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D E C I S I O N
of 21 January 2005

Case Number: T 0795/03 - 3.2.1

Application Number: 94309443.3

Publication Number: 0669477

IPC: F16D 3/84

Language of the proceedings: EN

Title of invention:
Protective bellows

Patentee:
DRAFTEX INDUSTRIES LIMITED

Opponent:
Firma Carl Freudenberg

Headword:

-

Relevant legal provisions:
EPC Art. 123(2), 84

Keyword:
"Amendments - added subject-matter - (yes)"

Decisions cited:
T 0514/88, T 0527/89, T 0685/90

Catchword:

-



Case Number: T 0795/03 - 3.2.1

D E C I S I O N
of the Technical Board of Appeal 3.2.1
of 21 January 2005

Appellant: Firma Carl Freudenberg
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Representative: -

Respondent: DRAFTEX INDUSTRIES LIMITED
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Decision under appeal: Interlocutory decision of the Opposition
Division of the European Patent Office posted
21 May 2003 concerning maintenance of European
patent No. 0669477 in amended form.

Composition of the Board:

Chairman: S. Crane
Members: Y. A. F. Lemblé
G. E. Weiss

Summary of Facts and Submissions

I. The opponents' appeal is directed against the interlocutory decision of the Opposition Division posted 21 May 2003 and according to which, account being taken of the amendments made by the patent proprietors during the opposition proceedings, European patent No. 0 669 477 and the invention to which it related were found to meet the requirements of the EPC.

II. The Opposition Division held that the subject-matter of the amended claims did not extend beyond the content of the application as filed (Article 100(c) EPC) and met the requirements of novelty and of inventive step (Article 100(a) EPC) having regard to available prior art documents.

III. During the oral proceedings held on 21 January 2005 the appellants requested that the decision to maintain the patent in amended form be set aside and that the patent be revoked.

The respondents (patent proprietors) requested that the appeal be dismissed and the patent be maintained in the form approved by the Opposition Division in the interlocutory decision (main request), or in the alternative on the basis of the documents submitted at the oral proceedings (auxiliary request).

IV. Independent claim 1 of the main request reads as follows:

" A protective bellows made of thermoplastic material and having a plurality of integrally connected

bellows turns (16,18,20,22,28,30) each having a respective peak and trough (24), characterised in that, in each of the bellows turns (16,18,20,22,28,30), the ratio of the smallest thickness (S) at its peak to the greatest thickness (P) at its trough (24) is less than about 2.3 and not less than 1, and in that the said greatest thickness (P) is less than about 1.25 mm."

Independent claim 1 of the auxiliary request reads:

" A protective bellows made of thermoplastic material and having a plurality of integrally connected bellows turns (16,18,20,22,28,30) each having a respective peak and trough (24), characterised in that, in each of the bellows turns (16,18,20,22,28,30), the ratio of the smallest thickness (S) at its peak to the greatest thickness (P) at its trough (24) is less than about 2.3, and in that the said greatest thickness (P) is less than about 1.25 mm and in which the thickness of the trough is not greater than the thickness at the peak."

V. The appellants' submissions can be summarised as follows:

The limitation "not less than 1" was added to independent claim 1 in the course of the opposition proceedings in an attempt to distinguish the claimed bellows from the prior art. No basis was to be found in the originally filed documents for this limitation. Contrary to Article 123(2) EPC, claim 1 according to the main request contained subject-matter which extended beyond the content of the application as originally filed.

The passage cited by the respondents (column 3, lines 6 ff. of the application as published) could not serve as a basis for the alternative wording proposed in claim 1 according to the auxiliary request. Not only was the reformulated limitation not deducible from the wording of the cited passage, but it was also inconsistent with the embodiment shown in Figure 3 of the application as filed.

VI. The respondents countered essentially as follows:

The limitation added in claim 1 of the main request ("not less than 1") did not introduce subject-matter which extended beyond the content of the application as originally filed. The passage of column 3, line 6 ff. of the application as published stood in its own right as a disclosure of a minimum value for the thickness at the peak. On a reading of this passage, the skilled person would immediately realise that, if in accordance with the teaching of the invention the greatest thickness at the trough P should be minimized (see column 2, lines 20 to 22 and features (a) and (b) in column 2, lines 52 to 53 of the application as published), the smallest thickness S at the peak should be greater than any thickness of the trough, or, in other words, the smallest thickness at the peak S should also be greater than, or equal to, the maximum thickness at the trough P. This corresponded to S/P not less than 1.

The alternative formulation of the auxiliary request ("thickness of the trough is not greater than the thickness at the peak") was admissible under Article 123(2) EPC since it only mirrored the passage

of column 3, lines 6 ff. of the application as published. The expression "not greater than" was simply equivalent to the terms "contrasts with ... greater...". This formulation did not raise any doubt as to what was claimed therewith. As usual in patent documents, Figure 3 was not intended to be an accurate representation of what was described and did not deprive claim 1 of clarity.

Reasons for the Decision

1. Added subject-matter (Article 123(2) EPC); Main request
 - 1.1 The introduced limitation "S/P not less than 1" is not contained *expressis verbis* in the originally filed application documents. The question to be examined is therefore whether it is implicit from the original disclosure.
 - 1.2 Considering the application as originally filed (EP-A-0 669 477) an important aspect relating to the thickness at the troughs and peaks of the bellows turns is the teaching that, when the bellows embodying the invention undergoes compression and extension, it is the thickness of the through which determines the pressure between adjacent turns and, thus, the stress and wear (column 2, lines 20 to 22). In conformity with this teaching, the thickness at the troughs is minimized in the bellows embodying the invention. Accordingly, claim 1 specifies that the greatest thickness at the trough P should be less than 1.25 mm.

1.3 As to the thickness at the peaks, original claim 1 simply stipulates that the smallest thickness S at the peaks should be less than about 2.3 times the greatest thickness at the trough P. Through this inequality, an upper maximum limit is set to the values of S. There is no explicit lower limit to S in the application as originally filed. The added limitation "S/P not less than 1" is equivalent to "S not less than P" which also means that the smallest thickness S at its peak should be greater than or equal to the greatest thickness P at the trough. Thus, the contested limitation amounts to specifying that the smallest thickness at the peak S should not be reduced beyond the greatest thickness P at the trough.

1.4 The respondents referred to the passage of column 3, line 6 ff. of the application as published ("Such an arrangement contrasts with hitherto known arrangements in which the thickness of the trough is greater than the thickness at the peak") and took the view that it stood in its own right as a disclosure of the contested limitation. In particular, they argued that the person skilled in the art would automatically understand this passage as meaning that there was no part of the peak that was thinner than any part of the trough.

The Board is not persuaded that the skilled reader would directly and unambiguously deduce from this passage that a specific limitation is imposed on the smallest thickness at the peak S in comparison with the greatest thickness at the trough P. The passage in question follows considerations made in the context of minimizing the thickness of the trough (see feature (a)-(c) in column 2, lines 52 to 54 of the application

as published) and the skilled reader would primarily derive from it the confirmation that minimizing the thickness at the trough departs from "hitherto known arrangements". The passage does not, however, contain any direct and unambiguous information relative to the smallest thickness at the peak.

Moreover, considering that, in the application documents as originally filed, the thickness at the trough has been disclosed as varying from a maximum P to a minimum E and that the passage invoked by the respondents is silent as to which value of that variable thickness is referred to, the Board is unable to recognise in the cited passage any basis for the claimed comparison referring arbitrarily to P, the maximum thickness at the trough, rather than, for instance, to E the minimum thickness at the trough.

- 1.5 Furthermore, the claimed limitation is not true for the sole representation of the bellows on which such comparison is possible, namely Figure 3 of the application as originally filed. Here it is clearly visible to the naked eye that the greatest thickness P at the trough is significantly greater than the smallest thickness at the peak S. In this context the Board cannot accept the proposition of the respondents that Figure 3 was purely schematic, so that no attention should be paid to the relative values of the dimensions P, E and S shown there. On the contrary, column 2, lines 45 ff. of the application as published clearly mentions that "it has been found that the shape and **relative dimensions** of the bellows turns should be as shown in Figure 3" (bold characters added by the Board). It is established case law that the disclosure

in the original application of a feature which is to be introduced as an amendment must be direct and unambiguous (see T 514/88, OJ EPO 1992, 570; T 527/88 and T 685/90, both not published in OJ EPO). This requirement is not satisfied in the present case.

1.6 The Board therefore comes to the conclusion that claim 1 of the main request is not admissible.

2. *Auxiliary request 1*

2.1 Even if the alternative formulation of the auxiliary request ("thickness of the trough is not greater than the thickness at the peak") could be seen as having a formal basis in the original application insofar as it merely mirrors the statement from column 3, line 6 ff. quoted in point 1.4 above, the formulation is unclear since it leaves indeterminate which particular thicknesses are being referred to. This is all the more so since the claim already refers to the "smallest thickness" at the peak and the "greatest thickness" at the trough thus to some extent implying that the unidentified thicknesses now being mentioned are different to these. Here the respondents argued that the skilled person would nevertheless understand the requirement as relating to these previously specified thicknesses, or in other words that the claim effectively meant the same as the claim according to the main request. As shown above, however, one strong reason for not interpreting the claim in this way is that such an interpretation is inconsistent with the preferred embodiment.

2.2 It follows that the auxiliary request also must be refused (Article 84 EPC).

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The patent is revoked.

The Registrar:

The Chairman:

A. Vottner

S. Crane