April 2, 1957 A. R. LIACI 2,787,772

ELECTRIC CONNECTOR

Filed June 11, 1954

Fig. 1.

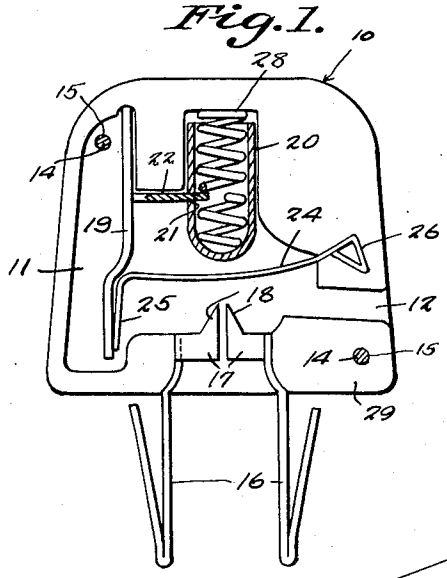
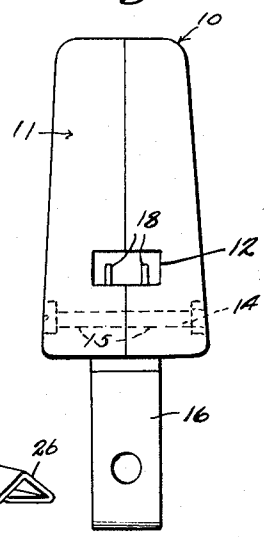
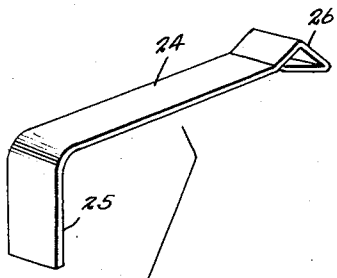


Fig. 2.





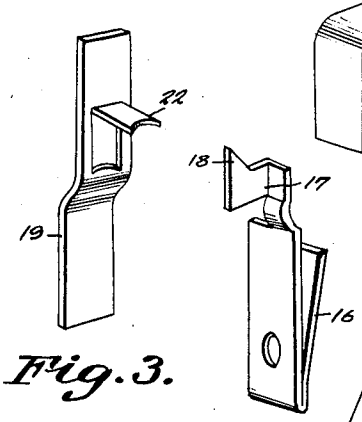


Fig. 3.

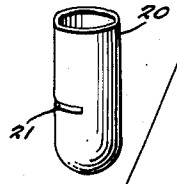
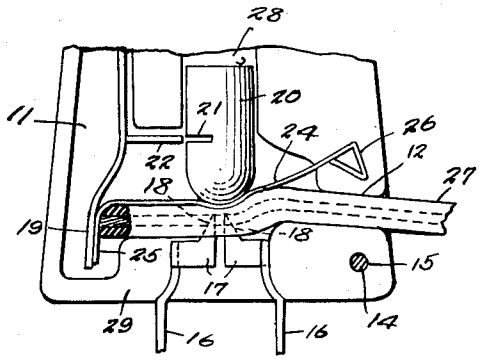


Fig. 4.



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ELECTRIC CONNECTOR

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1 Claim. (Cl. 339—99)

This invention relates to an electric connector and more particularly to an easily attached improved terminal plug for an electric cord.

It is an object of this invention to provide an improved electric cord terminal plug of the kind to be more particularly described hereinafter which is particularly easy to use on almost all of the cords for home appliances and the like.

It is another object of this invention to provide an improved terminal plug of this kind having cord insulation piercing barbs, into contact with which an electric cord is spring pressed by coiled spring means in the plug.

It is yet a further object of this invention to provide an improved terminal plug of this kind which is light in weight and easy to handle for application to an end of a conventional two wire insulated electric cord.

Other and further objects and advantages of the invention will be hereinafter described and the novel features thereof defined in the appended claim.

In the drawings:

Fig. 1 is an elevation, in section, of one side of an electric terminal plug constructed according to my invention.

Fig. 2 is a side elevation of my completely assembled wire terminal plug.

Fig. 3 is an exploded isometric view of the component elements of my plug removed from the cover.

Fig. 4 is an elevation, partly broken away, of my improved plug with one side removed.

At the present time it is customary to use a plurality of electrical appliances in a home and continually more appliances are furnished for the home which require the use of a terminal plug on the end of an electric two wire cord. Because of the large number of appliances which are used in a home and the use of an electric cord for each of the separate appliances individually a number of electric cords will be used each having a terminal plug on the end thereof for connection to an outlet socket. According to this invention there is provided an improved electric plug which may be applied to any electric cord at an end by the owner or handler of the electrical appliance. The terminal plug of this invention may be connected to an end of the electric cord at any time by the user without knowledge of electricity or mechanical connectors of this type.

The improved terminal plug of this invention is designated generally by the reference numeral **10** having a plastic or rubber cover **11** covering one end of a cord onto which the terminal plug is to be engaged. The cover **11** is provided with an opening **12** on one side thereof for the reception of the electric cord and its cover. If made of a pair of parts it is secured together by bolts or rivets **14** which engage each of the separate parts, the bolts or rivets **14** extending through openings **15** in the sides of the cover for securing the sides together and completing the formation of the cover **11**.

Electric contact prongs **16** depend from the cover **11** for electrical contact within an outlet socket. Each of the

contact prongs **16** depends from the cover **11** and has a transversely extending arm **17** on the upper end thereof within the cover. The end of the arm **17** is formed with an upwardly extending cord piercing barb **18** while the other end of the arm **17** is secured to, or formed integral with, the contact prong **16** which extends exteriorly of the plug **10**.

Within the terminal plug **10** there is supported a trip plate **19** on one side thereof opposite from the opening **12** within which the cord is to be extended.

There is also provided a longitudinally slidable tube or pressure element **20** within the cover **11** adjacent to the trip plate **19** and the tube **20** is slidable longitudinally of the plug **10**.

The tube **20** is formed with a latch opening **21** intermediate the length thereof which opening extends transversely of the tube **20** and adapted to receive a lug **22**, struck from the trip plate **19**. The lug **22** when engaged within the latch opening **21** will support the tube **20** adjacent to the upper end of the terminal plug **10** as clearly shown in Fig. 1 of the drawings.

With the tube **20** latched at this end of the terminal plug the electric cord may be slid into the cord opening **12**.

There is provided a paper insulating flexible strip or sheet **24** within the terminal plug having one arm **25** bent at one end of the strip with the other end of the strip upset or bent as indicated by the reference numeral **26** of the drawings for securing into the terminal plug **10**.

The insulated two wire cord **27** is extended through the opening **12** into the terminal plug **10** where the wire in the cord **27** is penetrated by the cord insulation piercing prongs **18** when the tube **20** is moved longitudinally of the terminal plug by the force of the coiled spring **28** which is completely enclosed within the tube **20**.

The cord **27**, when engaged into the terminal plug **10** will have one end thereof striking the trip plate **19** for moving the lug **22** out of the latch opening **21** so that the full force of the coiled spring **28** may be employed for urging the tube **20** into contact with the paper insulating flexible sheet **24** and this in turn will contact the adjacent surface of the wire cord **27**. In this manner the wire cord will be pressed into engagement with the cord piercing barb **18** so that a proper electrical contact is accomplished between the electric contact prongs **16** and the two wire cord **27**.

When the cord **27** is pushed into the plug **10** and urged in one direction by the coiled spring **28** the bottom of the tube will hold the entire assembly on an end of the cord **27**.

From this position of the terminal plug on the cord this end of the cord may be connected to an outlet socket for use of an electrical appliance. The attachment of the terminal plug to the cord may be easily made by any unskilled person.

While the specific details of one embodiment of this invention have been herein shown and described, the invention is not confined thereto as changes and alterations may be made without departing from the spirit and scope thereof as defined in the appended claim.

I claim:

An electric connector comprising confronting complementary body sections, each section being formed with complementary longitudinal recesses constituting a guide, a pair of contact members projecting from one end of said sections, an inwardly directed barb carried by each contact member, the barb of one member being laterally spaced from the barb of the other member, a cylindrical pressure element slidable in said guide and including a spherical inner end, a coil spring in said pressure element bearing at one end against the outer ends of said recesses and bearing at the other end against the inner end of said

pressure element to thereby constantly urge the latter inwardly toward said barbs, said element having a keeper slot therein between the ends thereof, a trip plate extending parallel with said element, a locking lug carried by said plate engageable in said keeper slot to hold said element in set inoperative position, and an insulating strip interposed between said element and said barbs, said body sections having complementary channels extending laterally through one edge of said sections, said channels forming a conductor receiving opening whereby a conductor may be extended thereinto for engagement with said trip plate to effect release of said pressure element whereby said spring will move said element inwardly and effect piercing of said barbs of the conductor.

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