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Datasheet for the decision of 1 February 2010

Case Number: T 0797/08 - 3.2.01

Application Number: 04030719.1

Publication Number: 1518764

IPC: B60R 21/26

Language of the proceedings: EN

Title of invention:
Air bag gas generator and air bag apparatus

Applicant
Daicel Chemical Industries, Ltd.

Opponent:
-

Headword:
-

Relevant legal provisions:
EPC Art. 123(2)

Relevant legal provisions (EPC 1973):
EPC Art. 76(1)

Keyword:
"Divisional - extension - no (after amendment)"
"Amendments - deletion of feature (yes)"

Decisions cited:
-

Catchword:
-

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Case Number: T 0797/08 - 3.2.01

D E C I S I O N
of the Technical Board of Appeal 3.2.01
of 1 February 2010

Appellant: Daicel Chemical Industries, Ltd.
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Decision under appeal: **Decision of the Examining Division of the European Patent Office posted 15 November 2007 refusing European application No. 04030719.1 pursuant to Article 97(1) EPC 1973.**

Composition of the Board:

Chairman: S. Crane
Members: J. Osborne
G. Weiss

Summary of Facts and Submissions

I. The appeal is directed against the decision posted 15 November 2007 refusing European patent application No. 04 03 0719.1 which is a divisional of an earlier European patent application No. 99 94 4872.3 in accordance with Article 76 EPC 1973 published in accordance with Article 158(3) EPC 1973. The examining division found that the content of the respective claims 1 according to a main request and first to third auxiliary requests extended beyond that of the earlier application.

II. Following an exchange of correspondence with the board, the appellant requested with a letter dated 15 December 2009 that the decision under appeal be set aside and the conformity of the pending application with the requirements of the EPC relating to extension of subject-matter be acknowledged on the basis of claims 1 to 15 (main request) or in the alternative on the basis of claims 1 to 13 (auxiliary request) all filed therewith together with:

- Description pages 1, 4, 6, 27, 29, 34 to 36, 38, 39, 41, 44, 45, 47, 56, 60, 61, 75 and 84 submitted with a letter of 24 September 2007;

- Description pages 2, 3, 7 to 26, 30 to 33, 46, 62 to 74, 76 to 83 as originally filed;

- Drawings figures 1 to 5.

III. Claims 1 to 4 according to the appellant's main request read:

"1. A gas generator for an air bag, comprising:
a housing (3) having a gas discharge port (26);
an inner cylindrical member (4) provided within said housing (3) along an axial direction of said housing (3), said inner cylindrical member (4) defining, outside thereof, a first combustion chamber (5a), and also defining, inside thereof, a second combustion chamber (5a);
a first ignition means (12a) is provided and activated upon an impact to ignite directly only gas generating means (9a) within said first combustion chamber (5a) to inflate the air bag; and
a second ignition means (12b) is provided and selectively activated upon the impact to ignite directly only gas generating means (9b) within said second combustion chamber (5b) to inflate the air bag, wherein combustion gases generated due to combustions of the gas generating means (9a, 9b) stored in the two combustion chambers (5a, 5b) reach a gas discharge port (26) via different flow paths at the respective combustion chambers (5a, 5b), and the gas generating means stored in one combustion chamber is not directly ignited on the combustion gas generated in the other combustion chamber, and wherein a flow path forming member (51) is arranged in the housing (3) so as to form a flow path, thereby introducing the combustion gas generated in one combustion chamber to a coolant means (22) as it is.

2. A gas generator for an air bag according to claim 1, wherein a stepped notch portion (6) is provided inside

the inner cylindrical member (4), a partition wall (7) formed in a substantially flat circular shape is arranged in the stepped notch portion, wherein the partition wall (7) partitions an inner portion of said inner cylindrical member (4) into two chambers so as to form said second combustion chamber (5b) in an upper space side and an ignition means accommodating chamber (8) in a lower space side.

3. A gas generator for an air bag according to claim 2, wherein the first and the second ignition means (12a, 12b) including the igniters is stored in the ignition means accommodating chamber (8).

4. A gas generator for an air bag according to any one of claims 1-3, wherein the first and second gas generating means (9a, 9b) stored in the respective combustion chambers (5a, 5b) are different from each other in at least one of a burning rate, a shape, a composition, a composition ratio and an amount."

Claims 5 to 15 specify features additional to those of claim 1.

IV. The appellant essentially submitted the following in as far as relevant to the present request:

The claims are directed to the second embodiment described in both the earlier and present applications as originally filed. Claim 1 is essentially a combination of claims 1, 10 and 11 of the earlier application as originally filed on the one hand and claims 1, 13 and 14 of the present application as originally filed on the other. Claims 2 and 3 are based

on the description of the earlier application at page 62, lines 7 to 18 and page 65, penultimate line to page 66, line 11 respectively and the identical sections of the present application as originally filed. Claims 4 to 12 and 13 to 15 correspond to claims 4 to 12 and 15 to 17 respectively of the present application as originally filed.

Reasons for the Decision

1. Both the present and earlier applications relate generally to air bag systems for restraining the occupants of motor vehicles. More particularly, they relate to a gas generator for inflating an air bag and which is adapted to enable the inflation to be tailored in accordance with factors such as an occupant's sitting stature and attitude. It is acknowledged in the applications that it was already known for this purpose to provide two levels of inflation but that the generators suffered drawbacks of complex construction, undesirably large size and high cost. The stated problem to be solved was to provide for the two levels of inflation "as well as restricting the total size of a container, having a simple structure and being easily manufactured" and the solution was in the arrangement of the combustion chambers (see the respective descriptions, "*Disclosure of the Invention*", first paragraph).

2. Various embodiments were disclosed as offering a solution to the set problem. In the first embodiment shown in figure 1 concentric combustion chambers were provided with a communicating hole through which gas

generated in the inner chamber passes through the outer chamber. In the second embodiment shown in figure 4 there was no communicating hole between the chambers and the gas from each chamber travelled along separate paths. This involved the provision of an annular by-pass passage at the top end of the first chamber, whereby the second charge could not be set off indirectly by the first. The present application is directed to this second embodiment.

Disclosure in the earlier application as originally filed of the subject-matter of the claims according to the main request (Article 76(1) EPC 1973)

3. Present claim 1 is a combination of claims 1, 10 and 11 of the earlier application but without the feature of the communicating hole. Claims 10 and 11 were dependent on claim 1 but introduced the features of a flow path forming member and different flow paths for the combustion gases from the two combustion chambers. As set out under point 2 above, those features of claims 10 and 11 were clearly taught in relation to the embodiment of figure 4 as being an alternative to the communication hole. The deletion of the communicating hole from the subject-matter resulting from the combination of claims 1, 10 and 11 therefore does not introduce any new teaching. The wording of claim 2 is essentially identical to that of the description at page 62, lines 7 to 18. Whilst that wording explicitly relates to the first embodiment it is clear from the associated description of the second embodiment, particularly page 80, penultimate complete sentence and the corresponding figures 1, 4 that these features are common to both embodiments. A basis for the wording of

claim 3 is to be found on page 40 in the first paragraph. The subject-matter of claim 4 is based on claim 9 of the earlier application together with the disclosure of the sentence bridging pages 80, 81 which discloses the feature of different shapes of gas generating means. The subject-matter of claims 5 to 15 corresponds to that of claims 2 to 9, 12, 13 and 78 of the earlier application.

4. It follows from the above that the requirements of Article 76(1), second sentence, first half EPC 1973 are satisfied.

Disclosure in the present application as originally filed of the subject-matter of the claims according to the main request (Article 123(2) EPC)

5. Claim 1 is essentially a combination of claims 1, 13 and 14 as originally filed but with the deletion of the feature that the first gas generating means are in direct contact with the inner cylindrical member. Although that feature was contained in claim 1 as originally filed, it is absent from the description and drawings. It follows that there was no disclosure that this feature was essential and its removal from claim 1 does not introduce any new teaching. Claim 2 is based on claim 2 as originally filed but with additional wording. The wording in its totality essentially corresponds to that of the description at page 62, lines 7 to 18, which is identical to the corresponding section of the earlier application. A basis in the present application as originally filed therefore exists in equal measure to the earlier application as originally filed as set out in point 3 above. The

present wording of claim 3 differs from that as originally filed by the addition of the wording "including the igniters is stored" but finds a basis at page 40 in the first paragraph. Claims 4 to 15 are substantially identical to claims 4 to 12 and 15 to 17 as originally filed.

6. It follows from the above that the subject-matter of the present claims has not been amended in such a way that it extends beyond the content of the application as originally filed (Article 123(2) EPC).

Description

7. The description as originally filed was identical to that of the earlier application and now has been amended essentially only for consistency with the claims. The figures are unchanged from those as originally filed in both the present and the earlier applications. It follows that the description and figures contain only subject-matter which was disclosed in both the earlier and present applications as originally filed.

Further procedure

8. Since the application was refused only on the ground of extension of subject-matter the board exercises its discretion in accordance with Article 111(1) EPC 1973 and remits the case for further processing.

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.

The Registrar: The Chairman:

A. Vottner S. Crane