July 1, 1958 D. L. PRATT 2,841,364

SPREADER FOR TWISTED-TOGETHER, INSULATED CONDUCTORS

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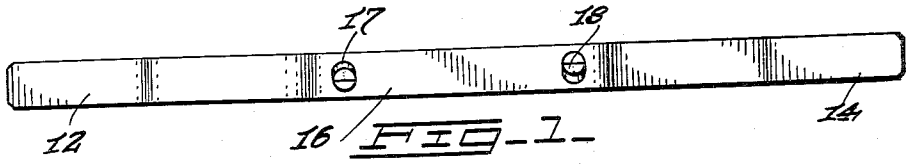


FIG. 1.

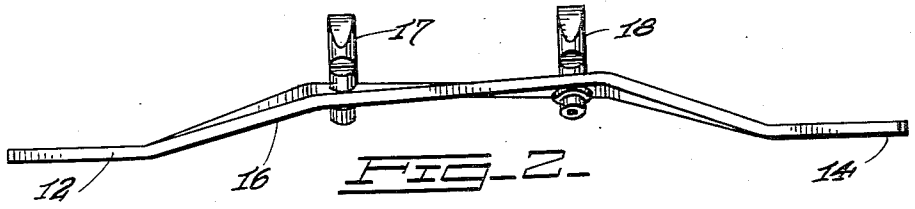


FIG. 2.

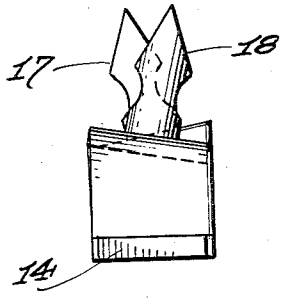


FIG. 3.

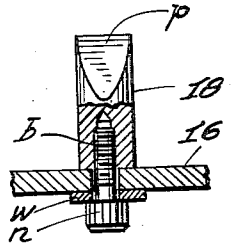


FIG. 4.

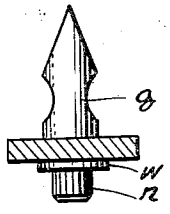


FIG. 5.

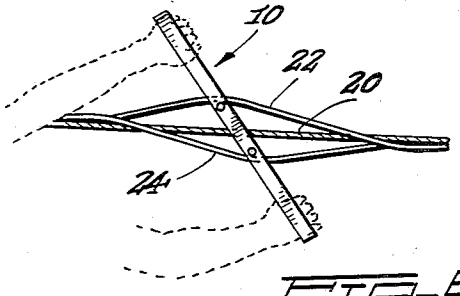


FIG. 6.

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SPREADER FOR TWISTED-TOGETHER, INSULATED CONDUCTORS

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3 Claims. (Cl. 254—1)

This invention relates to a device for facilitating tapping of a cable comprising a plurality of insulated conductors. It is especially useful in connection with a power line of the triplex type comprising two insulated conductors and a bare messenger. In this type of cable the two insulated conductors are twisted around a bare wire which has the function of helping support the two insulated conductors as, for example between the poles or "towers" of a power line or from pole to house, and may also serve as a third conductor.

It is difficult to work on a cable while it is actually suspended in the air. A cable, particularly one of the triplex type, has considerable weight and it takes a great deal of force to separate the two insulated conductors sufficiently to tap them. The problem of tapping the insulated conductors of this type of cable is affected by the presence of the bare messenger since it is intended that this cable may be spliced while it is energized and suspended in the air. This is called "hot line tapping." Since the bare messenger is at ground potential the portions of the insulated conductors which are bared for tapping must be kept separated from the messenger in order to avoid a short circuit.

An object of this invention is to provide a device for facilitating separating two twisted together conductors and for holding them apart.

In the accompanying drawings:

Fig. 1 is a plan view.

Fig. 2 is a side view.

Fig. 3 is an enlarged end view.

Fig. 4 is an enlarged side view, partly in section, of one of the pins showing its connection to the bar.

Fig. 5 is an enlarged end view partly in section and

Fig. 6 is a plan view of the device in use.

The device comprises a member **10** the ends **12** and **14** of which serve as handles and the intermediate portion **16** of which is somewhat bowed outwardly. Projecting from the intermediate portion **16** of member **10** are the rotatable pins **17** and **18**; each pin is bored at one end with a threaded bore *b* and the pins are held on portion **16** by means of large headed screws which extend through holes *h* in portion **16** and are engaged in the bores *b* respectively. The holes *h* are of a diameter smaller than the outside diameter of the pins **17** and **18** or the heads of the screws *s* but larger than the shank of the screws which are thus free to rotate in holes *h*, permitting each pin to rotate. Washers *w* are provided between the heads of screws *s* and the inner face of portion **16**.

Pins **17** and **18** are somewhat angularly disposed to one another and offset from the axis of member **10** to facilitate initially inserting said pins between the bare messenger **20** and the two insulated conductors **22** and **24** of a triplex cable, with one pin above and the other below the bare messenger **20**.

The pins are tapered to a thin edge or point *p* to facilitate inserting the pins between the bare messenger and the two insulated conductors respectively, and each pin has a peripheral circumferential groove *g*. The groove *g*

serves to receive the conductor with which the pin is in contact and holds it from slipping off the pin.

Pins **17** and **18** are insulated from one another to prevent a short circuit between live conductors in the event of damaged insulation and desirably the whole member **10** and particularly portion **16** and pins **17** and **18** are made of a mechanically strong, insulating material.

In operation the device is gripped at its ends and one pin is inserted between the bare messenger and a portion of one conductor which is above the messenger and the other pin is inserted between the messenger and a portion of the other conductor which is below the messenger i. e., the pins are inserted between the messenger and portions of the conductors respectively which are on opposite sides of the messenger. The device is then rotated until it is substantially normal to the bare messenger when the separated portions of the two conductors will be spaced apart a distance equal to the spacing between pins **17** and **18** and each of said portions will be spaced half this distance from the bare messenger. Because the pins are rotatable they ride over the insulated conductors respectively, while the device is separating them, without damaging their insulation coverings.

There has thus been provided by this invention apparatus by which the objects set forth above, together with many advantages, are successfully achieved. As various possible embodiments might be made of the above invention and the art herein described might be varied in various parts but without departing from the scope of the invention, it is understood that all matter hereinbefore set forth is to be interpreted as illustrated and not in a limiting sense.

What I claim is:

1. Apparatus for separating and holding separated normally contacting portions of a pair of insulated conductors twisted together around a bare messenger which comprises a pair of pins each having tapered ends for insertion between said twisted together conductor portions, means for mounting said pins in spaced relation and insulated from one another and disposed in angular relation to one another in a direction around the axis of the mounting means, each of said pins being rotatable with respect to its mounting means to permit it to move over the surface of an insulated conductor without damaging the insulation of the conductor and handle means connected to said mounting means by which said pins may be moved from a position of substantial alignment along the twisted together conductors to a position in which they are disposed on opposite sides of the axis of said twisted together conductors and separate said conductors from said bare messenger.

2. A device for spreading apart portions of normally twisted together insulated conductors which comprises a rod having a pair of pins projecting from its middle portion and spaced apart and insulated from one another, the end portions of said rod constituting handles for rotating the rod after the said pins have been inserted between said conductors, the said pins being disposed on the intermediate portion of said rod in angular relation to one another in a direction around the axis of the said intermediate portion of the rod.

3. A device for spreading apart portions of normally twisted together insulated conductors which comprises a rod having a pair of pins projecting from its middle portion and spaced apart and insulated from one another, the end portions of said rod constituting handles for rotating the rod after the said pins have been inserted between said conductors, the said pins being angularly related and diverged from one another in opposite directions from a vertical plane passing longitudinally through the intermediate portion of said rod.

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