June 9, 1931. J. A. GEFFERT 1,809,478

COMBINED SCREW AND PUSH ELECTRIC PLUG

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Fig. 1.

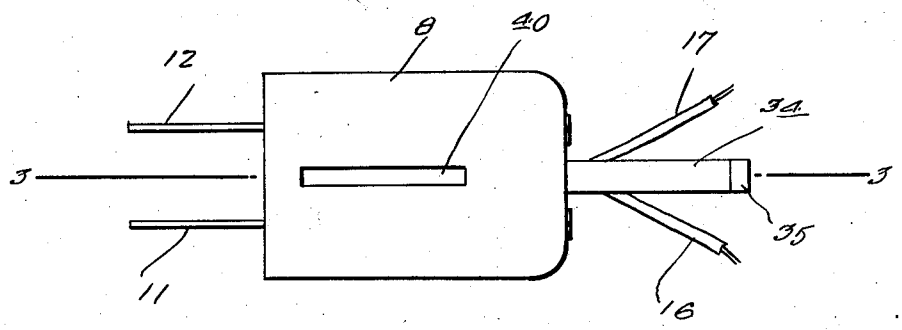


Fig. 3.

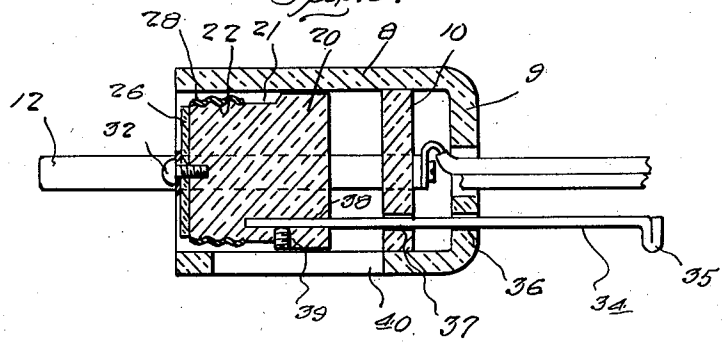


Fig. 6.

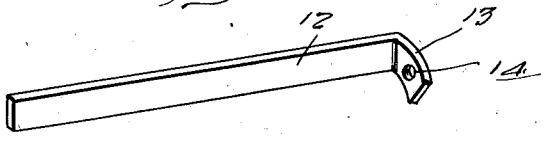
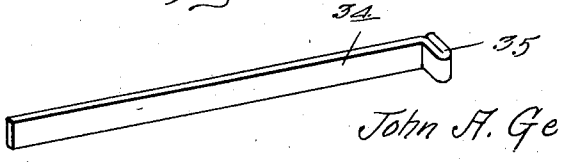


Fig. 7.



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COMBINED SCREW AND PUSH ELECTRIC PLUG

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Fig. 2.

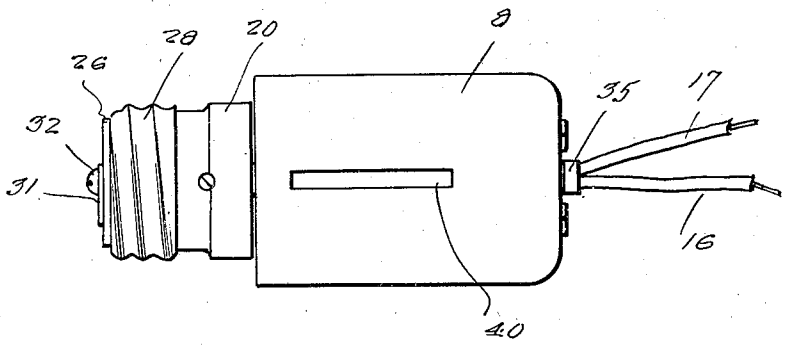


Fig. 4.

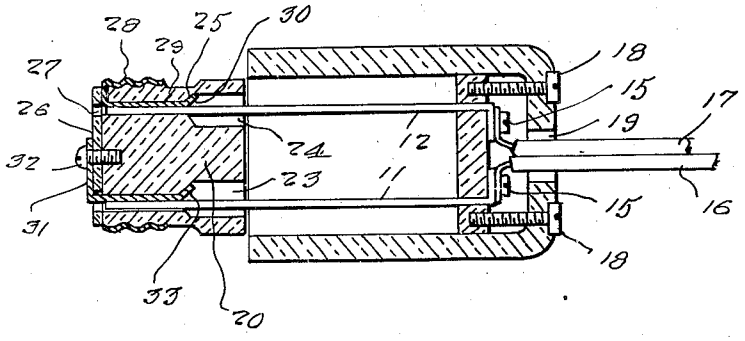
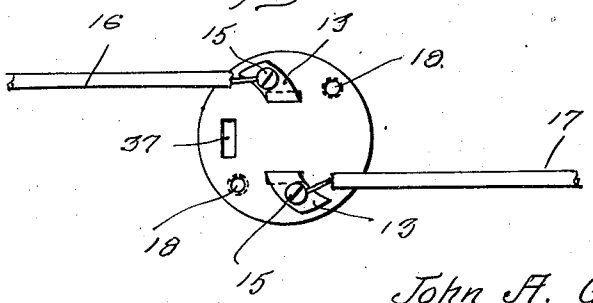


Fig. 5



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UNITED STATES PATENT OFFICE

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COMBINED SCREW AND PUSH ELECTRIC PLUG

Application filed March 5, 1930. Serial No. 433,389

This invention relates to combined screw and push electric plugs and an object of the invention is to provide in one and the same plug, a connection that is adapted to screw in electric sockets, and at the same time to provide prongs that may be pushed into push plugs, thereby saving a great amount of time, and energy, about the home.

Further objects of the invention are to provide a plug of the character mentioned, that is strong, compact and durable, thoroughly reliable for its intended purpose, very efficient in its operation, and comparatively inexpensive to manufacture and install on electric appliances.

With the foregoing and other objects in view the invention consists of a novel construction, combination and arrangement of parts, as will be hereinafter more specifically described and illustrated in the drawings, wherein is disclosed an embodiment of the invention, but it is to be understood that changes, variations, and modifications may be resorted to without departing from the spirit of the claims hereto appended.

In the drawings wherein like reference characters denote corresponding parts throughout the several views:—

Figure 1 is a side elevation of the plug in accordance with the present invention, showing the screw plug confined within the sleeve,

Fig. 2 is a side elevation thereof illustrating the screw plug extended from the sleeve,

Fig. 3 is a axial section through the sleeve taken substantially on the line 3—3 of Fig. 1,

Fig. 4 is an end elevation of the bridge wall,

Fig. 5 is an end elevation thereof,

Fig. 6 is a perspective view of one of the prongs,

Fig. 7 is a perspective view of the operating bar.

Referring to the drawings in detail, 8 is a tubular sleeve formed of hard rubber or other insulating material, open at one end and closed at the other end, by an inner wall 9. A bridge wall 10 extends across the interior of the sleeve adjacent the inner wall 9 and is likewise formed of insulating material. A pair of metal or other electrical conducting prongs 11, 12 extend through the interior of the casing, in spaced relation to the side walls thereof, and project from the free end of the sleeve 8 as will be clearly seen by referring to Fig. 1 of the drawings.

Referring to the perspective view in Fig. 6, where one of the prongs are shown, the inner end of the prong is formed with a right angled flange 13 having an opening 14 extending through the flange. Both of the prongs extend through the slots in the bridge wall 10 and the flanges 13 thereof abut against the inner face of the bridge wall and are secured thereto by means of screws 15.

The screws 15 also attach the inner ends of the electrical conducting wires 16—17 to the prongs 11, 12 whereby electric current is supplied to the prongs. The bridge wall 10 is secured within the sleeve by means of screws 18 that couple the bridge wall in spaced relation to the inner wall 9. It will be understood that the screws 18 are free of contact with any of the electrical parts. A central opening 19 is provided in the rear wall 9 to admit the insertion of the electric conducting wires 16, 17 to the interior thereof.

A solid, cylindrical plug 20 is slidable within the interior of the sleeve 8 and is formed of any electrical insulating material. The plug, 20, on its outer end is reduced as at 21, and is formed with peripheral threads 22. Extending axially through the plug 20 is a pair of slots 23, 24 which are enlarged on their inner ends to form shoulders 25 where these enlarged ends merge with the balance of the plug.

The prongs 11, 12 extend through these plugs 23, 24 and provide sliding guides for the plug 20. The bakelite disk 26 is secured to the outer face of the plug and is provided with a pair of openings 27 that register with the slots supported on the peripheral threads 22 of the plug 20, is a metallic band that extends around the plugs, and is formed with threads that are supported on the threads 22.

Adjacent the outer ends of the slots 24, the metallic band 28 is formed with a tongue 29 that extends between the outer end of the

plugs 22 and disks 26 and projects into the slot 24, the inner end of which is clinched as at against the shoulder 25.

The tongue 29 contacts with the prong 12, and forms one side of the electrical connection, when the plug 20 is screwed into an electric socket. The other side of the electrical connection is formed by a strip of metal bent to an angular shape, and indicated at 31.

One leg of the contact 31 is secured to the outer base of the disk 26 by the screw 32 that secures the disk to the plugs 20. The other legs of the contact 31 extends into the slot at the inner end thereof, is clinched against the shoulder 25, as at 33. This leg of the contact 31 that extends into the slot 23 contacts with the prongs 11.

From the foregoing it will be seen that the prongs 11—12 not only provide sliding supports for the plugs 20, but also provide electrical connections for the band 28 and the electrical contact 31, whereby electrical energy is provided to the socket to which the plug 20 is screwed.

When the plug 20 is confined within the sleeve 8, the prongs 11, 12 may be pushed into the slots in the wall socket, whereby a push plug is made out of the device by simple manipulation to be described.

An elongated operating rod 34 is formed with an extension 35 on its outer end to provide a gripping means for pushing or pulling the plug 20 on the prongs 11, 12. The bar 34 extends through registering openings 36, 37 in the end wall 9 and the bridge wall 10 respectively. The inner ends of the operating bar 34 extend into a pocket 38 in the screw plug 20, and is anchored therein, by a set screw 39.

The outer end of the set screw is countersunk in the periphery of the plug, so as not to bind against the inner walls of the sleeves 8. The operating bar 34 as shown extends through the end wall 9 and projects therefrom, so that the screw plugs 20 may be moved inwardly or outwardly of the sleeves.

In the event it is desired to operate the plugs 20 from the side of the sleeves 8, there is provided a longitudinally extending slot 40 through which a plug not shown in the drawings, may extend from the plugs 20 through the slot and may be engaged from the outside thereof by the finger of the operator.

It will be seen from the drawings, when the plug 20 is in the extended position, the outer ends of the prongs 11, 12 are seated beneath the insulating disk 26 so that there will not be any possibility of short-circuiting the plugs.

It is to be understood that by describing in detail herein any particular form, structure, or arrangement, it is not intended to limit the invention beyond the terms of the several claims, or the requirements of the prior art.

Having thus described my invention, what I claim as new is:—

1. An electric plug comprising a casing, a pair of prongs extending from and within the casing and projecting therefrom, a peripherally threaded plug slidable on the prongs and in electrical contact therewith, and means extending through the casing and engageable with the plug for moving the screw plug on the prongs.

2. An electric plug including a casing, closed at one end by an inner wall and formed of electrical insulating material, a bridge wall across the interior of the casing, adjacent the inner wall thereof, a pair of prongs secured at their inner ends to the bridge wall extending through and projecting from the open end of the casing, a peripherally threaded screw plug slidably supported on the prongs, and in electrical contact therewith.

3. An electric plug including a casing, closed at one end by an inner wall and formed of electrical insulating material, a bridge wall across the interior of the casing, adjacent the inner wall thereof, a pair of prongs secured at their inner ends to the bridge wall extending through and projecting from the open end of the casing, a peripherally threaded screw plug slidably supported on the prongs, and in electrical contact therewith, and means extending through the casing and engageable with the screw plugs to move the plug on the prongs.

In testimony whereof I affix my signature.

JOHN A. GEFFERT.