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D E C I S I O N
of 10 August 2001

Case Number: T 1031/99 - 3.5.2

Application Number: 92916689.0

Publication Number: 0596993

IPC: H01R 4/00

Language of the proceedings: EN

Title of invention:
Heat-recoverable soldering device

Applicant:
RAYCHEM CORPORATION

Opponent:
-

Headword:
-

Relevant legal provisions:
EPC Art. 23(3), 54, 111(1), 113(1)
EPC R. 67

Keyword:
"Novelty - (yes)"
"Substantial procedural violation by peremptory refusal - (no)"

Decisions cited:
-

Catchword:
-

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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 1031/99 - 3.5.2

D E C I S I O N
of the Technical Board of Appeal 3.5.2
of 10 August 2001

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Decision under appeal: **Decision of the Examining Division of the European Patent Office posted 8 June 1999 refusing European patent application No. 92 916 689.0 pursuant to Article 97(1) EPC.**

Composition of the Board:

Chairman: W. J. L. Wheeler
Members: R. G. O'Connell
P. H. Mühlens

Summary of Facts and Submissions

I. This is an appeal from the refusal by the examining division of European patent application No. 92 916 689.0 on the grounds that the subject-matter of claim 1, as amended in response to the single Rule 51(2) communication, was not new having regard to

D1: US-A- 4 283 596.

On appeal claim 1 as refused was maintained without further amendment (main request) and four restricted versions of this claim were filed as part of four auxiliary requests.

II. Claim 1 of this main request reads as follows:

"1. A device (1) for forming a solder connection between a plurality of electrical conductors (9), which comprises a hollow, dimensionally heat-recoverable sleeve (2) that contains a quantity of solder (4, 5, 13, 15, 17), the sleeve having at least one open end to allow insertion of one or more of the electrical conductors; [and] ***characterised in that*** a deformable retaining member (6, 12, 14, 16) ***is*** located within the sleeve, the retaining member being mechanically deformable to retain the conductors in the desired alignment within the sleeve ***prior to the application of heat to recover the sleeve and melt the solder***."

Bold italics and square brackets mark insertions and deletions respectively vis-à-vis claim 1 as originally filed in the Euro-PCT regional phase which had been the subject of the single Rule 51(2) communication.

III. The appellant's arguments can be summarised as follows:

Novelty over D1

Claim 1 defines a device for forming a solder connection comprising:

- A hollow, dimensionally heat-recoverable sleeve

- A quantity of solder

- An open end for insertion of one or more electrical conductors

These features, present in the pre-characterising clause of claim 1, are known from D1 which is acknowledged to be the closest prior art.

In the device described in D1 the hollow, dimensionally heat-recoverable sleeve (2) contains a quantity of solder (5) and has an open end through which two bared wires can be introduced.

Within the sleeve (2) is an insert defining two compartments. At column 1 between lines 49 and 57 of D1 it is stated that the conductors are "...held, by an insert positioned within the sleeve, in a substantially fixed transverse relationship to each other in the sleeve whereby an electrical connection can be made between the conductors, the insert being infusible at the temperature to which the components are heated to cause shrinkage of the sleeve, and applying heat to shrink the sleeve. The insert is advantageously positioned in the sleeve before the conductors are positioned in the sleeve".

D1 further states, between column 1, line 63 and column 2, line 2 that the "...insert is infusible at the temperature to which the components are heated to cause shrinkage of the sleeve and is such that it holds the conductors in a substantially fixed transverse relationship to each other whereby an electrical connection can be made within the sleeve between the electrical conductors, and applying heat to shrink the sleeve".

Both of these statements refer to the property of the insert by which it performs its function without requiring that it be deformed in order to perform this function. By contrast, claim 1 requires, in the characterising clause, that the retaining member be mechanically deformable to retain the conductors in the desired alignment within the sleeve prior to the application of heat to recover the sleeve and melt the solder.

In the specification of the present application it is explained that the potential displacement of the bared conductors, particularly when there are several conductors being connected together, and especially when these are introduced from opposite ends of a connector, when the connector and the wires are moved between the position at which insertion takes place and the position at which the heat shrinking of the sleeve takes place, can result in a failure of the solder to make a secure electrical connection. This problem is overcome by providing within the heat shrinkable sleeve an element which can be deformed to hold the conductors in their required alignment, that is to hold the conductors in position such that the solder will make the required electrical connection when it is fused. It

is described in the specification that this deformation may be achieved by making the retaining member from a soft or malleable material which can be acted on by the installer, after the bared wires have been introduced, to clamp or crimp the retaining member about the wires to hold them in position, or alternatively (if a hard material is used) to utilise a pre-loaded spring which, once the wires have been introduced, is released (and the specification describes the breaking of a holding tab) to allow the spring to close up to grip and hold the wires in place.

By contrast, the rigid insert 8 of D1 is formed as a strip having two cylindrical portions defining separate compartments in to each of which a bared conductor wire is to be introduced, in use, so that the insert maintains the end portions "...in substantially fixed spatial relationship to each other." (Column 5, lines 29/41).

It is also explained that "some movement of the end portions (of the wires) in the compartments may be possible but each end portion is maintained within the confines of the respective compartment." The document also emphasises that "...the resulting electrical connection between the conductors is effected without the necessity for dimensional change of the insert or shrinkage of the sleeve, although the possibility that incidental dimensional change takes place is not excluded." (Column 6, lines 25 to 30). This disclosure does not teach the reader that the insert should be malleable or spring loaded or in general terms "deformable" into contact with the wires before heat shrinking of the sleeve. Indeed, where additional security of the bared wires is required this document

describes a procedure by which "...the connector may be rotated about its longitudinal axis while movement of the insulated portions of wires 13 and 14 is substantially prevented. The stripped portions of conductors adjacent to the insert 8 are thereby twisted into contact with each other at 19..." (Column 5, lines 51/55) by which it is to be understood that the teaching of this document is that the rigid, undeformable insert is used to retain the bared ends of the wires which, if additional contact is required, are to be twisted without there being any hint or suggestion that the insert itself be in any way deformed to enhance the contact between the wires.

The Examiner draws attention to the alternative embodiment illustrated in Figures 5 and 6, and the statement at column 6 between lines 15 and 17 to the effect that "the insert 21 is formed by deforming substantially diametrically opposite portions 22, 23 of the cylindrical member 20 radially inwardly thereby forming two compartments 24 each of which is defined by a substantially tubular wall and is joined by a pair of bridging members 25 to the other compartments...." This, however, can only be understood as a factory scale operation undertaken during the construction of the insert and since it leaves the insert in the shape shown in Figures 6 and 7, with "bridging pieces" 25 being sufficiently strong to hold the insert in shape with two separate chambers 24 it is to be expected that this operation is performed on an otherwise rigid stiff tube as an economical way of forming two tubular chambers. There is nothing in this disclosure to indicate that the insert is deformable after introduction of the wires and before application of heat to recover the sleeve and melt the solder. Since

the deformation takes place after the wires have been introduced this deformation can only take place by action of the operator performing the assembly work, which means that the deformation must take place on site or in the field where it is to be assumed that the only tools available are the hand tools of the assembler rather than the press tools of a factory. The fact that the tube 20 is deformed into the double-chamber configuration of Figures 6 and 7 cannot, therefore, be interpreted as an implication that the thus-shaped tube is deformable to retain the conductors in the desired alignment within the sleeve, and this is reinforced by the description in D1 itself of the twisting of the wires where it is required to improve the contact between them and enhance the retention thereof. No hint or suggestion of deformation of the retaining member to retain the conductors is to be found in D1.

Request for reimbursement of the appeal fee (Rule 67 EPC)

The applicant received only one Official Communication under Article 96(2) EPC in connection with his application; that communication was dated 21 August 1998 and only raised objections under Article 83 EPC. The Examiner expressed the opinion (see paragraph 2 of the communication) that because of the Article 83 EPC deficiencies "...no complete examination can be performed at present. In particular, the invention is not understood and so no examination as to the requirements of Article 52(1)EPC is possible, and this is postponed pending amendments to meet the above and further objections set out below...".

In paragraph 3 of the communication the Examiner stated that "although no complete examination can be performed under Article 52(1)EPC, the following observations are made to guide the applicant." The Examiner commented, but did not raise formal objections, on two prior art documents.

In the decision to refuse, however, in paragraph 3 it is alleged that the Official Communication under Article 96(2)EPC stated that claim 1 did not meet the requirement of Article 52(1)EPC with respect to novelty. Further, in paragraph 1 reasoning regarding the novelty objection over D1 is given, which reasoning was not included in the previous Official Communication.

Thus, the applicant having been told that substantive examination had not yet taken place, was not given an opportunity to comment on the finding of that substantive examination when it subsequently did take place, but merely immediately notified that the application had been refused. The applicant believes that the decision to refuse this application has been incorrectly issued.

Although an Examiner may refuse an application at the first re-examination stage (that is after having received a response to a first Examination Report), the guidelines make it clear that this should only be done if either there seems no possibility of any amendment which would overcome his objections to the application or if the applicant has made no serious attempt to meet those objections. In the EPO guidelines for examination, at C-VI 2.5, a serious attempt to deal with objections is stated to include amendment or

counter arguments, and at C-VI 4.3 it is stated that if re-examination shows the applicant has not made any real effort refusal can be immediate. It qualifies this, however, with the statement that "this would be an exceptional case". Generally, it says, the Examiner should continue with the Examination process and warn the applicant, either by a telephone conversation or in a short written communication, that the application is to be refused.

By contrast, in the present case, a real effort was made to overcome the objections raised in the First Official Communication, both by amendment and by counter argument. Indeed, a five page detailed response was filed explaining the purpose and significance of amendments made to claim 1. It is the applicant's belief, therefore, that in line with the guidelines a further Official Communication should have been sent for this reason alone.

Furthermore, Article 96 EPC states that if the Examination of a European Patent Application reveals that the application or the invention to which it relates does not meet the requirements of the convention the examining division should invite the applicant "...as often as necessary, to file his observations...". The invitation to file observations is mandatory and was not carried out in this case. The first Official Communication was clearly stated to have been issued prior to substantive examination having taken place. When the substantive examination did take place, the examining division found that the application did not meet the requirements of the convention regarding novelty, but the examining division did not invite the applicant to file

observations on its findings. There has, therefore, been a procedural violation of Article 96(2)EPC.

In T 951/92 (OJ EPO 1996, 53) it was stated that Article 96(2) and Rule 51(3) involve two requirements. The first is that the applicant must be informed of each requirement of the convention which is not considered met. The second is that the applicant must be informed of the legal and factual reasons considered to lead to the conclusion that the requirements are not met. In the present case neither of these were complied with. The applicant was not informed that the application did not meet the requirements regarding novelty. In the first Official Communication the Examiner merely stated some *observations* said to be made to "guide the applicant" on the question of novelty. The applicant was not informed in a communication under Article 96(2) that the requirement regarding novelty was considered not to have been met. It follows that the applicant was also not informed in an Article 96(2) communication of the legal and factual reasons leading to the conclusion that the requirements regarding novelty were not met. Hence both Article 96(2) and Rule 51(3) have been violated.

In addition, there is also considered to be a violation of Article 113 EPC. This states that a decision of the EPO may only be based on grounds or evidence on which the parties concerned have had an opportunity to present their comments. Article 113 enshrines the judicial notion of a "right to be heard". As is clear from the Case Law of the boards of appeal any decision of the EPO, for example a refusal, must be based on the same reasoning as is given in the objections previously put forward. Where a new objection is raised there is a

legal obligation on the examining division under Article 113(1) to issue a further communication before issuing a decision refusing the application. In the guidelines for examination, C-VI 7.7 it is stated that the grounds for refusal may be based only on grounds on which the applicant has had an opportunity to put forward comments.

In the present case the first Official Communication contained only an Article 83 objection; the novelty objections included in the decision to refuse were not previously put forward. Further, the Examiner's reasons set out in paragraph 2.4 of the decision to refuse were new and had not been raised before. Therefore, the applicant had not been given an opportunity to comment on this reasoning. Not only was a fresh objection formally raised in the decision to refuse, but also fresh reasoning, to which the applicant has a right to an opportunity to reply.

Article 113(1) and Article 96(2) were held to be contravened in T 951/92 in similar circumstances to this case. The Board of Appeal said the procedure for examination should be such that the applicant "knows in advance of the decision being issued both that the application may be refused and also why it may be refused".

IV. The appellant requested (main request) that the decision under appeal be set aside and that a patent be granted on the basis of claims 1 to 10 of the application as refused. Four auxiliary requests based on amended claim sets were also filed.

Auxiliarily the appellant requested that the case be

remitted to the department of first instance for further prosecution.

The appellant also requested reimbursement of the appeal fee by reason of a substantial procedural violation.

The appellant requested oral proceedings if the board did not intend to set aside the decision under appeal.

Reasons for the Decision

1. The appeal is admissible.

2. *Novelty*

2.1 The board approves and adopts the appellant's detailed submission on the issue of novelty of the subject-matter of claim 1 over D1. The insert 21 in D1 is deformed in the process of manufacturing the connector disclosed in that document. There is no suggestion therein that this insert, once assembled in the connector device, is further deformable to retain the conductors. Indeed the method by which the stripped portions of the wires to be connected are brought into contact by twisting suggests the contrary.

2.2 As the board sees it, the examining division's reading of claim 1 onto D1 (embodiment including insert 21 as shown in Figs 5 to 7) is either a misinterpretation of the prior art or is based on reading "deformable" in claim 1 as including an insert which was at any stage in its manufacturing history "deformable" even if it is no longer substantially deformable in the device. The

board regards such an interpretation as unreasonable. In the judgement of the board, the device of claim 1 is not even accidentally anticipated by D1, ie having regard to D1 it is new.

3. As was signalled in the single Rule 51(2) communication a complete examination of this application has not taken place. In particular the examining division has not commented on independent claim 10, or on the issue of inventive step. In addition an objection was raised under Article 83 EPC which appears not to have been resolved. It would therefore not be appropriate for the board to complete the examination in exercise of its powers under Article 111(1) EPC, second sentence, first part.

4. *Request for reimbursement of the appeal fee - alleged substantial procedural violation by peremptory refusal (Article 113(1) EPC)*

4.1 The first paragraph of the communication pursuant to Article 96(2) and Rule 51(2) EPC (EPO Form 2001) reads as follows:

"The examination of the above-identified application has revealed that it does not meet the requirements of the European Patent Convention for the reasons enclosed herewith. If the deficiencies indicated are not rectified the application may be refused pursuant to Article 97(1) EPC."

4.2 Paragraphs 2 and 3 of the annex to the communication read as follows:

"2. From the foregoing it is seen that the application

is severely deficient as regards the requirement of Article 83 EPC, to the extent that no complete examination can be performed at present. In particular the invention is not understood so no examination as to requirements of Article 52(1) EPC is possible, and this is postponed pending amendment to meet the above and further objections set out below.

3. Although no complete examination can be performed under Article 52(1) EPC, the following observations are made to guide the applicant.

3.1 It would appear that the device of claim 1, at least, is widely anticipated, as exemplified by US-A-4 283 596, which discloses a device for forming a solder connection between a plurality of electrical conductors 17, 18, which comprises a hollow, dimensionally heat-recoverable sleeve 2 that contains a quantity of solder 5, the sleeve having open ends to allow insertion of the conductors, and a deformable retaining member 21 (see column 6, lines 15 and 16) being mechanically deformable to retain the conductors in the desired alignment within the sleeve.

Similarly EP-A-0 295 058 anticipates the device of claim 1. It is noted that no deformable member is shown explicitly, but it is stated in column 6, lines 13 to 18 that a crimp connection (i.e. a deformable member) which is not shown, retains the conductors together.

3.2 The applicant is requested to consider all the relevant documents cited in the International

Search Report and European Search Report, and to draft new claims accordingly.

3.3 It would expedite the examination under Article 52(1) EPC, if the applicant would indicate in the letter of reply the difference of the subject-matter of the new claim vis-à-vis-à-vis the state of the art and the significance thereof. The invention should be presented and compared with the prior art in terms of a technical problem and its solution. The latter are not apparent from the description at present."

4.3 The board judges that the reader of the communication would have been left in no doubt that the provisional view of the examining division was that claim 1 lacked novelty over at least D1, the legal and factual reasons for this view being given in the form of reading the claim onto reference numerals from D1 and a reference to a passage in that document explaining the structure and function of the "deformable retaining member 21". Given that this objection and reasoning was the basis for the subsequent refusal under Article 97(1) EPC, the board considers that the applicant knew in advance of the decision being issued both that the application might be refused and also why it might be refused. Furthermore the applicant did have an opportunity to comment on these reasons, as provided for in Article 113(1) EPC, and did so in the response dated 16 March 1999, which traversed the examining division's equation of the deformable retaining member 6, 12, 14, 16 of claim 1 with the retaining member 21 of D1 and which amended the claim to reinforce this distinction. The fact that the refusal decision extended the initial reasoning in the Rule 51(2) communication to deal with

the applicant's argument in response and the amendment to the claim was appropriate and necessary. In the judgement of the board, this was the normal convergent clarification and confirmation of the original reasons for refusal; it did not constitute substantially new reasons which would give rise to a further right to an opportunity to comment. In fact it merely maintained the examining division's original interpretation of the claim and the prior art and explained briefly why the amendment and argument in response had not changed this interpretation.

4.4 The board concludes therefore that no substantial procedural violation was involved in the examination and refusal of the application. Hence there is no case for reimbursement of the appeal fee pursuant to Rule 67 EPC.

4.5 For completeness the board observes that it is not the function of the EPO Boards of Appeal to monitor or judge compliance with the Guidelines for examination at the EPO, but only with the provisions of the EPC (Article 23(3) EPC).

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.

3. The request for reimbursement of the appeal fee is refused.

The Registrar: The Chairman:

M. Hörnell W. J. L. Wheeler