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**Datasheet for the decision
of 19 April 2018**

Case Number: T 0656/15 - 3.2.01

Application Number: 07003645.4

Publication Number: 1790554

IPC: B62D29/00, C08J9/00

Language of the proceedings: EN

Title of invention:

Expandable material and fastenable member for sealing,
baffling or reinforcing and method of forming same

Patent Proprietor:

Zephyros Inc.

Opponents:

Henkel AG & Co. KGaA
Sika Technology AG

Headword:

Relevant legal provisions:

EPC Art. 84, 123(2), 54(2), 56
RPBA Art. 12(4)

Keyword:

Claims - clarity (yes)

Amendments - allowable (yes)

Grounds for opposition - fresh ground for opposition (yes)

Novelty - (yes)

Inventive step - (yes)

Decisions cited:

G 0003/14

Catchword:



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Case Number: T 0656/15 - 3.2.01

D E C I S I O N
of Technical Board of Appeal 3.2.01
of 19 April 2018

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Decision under appeal: **Interlocutory decision of the Opposition
Division of the European Patent Office posted on
19 January 2015 concerning maintenance of the
European Patent No. 1790554 in amended form.**

Composition of the Board:

Chairman	G. Pricolo
Members:	C. Narcisi
	O. Loizou

Summary of Facts and Submissions

I. European patent No. 1 790 554 was maintained in amended form by the decision of the Opposition Division posted on 19 January 2015. Against the decision an appeal was lodged by Opponent 2 on 27 March 2015 and the appeal fee was paid. The statement of grounds of appeal was filed on 19 May 2015.

II. Oral proceedings took place on 19 April 2018. The Appellant (Opponent 2) requested that the decision under appeal be set aside and that the patent be revoked. The Respondent (Patentee) requested that the appeal be dismissed and that the patent be maintained in amended form according to the appealed decision (main and sole request).

III. Claim 1 reads as follows:

"A method for the provision of members for providing sealing or baffling to one or more structures, the members comprising a flexible carrier and an expandable material, the method comprising providing a flexible carrier formed of a polymeric film material of thickness no greater than 0.5 mm, disposing the expandable material upon the flexible carrier in a continuous manner by extrusion, cutting the carrier provided with the expandable material at predetermined lengths to provide the members and providing one or more fasteners for attaching the members to the structure, wherein the expandable material upon exposure to an elevated temperature expands and forms a foam the volume of which is at least 1500% greater than the volume of the expandable material in an unexpanded state and which provides sealing and/or baffling to the structure and the fastener is a mechanical fastener, a

clip, a snap fit a screw or combination thereof and is separately attached to the carrier."

IV. The Appellant's arguments may be summarized as follows:

The subject-matter of claim 1 is not clear since the term "flexible carrier" is ambiguous and is not defined in the patent specification (hereinafter designated as EP-B). The wording "the fastener is a mechanical fastener, a clip, a snap fit a screw or combination thereof" also is not clear, for it does not allow to determine whether the limiting feature is defined broadly by the fastener being a "mechanical fastener" or whether it is restricted to the fastener being only a "clip, a snap fit, a screw or a combination thereof".

The decision of the Opposition Division not to admit the ground of opposition based on Article 83 EPC as late filed and not prima facie relevant was erroneous, for the term "sufficiency" ("Ausführbarkeit") was mentioned in the notice of opposition (though not substantiated) and the explicit filing of this ground of opposition (with reasons being given) was prompted by the declaration of Mr. Harrison (on behalf of the Respondent). This declaration raises doubts (not raised before in the opposition proceedings), as to whether increasing the percentage by weight of the blowing agent (in the expandable material) would lead to the claimed increase in volume expansion, as generally known in the art and as shown by table A of EP-B. If this were not the case, then an insufficient disclosure of the invention would result, given EP-B not indicating any other manners of obtaining a volume

expansion of 1500% or greater. Hence this ground of opposition was clearly prima facie relevant.

The subject-matter of claim 1 extends beyond the content of the application as filed, for the wording "the fastener ... is separately attached to the carrier" was not disclosed in connection with "a clip, a snap fit or a screw or a combination thereof" and the wording "or the like" appearing after the wording "a combination thereof" in the application as filed (see page 5) was omitted in claim 1.

The subject-matter of claim 1 is not new over E5 (US-B1-6 270 600) or family member E5a (WO-A-00/46017), for E5 discloses in particular that "the expandable material upon exposure to an elevated temperature expands and forms a foam the volume of which is at least 1500% greater than the volume of the expandable material in an unexpanded state" (hereinafter designated as feature (i)) and that "the fastener is a mechanical fastener, a clip, a snap fit a screw or combination thereof and is separately attached to the carrier" (hereinafter designated as feature (ii)), the remaining features also being known from E5a. As to feature (i), this results directly from E5 disclosing the use of 1% to 15% by weight of blowing agent (see E5a) and from Table A of EP-B, indicating that an expandable material including more than 15% by weight of a blowing agent leads to an increase in volume by more than 3000%. Feature (ii) results from the fact that according to E5a the laminate 36 (see figure 3) is pressed by a tool 38 into channels 24, 26 of the stamping 21, said channels therefore constituting a mechanical fastener. Alternatively, closure plate 29 (figure 4) can also be seen as constituting a mechanical fastener.

The subject-matter of claim 1 lacks an inventive step over E5 in view of E1 (US-A-5 766 719) or E3 (WO-A-98/36944), or in view of the skilled person's common general knowledge, and further in conjunction with E4 (US-A-5 266 133), E6 (EP-A1-625 559) or E7 (US-A1-2003/45620), or with the skilled person's common general knowledge. On the assumption that said features (i) and (ii) are not known from E5, they would nevertheless be obvious for the skilled person. The skilled person would face the objective problems of (b) finding a way to fixedly retain said reinforcing member in a cavity of said structure(s) (see claim 1) and (a) to save costs by using less expandable material. The solution to problem (a) (according to feature (i)) is provided either by common general knowledge (i.e. the skilled person knowing that the volume expansion of expandable (foamable) material can be controlled) or by the obvious combination with E4, E6 or E7, all disclosing volume expansions equal to or greater than 1500%. The solution to problem (b) (according to feature (ii)) is provided by the skilled person's common general knowledge, it being known and common in the art to employ mechanical fasteners to attach the claimed reinforcing member in a structure's cavity. Alternatively, the solution to problem (b) is provided by the obvious combination of E5 with E1 (see figure 32) or E3 (page 24, lines 16 and following lines, figures 10, 12, reference sign 44). Thus, the subject-matter of claim 1 would be arrived at in an obvious manner starting from E5.

The subject-matter of claim 1 lacks an inventive step over E1 in conjunction with E5 or E8 (US-B1-6 287 666), or with the skilled person's common general knowledge, and further in view of E4, E6 or E7, or of the skilled person's common general knowledge. The only differences

to claim 1 reside in that E1 does not disclose a "flexible carrier thickness no greater than 0.5 mm" (hereinafter designated as feature (iii)) and in that aforementioned feature (i) is not disclosed in E1. Accordingly, the skilled person would face the objective problems of (a) reducing the amount of expandable material employed (thus saving costs) and of (c) using a polymeric film material having a specific, reduced thickness. The solution to problem (a) (see above) is obviously derived (see above) from the skilled person's common general knowledge or from E4, E6 or E7. The solution to problem (c) (according to feature (iii)) is obvious in view of common general knowledge (i.e. the use of thin carriers/films being usual in the art) or in view of E5a (page 5, foil thickness between 0.05 mm and 2.5 mm) or E8 (column 7, carrier thickness between 0.3 mm and 1.4 mm). Consequently, the subject-matter of claim 1 would be obvious for the skilled person starting from E1.

V. The Respondent's arguments may be summarized as follows:

Claim 1 is clear, since the combination of a generic with a more specific feature does not result in any ambiguities or contradictions.

The Opposition Division correctly decided not to admit the ground of opposition based on Article 83 EPC, for it was clearly late filed and not prima facie relevant. In addition, no arguments have been at all submitted against the example of an embodiment of the invention according to table B of EP-B. Therefore there was no reason to assume or suppose the invention not to be clearly and sufficiently disclosed in EP-B.

The subject-matter of claim 1 does not extend beyond the content of the application as filed (see application, claim 4; description, page 5, second paragraph).

The subject-matter of claim 1 is new over E5 and E5a, as E5 does not disclose an expandable material having a volume expansion of more than 1500%.

The subject-matter of claim 1 is inventive over E5 and the cited prior art documents, given the skilled person not having any incentive to combine E5 with the mentioned documents. E5 does not address the problem of providing a cavity filling structure.

The subject-matter of claim 1 is inventive over E1 and the cited prior art documents, for there is no teaching in E1 about using the mechanical fastener of figure 32 (described for use with an injection moulded part) with the extruder of figure 17.

Reasons for the Decision

1. The appeal is admissible.
2. The subject-matter of claim 1 is clear (Article 84 EPC), the mentioned feature "the fastener is a mechanical fastener, a clip, a snap fit a screw or combination thereof" merely implying that the fastener can be in general any (of course suitable) mechanical fastener, or more specifically a snap fit, or a screw, or any combination of these elements (which are all mechanical fasteners). No ambiguities are therefore implied by this feature. Further, as to the term

"flexible carrier", the Board notes that it was already included in granted claim 1. Hence, according to the decision G 3/14 of the Enlarged Board of Appeal, the Board is not empowered to examine any clarity objection related to this feature.

3. The subject-matter of claim 1 does not extend beyond the content of the application as filed and therefore it does not contravene Article 123(2) EPC. The feature "the fastener is a mechanical fastener, a clip, a snap fit a screw or combination thereof and is separately attached to the carrier" is supported by the application as filed. Indeed, claim 4 as filed reads "the fastener is a mechanical fastener and is separately attached to the carrier". Further, page 5 (paragraph 2) of the description of the application states that "examples of suitable fasteners include mechanical fasteners, clips, snap-fits, screws combinations thereof or the like". Hence, clips, snap-fits and screws are disclosed in the description as being specific forms of mechanical fasteners used by the invention and therefore, according to claim 4 of the application, any (or a combination) of these fasteners is separately attached to the carrier in a corresponding specific embodiment of the invention. Finally, the omission of the wording "or the like", implying only the deletion of possible alternatives, cannot add any new subject-matter.
4. The Board exercised its discretionary power pursuant to Article 12(4) RPBA (Rules of Procedure of the Boards of appeal) not to admit the ground of opposition based on Article 83 EPC, thus confirming the decision of the Opposition Division.
First, contrary to the Appellant's view, this ground of opposition was evidently late filed, since in the

notice of opposition under point 2 (bearing the title "Ausführbarkeit und unzulässige Erweiterung", i.e. "sufficiency of disclosure and added subject-matter") only submissions relating to added subject-matter were made. Thus the substantiation of this ground of opposition was presented only later. In addition, the feature being objected to (i.e. "wherein the expandable material upon exposure to an elevated temperature expands and forms a foam the volume of which is at least 1500% greater than the volume of the expandable material in an unexpanded state") was already present in granted claim 1 and in the patent specification (see EP-B, e.g. [0029]) (Table A also being included in EP-B), no valid reason being given for the late filing of the substantiation. In particular, the mentioned declaration of Mr. Harrison (filed later during opposition proceedings) does not affect in any way the above facts.

Second, the Opposition Division correctly decided that prima facie no case of insufficiency of disclosure was implied by the submissions of the Appellant, no valid reasons being derivable from the consideration of the overall patent specification and in particular of Table B (representing a specific example of an embodiment of the invention), as also noted by the Patentee. The Appellant gave no reason as to why the criterion of prima facie relevance was incorrectly applied or that any other applicable criterion was unduly neglected or ignored. Under these circumstances the Board considers that the Opposition Division correctly exercised its discretion under Article 114(2) EPC not to admit the late filed ground of opposition based on Article 83 EPC, and sees no reason to overturn the discretionary decision of the Opposition Division.

5. The subject-matter of claim 1 is new over E5 (Article 54 EPC) and E5a, as these documents do not disclose aforementioned feature (i) (i.e. "the expandable material upon exposure to an elevated temperature expands and forms a foam the volume of which is at least 1500% greater than the volume of the expandable material in an unexpanded state"). The Appellant's argument is unfounded and incorrect, being based on Table A of EP-B, for the invention does not constitute prior art. Moreover, the various amounts of blowing agent (indicated in weight percentage) in Table A do not constitute per se a sufficient condition for obtaining the volume expansions disclosed in Table A (this is nowhere stated or implied in EP-B), as this obviously applies only to the specific formulations of the present invention.

Also, feature (ii) is not disclosed in E5a, for the channels 24, 26 are part of the channel-shaped structure in E5a and not of the reinforcing member, the channels therefore not forming a mechanical fastener being part of the member and separately attached thereto (see claim 1). The same holds true for the closure plate 29, which is not part of the reinforcing member in E5a (and is not separately attached to the member's flexible carrier).

6. The subject-matter of claim 1 is not obvious for the skilled person starting from E5 (and E5a). The skilled person starting from E5a would not seek to obtain a cavity filling structure with an expandable material according to feature (i). Indeed, E5a clearly indicates that filling the entirety of a section with plastic foam is not desirable (E5a, page 3, lines 16-23), as this would "significantly increase mass". Accordingly, in E5a the design purposely seeks to allow gas to

escape from the polymer, providing the unexpanded foam's carrier with perforations allowing gas to escape (E5a, page 8, line 22-page 9, line 8). Therefore, E5a addresses the technical problem of reinforcing a cavity structure "without proportionately increasing the mass" (E5a, page 4, lines 3 to 6). Thus, the technical problem posed in E5a teaches away from feature (i).

In addition, according to E5a the laminate preform representing the reinforcing member is made to conform to the channel-shaped structure by pressing it into said structure using a forming tool (E5a, page 11, lines 3 to 7), or "it is initially shaped to conform to its intended channel shape and thus form a drop insert" (E5aa, page 11, lines 15-20). Consequently, E5a teaches away from aforesaid feature (ii) too, there being evidently no need and no incentive for the skilled person to provide a mechanical fastener separately attached to the carrier.

For the above reasons the skilled person in view of E1, E3, E4, E6, E7 or of common general knowledge would not arrive in an obvious manner at the claimed subject-matter, there being no valid reason and no incentive to combine E5 with any of these documents (Article 56 EPC).

7. The subject-matter of claim 1 is not obvious for the skilled person starting from E1. Contrary to the Appellant's view feature (ii) (i.e. "the fastener is a mechanical fastener, a clip, a snap fit a screw or combination thereof and is separately attached to the carrier") in combination with the further feature of claim 1 "a flexible carrier formed of a polymeric film material of thickness no greater than 0.5 mm" is not known from E1. In effect, there is no teaching in E1 about using the mechanical fastener of figure 32 in

conjunction with the extruded member of figure 17 comprising a flexible film carrier, said mechanical fastener being only described for use with an extruded member having a continuous profile according to figure 19 and figures 21-24 (E1, column 9, lines 5-13; column 8, lines 13-34). The Appellant's further argument that it would be obvious for the skilled person to use a mechanical fastener as shown in figure 32 also in conjunction with the process of figure 17 is not plausible or convincing, for the members manufactured by the processes of figure 19 and 17 have very different mechanical structures and configurations (due to the mentioned different type of carrier and different applications). Therefore, the aforementioned combination of features is not known from E1 and it would not be obvious for the skilled person, on account of the different nature of members and carriers shown in E1. This combination of features is likewise not disclosed or suggested by E5, E8, E4, E6, or E7. For these reasons the subject-matter of claim 1 is not rendered obvious starting from E1 and in view of common general knowledge and the cited prior art.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



A. Vottner

G. Pricolo

Decision electronically authenticated