereinafter described.

In order to enable the invention to be fully understood, I shall proceed to explain the same by reference to the drawings, illustrative of one embodiment of the invention, which accompany and form a part of this specification, and in which—

Figure 1 represents a side elevation of an article equipped with the invention; Figs. 2 and 3 are respectively front and side elevations of the switch plug; Fig. 4 is a bottom view of the same; Fig. 5 is a view in detail of the operating parts; Figs. 6 and 7 are respectively front and side elevations of another switch plug in which my invention is embodied; and Figs. 8 and 9 are respectively front and side elevations of another appliance constructed according to my invention.

Like letters of reference indicate like parts in all the views.

Referring particularly to the drawings, A denotes an electrically heated article consisting in the present instance of a sad iron provided with any suitable or desired interior heating element, which element is connected with tongues forming the terminal contacts in the socket *a* in the ordinary manner.

The plug comprises a metal shell or case B which preferably incloses a detachable porcelain lining ordinarily consisting of two parts C and C′, the upper insulating member C preferably forming a guide for the conductor cord D, while the lower one C′ ordinarily serves to hold in an insulated relation the preferably duplex springs or terminals *d*, the said lower porcelain member also having orifices C^2 formed in the bottom thereof into which the terminals of the article to be heated are inserted when the plug is inserted in the socket *a*.

The conductors D are secured to the switch plug in a substantially rigid relation by the use of a suitable device by means of which the two may be securely held together. One method of doing this consists in bending the ears *b* of the case B outward in a horizontal relation and in attaching the plug to the conductors by means of connecting means, as the bar E fastened to the ears *b*, as by the bolts *e*. The conductors D, after being connected with the contact springs *d*, are inclosed within a protective covering preferably consisting of a flexible helically wound spring metal armor F and ordinarily having at the outer extremity thereof an ornamental spool having a rounded edge and forming an outlet bushing G. The inner end of the armor F is then inserted within the clamp E′ which in this instance is preferably integral with the bar E and rigidly gripped within the said clamp by the manipulation of the screws *e′*. A substantial anchorage is thus formed for the cord D, the insulating porcelains C and C′ are held in position, and a comparatively cool grip is provided for removing and replacing the plug.

Owing to the rigidity of the parts it is impossible for the cord D to be bent at a sharp angle back and forth near the end of the plug, whereby any danger of breakage of the conductors is obviated. In the use of switch plugs of this character it has frequently been the custom heretofore to remove the plug by pulling directly on the cord, and the consequent back and forth bending movement of the conductors at the top of the

switch plug has in a comparatively short time often caused the same to become broken at that point, which objection has been obviated by my improved safety plug in which one end of the clamp is supported in a fixed relation on the plug and the flexible tube or armor is gripped in an adjustable relation by the other end of the clamp.

In Figs. 6 and 7 the connection between the clamp E′ and the plug comprises a fiber tube or insulating bar H into which the ears *b* are inserted, the whole being held together by a screw *h*, and the clamp E′ being secured to the bar H by means of the screws e^2 of the supplemental clamp E^2 which encircles the said bar.

In the structure shown in Figs. 8 and 9 the clamp E′ is held to the switch plug by means of the curved bar E^3 into which the ears *b* of the case B are inserted in the manner before described. The means to rigidly hold the separate members of the switch plug together and to secure the electrical conducting cord thereto, may serve to support the adjustable clamping device without being integral therewith as shown in Figs. 6 and 7, the flexible tube or armor held by the clamp serving to prevent sharp flexure of the said cord.

The conductor cord D may be turned around the bar as illustrated in Figs. 6 to 9, but I do not depend upon that to put the strain on the bar instead of the spring connection, as I have found by practical experience that additional means are required to hold the said cord in such a manner that no substantial movement of the same adjacent to the plug can be had. By means of my improved switch plug all strain is taken away from the electrical connections and conductors, and the latter are so supported that with ordinary care and usage it will be practically impossible for the same to become broken, no matter how frequently the switch plug is inserted in and removed from the socket of the electrically heated appliance.

I wish it to be understood that I do not desire to be limited to the exact details of construction shown and described, for, obviously, modifications will occur to a person skilled in the art.

What I claim as my invention is:—

1. In a device of the class described, a socket, and a switch plug operative as an entirety and provided with contact terminals, and an electrical conducting cord for the latter, in combination with a structurally independent and separable adjustable clamping device, means to attach at will one end of the said clamping device in a fixed but detachable relation to one end of, and exterior of, the plug, and means to inclose and prevent sharp flexure of the cord comprising a flexible inclosing tube gripped under tension by the other end of the clamping device, whereby the plug and clamping device may be simultaneously removed from the socket.

2. In a device of the class described, a socket, and a switch plug operative as an entirety and comprising separate members provided with terminals, and an electrical conducting cord for the latter, in combination with a structurally independent and separable supplemental adjustable clamping and wire supporting device, the said plug comprising means for rigidly holding the said members together to secure the conducting cord thereto and means to attach at will one end of the clamping device in a fixed but detachable relation to one end of, and exterior of, the plug, the said clamping and supporting device comprising a flexible inclosing tube gripped under tension by the other end of the clamping device, and means for adjusting the tension or grip of the latter, whereby the plug and clamping device may be simultaneously removed from the socket.

In testimony of the foregoing specification I do hereby sign the same in the city of New York, county of Kings and State of New York this 6th day of Sept. 1913.

MANUEL R. RODRIGUES.

Witnesses:

WM. L. SCHNEIDER,

J. ODELL FOWLER.