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R. W. GRACE

1,921,745

WIRE TERMINAL

Filed May 4, 1931

Fig. 1.

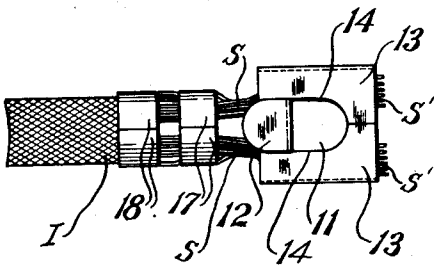


Fig. 4.

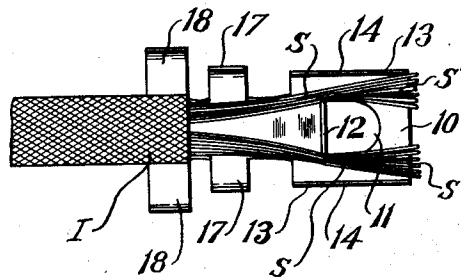


Fig. 2.

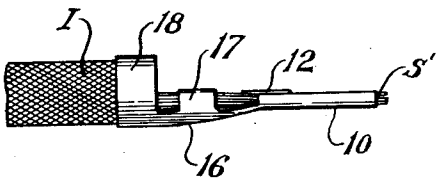


Fig. 5.

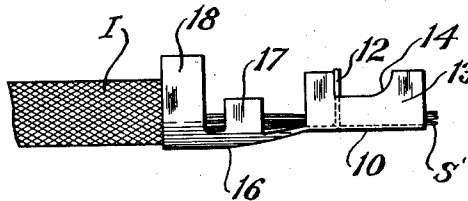


Fig. 3.

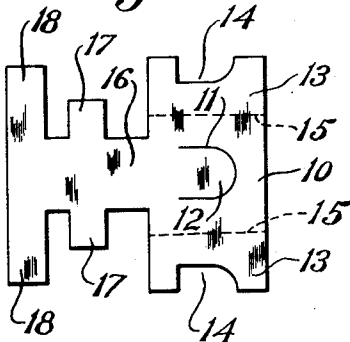
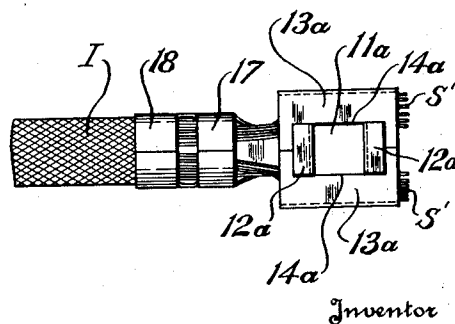


Fig. 6.



Inventor

Richard W. Grace

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By Freese and Bishop
Attorneys

Attorneys

UNITED STATES PATENT OFFICE

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WIRE TERMINAL

Richard W. Grace, Canton, Ohio, assignor to
The Superior Switchboard & Devices Company,
Canton, Ohio, a Corporation of Ohio

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2 Claims. (Cl. 173—269)

The invention relates to terminal connections for attachment to the end of a wire or cable conductor, for connecting the conductor to a binding post or the like, and more particularly to such a terminal formed of sheet metal.

Such terminal connections are usually provided with an aperture to receive the binding post or screw, and under present practice the end of the wire or cable conductor is attached to the terminal connection, as by soldering, on the side of said terminal connection toward the conductor.

It has been found by experience that due to vibration of various devices or apparatus upon which the terminal connections are used, there is a tendency for the wire or cable conductor to break at the point of attachment to the terminal connection.

An object of the present improvement is to provide a terminal connection for wire or cable conductors, which will overcome this difficulty, whereby the conductor may be caused to vibrate without causing the same to break.

The above and other objects may be attained by forming the improved terminal connection from a sheet blank of copper or other sheet metal having a central opening to receive a binding post or the like, one or more tongues being stamped from said opening, the strands of wire or cable conductor being arranged to be separated and located upon opposite sides of the central opening, opposite side portions of the sheet blank being adapted to be bent down over said separated strands of the conductor and clamped in position by the tongue or tongues above referred to; the blank being preferably provided with secondary or auxiliary wire clamping ears and also preferably provided with insulation clamping ears.

An embodiment of the invention is illustrated in the accompanying drawing, in which

Figure 1 is a plan view of the improved terminal connector showing the same fixed upon the terminal end of a wire or cable conductor;

Fig. 2, a side elevation of the same;

Fig. 3, a plan view of the sheet blank from which the terminal connector is formed;

Fig. 4, a plan view of the terminal connector with the conductor positioned therein preliminary to clamping the same upon the terminal end of the conductor;

Fig. 5, a side elevation of the device as shown in Fig. 4; and

Fig. 6, a view similar to Fig. 1, showing a modified form of the invention in which two

tongues are stamped from the central opening. Similar numerals refer to similar parts throughout the drawing.

The improved terminal connection to which the invention pertains is preferably formed from a single sheet blank of copper, or other suitable metal, which may be of the shape illustrated in Fig. 3. The body portion 10 of the blank has a central opening 11, formed therein, to receive a binding post or the like, one or more preferably flat tongues 12, being stamped from said opening and bent up substantially perpendicular to the normal plane of the connection, as shown in Figs. 4 and 5.

A wing 13 is formed on each side of the body portion 10 and provided in its outer edge with a notch 14 corresponding in size and shape to one half of the central opening 11 in the body portion. Each of these wings is arranged to be bent upward, substantially perpendicular to the normal plane of the body 10, as upon the lines 15, assuming the positions shown in Figs. 4 and 5, forming a tubular portion with matching notches.

Extending centrally from one end of the body 10 is a neck portion 16, which may be slightly dishd, and is preferably offset downward from the body, as shown in Figs. 2 and 5. Oppositely disposed, auxiliary, or secondary wire clamping ears 17 may be formed upon the neck if desired, and insulation clamping ears 18 of greater length than the wire clamping ears may be provided upon opposite sides of the end portion of the neck.

The ears 17 and 18 are bent or curved upward, at either side of the neck, as shown in Figs. 4 and 5, the terminal connection being in the condition shown in said figures when ready for application to the terminal end of a wire or cable conductor.

In attaching the terminal connection to the conductor, the strands thereof are divided or separated as shown at S—S, in Fig. 4, and the end portion of the conductor is positioned upon the terminal connection as shown in said figure, the end portion of the insulation covering I of the conductor, being positioned between the insulation clamping ears 18 and the two separated strands S of the conductor, being located one on each side of the tongue 12. If desired, solder or the like may be used to attach the ends of the strands S to the terminal connection at the points indicated at S'.

The wings 13 are then bent inward and downward, upon the strands of wire, that is, reversely bent so that their free edges are in abut-

ment, as shown in Figs. 1 and 2, the wings 13 and the body portion 11 forming a tubular portion. The wire is thus clamped tightly between the body portion 10 and the wings, the notches 5 14 or 14a matching each other to form an opening in the central portion of one side of the tubular portion, registering with the opening 11 in the other side.

The tongue 12, which extends through the 10 opening formed by the matching notches, is then bent down upon the adjacent portions of the wings 13 over the abutting edges thereof, as shown in Figs. 1 and 2, holding the wings in this position. The auxiliary wire clamping ears 15 17 may then be bent down upon the wire and the insulation clamping ears 18 may be bent down upon the end portion of the insulation, all as shown in Figs. 1 and 2.

As shown in Fig. 6, where the two ears 12a are 20 stamped from the central opening 11a, it will be seen that one ear is bent in each direction so as to engage over the abutting edges of both end portions of the wings 13a, within the notches 14a. It will be seen that the improved terminal 25 connection may thus be provided with either one or two tongues for clamping the wings upon the separated strands of wire; and may be formed with or without the secondary or auxiliary wire

clamping ears 17, and with or without the insulation clamping ears 18.

I claim:

1. A one-piece sheet metal terminal connection for clamping divided strands of a conductor, 80 said terminal connection including a tubular portion formed of reversely bent wings having their free edges in abutment, the wings being provided at their abutting edges with matching notches 85 forming an opening in one side of the tubular portion, and a tongue stamped from the other side of the tubular portion for extending through said opening and clamping over the abutting edges of said wings.

2. A one-piece sheet metal terminal connection for clamping divided strands of a conductor, 90 said terminal connection including a tubular portion formed of reversely bent wings having their free edges in abutment, the wings being provided at their abutting edges with matching 95 notches forming an opening at the central portion of one side of the tubular portion, and tongues stamped from the other side of the tubular portion for extending through said opening and clamping over the abutting edges of said 100 wings at opposite ends of the opening.

RICHARD W. GRACE.

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