

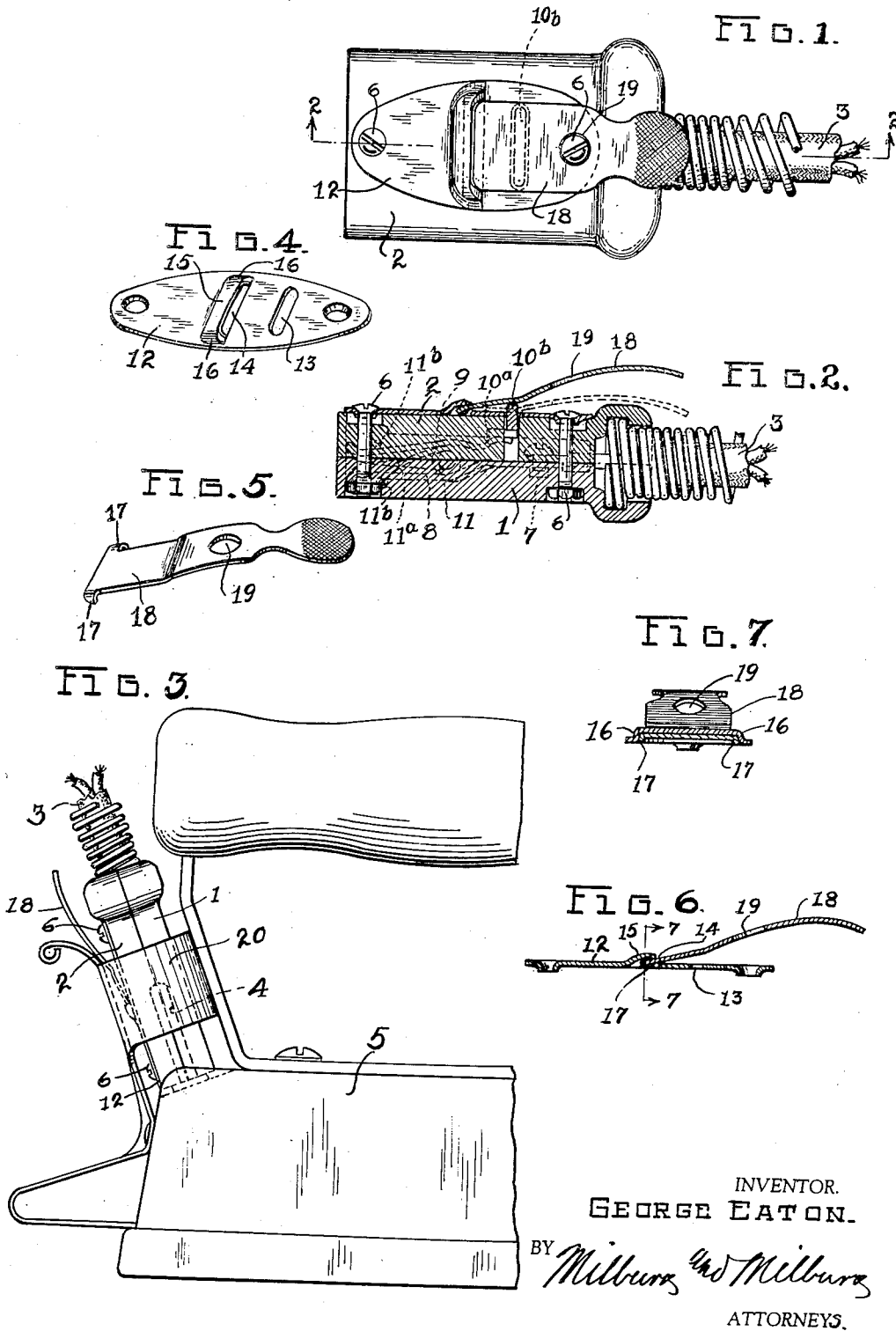
May 23, 1939.

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2,159,139

ELECTRIC PLUG

Filed July 16, 1936



UNITED STATES PATENT OFFICE

2,159,139

ELECTRIC PLUG

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Application July 16, 1936, Serial No. 90,942

4 Claims. (Cl. 173—332)

This invention relates to the art of connector plugs for electrical appliances and is an improvement upon those disclosed in my prior Patent No. 1,905,452, April 25, 1933, and in my co-pending application Serial No. 56,258, filed December 26, 1935.

As in the patent and patent application above referred to, so here also, the invention in general relates to the type of device in which there is provided means that can be readily manipulated for opening the electric connecting means of the plug so as to permit the same to be readily attached to or detached from the electric terminals of the appliance, as for instance a toaster, an iron, etc., without employing the other hand of the user.

The illustration of clip construction herein adopted corresponds with that shown in the patent application above referred to, although the present improvement may be adopted for use in connection also with the form of clips shown in the patent above referred to, and also in connection with various other modified forms of clip constructions which embody the principle of electric plug hereinabove referred to.

As is well known by those who are familiar with the art of electrical appliances, an electric iron or other such appliance is usually provided with a guard about the terminals for the purpose of preventing short circuit. And it is this type of device to which the present improvement is especially applicable, although it can be employed with considerable advantage upon an electric plug that is to be used upon appliances that do not have guards, as will appear.

Therefore, it is the object of the present invention to provide an electric plug of the type above referred to, embodying a depressible button for releasing the clips so as to facilitate removal and attachment of the same, and in which there is now to be added, according to my present improvement, a means whereby the button can be more easily operated with respect to the force required for operation of the same, this improvement to be enjoyed in all types of devices including toasters, irons, etc., with or without guards.

A further object is to devise such an improvement which will permit this type of plug with the depressible button to be employed in connection with a utensil having a guard but without any interference by the guard, while at the same time the manipulation of the button is also greatly facilitated from the standpoint of force required to be exerted by the finger of the user's hand.

Another object is to devise such an improvement that can be manufactured and sold at a low cost and that can be applied to the electric plug with considerable ease.

A still further object is to devise such an improvement that can be attached to the electric

plug as an accessory and can be either included or omitted as a part thereof without involving any change in the structure of the plug itself.

Other objects will appear from the following description and claims when considered together with the accompanying drawing.

Fig. 1 is a top plan view of an electric plug which embodies my improvement;

Fig. 2 is a view taken upon line 2—2 of Fig. 1;

Fig. 3 is a view illustrating the assembly of my improved electric plug upon an electric iron;

Fig. 4 is a perspective view of the base plate which forms part of my present accessory;

Fig. 5 is a perspective view of the lever member which constitutes the other part of my present accessory;

Fig. 6 is a longitudinal cross sectional view of the combined base plate and lever member which constitute my present accessory; and

Fig. 7 is a view taken on line 7—7 of Fig. 6.

The casing of my electric plug comprises the half-sections 1 and 2 of electric insulating material within which are enclosed the electric connecting means for establishing the operative connection between the electric cord 3 and the terminals 4 upon the electric utensil 5. The casing sections are secured together, as usual, by means of the bolts 6.

The separate wires of the cord are attached by the screws 7 to the extended rear ends of the clip members 8. The shorter rear ends of the clip members 9 are engaged and adapted to be actuated by the transversely disposed inner part 10^a of the presser button which extends through an opening in the casing member 2, the outer portion 10^b of this button being adapted for pressing engagement for opening the clip members. In the form of structure as shown in the prior patent and patent application above referred to, this presser button is actuated by the finger of the user's hand, as herein explained. In the present invention, I have devised an auxiliary means in the form of an accessory which greatly facilitates this manipulation of the presser button and can be applied to the plug disclosed in the other two cases just referred to, or can be omitted therefrom if so desired.

In the present disclosure, as in the companion application above referred to, the clip members are provided with a coil spring 11 located therebetween and having its end portions 11^a extending forwardly and terminating at 11^b in engagement with the outer surface of the clip members near the forward ends thereof so as to normally hold the clip members in closed position. Thus, as explained in the co-pending application above referred to, the coil of the spring serves as a bearing for the clip member which is manipulated by the presser button, and this form of spring also

affords an increased force for holding the clips in closed position.

The above description of the clip members with the spring and presser button will serve to indicate the type of clip to which the present improvement is applied. For a fuller understanding of the details of the clip structure, reference may be had to the co-pending application above referred to, the structure being the same in the two cases except for the improvement now to be described.

By means of the bolts 6 the plate 12 may be attached to the outer surface of the casing member 2, a transverse slot 13 being provided in the plate 12 to accommodate the button portion 10^b. Transversely of the middle part of the plate 12, a portion is slit and swaged upwardly so as to form the slot 14 and the raised portion 15 with the side socket portions 16 for pivotal engagement of the ears 17 on the lever 18. This lever is of a width corresponding approximately with that of the slot 14 and is extended therethrough from the under side of the base plate 12 prior to mounting the plate upon the casing member 2. The ears 17 are rounded at their ends and are turned down somewhat so as to afford a good bearing engagement during the pivotal manipulation of the lever 18. The engagement of the side edges of the lever 18 also serves to prevent lateral cocking of the lever; and if so desired, this structure can be modified by extending the swaged portion 15 so as to extend the side portions 16 for more extended engagement of the side edges of the lever 18. In such modification, the slots 13 and 14 would become one continuous slot or opening. The lever 18 has a hole 19 which permits access to one of the bolts 6. This lever is substantially rigid and may be of any extent desired.

As above indicated, the purpose of the lever 18 is to permit operation of the presser button 10^b without interference by the guard 20 which usually forms part of the standard equipment of an electric appliance. Except for my present improvement, the presence of this guard would prevent access to button 10^b. With my improvement, the lever is of such length as to extend beyond the guard and can be easily manipulated for depressing the button 10^b to release the clip members. This is accomplished by the engagement of the lever 18 with the button 10^b. As will be apparent, the lever 18 can be depressed by the thumb or finger of the same hand by which the plug is applied to the terminals. Upon releasing the lever 18, the button will be returned to idle position by the spring 11, as usual, and the lever 18 will be moved to idle position.

As will be evident, the present attachment is extremely simple in construction and can be manufactured at little cost. Also, it can be applied to the plug in an easy manner and can be employed therewith or omitted therefrom, according to whether or not the plug is to be employed on a device with a guard, as above explained. Thus, this improvement may be regarded as an accessory which is readily attachable and removable, according to whether its presence upon the plug is required.

It is to be understood that the present form of disclosure is merely for purposes of illustration and that there may be devised various modifications in addition to those above suggested, and that any and all such modifications are intended to be comprehended by the following claims in so

far as they come within the spirit of the present invention as herein set forth.

What I claim is:

1. An appliance plug including a chambered insulation body comprising a plurality of sections detachably connected together, a terminal prong-receiving socket in the body chamber, said socket comprising a pair of members yieldingly constrained towards each other for socket formation and prong engagement, means including a body-exposed manipulatable portion for forcibly separating said members for ready socket reception and removal of the prong, and means arranged upon the outside of said body and extending rearwardly of said manipulatable portion for manipulating the same, said manipulating means being secured to said body by the same means that secures said body sections together.

2. An appliance plug including a chambered insulation body comprising a plurality of sections detachably connected together, a terminal prong-receiving socket in the body chamber, said socket comprising a pair of members yieldingly constrained towards each other for socket formation and prong engagement, means including a body-exposed manipulatable portion for forcibly separating said members for ready socket reception and removal of the prong, a plate attached to the body of the plug by the same means that secures the body sections together, said plate having a slot to permit extension of the manipulatable portion therethrough, an arm mounted upon said plate at a point forward of said slot and extending rearwardly so as to be accessible from a point in the region of the rear end of the plug body for effecting manipulation of said manipulatable portion.

3. In an electric appliance plug of the type having outwardly projecting means adapted to be depressed for opening the socket of the plug, an attachment comprising a plate adapted to be attached to the body of the plug, said plate having a slot to permit extension of the depressible socket-opening means therethrough, said plate having a second slot to the rear of the first slot, said second slot having bearing portions at the sides thereof, and a lever arm having lateral extensions for pivotal engagement in said bearing portions while said lever arm extends rearwardly through said second slot so as to be accessible from a point in the region of the rear end of the plug body, when attached thereto, for effecting manipulation of the socket-opening means, and means for securing said attachment to the body of the electric plug.

4. An appliance plug including a chambered insulation body comprising a plurality of sections detachably connected together, a terminal prong-receiving socket in the body chamber, said socket comprising a pair of members yieldingly constrained towards each other for socket formation and prong engagement, means including a body-exposed manipulatable portion for forcibly separating said members for ready socket reception and removal of the prong, a plate attached to the body of the plug and having a slot to permit extension of the manipulatable portion therethrough, an arm mounted upon said plate at a point forward of said slot and extending rearwardly so as to be accessible from a point in the region of the rear end of the plug body for effecting manipulation of said manipulatable portion.

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