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**D E C I S I O N**  
**of 7 January 2004**

**Case Number:** T 0813/03 - 3.5.2

**Application Number:** 97902955.0

**Publication Number:** 1018189

**IPC:** H01R 4/24

**Language of the proceedings:** EN

**Title of invention:**  
ELECTRICAL PLUG

**Applicant:**  
RAYCHEM CORPORATION

**Opponent:**  
-

**Headword:**  
-

**Relevant legal provisions:**  
EPC Art. 83, 84, 111(1)  
EPC R. 51(3)

**Keyword:**  
"Clarity - main request (yes)"  
"Remittal to the first instance (yes)"

**Decisions cited:**  
T 0032/82, T 1055/92, T 1020/98

**Catchword:**  
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Case Number: T 0813/03 - 3.5.2

**D E C I S I O N**  
of the Technical Board of Appeal 3.5.2  
of 7 January 2004

**Appellant:** RAYCHEM CORPORATION  
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**Representative:** Jones, David Colin  
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**Decision under appeal:** Decision of the Examining Division of the  
European Patent Office posted 27 February 2003  
refusing European application No. 97902955.0  
pursuant to Article 97(1) EPC.

**Composition of the Board:**

**Chairman:** W. J. L. Wheeler  
**Members:** J.-M. Cannard  
C. Holtz

## Summary of Facts and Submissions

I. The appellant contests the decision of the examining division to refuse European patent application No. 97 902 955.0. The reason given for the refusal was that independent claims 1 and 8 filed with the letter dated 8 November 2002 did not meet the requirements of Article 84 EPC.

II. The following document:

D1: WO-A-91/05377,

cited in the search report is considered in this decision.

III. With the statement of grounds of appeal, the appellant filed three sets of claims corresponding to a main request and a first and a second auxiliary request.

IV. Independent claims 1 and 8 according to the main request, which respectively correspond to claims 1 and 8 refused by the examining division, read as follows:

Claim 1:

"An electrical plug (1) for connecting an electrical cable (11) to an electrical power outlet, said electrical cable (11) comprising a first elongate electrode and a second elongate electrode, said first and second electrodes surrounded by and separated from one another by a polymeric insulation, said plug (1) comprising

(A) a housing (3) which comprises

(1) a first housing member (5) which comprises a slot (23) for receiving the cable (11), and

(2) a second housing member (7,9),

the first and second housing members (5,7,9) being movable relative to each other between a unique mated configuration and a demated configuration;

(B) a first contact member (13) which comprises a first prong suitable for insertion into one socket of an electrical power outlet, and a first electrode-contact section (33) which can be electrically connected to the first prong (13);

(C) a second contact member (15) which comprises a second prong suitable for insertion into a second socket of an electrical power outlet, and a second electrode-contact section (35) which can be electrically connected to the second prong (15);

characterised by:

(D) a cutting module (25) which is positioned in the first housing member (5) and which comprises

(1) a cavity (27) comprising a wall (29) which has a concave arcuate inner surface, on which the first and second electrode-contact sections (33,35) are positioned, and

- (2) an opening (31) in the wall (29) which opens into the cavity (27) and is aligned with the slot (23) for receiving the cable (11),
- (E) a cutting element (37) which
- (1) comprises a cutting wedge (59) which comprises
    - (a) a convex arcuate outer surface (65) which complements the inner surface of the wall (29), and
    - (b) piercing means (61) suitable for penetrating the polymeric insulation of the cable (11), and
  - (2) is rotatably-mounted within the cavity (27) so as to be rotatable from an opened position for receiving the cable (11) to a closed position so that, after the cable (11) has been inserted into the cavity (27) through the opening (31), rotation of the cutting element (37) successively:
    - (a) urges the piercing means (61) to penetrate the polymeric insulation between the first and second electrodes at an end portion of the cable (11),
    - (b) urges the end portion of the polymeric insulation from the electrodes, and

(c) forces the stripped end portion of the first electrode into physical contact with the first electrode-contact section (33) and the stripped end portion of the second electrode into physical contact with the second electrode-contact section (35) within the cavity (27) of the cutting module (25)."

Claim 8:

"A connector for connecting an end of a first elongate electrical cable (11) to an end of a second elongate electrical cable, said first cable comprising first and second elongate electrodes surrounded by and separated from one another by a first polymeric insulation, and said second cable comprising third and fourth elongate electrodes surround by and separated from one another by a second polymeric insulation, said connector comprising

(A) a housing (3) which comprises

(1) a first housing member (5) which comprises a slot (23) for receiving the cable (11), and

(2) a second housing member (7,9),

the first and second housing members (5,7,9) (a) being movable relative to each other between a unique mated configuration and a demated configuration, and (b) when mated comprising an opening for receiving the second cable;

- (B) a first connection means for connecting the first electrode to the third electrode within the housing (3), and a first electrode-contact section (33) which can be electrically connected to the first connection means;
  
- (C) a second connection means for connecting the second electrode to the fourth electrode within the housing (3), and a second electrode-contact section (35) which can be electrically connected to the second connection means;  
characterised by
  
- (D) a cutting module (25) which is positioned in the first housing member (5) and which comprises
  - (1) a cavity (27) comprising a wall (29) which has a concave arcuate inner surface, on which the first and second electrode-contact sections (33,35) are positioned, and
  
  - (2) an opening (31) in the wall (29) which opens into the cavity (27) and is aligned with the slot (23) for receiving the cable (11),
  
- (E) a cutting element (37) which
  - (1) comprises a cutting wedge (59) which comprises
    - (a) a convex arcuate outer surface (65) which complements the inner surface of the wall (29), and

- (b) piercing means (61) suitable for penetrating the polymeric insulation of the cable (11), and
- (2) is rotatably-mounted within the cavity (27) so as to be rotatable from an opened position for receiving the cable (11) to a closed position so that, after the cable (11) has been inserted into the cavity (27) through the opening (31), rotation of the cutting element (37) successively:
- (a) urges the piercing means (61) to penetrate the polymeric insulation between the first and second electrodes at an end portion of the cable (11),
  - (b) urges the end portion of the polymeric insulation from the electrodes, and
  - (c) forces the stripped end portion of the first electrode into physical contact with the first electrode-contact section (33) and the stripped end portion of the second electrode into physical contact with the second electrode-contact section (35) within the cavity (27) of the cutting module (25)."

Claims 2 to 7 are dependent on claim 1.



V. The arguments of the appellant can be summarized as follows:

It was not the function or requirement of a claim relating to an electrical plug to define an invention such that the skilled man would be able to make the plug. Claims 1 and 8 according to the main request were clear because they defined the essential features of the claimed plug or connector, particularly those relating to cutting element thereof, and the operable relationships between these features.

VI. The appellant requested in the statement of grounds of appeal that the decision under appeal be set aside and that the application be allowed to proceed with the claims of the main request, or alternatively with the claims of the first auxiliary request or otherwise of the second auxiliary request, or otherwise that the application be referred back to the examining division if there were other matters outstanding.

### **Reasons for the Decision**

1. The appeal is admissible.
2. *Claim 1 of the main request - Clarity*

In its decision, the examining division considered that claim 1 did not satisfy the requirement of clarity of Article 84 EPC because:

- it was not clear how the rotation of the cutting element being "rotatably-mounted within the cavity (2) so as to be rotatable" took place, and

- the three results to be achieved according to features (E)(2) (a), (b) and (c) lacked clarity according to the Guidelines, C-III-4.7, second sentence. "All of the geometry and movement should have been clearly defined explicitly in the claim (see the Guidelines, C-III-4.1, third sentence) such that the skilled man would have been able to make the plug achieving the three functions (E)(2) (a), (b) and (c)".

The Board does not share this opinion.

3. Claim 1 of the main request, which is identical to claim 1 as refused by the examining division, specifies (see paragraphs (E)(2) (a), (b) and (c)) that the cutting element of the plug is "rotatable from an opened position for receiving the cable (11) to a closed position so that, after the cable (11) has been inserted into the cavity (27) through the opening (31), rotation of the cutting element (37) successively:

(a) urges the piercing means (61) to penetrate the polymeric insulation between the first and second electrodes at an end portion of the cable (11),

(b) urges the end portion of the polymeric insulation from the electrodes, and

(c) forces the stripped end portion of the first electrode into physical contact with the first electrode-contact section (33) and the stripped

end portion of the second electrode into physical contact with the second electrode-contact section (35) within the cavity (27) of the cutting module (25)".

3.1 These features are perfectly clear having regard to the language. The meaning of the terms is understandable for the skilled man from the wording of the claim alone and all the constitutive elements of the cutting element are correctly defined, albeit partly in functional terms, in section (E) of the claim. The Board thus considers that, in this respect, claim 1 meets the requirement of Article 84 EPC, second sentence, and is in accordance with the consistent practice of the department of first instance according to the Guidelines, C-III-4.1, third sentence, which reflects the established case law of the Boards of appeal.

3.2 It is true that the mounting and the rotation of the cutting element in the cutting module are not only identified in terms of structural features, but also by means of results to be achieved. These results however can be directly and positively verified and the conditions and restrictions they impose on the rotation and the structural features of the cutting module and element are clearly understandable by the skilled man, as required by the Guidelines, C-III-4.7, third sentence. Moreover, as far as the examining division has considered that features (E)(2) (a), (b) and (c) identify three functions, it is noted that nothing in Article 84 EPC prevents functional features from being used to distinguish the invention over the prior art.

The Board thus sees no reason to object the wording of claim 1 in these respects.

4. The content of claims is governed by Article 84 and Rule 29 EPC, which are not so severe as to require a claim to identify technical features or steps in all possible details. According to the established case law of the Boards of appeal (see decision T 1055/92, OJ 1995, 214), "a claim in a European patent application must comprise the essential features of the invention (see T0032/82, OJ 1984, 354); the essential features should in particular comprise those features which distinguish the invention from the prior art". According to decision T 32/82, the essential features are those which are necessary to solve the technical problem with which the application is concerned.
5. In the present case, the examining division has not mentioned any documents on the basis of which the features which distinguish the invention from the prior art, and more generally the essential features of the invention, could be identified.
  - 5.1 The Board considers that document D1, corresponding to US patent 5 002 501 cited in the description of the application in suit, is the closest prior art which forms the starting point of the invention. The electrical plug according to claim 1 is distinguished over D1, which discloses an electrical plug comprising all the features recited in the preamble of claim 1, by the features recited in the characterising part of the claim. Starting from this prior art, the technical problem addressed by the invention can be seen as providing an electrical plug which makes, without

requiring special tools, "an easy, reliable connection to an electrical cable for stripping the polymeric insulation from the electrodes and without the need for using screws or other means of penetrating the insulation to precisely contact the electrodes", as recited in the description of the application (see the corresponding published application WO 97/26686, page 2, lines 14 to 20). The Board considers that the features recited in the characterising part of claim 1 define the features which solve the technical problem addressed by the invention, thus the essential features of invention, and that these features distinguish clearly the invention from the prior art.

6. Having regard to the question of knowing whether all of the geometry and the movement of the cutting element has been sufficiently clearly defined in claim 1 so that the skilled person would have been able to carry out the plug of the invention, the Board considers that it is sufficient if the application as a whole (claims together with the description and drawings) discloses the invention in a manner sufficiently clear and complete for it to be carried out by the person skilled in the art, as required by Article 83 EPC. The EPC does not require a claim, read alone, to do this. Rather, according to the first sentence of Article 84 EPC "the claims shall define the matter for which protection is sought" (see also decision T 1055/92, *supra*). It is noted, however, that the examining division in its decision did not object that the application as a whole contravened Article 83 EPC.

7. *Claim 8 of the main request- Clarity*

The same considerations as those relating to the clarity of claim 1 apply *mutatis mutandis* to claim 8. The Board however observes that the various references to "the cable" in the preamble (page 20, line 19) and in the characterizing part of claim 8 are unclear because a first and a second cable are identified in the first four lines of the claim.

8. *Extent of scrutiny in appeal proceedings*

The Board notes that, according to the decision under appeal, the only ground of the refusal was lack of clarity of claims 1 and 8 of the application then on file. The question of lack of clarity of claims 1 and 8 of the present main request, which are identical to claims 1 and 8 refused by the examining division, thus is the only issue on which the Board has to form a judgment. Since the Board does not share the examining division's opinion about lack of clarity of claims 1 and 8, there is no need for the Board to consider the claims of the first and second auxiliary requests.

9. Pursuant to Article 111(1) EPC, the Board can go beyond the grounds of the decision under appeal, exercising any power within the competence of the examining division. Following decision T 1020/98 (OJ 2003, 533, point 2 of the reasons), the Board notes that this does not mean that it should conduct a full examination of the application under appeal, because that is the examining division's task. In the present case, no examination of claims 1 and 8 has been made by the examining division having regard to the requirements of

the EPC other than those of Article 84 EPC and no arguments in support of novelty and inventive step of the subject-matter of claims 1 and 8 of the main request have been given in the statements of grounds of appeal. In such circumstances, where a proper examination of the application in respect of all requirements of the EPC has not yet even been started, it is appropriate to remit the case back to the department of first instance without further ado. The Board observes that according to Rule 51(3) EPC any communication under Article 96(2) EPC shall contain a reasoned statement covering, where appropriate, all the grounds against the grant of an European patent.

## **Order**

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

1. The decision under appeal is set aside.
2. The case is remitted to the department of first instance for further prosecution.

The Registrar:

The Chairman:

D. Sauter

W. J. L. Wheeler