

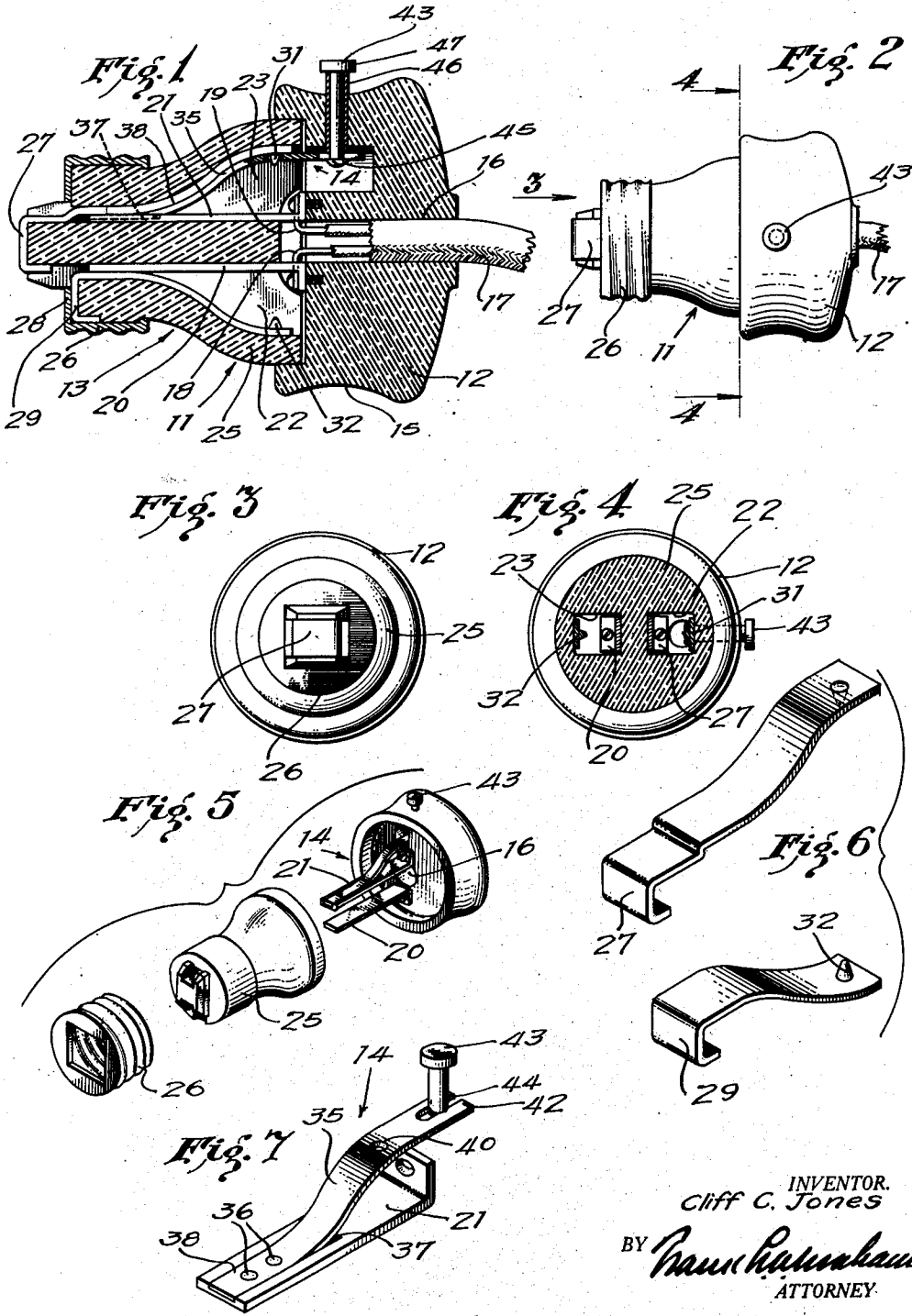
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ELECTRICAL PLUG CONNECTION

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ELECTRICAL PLUG CONNECTION

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This invention relates to a plug fixture of the type commonly used in connection with the so-called electric light sockets and is more particularly a type of plug in which a plug section and a head section are formed in a single unit, the head section being provided with forwardly extending prongs or fingers adapted to engage cooperating parts in the plug section. In plugs of this type, as ordinarily used, the head section frequently becomes loosened and disengaged from the plug section, causing considerable annoyance on the part of the person using an electrical circuit which is completed through the plug.

It is a primary object therefore of this invention to produce a plug of the class described, which embodies locking means adapted to prevent such inadvertant disengagement.

It is a further object of this invention to provide releasing means which are associated with the mentioned lock and which may be easily operated in removing the head member from the plug member.

It is a noteworthy feature of this invention that the plug may be used with any standard type of socket such as is commonly found in electric circuits and further that the releasing means are arranged in a manner such that no additional inconvenience will be experienced in detaching the head member in a plug of this nature from the plug.

This invention therefore embodies an electric plug of simple form and construction which may be easily and cheaply manufactured and which is provided with a novel type of safety latch or lock adapted to prevent the inadvertent disassociation of the elements comprising the plug assembly.

The details in the construction of the preferred form of this invention, together with other objects attending its production, will be better understood from the following description of the accompanying drawings which are chosen for illustrative purposes only, and in which

Fig. 1 is an enlarged sectional elevation illustrating a preferred embodiment of my invention.

Fig. 2 is a plan view of that form of the invention shown in Fig. 1.

Fig. 3 is an elevational view which may be considered as having been taken substantially in the direction of the arrow 3 in Fig. 2.

Fig. 4 is an elevational section which may be considered as having been taken in a plane represented by the line 4—4 in Fig. 2.

Fig. 5 is a detached perspective view showing the various elements embodied in my invention.

Fig. 6 is a detached perspective view illustrating a preferred form of constructing contact fingers such as may be used in combination with a plug element embodied in my invention.

Fig. 7 is a perspective view showing a preferred form of latching lever which may be employed in combination with a plug embodying my invention.

More particularly describing the invention as herein illustrated, reference numeral 11 indicates a plug assembly embodying a head member 12, a plug member 13 which are held in latched or locked engagement relative to each other by means of a latching organization generally indicated by reference numeral 14.

It will be understood that the head member 12 may have any desired form or configuration but for the purpose of facilitating the assembly of the unit, I consider it preferable to form this head member substantially as shown in Figs. 1 and 2, that is by providing an annular recess 15 upon the outer surface of the head member in a manner such that it may be easily grasped.

The head member 12 is centrally provided with an aperture or passage 16 adapted to receive a conductor cord 17 through which the electric circuit completed by the plug member is adapted to flow.

The two exposed ends 18 and 19 of the conductor cord are illustrated as being in contact with what may be termed contact posts mounted upon the head member as indicated by reference numerals 20 and 21 respectively.

These contact posts 20 and 21 are adapted to be received by post receiving apertures in-

licated by reference numerals 22 and 23, which are formed in the plug member 13.

The plug member 13 consists of a body section 25, the outer end of which supports a contact ring 26 and the central portion of which may extend forward a slight distance in the well known manner and is provided with a contact strip 27. It will be understood that the contact ring 26 and the contact strip 27 are adapted to engage the central contact portion in the standard type of socket in connection with which plugs of this nature are adapted to be used.

The contact strip 27 extends rearwardly into the plug body 25 where it is received by the aperture 22 in a manner perhaps best illustrated in Fig. 1. The contact ring 26 is adapted to engage the outer end 28 of a contacting strip 29, which also extend into the plug body in a manner similar to the strip 27 and is adapted to be received by the recess 23.

It will be noted from the illustration in Fig. 1 that the two contacting strips 27 and 29 are so formed as to be engaged by the contact posts 20 and 21 when the elements of the plug assembly are in assembled relation and from this construction it will be apparent that when the plug is assembled an electric circuit will be completed through the plug and through a socket in connection with which the plug is being used.

It will be noted that the inner ends of both the conducting strips 27 and 29 are provided with inwardly extending fingers or projections indicated by reference numerals 31 and 32 respectively and it will be understood from the following description of the latching member that this construction provides a unit which is symmetrical. In other words, one in which the latching mechanism will function irrespective of the manner in which the contacting posts 20 and 21 are inserted in the apertures 22 and 23.

The latching or locking mechanism 14 consists of a yieldable or resilient lever member 35 which is illustrated as being mounted upon contacting posts 21, but which it will be understood, may be mounted upon either one of the contacting posts.

The outer end of the lever 35 is rigidly attached to the contacting post 21 in any suitable manner such as by means of the rivets 36 and in order that this organization may be used in combination with any standard type of plug, the outer end of the post 27 is recessed as indicated at 37 in a manner such that the upper surface 38 of the connecting end of the lever 35 is substantially flush with the upper surface of the post 20.

It will be apparent therefore that a head member equipped with my invention may be used in connection with any socket member whether or not it is provided with the special

locking contact fingers embodied in my invention.

The inner end of the lever member 35 is provided with an aperture as indicated as 40, which is adapted to receive one of the projections or fingers 31 or 32 depending upon the manner in which the head is associated with the plug. The lever member 35 being of a resilient or yieldable nature, it will be apparent that when the elements are assembled, the plug is automatically latched or locked to the head in the manner illustrated in Fig. 1.

In order that an unlocking or unlatching movement may be imparted to the lever 35 prior or during the removal of the head member from the plug, the extreme inner end 42 of the lever 35 is adapted to receive movement from a slidable pin 43.

A preferred form of such connection between the pin 43 and the lever 35 is illustrated as including a slot 44 in the end of 42 of the lever which receives the pin 43. The lower end of the pin 43 is provided with a head 45 and an enlarged portion is formed upon the pin immediately above the lever 35 by means of a sleeve 46. This construction admits a relative transverse movement between the pin and the lever member, but prevents longitudinal movement of the pin in the slot, thus being effective to transmit an inward movement to the lever member when the pin 43 is pressed inwardly.

It will of course be understood that the pin 43 may be made of insulating material such as condensite or its equivalent or that the pin may be provided with a head 47 which is formed of such material in order that a person using a plug of this nature will not receive an electric shock during the assembly or disassembly of the unit.

It will be apparent from the foregoing description that this invention embodies a plug assembly which is of simple form and construction, and in which the parts are locked or latched in fixed relation during its use and which is provided with means whereby the locking device may be easily operated for the disassembly of the unit.

It will be also understood that the construction may be provided with two locking or latching levers and that various other departures from the construction illustrated, might be made, as for example, the lever member might be provided with a projection adapted to be received in a suitable recess formed on the contacting strip or the locking organization might be made independently of the contact posts. It is to be understood that while I have herein described and illustrated one preferred embodiment, that the invention is not limited to the precise construction set forth, but includes within its scope whatever changes fairly come within the spirit of the appended claims.

I claim as my invention:

1. An electrical plug assembly embodying:
a head member having contact posts; a plug
member having contact means adapted to en-
5 gage said contact posts; and releasable lock-
ing means including a substantially fixed
finger in said plug and a yieldable lever asso-
ciated with one of said posts for holding said
head member in fixed relation with said plug
10 member, the contact posts on said head mem-
ber being also adaptable for insertion into a
conventional plug member.

2. An electrical plug assembly embodying:
a head member having contact posts; a plug
15 member having contact means adapted to en-
gage said contact posts; and releasable lock-
ing means comprising a substantially fixed
finger in said plug member; a yieldable re-
cessed lever associated with one of said posts
20 adapted to engage said finger, and an ex-
ternally accessible member associated with
said head, adapted to impart movement to
said lever, the contact posts on said head
member being also adaptable for insertion
25 into a conventional plug member.

In testimony whereof, I have hereunto set
my hand at Los Angeles, California, this 23
day of January, 1929.

CLIFF C. JONES.

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