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**Datasheet for the decision
of 15 October 2019**

Case Number: T 1757/15 - 3.2.06

Application Number: 10157320.2

Publication Number: 2239433

IPC: F01N3/28, F01N3/021, F01N13/14

Language of the proceedings: EN

Title of invention:

Method of winding holding sealing material and method of
manufacturing exhaust gas purifying apparatus

Patent Proprietor:

Ibiden Co., Ltd.

Opponent:

ELKINGTON AND FIFE LLP

Headword:

Relevant legal provisions:

EPC Art. 84, 123(2)
RPBA Art. 13(1)

Keyword:

Claims - clarity - main request (no)

Late-filed auxiliary requests - request clearly allowable (no)

Decisions cited:

G 0003/14, G 0002/10

Catchword:



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Case Number: T 1757/15 - 3.2.06

D E C I S I O N
of Technical Board of Appeal 3.2.06
of 15 October 2019

Appellant: Ibiden Co., Ltd.
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Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 9 July 2015
revoking European patent No. 2239433 pursuant to
Article 101(3) (b) EPC.**

Composition of the Board:

Chairman M. Harrison
Members: T. Rosenblatt
E. Kossonakou

Summary of Facts and Submissions

- I. The opposition proceedings concerning European patent No. 2 239 433 were continued by the European Patent Office of its own motion after the sole opponent withdrew its opposition. With its decision dated 9 July 2015, the opposition division then revoked the patent.
- II. The appellant (patent proprietor) filed an appeal against this decision. In its appeal grounds the appellant continued to pursue the main request and the first to third auxiliary requests which had been filed with letter of 18 May 2015 and upon which the opposition division's decision was based.
- III. The Board issued a summons to oral proceedings with a subsequent communication containing its provisional opinion. The Board opined *inter alia* that the subject-matter of claim 1 of the main request and of the first to third auxiliary requests lacked clarity (Article 84 EPC).
- IV. With its letter dated 13 September 2019 the appellant submitted fourth to thirteenth auxiliary requests.
- V. Oral proceedings before the Board were held on 15 October 2019. During the oral proceedings the appellant withdrew the former first to ninth and eleventh to thirteenth auxiliary requests, the former tenth auxiliary request becoming its first auxiliary request. The appellant also submitted a first version of a second auxiliary request (at 12:30h) which was replaced afterwards by a further amended second auxiliary request (at 13:10h).

VI. The appellant requested that the decision under appeal be set aside and the patent be maintained on the basis of the main request, filed with letter of 18 May 2015, or one of the first auxiliary request (originally filed as the tenth auxiliary request with the letter of 13 September 2019) or the second auxiliary request filed during the oral proceedings at 13:10h.

VII. Claim 1 of the main request reads as follows:

"A method of manufacturing an exhaust gas purifying apparatus, comprising:

winding in multiple layers a mat-shaped holding sealing material comprising inorganic fibers around an outer peripheral portion of a pillar-shaped exhaust gas treating body having a plurality of cells placed longitudinally in parallel with one another with a cell wall interposed therebetween,

wherein each layer of the holding sealing material on said exhaust gas treating body is shifted in the winding order such that an outer layer of the holding sealing material is placed closer to one end face of said exhaust gas treating body than an inner layer of the holding sealing material, and that a shift between each inner layer and the adjacent outer layer is 0.15 to 15% of a length in a width direction of said holding sealing material, wherein said holding sealing material is spirally wound around said exhaust gas treating body, and

press-fitting said exhaust gas treating body with said holding sealing material wound therearound into a casing, from an end face of said exhaust gas treating body on the opposite side of an inner layer exposed end

face where a part of an innermost layer of the holding sealing material is exposed,

wherein, in the manufactured exhaust gas purifying apparatus, a longer side face of each layer of the holding sealing material and the end face of the exhaust gas treating body are substantially parallel to each other at both of a press-fitting side end portion (20a) and an end portion (20b) on the opposite side of the press-fitting side end portion (20a) of the exhaust gas purifying apparatus (20)."

VIII. In claim 1 of the first auxiliary request the final feature in claim 1 of the main request, "wherein, in the manufactured (...) purifying apparatus (20)", has been deleted and the feature

"and wherein an outermost layer of the holding sealing material and the adjacent inner layer of the outermost layer are fixed with a fixing member after the completion of winding, and"

inserted before the "press-fitting" step feature.

IX. In claim 1 of the second auxiliary request, the previously added features has further been amended to read (underlining added by the Board):

"and wherein an outermost layer of the holding sealing material and the adjacent inner layer of the outermost layer are fixed with a fixing member after the completion of winding, wherein the fixing member is a pressure-sensitive adhesive tape, and then".

Furthermore the press-fitting step feature has also been amended to read

"press-fitting said exhaust gas treating body with said holding sealing material wound therearound, the outermost layer of the holding sealing material and the adjacent inner layer of the outermost layer being fixed with the fixing member, into a casing, from an end face of said exhaust gas treating body on the opposite side of an inner layer exposed end face where a part of an innermost layer of the holding sealing material is exposed".

X. The appellant's arguments may be summarised as follows.

Main request

The final feature of claim 1 constituted a functional feature which further specified the previous method steps. Such a definition was allowable since the feature could otherwise not be defined more precisely without unduly limiting the scope of the claim. Moreover, the result could be directly and positively verified by the skilled person without extensive experimentation. The feature implied that the properties of the holding sealing mat and the processing parameters of the winding and press-fitting steps had to be chosen so as to fulfil the functional feature.

First auxiliary request

The added feature had verbatim basis in paragraph 139 of the application as filed. The technical effects mentioned in this paragraph were implicit in the added feature. It was not necessary to define the type of fixing member, since it was explicitly stated that any type could be used. The claim also covered the case

where the fixing member was still present during the press-fitting step.

Second auxiliary request

The claim was further limited by the definition of the specific type of fixing member and by the feature requiring its presence during the press-fitting step as disclosed in paragraph 139. Its subject-matter was thus based on a feature combination of originally filed and granted claims 1, 2 and 13 and those taken from paragraph 139 of the description. In its most general form, the originally filed claims covered methods which did not require the relative shifting between the wound layers upon press-fitting to take place. Such movement was also not mentioned in paragraph 139 so that the resulting subject-matter was based only on a combination of features disclosed in the patent without any link to a relative shifting during press-fitting. Moreover, a pressure-sensitive adhesive tape provided only very slight adhesive forces which would be overcome during the press-fitting step and result in a relative shifting of the wound layers. Since the fixing member fixed only the outermost layer to the adjacent inner layer, a relative shifting would in any case occur between the remaining inner layers.

Reasons for the Decision

Main request

1. Claim 1 does not meet the clarity requirement of Article 84 EPC.
 - 1.1 The feature "*wherein, in the manufactured exhaust gas purifying apparatus, a longer side face of each layer of the holding sealing material and the end face of the exhaust gas treating body are substantially parallel to each other at both of a press-fitting side end portion (20a) and an end portion (20b) on the opposite side of the press-fitting side end portion (20a) of the exhaust gas purifying apparatus (20)*" was added to the claim during the proceedings before the opposition division. This feature is not defined in the originally filed or granted claim. Rather it is based on the description (see for example paragraph 31). The amendment may therefore be examined for compliance with Article 84 EPC (G 3/14, OJ EPO 2015, 102). This was not disputed by the appellant.
 - 1.2 The cited feature defines the properties of the final product to be obtained by the claimed manufacturing method. However, it is not clear which further method step or further detail of the previously defined (and uncontestedly known) method steps of a manufacturing method are implied by this feature of the resulting manufactured product. Thus, the feature of the final product merely defines a result to be achieved, without defining which method step (or steps) allow this result to be achieved.

- 1.3 Contrary to the opinion of the appellant, the Board finds that the added feature does not constitute a functional feature of the claimed manufacturing method. A definition by a functional feature would require that a method step is defined in terms of the function it is to provide in such method. The added feature here is however not a method step at all, but rather simply a property of a final product obtained by the manufacturing method. Therefore the appellant's argument that the feature was in some way a functional feature is not accepted; no "function" is defined.
- 1.4 The appellant also argued that all steps are already defined in the claim and that the wording of the added feature should be understood to mean that the preceding method steps should be performed by selecting the properties of the mat-shaped holding sealing material and the parameters of the winding and press-fitting steps in some way so as to obtain a final product having the defined property. Notwithstanding the fact that the amendment is not worded in this way anyway, the Board also does not accept this argument as there would still be no indication (not even in the description in fact) of how the skilled person should perform the two method steps.
2. Since the clarity requirement of Article 84 EPC is not met, the main request is not allowable.

First auxiliary request

3. The first auxiliary request was submitted as the tenth auxiliary request in reply to the preliminary opinion of the Board, thus after the time limit for filing the appeal grounds (Article 12(1) and (2) RPBA). It therefore constitutes an amendment to the appellant's

case under Article 13 RPBA.

According to Article 13(1) RPBA, any amendment to a party's case may be admitted and considered at the Board's discretion. The discretion shall be exercised in view of inter alia the complexity of the new subject-matter submitted, the current state of the proceedings and the need for procedural economy.

In order to be in line with the requirement of procedural economy, amendments should be *prima facie* allowable in the sense that they at least overcome the objections raised against previous requests without giving rise to any new ones.

4. The amendments to claim 1 in the first auxiliary request were filed in order to remedy the clarity objections raised by the Board in its preliminary opinion. Although the amendments overcome the former clarity objection, they however introduce a new objection under (at least) Article 123(2) EPC.

4.1 The basic principle when examining whether the requirement of Article 123(2) EPC is met, is to be found in the jurisprudence of the Enlarged Board of Appeal which was summarised and confirmed in its decision G 2/10 (OJ EPO 2012, 376, Reasons 4.3).

Applied to the present case, it has to be established whether the amended subject-matter is directly and unambiguously derivable by a skilled person, using common general knowledge, and seen objectively and relative to the date of filing, from the whole of the document (i.e. description, claims and figures) of the application as filed (n.b. reference is made here and

in the following to the published application).

- 4.2 The added feature, concerning the fixation of the outermost layer and the adjacent inner layer with a fixing member after the completion of the winding, is literally based on paragraph 139, lines 13/14, of the description. Lines 17 to 19 explain the purpose of the fixation. On the one hand, the fixation "makes it easy to maintain a state where the holding sealing material is wound around the exhaust gas treating body". This purpose may be considered to be implicit in the added feature. The further purpose disclosed in these lines, "improving a handling property of the exhaust gas treating body in the press-fitting process into the casing", implies the fixation to persist in the press-fitting step. This purpose is however not defined in claim 1, neither explicitly nor implicitly in the added feature, nor in the remaining features of claim 1. The amended claim leaves it entirely open as to whether the fixing member is temporarily provided - for example, for an intermediate storage or for transport of the wound components between different working stations, for later press-fitting in the casing - and is later removed before the actual press-fitting step is carried out, or whether the fixing member remains present during the press-fitting step, as disclosed precisely in lines 18/19 in paragraph 139. At least for the reason that a limitation corresponding to the presence of the fixing member during the press-fitting step has not been included in the claim, the resulting combination of features is not directly and unambiguously derivable from the application as filed and consequently extends beyond the content of the application as filed, contrary to the requirement of Article 123(2) EPC.

4.3 The Board's conclusion is not altered by the appellant's argument that the original and granted claim also covered manufacturing methods in which fixing members could be applied only temporarily and be removed before the press-fitting. The Board considers that the combination of features resulting from original and granted claims 1, 2 and 13, has been complemented by features disclosed in the description only in the context of a particular manufacturing method, namely one in which, specifically in the press-fitting step, a fixing member provides for improved handling properties. This necessarily implies its continued presence in this step. The appellant did not indicate any other disclosure in the original application documents disclosing a manufacturing method in which a fixing member used for fixing the outermost layer to an adjacent inner layer of a wound holding sealing material is disclosed in a more general context, nor could the Board find any itself.

5. Since the amendments according to the first auxiliary request give rise to a new objection under Article 123(2) EPC, they are not *prima facie* allowable in the sense set out above (point 3). The Board thus exercised its discretion according to Article 13(1) RPBA not to admit the first auxiliary request into the proceedings.

Second auxiliary request

6. For similar reasons the Board also did not admit the second auxiliary request into the proceedings (Article 13(1) RPBA).

6.1 Although amended claim 1 was further limited to remedy the previous objection, the resulting subject-matter is still not directly and unambiguously derivable from the

application as filed. The description of the application discloses as an overall aim to be obtained by the manufacturing method disclosed therein, to provide parallel (in the sense of being "flush") end faces of the wound mat-shaped holding sealing material in the final exhaust gas purifying apparatus. This is required in order to reduce the risk of wind erosion (see e.g. paragraph [0010]). For this to be achieved, the individual layers, which initially are spirally wound with a defined shift around the treating body, have to move relatively to each other during the press-fitting step so as to compensate for the initial shift as explained in, for example, paragraph 54. Paragraph 54 is important in this context, since it relates specifically to original claim 13 which constitutes, together with original claims 1 and 2, the basis for present independent claim 1 directed to such manufacturing method. Accordingly, also the disclosure in paragraph 139, on which the amendments to present claim 1 are based, would necessarily be understood by the skilled person in the context of this general purpose disclosed already in paragraph 54, i.e. when considering the specific purpose described in respect of the manufacturing method according to original claim 13. The skilled person, taking into account the disclosure of the entire application, would therefore have understood that, also when using a fixing member in form of a pressure-sensitive adhesive tape, all spirally wound layers of the mat-shaped holding sealing material must be allowed to move relatively to each other during the press-fitting step.

The appellant's argument that claim 13, in its most general form, covered methods which did not require the relative shifting between the wound layers upon press-fitting to take place also does not alter the Board's

conclusion. Claim 1 of this request, as can be understood from the foregoing, does not rely merely on a combination of filed claims in their generality, but instead is based on the description.

According to the added features, the outermost layer and the adjacent inner layer are fixed to each other by a fixing member without however specifying that the so wound and fixed holding sealing material must still be able to perform this relative movement in the press-fitting step, albeit by some non-described method steps(s). The Board finds thus that the resulting intermediate generalisation of the disclosed manufacturing method is *prima facie* not directly and unambiguously derivable from the application as filed.

6.2 The Board is not persuaded by the appellant's argument that a fixing member in the form of a pressure-sensitive adhesive tape, as defined in claim 1, provides very low adhesive forces which would be overcome by the shear forces occurring during the press-fitting process. Although the Board can accept that adhesive forces of pressure-sensitive adhesive tapes are generally very low when peeling apart elements fixed by such tape, the Board does not accept that adhesive forces acting parallel to the plane of such an adhesive tape are necessarily also very low nor that these would be immediately overcome by the shear forces present during the press-fitting step. It is precisely the latter adhesive forces which are generated during press-fitting, i.e. not a resistance to peeling. The required relative movement during the press-fitting step can therefore not be considered to be an implicit consequence of the definition of the fixing member being a pressure-sensitive adhesive tape, nor did the appellant show that there was any

disclosure of this alleged effect in the application.

Also the argument that relative movement might still be allowed between the remaining layers of the spirally wound holding sealing material, i.e. between those which are not fixed by the fixing member, does not change the Board's conclusion. Paragraph 54 clearly specifies that all layers are subject to the relative movement.

Finally the Board finds that the appellant's argument concerning a possible difficulty of defining such relative movement by clear wording in the claim is not a reason to allow such an undisclosed intermediate generalisation.

6.3 Claim 1 of the second auxiliary request does therefore also not *prima facie* fulfil the requirement of Article 123(2) EPC. As a consequence, the Board exercised its discretion not to admit this request into the proceedings (Article 13(1) RPBA).

7. In the absence of any set of claims complying with the requirements of the EPC, the decision of the opposition division, revoking the patent according to Article 101(3)(b) EPC, can only be confirmed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



M. H. A. Patin

M. Harrison

Decision electronically authenticated