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(11) **EP 0 863 572 A2**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
09.09.1998 Bulletin 1998/37

(51) Int. Cl.⁶: **H01R 4/24, H01R 4/44**

(21) Application number: **98200581.1**

(22) Date of filing: **24.02.1998**

(84) Designated Contracting States:
**AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC
NL PT SE**
Designated Extension States:
AL LT LV MK RO SI

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(30) Priority: **07.03.1997 FI 970965**

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(54) **Terminal or jointing clamp for a coated overhead cable and moment screw used therein**

(57) The invention relates to a terminal or jointing clamp for a coated overhead cable and to a moment screw, the latter serving as a terminal clamping element. The moment screw includes a moment transmission nut (11), provided with a fracture point (12) and engaged with a head (7) of a clamping screw (5) through the intermediary of an insulation layer (9). Such a terminal or jointing clamp is capable of voltage work, while enabling an accurate calibration for the operation of the moment screw.

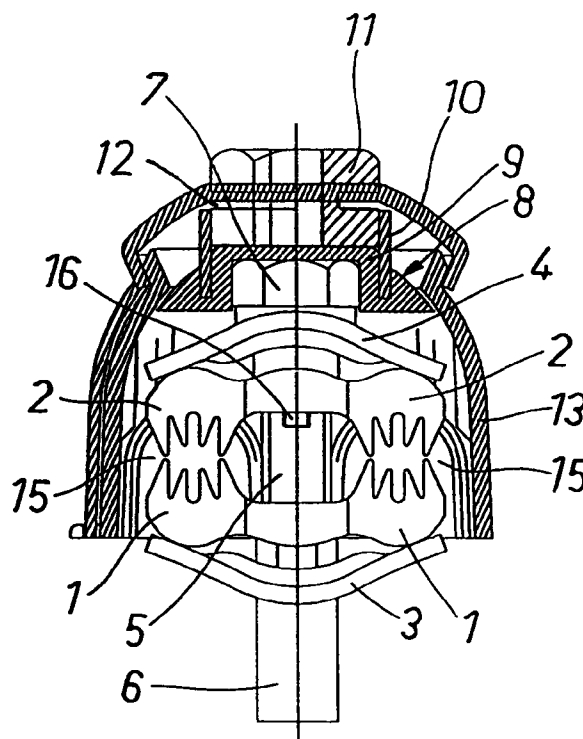


Fig. 1

Description

The present invention relates to a terminal or jointing clamp for an overhead cable, comprising two pairs of toothed jaws pressable against each other, a clamping screw for pressing the jaws against each other, and a moment transmission nut provided with a fracture point for turning the clamping screw. The invention relates also to a moment screw, serving as a clamping element in a terminal or jointing clamp for a coated overhead cable and including a moment transmission nut provided with a fracture point.

This type of terminal or jointing clamp is prior known e.g. from Patent publication FR-2601516 and Patent publication DE-3824741. In the former, a contact shielding or shroud is achieved by using an insulating layer on top of the hexagon head of a clamping screw. A problem with this solution is the difficulty in reaching desired moment levels. The threaded portion of a moment screw used in the latter publication is entirely insulated from jaw elements in contact with the wires. The construction is complicated and inconvenient.

An object of the invention is to provide a terminal or jointing clamp of the above type and a moment screw therefor, which are capable of achieving a voltage working ability without insulating the threaded portion of the screw from live jaws and which is further capable of accurately achieving a desired moment level.

This object is achieved by means of a terminal or jointing clamp set forth in the appended claim 1 and a moment screw set forth in claim 2. The non-independent claims disclose preferred embodiments of the invention.

One exemplary embodiment of the invention will now be described in more detail with reference made to the accompanying drawing, in which

- fig. 1 shows a terminal or jointing clamp of the invention in cross-section;
- fig. 2 shows the terminal or jointing clamp of fig. 1 in a plan view; and
- fig. 3 shows the terminal or jointing clamp of fig. 1 with only one pair of jaws 1, 2 having a wire 17 therebetween.

The terminal or jointing clamp includes two pairs of opposite jaws 1, 2 provided with teeth piercing through the insulation. The jaws 1 are included in a lower jaw element, which is axially coupled by way of a brace element 3 with an elongated rail 6 provided in turn with a threaded hole engaged by the threading of a clamping screw 5.

The clamping screw 5 has its top end provided with a hexagon head 7, which is embedded in a recess existing in an insulator block 8. In other words, a portion of the insulator block 8 constitutes an insulation layer 9

surrounding the head 7. The insulation layer 9 is surrounded by a hexagonal metal bushing 10, which in turn surrounds a moment transmission nut 11 below its fracture point 12. Thus, a torsional force from the nut 11 to the head 7 is transmitted by way of the metal bushing 10 and the insulation layer 9. In terms of voltage, the nut 11 is isolated from the hexagon head screw 5, 7, which functions as an actual clamping screw. However, it is possible that the moment transmission nut 11 be provided with a metallic cutout 12 for determining accurately a desired moment level.

When tightening the moment screw by turning the nut member 11 above the cut-out, the threads of the screw 5 pull the lower jaws 1 upwards through the intermediary of the elements 6, 3. The upper jaws 2 bear against the screw head 7 through the intermediary of the brace element 4. The upper jaw element and its brace element 4 are provided with a sufficiently loose hole for allowing the inclination thereof, as depicted in fig. 3. This enables the coupling of wires with varying thicknesses. The upper jaw element 2, 2 is held in a top position by means of cams 16 engaging the ends of a housing or a box 13. These cams 16 are not subjected to an actual stress but the function thereof is only to prevent the upper jaws 2 from falling down in order to enable the easy introduction of wires in between the pairs of jaws 1, 2. Reference numeral 15 designates wire openings included in the ends of the box 13. The figure only shows the top portion 13 of the box or housing. Thus, the insulation layer 9 is integral with the wide cap-shaped element 8 which closes an opening included in the top side of the terminal box 13, said opening being sufficiently large for enabling the inclination of the top half 13 of the terminal box relative to the moment screw, as depicted in fig. 3.

When the terminal or jointing clamp has been tightened in place and the nut portion 11 of the moment screw has broken at the fracture point 12, the top opening of the box 13 can be closed with a lid 14. Thus, the lid 14 cannot be placed in position until the nut 11 is broken. The joint can also be readily unclamped by removing the lid 14 and by unscrewing the nut 11 from the polygonal metal bushing 10.

Claims

1. A terminal or jointing clamp for an overhead cable, comprising two pairs of toothed jaws (1, 2) pressable against each other, a clamping screw (5) for pressing the jaws against each other, and a moment transmission nut (11) provided with a fracture point (12) for turning the clamping screw (5), **characterized** in that the clamping screw (5) has its head (7) in contact with the moment transmission nut (11) through the intermediary of an insulation layer (9) included between the head (7) and the nut (11).

2. A moment screw, serving as a clamping element in a terminal or jointing clamp for a coated overhead cable and including a moment transmission nut (11) provided with a fracture point (12), **characterized** in that the nut (11) is coupled with a head (7) of a clamping screw (5) through the intermediary of an insulation layer (9). 5
3. A terminal or jointing clamp as set forth in claim 1 or a moment screw as set forth in claim 2, **characterized** in that the insulation layer (9) surrounding the head (7) of the clamping screw (5) is enclosed by a polygonal metal bushing (10), which encloses also the moment transmission nut (11) below its fracture point (12). 10 15
4. A terminal or jointing clamp as set forth in claim 1, **characterized** in that the insulation layer (9) is integral with a wider cap-shaped element (8) which closes an opening included in the top side of a terminal box (13), which opening enables the inclination of the top half (13) of the terminal box relative to the moment screw (5, 7, 9, 10, 11). 20
5. A terminal or jointing clamp as set forth in claim 1, **characterized** in that the threads of the clamping screw (5) included in the moment screw are in engagement with an elongated rail (6) protruding from the bottom side of the terminal. 25 30

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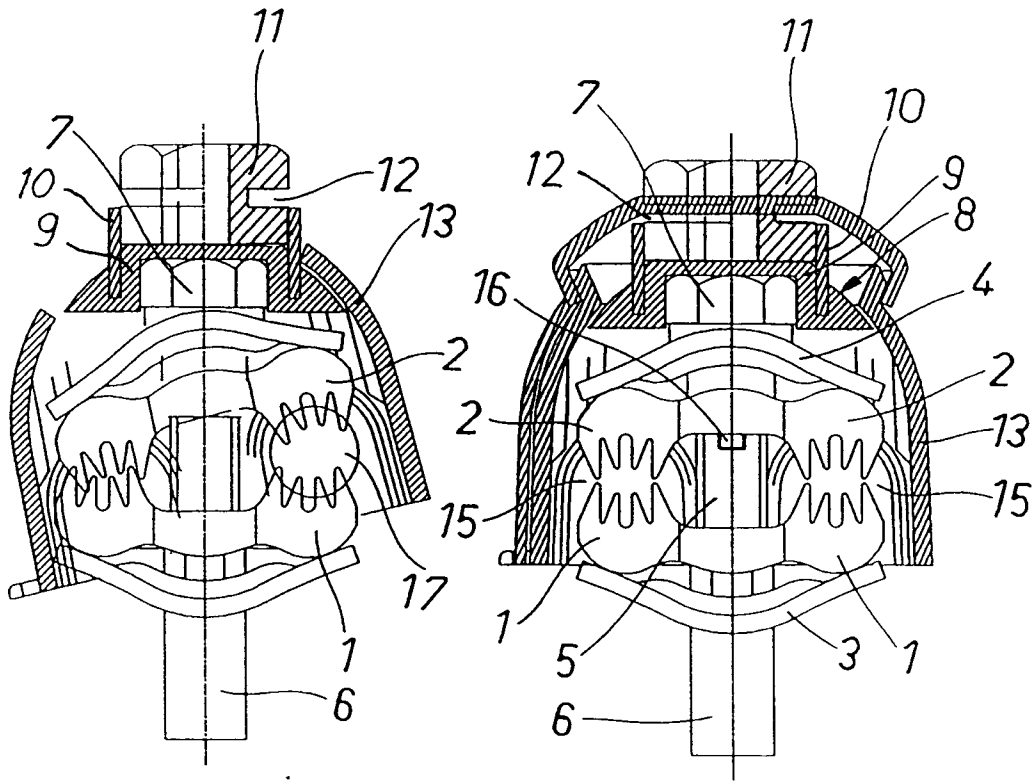


Fig. 3

Fig. 1

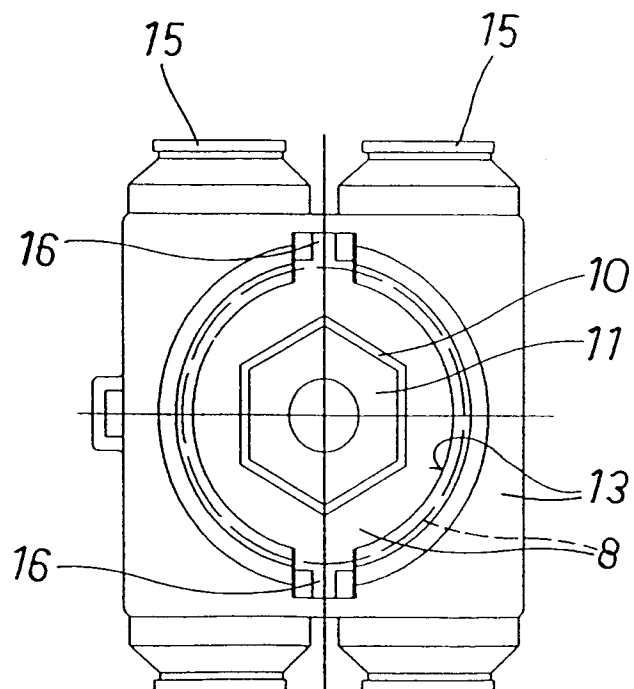


Fig. 2