Dec. 3, 1940. D. TULCHIN 2,223,469

WIRE TERMINAL FOR ELECTRIC LAMP SOCKETS AND OTHER APPLIANCES

Original Filed Jan. 5, 1938

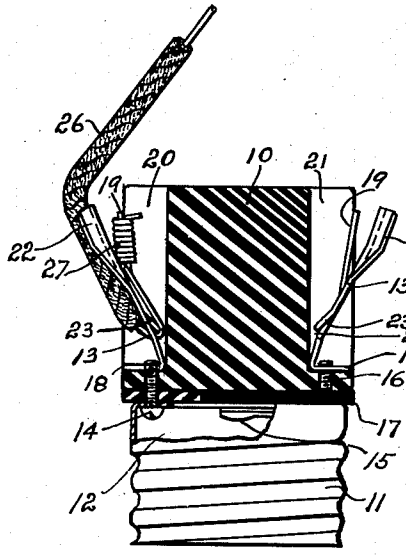


Fig 1

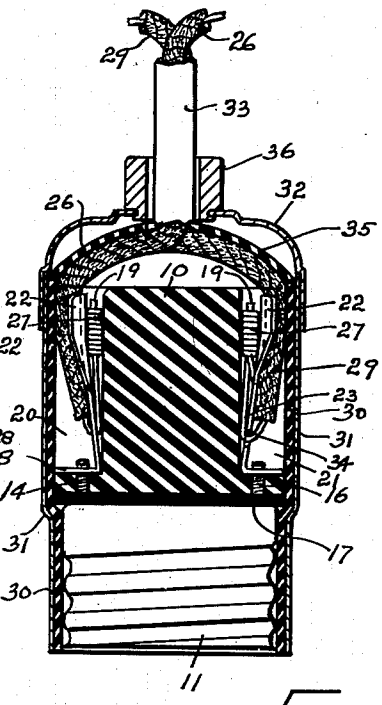


Fig 2

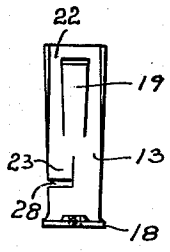


Fig 4

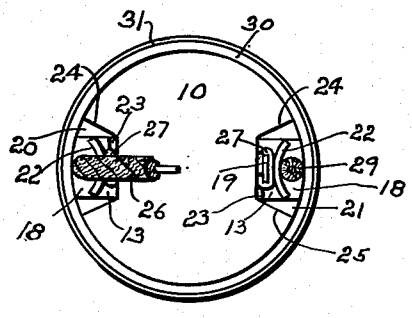


Fig 3

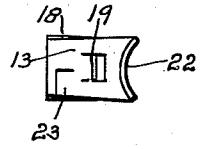


Fig 5

INVENTOR.
David Tulchin,
BY Henrik J. Schmidt
ATTORNEYS.

Patented Dec. 3, 1940

2,223,469

UNITED STATES PATENT OFFICE

2,223,469

WIRE TERMINAL FOR ELECTRIC LAMP SOCKETS AND OTHER APPLIANCES

David Tulchin, New York, N. Y.

Application January 5, 1938, Serial No. 183,403
Renewed May 4, 1940

12 Claims. (Cl. 173—358)

The invention relates to terminals of the kind by means of which electric wires are attached to certain electric appliances. It has for its main object to provide a wire terminal in which all danger of the wire becoming loose, as is often the case where binding screws are used, is removed. Another object is to provide a terminal which will effectively prevent the stripping of the insulation from the wires even under very severe usage.

A further object is to provide a terminal which greatly facilitates the attachment of the wire, as well as the assembling of the appliances in which the terminals are used. A still further object is to provide a terminal which does not necessitate any alteration in appliances in which used. An additional object is to provide a terminal which can be manufactured at a relatively low price.

These and various other objects and advantages will be readily understood from the following description and from the accompanying drawing of a preferred embodiment of the invention, in which, however, modifications may be made without departing from the scope of the appended claims. In the drawing,

Fig. 1 is a cross-sectional elevation of the body member and metal shell of an electric lamp socket to which the terminals have been applied;

Fig. 2 is a cross-sectional side view of the complete assembled lamp socket;

Fig. 3 is a top view of Fig. 2 with the upper cap removed;

Fig. 4 is a rear view of the wire terminal itself; and

Fig. 5 is a top view of same.

Referring first to Figs. 1, 4 and 5, the insulating body member of an electric lamp socket is shown at 10 and the threaded metal screw at 11. Part of the metal shell has been broken away at 12 to show the interior of the shell. The terminals, which constitute the invention, are shown at 13 and one is connected to the screw shell in the regular manner by means of a screw 14, which is a fastening connecting and conducting means, while the other is electrically connected to the center contact 15 by means of a screw 16. An insulating washer 17 is interposed between the body member and the screw shell.

Each terminal is provided with an angular foot 18 in which the screws are secured in threaded holes. A tongue 19 is sheared rearwardly from the terminal adjacent to its upper end and the terminals are normally bent outwardly from the rear walls of the grooves 20 and 21 in which they are contained. This is plainly shown in Fig. 1. The upper end of the terminal is transversely arcuated, as shown at 22, and another tongue 23 is preferably sheared rearwardly adjacent to the foot of the terminal. This tongue is sheared from somewhat less than half the width of the strip from which the terminal is made. The shape of this tongue is plainly shown in Figs. 1 and 4.

The grooves 20 and 21 may be made in the customary way with straight side walls or the side walls may be made angular, as shown at 24 and 25 in Fig. 3. An electric wire is shown at 26. To attach the wire to the terminal, the stripped end of the wire is wound around the tongue, as shown at 27, then passed through the slot 28 formed by the shearing out of the tongue 23 and finally the wire with its insulation is brought up and placed in the arcuated part at the top of the terminal.

Referring now particularly to Fig. 2, it will be seen that after the wires 26 and 29 have been attached to the terminals and the wires are pulled taut, the terminals are pulled in against the inner walls of the grooves 19 and 20. When now the customary insulating sleeve 30 is placed on the socket, the wires will be clamped tight; the stripped part of the wire between the wall of the groove and the rear of the terminal, while the insulated part of the wire is clamped tight between the front arcuated part of the top of the terminal and the sleeve 30. After the sleeve is in place, the customary metal shell 31 is placed over the sleeve and finally the cap 32 is placed over the upper end of the jacket, thus completing the assembling of the socket. The two wires are shown enclosed in a cable covering 33.

It will be seen that this terminal overcomes many of the defects found in terminals where binding screws are used. In using such binding screws there is a tendency, particularly if the wire is wound in the wrong direction on the screw, for it to be displaced when the screw is tightened. Furthermore, there is nothing in the ordinary screw terminal to clamp the insulation and prevent it from being stripped from the wire.

The terminals of the present invention are preferably made of spring metal but may be made from soft material, if desired. It will be noted that when the terminal is bent in towards the rear wall of the groove in the body member, the end of the tongue 23 will engage the wire, as shown at 34, and clamp it tight in this place. It will also be noted that the wire 27, which is wound around the tongue 28, will partly enter

into the slit from which the tongue is cut so as to clamp itself against the edge of this slit and finally it will be noted that by tapering the tongue downwardly, as plainly shown in Fig. 4, the wire, which is wound around the tongue, has a tendency to be crowded downward instead of pulling off the tongue even before the terminals are bent inward in the grooves. It will be noted that by shaping the terminals in the manner shown, the placing of the sleeve 30 on the body member is greatly facilitated in that there is no danger that this will catch the lower ends of the insulation on the wires and tear, or otherwise damage the insulation.

Having described the invention and its objects, what I claim as new and wish to protect by Letters Patent is:

1. An electric appliance having a grooved insulating body member and a shell for encasing said body member, comprising; a metal strip having one end bent sidewardly to form a foot; means provided in said foot for securing it to the body member and to electrically connect it with the appliance; a tongue sheared from near the other end of the strip; said tongue extending in a direction approximately perpendicular to that of the foot; a slit in the strip a short distance above the foot; so that when the stripped part of an electric wire is passed through the slit, its end wound around the tongue and the insulated part of the wire is placed axially with the strip on the outer side of the strip and the shell of the appliance is placed on the body member, the stripped wire on the tongue will be clamped between the terminal and the wall of the groove in the body member and the insulated part of the wire will be clamped between the terminal and the shell.

2. An electric appliance having a grooved insulating body member and a shell for encasing said body member, comprising; a spring metal strip having one end bent sidewardly to form a foot; means provided in said foot for securing it to the body member and to electrically connect it with the appliance; a tongue sheared from near the other end of the strip; said tongue extending in a direction approximately perpendicular to that of the foot, another tongue sheared in the strip a short distance above the foot and in the same direction as the first-mentioned tongue; so that when the stripped part of an electric wire is passed through the slit formed by the shearing of the last-mentioned tongue, its end wound around the first-mentioned tongue and the insulated part of the wire placed axially with the strip on the outer side of the strip and the shell of the appliance is placed on the body member the stripped wire will be clamped between the terminal and the wall of the groove in the body member and the insulated part of the wire will be clamped between the terminal and the shell.

3. An electric appliance having a grooved insulating body member and a shell for encasing said body member, comprising; a spring metal strip having one end bent sidewardly to form a foot; means provided in said foot for securing it to the body member and to electrically connect it with the appliance; a tongue sheared from near the other end of the strip; said tongue extending in a direction approximately perpendicular to that of the foot, another tongue sheared in the strip a short distance above the foot and in the same direction as the first-mentioned tongue; so that when the stripped part of an electric wire is passed through the slit formed by the shearing of the last-mentioned tongue, its end wound around the first-mentioned tongue and the insulated part of the wire placed axially with the strip on the outer side of the strip and the shell of the appliance is placed on the body member the stripped wire will be clamped between the terminal and the wall of the groove in the body member and the insulated part of the wire will be clamped between the terminal and the shell; and the terminal normally bent outwardly from the groove in the body member to facilitate the attaching of the wire.

4. An electric appliance having a grooved insulating body member and a shell for encasing said body member, comprising; a spring metal strip having one end bent sidewardly to form a foot; means provided in said foot for securing it to the body member and to electrically connect it with the appliance; a tongue sheared from near the other end of the strip; said tongue extending in a direction approximately perpendicular to that of the foot, another tongue sheared in the strip a short distance above the foot and in the same direction as the first-mentioned tongue; so that when the stripped part of an electric wire is passed through the slit formed by the shearing of the last-mentioned tongue, its end wound around the first-mentioned tongue and the insulated part of the wire placed axially with the strip on the outer side of the strip and the shell of the appliance is placed on the body member the stripped wire will be clamped between the terminal and the wall of the groove in the body member and the insulated part of the wire will be clamped between the terminal and the shell; and the upper part of the strip arcuated transversely to accommodate the insulated part of the wire.

5. An electric appliance having a grooved insulating body member and a shell for encasing said body member, comprising; a spring metal strip having one end bent sidewardly to form a foot; means provided in said foot for securing it to the body member and to electrically connect it with the appliance; a tongue sheared from near the other end of the strip; said tongue extending in a direction approximately perpendicular to that of the foot, another tongue sheared in the strip a short distance above the foot and in the same direction as the first-mentioned tongue; so that when the stripped part of an electric wire, is passed through the slit formed by the shearing of the last-mentioned tongue, its end wound around the first-mentioned tongue and the insulated part of the wire placed axially with the strip on the outer side of the strip and the shell of the appliance is placed on the body member the stripped wire will be clamped between the terminal and the wall of the groove in the body member and the insulated part of the wire will be clamped between the terminal and the sleeve; and the width of said foot made equal to the width of the groove in the body member to prevent the terminal from becoming loose.

6. A wire terminal for an electrical appliance having a grooved insulating body, a metal screw socket secured to said insulating body, a shell for encasing said body, said groove being separated from said metal screw socket by insulation, comprising a fastening, connecting and conducting means engaging said socket and a single unitary metal piece formed at the lower end to engage said fastening, connecting and conducting means, the upper portion being flattened and including

a second part partly separated therefrom and bendable transversely away therefrom to provide a finger for securing electrical wiring thereto, said upper portion held in said groove in binding engagement with a wire in response to pressure exerted by said shell when said shell is positioned on said body.

7. A wire terminal for an electrical appliance having a grooved insulating body, a metal screw socket secured to said insulating body, a shell for encasing said body, said groove being separated from said metal screw socket by insulation, comprising a fastening, connecting and conducting means engaging said socket and a single unitary metal piece formed at the lower end to engage said fastening, connecting and conducting means, and providing in the upper portion a scissors grip, said upper portion held in said groove in binding engagement with a wire in response to pressure exerted by said shell when said shell is positioned on said body, and an axial finger in said upper portion for securing electrical wiring thereon.

8. A wire terminal for an electrical appliance having a grooved insulating body, a metal screw socket secured to said insulating body, a shell for encasing said body, said groove being separated from said metal screw socket by insulation, comprising a fastening, connecting and conducting means engaging said socket and a single unitary metal piece formed at the lower end to engage said fastening, connecting and conducting means, and an upright portion having a vertical groove on one side for receiving electrical wiring, said upright portion held in said body groove in binding engagement with a wire in response to pressure exerted by said shell when said shell is positioned on said body, and a finger piece in part cut away from said upright portion and providing a binding post on the other side for electrical wiring.

9. A wire terminal for and electrical appliance having a grooved insulating body, a metal screw socket secured to said insulating body, a shell for encasing said body, said groove being separated from said metal screw socket by insulation, comprising a fastening, connecting and conducting means engaging said socket and a single unitary metal piece formed at the lower end to engage said fastening, connecting and conducting means, the upright portion held in said body groove in binding engagement with a wire in response to pressure exerted by said shell when said shell is positioned on said body and having a vertical groove, a transverse slot in the side of said portion below said groove and an axial finger piece partly cut out from said upright portion and adapted to secure electrical wiring thereon.

10. A wire terminal for an electrical appliance having a grooved insulating body member and a shell for encasing said body member comprising a single unitary metal piece having some resiliency, having the lower portion bent sidewards to form a foot, said foot including means for securing it to the body member, and for providing an electrical conductor to the appliance, and an upright portion having a flattened part with a groove for receiving an electrical wiring, said upright portion held in said body groove in binding engagement with a wire in response to pressure exerted by said shell when said shell is positioned on said body, and a finger piece separated in part from said unitary piece and bendable-out on the opposite side on which bare electrical wiring may be wound.

11. A wire terminal for an electrical appliance having a grooved insulating body, a metal screw socket secured to said insulating body, a shell for encasing said body, said groove being separated from said metal screw socket by insulation, comprising a fastening, connecting and conducting means engaging said socket and a single unitary metal piece formed at the lower end to engage said fastening, connecting and conducting means, and an upright portion held in said groove in binding engagement with a wire in response to pressure exerted by said shell when said shell is positioned on said body.

12. A wire terminal for an electrical appliance having a grooved insulating body, a metal screw socket secured to said insulating body, a shell for encasing said body, said groove being separated from said metal screw socket by insulation, comprising a fastening, connecting and conducting means engaging said socket and a single unitary metal piece formed at the lower end to engage said fastening, connecting and conducting means and an upright portion held in said groove in binding engagement with a wire in response to pressure exerted by said shell when said shell is positioned on said body, both the insulated wire and the bare end thereof being held in such engagement.

DAVID TULCHIN.