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Datasheet for the decision of 24 July 2007

Case Number: T 0691/05 - 3.2.03

Application Number: 98202099.2

Publication Number: 0905464

IPC: F25D 23/08

Language of the proceedings: EN

Title of invention:
Plastic material gasket with a deformable base for refrigerators

Patentee:
INDUSTRIE ILPEA S.p.A.

Opponent:
REHAU AG & Co.

Headword:
-

Relevant legal provisions:
EPC Art. 56

Keyword:
-

Decisions cited:
-

Catchword:
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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 0691/05 - 3.2.03

D E C I S I O N
of the Technical Board of Appeal 3.2.03
of 24 July 2007

Appellant: (Opponent)
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Decision under appeal:
Decision of the Opposition Division of the European Patent Office posted 24 March 2005 rejecting the opposition filed against European Patent No. 0905464 pursuant to Article 102(2) EPC.

Composition of the Board:

Chairman: U. Krause
Members: C. Donnelly
I. Beckedorf

Summary of Facts and Submissions

I. The appeal lies from the decision of the opposition division, posted on 24 March 2005, rejecting the opposition against European Patent No. EP-B-0905464.

II. The appellant (opponent) filed a notice of appeal on 25 May 2005 and requested that the impugned decision be overturned and the patent be revoked in its entirety. In the grounds of appeal, filed on 14 July 2005, it was essentially argued that the subject-matter of claim 1 as granted lacked novelty (Article 54 EPC) in view of document DE-U-941 05 79 (E8) or at least was not inventive (Article 56 EPC) in view of a combination of the teachings of E8 and any one of US-A-33 78 956 (E11), ILPEA Profil Katalog; February 1992 (E9) or ILPEA Profil Katalog; February 1996 (E10).

III. The respondent (patentee) replied by letter of 2 December 2005 and requested that the appeal be rejected. An auxiliary request for the maintenance of the patent in amended form on the basis of a new claim 1 filed with the same letter was also made.

IV. In a communication pursuant to Article 11(1) RPBA, dated 1 March 2007, annexed to the summons to oral proceedings, the Board informed the parties of its provisional opinion. In particular the Board indicated that there must be considerable doubt as to whether the subject-matter of claim 1 as granted is new. It was also mentioned that, although the auxiliary request appeared to have been drafted with the intention of clarifying the construction of the C-shaped section, this object did not seem to have been achieved.

With letter of 20 June 2007 the appellant filed a further document EP-A-0 155 016 (E12).

With letter of 22 June 2007 the respondent filed further auxiliary requests 2 and 3.

V. Oral proceedings were held on 24 July 2007. As a result of the preliminary debates, the respondent withdrew all previously filed requests and requested that the patent be maintained in amended form on the basis of a new set of claims 1 to 5 filed during the oral proceedings.

After being accorded appropriate time to study the new claims, the appellant accepted that the subject-matter of claim 1 according to the sole remaining request met the requirements of Article 123(2) EPC and Article 54 EPC.

VI. Claim 1 as filed during the oral proceedings reads:

"Plastic material gasket (1) configured to seal a door (30), an inner door (31) and a cabinet (32) of a refrigerator and the like wherein the gasket (1) comprises a rigid material base (3) and a soft bellows gasket portion (20) which are coupled together, or they are just one integral part, obtained by co-extrusion of two materials having different stiffness, in order to allow, when needed, an easy disjunction of the gasket portion (20) from the base along their connection area, wherein said base (3) has an upper groove (23) suitable to receive, in substitution, a bellows gasket portion (20), said upper groove (23) being defined by a pair of

walls (5,5') which extend perpendicularly or obliquely from a portion (2) of said base (3), said base (3) further having a C-shaped section
characterised in that
said C-shaped section is positioned below said portion (2) of said base (3) and has an elbow (8) made of a softer material than a vertical portion (7) and a lower horizontal portion (4) of the C-shaped section both joined to said elbow (8), said elbow being obtained by co-extrusion on the same section, wherein said C-shaped section can be elastically deformed by means of said elbow (8), such elbow (8) thus working as a hinge to allow the elastic enlargement of said C-shaped section, in order to realise a snap engagement of the edge of said inner door (31) inside (in 19) the section itself, and wherein two sealing straps (15,17) extend from said deformable elbow (8) for providing a sealing on the edge of the door (30) externally and below said C-shaped section."

VII. The arguments of the parties may be summarised as follows.

(a) *Appellant*

The subject-matter of claim 1 is not inventive in view of:
(i) E8 in combination with either E9 or E10; and
(ii) E8 in combination with E11.

E8 is the most relevant prior art. The subject-matter of claim 1 only differs from the gasket described in this document in that the lower horizontal portion of

the C-shaped section is made of a stiffer material than the elbow.

The objective technical problem can only therefore be that the lower horizontal portion is not strong or rigid enough.

The skilled person is given a direct teaching in both E9 and E10 as to how this problem may be solved. Both of these documents show co-extruded profiles "Serie 900" wherein there is a lower horizontal portion made of a stiffer material.

Thus, combining the teachings of E8 with E9 or E10 the skilled person would arrive obtain the subject-matter of claim 1 without the need to exercise any inventive skill.

Further, document E11 also shows a combination of stiffer and flexible areas in an extruded sealing member. In particular figure 2 shows a stiff section 16 and a soft section 17 (see column 3, lines 56 to 60). Figure 5 shows a gasket with a soft material hinge 38 positioned between two stiffer regions 36 and 37 (see column 5, lines 48 to 55). Thus, the skilled person once again has the solution to the above problem given to him directly.

(b) *Respondent*

E8 describes the most relevant state of the art.

The subject-matter of claim 1 differs therefrom at least in that the C-shaped section has an elbow made of

a softer material than a vertical portion and a lower horizontal portion of the C-shaped section that are both joined to said elbow which works as a hinge to allow the elastic enlargement of said C-shaped section, in order to realise a snap engagement of the edge of said inner door.

The above arrangement of a soft material hinge between the two stiffer elements of the C-shaped section solves the technical problem of facilitating the operation of fitting the gasket to the door since instead of having to position the gasket on a point by point basis the operator can easily open up the C-shaped section along its whole length to allow mounting to the door in one step. Such an arrangement also lends itself to automation of the fitting process (see column 2, lines 4 to 8 of the contested patent).

E9 and E10 essentially refer to the same gasket profiles of the 900 series. These gaskets are not specifically intended for use in sealing refrigerator doors (the 700 series which are not referred to in E9 and E10 are intended for this purpose) and do not in any case show a gasket wherein a soft material elbow is positioned between two elements of a stiffer material in the manner of a hinge.

E11 mentions a "projecting rib 38" which is of a more flexible material (see column 5, lines 52 to 54). However, this rib is intended to act as a seal (see column 5, lines 68 to 70) and there is no mention of it providing any kind of hinge function. Figure 5 does not clearly show the extent that the soft material of the

projecting rib penetrates into the more rigid surrounds.

The entire teaching of E8 is to provide an elastic lower portion for ensuring adequate sealing, hence, there is no reason for the skilled person to think of replacing any of the soft portions of the C-shaped section with more rigid material let alone applying the specific configuration of the invention.

None of the other cited prior art documents describe or suggest the provision of a soft material hinge between two sections of a C-shaped section for a gasket according to the configuration of claim 1.

Consequently, the subject matter of claim 1 meets the requirements of Article 56 EPC.

Reasons for the Decision

1. *Admissibility of the request filed during oral proceedings*

Although filed in extremis during oral proceedings, the Board is prepared to accept the new request since the amendments it contains essentially represent the last stage in the efforts of the respondent to make explicit the features upon which the reasoning as regards novelty and inventive step issues had been based in the written procedure. Accordingly, the Board does not feel that the appellant is unduly disadvantaged by the admittance of this late filed request into the

proceedings, and indeed, the appellant made no representations to this effect.

2. *Article 123(2) EPC*

The amendments made to claim 1 are based on page 4, lines 20 to 30 of the description as filed and thus meet the requirements of Article 123(2) EPC. The appellant did not make any objections in this respect concerning this particular request.

3. *Inventive step*

The Board agrees with both parties that E8 describes the most relevant prior art. As outlined by the respondent, the subject-matter of claim 1 differs from the gasket described in this document in at least that:
- the C-shaped section has an elbow made of a softer material than a vertical portion and a lower horizontal portion of the C-shaped section that are both joined to said elbow which works as a hinge to allow the elastic enlargement of said C-shaped section, in order to realise a snap engagement of the edge of said inner door.

The Board cannot accept the appellant's point of view, put forward during the oral proceedings, that the subject-matter of claim 1 only differs from the known gasket of E8 in that the lower horizontal portion of the C-shaped section is made of a stiffer material than the elbow. In both of the gaskets described in E8 (see figures 1 and 2), the whole of the C-shaped section, with the exception of the upper horizontal portion

which also forms the base 33 of the rigid profile section 3, is made of the same material.

The above defined distinguishing features have the technical effect that when an opening force is applied to the lower horizontal portion at any point, the C-section will open up along its entire length in the manner of aileron on an aeroplane wing as opposed to on a point-by-point basis like when trying to mount a cycle tyre. Further, the rigid vertical portion will resist any tendency for the fulcrum point of the hinge to shift on account of an increase in the horizontal component of the opening force as the lower portion becomes increasingly angled downward. Thus, it should be easier to set exact datum points for machine tool movements in automatic assembly.

Hence, the objective technical problem is seen to be that proposed by the respondent and mentioned in the patent (see column 2, lines 4 to 8), of facilitating the fitting of the gasket to the door in both manual and automated assembly processes.

None of the documents cited by the appellant describe, or suggest to the skilled person faced with the above problem, the provision of a soft material hinge between two sections of a C-shaped section for a gasket according to the specific configuration of claim 1.

E9 and E10 relate to gasket profiles wherein a lower horizontal extending portion of a rigid PVC material is attached directly to a vertically extending limb of a soft PVC material forming the rest of the bellows. Hence, E9 and E10 fail to disclose a soft hinge between

two rigid portions. When applying a downward force to the rigid horizontal portion, the fulcrum point around which pivoting takes place will shift as the vertical limb of soft PVC flexes.

As regards E11, the Board also concurs with the respondents analysis. The "projecting rib 38" is undoubtedly made of a flexible material (see column 5, lines 52 to 54). However, figure 5 does not clearly show the extent to which the soft material of the projecting rib penetrates into the more rigid surrounds. Since the rib is intended to act as a seal (see column 5, lines 68 to 70) and there is no mention of it providing any kind of hinge function, there is no reason to believe that it penetrates any further into the adjacent material than is necessary to provide an adequate anchor for the sealing function. In conclusion, E11 neither describes nor suggests the provision of a soft material hinge between two rigid portions a gasket.

The only document showing such a hinge seems to be EP-A-319087 (D1 - from the opposition procedure and cited in the description of the contested patent)- see in particular figure 3, reference sign 8. However, the hinge is used for a different purpose in this gasket and there is no hint towards the particular arrangement of the hinge between the vertical and lower horizontal portions of the C-shaped section and the concomitant technical effects.

E12 cited by the appellant to support the contention that hinges formed by relatively flexible sections of gaskets adjacent to stiff portions are common knowledge

also fails to describe or suggest the hinge arrangement of claim 1. In E12 the hinge configuration is achieved by a flexible area adjacent to a rigid portion (see page 5, lines 24 to 27 and figures 1 and 2 "hinge point" 11) not a flexible area between two rigid portions.

In conclusion the subject-matter of claim according to the sole request meets the requirements of Article 56 EPC.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the department of first instance with the order to maintain the patent in the following version:
   - claims 1 to 5 as filed during the oral proceedings of 24 July 2007;
   - description pages 2 and 3 as granted;
   - figures 1 to 5 as granted.

Registrar: Chairman

G. Magouliotis U. Krause