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(12) # EUROPEAN PATENT APPLICATION

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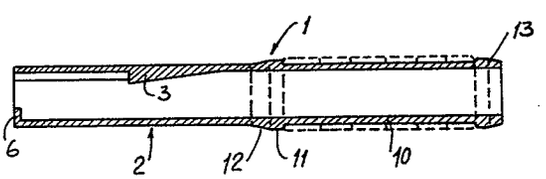
(54) **Cap member for protecting and insulating electric cable lugs.**

(57) The cap includes a sleeve body effective to be associated with a lug, coupled to an electrical cable terminal, and, as an extension of the sleeve body (2), a tubular portion (10) effective to receive, after affixing the lug (4), identifying marks of the electrical cable, the tubular portion (10) being provided, on at least a portion of its outer surface, with a region (11, 13) for housing the identifying marks.



EP 0 109 365 A1

The present invention relates to a cup, for protecting and insulating electrical cable lugs.

As it is well known there are presently commercially available cup members for protecting and insulating female lugs for terminating electrical cables, which consist of a sleeve body, made of a plastics material, generally polyethylene, effective to be snap inserted into the contact terminal of the electrical cable.

The known cup members, however, have the drawback that as they are associated to the female lugs of the electrical cables, they cannot be identified, with consequent difficulties in the wiring thereof to terminal boards and electrical apparatus in general.

In fact it is not possible to quickly and surely identify the electrical cables with the terminal applied thereto and, accordingly, tedious operations are to be carried out in order to apply to the electrical cable an identifying member, before applying the lug.

Yet another drawback of the known cup members is that, because they to not offer the possibility of identifying said electrical cable, after the assembling of the lug, a lot of time is consumed, mainly in the case therein the cables are to be numerated at the wiring operations.

Accordingly the task of the present invention is to overcome the thereinabove mentioned drawbacks, by providing a cup member, for protecting and insulating electrical cable lugs, which is effective to be applied in a quick and easy way to a lug in its assembled condition on the cable, while affording the possibility of applying identifying marks to the electrical cable itself.

Within that task it is a main object of the invention to provide such a cup member which is effective to provide great advantages during the assembling step, while having a comparatively simple structure.

Yet another object of the present invention is to provide such a cup member affording the possibility of using, for applying the lugs to the electrical cables, fully automatic apparatus, thereby greatly reducing the making costs.

Yet another object of the present invention is to provide such a cup member which, owing to the constructional features thereof, is very reliable and safe in operation.

According to one aspect of the present invention, the above mentioned task and objects, as well as yet other objects which will become more apparent thereinafter, are achieved by a cup member, for protecting and insulating electrical cable lugs, including a sleeve body effective to be inserted into a lug, coupled to an electrical cable terminal,

characterized in that it comprises, as an extention of said sleeve body, a tubular portion effective to receive, after the affixing of said lug, identifying marks of said electrical cable.

Further characteristics and advantages will become more apparent from the following detailed description of a cup member for protecting and insulating electrical cable lugs, as illustrated, by way of an example and not of limitation, in the accompanying drawings, where:

Figure 1 is a schematic longitudinal cross-section illustrating the cup member according to the invention;

Figure 2 is an exploded perspective view illustrating the cup member and related lug, in its applied condition to an electrical cable;

Figure 3 is a perspective view illustrating the cup member as applied to an electrical cable; and

Figure 4 schematically illustrates the step of applying the identifying marks to the electrical cable.

With reference to the mentioned Figures, the cup member for protecting and insulating electrical cable lugs, according to the invention, which is overally indicated at the reference number 1, comprises a sleeve body 2 provided with means, consisting

of a projection 3, effective to afford the possibility of snap inserting a female lug 4, in its coupled or crimped condition to an electrical cable 5.

At one end thereof, the sleeve body 2 is provided with an abutment edge 6, for locking the lug inside said sleeve body 2.

A main feature of the invention is that, as an extention of said sleeve body 2, there is provided, in a single piece, a tubular portion 10 which, on its outer side surface, is provided with a region encompassed by an anular projection 11, having a lead-in slanted surface 12 and an end projection 13.

The region defined between the two projections 11 and 13 afferds the possibility, in actual practice, of housing identifying marks for said electrical cable 5.

More specifically, said identifying marks, which may consist of numbers, letters or symbols of any types, are provided on small bands 20 effective to be associated with the outer surface of the cup member 1 and caused to slide in such a way as to be housed in the region defined by said projections 11 and 13 therefrom they cannot disengage owing to the provision of said projections.

In particular, the tubular portion 10, in addition to increasing the working surface of the cup member, thereby affording the possibility of inserting said identifying marks into said cup member, also providesan identifying marks holding region, said identifying marks being advantageously

applied on said bands 20 made of a comparatively resilient material, to be resiliently inserted into said cup in such a way as to slide to the region defined by said projections 11 and 13.

From the above disclosure it should be noted that the invention fully achieves the intended task and objects.

In particular the fact is to be pointed out that, since the structure of the cup member 1 has been modified due to the provision of the tubular portion 10, encompassing for a length the terminal portion of the electrical cable 5, the possibility is afforded of applying in a very simple and quick way the identifying marks, after having applied to the electrical cable the lug.

This is greatly important because the advantage is obtained of identifying the electrical cables or lugs thereof, after their application to the terminals, by using automatic apparatus.

The cup member according to the invention, moreover, affords the advantage of great economical savings, since it affords the possibility of cutting the wires, removing the insulating material and applying the lug in a fully automatic manner.

In practicing the invention, the used material, though the best results have been obtained by using an insulating plastics material for making the cup member, as well as the size and specific shape may be any according to the needs.

CLAIMS

1. A cup member for protecting and insulating electrical cable lugs, including a sleeve body effective to be inserted into a lug, coupled to an electrical cable terminal, characterized in that it comprises, as an extention of said sleeve body (2), a tubular portion (10) effective to receive, after the affixing of said lug, identifying marks of said electrical cable.

2. A cup member for protecting and insulating electrical cable lungs, according to the preceding Claim, characterized in that said tubular portion (10) is provided, on at least a portion of its outer surface, with a region (11, 13) for housing said identifying marks.

3. A cup member for protecting and insulating electrical cable lugs, according to Claim 2, characterized in that said region for housing said electrical cables is defined by an annular projection (11), formed at a midle portion of said cup member, and an end projection (13).

4. A cup member for protecting and insulating electrical cable lugs, according to Claim 1, characterized in that said identifying marks are formed on bands (20) effective to be inserted on said cup member (1) and to be housed in the region defined by said projections (11, 13).

5. A cup member for protecting and insulating

electrical cable lugs, according to Claim 1, characterized in that it is effective to allow for said identifying marks to be applied as said lugs (4) are already engaged with the related electrical cables.

6. A cup member for protecting and insulating electrical cable lugs, according to Claim 1, characterized in that it is effective to allow for said cables to be numerated both with said cup inserted on said lug and before its insertion.

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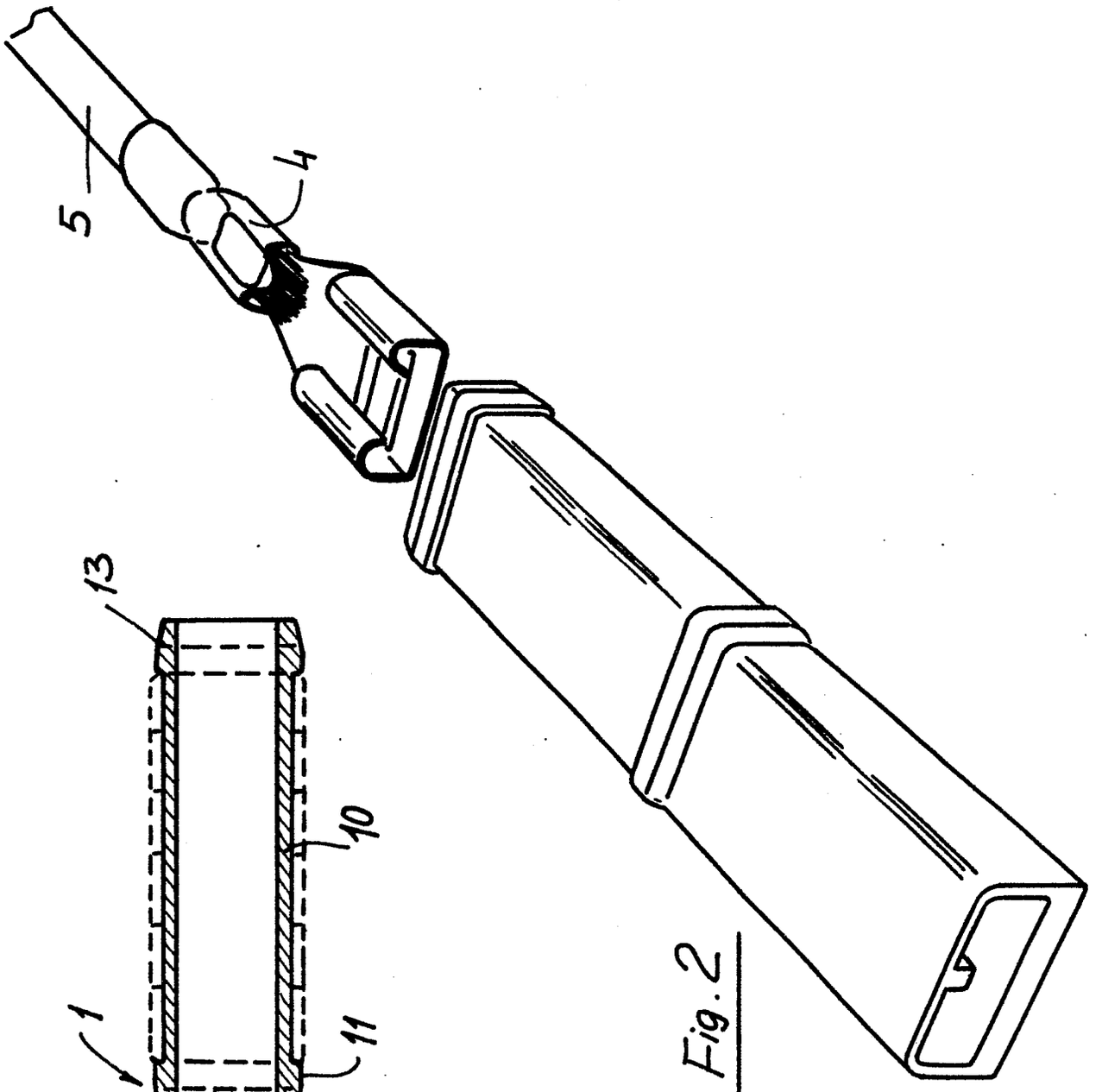

Fig.2

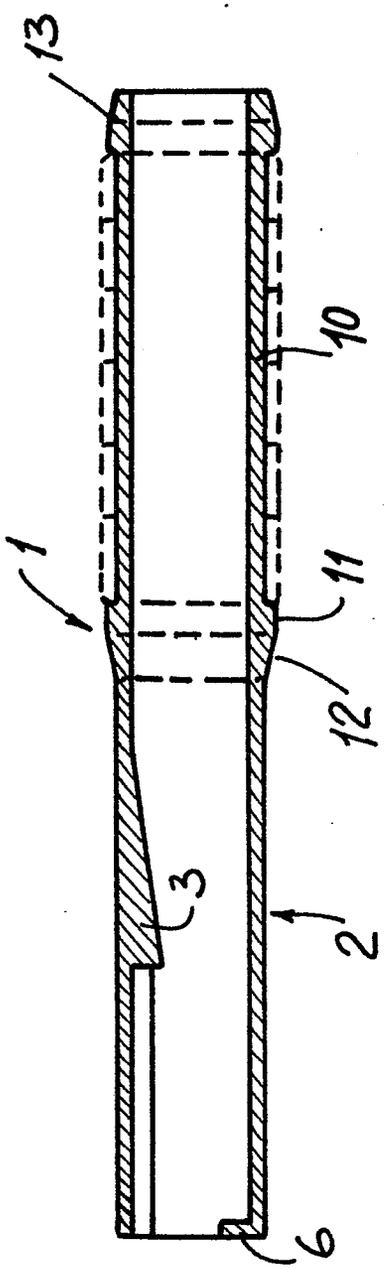

Fig.1

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Fig.3

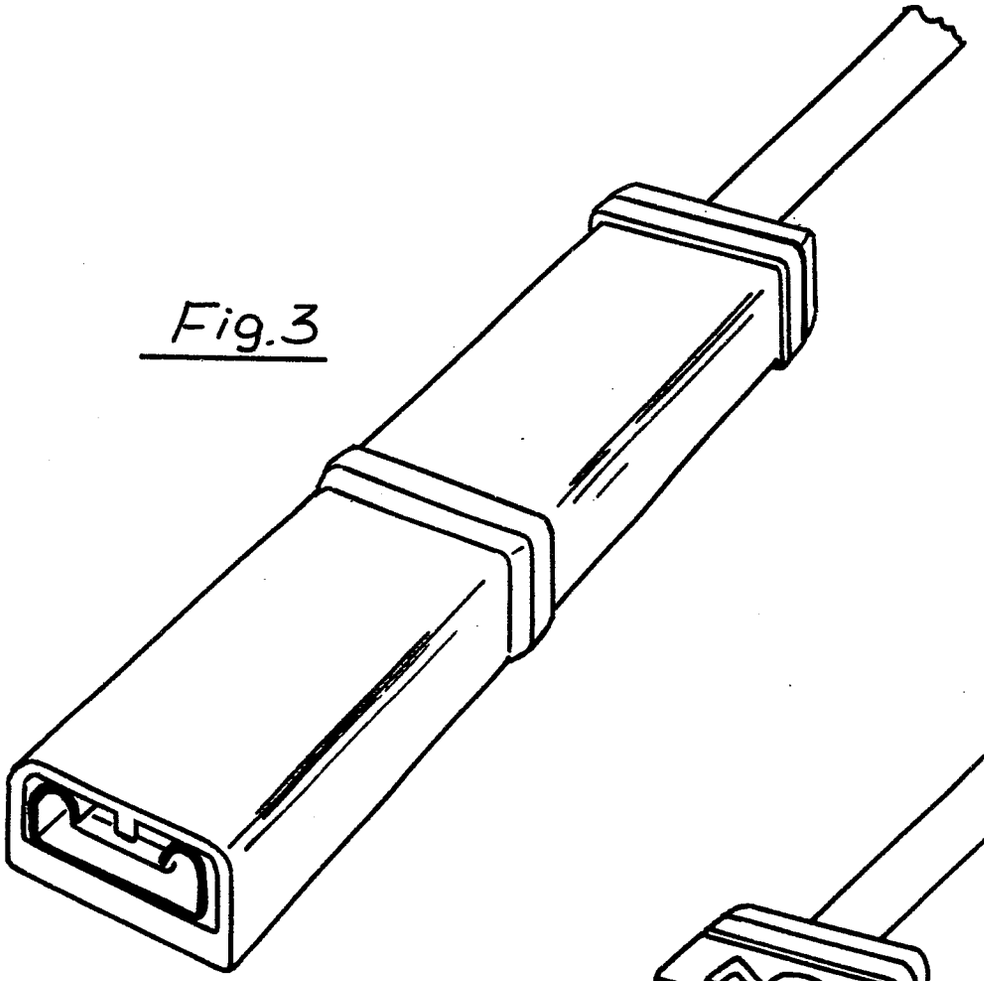
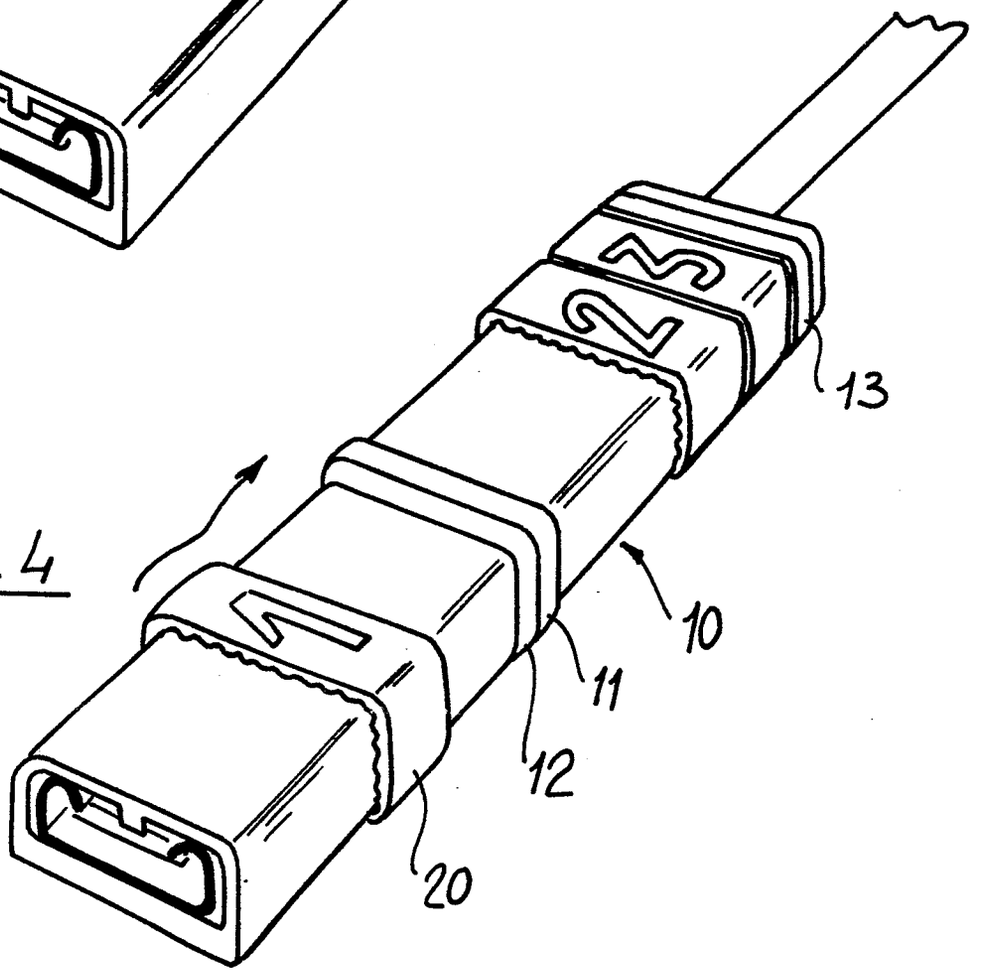


Fig. 4



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EUROPEAN SEARCH REPORT

0109365
Application number

EP 83 83 0195

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. ³)
X,Y	DE-U-6 938 749 (WIELAND) * Figures 1,2; page 3, line 10, page 4, line 15 *	1	H 01 R 4/70 H 01 R 9/26
Y	GB-A-2 024 768 (WAGO-KONTAKTTECHNIK) * Figures 1,4; page 1, lines 5-11; page 2, lines 73-81 *	1	
A	DE-A-1 781 058 (SIEMENS) * Figure 3; page 3, lines 8-14 *	1	

TECHNICAL FIELDS SEARCHED (Int. Cl. ³)

H 01 R 4/00
H 01 R 9/00
H 01 R 13/00

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	26-01-1984	WAERN G.M.

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