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File Number: T 500/90 - 3.2.3  
Application No.: 84 308 484.9  
Publication No.: 0 146 316  
Title of invention: Method and apparatus for joining pipe

Classification: B21D 39/04

D E C I S I O N  
of 4 March 1992

Applicant: Cooper Industries, Inc.

Headword:

EPC Article 84

Keyword: "Clarity of apparatus claims (denied)"

Headnote



Case Number : T 500/90 - 3.2.3

**D E C I S I O N**  
of the Technical Board of Appeal 3.2.3  
of 4 March 1992

**Appellant :** Cooper Industries, Inc.  
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**Representative :** Smith, Norman Ian  
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**Decision under appeal :** Decision of Examining Division 2.3.02.090 of the  
European Patent Office dated 12 January 1990  
refusing European patent application  
No. 84 308 484.9 pursuant to Article 97(1) EPC.

**Composition of the Board :**

**Chairman :** C.T. Wilson  
**Members :** F. Brösamle  
L. Mancini

## Summary of Facts and Submissions

I. Appellant's European patent application No. 84 308 484.9 was refused by a decision of the Examining Division dated 12 January 1990. That decision was based on Claims 1 to 17 filed with letter of 7 December 1989. Claim 1 thereof was an apparatus claim i.e. "an assembly for forming a joint ...".

II. The reason given for the refusal was that the subject-matter of the characterising part of Claim 1 reading "characterised by collapsible volume compensating means (98,133,134) capable of reducing its volume ..." relates solely to a workpiece which may be used with the apparatus and does not define any physical features of the apparatus per se suitable to distinguish the claimed apparatus from the prior art.

The Examining Division has drawn the Appellant's (Applicant) attention to the fact that method claims drafted along the lines given in one of its communications would be acceptable in principle.

III. On 1 March 1990, the Appellant filed a notice of appeal against that decision, paying the appeal fee on the same day. The Statement of Grounds of Appeal was filed on 17 May 1990; three sets of claims (main-, first- and second submission) were directly submitted and a fourth set of claims was made the subject of a third auxiliary request, whereby these latter claims should be based upon the proposals of the Examining Division in paragraphs 6, 7, and 9 to 11 of the communication dated 1 June 1989.

In respect of the apparatus claims contained in the set of claims of the "main submission" the Appellant brought forward that the collapsible volume compensating means

would have its principal utility during formation of the joint and would not have any further utility after the joint has been formed, see letter of 16 May 1990, page 7, first paragraph. Its sealing function is, however, contested though it is not contested that it remains within the workpiece and is not removed after the joint formation. Summarising, the feature in suit is considered as part of the apparatus and not of the workpiece formed by this apparatus.

- IV. In the communication pursuant to Article 11(2) RPBA dated 14 February 1992 the Board gave its provisional opinion about the feature of the independent apparatus claim of the main submission (Claim 6 of the main submission dated 16 May 1990) concerning the collapsible volume compensating means, before oral proceedings were held on 4 March 1992 before the Board.
- V. In these oral proceedings the Appellant modified the main submission dated 16 May 1990 in respect of Claim 6; it was requested to insert the words "the apparatus being for operation in a liquid environment" following the reference "Claims 1 to 5" in line 3 of that claim.

The independent Claims 1, 6 and 12 of the main submission read as follows:

"1. A method of joining a first tubular member (B) having an internal groove (90, 121, 130) and an external flange to a second tubular member (P) having a diameter allowing it to be received within the first tubular member, the method comprising the steps inserting the second tubular member within the first tubular member with a resilient sleeve of a joining apparatus positioned within the second tubular member, and exerting fluid pressure within said resilient sleeve to cause said second

tubular member (P) to be forced outwardly into said groove in said first tubular member to thereby form a metal-to-metal sealing joint between said tubular members, and characterised by the step of introducing a collapsible volume compensation means (98, 133, 134) which is capable of reducing its volume in response to an increase in pressure into said groove in said first tubular member prior to insertion of said second tubular member, said volume compensating means (98, 133, 134) being arranged to occupy the space which would otherwise be occupied by liquids which would collect in said groove and to collapse under the pressure of the forming of said second tubular member into the groove so that the resistance of the material in the groove does not prevent the forming of the second tubular member therein."

and

"6. An apparatus for use in forming a joint between one tubular member and another tubular member, by the method according to any of Claims 1 to 5 the apparatus being for operation in a liquid environment, the first tubular member (B) having an internal diameter sufficiently large to receive the other tubular member (P) therein and having an internal groove (90, 121, 130) and means enabling it to be connected into a pipeline, said assembly including a tubular mandrel (10) having external means (58) for remotely connecting to and disconnecting from the first tubular member (B), a resilient sleeve (60) surrounding said mandrel between shoulder means on the mandrel and having a diameter such that it can slide into the other of said tubular members, means (22) for delivering fluid under pressure to the interior of the sleeve to cause said sleeve to exert a pressure on the interior of said other tubular member (P) to force it in the outward direction so that it is deformed into said groove, and characterised by

collapsible volume compensating means (98, 133, 134) capable of reducing its volume in response to an increase in pressure arranged to be located in said groove on the interior of said first tubular member (B) and being capable of reduce its volume in response to said means (22) forcing said interior member (P) outward into said groove."

and

"12. A tubular member which is adapted to be joined with a second tubular member, said tubular member (B) having a tubular body with an internal diameter sufficiently large to receive the other tubular member therein, at least one internal groove (90) in said tubular body, and characterised by collapsible volume compensating means (98, 133, 134) capable of reducing its volume in response to an increase in pressure positioned within said groove, said volume compensating means being arranged such that when the second tubular member is expanded radially to form a joint with the one tubular member it can reduce its volume to allow the wall of the second tubular member to at least partially enter said at least one groove to form a metal-to-metal seal between the tubular members."

- VI. The Appellant pointed to the fact that the collapsible volume compensating means would have no function for sealing but only during forming i.e. to keep the water out when the joint is formed, so that in his opinion these means have to be considered as forming part of the apparatus and not of the workpiece. By this feature the apparatus as a whole would be improved.
  
- VII. The Appellant requests that the impugned decision be set aside and that a patent be granted on the basis of claims

according to the main or one of the three auxiliary requests accordingly.

### Reasons for the Decision

1. The appeal complies with the requirements of Articles 106 to 108 and Rule 64 EPC and is admissible.
2. Main request
  - 2.1 As set out above in remark III, the main request contains an independent apparatus claim in the form of Claim 6. This claim is characterised by the feature of a "collapsible volume compensating means (98, 133, 134)".
  - 2.2 The Board is of the opinion that the assessment of the feature under discussion by the Examining Division is correct for the following reasons:
    - 2.2.1 From the documents as originally filed it is immediately clear that the collapsible means are inserted into, and possibly moulded within, the groove or grooves of the first tubular member "B"; this can be done without the use of the apparatus for joining a first and a second tubular member. This is already a first sign that the collapsible means belong in substance to the workpiece and not to the apparatus for joining two tubular members though the collapsible means play a role during forming.
    - 2.2.2 It has moreover to be considered that after forming of the joint the workpiece is removed from the apparatus, whereby the (compressed) collapsible means remain within the workpiece and should therefore not be considered as part of the apparatus for joining.

- 2.2.3 Finally it has to be observed that the collapsible means are not linked to the apparatus for joining in such a way that the apparatus would not function without the provision of collapsible means within the groove(s) of one of the tubular members. This is, however, clearly not the case, since the apparatus for joining could also carry out its function if no collapsible means are used i.e. bring the two tubular members to be joined into metal-to-metal contact.
- 2.2.4 It cannot be denied that the provision of collapsible volume compensating means enhances the efficiency of the apparatus when forming the joint between the sleeve and the pipe, since water is excluded from the joint to be formed; these means nevertheless have to be seen as specific parts which do not form parts of the apparatus.
- 2.2.5 The dictionary definition of an "apparatus" given by the Appellant as a "collection of parts for a particular purpose" cannot be seen by the Board as very helpful to the Appellant and cannot support the argument that the collapsible volume compensating means have to be seen as part of the "apparatus". The definition is too vague, covering at one extreme for example a kit of parts for assembly into a picture frame, and gives no guidance, for example, in respect of any possible inter-working relationship between the "parts" of the "collection".
- 2.2.6 To the Board's conviction it is not essential whether the collapsible means have any utility during forming of the joint i.e. to exclude the access of water, since in the above remarks it has been developed why this feature cannot be seen as a feature defining the apparatus for joining two tubular members. It is furthermore not relevant whether the means have any further utility after the joint has been formed.

2.3 Summarising, the Board is of the opinion that the "collapsible volume compensating means" cannot be considered as a feature appropriate for defining the structure of the apparatus, so that the objection under Article 84 EPC is deemed to be correctly raised. As a consequence Claim 6 of the main request lacks clarity and is not allowable.

2.4 Under these circumstances the main request has to be rejected, since this request has to be dealt with as a whole and since even if Claims 1 and 12 of the main request were allowable that request had to be rejected for reasons of the unallowable Claim 6 (apparatus claim).

3. Since the Examining Division has clearly indicated that (at least) method claims are allowable in principle the Board is of the opinion that the case has to be remitted to the first instance for further prosecution.

The remittal to the first instance is also appropriate in the present case since the Examining Division has not given its final decision concerning the product claims ("tubular member ..."). In order not to deprive the Appellant of his right to get a full protection in different categories of claims (method and possibly product) and to have the examination being carried out in two instances the case has to be remitted to the first instance without a final decision of the Board about the product claims in particular.

**Order**

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

1. The contested decision is set aside.
2. The Appellant's main request is rejected.
3. The case is remitted to the Examining Division for further prosecution.

**The Registrar:**



**N. Maslin**

**The Chairman:**



**C.T. Wilson**