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**D E C I S I O N**  
**of 12 September 2002**

**Case Number:** T 0746/99 - 3.2.6

**Application Number:** 91117621.2

**Publication Number:** 0482489

**IPC:** D02G 3/12

**Language of the proceedings:** EN

**Title of invention:**  
Compound for making packing seals

**Patentee:**  
Carrara, Sergio

**Opponent:**  
(01) Schappe Techniques  
(02) Latty International S.A.

**Headword:**  
-

**Relevant legal provisions:**  
EPC Art. 52(1), 56, 57, 100(a), 114(2)

**Keyword:**  
"Admissibility of new ground of Opposition - no"  
"Sufficiency of disclosure and susceptibility of industrial  
application - yes"  
"Novelty and inventive step - yes"

**Decisions cited:**  
G 0009/91, G 0010/91, T 1070/96

**Catchword:**  
-





Case Number: T 0746/99 - 3.2.6

**D E C I S I O N**  
**of the Technical Board of Appeal 3.2.6**  
**of 12 September 2002**

**Appellant:** Schappe Techniques  
(Opponent 01) La Croix aux Mines  
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**Respondent:** Carrara, Sergio  
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**Representative:** Lecce, Giovanni  
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**Decision under appeal:** Decision of the Opposition Division of the  
European Patent Office posted 11 June 1999  
revoking European patent No. 0 482 489 pursuant  
to Article 102(1) EPC.

**Composition of the Board:**

**Chairman:** P. Alting van Geusau

**Members:** G. C. Kadner  
M. B. Tardo-Dino

## Summary of Facts and Submissions

I. The mention of the grant of European patent No. 0 482 489 in respect of European patent application No. 91 117 621.2 filed 16 October 1991 and claiming an Italian priority of 23 October 1990 was published on 4 September 1996. Claim 1 as granted reads as follows:

"A compound for making packing seals comprising threads consisting of unbroken steel filaments (1) and unbroken filaments of other materials (2) combined together and twisted by an intermittent tear spinning process, characterized in that the filaments (2) of other materials are carbon or pure graphite filaments."

II. Two notices of opposition were filed against this patent on the grounds of Articles 100(b), 52(1), 57 (lack of susceptibility to industrial application and insufficiency of disclosure) by Opponent 01 and Articles 100(a), 52(1), 56 EPC (lack of inventive step) by Opponent 02.

III. By decision announced during the oral proceedings on 20 April 1999 and posted on 11 June 1999 the Opposition Division rejected the oppositions.

The Opposition Division was of the opinion that the patent specification described the compound according to claim 1 and the tear-spinning process to produce it in a manner sufficiently clear so as to be carried out by a skilled person. The subject-matter claimed also met the requirements of novelty and inventive step having due regard in particular to the state of the art disclosed in:

E1: EP-A-0 253 031

E2: FR-A-2 595 725

E3.1: Brochure "non-asbestos sealing programm for  
nuclear plants" 08-89

E3.2: Brochure "LATTYgraph 6038" 03-90

E4: FR-A-2 608 641

IV. On 12 July 1999 notice of appeal was lodged against this decision by the Appellant (Opponent 01) together with payment of the appeal fee.

The statement of grounds of appeal was filed on 11 October 1999. On appeal the Appellant additionally relied on the following documents:

R1: "Les aciers inoxydables", Les Éditions de  
Physique 1990, pages 140, 567 to 569

R2: "Matériaux Métalliques", Les Référentiels Dunod -  
Septembre 1996, Pratique de Matériaux Industriels,  
chapter 4.4.1, pages 1 to 4

R3: Letter of the representative of the Patentee  
filed 26 April 1994 during examination  
proceedings, pages 3 to 4

In addition to lack of industrial application, lack of novelty of the subject-matter of claim 1 was contested based on an alleged public prior use supported by the following evidence:

- R4: A visit report of Schappe with LATTYinternational dated 5 March 1987
- R5: Invoice of Schappe to Beldam-Latty S.A., FR, dated 17 November 1987 "NM 5/3 Carbone/Inconel 75/25 E.5601"
- R6: Invoice of Schappe to Chesterton Company, US, dated 17 February 1988 "NM 6/9 Carbone/Inconel Article 95631 PO5631"
- R7: Invoice of Schappe to Carrara Fratelli S.N.C., IT, dated 31 May 1988 "NM 6/3/3 Carbone/Inconel 88/12 sur cones"
- R8: Invoice of Schappe to Chesterton Company, US, dated 20 June 1988 "NM 6/3/3 Carbone/Inconel 85/15% on cones"
- R9: Production sheet of Schappe Tech - St Rambert dated 5 Oktober 1987 "Nm 6/3/3 Carbone/Inconel 85/15"
- R10: Production sheet of Schappe Tech - St Rambert dated 5 Oktober 1987 "Nm 25/2 Carbone/Inconel 80/20"
- R11: Confirmation of Mr. Guy Bontemps, Schappe Techniques, dated 2 November 1999 concerning the production of the products according to R5 to R10 by the process described in FR-A-2 595 725 (E2)

V. In a communication dated 5 July 2002 the Board expressed doubts whether the grounds of Article 100(a) as far as the provisions of Article 57 were concerned,

and Article 100(b) EPC were relevant. It pointed out that the disclosure of documents R4 to R11 did not appear to come closer to the subject-matter claimed than the prior art already introduced into the proceedings, and the object of this newly introduced alleged prior use also did not seem to be suitable as prior art evidence because of insufficient substantiation as to what was used, when it was used and the further circumstances of the use, in particular as to whether the use was confidential or not. Novelty appeared not to be in question and in the oral proceedings discussion of inventive step would be necessary.

VI. Oral proceedings were held on 12 September 2002.

The Appellant requested that the decision under appeal be set aside and that the European patent No. 0 482 489 be revoked.

The other party (Opponent 02) represented by the representative of the Appellant in the oral proceedings also requested revocation of the patent.

The Respondent (Patentee) requested that the appeal be dismissed and that the patent be maintained.

VII. In support of its request the Appellant essentially relied upon the following submissions:

The introduction of documents R4 to R11 should be admitted because similar documents had already been filed during examination proceedings. Consequently the prior use supported by this evidence should be taken into account in the appeal proceedings.



The combination of the pre-characterising features of claim 1 was acknowledged in the description of the patent in suit as belonging to the prior art.

Starting from such a known packing compound, E2 disclosed means suitable to solve the problem addressed in the contested patent which consisted in the reduction of the stiffness of the packing and lowering of its resistance against cutting. For this purpose broken filaments of steel (Inconel) and other fibers of polybenzimidazole (PBI) were twisted together in order to use them for packing seals. The skilled person having general knowledge of the insufficient heat resistance of PBI and the better suitability of carbon fibers would consider replacing PBI by carbon fibers, particularly because carbon fibers were acknowledged in the patent in suit (column 1, line 29) as being known in the prior art.

According to the opinion expressed by the Patentee itself in its letter of response during the examination procedure (R3) Inconel was a stainless steel. He had also conceded that the compound according to claim 1 was produced in a manner similar to that of E2 which fact was confirmed by the decision of the Opposition Division. Moreover, the combination of Inconel fibers and carbon fibers was disclosed in E3.1 and E3.2 for use in packing seals. Therefore no inventive step was necessary to combine stainless steel and carbon fibers in the manner defined in the patent in suit.

The subject-matter of claim 1 was also obvious through a combination of the teachings of E2 with those of E4. Since carbon fibers disclosed in E4 had a higher heat resistance and were used in high performance packing

seals, the skilled person would apply them instead of the fibers of PBI according to E2. In view of the evidence provided by R1 Inconel was an alloy similar to stainless steel, in fact only differing by a higher content of nickel than stainless steel. Even if Inconel was considered not to belong to the family of steels, replacement of the fibers of that alloy by stainless steel fibers was at least obvious to the skilled person.

The Appellant stressed the objection raised under Article 57 EPC that the production of the claimed compound according to a method of tear spinning could not be carried out in a technically sufficient manner. The Appellant who was very experienced in the field of making packing seals from fibers of metal and carbon tried to produce a similar compound on the available machinery but no product could be manufactured which was suitable for forming packing seals because the twisted thread of the filaments of steel and carbon was crushed between the tearing rolls of the known machines. Therefore the claimed product could not be produced and consequently susceptibility of industrial application of the subject-matter of claim 1 was lacking.

VIII. The submissions of the Respondent are summarised as follows:

The decisions G 9/91 and G 10/91 made clear that a new ground of opposition could only be introduced with the consent of the Patentee. The introduction of this new ground of opposition was refused and therefore should be disregarded in the further proceedings.

The process of tear spinning described in the patent could be carried out, and that was already conceded by the Opponents in opposition proceedings. The product manufactured by this method had several advantages when compared with the prior art products, in particular it was more flexible and easier to cut. In the tear spinning process fibers of variable and random lengths were received, and the yarns produced in that manner were extremely strong, flexible and easy to braid to form packing seals. The method according to the patent differed from that of E2 in that unbroken fibers were first twisted and drawn out in a following step whereas according to E2 the fibers were first broken to defined lengths and spun together in a following step by any conventional method.

Inconel was an alloy based on nickel having a content of about 18 percent iron at maximum and no steel, and any indication lacked which would lead the skilled person to replace Inconel filaments by stainless steel filaments or to combine it with carbon filaments.

### **Reasons for the Decision**

1. The appeal is admissible.
2. *Admissibility of new ground of opposition*

According to the case law of the Boards of Appeal (see G 9/91 and G 10/91, OJ 1993, 408, 420) a new ground of opposition should be disregarded under Article 114(2) EPC if the Patentee does not agree with the introduction into the proceedings. In the present case during the opposition proceedings the Appellant

relied on lack of susceptibility of industrial application and insufficient disclosure while the other Opponent relied on lack of inventive step. Lack of novelty had never been under discussion during the opposition proceedings.

The Board of Appeal is empowered to rule upon all the grounds raised before the Opposition Division regardless of which Opponent raised which ground because the subject-matter of the judicial review exercised by the Board is to check the correctness of the decision under appeal including all the grounds and objections dealt with, or at least submitted to the first instance (see T 1070/96). However, since lack of novelty was not in dispute during opposition proceedings, this ground of opposition is not admissible on appeal. Therefore the documents R4 to R11 cited in support of an alleged public prior use by which novelty was contested, are disregarded in the following procedure.

3. *Sufficiency of disclosure and susceptibility of industrial application*

With regard to the Appellant's objection of insufficiency of disclosure it is to be noted that the tear spinning process is described in detail in the patent specification (column 2, lines 40 to 46). The steps of combining the two different unbroken filaments by spinning and the following step of tear spinning under intermittent traction are clearly comprehensible by a skilled person. The Board cannot see any reason why the skilled person would not be able to carry out this process. In particular, besides the method of squeezing the thread between two feed rolls in order to

achieve tearing relied upon by the Appellant, there are other well-known methods of holding a thread in the field of spinning by which crushing can be avoided, for instance by winding it several times on a feed roll. Thus the Board sees no convincing reason why the requirements of Article 83 EPC are not met.

Since the compound according to claim 1 can be used for making packing seals, which is a well-defined technical field, it also meets the requirements of Article 57 EPC.

4. *Novelty*

Novelty of the subject-matter of claim 1 was not in dispute before the appeal. In addition, the Board is satisfied that none of the prior art documents discloses a compound having all the features of claim 1 of the patent in suit. In particular, the compound of claim 1 includes steel filaments whereas the known compounds comprise Inconel which is a nickel based alloy and not steel which is based on iron. Since the threads made of fibers of defined lengths according to the prior art (including those disclosed in R4 to R11) for making packing seals are all produced by a method similar to that disclosed in E2 the product of claim 1 is further distinguished from the prior art products in that it includes fibers of variable and random lengths which feature is not present in any of the cited documents (Article 54(1) EPC).

5. *Inventive step*

5.1. With respect to the Appellant's opinion that the compound mentioned in the introduction of the patent

specification (column 1, lines 25 to 31) is an acknowledgement of prior art the Board considers that statement as being erroneous since no document or other disclosure showing these features could be presented by either the Appellant or Proprietor, the latter, in fact, admitting that an error had been made.

- 5.2. In contrast to the Appellant and the Opposition Division the Board is also of the opinion that E2 does not disclose a "tear spinning" process because the steps of breaking the fibers and twisting or spinning the fibers of metal and other materials together to form a thread is carried out in reverse sequence compared with the tear spinning process described in the patent in suit. Nevertheless, although not disclosing the combination of precharacterising features of claim 1, E2 represents the closest prior art since it discloses the production of a compound made from fibers of a metal alloy and other fibers for making packing seals.
- 5.3. The problem addressed in the patent in suit is to provide a compound for making packing seals of reduced stiffness which can easily and accurately be cut and which can be used for multiple purposes (see column 1, lines 33 to 49).
- 5.4. This problem is solved by a compound having the features of claim 1. It is true that claim 1 includes a feature of a method step, however, this "product by process" feature results in a distinguishing feature namely that the thread received by tear spinning contains filaments of variable and random lengths.
- 5.5. The Appellant held that the subject-matter of claim 1

was obvious through a combination of E2 and the prior art described in the patent or of E2 and E4, because, since the process of the patent was similar to the claimed tear spinning, the skilled person was led by common general knowledge to replace the filaments of Inconel and PBI by those of stainless steel and carbon or pure graphite.

- 5.6. As already stated above (point 4) the process of tear spinning according to claim 1 differs from that disclosed in E2 by the sequence of production steps resulting in a different product. Since in the prior art documents any indication is lacking towards changing the order of the method steps of E2 the new process of tear spinning is non-obvious.

Additionally, steel in combination with graphite is disclosed in the one single document E1, but in a different configuration. A packing formed of graphite sheets is knitted with a stainless steel filament so as to form a knitted thread of graphite covered by the steel fibers. Evidently knitting can only be performed with unbroken steel filaments. Since any indication towards the application of the steel filaments in a different manner is missing no reason can be seen why the skilled person would use such steel filaments in the method of tear spinning according to claim 1 resulting in broken steel filaments of variable length.

No way was shown by the Appellant or is apparent to the Board in which the claimed solution with its specific combination of features could be arrived at without the involvement of an inventive step (Article 56 EPC).

- 5.7. Summarising, for the above reasons the Board has

arrived at the conclusion that the subject-matter of claim 1 complies with the requirements of patentability according to Article 52(1) EPC. The same conclusion applies to the subject-matter of claims 2 to 10 which cover particular embodiments of the compound according to claim 1. Therefore the rejection by the department of first instance of the opposition against the patent is well founded.

## **Order**

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

The appeal is dismissed.

The Registrar:

The Chairman:

M. Patin

P. Alting van Geusau