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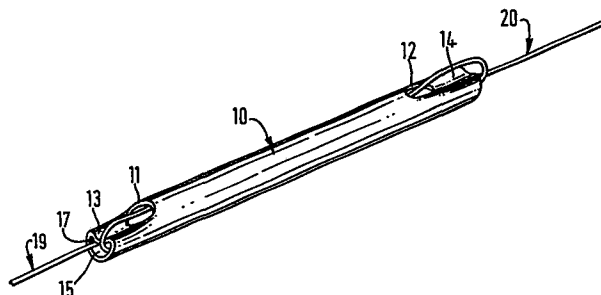
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⑤④ **A holder for wire.**

⑤⑦ A holder for wire comprising an open-ended tubular housing through which the wire extends, and an opening in the side wall of the housing, the free end of the wire being bent around one end of the housing and re-entering the housing through the opening.



A HOLDER FOR WIRE

The invention relates to a holder for wire particularly but not exclusively of the single strand high tensile steel type.

Single strand high tensile steel wire is used
5 extensively in the constructing of wire fencing for example on farms. Whilst such fencing is robust and of relatively low cost compared, say, to all timber fencing, it is difficult to join together adjacent ends of the wire. One prior proposal is that of French Patent 522 720
10 (20th August, 1920) in which the free ends of two cable conductors are fed through the opposite ends of a rigid tubular housing, bent around the other end of the housing and secured either by being twisted together outside the housing or being held in position whilst a solder
15 is fed into the housing and sets. But this prior proposal suffers the disadvantage that often the ends of the wires to be joined have been cut by heavy duty clippers which tend to leave the ends sharp and dangerous both to farm-workers and stock, and economically damaging if the animals
20 have saleable hides or pelts. When joining the ends, say, by twisting or knotting with the wires under tension, there is a high risk of accidental release of either or both wires which could cause them to whip through the air making it dangerous for the operative and

Another problem not solved by this prior proposal is how to repair a broken wire; where the wire extends between fixed supports such as fence posts it is virtually impossible to apply sufficient tension to both of the
5 ends to allow the broken ends to be twisted or knotted together, and if an additional length of wire is inserted and twisted or knotted to the existing ends the above mentioned problem of high-risk accidental release is present. Even if successfully joined there are additional
10 joined ends protruding and which are equally sharp and dangerous to stock.

An object of the present invention therefore is to provide a holder for wire which will enable wires to be anchored or interconnected in a simple and safe
15 manner.

According to one feature of the invention there is provided a holder for wire comprising a tubular housing for receiving an end section of wire, the housing having a bending surface around which the wire can be bent,
20 the housing having an aperture in a side wall characterised in that in use the aperture receives the free end of the bent wire.

With such a holder, the sharp free end of the wire will be positioned in the housing and will not
25 present a danger to stock; nor will it easily be released when under tension, being held simply but effectively by frictional coupling in the housing.

In a preferred embodiment the holder has two said surfaces spaced apart so that an end section of a first wire can be bent around one of said bending

surfaces and an end section of another wire can be bent about the other of said bending surfaces. Preferably the housing is a tube and the spaced apart bending surfaces may be arranged one at or adjacent each end of the tube.

- 5 The housing may be formed with two apertures or recesses arranged one adjacent each said bending surface.

Where the housing comprises a tube, two said apertures may be formed in the tube wall one adjacent each end of the tube and the wall portion between each
10 aperture and the adjacent end of the tube may be bent inwardly to form a reduced cross-section wire-receiving opening in said adjacent end of the tube, as a trough which assists in locating the free end of the wire in the aperture, the outer end of each trough forming a
15 said bending surface around which wire can be bent.

End sections of wires to be interconnected can be inserted through the wire receiving openings at opposite ends of the tube, bent around the said surfaces remote from the respective openings and then inserted into the
20 apertures or recesses adjacent the respective surfaces.

The interconnection is therefore, effected easily and safely. Thus according to another feature of our invention we provide a method of connecting two wires which is characterised in feeding each of the wires respectively
25 through opposite ends of a rigid tubular housing, bending each of the wires around the respective other end of the housing, and feeding the wires back into the housing through a side wall of the housing.

A holder for wire in accordance with the invention

will be described by way of example with reference to the accompanying drawings in which:-

Fig. 1 is a perspective view of a preferred form of holder in accordance with the invention interconnecting two wires;

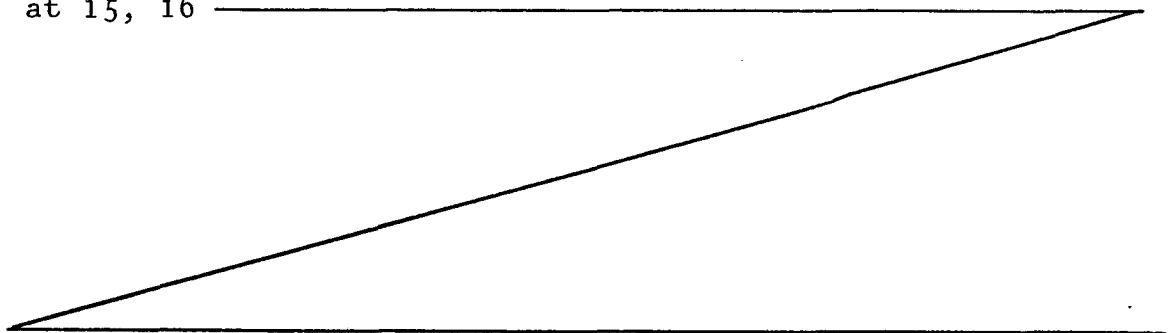
Fig. 2 is a longitudinal cross-section through the holder of Fig. 1,

Fig. 3 is a view similar to Fig. 2 showing a single wire in the holder forming a loop for anchoring the wire,

and

Fig. 4 is an elevation of wire fencing showing the way in which the holders of Figs. 1 to 3 are used to interconnect and anchor the fencing wire.

Referring to Figs. 1 and 2 the holder comprises a housing tube 10 of steel or non-ferrous metal formed with two apertures 11,12 (constituting the aforesaid recesses) arranged one adjacent each end. The tube wall is deformed by pressing portions thereof between the apertures 11,12 and the ends of the tube inwardly to form troughs 13,14. The open ends of the tube (indicated at 15, 16



which form the aforesaid wire receiving openings are thereby reduced in cross-section and are of crescent form. The troughs 13, 14 form ideal lead-in surfaces for guiding the free ends of wires into the apertures 11, 12. The outer ends of the troughs 13, 14 form surfaces 17, 18 around which the wires can be bent.

To interconnect first and second wires 19, 20 an end section of the first wire 19 is inserted through the tube end 15 until a section 19a extends out of the end 16. The section 19a is then bent manually around surface 18 and the sharp free end 19b is inserted into the tube 10 through aperture 12 to take up the Fig. 2 position. The wire 20 is then inserted through the end 16, a section 20a is bent around surface 17 and the sharp free end 20b is inserted into the tube 10 through aperture 11. The two wires are then securely interconnected with sharp ends enclosed in tube 10. Once one of the wires has been fastened in the holder, the wires can be interconnected under tension by inserting an end section of the second wire through one end of the tube, drawing the latter taut relative to the first wire by applying tension to the end section extending through the opposite end of tube, and then bending the end section about the end surface of the adjacent trough. The end section of the second wire can then be held in its bent condition with pliers while the free end is fed through the adjacent aperture. The chances of accidental release of tensioned

wire is greatly reduced with a holder in accordance with the present invention and the interconnection is secure with no sharp ends of wire exposed.

Fig. 3 shows the way in which the holder can be used to assist in anchoring a wire. In Fig. 3 a wire 30 is fed through opening 15 until a length thereof projects from opening 16. The projecting length is bent back on itself to form a loop 31 and the wire is then threaded back through the opening 16 so that a length 32 projects through opening 15. The length 32 is then bent around surface 17 and its free end inserted into the tube 10 through aperture 11. The loop 31 can then be used to secure the wire 30 to, say, an insulator of an electric fence system or to a securing hook on a fence post

In Fig. 4 two holders can be used to repair a broken wire 40 by connecting two tubes 10 the ends of wire 40 and interconnecting tubes by a new length of wire 41. The wire 40 and a second fence wire 42 are connected to insulators 43 on a post 44 by a Fig. 2 holder arrangement.

The term "wire" as used herein embraces multi-strand cable.

C L A I M S :

1. A holder for wire comprising a tubular housing for receiving an end section of wire, the housing having a bending surface around which the wire can be bent, the housing having an aperture in a side wall characterised
5 in that in use the aperture (11,12) receives the free end (19b, 20b) of the bent wire.
2. A holder according to Claim 1 characterised in that the bending surface (17, 18) is the adjacent end
10 wall of the tubular housing (10), the aperture (11,12) being between the mid portion of the tube and the said bending surface (17,18).
3. A holder according to claim 1 or claim 2 characterised
15 in that the aperture (11,12) has a lead-in surface (13,14) to guide the end (19b 20b) of the wire into the aperture
4. A holder according to claim 3 characterised in that the lead-in surface (13,14) is a trough, the trough
20 extending between the bending surface (17, 18) and the adjacent edge of the aperture (11,12).
5. A holder according to claim 3 or claim 4 characterised in that the aperture (11,12) has axially spaced portions
25 lying on different radii from the axis of the tubular housing (10)

6. A holder according to claim 5 characterised in that the portion of the aperture nearest the bending surface (17,18) is on a smaller radius than the portion of the aperture furthest from said surface, a normal to the line joining said portions intersecting the plan E including the said surface (17,18) at an acute angle and on the same side of the axis as said aperture when viewed in cross-section.

7. A holder according to any preceding claim characterised in that the tubular housing (10) has two apertures (11,12) the apertures being the same side of the axis of tubular housing, the separation between the apertures being greater than the spacing between an aperture and the adjacent bending surface (17,18).

15

8. A method of connecting two wires characterised in feeding each of the wires respectively through opposite ends of a rigid tubular housing, bending each of the wires around the respective other end of the housing, and feeding the wires back into the housing through a side wall of the housing.

20

9. A method according to claim 8 in which the side wall of the housing has two apertures, one for each wire.

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10. An assembly of a holder according to any of Claims 1 to 7 in which the wire is bent around said bending surface and has a free end portion extending through

the aperture to be received within the holder.

11. An assembly according to claim 10 which the wire is wholly within the housing.

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FIG. 1.

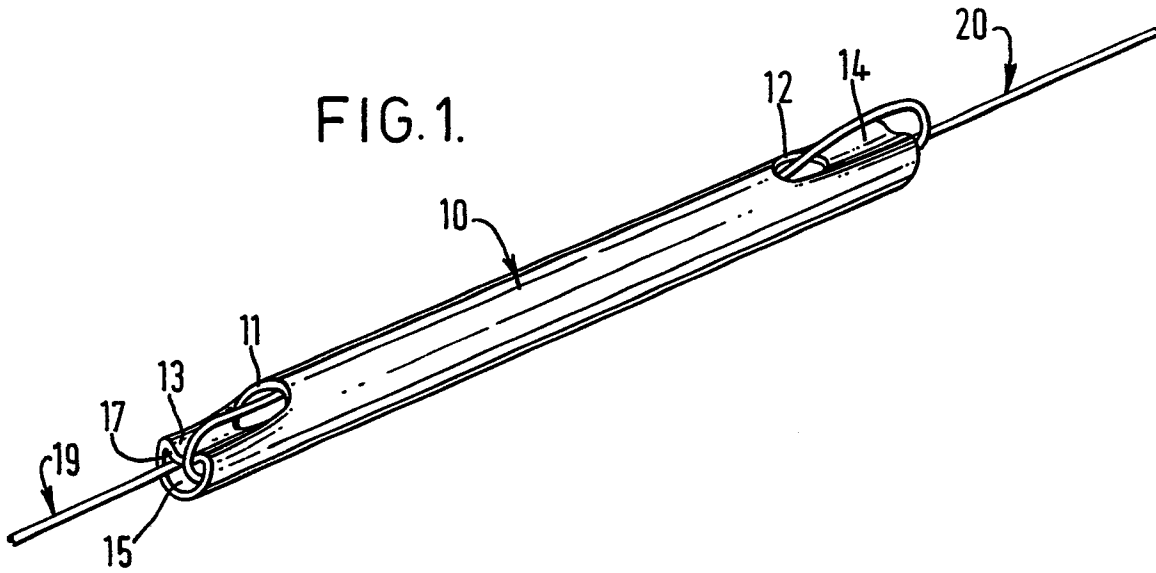


FIG. 2.

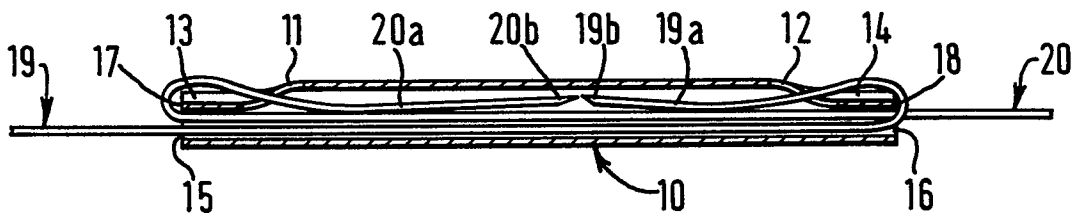


FIG. 3.

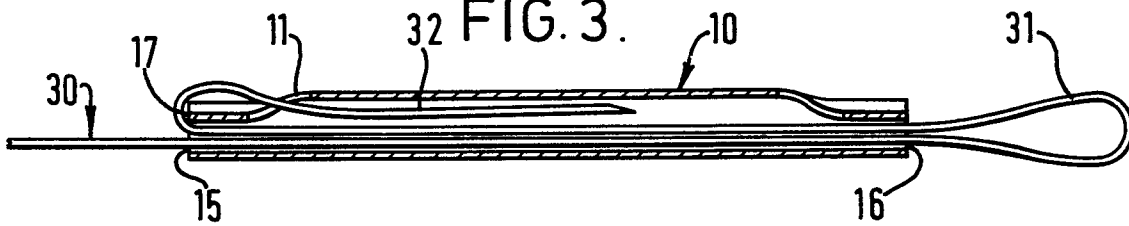


FIG. 4.

