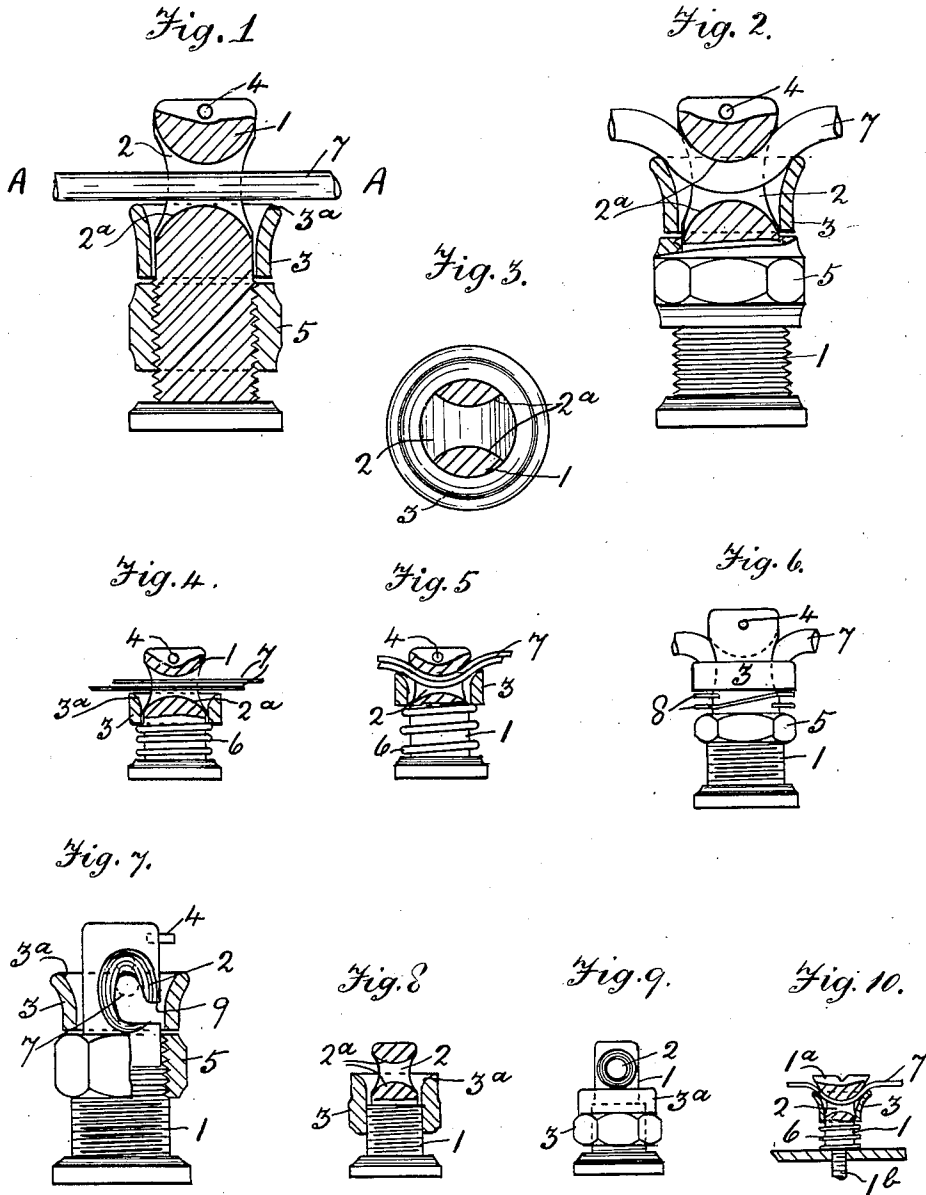


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 TERMINAL FOR ELECTRICAL APPLIANCES.
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TERMINAL FOR ELECTRICAL APPLIANCES.

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To all whom it may concern:

Be it known that I, FREDERICK JOSEPH HADFIELD, residing at Oulton Broad, near Lowestoft, in the county of Suffolk, England, have invented certain new and useful Improvements in Terminals for Electrical Appliances, of which the following is a specification.

This invention relates to improvements in terminals for electrical machinery and appliances, of the kind which comprise a perforated pillar wherein the conductors to be connected are clamped, and has for its object to obtain a greatly improved electrical contact and mechanical connection between the terminal and the conductor without risk of injuring the latter.

My invention is illustrated by way of example in the accompanying drawings which form part of this specification and wherein similar reference numerals indicate like parts.

Figures 1 and 2, are sectional views showing a screw terminal made according to my present invention; Fig. 3, being a transverse sectional view on the line A—A, Fig. 1.

Figs. 4 and 5, are sectional views showing one form of spring terminal made according to my present invention.

Fig. 6, is a further illustration of a screw terminal presently referred to. Fig. 7, is a sectional view of one form of slotted terminal made according to the present invention. Figs. 8 and 9, are respectively sectional and external views illustrating a modified arrangement of the flared sleeve; while Fig. 10, illustrates a further modification in which the terminal pillar is provided with a beveled head.

According to my present invention the perforation or perforations through the terminal pillar is or are formed with a countersunk, flared or trumpet-shaped orifice at each end, while such pillar is provided with an adjustable flared, dished or rounded collar or sleeve, whereby the cable, wire or the like conductor or conductors to be connected, is or are clamped in the flared perforation or perforations, with sufficient pressure to bend the same around the double curvature of the said perforation or perforations, so forming a slight kink in the

conductor or conductors, and making perfect electrical contact, and a very firm mechanical connection between the same and the terminal. The adjustable collar or sleeve is preferably arranged to slide on the terminal pillar, and is controlled by means of a screw nut, or by a spiral spring, while a spring washer or the like may be used in conjunction with a screw nut so as to lock the same against vibration. Alternatively, as for instance in the cheaper kinds of terminals for general purposes, the adjustable collar or sleeve may screw directly on to the terminal pillar. A pin or stop may be arranged on the terminal pillar so as to retain the adjustable collar or sleeve thereon, while in some cases, particularly for small terminals, the pillar may be provided with a beveled head, which serves to retain the adjustable collar or sleeve, and also affords a larger clamping surface for fine wires secured therein.

The terminal pillar may if desired be slotted on one side a little above, or below, the flared perforation therein, the latter being preferably arranged somewhat out of center, to give greater stiffness behind the slot, while the terminal is completed as above described, so that the adjustable collar or sleeve forces the conductor either up or down, into the flared perforation, and covers the lateral slot in so doing.

My improved terminals may be readily made in all sizes, and are suitable either for stranded cables or fine wires, while when in use they are not liable to work loose through vibration, thus being very advantageous for making the various electrical connections in motor vehicles and the like, as well as for electrical machinery and appliances generally, as they afford a ready means of securing perfect electrical contact, with a reliable mechanical connection, without bruising or otherwise injuring the conductor. For example, two, three or more small cables may be readily and firmly secured with perfect contact, in one of such terminals, so that branch wires can be taken off same without soldering, which is a great convenience. When it is desired to form a permanent connection with such improved terminal, it is only necessary to pour the solde

flared or dished collar thereon, which retains the solder, and causes it to flow into and fill up the flared perforation, so that a very neat and solid permanent joint can be easily and quickly made.

In the drawings, 1, indicates the terminal pillar, and 2, a transverse perforation therein, which is formed with a flared or trumpet-shaped orifice at each end, so that such perforation has a double curvature 2^a, indicated in the sectional views.—3, is the collar or sleeve having a flared, dished or rounded end 3^a, which sleeve or collar is arranged on the pillar with its flared end toward the perforation 2, while 4, is a pin or stop on the terminal pillar, which serves to retain the collar or sleeve 3, thereon.

As shown at Figs. 1 to 7, inclusive, the flared collar or sleeve 3, is arranged to slide on the terminal pillar, and is controlled either by means of a nut 5, screwed on to the terminal pillar 1, see Figs. 1, 2, 6 and 7, or by a spiral or other suitable spring 6, arranged on such pillar, as indicated at Figs. 4 and 5. To give access to the flared perforation 2, the collar or sleeve 3, is slipped back, either by screwing back the nut 5, as indicated at Fig. 1, or by pressing such collar down so as to compress the spring 6, as indicated at Fig. 4. The conductor or conductors 7, is or are then passed through the perforation 2, and clamped therein by the collar or sleeve 3, the flared end 3^a, of which is forced against the conductor or conductors by means of the nut 5, or by the spring 6, as indicated at Figs. 2 and 5, respectively, so that the conductor is bent and slightly stretched around the double curvature 2^a, of the perforation, thus forming a kink in such conductor, which insures perfect electrical contact, and a firm and reliable mechanical connection between the terminal and the conductor. In Fig. 6, a split spring washer 8, is shown interposed between the flared collar 3, and the nut 5, so as to lock the latter against vibration, but a spiral spring or other suitable device may be used in combination with the screw nut adjustment for this purpose.

To facilitate the connection of conductors intermediate of their ends, the terminal pillar 1, may be slotted on one side, as is shown for example at Fig. 7. As shown, the slot 9, is made a little below the flared perforation 2, into which it leads, so that parts of a conductor can be readily slipped into such perforation, without breaking the circuit, while the perforation is formed a little out of center, so as to stiffen the pillar behind the slot. The flared collar or sleeve 3, is mounted on the slotted pillar so that it clamps the conductor 7, indicated by dotted lines, in the flared perforation as above described, while completely covering the lateral slot 9, as shown.

Figs. 8 and 9, illustrate a modification in which the flared collar or sleeve 3, is adapted to screw on to the terminal pillar 1, instead of sliding thereon, so as to dispense with a separate nut or spring for controlling the same, while if desired such screw collar or sleeve may be locked against vibration by means of a spiral spring or the like arranged on the terminal pillar. In the arrangement shown the lower part of the collar or sleeve 3, forms a nut which screws on the lower part of the pillar 1, while its flared or dished end 3^a, is adjacent to the flared perforation of the terminal as previously described: if desired such screw collar may be easily reversed so as to screw on the upper part of the pillar 1, instead of on the lower part as shown.

For small terminals the perforated pillar 1, may be provided with a beveled head 1^a, as illustrated at Fig. 10. In the form shown, the pillar 1, has an ordinary screw shank 1^b, while the head 1^a, is grooved, so that the terminal can be secured in position like an ordinary screw. The pillar 1, has a flared perforation formed therein as above described, while the adjustable collar or sleeve 3, is passed over the lower end, and is arranged on the pillar so as to clamp the conductor 7, in the flared perforation therein, and against the beveled head 1^a, as shown; thus securing good contact, particularly for fine wires. The collar or sleeve 3, may be spring controlled as shown, or be provided with a screw adjustment as above described.

I claim:

1. A terminal for electrical machinery and appliances comprising a pillar having flared perforations forming convex tubes therein and provided with a sleeve adapted to clamp one or more conductors around the convex surfaces of said flared perforations thus forming corresponding bends in said conductors.

2. A terminal for electrical machinery and appliances comprising a pillar having a flared transverse perforation which forms a convex tube therein and provided with an adjustable sleeve adapted to bend and clamp a conductor or conductors around the convex surface of said flared perforation.

3. A terminal for electrical machinery and appliances comprising a pillar having one or more flared perforations forming corresponding convex tubes therein and an adjustable flared sleeve mounted on said pillar together with means thereon for controlling and locking said sleeve so as to clamp a conductor or conductors in said flared perforation or perforations so as to follow the contour of same.

4. A terminal for electrical machinery and appliances comprising a pillar having one or more flared perforations formed therein and a sliding flared sleeve mounted on

said pillar together with means thereon for
controlling and locking said sleeve so as to
clamp one or more conductors in said flared
perforation or perforations substantially as
5 described.

5. A terminal for electrical machinery
and appliances comprising a pillar having
one or more flared perforations formed there-

in and a sliding flared sleeve mounted on
said pillar together with a screw nut for con- 10
trolling and locking said sleeve so as to
clamp one or more conductors in said flared
perforation or perforations substantially as
described.

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