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**D E C I S I O N**  
**of 6 May 2002**

**Case Number:** T 0173/00 - 3.2.2

**Application Number:** 93904252.9

**Publication Number:** 0628088

**IPC:** C22C 19/03

**Language of the proceedings:** EN

**Title of invention:**  
Nickel-Molybdenum Alloys

**Patentee:**  
HAYNES INTERNATIONAL, INC.

**Opponent:**  
Krupp VDM GmbH

**Headword:**  
-

**Relevant legal provisions:**  
EPC Art. 123(2), (3)

**Keyword:**  
"Extension of scope of protection - no"  
"Substantial procedural violation - yes"

**Decisions cited:**  
T 0190/99, T 0214/91, T 0108/91

**Catchword:**  
-



Case Number: T 0173/00 - 3.2.2

**D E C I S I O N**  
**of the Technical Board of Appeal 3.2.2**  
**of 6 May 2002**

**Appellant:** HAYNES INTERNATIONAL, INC.  
(Proprietor of the patent) 1020 West Park Avenue  
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Indiana 46904-9013 (US)

**Representative:** Attfield, Donald James  
Barker Brettell  
138 Hagley Road  
Edgbaston  
Birmingham B16 9PW (GB)

**Respondent:** Krupp VDM GmbH  
(Opponent) Wilhelmstrasse 76  
D-58256 Ennepetal (DE)

**Representative:** -

**Decision under appeal:** Decision of the Opposition Division of the  
European Patent Office posted 25 November 1999  
revoking European patent No. 0 628 088 pursuant  
to Article 102(1) EPC.

**Composition of the Board:**

**Chairman:** W. D. Weiß  
**Members:** S. S. Chowdhury  
U. J. Tronser

## Summary of Facts and Submissions

I. The appellant (patent proprietor, Haynes International, Inc) lodged an appeal against the decision of the opposition division to revoke the patent No. 0 628 088. The decision was dispatched on 25 November 1999.

The appeal and the fee for the appeal were received on 20 January 2000. The statement setting out the grounds of appeal was received on 25 March 2000.

The opposition was filed against the whole patent and based on Article 100(a) EPC (lack of novelty and inventive step).

In response to the opposition the patent proprietor maintained the claims of the patent as granted as the main request, and filed amended claims in auxiliary requests. In the written procedure the discussion turned around the questions of novelty and inventive step. At the start of the oral proceedings, the opposition division introduced, of its own motion, a new ground of opposition, under Article 100(c) EPC, in response to which the patent proprietor filed amended claims.

The opposition division then decided that claim 1 of each of the main request and the first and second auxiliary requests of the amended claims did not comply with Art 123(3) EPC, and revoked the patent, accordingly.

II. Oral proceedings before the Board took place on 6 May 2002, at the end of which the following requests forming the basis of the decision were put forward:

The appellant requested that the decision under appeal be set aside and that the patent be maintained in amended form on the basis of the main request underlying the decision under appeal or in the form of the claims according to the auxiliary requests 1 or 3 filed with the grounds of appeal dated 21 March 2000 or with the claims according to the auxiliary request 2 filed with the letter of 21 February 2001.

The respondent (opponent, Krupp VDM GmbH) requested that the appeal be dismissed.

III. The independent claim 1 of the main request reads as follows: -

"A metal alloy having the general formula  $Ni_a Mo_b X_c Y_d Z_e$  where:

"a" is more than 73, but less than 77, atom percent of nickel;

"b" is more than 18, but less than 23 atom percent of molybdenum;

"X" is one or more substitutional alloying elements from Groups VIA, VIIA or VIII of the Periodic Table, in amounts "c" being at least two atom percent in total but not exceeding five atom percent for any one such element;

"Y" is one or more optional substitutional alloying elements of aluminium, copper, silicon, titanium, vanadium or zirconium in amounts "d" not exceeding one atom percent for any one such element;

"Z" is one or more interstitial elements of boron, carbon, nitrogen, oxygen, phosphorus or sulphur in amounts "e" not exceeding 0.1 atom percent for any one such element; and

wherein the sum of "c" plus "d" is between 2.5 and 7.5 atom percent and excluding all alloys consisting only of nickel, molybdenum and iron.

Claims 2 to 9 are dependent on claim 1. The main request also includes independent claims 10 and 13 and dependent claims 11 and 12, but these do not feature in the decision under appeal.

IV. The appellant argued as follows:

The opposition division's interpretation of claim 1 was wrong since the expression "for any one such element" did not qualify "amounts "c" being at least two atom percent", rather it qualified only "not exceeding five atom percent", as was clear from the lack of punctuation (commas) in line 5 of the claim.

Moreover, having regard to Article 69 EPC, the claim had to be interpreted in the light of the description. The "Summary of the invention" on page 5 of the PCT application, the "Conclusions" on page 13 onwards, and Table A were entirely consistent with amended claim 1 in that the total "c" was over 2 atomic percent whereas individual amounts of the elements X were mostly less than 2 atomic percent. The opposition division's interpretation of claim 1 was wrong in this respect since none of the examples of the invention would fall under the scope of claim 1 by their interpretation.

In the course of the opposition procedure, the opponent, while citing prior art against the claims, also construed the claim as meaning that the required amount "c" was at least two atom percent in total.

The opposition division raised an objection under Article 123(2) EPC for the first time during the oral proceedings before it, and its failure to alert the patent proprietor to this apparent deficiency earlier was a procedural violation that justified reimbursement of the appeal fee. The entire discussion until then turned around Article 52(1) EPC, and to suddenly spring a new ground of opposition at the start of the oral proceedings put the patent proprietor in a difficult position since he could not react satisfactorily or find persuasive arguments at such short notice.

V. The respondent argued as follows:

The total of the elements given in claim 1 ranged from 93.5 to 137 atomic percent in the original PCT application, from 121 to 181.6 atomic percent in claim 1 of the patent as granted, and from 93 to 181.6 atomic percent in claim 1 of the patent as amended. Therefore, a drastic change of the scope of the claim resulted from the amendment by the insertion of the words "in total", that was unallowable under Articles 123(2) or (3) EPC.

The claim referred to substitutional alloying elements from Groups VIA, VIIA or VIII of the Periodic Table, but chromium, iron, cobalt, and tungsten were Group B elements. Moreover, any of the elements from Groups VI, VII or VIII were covered by new claim 1, which greatly extended the protection compared with specific elements

defined in original claim 1.

## Reasons for the Decision

1. The appeal is admissible.

Main request

2. *Amendments:*

After grant, claim 1 was amended by the addition of the words "in total" in the definition of the amount "c", so that the relevant part of the claim reads:

"c" being at least two atom percent *in total* but not exceeding five atom percent for any one such element [*amendment in italics*].

A further amendment concerns the inclusion of the disclaimer at the end of the claim "and excluding all alloys consisting only of nickel, molybdenum and iron"

3. *Scope of the appeal*

Since the opposition division revoked the patent only on the ground that the inclusion of the words "in total" did not comply with Article 123(3) EPC, the solitary point to be decided here concerns this amendment to claim 1.

The allowability of the disclaimer will not be decided in this appeal since the allowability depends on the identification of a particular item of prior art, and

also on meeting certain well established criteria. Additional substantive examination is necessary in this respect.

4 *Interpretation of claim 1*

4.1 Owing to lack of punctuation in the definition of the amounts "c" of the substitutional alloying elements X in claim 1, the claim is open to two interpretations. In the first one, if a comma is notionally set after "'c" being at least two atom percent" then "for any one such element" qualifies "but not exceeding five atom percent" only. In this case it is clear that it is the **total** amount of the substitutional alloying elements that should exceed two atom percent.

If, in addition to this comma, another comma is notionally set after "but not exceeding five atom percent", then in a second interpretation, "for any one such element" qualifies both "c" being at least two atom percent" and "but not exceeding five atom percent", in which case the claim takes on the interpretation given by the opposition division and the respondent, ie the amount of **each** substitutional alloying element should exceed two atom percent.

4.2 It is well established practice of the EPO that in case there is any doubt or dispute as to the true meaning of any expression the description should be consulted in order to establish what was intended to be protected, in accordance with Article 69(1) EPC. It is not permissible to misconstrue a claim such that it leads to a nonsensical meaning, as set out in the decision T 190/99 (not published in OJ EPO, point 2.4 of the reasons), and also in the Guidelines for Examination at

the EPO, C III, 4.2. A claim should be so interpreted as to put a reasonable construction on it so that it makes sense in the context.

4.3 Taking the second construction, that of the opposition division and the respondent first, this results in a crass contradiction between the claim and the description since not a single example of the invention listed in Table A falls under the scope of the claim in that in none of these examples are all the elements X present in an amount more than 2 atomic percent. In all the examples of the invention (Examples 6 to 38, see page 4, lines 23 to 26) given in Table A of the patent the individual value of c for the elements Fe, Cr, Mn, Co, and W is mostly less than two atom percent, only in a minority of cases is it greater than two atom percent, and that too for one of the elements X only in each example. Nor do the dependent claims 3, 6, 8, 10, and 11 agree with claim 1 to which they are appended. This is, then, clearly an unreasonable construction of claim 1.

4.4 The first construction is reasonable in that it renders the entire patent specification self-consistent, for example Table A is entirely consistent with the interpretation of claim 1 as given by the patentee. This construction should be adopted in the spirit of building up the claim with synthetical propensity, accordingly.

5 *Article 123 EPC*

The present application is an International application, whose layout is governed by the PCT. The heading "Summary of the Invention" on page 5 of the

present PCT application defines the broadest aspect of the invention, and this section is followed by a description of specific features. It is the whole of the statement under this heading that is to be considered as the broadest definition of the invention and it supports amended claim 1. There is explicit support for the amendment to claim 1 on page 5, lines 18 and 19, which states that "the total c is at least about two percent".

The amendment of claim 1 by way of the addition of the words "in total" removes any ambiguity in the claim by excluding the unreasonable version of the claim. This amendment renders the claim clearly and completely consistent with the application as originally filed in that the examples and dependent claims now fall within the scope of the claim. Therefore, there is no objection to this amendment under Article 123(2) EPC.

The fact that new claim 1 differs drastically, as the respondent puts it, from the original claim 1 of the PCT application is not important so long as the new claim is supported by the application as a whole as originally filed, which is the presently the case, as set out above.

Moreover, the word "including" in claim 1 of the original PCT application is not exhaustive and the elements enumerated in this claim only exemplify the possible choice of elements, and it is fair to extend the scope of the claim, during the examination procedure, to cover all suitable elements. In practice, of course, for reasons of economy the person skilled in the art would not select one of the platinum metals, for example.

Moreover, since the claim now states clearly what the opposition division should have understood from the granted claim, the claim has in fact been restricted in scope in that one possible interpretation thereof has been excluded by the amendment. Therefore, the amendment has caused a restriction rather than an extension of protection of the claim, and the claim does not infringe Article 123(3) EPC.

This finding is consistent with the case law of the Boards of Appeal which states that the amendment of a granted claim to replace an inaccurate technical statement, which is evidently inconsistent with the totality of the disclosure of the patent, by an accurate statement of the technical features involved, does not infringe Article 123(3) EPC (for example decisions T 108/91 (OJ EPO, 1994, 228) and T 214/91 (not published in OJ EPO)).

6 *Clarity of claim 1*

The patent in suit relates to a family of nickel-base alloys containing more than 18, but less than 23 atom percent molybdenum in combination with low but critical amounts of certain other substitutional alloying elements which provide thermal stability to the metallurgical structure. The opening passages of the description review the prior art and the disadvantages of known nickel-molybdenum alloys, and object of the invention is to provide a high molybdenum, nickel-base alloy which does not exhibit rapid, order induced, grain boundary embrittlement and, preferably, with no sacrifice in corrosion resistance.

The metal alloy having the general formula  $Ni_a Mo_b X_c$

$Y_d Z_e$  as claimed in claim 1 is, therefore, understood to mean a basic alloy having nickel and molybdenum as the basic elements and X, Y, and Z as substitutional elements, the total atom percent adding up to 100%, as may be seen from the alloys 6 to 38 exemplifying the invention in Table A. Ni and Mo are not substitutional elements and the respondent's interpretation of the claim in a manner that gives a total atom percent greater than 100% is not reasonable. Therefore, the Board does not agree with the respondent that the amended claim is inconsistent with the description in this respect.

Another apparent inconsistency noted by the respondent concerns the group of elements of the Periodic Table defined in claim 1. Although the claim mentions elements from Groups VIA, VIIA or VIII of the Periodic Table, a version of the Periodic Table presented by the respondent at the oral proceedings classifies the elements Mn, Fe, Co, and W as Group B elements.

It is clear from the context, however, that what is meant are the transition elements and these are classified as Group A or Group B elements, depending on which version of the Periodic Table is consulted, but the person skilled in the art would not see any confusion here.

7 *Request for refund of the appeal fee*

The written procedure, from the time of the opposition in January 1998 up to the oral proceedings before the opposition division in November 1999, concentrated on the position under Article 52(1) EPC, and did not include any objection under Article 123(2) EPC. The

raising of an objection under Article 123(2) EPC at the start of the oral proceedings, by the opposition division acting of its own motion, would naturally surprise and disconcert the patent proprietor.

Bearing in mind that the patent proprietor came to the oral proceedings before the opposition division prepared to argue the questions of novelty and inventive step, it would expect to go away with a decision based on these grounds at the end of the day. Being confronted with a new ground of opposition, it tried to make the best of a difficult position and filed amendments in an attempt to overcome the new objection. However, the patent proprietor, not surprisingly, did not have the presence of mind to do full justice to its cause and present more persuasive arguments than it felt it could have done.

The new ground of opposition was raised against claim 1 as granted, and could and should have been conveyed to the patent proprietor before the oral proceedings in order to give him time to consider it in depth and file suitable arguments and/or amendments before the oral proceedings, and so that all the parties could then consider this ground of opposition in depth before their arguments were presented in person at the official hearing.

The Board, therefore, considers that the opposition division's failure to alert the patent proprietor to this apparent deficiency constitutes a serious procedural violation and that it is equitable to order the reimbursement of the appeal fee in accordance with Rule 67 EPC.

**Order**

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

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

The Registrar:

The Chairman:

V. Commare

W. D. Weiß