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**D E C I S I O N**  
of 21 October 1997

**Case Number:** T 0176/95 - 3.4.1

**Application Number:** 87105998.6

**Publication Number:** 0242884

**IPC:** A61N 1/36

**Language of the proceedings:** EN

**Title of invention:**

Removable sleeve adaptor for electrode leads

**Patentee:**

TELECTRONICS N.V.

**Opponent:**

BIOTRONIK Mess- und Therapiegeräte GmbH & Co Ingenieurbüro  
Berlin

**Headword:**

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**Relevant legal provisions:**

EPC Art. 56

**Keyword:**

"Inventive step (no)"

"Late-filed prior art admitted in view of prima facie  
relevance"

**Decisions cited:**

T 1002/92

**Catchword:**

-



Case Number: T 0176/95 - 3.4.1

**D E C I S I O N**  
of the Technical Board of Appeal 3.4.1  
of 21 October 1997

**Appellant:**  
(Opponent)

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**Representative:**

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**Respondent:**  
(Proprietor of the patent)

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**Decision under appeal:**

Decision of the Opposition Division of the  
European Patent Office posted 23 December 1994  
rejecting the opposition filed against European  
patent No. 0 242 884 pursuant to Article 102(2)  
EPC.

**Composition of the Board:**

**Chairman:** H. J. Reich  
**Members:** A. C. G. Lindqvist  
R. K. Shukla

## Summary of Facts and Submissions

- I. The respondent is the owner of European patent No. 0 242 884.

The independent claims 1 and 8 of the patent as granted read as follows:

"1. An adaptor for a plug end (16) of an electrode lead (10), the adaptor causing the plug end (16) to fit a socket having a first diameter and being removable from said plug end to cause the plug end (16) to fit a socket having a second, smaller, diameter, comprising:

a sleeve (32) for being coaxially fitted over the plug end (16) of the electrode lead (10) characterized in that said sleeve has a plurality of axial grooves (46), so that said sleeve (32) is removable from the plug end (16) by tearing along at least one of said grooves (46; 46').

8. An electrode lead assembly for delivering electrical stimuli from a pulse generator to body tissue, comprising:

an electrode lead (10) having a proximal end (16) for insertion into a corresponding socket of the pulse generator; and

a sleeve (32) coaxially fitted over the proximal end (16) of the electrode lead (10), the electrode lead (10) with said sleeve (32) fitting a pulse generator socket of a first size and the electrode lead (10) without said sleeve (32) fitting a pulse generator socket of a second, smaller size characterized in that said sleeve (32) has a plurality of axial grooves (46; 46') along which tearing can occur so as to remove said sleeve (32) from the electrode lead (10)."

Claims 2 to 7 and claims 9 to 11 are dependent claims.

II. This patent was opposed by the appellant inter alia on the ground of lack of inventive step in view of the prior art cited in the introductory part of the description and that disclosed in the following documents:

- O1: EP-A-0 006 296.
- O2: DE-A-3 306 115,
- O3: DE-C-2 845 226, and
- O4: US-A-4 175 593.

III. The Opposition Division rejected the opposition, since it considered that providing axial grooves in the sleeve of the prior art adaptor according to Figures 1 and 2 of the opposed patent, involved an inventive step. In particular, it considered that there was no indication in the prior art of any necessity of removing the prior art sleeves from the plug end by destroying them, because the prior art sleeves were already removable. It was further argued in the decision that it was not obvious for the skilled person to look for a solution (removal of the sleeve by destruction) if the corresponding problem was not even posed to him. Therefore, according to the decision, there was no obvious reason for providing the prior art sleeve with weakening lines, let alone axial grooves, and it would not be obvious to combine the prior art adaptor with packaging techniques using weakening lines, in particular not with that provided in the wrapper disclosed in document O1, having a perforation line. Perforation lines are not included in the subject-matter of the present claims.

IV. The opponent lodged an appeal against this decision and based his argument on the use of well-known measures employed in a more general field of removal of a cover or wrapper from everyday-life objects such as an umbrella and a sausage.

V. Oral proceedings were duly held on 21 October 1997. The opponent requested that the decision under appeal be set aside and that European patent No. 0 242 884 be revoked. The patentee requested that the appeal be dismissed and that the patent be maintained as granted.

VI. In support of his request the opponent argued essentially as follows:

(a) The closest prior art is disclosed in prior art Figure 2 of the present patent having the disadvantage that removal of the adaptor (which is prefitted on the proximal plug, for adapting it to a socket type having a second, smaller diameter) by rolling it up can frequently be difficult due to the resistance of the adaptor to the necessary rolling action as disclosed in the patent specification column 2, lines 12 to 16. Hence, the objective problem underlying the invention is to make the removal of the adaptor from the plug more easy. Such adaptors are cheap "one-way" articles to be thrown away after having been rolled-off, so that there was no prejudice in the art against removing them by destroying. Removal by destroying would be obvious to the competent skilled person, who in the present case must be presumed to be also aware of general everyday-life solutions such as the provision of weakening lines in wrappers for journals for their easy removal (see, in particular, document O1). The provision of weakening lines in the adaptor according to the

prior art of Figure 2 of the patent in suit was, therefore, without any inventive merit. Replacing the perforation line of document O1 by a groove represents only an obvious discretionary measure.

- (b) In the field of the present invention concerning electrical connectors, electrical cables have been generally known before the priority date of the present patent. As can be seen from an example of a known electrical cable presented at the oral proceedings, this frequently used cable comprises three isolated leads having each a circular cross section, the leads being embedded into an insulation sleeve in such a way that their centres form the three corners of a triangle. The sleeve has a cross-section having a circular outer surface and an inner surface composed of three adjoining circular shaped grooves each receiving one lead. In its cross section, the wall of the sleeve has a thickness which varies from a maximum, where the circular grooves adjoin each other, to a minimum at the bottom of the groove. When stripping the cable for connecting the leads, a practitioner makes a small incision in the wall of the sleeve at the bottom of one of the grooves where the sleeve has a minimum wall thickness. Thereafter he removes the sleeve by tearing it from the leads along the groove. This generally used removal technique corresponds exactly to that claimed in independent claims 1 and 8. The incision before tearing is analogous to notch 48 in Figure 4B and claimed in dependent claim 4 of the present patent. It would be obvious to use this generally known removal technique within the same technical field in the adaptor according to prior art Figure 2 of the present patent specification.

- (c) The aim of a secure mechanical and electrical coupling as disclosed in the present patent column 2, lines 37 to 40, cannot form part of the objective problem since the subject-matter of the independent claims neither comprises a partial extension of the grooves, internal guide and sealing rings, nor particular material properties of the insulator. Moreover, the necessary dimensions of the adaptor are given by the first diameter and the smaller second diameter of the two sockets used. After fixing the plug into the first socket the known elastically compressible adaptor develops a uniform contact pressure. Therefore, there will not be loose mechanical and electrical coupling in the closest prior art.

VII. The above arguments were contested by the patentee, who made essentially the following submissions:

- (a) Prior art adaptors for electrical applications are formed as unscrewable rigid parts. In the medical application according to Figure 2 of the present patent specification, the prior art adaptor is made of flexible material and can be rolled-off, rolling-off of covers or finger gloves being a wide-spread removal technique in the medical art. The present invention teaches for the first time to remove an adaptor of an electrical connector by destroying it. Since the adaptor is an active part of the electrical connector, the art of packaging, in particular that of food packaging, represents a remote technical field which is to be excluded in the examination of inventive step.

- (b) In the generally known cable submitted by the opponent (see paragraph VI-(b) above) the weakened parts of the cross section of the sleeve having a smaller wall thickness, are the result of encapsulating the three leads by molding. The form of the interior surface of the sleeve is automatically given by the outer surface structure of the triangular arrangement of the three leads. From an inherent effect of an encapsulation no suggestion is derivable to provide purposively weakened wall sections - in particular not grooves - in a part for facilitating its removal by tearing.
- (c) The problem underlying the present invention as seen by the opponent is too narrow. It consists not only in providing an easy removal of the adaptor but also in securing it firmly on a plug end as disclosed in the patent specification column 2, lines 37 to 40. The closest prior art adaptor has to be very flexible to be rolled-off. Such flexible material allows only an insecure, loose fit with the socket. The claimed adaptor which enables removal by tearing along grooves, makes it possible to use stiff adaptor material and thereby guarantees a secure mechanical coupling between a socket, a sleeve and a plug. The provision of grooves does not have a detrimental influence on the advantageous effects of internal guide and sealing rings, since the grooves do not extend to the surface region where the sealing rings are applied; see the patent specification, column 4, lines 39 to 43. The secure mechanical coupling between sleeve and plug by the provision of guide rings 40 and sealing rings 38 is disclosed in the patent specification at column 4, lines 11 to 18.



VIII. At the conclusion of the oral proceedings the decision was announced that the decision of the first instance is set aside and that European patent No. 0 242 884 is revoked.

### Reasons for the Decision

1. *Admissibility of late-submitted new prior art by the opponent:*

The opponent has supported the ground of lack of inventive step on which the opposition was based, on the technical facts resulting from the properties of the cable as specified in paragraph VI-(b) above, for the first time during the oral proceedings before the Board of Appeal on 21 October 1997, i.e. more than 4 years after the filing of the notice of opposition on 21 July 1993. Such submission of facts is clearly to be considered as belated. No particular reason was submitted for such belated submission. The fact that the cable specified in paragraph VI-(b) above, was generally known before the priority date of the present patent, was not contested by patentee. Hence, according to the established practice of the board of appeal of the EPO under these circumstances, no specific evidence is needed for the Board's finding that the cable specified in paragraph VI-(b) represents the state of the art in the sense of Article 54(2) EPC. Furthermore, also according to the Board's own general expert knowledge, the cable specified in paragraph VI-(b) above represents prior art to be considered in the present case. Since it was prima facie evident that the prior art specified in paragraph VI-(b) above, could change the decision to be taken and was thus highly likely to prejudice the maintenance of the European

patent, the Board admitted this prior art into proceedings in the exercise of its discretion under Article 114(1) EPC, see also T 1002/92 OJ EPO 1995, 605. The patentee did not contest that the electrical cable presented at the oral proceedings belongs to the state of the art. On the contrary, as is apparent from the paragraph VII-(b) above, the patentee provided further information regarding the manufacture of such a cable, and also has had ample opportunity to present his comments on the prior art cable submitted by the opponent, in compliance with Article 113(1) EPC.

2. *Inventive step - claims 1 and 8*

2.1 It was not contested by the parties that the features defined by the wording of the pre-characterising parts of independent claims 1 and 8 are disclosed in prior art Figure 2 of the present patent specification and the corresponding description, and that the adaptor according to this figure represents the closest prior art.

2.2.1 Starting from the closest prior art, the objective problem underlying independent claims 1 and 8 is to provide an adaptor sleeve that can easily be removed from the proximal plug; see the patent specification column 2, lines 34 to 36. The disadvantage that removal of this known adaptor can frequently be difficult due to its resistance to the rolling action (see the patent specification column 2, lines 12 to 16) can easily be recognised in the use of this known adaptor. Hence, the formulation of the objective problem underlying claims 1 and 8 does not contribute to an inventive step in the subject-matter of these claims.

2.2.2 Contrary to the patentee's opinion according to paragraph VII-(c) above, the technical aim of providing a secure mechanical and electrical coupling, cannot form part of the objective problem, since none of the technical means submitted in paragraph VII-(c) as being essential for providing a secure connection (i.e. stiff adaptor material, internal guide and sealing rings and their position within an adaptor section without groove) is comprised in the subject-matter of the independent claims 1 and 8. In particular, the mere fact that the adaptor according to the claimed subject-matter affords the possibility of using a stiff material for the adaptor, cannot justify the consideration of such a material as the claimed solution of the problem of a secure connection. Only an explicit restriction to such a material in the independent claims can be taken into consideration in the evaluation of inventive step.

2.3 The objective problem, i.e. providing an easy removal of the adaptor from the proximal plug (see paragraph 2.2.1 above), is solved in independent claims 1 and 8 by the same technical means defined by the identical wording in claims 1 and 8, i.e.

"characterised in that said sleeve (32) has a plurality of grooves (46, 46')."

The groove is defined by a functional feature having in claim 1 the wording:

"...so that said sleeve (32) is removable from the plug end (16) by tearing along at least one of said grooves (46; 46')"

or according to claim 8 having the wording:

"along which tearing can occur so as to remove said sleeve (32) from the electrode lead (10)."

Both wordings define the same technique for removal: "tearing along a groove". Hence, the issue of inventive step in the subject-matter of claims 1 and 8 can be considered together.

2.4 In the Board's view, the inner surface of the sleeve of the electrical cable described in paragraph VI-(b) above, can be regarded as comprising 3 grooves, each of them surrounding one lead. The generally recognised definition of a "groove", reads: "a long narrow channel or depression" (see Webster's Ninth New Collegiate Dictionary Merriam-Webster Inc, 1987 page 538); or in more detail: "The term groove is applied to the depression or track, either regular or irregular, left on the surface by machining processes. The size of the profile imparted by the tool or process is insignificant in comparison with the longitudinal extent to the track and it exhibits a similar character throughout the length of the track" (see G. Freeman "Wörterbuch technischer Begriffe mit 6500 Definitionen nach DIN" Beuth Verlag GmbH, Berlin u. Köln, 4. Auflage 1992, Seite 731). The patentee's submission that the surrounding insulation is produced by molding and serves for encapsulating the three leads (see paragraph VII-(b) above), in the Board's view, does not influence the process of removal (stripping) of the sleeve by tearing along one of the grooves. It was not contested by the patentee that before the priority date of the present patent almost every electrician used tearing along a groove of the sleeve in order to remove

it from the leads for their electrical connection. Hence, removal by tearing along a groove has to be regarded as a generally known routine measure in the art of electrical connectors.

2.5 Applying the above routine measure in the adaptor according to prior art Figure 2 of the present patent specification, in the Board's view, has to be regarded as an analogous use of a generally known removal technique of cylindrically shaped envelopes within the same technical field. Neither the subject-matter of claim 1 nor that of claim 8 is restricted to electro-medical devices such as pace-makers. The form of the groove in the surrounding insulation of the cable according to paragraph VI-(b) is similar to U-shaped groove 46' in Figure 4D and claimed in claim 7 of the present patent. A skilled person would know, that any undue resistance to tearing can be decreased by decreasing the wall thickness at the bottom of the groove. Thus, in the Board's view, the above use implies no technical difficulties.

2.6 For the reasons indicated in detail in paragraphs 2.1 to 2.5 above, in the Board's judgement claims 1 and 8 lack an inventive step within the meaning of Article 56 EPC.

3. Claims 2 to 7 and 9 to 11 fall because of their dependency on claim 1 or claim 8 respectively.

**Order**

**For these reasons it is decided that:**

1. The decision of the first instance is set aside.
2. The European patent No. 0 242 884 is revoked.

The Registrar:

The Chairman:

M. Beer

H. J. Reich