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D. HOPPENSTAND

2,147,255

TERMINAL

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Fig. 1

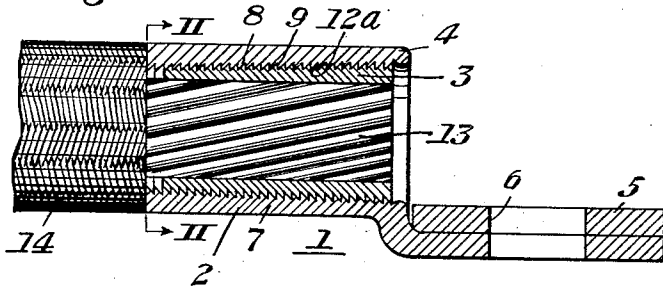


Fig. 2

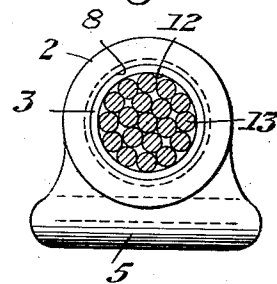


Fig. 4.

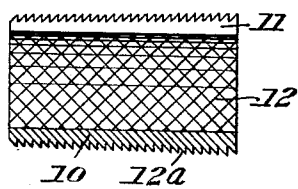


Fig. 3.

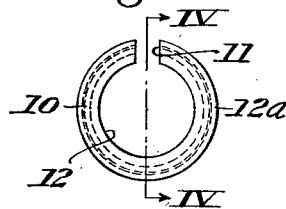


Fig. 5

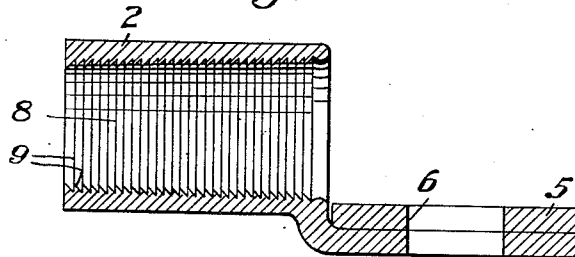


Fig. 6

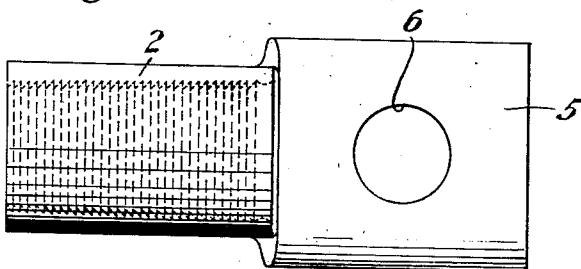
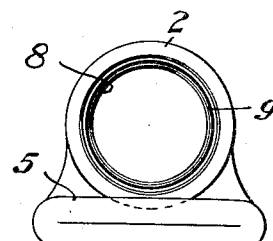


Fig. 7



INVENTOR

David Hoppenstand
by Wesley Keith Kees
his attorney

UNITED STATES PATENT OFFICE

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TERMINAL

David Hoppenstand, Glenshaw, Pa., assignor to
Hopkan Rivet Company, Inc., Pittsburgh, Pa.,
a corporation of Pennsylvania

Application July 11, 1936, Serial No. 90,043

1 Claim. (Cl. 173—269)

My invention relates to a terminal and, in particular, to a terminal for electric conductors such as wires and cables.

While terminals for electric conductors have been known heretofore, those with which I am familiar require special tools or solder to attach the conductor thereto. Such requirements obviously limit the utility of devices of this character and it is an object of my invention, therefore, to provide a terminal which may be connected to a conductor without special tools or solder and yet capable of engaging the conductor with a tight and permanent grip.

The terminal of my invention comprises a barrel having a lug or tab integral therewith adapted to receive a screw or like fastening member. A split tapered sleeve is adapted to enter the barrel axially thereof to grip a conductor end positioned therein. Cooperating serrated surfaces on the interior of the barrel and the exterior of the sleeve hold the parts in gripping position. The interior of the sleeve may be knurled to ensure a positive seizure thereof and when the parts have once been assembled, the conductor is firmly anchored thereto and any force tending to pull the conductor out of the terminal serves only to tighten the grip of the sleeve on the conductor end.

As an illustrative example only, I show in the accompanying drawing, one of the many forms which the invention may take.

Fig. 1 of the drawing is a central longitudinal section through the terminal applied to a conductor end;

Fig. 2 is a transverse sectional view along the line II—II of Fig. 1;

Fig. 3 is an end view of the split tapered sleeve apart from the remainder of the terminal;

Fig. 4 is a sectional view of the sleeve along the line IV—IV of Fig. 3;

Fig. 5 is a central sectional view through the barrel, with the sleeve and conductor end removed;

Fig. 6 is a plan view of the barrel; and

Fig. 7 is an end elevation thereof.

A terminal for electric conductors, according to my invention comprises a barrel 2 and a sleeve 3 positioned therein. The barrel 2 may conveniently be formed from a tube 4 by cutting partially therethrough and flattening one end as at 5. The resulting lug or tab when provided with a hole 6 constitutes means for attaching the terminal to any desired piece of apparatus as by screws or bolts (not shown).

The other end 7 of the tube 4 is provided with a tapered bore 8. This may easily be done by up-

setting the end of the tube opposite that on which the lug 5 is formed. The bore 8 is preferably toothed or serrated as at 9 for a purpose which will presently appear.

A sleeve 10 cooperates with the bore 8 in the barrel 2. The sleeve is split at 11 whereby it is contractible with ease. The wall of the sleeve tapers from one end to the other as shown in Fig. 4 for a wedging fit in the bore 8 of the barrel 2. The interior of the sleeve 10 is provided with ridges, corrugations or knurlings 12 so that it will firmly grip a conductor end inserted therein, such as that shown at 13 (Fig. 1). The exterior is toothed or serrated for cooperation with the bore 8 of the barrel 2.

The manner in which the parts described above are manipulated to secure them to the conductor will doubtless be evident from the foregoing but a brief description is included here in compliance with the patent statutes.

A conductor 14 is denuded of its insulation (if any) to expose an end 13 for attachment to the terminal. The end 13 is then inserted in the barrel 2 from the end opposite that on which the lug 5 is formed. The next step is the insertion of the sleeve 3 (small end first) in the end of the barrel 2 adjacent the lug 5 which is displaced to one side of the barrel to facilitate this operation. The sleeve 3, of course, is manipulated in such manner that it embraces the conductor end 13. The sleeve then may be pressed home substantially into the position shown in Fig. 1 by any convenient means. A light hammer blow on the sleeve is usually sufficient to wedge it tightly into the barrel so that it grips the conductor end very firmly. The split 11 in the sleeve permits it to contract as it is forced home into the tapering bore 8 in the barrel. The teeth or serrations 9 and 12 on the interior of the barrel and the exterior of the sleeve, respectively, securely lock these parts in telescoped relation and the corrugations 12 on the interior of the sleeve positively grip the conductor end and prevent its being withdrawn by a pull on the conductor or terminal. Such pull, in fact, tends to telescope the sleeve and barrel further and tighten the grip on the conductor, in the manner of the tapered jaws used to hold bar specimens in a tension test.

The foregoing description will make clear that my terminal is a highly effective device and that the parts thereof, which are simple and cheap to manufacture, may be manipulated without any special tools or solder, to provide a permanent and tight attachment to a conductor end.

The invention has been illustrated in only one

form but the details thereof may be changed without altering the principles involved nor exceeding the limits of the following claim.

I claim:

- 5 A fitting adapted to be applied to a substantially cylindrical member, comprising a continuous barrel having a tapered bore therein, annular grooves formed in said barrel and spaced axially thereof, each groove being defined by a
10 surface substantially perpendicular to the axis of the barrel and a conical surface intersecting

said first-mentioned surface, a sleeve adapted to be disposed on said member and telescoped into said barrel, said sleeve being tapered exteriorly to conform to the tapered bore in said barrel and having annular grooves thereon similar to those of said barrel and adapted to cooperate therewith whereby said barrel and sleeve are positively prevented from relative axial movement in one direction after they have been telescoped. 5

DAVID HOPPENSTAND. 10