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**Datasheet for the decision
of 23 July 2015**

Case Number: T 1248/13 - 3.2.03

Application Number: 07123506.3

Publication Number: 2072946

IPC: F42B12/76

Language of the proceedings: EN

Title of invention:

Improved warhead casing

Patent Proprietor:

SAAB AB

Opponent:

Diehl BGT Defence GmbH & Co. KG

Headword:

Relevant legal provisions:

EPC Art. 54(1), 56
RPBA Art. 12(2), 13(1)

Keyword:

Decisions cited:

Catchword:



**Beschwerdekammern
Boards of Appeal
Chambres de recours**

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Case Number: T 1248/13 - 3.2.03

D E C I S I O N
of Technical Board of Appeal 3.2.03
of 23 July 2015

Appellant: Diehl BGT Defence GmbH & Co. KG
(Opponent) Alte Nussdorfer Strasse 13
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Representative: Diehl Patentabteilung
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Respondent: SAAB AB
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Representative: Zacco Sweden AB
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Decision under appeal: **Decision of the Opposition Division of the European Patent Office posted on 22 March 2013 rejecting the opposition filed against European patent No. 2072946 pursuant to Article 101(2) EPC.**

Composition of the Board:

Chairman G. Ashley
Members: Y. Jest
E. Kossonakou

Summary of Facts and Submissions

- I. The appeal lies from the decision of the opposition division, posted on 22 March 2013, rejecting the opposition against European patent no. 2072946.
- II. The opponent (hereinafter the appellant) filed a notice of appeal on 23 May 2013 and paid the fee on the same day.
The grounds of appeal were filed on 1 August 2013.

The patent proprietor (hereinafter the respondent) did not reply to the grounds of appeal.

- III. The following documents were cited by the appellant:

D4: DE-A- 10 2006 023 484 (in the grounds)
D7: US-A-2005/0235862 (during oral proceedings)

- IV. In a communication dated 15 May 2015 pursuant to Article 15(1) RPBA, the board informed the parties of its provisional opinion, that the subject-matter claimed in the patent as granted would appear to meet the requirements of the EPC.
- V. With a letter dated 1 June 2015 the respondent informed the board that it would not be attending the oral proceedings. It did not file any requests.
- VI. Requests

During the oral proceedings held on 23 July 2015, the appellant (opponent) requested that the decision under appeal be set aside and the patent be revoked.

VII. Independent claim 1 of the patent as granted reads:

"A casing for warhead components, characterized in that the casing is made up of a laser sintered material, wherein the laser sintered material comprises polymer particles and aluminium or magnesium powder."

VIII. The arguments presented by the appellant can be summarised as follows:

Novelty

The claimed casing lacked novelty as compared to state of the art disclosed in D4. The laser sintered three-dimensional product known from D4 was made of a material including polymer and aluminium (paragraph [0012] of D4), and could take the form of a closed thin and hollow body (paragraph [0030] of D4). Such a body clearly fulfilled all the requirements set out in the patent in suit required for a casing to be used in warheads, e.g. the same material and the same general structure. The definition of the casing in claim 1 as granted was not limited by any detailed constructional features (shape, thickness,...), so that a rectangular body as described in paragraph [0030] of D4 was perfectly suitable for forming a casing for warhead components. Since the material and sintering method used in D4 were identical to those of the contested patent, the physical properties (strength, resistance to vibrations, etc.), which might be required for casings used in warheads, were similar. The claimed casing was thus not to be distinguished from the sintered body manufactured according to the teaching of D4, which was wholly suitable for use in warhead components.

Inventive step

D4 constituted an appropriate spring board for assessing inventive step, because the person skilled in the art would not only have general knowledge in the field of warheads, but also in sintering techniques and materials used for this purpose, as addressed in D4. If the claimed casing was considered to differ from the state of the art disclosed in D4, in the sense that the body disclosed in D4 was too thin for resisting launching forces, the technical problem to be solved would consist in making the casing more resistant. The skilled person was given incentive from D4 (body 3 with varying thickness in figure 1) or from D7 (figure 3, paragraph [0037]), a document which was considered within the opposition proceedings, to make the wall of the sintered body thicker in order to increase its overall strength. The claimed subject-matter therefore did not involve an inventive step.

IX. At the end of the oral proceedings on 23 July 2015 the board pronounced its decision.

Reasons for the Decision

1. Novelty

1.1 Patent

The object of the contested patent is to provide a casing for warheads that fulfills general requirements regarding weight (low) and strength (strong enough to resist usual launch forces), but avoids the disadvantage of causing collateral damage due to splinter from the warhead casing (paragraph [0005]).

This result is achieved by a casing as defined in claim 1, in the sense that a laser sintered casing made of a material comprising polymer particles and aluminium or magnesium powder is splinter proof, has a lower weight than aluminium alloys and allows for complex geometries as required for manufacturing warhead components (see the example in paragraphs [0032] to [0037] of the patent).

1.2 State of art D4

The aim of D4 is to provide a method and a device for the layered production of a three-dimensional object from a powdered constituent, in particular a laser sintering method and a laser sintering device, by which the refresh rate can be reduced so as to reduce the manufacturing costs (see paragraphs [0010] [0012] and [0033]). The skilled reader is taught by D4 how to perform a laser sintering process using partly "recycled/old" powder added to fresh supplied powder. The resulting physical properties of the sintered body gained by such a process are not addressed in D4 and remain thus of no particular relevance for the invention disclosed in D4.

The detailed embodiment referred to by the appellant concerns a hollow, thin-walled body 3 based on a powder comprising polyamide particles and aluminium powder (paragraph [0030]).

The question for assessing the criteria of novelty is not as much if the product achieved in D4 is "not unsuitable" but if the skilled person working in the field of casings for warheads would consider said sintered product to be obviously and directly suitable for such an application.

In this context, the board notes that D4 lacks any indication as to the concrete or specific technical field of application in which this type of sintered body may be used. From the representation of the sintered body 3 alone, the skilled person cannot derive that this type of product would fulfill the general requirements regarding weight, strength and splinter proof properties, as needed for warheads.

The description in paragraph [0030] of D4 refers to a sintered rectangular body having the dimensions 100mm x 100mm x 15mm in a XYZ-coordinated system. The person skilled in the art would not consider such a flat rectangular construction as inherently suitable for forming a warhead casing, namely a hollow container filled with explosive.

The board arrives therefore at the conclusion that the skilled person has no objective reason to consider that the layered body manufactured according to the method of D4 is suitable for being directly used as a casing for/of a warhead component and that the product of granted claim 1 therefore is new and fulfills the requirement of articles 52(1) and 54(1) EPC.

2. Inventive step

2.1 The board confirms the findings of the opposition division that D4 does not constitute the closest prior art or the best spring board when assessing inventive step.

The fact that D4 does not disclose a casing for a warhead disqualifies said document as starting point for the problem-solution approach. It is indeed not apparent for which reasons the skilled person, who is a technician mainly active in the field of warheads but having also additional general knowledge of metallurgy

processes, would have envisaged applying the teaching of D4 when manufacturing casings for warheads.

In this respect it may be noted that the problem to be solved by the contested patent, namely avoiding collateral damage (see paragraph [0005]) is totally absent in D4.

- 2.2 Therefore, even if the skilled person would, as argued by the appellant, apply general knowledge and make the wall of the sintered body of D4 thicker in order to increase its strength, the resulting product would still not necessarily be provided with the physical properties required for resisting launch forces.
- 2.3 During oral proceedings on 23 July 2015, and for the first time in the appeal proceedings, the appellant referred to D7, and argued that this document should be taken in combination with D4 for demonstrating a lack of inventive step.
 - 2.3.1 The late citation of D7 contravenes the requirement of article 12(2) of the Rules of Procedure of the Boards of Appeal (RPBA), namely that the statement of grounds of appeal shall contain the appellant's complete case.
 - 2.3.2 Furthermore, D7 has been cited by the appellant in the appeal proceedings for the first time during oral proceedings. There is accordingly no reason to allow late submitted document D7 into the proceedings. The board exercised therefore its discretion not to admit such a belated submission in view of *inter alia* the current state of the proceedings pursuant to article 13(1) RPBA.
 - 2.3.3 Notwithstanding the decision not to admit D7 into the proceedings, the board considered that the technique

for rendering a manufactured body stronger by making its wall thicker belongs to the general knowledge of a mechanical engineer. However, for the reasons given above, this has no bearing on the conclusion reached by the board concerning inventive step.

2.4 The subject-matter of claim 1 as granted involves an inventive step and fulfills the requirement of articles 52(1) and 56 EPC.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



C. Spira

G. Ashley

Decision electronically authenticated