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**Datasheet for the decision
of 11 April 2011**

Case Number: T 1634/10 - 3.2.03

Application Number: 05804664.0

Publication Number: 1824626

IPC: B22F 3/11, B01D 39/16,
B01D 39/20

Language of the proceedings: EN

Title of invention:
Method for producing a sintered body

Applicant:
Pakit International Trading Company Inc.

Headword:
-

Relevant legal provisions:
EPC Art. 54, 56, 113(1)

Relevant legal provisions (EPC 1973):
-

Keyword:
"Novelty and inventive step (yes)"
"Right to be heard (yes)"
"Substantial procedural violation (no)"

Decisions cited:
R 0015/10

Catchword:
-



Case Number: T 1634/10 - 3.2.03

D E C I S I O N
of the Technical Board of Appeal 3.2.03
of 11 April 2011

Appellant: Pakit International Trading Company Inc.
The Business Centre
Upton
Saint Michael 11103 (BB)

Representative: Andréasson, Ivar
Hynell Patenttjänst AB
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Decision under appeal: Decision of the Examining Division of the
European Patent Office posted 26 March 2010
refusing European patent application
No. 05804664.0 pursuant to Article 97(1) EPC.

Composition of the Board:

Chairman: U. Krause
Members: G. Ashley
J.-P. Seitz

Summary of Facts and Submissions

- I. This appeal arises out of the decision of the examining division to refuse European patent application EP-A-05 804 664 for lack of novelty with respect to US-A-2 267 918 (D1) and lack of inventive step with respect to US-A-3 811 976 (D2).
- II. The decision was posted by the examining division on 26 March 2010. The appellant (the applicant) filed notice of appeal on 25 May 2010, paying the appeal fee on the same day; a statement containing the grounds of appeal was filed on 22 June 2010.
- III. In accordance with Rule 100(2) EPC, the Board issued a preliminary opinion concerning novelty, inventive step and the procedural violation alleged by the appellant.
- IV. In response, the appellant filed, with the letter of 16 March 2011, an amended set of claims and description page 2, together with further arguments in respect of the alleged procedural violation.
- V. Requests

The appellant requests that the above decision be set aside and the patent be granted on the basis of the set of claims and description page 2 filed with the letter of 16 March 2011, together with description pages 1, 3 to 13 and Figures 1 to 16 of the application as originally filed.

Oral proceedings are requested should the Board be minded not to order grant of the patent.

The appellant also requests that the appeal fee be reimbursed owing to a substantial procedural violation.

VI. Claims

Claim 1 reads as follows:

"1. A method for forming a three dimensional sintered body (100) comprising the steps of

a) providing a basic mould having a three dimensional configuration adapted to the sintering body that is to be produced,

b) treating the surface of the basic mould to facilitate application of a first surface layer (130) of the sintered body (100),

c) applying powder particles (131) onto the basic mould, to form said first surface layer (130),

d) applying at least one more layer (120) on top of said first layer (130),

e) heat treating the basic mould (400) and the particles to form a sintered body,

characterised in that step b) is performed by providing an adhering layer (604) to the basic mould (400) arranged to adhere the powder particles (131) of at least a portion of the surface layer (130) to the surface of said basic mould (400).

Dependent claims 2 to 13 concern preferred embodiments of the method of claim 1.

VII. Submissions of the Appellant

(a) Novelty over D1

The appellant submitted that D1 discloses a method for making a substantially flat sheet of porous material. Hence a three dimensional body, as would be understood by the skilled person when construing the expression "three dimensional" on the basis of the application as a whole, is not being formed, nor is there any use of a three dimensional mould. The supporting surface, eg a graphite plate, is non-adhering to the metal powder. The mesh or grid referred to in D1 is for bonding the particles within the sintered body, but not for bonding the particles to the mould surface. Compared with the disclosure of D1, the claimed method is therefore novel.

(b) Inventive Step

According to the claimed method, an adhering layer fixes the powder particles to a three dimensional mould. This provides a solution to the problem of how to obtain a homogenous first layer of porous material in spite of gravitational forces.

D1 teaches the formation of a flat product by distributing powder particles onto a non-adhering surface, ie the problem facing the present inventors does not arise in D1, and in addition, D1 teaches away from the invention by requiring a non-adhering support surface.

D2 describes a method in which metal fibres are distributed onto a mould surface. Although an adhering layer is applied to the fibres, this is in order to bond the fibres together to provide some strength before the sintering step; the purpose of the adhering layer is not to fix the fibres to the mould.

Since neither D1 nor D2 disclose adhering the powder particles to the mould surface in order to solve the problem, the claimed method has an inventive step in light of D1 or D2, or a combination of these documents.

(c) Substantial Procedural Violation

The patent application was refused by the examining division after it had issued only one official communication. The appellant was taken by surprise by this, as it had filed a bona fide reply and substantially amended claims. The appellant argued that the action of the examining division amounts to a substantial procedural violation, and cited several decisions of the boards of appeal to support of this submission. The appellant's argument can be summarised as follows.

The examining division had grossly misinterpreted the disclosure of D1 and the appellant's arguments by concluding that the features of a three dimensional mould and powder adhering to the mould surface were not substantial.

The appellant was not informed about the decision the examining division intended to take and thus was

deprived of its rights to present comments, amendments in response to the view of the examining division and/or request oral proceedings, contrary to Article 113(1) EPC.

Reasons for the Decision

1. The appeal is admissible.
2. Novelty (Article 54 EPC)
 - 2.1 The examining division concluded that the claimed process lacks novelty with respect to D1.

D1 describes a method in which metal powder is distributed onto a non-adhering graphite plate. The powder is sintered to form a sheet-like porous element which is then removed from the graphite plate (page 1, column 2, line 52 to page 2, column 1, line 11). The examining division considered the graphite plate to be a "mould having a three dimensional configuration".

- 2.2 However, a flat plate does not equate to a three dimensional mould. Distributing powder particles onto a flat surface is simpler than distributing them onto the sloping surfaces of a three dimensional mould, where they can slide under the influence of gravity. Of course, the sintered sheet body and the graphite plate of D1 have three dimensions in a strict sense, but the skilled person distinguishes the manufacture of sheet products as in D1 from the three dimensional objects envisaged in the patent application. Consequently, D1 does not disclose either a method for forming a three

dimensional sintered body or the provision of a basic mould having a three dimensional configuration.

- 2.3 Claim 1 also requires that an adhering layer be applied to the mould in order to adhere the particles to the surface of the mould. According to D1, the particles may be bonded to a perforated supporting plate or a mesh screen. The plate or screen sits on the graphite supporting plate and powder particles fill the perforations or mesh (page 2, first column, line 69 to second column, line 6).

The examining division considered that a mesh screen sitting on the graphite plate fulfils the same function as the adhering layer, namely to fix the powder particles to the surface of the mould. However, as argued by the appellant, the function of the plate or screen is not to adhere the powder particles to the graphite plate. Because the graphite plate is flat, it is not necessary to adhere the powder particles to it. The plate or screen is there to provide extra mechanical support for the sintered powder; this is achieved by powder particles penetrating the perforations or mesh to bond the plate or screen to the sintered layer. It is thus clear that the function of the screen is not to adhere the powder particles to the mould surface.

- 2.4 These two differences render the claimed method novel with respect to D1.

3. Inventive Step (Article 56 EPC)

3.1 The examining division considered that the claimed method lacks an inventive step in light of D2.

3.2 D2 discloses a method for making a mat of sintered porous metal fibre materials, wherein the mat has a uniform distribution of fibres. This is achieved by using a rotating perforated drum to distribute fibres evenly onto a substrate. An adhesive is then sprayed onto the fibre layers to create bonding between the fibres themselves; this gives the mats some strength prior to sintering. Hence, the purpose of the adhesive used in D2 is not to adhere the fibres to the mould surface; indeed, as D2 is concerned with the manufacture of a flat product (fibre mats), it would not be necessary to adhere the fibres to the substrate.

3.3 Faced with the problem of making a three dimensional product, it is not obvious to use the method disclosed in D2. The aim of the method of D2 is to achieve a homogenous distribution of fibres in the mat. If the mould is three dimensional in the sense of the application, distribution of fibres from a rotating drum would not lead to a homogenous layer, since surfaces of the mould are at different distances and angles to the drum.

3.4 Summary

Neither D2 nor D1 disclose the manufacture of three dimensional objects using three dimensional moulds. Neither of the documents discloses the adherence of particles to the mould surface, and neither of the

disclosed processes is suitable for making three dimensional objects. The adhering layer solves the problem of obtaining a homogenous first layer of porous material in spite of the different gravity forces acting in different places of the three dimensional mould. Therefore the claimed method is inventive with respect to D1 and D2, individually or in combination.

4. Substantial Procedural Violation

4.1 During the examination proceedings, the examining division issued a reasoned communication setting out its objections regarding novelty and inventive step in light of D1 and D2.

4.2 In response, the appellant submitted a new claim 1, in which: "basic mould having a configuration" was amended to read "basic mould having a three dimensional configuration", and "to adhere..." was amended to read "to adhere... to the surface of the basic mould". The appellant also set out arguments as to why in its view the examining division was wrong in its interpretation of D1 and D2.

4.3 Without further communication with the appellant, the examining division issued its decision to refuse the application. According to the decision, the amendments submitted by the appellant were not substantial, since every mould has a three dimensional configuration and it is implicit that the function of an adhering layer applied to a mould is to adhere something to the surface of the mould.

4.4 The appellant submits that the amendments are not insubstantial and the lack of an opportunity to comment on the conclusion held by the examining division amounts to the loss of the right to be heard under Article 113 EPC.

4.5 According to Article 113(1) EPC, a decision may only be based on grounds or evidence upon which the parties have had opportunity to comment. In this case, the examining division has introduced neither new grounds of refusal nor new evidence.

There is no right to comment on every argument contemplated by the examining division. This issue has been considered by the Enlarged Board of Appeal in several cases it has dealt with in the context of petitions for review under Article 112a EPC. Of particular relevance is paragraph 9 of R 15/10, which summarises the jurisprudence of the Enlarged Board on this topic:

"9. That in the present case the Board did not at the oral proceedings indicate, or invite comments on, its own conclusion cannot be a denial of the right to be heard, let alone a denial amounting to a fundamental procedural deficiency. ... As is clear from the Enlarged Board's jurisprudence, parties are not entitled to advance indications of the reason or reasons for a decision before it is taken...".

4.6 The mere fact that the examining division did not agree with the submission of the appellant does not amount to a breach of the right to be heard under Article 113(1)

EPC. Since there has been no substantial procedural violation, there is no reason to refund the appeal fee.

5. Oral Proceedings

Since the Board intends to order the grant of the patent, it is not necessary to hold oral proceedings.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the examining division with the order to grant a patent on the basis of
 - a) claims:
 - 1 to 13 filed with the letter of 16 March 2011;
 - b) description:
 - pages 1, 3 to 13 of the application as originally filed and page 2, filed with the letter of 16 March 2011;
 - c) figures:
 - 1 to 16 of the application as originally filed.

The Registrar:

The Chairman:

A. Counillon

U. Krause