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Case Number : T 18/85

Decision of 2 October 1987 correcting errors
in the **D E C I S I O N**
of the Technical Board of Appeal 3.2.2
of 19 May 1987

Appellant : MITSUBOSHI BELTING LTD.
No. 1-21, Hamazoedori 4-Chome
Nagata-ku
Kobe-shi Hyogo (JP)

Representative : Jones, Michael Raymond et al.
Haseltine Lake & Co.
28 Southampton Buildings
Chancery Lane
London WC2A 1AT (GB)

Composition of the Board :

Chairman : C. Maus
Members : R. Gryc
P. Ford

In application of Rule 89 EPC the Decision given on 19 May 1987 is hereby ordered to be corrected as follows:

page 6, line 3 from the bottom:

insert after "28 February 1987," "page 3 received on 8 October 1983,"

page 6, line 2 from the bottom:

replace "pages 3, 4 and 7" by "pages 4, 5 and 7".

The Registrar:

J. Rückerl

The Chairman:

C. Maus

Europäisches Patentamt
Beschwerdekammern

European Patent Office
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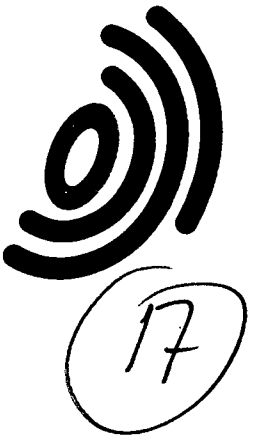

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Decision under appeal : **Decision of Examining Division 117 of the European Patent Office dated 29 August 1984 refusing European patent application No. 81 301 572.4 pursuant to Article 97(1) EPC**

Composition of the Board :

Chairman : C. Maus
Member : R. Gryc
Member : P. Ford

Summary of Facts and Submissions

I. European patent application No. 81 301 572.4, filed on 10 April 1981, published under publication number 0 040 908 and claiming the priority of previous applications of 24 May and 14 June 1980, was refused by the decision of the Examining Division 117 dated 29 August 1984.

The decision was based on Claims 1 and 2 and 3 to 10 received on 5 May 1984 and 8 October 1983, respectively.

II. In the decision, the Examining Division stated that the subject-matter of Claim 1 did not involve an inventive step. In support of its view the Examining Division cited US-A-3 948 113 and GB-A-1 176 718 and held that it would be obvious to the person skilled in the art to combine the teachings of the two documents with corresponding effect and thus to arrive at the belt according to Claim 1.

III. On 25 October 1984, the Appellants lodged an appeal against the decision paying the fee for appeal simultaneously and requesting that the decision under appeal should be set aside and that the patent should be granted. The Statement of Grounds was submitted on 20 December 1984.

IV. During the procedure before the Board of Appeal, the Appellants substituted new Claims 1 to 10 received on 28 February 1987 for the claims on which the decision was based. At the same time, they submitted new pages 1, 2, 2A and 6 replacing pages 1, 2 and 6 as originally filed.

Claim 1 reads as follows:

"1. A power transmission belt (10,13,113,213) having:

a plurality of inner, transversely spaced, parallel raw edge ribs (15,115), adjacent ribs being contiguous at their outer edges;

an outer transversely extending portion (14,114) to which the ribs are joined to define a multiple rib belt (10,13,113,213), the outer transversely extending portion (14,114) comprising a binding rubber layer (26) adjacent the outermost portion of the ribs;

a plurality of longitudinally extending tensile cords (17,117,217); and

at least one layer of transversely extending reinforcing fabric (21,221) disposed in each rib and having side edges exposed at the raw edge rib sides;

characterised in that the or each layer of reinforcing fabric (21,221) is buried within an innermost compression portion (20,120,220) of each rib, which innermost compression portion defines the distal portion of each rib, and the or each layer of reinforcing fabric (21,221) is maintained in lateral alignment with the corresponding fabric layer in each of the other ribs by the binding layer which maintains the ribs in a parallel relationship to ensure silent running of the belt."

The Appellants were of the opinion that a person skilled in the art of power transmission belt design would not be led to even consider combining the teachings of the cited documents and, if he did, would not obtain silent running of a banded belt.

V. For the original claims and description reference is made to publication No. 0 040 908.

Reasons for the Decision

1. The appeal complies with Articles 106 to 108 and Rule 64 EPC and is, therefore, admissible.

2. Claim 1 comprises a combination of the features mentioned in Claim 2 as filed with features which are disclosed on page 4, lines 2 to 7, 18 to 21 and 33 to 35 of the description and in Figures 2 to 4 of the drawings.

   Hence, its subject-matter does not extend beyond the content of the application as filed (Article 123(2) EPC).

3. The Appellants derived the preamble of Claim 1 from the power transmission belt disclosed in US-A-3 948 113. According to the findings of the Board, this belt is closest to the subject-matter of Claim 1 among the multiple rib power transmission belts according to the cited prior art documents. As the Appellants have mentioned in the preamble of the claim all those features which, in combination, are part of the belt made available to the public by the aforesaid patent specification the claim fulfils Rule 29(1)(a) EPC.

   Consequently, Claim 1 is in these respects not open to objection.

4. It follows from the statements in the foregoing paragraph that the Board, having examined the documents cited in the search report, has come to the conclusion that the power transmission belt as defined in Claim 1 is not disclosed in any one of these publications.

The subject-matter of Claim 1 is, therefore, novel having regard to this state of the art.

5. On the question of whether or not the cited prior art would suggest the power transmission belt according to Claim 1, the following should be observed:

5.1 The Appellants have found that in the use of a multiple rib power transmission belt according to US-A-3 948 113 noise is produced when the ribs are pulled out of the pulleys.

The problem underlying the invention is, therefore, to provide a power transmission belt of the type disclosed in the above-mentioned document which, while of simple construction, minimises the noise produced by its operation.

5.2 This problem was familiar to the person skilled in the art. This follows from US-A-4 011 766 cited in the search report.

5.3 The aforesaid document, like Claim 1, concerns a belt comprising a plurality of ribs maintained in parallel, side-by-side spaced relationship by an outer band to which the ribs are joined. In order to assure a quieter operation each rib has a plurality of teeth on the inside surface of the belt which extend in the cross direction and which are staggered relative to the teeth of an immediately adjacent rib. This solution of the problem to minimise the noise is, therefore, based on a different principle from that on which the solution as proposed in present Claim 1 is based.

5.4 Another solution to reduce the noise which is produced by the operation of power transmission belts is disclosed in GB-A-1 176 718. According to the teaching of this document the belt has a trapezoidal cross-section and is partially or wholly built up of laminated layers of fabric and elastomeric material having a plurality of discrete fibres embedded therein. In the case of the belt whose cross-section is partially built up of laminated layers the skilled person would learn from the specification that either the compression section or the tension section can be built up in such a manner. Consequently, both cross-sections are equally effective with regard to the reduction of noise. Furthermore, no particular number and distribution of the layers of fabric along the compression or tension section is favoured above another.

5.5 Even if one adopts the opinion of the Examining Division that it would be obvious to the person skilled in the art to use the teaching of GB-A-1 176 718 in order to reduce the noise produced by the operation of a multiple rib power belt disclosed in US-A-3 948 113 the result would not, therefore, be the belt according to Claim 1. On the contrary, from the foregoing discussion it follows that the cited document would not suggest the idea to bury the or each layer of reinforcing fabric just within the innermost compression portion of each rib.

5.6 The other citations are much further removed from the subject-matter of Claim 1 than the documents discussed above since they do not deal with the problem to reduce the noise produced by the operation of a power transmission belt. They could not, therefore, lead the skilled person to the power transmission belt according to Claim 1.

5.7 Hence, the subject-matter of Claim 1 involves an inventive step within the meaning of Article 56 EPC.

6. Consequently, Claim 1 is allowable (Article 52 EPC).

7. Claims 2 to 10 concern particular embodiments of the belt according to Claim 1 on which they depend and are likewise allowable.

8. The description is adapted to the wording of Claim 1 and discusses the state of the art from which the invention starts in more detail. Furthermore, the problem to be solved by the subject-matter of Claim 1 is represented more clearly. The amendments are, therefore, not open to objection.

Order

For these reasons, it is decided that:

1. The decision made under appeal is set aside.

2. The case is remitted to the first instance with the order to grant a European patent on the basis of the following documents:

Claims 1 to 10, received on 28 February 1987, pages 1 to 2A and 6 of the description, received on 28 February 1987, pages 3, 4 and 7 of the description as originally filed, original drawings.

The Registrar

B A Norman

The Chairman

C Maus