

J. CUTHBERT.
ELECTRIC TERMINAL.
APPLICATION FILED AUG. 5, 1916.

1,233,197.

Patented July 10, 1917.

Fig. 1.

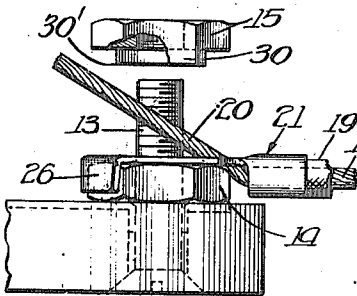


Fig. 2.

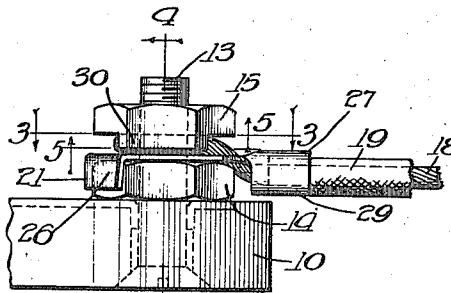


Fig. 3.

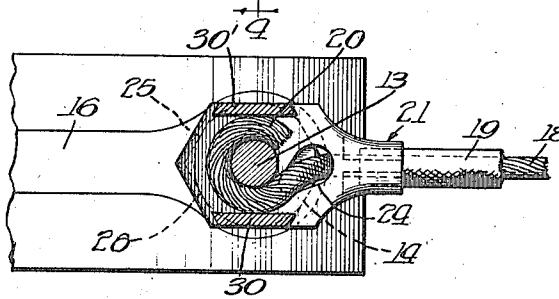


Fig. 5.

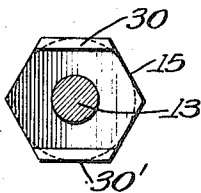


Fig. 4.

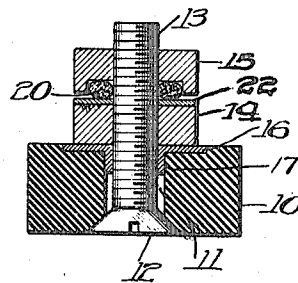


Fig. 6.

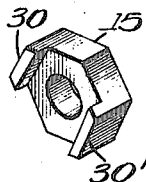
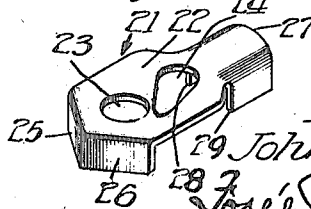


Fig. 7.



Witnesses:

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UNITED STATES PATENT OFFICE.

JOHN CUTHBERT, OF CHICAGO, ILLINOIS.

ELECTRIC TERMINAL.

1,233,197.

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Application filed August 5, 1916. Serial No. 113,361.

To all whom it may concern:

Be it known that I, JOHN CUTHBERT, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Electric Terminals, of which the following is a specification.

My invention relates to improvements in electric terminals.

One of the objects of my invention is to provide a wire, or cable terminal device which will coil and clamp the wire or cable, hold the threaded clamping members to prevent loosening, and which will engage the rubber covering of the conductor thus relieving the wire proper of the destructive crystallizing effects which results from intense vibration to which such conductors are subjected when used on automobile chassis or in like situations.

Other and further objects of my invention will be apparent to persons skilled in the art from the following specification when taken in conjunction with the accompanying drawings, wherein:

Figure 1 is an elevation of the device showing a part in section, and the wire cable inserted prior to coiling it around the threaded stud and clamping it.

Fig. 2 is an elevation of the device showing the cable coiled and clamped.

Fig. 3 is a section taken on line 3—3 of Fig. 2.

Fig. 4 is a section taken on line 4—4 of Fig. 2.

Fig. 5 is a section taken on line 5—5 of Fig. 2, showing the bottom surface of the clamping nut.

Fig. 6 is a perspective view of said nut.

Fig. 7 is a perspective view of the cable terminal.

In all the views the same reference characters are employed to represent similar parts.

In the drawings 10 is a base or plate of insulating material on which it is desirable to attach or mount an electric circuit terminal to which conducting cables or wires may conveniently and firmly be connected. An orifice 11 is made through the plate at the location where the terminal is to be placed. A screw 12 extends through the orifice with its shank 13, projecting therebeyond to provide a threaded stud for the nuts 14 and 15 which serve as clamping abutments for the wire. A conducting plate or strip 16, for

connecting the terminal with the instrument or other device that may be mounted on the plate 10 is preferably provided with an integral laterally-deflected part 17 which is inserted in the perforation 11 and has threaded engagement with the threaded stud 13, and which holds the screw in place, should the nuts 14 and 15 both be removed. While this feature of the device is preferred it is not a necessary part of my invention. The nut 14 is now screwed on the stud 13 into contact with the plate or strip 16 and serves as a check nut to prevent the screw 12 from loosening.

A wire or cable 18, having a covering of insulating material 19, such as rubber, or the like, has the covering removed from its end, as at 20, to provide a bare part 20 for connection with the clamping device.

The wire terminal 21 consists of a peculiar shaped washer to be included between the nuts 14 and 15. It is provided with a flat part 22 perforated, as at 23, for the stud 13 and as at 24 for the conductor end 20. The opening 24 has an area greater than the cross sectional area of the wire and extends from a region within the boundary of the clamping abutment to a point outside the boundary of the abutment. Preferably the opening is in the form of a slot with its major axis inclined in the direction of nut rotation. The down-turned edges 25 and 26 encompass adjacent facets or angularly disposed side surfaces of the nut 14 to prevent the latter from turning upon the stud 13. The projecting, arcuate end 27 is provided with two down-turned lips 28 and 29 for engagement with the rubber covering 19 whereby to relieve the wire or cable 18 of undue vibration.

The threaded nut 15 is provided with one or more downwardly directed projections 30, 30', two being shown in the drawings, to engage the end 20 of the wire 18 to coil it around the stud 13 prior to being clamped by the nut.

The use and operation of the device is as follows:

The conducting strip 16 is placed in position with the threaded cylindrical part 17 in the perforation 11. The screw is now screwed into the part 17 until the parts are tightly held in the plate 10. The nut 14 is then placed in position and serves as a check nut. The wire terminal 22 is now threaded

over the stud 13, the latter being placed in the perforation 23, with the down-turned edges 25 and 26 overlying adjoining facets of the nut 14. The insulation 19 is removed from the wire cable 18, at its end, as at 20, which bare end is then passed through the perforation 24 until the edge of the covering 19 is flush with the inside edges of the lips 28 and 29. The lips are then pinched into contact with the insulation, with pliers, until the lips with the arcuate part of the projection 27 form a cylinder closely engaging the wire covering. This holds the conductor in place by contact with the wire or cable covering, thus relieving the conductor of the effects produced by severe vibration.

The nut 15 is now placed on the stud 13 and turned until the end 20 of the conductor is included between the projections 30, 30', whereupon further turning of the nut 15 will coil the conductor (wire or cable) around the stud 13 and finally clamp the eye thus formed between the nut 15 and the wire terminal 22. When the eye is firmly clamped the nut 15 is prevented from becoming loose by turning backward on the stud 13, by contact of one of the projections 30 with that part of the wire 18 that is radially disposed, as shown in Figs. 2 and 3. The strip 16 and part 17 are not essentially necessary to be used in the practice of my invention as other means for connection with the screw 12 may be used instead of this refinement.

Having described my invention, what I claim as new and useful, and for which I desire to secure Letters Patent is:

1. An electrical conductor terminal for association with a wire and a stud having a clamping abutment thereon; said terminal comprising a plate portion having an opening to receive the stud, and a wire receiving opening of an area greater than the cross sectional area of the wire, the latter opening extending from a region within the boundary of the clamping abutment to a point outside the boundary of the abutment.

2. An electrical conductor terminal for association with a wire and a stud having a clamping nut thereon; said terminal comprising a plate portion having an opening to receive the stud, and a wire receiving slot of an area greater than the cross sectional area of the wire, the slot extending from a region within the boundary of the clamping nut to a point outside the boundary of the nut, the major axis of the slot being inclined to one side of stud receiving opening in the direction of nut rotation.

3. An electrical conductor terminal for association with a wire and a stud having a clamping nut thereon; said terminal comprising a plate portion having an opening to receive the stud, and a wire receiving slot of an area greater than the cross sectional

area of the wire, the said slot extending from a region within the boundary of the clamping nut to a point outside the boundary of the nut, its major axis being inclined to one side of the stud receiving opening in the direction of nut rotation, and wire encircling lips projecting from the plate at points outside the portion in which the wire receiving opening is positioned.

4. An electrical conductor terminal for association with a wire and a stud having a clamping abutment and a nut thereon; said terminal comprising a plate portion having an opening to receive the stud and a wire receiving slot of an area greater than the cross sectional area of the wire, the slot extending from a region within the boundary of the nut to a point without the boundary of the nut, its major axis being inclined to one side of the stud receiving opening in the direction of nut rotation, a projection from said plate for engagement with a side of the clamping abutment to prevent relative rotation, and wire encircling lips projecting from the plate to points outside the portion in which the wire receiving opening is positioned.

5. A wire terminal and binding device comprising a threaded stud; a wire terminal perforated for said stud and having a perforation through which to thread a wire to hold it near the stud and a threaded nut on said stud having a shoulder to engage the wire to coil it around the stud.

6. A wire terminal and clamping device comprising a threaded stud; a wire holding terminal perforated and surrounding the stud and having another perforation through which to thread a wire to hold it near the stud and above said terminal, and a threaded nut on said stud having a shoulder to engage the wire and coil it around said stud to form an eye and subsequently to clamp said eye between said nut and terminal.

7. A wire terminal and binding device comprising a stud, a wire terminal perforated to receive the stud and having a perforation through which to thread the wire to hold it near the stud, a wire clamping member on said stud, and means on said member for engaging the wire to coil it around the stud.

8. A wire terminal and binding device comprising a stud, a wire terminal having an opening to receive the stud, and having a wire receiving opening of an area greater than the cross sectional area of the wire, a wire clamping member on said stud and means on said member for engaging the wire to coil it around the stud, the wire receiving opening in the terminal extending from adjacent the stud to a point outside of the boundary of said member.

9. A wire clamping nut having a projection extending axially beyond its clamping

face a distance less than the diameter of the wire to be clamped and spaced apart from its axial perforation to provide a shoulder to engage the wire to coil it around the axis of the nut.

5 10. An electrical conductor terminal for association with a wire and a stud having a clamping abutment thereon; said terminal comprising a plate portion to underlie the clamping abutment and having a wire receiving opening extending from the region within the boundary of the clamping abutment to a point outside the boundary of the abutment.

15 11. A wire terminal and binding device comprising a stud, a wire terminal for engagement with the stud and having a perforation through which to thread the wire to hold it near the stud, a wire clamping member on said stud, and means on said

member for engaging the wire to coil it around the stud.

12. A wire terminal and binding device comprising a stud, a wire terminal for engagement with the stud, and having a wire receiving opening of an area greater than the cross sectional area of the wire, a wire clamping member on said stud, and means on said member for engaging the wire to coil it around the stud, the wire receiving opening in the terminal extending from adjacent the stud to a point outside the boundary of said member.

In testimony whereof I hereunto set my hand in the presence of two subscribing witnesses.

JOHN CUTHBERT.

In the presence of—
STANLEY W. COOK,
MARY F. ALLEN.