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D E C I S I O N
of 25 July 2005

Case Number: T 0344/04 - 3.2.7

Application Number: 00906767.9

Publication Number: 1173625

IPC: C21D 9/40

Language of the proceedings: EN

Title of invention:

Method for producing a rolling bearing steel

Applicant:

SKF Engineering & Research Centre B.V.

Opponent:

-

Headword:

-

Relevant legal provisions:

EPC Art. 54, 84, 106, 107, 108, 123(2)

EPC R. 64

Keyword:

"Admissibility of appeal (yes)"

"Extension beyond content of application as originally filed
(no)"

"Clarity (no)"

"Novelty (no)"

Decisions cited:

-

Catchword:

-



Case Number: T 0344/04 - 3.2.7

D E C I S I O N
of the Technical Board of Appeal 3.2.7
of 25 July 2005

Appellant: SKf Engineering & Research Centre B.V.
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Decision under appeal: Decision of the Examining Division of the
European Patent Office posted 3 November 2003
refusing European application No. 00906767.9
pursuant to Article 97(1) EPC.

Composition of the Board:

Chairman: C. Holtz
Members: H. Hahn
P. O'Reilly

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. 00 906 767.9.

The Examining Division held that product claim 7 lacked novelty with respect to document D5 for not meeting all the criteria of a selection invention. Product claim 8 lacked an inventive step over D5 while the process claims 1 to 6 lacked an inventive step over the prior art D5, D4 and D3.

- II. With a communication dated 29 April 2005 the Board presented its preliminary opinion with respect to the claims underlying the appealed decision, i.e. claim 1 as filed with letter of 10 September 2003 and the claims 2 to 8 as filed with letter of 6 February 2001. The Board expressed its doubts with respect to the admissibility of the appeal, particularly with respect to Rule 64(b) EPC. Claim 1 of this single request was considered to contravene Article 84 EPC as well as not being novel. The subject-matter of product claim 7 was considered to lack novelty with respect to document D5 while the subject-matters of product-by-process claim 8 and of process claim 1 were considered to lack an inventive step with respect to documents D5 and D4, respectively.

- III. With letter of 24 June 2005 the appellant informed the Board that it would not be present or represented during the oral proceedings so that the oral proceedings could be cancelled.

IV. With the order of 4 July 2005 the appellant was informed that the oral proceedings were cancelled.

V. Independent claims 1, 7 and 8 under consideration read as follows:

"1. A method for producing a rolled steel by the steps of:

a) providing a steel with the composition

(in wt.%):

0.9-1.03% C;

0.25% Si;

0.85% Mn;

0.8% Cr;

balance Fe and impurities,

wherein the ratio Cr/C is 0.7 to 1.20,

b) continuous casting said steel, and

c) rolling said cast steel immediately after casting."

"7. Rolling bearing element made from a continuously cast and rolled steel having the composition (in wt.%)

0.9-1.03% C;

0.25% Si;

0.85% Mn;

0.8% Cr;

balance Fe and impurities,

wherein the ratio Cr/C is 0.7 to 1.20,"

"8. Rolling bearing element component according to claim 6, comprising a bearing ring."

VI. The following document is relevant for the present decision:

D5 = ASTM 295-98

VII. In addition to the statement of appeal "I herewith file an appeal against the decision together with a voucher for payment of the fee for appeal" the appellant stated in the grounds of appeal "You are requested to examine this application based on the documents which were not accepted by the examining division".

The further arguments may be summarised as follows:
Claim 1 is new over D5. Document D5 does not exactly disclose the composition according to claim 1 so that an inventor starting from D5 has to make a first step to arrive at the composition of claim 1. Only thereafter a combination with document D4 or D3 has to be made but the Examining Division set the requirements of inventive step far too high in this case. The direct rolling step is not suggested in any of the other two documents D3 and D4.

Reasons for the Decision

1. Admissibility of appeal

1.1 The appellant with its letter dated 10 November 2003 filed a notice of appeal against the decision of the Examining Division dated 3 November 2003 and paid the appeal fee on the same day with a submitted voucher.

The notice of appeal was thus filed against a decision in accordance with Article 106(1) EPC within the time limit as set out in the first sentence of Article 108 EPC and the fee for appeal has been paid within the time limit as set out in the second sentence of Article 108 EPC.

- 1.2 The statement of grounds of appeal dated 9 March 2004 (sic) was received on 8 March 2004. Thus the grounds of appeal were submitted within the four months time limit as set out in the third sentence of Article 108 EPC.

Thus, the appeal, see *inter alia* the summary in point VII above, comprised detailed reasons at least when considering also the arguments in the letter of 10 September 2003, referred to by the appellant, which addressed process claims 1 to 6.

- 1.3 In the notice of appeal the name of the appellant, the application number, and the name and address of the appellant's representative were correctly stated but the appellant's precise address was missing. In accordance with the jurisdiction of the EPO see Case Law of the Boards of Appeal, 4th edition, 2001, section VII.D.7.4.1) the Board considers that the requirements of Rule 64(a) EPC have been met since the notice of appeal contains sufficient information to identify the appellant and its address.

- 1.4 Neither the notice of appeal nor the statement of grounds of appeal comprises a clear request of the appellant.

- 1.4.1 According to Rule 64(b) EPC of the implementing regulations to part VI of the convention it is stated that the notice of appeal shall contain "a statement identifying the decision which is impugned and the extent to which amendment or cancellation of the decision is requested".

- 1.4.2 Since the present case is an ex-parte case and in the light of the fact that the application was refused by the first instance the Board interprets the filing of the notice of appeal with the payment of the appeal fee in combination with the reasoning of the appeal that the decision of the first instance should be set aside and that the grant of a patent is sought implicitly. It is conclusive to the Board that nothing else could have been meant.

- 1.4.3 Furthermore, firstly taking account of the case law of the Boards of Appeal a request may be established through the totality of the appellants submissions (see Case Law of the Boards of Appeal, 4th edition, 2001, section VII.D.7.4.1 to VII.D.7.5.5) and secondly taking account of the appellant's statements in its submissions of 9 March 2004: "Further to the formal appeal ... please find enclosed the arguments" and "You are requested to examine this application based on the documents which were not accepted by the examining division" (see letter of 9 March 2004, first and last paragraph) the Board interprets the appellant's submissions such that the appeal is based on the amended claim 1 as submitted with letter of 10 September 2003, i.e. shortly before the oral proceedings before the Examining Division, and the claims 2 to 8 as submitted with letter of

6 February 2001 and that the grant of a patent based on these claims is sought.

1.4.4 Consequently, the appeal also meets the requirements of Rule 64(b) EPC.

1.5 Hence the Board considers that the appeal meets all the requirements of Articles 106 to 108 EPC and of Rule 64 EPC and therefore the appeal is admissible.

2. *Admissibility of amendments (Article 123(2) EPC)*

Claim 1 is based on claim 1 of the application as originally filed (= WO-A-00/63449) from which only the second alternative ("or is rolled after casting and reheating without a soaking treatment") has been deleted.

Claims 2 to 6 and 8 remained unamended whereas claim 7 has only been amended by incorporating an explicit definition of the steel composition according to claim 1.

Claims 1 to 8 therefore meet the requirements of Article 123(2) EPC.

3. *Clarity (Article 84 EPC)*

3.1 Claim 1 is rendered unclear by the combination of the features of claim 1 "a steel containing **0.9-1.03 wt% C** ... and **0.80 wt% Cr**, wherein the Cr/C ratio is between 0.7 and 1.20".

Since the carbon range in claim 1 is defined by the said values 0.9 and 1.03 wt% and taking account of the Cr content of 0.80 wt% **only a Cr/C ratio range of from 0.8/1.03 to 0.8/0.9, i.e. 0.78 to 0.88** can be calculated which differs substantially from said Cr/C ratio range of 0.7 to 1.20.

3.2 Furthermore, claim 1 - which defines a bearing steel having point-like definitions of the Si, Mn and Cr content - is inconsistent with the description.

In the description it is stated that "According to the invention ... said steel comprises **nominally** 0.96 wt% C, 0.25 wt% Si, 0.85 wt% Mn and 0.8 wt% Cr and wherein the Cr/C ratio is between 0.7 and 1.20" (see page 2, lines 7 to 11 and lines 26 to 28). Thus the point-like definition of claim 1 is broadened according to the description to a certain (unknown) extent since according to the description only the desired target values are meant.

3.3 Additionally, this passage in the description - based on the said nominal values of **0.96 wt% C and 0.8 wt% Cr** - does also not make sense in combination with said range of a "Cr/C ratio of between 0.7 and 1.20" since said values 0.8/0.96 result in **a Cr/C ratio of 0.83** which also differs substantially from said range "0.7 to 1.20". Thereby also the question arises as to whether the given definition of the Cr/C ratio or the range of the carbon and/or chromium content is correct.

3.4 Hence claim 1 is considered not to meet the requirements of Article 84 EPC.

The same conclusion is valid for claim 7 which comprises identical features.

Consequently, the single request is not allowable.

- 3.5 For novelty purposes claim 1 has been interpreted as meaning the nominal values - taking account of the concentration limits for the alloying elements given on page 1, lines 3 to 9 of the application as originally filed, i.e. 0.9 to 1.03 wt.% C and 0.70 to 0.90 wt.% Cr - and the calculated Cr/C ratio of 0.68 to 1.0 ($0.70/1.03 = 0.68$ and $0.90/0.90 = 1.0$).

4. *Novelty (Article 54 EPC)*

- 4.1 In the application as originally filed it is stated that a - preferred - steel falling under the definition of claim 1, i.e. the specified C-range, the specified Si, Mn and Cr contents in combination with the specified Cr/C ratio range with "balance Fe and impurities", is a steel known as "ASTM A295 5195" (see page 2, lines 26 to 32).

- 4.2 Document D5 reveals the composition ranges for the steel "ASTM A 295 5195" (see D5, Table 1) which contains (in weight%) 0.90-1.03 C, 0.15-0.35 Si, 0.75-1.00 Mn, 0.70-0.90 Cr and further specifies maximum amounts for P, S, Ni, Cu, Mo, Al and O (see D5, Table 1).

The C-range of claim 1 is identical with that of 0.90 to 1.03% C according to "ASTM 5195" of Table 1.

The values of 0.25% Si, 0.85% Mn and 0.8% Cr according to claim 1 are the same as or close to the calculated mean values of the respective ranges of Table 1 (i.e. 0.25 for 0.15-0.35% Si, 0.88 for 0.75-1.00% Mn, and 0.80 for 0.70-0.90% Cr). A Cr/C ratio based on the ranges of said Table 1 can be calculated as (rounded) being 0.7 to 1.0 which is broadly overlapping with the calculated range of 0.68 to 1.0 of claim 1 (in accordance with point 3.6 above). Since said - preferred - "ASTM 5195" steel may contain specified maximum amounts of P, S, Ni, Cu, Mo, Al and O these components are considered to fall under the definition of "impurities" so that the requirement of claim 1 of "balance Fe and impurities" is met.

4.3 Thus the steel composition of claim 1 can be considered to represent a selection out of the ranges of the bearing steel "ASTM 5195" of document D5 bearing also in mind that the process feature of "continuous casting" cannot be unambiguously identified in the resulting product and thus does not impose any distinguishing or limiting feature to it.

4.4 For a selection invention the three criteria:

- a) small overlapping, i.e. the selected sub-range should be narrow with respect to the range known from the prior art,
- b) the selected sub-range should be sufficiently far removed from the preferred part of the known range, i.e. the examples given in the prior art should lie far away from the claimed range, and

c) the selected sub-range should not be arbitrarily chosen from the known range but must provide a new invention (purposive selection), i.e. it should be selected in order to achieve a technical effect which differs from that of the prior art,

have to be considered in order to determine whether the skilled person would seriously contemplate applying the teaching of the prior art document in the range of overlap. If it can be fairly assumed that he would do so, novelty cannot be acknowledged (see Case Law of the Boards of Appeal of the European Patent Office, 4th edition, 2001, section I.C.4.2.1).

In the present case, taking account of point 3.2 above, criterion a) is only fulfilled if the steel of claim 1 is interpreted as being directed to the point-like steel composition since otherwise the degree of overlap is unknown.

Criterion b) is not fulfilled since the concentration ranges of D5 are already narrow and since the skilled person is expected to work most presumably in the middle of these ranges and not at the borderline thereof in order to ensure that the specification values are actually met.

Criterion c) is also not fulfilled since there is no evidence on file that a new technical effect is only achieved by the - point-like? (see point 3.2, above) - steel composition according to claim 1. A bearing steel material is expected to be used for making bearing elements. Furthermore, the steel material according to D5 may be provided from a strand cast product, i.e. it

may be a continuously cast material (see D5, paragraph 7.2.3). Thus it is clear to the skilled person that at least the bearing materials as specified in Table 1 can be continuously cast, which, however, does neither imply that a soaking treatment of the continuously cast bearing material has to be carried out nor that it can be eliminated. The skilled person is expected to carry out experiments in order to analyse the obtained microstructure and based on the results thereof to select any further processing steps, if necessary, in order to arrive at the desired bearing steel product.

However, claims 1 to 6 appear to be novel over D5, which does not mention a rolling of the steel immediately after the casting thereof, and claim 8 is also novel since no bearing ring having the specific composition is disclosed in the prior art on file.

- 4.5 Considering all these facts, the subject-matter of product claim 7 does not contain any new technical teaching compared to the implicit but unequivocal teaching of document D5 and its bearing steel material "ASTM A295 5195". In particular, D5 includes a Table 4 which refers to certain maximum limits for bars for rollers so that the skilled person understands that the teaching of D4 applies to roller bearing elements.

Furthermore, the appellant has not submitted any argument with respect to the novelty of product claim 7.

- 4.6 Therefore product claim 7 is considered to lack novelty with respect to document D5.

Consequently, the single request is also not allowable under Article 54 EPC.

5. Under these circumstances the Board need not deal with the issue of inventive step of claims 1 and 6. Furthermore, it could only confirm the decision of the Examining Division and has to dismiss the appeal.

Order

For these reasons it is decided that:

1. The appeal is dismissed.

The Registrar:

The Chairman:

G. Nachtigall

C. Holtz