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**Datasheet for the decision
of 30 April 2024**

Case Number: T 1246/22 - 3.3.05

Application Number: 12752790.1

Publication Number: 2682491

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C22C38/44, C22C38/46

Language of the proceedings: EN

Title of invention:

HOT WORK TOOL STEEL HAVING EXCELLENT TOUGHNESS, AND PROCESS OF
PRODUCING SAME

Patent Proprietor:

Hitachi Metals, Ltd.

Opponent:

Uddeholms AB

Headword:

Hot work tool steel/Hitachi

Relevant legal provisions:

EPC Art. 123(2)

Keyword:

Amendments - extension beyond the content of the application
as filed (yes)

Decisions cited:

T 1473/19

Catchword:



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Case Number: T 1246/22 - 3.3.05

D E C I S I O N
of Technical Board of Appeal 3.3.05
of 30 April 2024

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Decision under appeal: **Interlocutory decision of the Opposition
Division of the European Patent Office posted on
7 March 2022 concerning maintenance of the
European Patent No. 2682491 in amended form.**

Composition of the Board:

Chairman E. Bendl
Members: T. Burkhardt
R. Winkelhofer

Summary of Facts and Submissions

- I. The opponent's appeal is against the opposition division's decision to maintain European patent No. 2 682 491 B1 as amended in the form of the then auxiliary request 1.
- II. Independent claim 1 of the sole claim request in the appeal proceedings (claims as maintained by the opposition division) reads as follows (emphasis added by the board).

Line

4 1. A process of producing a hot work tool steel
having excellent toughness

5 consisting of, in mass%: 0.3 to less than 0.6% of
C; 0.2 to 1.5% of Si; 0.1 to 1.5% of Mn; 3.0 to

6 less than 6.0% of Cr, at least one of Mo and W,
wherein an amount of (Mo + 1/2W) is 1.0 to

7 3.5%, more than 0.0025 to 0.025% of Zn; and not
less than 0.005% of P, wherein Zn/P is more

8 than 0.5, the balance consisting of Fe and
inevitable impurities, and optionally not more than

9 1.5% of V, not more than 1.5% Ni, not more than
0.3% Nb, not more than 5.0% Co, including:

10 a first step of obtaining molten steel having
a chemical composition of the hot

11 work tool steel without the Zn component, including
not less than 0.005 mass% of P;

12 a second step of adding Zn to the molten steel
having the chemical composition of

13 the hot work tool steel; and

14 a third step of casting the molten steel to
which Zn is added to obtain a steel ingot
15 wherein Zn is added in the second step such that a
chemical composition of the ingot after
16 casting in the third step is a hot work tool steel
including more than 0.0025 to 0.025 mass% of
17 Zn and not less than 0.005 mass% of P, wherein Zn/P
is more than 0.5."

III. The opponent (appellant) argued that the sole claim request on file did not meet the requirements of Article 123(2) EPC.

This was disputed by the proprietor (respondent).

IV. The appellant requests that the decision under appeal be set aside and amended such that the patent be revoked.

The respondent requests that the appeal be dismissed.

Reasons for the Decision

1. Amendments

1.1 Lines 10 to 11 of claim 1 of the sole claim request relate to the first step of the process of producing the hot work steel.

The feature "without the Zn component" during this first process step (line 11 of claim 1) is not found in claim 6 as originally filed.

In the respondent's view, the insertion of this feature did not go beyond the original disclosure. It merely avoided the chemical composition of the steel disclosed in the introductory part of claim 1 (lines 5 to 9 of claim 1) having to be repeated in the "first step", except for Zn, the concentration of which was not restricted in the first process step.

In other words, the skilled person would interpret the expression "a first step of obtaining molten steel having a chemical composition of the hot work tool steel without the Zn component" in claim 1 as "a first step of obtaining molten steel having a chemical composition of the hot work tool steel without [the limitation as to] the Zn component".

- 1.2 To assess whether the amended claim in the case at hand contains added subject-matter under Article 123(2) EPC, the claimed subject-matter must first be determined by interpreting the claim from the perspective of the skilled person. In a second step, it must be assessed whether that subject-matter is disclosed in the application as filed.

It is undisputed that lines 5 to 9 of claim 1 disclose the composition of the hot work tool steel at the end of the production process, i.e. after the third process step.

It is also undisputed that, due to the expression "the hot work steel" (emphasis added by the board) in lines 10 to 11, the "composition" mentioned in step 1 refers to that in lines 5 to 9, albeit with an exception for Zn.

However, contrary to the respondent's view, the skilled person interprets the expression "a first step of obtaining molten steel having a chemical composition of the hot work tool steel without the Zn component" (lines 10 to 11) as meaning that, contrary to the composition in lines 5 to 9, no Zn component is present in the steel during step 1 (or at least not in an amount that goes beyond that of the level of an impurity).

In other words, lines 10 to 11 do not require the absence of a limitation/restriction regarding the concentration of the Zn component, but rather the absence of the Zn component *per se*. Such an interpretation is also entirely in line with steps 2 and 3, which require Zn to be subsequently added to meet the criteria for the Zn content and the Zn/P ratio in the produced steel.

The opposition division initially considered such an interpretation as well, but eventually agreed with the respondent's view because of the teaching of the application as originally filed (point II.4.1 referring to points II.3.1.2 and II.3.1.3 of the decision under appeal). Therefore, paragraph [0018] of the application as originally filed explained that Zn may be present during the first step, but there was a risk of Zn losses during the production process because of the volatility of Zn.

However, even if the skilled person looked at the application as originally filed as a whole and noticed the inconsistency between this interpretation of claim 1 and the teaching of paragraph [0018] of the application as originally filed, they would not revert the meaning of said claim feature to this teaching

under the present circumstances as the feature is clear and also in line with the other features of the claim.

The skilled person would also keep in mind the primacy of the claims, which also applies to Article 123(2) EPC (see for example T 1473/19, point 3.12 of the Reasons), and would know that under the present circumstances the description cannot be used to give a different meaning to a newly added claim feature which in itself imparts a clear credible technical teaching to the skilled reader (Case Law of the Boards of Appeal, 10th edition, 2022, II.E.1.3.9 b)).

- 1.3 The second question is whether the subject-matter of the new feature can be derived from the application as originally filed.

The respondent acknowledged that, should its claim interpretation not be accepted, there was no basis for the new feature in the application as originally filed.

The board could not identify a basis for the new feature in the application as originally filed either. In fact, while claim 6 as originally filed *implicitly* limits the Zn concentration during the first step to the maximum concentration after step 3 (i.e. to 0.025 mass%) plus any losses due to Zn volatilisation during the production process, claim 1 of the current claim request limits the Zn concentration during the first step to the level of an inevitable impurity.

However, there is no basis for such an upper limit in the application as originally filed.

Consequently, claim 1 of the claim request as maintained by the opposition division does not meet the requirements of Article 123(2) EPC.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The patent is revoked.

The Registrar:

The Chair:



C. Vodz

E. Bendl

Decision electronically authenticated