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**Datasheet for the decision
of 1 July 2014**

Case Number: T 1767/11 - 3.2.08

Application Number: 05257765.7

Publication Number: 1686193

IPC: C22C29/00

Language of the proceedings: EN

Title of invention:

Cemented carbide inserts for earth-boring bits

Applicant:

TDY Industries, LLC

Headword:

Relevant legal provisions:

EPC Art. 123(2)

Keyword:

Amendments - added subject-matter (yes)

Decisions cited:

Catchword:



**Beschwerdekammern
Boards of Appeal
Chambres de recours**

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Case Number: T 1767/11 - 3.2.08

**D E C I S I O N
of Technical Board of Appeal 3.2.08
of 1 July 2014**

Appellant: TDY Industries, LLC
(Applicant) 1000 Six PPG Place
Pittsburgh, Pennsylvania 15222 (US)

Representative: Potter Clarkson LLP
The Belgrave Centre
Talbot Street
Nottingham, NG1 5GG (GB)

Decision under appeal: Decision of the Examining Division of the
European Patent Office posted on 17 March 2011
refusing European patent application No.
05257765.7 pursuant to Article 97(2) EPC.

Composition of the Board:

Chairman M. Alvazzi Delfrate
Members: C. Herberhold
D. T. Keeling

Summary of Facts and Submissions

- I. By a decision posted on 17 March 2011, the Examining Division refused European Patent application No. 05257765.7.
- II. In its decision the Examining Division held that the requests then on file did not fulfil the requirements of Articles 123(2), 84, 54 and 56 EPC.
- III. On 16 May 2011 the appellant (applicant) lodged an appeal against that decision, paying the appeal fee on the same day. The statement of grounds of appeal was filed on 15 July 2011.
- IV. In the statement of grounds of appeal, the appellant requested that the impugned decision be set aside and a patent be granted on the basis of the main request or, in the alternative, on the basis of one of auxiliary requests I, II A or II B.
- V. In accordance with the appellant's request the Board issued a summons for oral proceedings. In a communication pursuant to Article 15(1) RPBA dated 28 October 2013 ("the Board's communication") the Board objected *inter alia* that the wording "hybrid cemented carbide powder", present in the method claims, was not disclosed in the application as originally filed (Article 123(2) EPC).
- VI. With letter dated 28 May 2014 the appellant stated that it did not wish to make further submissions and that it would not attend oral proceedings.

VII. Oral proceedings before the Board of Appeal were held on 1 July 2014 in the appellant's absence in accordance with Rule 115(2) EPC and Article 15(3) RPBA.

VIII. The independent claims of the pending requests read as follows:

Main request:

Claim 1:

"A cutting insert for an earth-boring drill bit, characterised in that the cutting insert comprises:

a body zone comprising a conventional cemented carbide; and a cutting zone comprising a hybrid cemented carbide comprising particles of a first cemented carbide dispersed throughout a continuous phase of a second cemented carbide, wherein each of the conventional cemented carbide, the first cemented carbide, and the second cemented carbide individually comprise transition metal carbides in a binder, wherein the transition metal carbides of each of the conventional cemented carbide, the first cemented carbide, and the second cemented carbide comprise tungsten carbide, wherein the binder of each of the conventional cemented carbide, the first cemented carbide, and the second cemented carbide comprises cobalt, wherein the hardness of the first cemented carbide is greater than the hardness of the second cemented carbide continuous phase and wherein a contiguity ratio of the particles of the first cemented carbide dispersed in the continuous phase of the second cemented carbide is less than or equal to 0.48."

Claim 4:

"A method of preparing a cutting insert for an earth-boring bit in accordance with any one of the preceding claims, comprising:

partially filling a mould with a hybrid cemented carbide powder; filling at least a portion of the remaining portion of the mould with a conventional cemented carbide powder;

consolidating the hybrid and conventional cemented carbide powders into a single green compact; and sintering the green compact."

Claim 6:

"A method of preparing a cutting insert for an earth-boring bit in accordance with any one of claims 1 to 3, comprising:

consolidating a hybrid cemented carbide powder in a mould forming a first green compact;

placing the first green compact in a second mould with a conventional cemented carbide powder;

consolidating the conventional cemented carbide powder and the first green compact together to form a second green compact; and

sintering the second green compact."

Claim 8:

"A method of preparing a cutting insert for an earth-boring bit in accordance with any one of claims 1 to 3, comprising:

pressing a hybrid cemented carbide powder and a conventional cemented carbide powder in a mould to form a green compact, wherein at least one of the hybrid cemented carbide powder and the conventional cemented carbide powder comprise a recycled cemented carbide powder; and

sintering the green compact."

Auxiliary request I:

Claim 1:

Claim 1 of auxiliary request I in addition to claim 1 of the main request defines that "at least a portion of the cemented carbide of the cutting zone has been recycled, wherein the cemented carbide hard particles of the body zone comprise 6 to 15 weight percent cobalt alloy and the cemented carbide hard particles of the cutting zone comprise 10 to 15 weight percent cobalt alloy".

Independent method claims 4, 6 and 8 are unchanged with respect to the main request.

Auxiliary request II A and II B:

Claim 1:

Claim 1 of auxiliary request II A and II B in addition to claim 1 of respectively the main request and the auxiliary request I include the features of dependent claim 2 of the main request, i.e. that "the hardness of the first cemented carbide is greater than or equal to 88 HRA, and less than or equal to 95 HRA and the hardness of the second cemented carbide continuous phase is greater than or equal to 78 HRA and less than or equal to 91 HRA".

The independent method claims have been renumbered into claims 3, 5 and 7 with the reference to the product claims renumbered accordingly. A part from these changes, their wording is unchanged.

IX. The following document has played a role for the present decision:

Cross-referenced document (CR-doc): US application No. 10/735,379 published as US-A-2005/0126334.

Reasons for the Decision

1. The appeal is admissible.
2. Article 123(2) EPC
 - 2.1 All the independent method claims in all the requests refer to a "hybrid cemented carbide powder" used in the manufacturing process.
 - 2.2 However - as pointed out in item 6 of the Board's communication - the application as originally filed does not mention such a "hybrid cemented carbide powder". Neither does the CR-doc, incorporated by reference in paragraph [0029] of the application, mention a "hybrid cemented carbide powder"

Accordingly, the application as originally filed does not disclose a "hybrid cemented carbide powder". This finding has not been disputed by the appellant.

Consequently, the subject-matter of all the method claims in all the requests extends over the disclosure of the application as originally filed, contrary to the requirements of Article 123(2) EPC.
3. In this situation it is not necessary to discuss the further objections raised in the Board's communication.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



V. Commare

M. Alvazzi Delfrate

Decision electronically authenticated