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**Datasheet for the decision  
of 12 September 2007**

**Case Number:** T 0747/06 - 3.2.07

**Application Number:** 02768276.4

**Publication Number:** 1372918

**IPC:** B26D 1/00

**Language of the proceedings:** EN

**Title of invention:**  
Sharp-edged cutting tools

**Applicant:**  
Liquidmetal Technologies

**Opponent:**

-

**Headword:**

-

**Relevant legal provisions:**

EPC Art. 82, 111(1), 123(2)  
EPC R. 29(2), 30(1), 46(1), 67, 86(4)

**Keyword:**

"Substantial procedural violation (not requesting an additional search in order to search the invention first defined in the claims as originally filed in a non-unitary application)"

"Remittal for further prosecution to continue examination after an additional search has been carried out"

"Reimbursement of the appeal fee (yes)"

**Decisions cited:**

G 0002/92

**Catchword:**

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Case Number: T 0747/06 - 3.2.07

**D E C I S I O N**  
of the Technical Board of Appeal 3.2.07  
of 12 September 2007

**Appellant:** Liquidmetal Technologies  
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**Decision under appeal:** Decision of the Examining Division of the  
European Patent Office posted 22 December 2005  
refusing European application No. 02768276.4  
pursuant to Article 97(1) EPC.

**Composition of the Board:**

**Chairman:** H. Meinders  
**Members:** H. Hahn  
I. Beckedorf

## Summary of Facts and Submissions

- I. The applicant lodged an appeal against the decision of the Examining Division to refuse the European patent application No. 02 768 276.4.

The Examining Division held that the dependent claims 2-4 and 27-29 of the application as originally filed lacked unity *a posteriori* because the parent claims linking them were not patentable. Reference was made to claims 1 and 25 as originally filed of which the subject-matter lacked novelty over D1 (SURYANARAYANA: "Non-Equilibrium Processing of Materials" 1999, PERGAMON, Oxford, XP002281146). Furthermore, amended claims 1-38 as filed with letter of 13 June 2005 were considered not to be admissible under Rule 86(4) EPC.

- II. With a communication dated 5 March 2007 the Board presented its preliminary opinion with respect to the question of non-unity in respect of claims 1-40 of the application as originally filed (corresponding to the published WO-A-02 100611) and with respect to claims 1-38 as filed with letter of 13 June 2005, both sets being subject of the decision under appeal, the latter being the claims for which the appellant requested remittal of the case to the department of first instance, in its appeal.

The Board considered that the Examining Division committed a procedural violation since, on the challenge by the applicant that claims 2-4 and 27-29 as originally filed should have been searched, it should have noted in its review of the position taken by the

Search Division on that issue that the latter had not correctly searched the invention first mentioned in claims. The Examining Division should have established this and ordered an additional search (i.e. free of charge) on these claims. The fact that it did not had to be considered a substantial procedural violation. The Board considered the issue of unity of invention as raised by the Search Division and as confirmed by the Examining Division and concluded that there was unity of invention between independent claims 1, 25 and 26, which included claims 2-4 dependent on claim 1 and claims 27-29 dependent on claim 26, all as originally filed.

By the contested decision, which terminated the examination procedure, the applicant was therefore deprived of his right to have the subject-matter of claims 1 to 4 and claims 26 to 29 - which represented the invention first defined in the claims as originally filed - searched.

The Board stated that it intended to remit the case to the first instance in order to remedy this situation. However, this could not be done on the basis of the amended claims 1-38 filed with letter of 13 June 2006, as requested by the appellant.

These claims were based on original claim 13, against which the Search Division had also raised a non-unity objection. The Board agreed with this objection. As no additional search fees had been paid for that claim, the search had not covered it and its subject-matter could only be pursued in a divisional application. Remitting the case on that basis would involve an

additional search to be performed on that subject-matter, at no cost, which would not be correct. Therefore it could not remit the case back to the Examining Division as it was, for further prosecution.

The Board also expressed its opinion that the other conclusions of the Search Division, regarding lack of unity of invention between claim combinations 1 + 2 (to 4 and 27 to 29); 1 + 5 (13 and 14); 1 + 6 (to 9), 1 + 10 (to 12, 31, 32); 1 + 15; 1 + 20, 21 as originally filed; were correct.

The Board then suggested that if the applicant were to revert back to the original set of claims, it could remit the case back to the Examining Division with the order to perform an additional search on the subject-matter of claims 2-4 dependent on claim 1 as well as claims 26-29, so as to enable examination on those claims.

The appellant was further invited to state whether the request for oral proceedings was maintained in the proposed circumstances.

- III. With letter dated 26 April 2007 the appellant requested that the decision under appeal be set aside and that the case be remitted to the Examining Division on the basis of the claims 1-40 as originally filed with the order to perform an additional search on the subject-matter of claims 2 to 4 dependent on claim 1 and claims 26 to 29, so as to continue examination on these claims. Furthermore, in view of the above request, the request for oral proceedings was not maintained. Finally, it was requested to reimburse the appeal fee

in view of the substantial procedural violation as discussed above.

IV. Claims 1 to 4 and 25 to 29 read as follows:

"1. A cutting tool comprising:  
a blade portion having a sharpened edge and a body portion;  
wherein at least one of the blade portion and the body portion are formed from a bulk amorphous alloy material."

"2. The cutting tool as described in claim 1, wherein the bulk amorphous alloy is described by the following molecular formula:  $(Zr,Ti)_a(Ni,Cu,Fe)_b(Be,Al,Si,B)_c$ , wherein "a" is in the range of from about 30 to 75, "b" is in the range of from about 5 to 60, and "c" in the range of from about 0 to 50 in atomic percentages."

"3. The cutting tool as described in claim 1, wherein the bulk amorphous alloy is described by the following molecular formula:  $(Zr,Ti)_a(Ni,Cu)_b(Be)_c$ , wherein "a" is in the range of from about 40 to 75, "b" is in the range of from about 5 to 50, and "c" in the range of from about 5 to 50 in atomic percentages."

"4. The cutting tool as described in claim 1, wherein the bulk amorphous alloy is described by the following molecular formula:  $Zr_{41}Ti_{14}Ni_{10}Cu_{12.5}Be_{22.5}$ ."

"25. A cutting tool comprising:  
a blade portion having a sharpened edge and a body portion;

wherein both the blade portion and the handle portion are formed from a bulk amorphous alloy material."

"26. A method of manufacturing a cutting tool comprising:  
forming blank from a bulk amorphous alloy;  
shaping the blank to form a blade portion and a body portion; and  
sharpening said blade portion to form a sharpened edge."

Dependent claims 27 to 29 differ from claims 2 to 4 in that they refer to "**The method as described in claim 26**" and then specify the bulk amorphous alloy compositions of claims 2 to 4, respectively.

V. The appellant argued essentially as follows:

The opinion of the Examining Division that independent claims 1 and 25 formed the first invention or group of inventions is inconsistent with basic logical principles since the first invention mentioned in the claims is not the independent claim only but the independent claim and those subclaims immediately following the independent claim which form one invention or group of inventions. An independent claim and a claim dependent on it cannot lack unity, even if the subject-matter of the independent claim is not new over the prior art. If an independent claim lacks novelty only different dependent claims can lack unity as in the present case. Thus if claim 1 is not new it would for instance be legitimate for the Search Division to search claim 1 and claim 2 dependent on claim 1 and to raise an objection of lack of unity of

invention with respect to dependent claim 3 also dependent on claim 1. According to W 31/90 the ISA is obliged to search the invention first mentioned after an independent claim. Since the Search Division in the present case only searched independent claims 1 and 25 it violated Rule 46(1) EPC for not completely searching the first invention or group of inventions first mentioned in the claims. Thus, the Search Division still has to complete its search. As it committed a substantial procedural violation, the appeal fee should be reimbursed.

### **Reasons for the Decision**

1. Since claims 1-40 of the single request are identical with those as originally filed the requirements of Article 123(2) EPC are met.
2. *Substantial procedural violation (Rule 67 EPC).*
  - 2.1 The present European patent application is based on the International application PCT/US 02/06977 (WO-A-02 100 611) which entered into the European phase on 1 October 2003.

The EPO as Designated Office transmitted a partial European Search Report under Rule 46(1) EPC with its communication dated 30 June 2004 wherein it was stated that the application did **not** comply with the requirements of unity of invention since the subject-matter of claims 1 and 25 is known from the first citation (D1) and is also rendered obvious by a combination of the first citation and each of the third



to sixth citations. Seven other, different, inventions were recognised, among which one was constituted by claims 2-4 and 27-29, and another by claim 26. Furthermore, if the European Search report were to cover inventions other than the invention first mentioned in the claims, a further search fee had to be paid for each of these inventions within one month after notification of said communication.

The applicant, after having received this communication did **not** pay any further search fee, thus the supplementary European search report concerning the present application was been drawn up only for those parts of the application which related to the invention first mentioned in the claims, namely claims 1 and 25.

2.2 In its first communication pursuant to Article 96(2) EPC dated 13 December 2004 the Examining Division agreed to the objection concerning lack of unity as put forward by the Search Division. The subject-matter of claims 1 and 25 was considered to lack an inventive step in view of D1. It stated that the application would be prosecuted on the basis of the invention first mentioned in the claims, i.e. claims 1 and 25, and that it should be limited to the invention searched.

This was challenged by the applicant with its letter dated 13 June 2005. The Search Division should additionally have searched claims 2-4 and 27-29 as well as claim 26 (which defines the method for making the cutting tool of claim 1), since these claims formed the invention or group of invention first mentioned in the claims.

A telephone conversation between the first examiner of the Examining Division and the representative of the applicant took place on 25 October 2005. What actually has been discussed is, however, not derivable from the file since the relevant form (EPO Form 2036 07.92CSX) is blank with the exception of specifying the participants and the date.

With the summons dated 8 November 2005 oral proceedings were arranged for 15 December 2005. Annexed to the summons was a communication more or less identical with the reasons of the present contested decision.

At the oral Proceedings held in the absence of the applicant (as announced by it) the Examining Division arrived at the contested decision.

2.3 *The inventions of claims 1, 25 and 26*

2.3.1 Taking account of the features of independent claims 1, 25 and 26 as originally filed (see point IV above) it is evident that these three claims are actually linked the single general concept of using bulk amorphous alloy for making a cutting tool comprising a blade portion having a sharpened edge and a body portion wherein at least one of the blade portion and the body portion are formed from said bulk amorphous alloy. The product claims 1 and 25 relate to such a cutting tool and process claim 26 defines the process for manufacturing such a cutting tool.

Thus the conclusion of the Search Division that there exists non-unity between product claims 1 and 25 on the

one hand and process claim 26 on the other is not correct.

The objection is also **not** in line with the Guidelines for Examination relating to Rule 30(1) EPC, where it is stated that Rule 30(1) EPC should be construed as permitting the inclusion of combinations of claims of different categories in the same application which may constitute a group of inventions so linked as to form a single general inventive concept. Two of the three examples given explicitly state that in addition to an independent claim for a given product, an independent claim for a process especially adapted for the manufacture of the said product is permitted (see Guidelines, versions December 2003 and June 2005, Chapter C-III, 7.2 Examples i) and iii), which are equally applicable to the Search Division according to Guidelines B-VII, 2.2; compare also Schulte, Patentgesetz, 7th edition 2005, § 34, Rdn. 254).

2.3.2 Furthermore, as apparent from the search report, the Search Division raised the non-unity objection *a posteriori* because the subject-matter of claims 1 and 25 as originally filed were considered to lack novelty as well as inventive step over D1. The Examining Division, in the contested decision, agreed with the Search Division in this assessment, and the Board sees no reason to be of a different opinion. What could at most result, however, is non-unity between the different sets of dependent claims immediately dependent thereon, as is evident from the Guidelines for Examination (see Chapter C-III, 7.6 ["... thus leaving two or more dependent claims without a common concept"] and 7.8 ["... whether there is still an

inventive link between all claims dependent on that (independent) claim ..."])). The distinction made in the search report between claims 1 and 25 on the one hand and claims 2-4 and 27-29 on the other was therefore wrong.

As a result of this error, the Search Division did not extend the search to claims 2-4, which constituted the invention first mentioned in the claims as defined in Rule 46(1) EPC. This is all the more evident since claim 2 defines a specific embodiment of the bulk amorphous alloy mentioned in claim 1 describing it by the molecular formula  $(Zr,Ti)_a(Ni,Cu,Fe)_b(Be,Al,Si,B)_c$ . Dependent claims 3 and 4 - which likewise refer back to claim 1 - restrict said amorphous alloy further.

2.3.3 Taking account of the fact that the three claims 1, 25 and 26 are unitary, the same conclusion is valid for the process claims 27-29 dependent on claim 26, since they define amorphous alloy compositions identical to those of claims 2-4 dependent on claim 1.

From the above it has to be concluded that the Search Division did **not** correctly apply the provisions of Rule 30(1) EPC since said three independent claims 1, 25 and 26 as originally filed are unitary and did **not** correctly search the invention first mentioned in claims as required by Rule 46(1) EPC, since it should have searched the subject-matter of claims 1-4, 25, and 26-29 as originally filed. As a result, the applicant was deprived of a search on these claims.

2.3.4 The Examining Division, when issuing its first communication dated 13 December 2004, and reviewing

*ex-officio* the objection of lack of unity raised by the Search Division, should have noted these errors and should have redressed the situation by requesting an additional search for the invention first mentioned in the claims, i.e. claims 1-4, 26-29 as originally filed (see the Guidelines for Examination, versions December 2003 and June 2005, C-III, 7.10 and B-VII, 4.2 (iii)).

This was all the more necessary, when it was confronted with the specific arguments of the applicant concerning these deficiencies in its letter dated 13 June 2005. In doing so, the Examining Division committed a substantial procedural violation.

The contested decision, which terminated the examination procedure, by which the applicant was deprived of his right to have the subject-matter of claims 1-4 and claims 26-29 searched at no further cost, is tainted by this procedural violation and has to be set aside for that reason alone, with reimbursement of the appeal fee. The case is to be remitted to the department of first instance to redress that situation in the manner indicated.

3. *Non-unity in respect of claims 5-24*

3.1 The Board agrees with the other conclusions of the Search Division, as supported by the Examining Division, regarding unity of invention, resulting in the different inventions of the claim combinations 1 + 5, 13 and 14; 1 + 6-9, 1 + 10-12, 31, 32; 1 + 15; 1 + 20 and 21 as originally filed.

3.2 With the appeal originally based on the claims subject to the impugned decision the appellant sought to pursue the application on the basis of a main claim consisting of claims 1 + 13 as originally filed, for which no further search fee has been paid upon invitation of the Search Division to that effect.

According to G 2/92 (OJ EPO 1993, 591), "an applicant who fails to pay the further search fees for a non-unitary application when requested to do so by the Search Division under Rule 46(1) EPC cannot pursue that application for that subject-matter in respect of which no search fees have been paid". The contested decision to refuse such a request was thus correct in its result though erroneously based on Rule 86(4) EPC, which applies to **amended** claims.

The appellant having reverted back to the claims as originally filed in its final request dated 26 April 2007, this objection is for the time being overcome. It is clear that in the further examination proceedings this subject-matter will have to be made the subject of a divisional application, if the appellant wishes to seek protection for it (G 2/92, *supra*).

4. *Remittal to the first instance (Article 111(1) EPC)*

4.1 The case will be remitted to the department of first instance so that an additional search can be requested from the Search Division for claims 2-4 and 26-29, the first invention mentioned in the claims.

4.2 The Board wishes to note that in the further prosecution of the case the requirements of Rule 29(2)

EPC may have to be applied with respect to claims 1 and 25.

Finally, if the wording of claim 25 is maintained in any form, the requirements of Article 84 EPC in respect of the "body portion", which is further defined as "the handle portion" without an antecedent in the claim, should be observed.

## **Order**

### **For these reasons it is decided that:**

1. The decision under appeal is set aside.
2. The case is remitted to the department of first instance for further prosecution.
3. The reimbursement of the appeal fee is ordered.

The Registrar:

The Chairman:

G. Nachtigall

H. Meinders