

Internal distribution code:

- (A) ☐ Publication in OJ
(B) ☐ To Chairmen and Members
(C) ☒ To Chairmen

D E C I S I O N
of 25 April 1994

Case Number: T 0605/92 - 3.2.1

Application Number: 85304669.6

Publication Number: 0183335

IPC: F16D 69/02

Language of the proceedings: EN

Title of invention:
Asbestos free friction element

Patentee:
Fichtel & Sachs AG

Opponent:
I. Textar
II. Valeo

Headword:
-

Relevant legal norms:
EPC Art. 56, 104

Keyword:
"Inventive step (no)"
"Apportionment of costs (no)"

Decisions cited:
-

Catchword:
-

Case Number: T 0605/92 - 3.2.1

D E C I S I O N
of the Technical Board of Appeal 3.2.1
of 25 April 1992

Appellant: Fichtel & Sachs AG
(Proprietor of the patent) Ernst-Sachsstr. 62
Postfach 12 40
D-97419 Schweinfurt (DE)

Representative: Liska, Horst, Dr.-Ing.
Patentanwälte
H. Weickmann, K. Fincke, F.A. Weickmann,
B. Huber, H. Liska, J. Prechtel, B. Böhm
Postfach 86 08 20
D-81635 München (DE)

Respondent I: Textar Kupplungs- und Industriebeläge GmbH
(Opponent 01) Porschestrasse 15
D-51381 Leverkusen (DE)

Representative: Gudel, Diether, Dr.
Patentanwälte Dr. V. Schmied-Kowarzik
Dipl.-Ing. G. Dannenberg, Dr. P. Weinhold
Dr. D. Gudel, Dipl.-Ing. S. Schubert
Dr. P. Barz
Grosse Eschenheimer Strasse 39
D-60313 Frankfurt (DE)

Respondent II: Valeo
(Opponent 02) 43, rue Bayen
F-75848 Paris Cédex 17 (FR)

Representative: Lemaire, Marc
Valeo Management Services
Service Propriété Industrielle
2, rue André Boulle
B.P. 150
F-94004 Creteil (FR)

Decision under appeal: **Decision of the Opposition Division of the European Patent Office dated 4 June 1992 revoking European patent No. 0 183 335 pursuant to Article 102(1) EPC.**

Composition of the Board:

Chairman: F.A. Gumbel
Members: F. J. Proels
 B.J. Schachenmann

Summary of Facts and Submissions

- I. European patent No. 0 183 335 was granted on 22 August 1990 on the basis of European patent application No. 85 304 669.6 filed on 1 July 1985.

The single independent Claim 1 of the patent has the following wording:

"A friction element for use in a clutch, said friction element comprising fiber strands impregnated with a binder resin composition and disposed in an undulating fashion and then cured to form a disc-shaped facing, characterised in that said fiber strands are in the form of a plied yarn comprising from 30 to 70 wt% glass fiber, from 15 to 25 wt% acrylic fiber and from 15 to 45 wt% metallic filament, said plied yarn comprising a plurality of twisted yarns, said twisted yarns having a helical twist of from 50 to 120 turns per meter and said plied yarn having a helical twist of from 50 to 120 turns per meter opposite in direction to the twist direction of the twisted yarns."

- II. The Respondents I and II (Opponents I and II) and the former Opponents III opposed the patent on the grounds of lack of novelty and/or inventive step (Article 100(a) EPC) and of insufficiency of disclosure (Article 100(b) EPC). In support of their case they referred among others to the following prior art documents (numbering of documents as used in the decision under appeal)

(1) FR-A-2 534 995

(7) Kleine Textilkunde, 13th edition, Adebahr-Dörel,
Betz, Gerlach, Leipzig 1953, pp. 33 and 34

(10) EP-A-0 063 453

(12) DE-A-2 804 327

and to alleged prior uses of the subject-matter as
claimed.

- III. By its decision dated 4 June 1992, the Opposition
Division revoked the patent on the ground of lack of
inventive step with respect to the document (10).
- IV. The Appellants (Patentees) filed an appeal against this
decision on 30 June 1992, paying the due fee at the
same time. The Statement of Grounds was submitted on
2 October 1992.
- V. The Appellants requested that the decision under appeal
be set aside and that the patent be maintained as
granted.

In support of their request they referred to document
(10) used in the decision under appeal to revoke the
patent and argued that this prior art document
discloses a problem similar to that mentioned in the
patent in suit which, however, is solved in a way
completely different from that of the invention.
Furthermore a combination of the other cited documents
with each other or with document (10) would also not
lead to the claimed subject-matter.

With their letter of 7 October 1993 the Appellants
declared that they no longer wished to appear at oral

proceedings and asked for a decision on the basis of the written documents on file.

- VI. In a communication pursuant to Article 110(2) EPC dated 22 October 1993 the Board pointed out that and for which reasons it would appear to be obvious for a skilled person to arrive at the teaching of Claim 1 when starting from a friction element according to document (1) and considering common general knowledge.

The Respondents I and II agreed to the considerations set out in the Board's communication. The Appellants did not submit any additional comment.

- VII. The Respondents I and II requested that the appeal be dismissed and, as a subsidiary request, that they be summoned to oral proceedings. The Respondents II also requested an apportionment of costs according to Article 104 EPC.

The former Opponents III, with letter of 6 January 1993, have withdrawn the opposition.

Reasons for the Decision

1. The appeal complies with Articles 106 to 108 and Rules 1(1) and 64 EPC; it is admissible.
2. *Subject-matter of Claim 1*
 - 2.1 Claim 1 of the disputed patent has the following features in its preamble:

- (a) A friction element for use in a clutch;
- (b) the friction element comprises fiber strands;
- (c) the fiber strands are impregnated with a binder resin composition;
- (d) the fiber strands are disposed in an undulating fashion;
- (e) and then cured to form a disc-shaped facing;

and in its characterising part:

- (f) the fiber strands are in the form of a plied yarn;
- (g) comprising from 30 to 70 wt% glass fiber;
- (h) from 15 to 25 wt% acrylic fiber;
- (i) and from 15 to 45 wt% metallic filament;
- (j) the plied yarn comprises a plurality of twisted yarns;
- (k) the twisted yarns have a helical twist of from 50 to 120 turns per meter;
- (l) the plied yarn has a helical twist of from 50 to 120 turns per meter;
- (m) the twist of the plied yarn is in opposite direction to the twist direction of the twisted yarns.

2.2 The content of the precharacterising part of Claim 1 as concerns the way how to manufacture the friction element of a clutch from fibre strands (features a to e) is generally known from document (1) (page 5, line 23 to page 6, line 31), document (10) (see the abstract, Claim 15, examples 2 to 7) and from document (12) (see the manufacture process described on pages 21 and 22).

2.3 How to form the structure of fibre strands is disclosed in the characterising features (f) and (j) to (m) of Claim 1. The material used for the fibres, which are twisted together to form the plied yarn, is defined in the remaining characterising features (g) to (i) of Claim 1.

3. The objection as to Article 100(b) EPC (insufficiency of disclosure) put forward in the grounds for opposition by the Respondents I has no longer been mentioned in the appeal proceedings. The objection furthermore has not been reasoned by detailed arguments.

The Board sees no reason why the teaching of Claim 1 in connection with the further content of the patent in suit does not disclose the invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art.

The patent in suit therefore satisfies the requirements of Article 100(b) EPC.

4. *Novelty*

4.1 Document (1) not only discloses the features of the preamble of Claim 1 but also further features of the characterising part. Claim 11 of document (1) reveals that the fibre strands ("filés") comprise about:

"30 to 80% glass fibers
10 to 50% acrylic fibers
("fibres d'acrylonitrile")
5 to 35% metallic filament."

Thus, in essence, the features (g), (h) and (i) of Claim 1 of the patent in suit are also known from document (1).

Furthermore, Claim 11 in connection with Claim 14 as appendant to Claim 11 of document (1), defines that the acrylic fibres are wrapped around the glass fibres forming a core and the acrylic fibres and the glass fibres are represented in the form of several strands ("filés") which are twisted ("torsadés") with the metallic filament. The yarn with the acrylic fibres being wrapped around the core of glass fibres can also be designated as a **twisted yarn**, as done in document (10), see the description of the examples 2 to 7, where e.g. the description page 12, lines 2 to 5 of the example 2 explains that

"glass yarn ... was twisted with one end of ... copper wire as a wrapper to give a twist of 68 turns per metre in the final yarn."

This structure is also disclosed in Claims 1 to 5 and independent Claim 16 of document (1). Thus, according to Claims 11 and 14 of document (1), a plurality of **twisted** yarns (made of glass fibres and acrylic fibres according to Claim 14) are twisted together with each other and an additional metallic filament to form a final **plied** yarn. Therefore, document (1) also discloses the features (f) and (j) of Claim 1.

Nothing, however, is mentioned in document (1) as concerns the value of the twist level (in turns per metre) and the twist direction of the twisted yarn and the plied yarn. Thus, the features (k), (l) and (m) of

Claim 1 of the patent in suit are not known from document (1). Though document (1) is not, therefore, novelty-destroying, it represents, in the Board's view, the prior art coming nearest to the claimed subject-matter.

- 4.2 According to the examples 2 to 7 of document (10) the final fibre strands are disposed in an undulating fashion and then curved to form a disc-shaped facing as defined in the preamble of Claim 1 of the patent in suit. The fibre strands are composite cords composed of (an) untwisted textured yarn/yarns (glass fibre, polyester yarn, viscose fibre etc.) which is/are twisted with a metal wire (brass, copper) as a wrapper to produce a fibre strand with a twist of 68 turns per metre (examples 2, 3, 5 and 6) or 50 tpm (example 4) or 40 tpm (example 7). However, none of the examples describes a composition of fibre strands as defined by the features (g) to (i) of Claim 1. Furthermore, contrary to the content of feature (j) in Claim 1, the textured yarns are not twisted.

The example 8 of document (10), which discloses the claimed yarn structure and the claimed twist directions according to the features (f), (j) and (m) of Claim 1, however, concerns a **woven fabric** and so does not disclose the essential features of the preamble of Claim 1.

Thus, none of the examples described in document (10) discloses all the features of Claim 1.

- 4.3 Document (12) discloses the features of the preamble of Claim 1 and also the features (f), (j), (k) and (l)

i.e. the claimed yarn structure and a twist level of 80 tpm (corresponding to 2 turns per 2.5 cm as set out on page 20, paragraph 2) for both the plied yarn and the twisted yarns.

The fibre strands, however, are only composed by glass fibres and cotton yarn, and nothing is said about the twist direction of the plied and the twisted yarn. Thus, document (12) does not disclose the features (g), (h), (i) and (m) of Claim 1.

- 4.4 The further cited prior art documents and the subject-matters of the alleged prior uses are less relevant than the above-cited documents (1), (10) and (12). Thus, the subject-matter of Claim 1 is novel.

5. *Inventive step*

As above-mentioned under point 4.1, the nearest prior art document (1) does not disclose the twist level and twist direction of the twisted and the plied yarn as claimed in the features (k), (l) and (m) of the patent in suit. However, the twist level of 50 -120 tpm as claimed in the features (k) and (l) of Claim 1 represents a range which is common in practice, since as already set out in the Board's communication dated 22 October 1993 and mentioned under points 4.2 and 4.3 of this decision, the plurality of the twist levels of the twisted yarns according to the documents (10) and (12) lie within that range.

In document (7) reference is made to the twist direction of plied yarns comprising a plurality of twisted yarns. This document teaches that in principle

the twist direction of plied yarns is opposite to the twist direction of their twisted yarns. In the light of this disclosure in a standard reference book of textile technology it is apparent that the opposite twist direction as claimed in feature (m) of the characterising part of Claim 1 of the patent in suit must be considered as belonging to the common general knowledge of a skilled person.

The use of the twist direction according to the feature (m) and in particular the twist level according to the features (k) and (l) of Claim 1 is therefore an option which is freely available to the skilled person and, moreover, in view of the twist level in related yarns according to documents (10) and (12) (see point 2.2 above), an option which the skilled person would have had a good reason to adopt in the circumstances of this case.

The Appellants did not respond to the Board's communication dated 22 October 1993, wherein the above argumentation has been first communicated to the parties as a provisional opinion of the Board.

6. The Board therefore does not see any reason to depart from this opinion and comes to the conclusion that the subject-matter of independent Claim 1 lacks an inventive step (Article 56 EPC).

As the Board is bound by the single request of the Appellants (Article 113(2) EPC) it is not necessary to consider the merits of the subject-matter of the dependent claims.

7. The Respondents II requested an apportionment of costs in his favour in the view that the Appellants persisted in contesting the decision with no other justification than the hope that the Respondents would withdraw their opposition.

According to Article 107 EPC any party to proceedings adversely affected by a decision has an unrestricted right to appeal. The Board sees nothing that could substantiate an abuse of procedure by the Appellants. Furthermore, there have been no oral proceedings or taking of evidence causing additional costs (Article 104(1) EPC).

Consequently there are no reasons of equity justifying a deviation from the general principle set-out in Article 104(1) EPC.

The request for an apportionment of costs must therefore be rejected.

Order

For these reasons, it is decided that:

1. The appeal is dismissed.
2. The request for apportionment of costs is rejected.

The Registrar:

The Chairman:

S. Fabiani

F. Gumbel