

Publication in the Official Journal Yes / *the*

File Number: T 888/90 - 3.2.2
Application No.: 86 304 441.8
Publication No.: 0 206 638
Title of invention: Liquid-gas-bubble separator

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Classification: A61M 1/36

D E C I S I O N
of 1 July 1992

Applicant: BAXTER INTERNATIONAL INC.

Headword:

EPC Articles 84, 123(2)

Keyword: "Clarity (yes, after amendment)"
"Omission of a feature"
"Sub-combinations"

Headnote

Headnote to follow.



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Board of Appeal

Chambres de recours

Case Number : T 888/90 - 3.2.2

DECISION
of the Technical Board of Appeal 3.2.2
of 1 July 1992

Appellant : BAXTER INTERNATIONAL INC.
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Illinois 60015 (US)

Representative : Day, Jeremy John
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Decision under appeal : Decision of Examining Division of the European
Patent Office dated 8 October 1990 refusing
European patent application No. 86 304 441.8
pursuant to Article 97(1) EPC.

Composition of the Board :

Chairman : G. Szabo
Members : M. Noël
J. Van Moer

Summary of Facts and Submissions

- I. European patent application No. 86 304 441.8 (publication No. 0 206 638) was refused by a decision of the Examining Division for the reasons that the subject-matter of Claim 1 did not include all of the features necessary to achieve the desired result and consequently did not meet the requirements of clarity under Article 84 EPC.
- II. The Appellant lodged an appeal against this decision on 27 October 1990, paying the fee for appeal and submitting a Statement of Grounds in due time.
- III. In a communication dated 19 November 1991, the Board informed the Appellant of its provisional opinion that the subject-matter of Claim 1 was still lacking clarity. It was suggested that Claim 1 under dispute be amended so as to include additional structural features for assisting the fluid to be directed preferably through the filter element.
- IV. In a reply received on 31 March 1992, the Appellant submitted two new sets of amended claims according to the main request and to the first subsidiary request, respectively.

Claim 1 according to the main request reads:

"1. A liquid-gas bubble separator comprising:

a container (11), having an inlet 41, an outlet (43), and a flow channel (47), extending between the inlet (41) and the outlet (43);

a filter element (21) in said container (11) between the inlet (41) and the outlet (43), said filter element (21) permitting the passage of the liquid and inhibiting the passage of the gas bubbles;

vent means (49), leading from the interior of the container (11) to the exterior of the container (11) for exhausting the gas bubbles from the container (11); and

a bypass passage (71) allowing liquid to bypass the filter element (21), if the filter element (21) becomes blocked,

characterised in that the filter element (21) extends only part way across the flow channel (47) and the bypass passage (71) is formed by part of the flow channel (47) around the filter element (21), the inlet (41) being arranged to direct incoming flow toward the filter element (21)."

V. The Appellant requests:

- that the decision under appeal be set aside,
- that the case be remitted to the first instance to continue with the prosecution on the basis of either set of Claims 1 to 10 as filed on 31 March 1992 (main or first subsidiary request), and
- that the appeal fee be reimbursed.

Reasons for the Decision

1. The appeal is admissible.
2. Amendments (main request)

The precharacterising portion of Claim 1 is a combination of features contained in Claim 1 as originally filed and complemented by the following feature: "a bypass passage 71 allowing liquid to bypass the filter element 21, if the filter element becomes blocked". This feature is fairly supported by the description as originally filed, page 2, lines 27 to 29.

The characterising portion of Claim 1 is based on features derived from original Claims 1, 5 and 6. In particular, the last feature "the inlet 41 being arranged to direct incoming flow toward the filter element 21", which has been added in response to the Board's communication with respect to the version as refused by the Examining Division, is supported by original Claim 6 and description, page 10, lines 5 to 10.

Dependent Claims 2 to 10 are derived from Claims 2 to 11 as originally filed, some of them are complemented by indications drawn up from the description. The correspondence between the claims was correctly listed by the Appellant in his letter received on 25 October 1989.

The Board is thus satisfied that the claims according to the main request meet the requirements of Article 123(2) EPC, in view of additional limitations. As to the omission of an essential feature, as objected by the Examining Division, the matter is dealt with in the following with respect to clarity of Claim 1.

3. Clarity and support

- 3.1 In the decision to refuse the patent application, the Examining Division submitted that Claim 1 in the version as rejected was lacking clarity for the reason that an essential feature was missing.

According to the Examining Division, Claim 1 failed to provide means for the production of a swirling flow, so as to prevent forward flow through the bypass passage as long as the filter remains unblocked.

Thus, by omitting the last feature stated in Claim 1 as originally filed, i.e. "means responsive to flow through

the container when the filter element is clean for recirculating a portion of the fluid that passes through said filter element back through the bypass passage to the upstream side of the filter element to essentially close the bypass passage to forward flow", the Appellant had, according to the Examining Division, deprived Claim 1 from a feature deemed to be necessary to the solution when considering the technical problem recognised from the application in respect of the prior art.

This objection is obviously based on Article 84 EPC to be taken together with Rule 29(1) and (3), according to which the main claim must be supported by the description and must state the essential features of the invention, so as not to be so broad that it goes beyond the invention but not so narrow as to deprive the applicant of a just reward for the disclosure of his invention (Guidelines for Examination, C.III.6.2).

- 3.2 The omission of a feature in a combination may mean that a claim is merely relating to a sub-combination of an invention. It is the view of the Board that such a sub-combination with no function other than that of an intermediary building block for providing an inventive full combination may also be patentable in principle, if expressly presented as such for that purpose in the application as filed and otherwise satisfies all conditions for patentability. Such sub-combinations are analogous to intermediate compounds in a chemical synthesis, which have no other functions either and could also be patented in principle.

Thus the principle that claims must contain all essential features also prevails in such cases, as long as the function so provided by the less complex structure to

build up the more complex structure is accepted as a proper technical effect.

It cannot, however, be assumed that assemblies ab ovo directly and unequivocally imply their own sub-combinations, since a plurality of such kinds of entities may be envisaged with various scopes in their definitions. Thus without express disclosure in this respect, including the particular use, the support for such claims would be inadequate (Article 84 EPC). Neither should such subject-matter arbitrarily be generated by amendment after the filing date against Article 123(2) EPC, in the absence of an express presentation.

In the present case the sub-combination in question was in no stage presented as an intermediary building block type of subject-matter and the claim would therefore go beyond the content of the disclosure in this respect.

3.3 However, there is, of course, a further possibility, which recognises that the omitted feature is inessential to the function actually disclosed in the application. The Board does not share the conclusions of the Examining Division to the contrary in this respect for the following reasons:

In view of the state of the art cited in the introductory part of the description (cf. pages 1 and 2) it follows that the technical problem underlying the present application is to provide an improved liquid-gas bubble separator having a filter element and a bypass passage allowing the flow of liquid to bypass the filter element automatically, i.e. without assistance of any manual operation or the use of any mechanical bypass valve, when the filter becomes blocked.

As was rightly observed by the Appellant in his response received on 31 March 1992, the basic idea of the solution is that filter 21, inlet 41, and bypass passage 71 are so arranged in relation to each other that fluid from the inlet is directed first to the filter rather than the bypass passage such that, when the filter is not blocked, the fluid flows through the filter to the outlet 43; fluid will not normally pass to the outlet via the bypass passage unless the filter is blocked.

To achieve this result, the necessary means must comprise the particular positioning of the filter element within the container as well as the preferential guiding of the fluid flow toward the filter in normal operating conditions.

3.4 The characterising features of Claim 1 according to the main request meet these requirements since they specify that:

- (a) the filter element 21 extends only part way across the flow channel 47;
- (b) the bypass passage 71 is formed by part of the flow channel around the filter element, and
- (c) the inlet 41 is arranged to direct incoming flow toward the filter element.

Since, in addition, as mentioned in the precharacterising portion of Claim 1, said filter element extends between the inlet and outlet of the container and permits the passage of the liquid, there cannot be any doubt that the fluid will preferably flow through the filter which offers a flow resistance smaller than that provided by the bypass passage, as long as the filter remains unclogged.

Therefore, the Board is satisfied that the solution as claimed is clear and complete and, consequently, meets the requirements of Article 84 and Rule 29(1) and (3) EPC.

3.5 The arguments brought forward by the Examining Division (cf. point 3.1 above) are not convincing since, although the fluid through the bypass passage may be controlled by means for recirculating a portion of the filtered fluid through the bypass passage, this can obviously be made in different ways as, for example, by creating a swirling or a vortex-like flow within the filter element or a slight negative pressure in the bypass passage (cf. the description, page 4, line 14 to page 5, line 7).

Further, as convincingly set out by the Appellant in his response along with Annex 1 received on 31 March 1992, other arrangements than the configuration of the described embodiment can be directly imagined for avoiding the fluid to flow through the bypass passage with the filter element in the unclogged condition. Recirculation of filtered fluid by inducing a lower pressure at the upstream end of the bypass passage is neither necessary nor essential to force the fluid to flow at first through the filter element. The same result can be achieved by gravity if the inlet 41 is provided above the filter element at the top of the container as illustrated in Annex 1, Figures C, D or G. In any case, it is sufficient to consider that according to feature (c) of Claim 1 "the inlet 41 is arranged to direct incoming flow toward the filter element".

Therefore, in the Board's opinion, there is no need to unduly restrict the scope of the main claim to a particular embodiment as long as the general solution according to Claim 1 has neither been seriously

contradicted nor challenged on account of the teachings of the cited prior art documents during a further substantive examination.

- 3.6 Further to the alleged omission of an essential feature the Board draws attention to the established jurisprudence and observes that removal of a feature from a claim does not contravene Article 123(2) EPC provided the feature is not essential nor indispensable for the function of the invention in the light of the technical problem (T 331/87, OJ 1-2/1991, 22, points 5 and 6). A proper degree of generalisation is permitted during examination within the limits allowed by Article 84 EPC, having particular regard to the nature of the invention which has been described (T 133/85, OJ 12/88, 441, point 5).

In the present situation, the omission in Claim 1 of the means for recirculating the fluid back through the bypass passage and the introduction of means for directing incoming flow toward the filter element represent, in the opinion of the Board, an allowable generalisation of the subject-matter of Claim 1 taken as a whole, i.e. as was originally present in the application as filed. Since the relative positions of the respective elements forming the separator are clearly determined by the wordings of the present claim, recirculation of the filtered fluid will necessarily and implicitly result from the functioning of the separator. Recirculation, therefore, need not be expressly specified.

- 3.7 For the foregoing reasons, again, the Board considers that Claim 1 as amended in the main request fulfills the requirements of clarity and support within the meaning of Article 84 EPC.

4. Reimbursement of the appeal fee

The Appellant requests reimbursement of the appeal fee for the reason that the Examining Division decided to refuse the patent application on the basis of Article 84 EPC without the Appellant having been given an opportunity to take position on this ground before refusal, according to Article 113(1) EPC.

For the Appellant, this constituted a substantial procedural violation on behalf of the Examining Division.

The Board cannot accept this line of argument. Even if Article 84 EPC was not expressly mentioned in the third and last communication issued by the Examining Division, dated 17 April 1990, the objection made therein unambiguously referred to a lack of clarity of Claim 1 on the grounds that it did not contain all the features which were considered necessary to the solution. In his subsequent response received 20 August 1990 the Appellant had once again a possibility to present his comments about what constitutes the main reason for the refusal of the patent application, and so he did. Article 113(1) EPC having thus been regarded by the Examining Division, contrary to what is asserted by the Appellant, the Board cannot find any substantial procedural violation which could have justified a reimbursement of the appeal fee pursuant to Rule 67 EPC. Consequently, reimbursement must be refused.

5. Remittal to the first instance

Having regard to the facts that the reasons for the impugned decision referred only to the question of clarity under Article 84 EPC and that the main claim has been further modified, the Board considers it appropriate to

make use of the power conferred by Article 111(1) EPC to remit the case to the first instance for further prosecution.

Order

For these reasons, it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the first instance for further prosecution on the basis of Claims 1 to 10 according to the main request, as specified in point V above.
3. The request for the reimbursement of the appeal fee is rejected.

The Registrar:



S. Fabiani

The Chairman:



G. Szabo