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10

Bezeichnung der Erfindung: Endless power transmission belt  
Title of invention:  
Titre de l'invention :

Klassifikation / Classification / Classement : F16G5/08

**ENTSCHEIDUNG / DECISION**  
vom / of / du 3 November 1986

Anmelder / Applicant / Demandeur :

Patentinhaber / Proprietor of the patent / Mitsuboshi Belting Ltd.  
Titulaire du brevet :

Einsprechender / Opponent / Opposant : Continental Gummi-Werke AG

Stichwort / Headword / Référence :

EPÜ / EPC / CBE Article 56

Kennwort / Keyword / Mot clé :

"Inventive step"

Leitsatz / Headnote / Sommaire

Europäisches  
Patentamt

Beschwerdekammern

European Patent  
Office

Boards of Appeal

Office européen  
des brevets

Chambres de recours



Case Number : T 169/84

**D E C I S I O N**  
of the Technical Board of Appeal 3.2.1  
of 3 November 1986

**Appellant :** Mitsuboshi Belting Ltd.  
(Proprietor of the patent) No. 1-21, Hamazoedori  
4-Chome Nagata-Ku  
Kobe-shi Hyogo  
Japan

**Representative :** Cooper, Derek Robert  
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**Respondent :** Continental Gummi-Werke AG  
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**Representative :**

**Decision under appeal :** Decision of Opposition Division of the  
European Patent Office dated 23.05.84  
revoking European patent No. 009 389  
pursuant to Article 102(1) EPC.

**Composition of the Board :**

**Chairman :** P. Delbecque  
**Member :** M. Liscourt  
**Member :** P. Ford

### Summary of Facts and Submissions

I. European patent No. 9 389 was granted on 30 June 1982 to the Appellants on European patent application No. 79 301 919.1, filed on 18 September 1979 and claiming the priority of a previous application of 19 September 1978.

II. A notice of opposition to the maintenance in force of the granted Patent was filed by the Respondents, requesting the revocation of the whole patent.

The Respondents relied during the opposition proceedings upon the following documents: AU-A-101 260, US-A-493 220, US-A-3 996 813, DE-B-2 213 424, DE-C-820 352.

III. During the opposition proceedings, the Appellants filed a new Claim 1 (received on 2 November 1983) which reads as follows:

1. An endless power transmission belt comprising a plurality of V-belt components spaced apart laterally of the direction of extent of the belt and a tie band connecting the V-belt components together to form a unitary structure, the tie band being composed of a plurality of fabric layers disposed one on top of another with each adjacent pair of layers having a layer of elastomeric material interposed therebetween, the fabric layers including threads which are mutually inclined at an angle of between 95° and 155° and which are also inclined with respect to the direction of extent of the belt, characterised in that each fabric layer is in the form of a cord fabric layer (13) in which all of the cords (17) are parallel and thus have a single orientation only.

The dependent Claims 2 to 12 were maintained unchanged.

- IV. The Opposition Division revoked the patent by the decision under appeal dated 23 May 1984, for lack of inventive step having regard to documents US-A-564 933, cited in the specification, and US-A-493 220 cited by the Respondent.
- V. On 19 July 1984 the Appellants lodged an appeal by telex against the decision, requesting its cancellation; the telex was confirmed by letter received 23 July 1984 and the fee for the appeal was paid the same day. They filed the Statement of Grounds on 22 September 1984 requesting furthermore that the Appeal fee be refunded.
- VI. In a letter received on 20 December 1984 the Respondents requested that the appeal should be dismissed and that the revocation of the patent should be confirmed. They submitted that the subject-matter of the patent did not involve an inventive step having regard to the cited prior art and to further documents US-A-4 011 766 and 3 404 577.
- VII. In the communication dated 27 January 1986, the Board of Appeal expressed an unfavourable opinion on Claim 1 and invited the Appellants to file an auxiliary request and amended claims if they wished consideration to be given to any of the dependent claims on the hypothesis that Claim 1 would not be upheld.
- VIII. The Appellants maintained their arguments in favour of inventive step in the subject-matter of Claim 1 in their reply of 29 April 1986, made comments about some of the dependent claims but did not file any amended claims.
- IX. The Respondent in their letter of 23 April 1986 repeated their previous request and asserted that a restricted Claim 1 would not be allowable either.

### Reasons for the Decision

1. The appeal complies with Articles 106 and 108 and Rule 64 EPC and is therefore, admissible.
2. Having examined the documents on file, the Board has come to the conclusion that as a belt showing all the features of Claim 1 is not disclosed in any of these citations, the subject-matter of Claim 1 is novel. As the Respondent has not challenged the novelty of that subject-matter, it is not necessary to consider the matter in detail.
3. On the question of whether or not the cited state of the art could suggest the method according to this Claim 1 the following remarks are made:
  - 3.1 As stated by the Opposition Division and not challenged by either party, the document US-A-3 564 933 discloses a belt showing all the features of the precharacterising part of Claim 1.
  - 3.2 The problem underlying the invention is that, if a woven fabric is used to form a tie band, as in US-A-3 564 933, as the belt undergoes repeated bending the interwoven threads of each fabric layer rub against each other, damaging the threads and reducing the service life of the belt.
  - 3.3 The man skilled in the art confronted with this problem had to look in the state of the art to see if the problem had been recognised and, if so, how it had been solved.
  - 3.4 The document US-A-493 220, relating to the general technical field of manufacture of rubber articles reinforced with threads, mentions (column 1, line 40 to column 2, line 56) the same problem of interwoven threads being rapidly

damaged if the articles are submitted to a vibration causing the threads to rub against each other and specifically mentions also that this occurs in belting.

The same document US-A-493 220 proposes the solution consisting in using fabric layers in each of which the threads (cords) are not interwoven but parallel and substantially out of contact with each other (column 2, line 73) and superposing several layers (series) each layer being held out of contact with the next one by an interposed rubber material (column 2, lines 83-99).

- 3.5 This solution is the same as that which is in the characterising feature of Claim 1 of the present case.
- 3.6 The Appellants have raised several objections to referring to the content of US-A-493 220 when evaluating the alleged inventive step of the belt according to Claim 1. These objections are discussed in the following subpoints:
  - 3.6.1 They have argued that this specification is extremely old and does not relate to power transmission belts and that the man skilled in the art of multi-V-transmission belts would not be likely to consider it. Age of a citation alone, however, is no objection; Article 54(2) EPC states that everything made available to the public is comprised in the state of the art, without indicating any time limit in the past. Furthermore all the indications are that non-woven "tire cord", as it has become known, is and has long been a well-known material in the rubber manufacturing industry. It is referred to as a well-known material in, e.g., US-A-3 996 813 (column 3, lines 33-43), and AU-A-101 260 (page 1, lines 21 ff). Therefore it is not necessary for the Board of Appeal to examine if the US-A-493 220 "has all the makings of a master patent as far as cord fabrics

are concerned" as asserted by the Opposition Division - which opinion, has been challenged by the Appellants - or not.

3.6.2 The Appellants have argued that the teaching of said document would be only relevant with the benefit of hindsight: the Board does not see and has not been shown any technical feature or any step in the reasoning of the Opposition Division which could have been taken out of the specification instead of being taken out of the state of the art. This argument can therefore not be considered as justified. What the Opposition Division has correctly done is to avoid hindsight by taking the closest prior art (US-A-3 564 933) which was referred to in the specification as filed, considering the problem the application presents and which was also referred to in the specification as filed, and looking for a solution to that problem in the literature.

3.6.3 The Appellants have put forward that as banded belts are a recent development it would be unrealistic to expect those skilled in this relatively new art to have, as part of their general knowledge, the teaching of a patent issued in 1893. But however new a technique may be, the man skilled in the art must be expected to see if the problems he is faced with have already been solved in other related technical fields which are confronted with the same problems. In the present case it must be considered that banded belts are an improvement of V-belts and that the skilled person for banded belts is the same as the one for V-belts or flat belts. It must be regarded as his normal activity to apply to the manufacture of banded belts knowledge described in a document mentioning inter alia belting.

3.7 The subject-matter of Claim 1 cannot therefore be considered as showing an inventive step because it was obvious for the man skilled in the art to apply the teaching of the

document US-A-493 220 to the belt according to the document US-A-3 564 933 and obtain thereby the same result i.e. a longer service life of the belt.

3.8 Even if any other result would be obtained which was not foreseeable by the man skilled in the art (see the decision T 21/81, paragraph 6 in the Official Journal 1983, 15) this solution would remain obvious. As a consequence, it is not necessary for the Board of Appeal to consider further the arguments tending to show that additional advantages had been obtained.

4. As regards the dependent Claims 2 to 12, the Appellants have been invited, in the communication, to file an auxiliary request and to reformulate the claims they wished the Board to consider on the hypothesis that Claim 1 as it stands would not be upheld.

4.1 In reply, the Appellants did not file an auxiliary request, and did not file any reformulated main claim but stated that there were many features in the subsidiary claims which were not to be found in the combined teaching of the two specifications US-A-3 564 933 and 493 220 and gave a single example based on Claim 4 which would contain a feature which would not be shown in the document US-A-3 564 933 i.e. "a belt of the raw edge type", which fact would oblige the Board to consider a third document added to the primary combination for the purpose of appreciating the inventive step in the subject-matter of this claim. He stated further that without some guidance in this respect from the Appeal Board he could not determine which combination of claims might be attacked and which combination of claims might be sustained over the prior art and it was further asserted that Claims 4 to 12 defined combinations which were acceptable over the prior art cited against present Claim 1.

- 4.2 However, as long as the Applicant has not clearly renounced the existing Claim 1 or clearly filed an auxiliary request containing an alternative main claim which the Board (or a former instance) would consider on the hypothesis that the existing Claim 1 would not be upheld, it is impossible for the Board to deal further with the subclaims: because of the continued presence of a sole main claim which is not allowable the whole Patent cannot be upheld, whatever the content of the other claims may be. The Board is obliged by Article 113(2) EPC to decide upon the European patent in the text submitted to it by the Appellants.
- 4.3 In the present case, the Applicant has had an opportunity to file an auxiliary request during the appeal proceedings, and has been clearly invited by the Board of Appeal to file one.
- 4.4 If the Board would have noticed, during the proceedings, that some features could be added to Claim 1 in order to render its subject-matter allowable, this would have been proposed in a communication submitted to the parties.

This situation did not arise and the only example given i.e. the feature of a belt of the "raw edge" type in Claim 4 was already known from the same document US-A-3 564 933 (see column 2, line 25). Furthermore it is not apparent that there was any problem to be solved in applying the alleged invention to a belt of that type.

5. As the subject-matter of Claim 1 lacks inventive step and does not satisfy therefore the requirements of Articles 52(1) and 56 EPC and as no auxiliary request has been filed, according to Article 102(1) EPC, the Patent cannot be upheld.

6. As regards the refund of the Appeal fee which has been requested, reimbursement of appeal fees may be ordered where a Board of Appeal deems an appeal to be allowable, if such reimbursement is equitable by reason of a substantial procedural violation: Rule 67 EPC. Since the appeal cannot be allowed the request for reimbursement of the appeal fee must be refused.

Order

For these reasons

it is decided that:

1. The appeal against the Decision of the Opposition Division of the European Patent Office dated 23 May 1984 is dismissed.
2. The request for reimbursement of the appeal fee is refused.

The Registrar  
B.A. Norman

The Chairman  
P. Delbecque