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**D E C I S I O N**  
of 26 November 1993

**Case Number:** T 0456/92 - 3.2.3

**Application Number:** 87308799.3

**Publication Number:** 0263660

**IPC:** E21B 10/56, E21C 35/18

**Language of the proceedings:** EN

**Title of invention:**  
Cutting component

**Applicant:**  
De Beers Industrial Diamond Division (Proprietary) Limited

**Opponent:**  
-

**Headword:**  
-

**Relevant legal norms:**  
EPC Art. 54(2)

**Keyword:**  
"Novelty (yes) "

**Decisions cited:**  
-

**Catchword:**  
-



Case Number: T 0456/92 - 3.2.3

**D E C I S I O N**  
of the Technical Board of Appeal 3.2.3  
of 26 November 1993

**Appellant:**

De Beers Industrial Diamond Division  
(Proprietary) Limited  
8th Floor 45 Main Street  
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**Representative:**

Jones, Alan John  
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**Decision under appeal:**

Decision of the Examining Division of the European  
Patent Office dated 25 January 1991 refusing  
European patent application No. 87 308 799.3  
pursuant to Article 97(1) EPC.

**Composition of the Board:**

**Chairman:** C.T. Wilson  
**Members:** K.W. Stamm  
L. Mancini

### Summary of Facts and Submissions

I. The Appellant lodged an appeal against the decision of the Examining Division to refuse the application No. 0 263 660 and presented amended Claims 1 and 2, received on 29 May 1991. Claim 1 reads as follows:

"1. A cutting component comprising:

(a) a composite abrasive compact (22) comprising an abrasive compact (24) bonded to a cemented carbide support (26);

(b) an elongate, cylindrical pin (10) having end surfaces (12, 14) and a side surface (16);

(c) a recess (20) for receiving the composite abrasive compact sloping from one end surface (14) of the pin to the side surface (16);

(d) the composite abrasive compact being located in the recess (20) and bonded to the pin *through the cemented carbide support (26) only* and such that the abrasive compact (24) presents a cutting edge (28) for the cutting component, and the abrasive compact lies wholly within the side surface (16) of the pin and an imaginary extension thereof;

(e) the width of the composite abrasive compact (24) and the depth of the recess (20) being such that the composite abrasive compact lies wholly within the recess; and

(f) a groove (32) in the lower end of the recess (20); *the depth (d) of the groove in relation to the width of the abrasive compact (24) being such that the abrasive*

*compact (24) and the pin (10) do not contact each other along its edge (36) remote from the cutting edge (28) (and);*

(g) the abrasive compact (24) being spaced from the pin by the cemented carbide support (26) and along its edge (36) remote from the cutting edge (28) by the groove (32)" *(words in italics added to the refused version; word within italic bracket omitted).*

II. In its decision the Examining Division had expressed the view that the subject-matter of Claim 1 was not new having regard to document

E1: EP-A1-0 188 360,

since from this document all the claimed features were known, in particular the groove (32) as shown in Figure 11 of E1.

III. The Appellant is of the opinion that E1 did not disclose the claimed groove. He refers to E1, page 16, lines 10 and 11:

C1: "... the inclined surface of the stud 35 is formed with a rebate in which the cutting element 37 is received" and to lines 12 to 16:

C2: "The shoulder of the rebate provides support for the cutting element when it is subjected to vertical loads, for example sustained and/or impact loads, and thus reduces the stress applied to the bond between the back of the cutting element and the surface the stud."

IV. The Appellant requested cancellation of the decision under appeal and further prosecution on the basis of

amended Claim 1. Oral proceedings were requested  
auxiliarily.

### Reasons for the Decision

1. The appeal is admissible.
2. It is to be examined whether the amended claims comply with the requirements of the EPC, in particular with Article 123(2) EPC, and whether the subject-matter of Claim 1 is novel having regard to document E1, in particular in respect of the claimed groove (32).

#### 3. *Amendments*

The amendments in Claim 1 relate to additional features disclosed by the application as originally filed. Claim 2 differs from the original version by the insertion of a reference numeral only. The amendments comply with Article 123(2) EPC.

#### 4. *Novelty*

- 4.1 In Figure 11 of document E1 two spaced lines are shown, which, considering the figure in isolation, could be considered to form what in the contested Claim 1 is called a "groove". However, since the drawings in E1 are not exact and complete plans, but rather schematical and rudimentary illustrations only, the factual meaning of the two parallel lines cannot be determined by studying Figure 11 alone.

The skilled person who tries to understand the subject-matter disclosed in Figure 11 is not able to give a reasoned and competent explanation without

referring to the above mentioned citations C1 and C2 which relate to figures 11 and 12. It is clearly said there that the cutting element 37 is to be supported by the rebate 36 in order to reduce the stress of the bond between 37 and 35. This means that in fact the two parallel lines in question symbolize two surfaces in mutual contact. This explanation is confirmed by a further detail shown in Figure 11: the angle between vertical and horizontal lines (forming the contact zone) is rounded, a well known means having the function of avoiding concentration of stresses. Here such a concentration of stresses necessitates, however, said mutual contact, making the assumed groove impossible.

The two parallel lines appear, therefore, to be the usual way to draw two surfaces in mutual contact, each of them being represented by a line. Without such a space between the two lines only one line could be drawn, merging the two surfaces which would disappear then, rendering it impossible to show what it is intended to illustrate: the two surfaces. Figure 12, corresponding to Figure 11, shows this situation: only one line is used where Figure 11 uses two. If this representation is also acceptable for two surfaces in contact, it would be wrong if the surfaces would have formed a groove.

4.2 Therefore, feature (g) in Claim 1 - according to which the groove (32) spaces the abrasive compact (24) along its edge (36) remote from the cutting edge (28) - is not disclosed by document E1. The subject-matter as claimed in Claim 1 is, therefore, novel having regard to document E1.

5. From the above it follows that the appeal is allowable. In application of Article 111(1) the Board considers it

appropriate to remit the case to the first instance for further prosecution.


**Order**

**For these reasons, it is decided:**

1. The decision under appeal is set aside.
  
2. The case is remitted to the first instance with the order that the further procedure be based on the following claims and that the applicant be invited to file an adapted description:

Claims 1 and 2: received on 29 May 1991.

The Registrar:



N. Maslin

The Chairman:



C.T. Wilson

*See*  
*Item*  
*4.1.10*  
2274.D

