

Internal distribution code:

- (A) [-] Publication in OJ
- (B) [-] To Chairmen and Members
- (C) [-] To Chairmen
- (D) [X] No distribution

**Datasheet for the decision
of 15 March 2019**

Case Number: T 0650/16 - 3.2.08

Application Number: 05703085.0

Publication Number: 1711296

IPC: B23C5/22

Language of the proceedings: EN

Title of invention:
Double-sided cutting insert

Patent Proprietor:
Iscar Ltd.

Opponent:
MITSUBISHI MATERIALS CORPORATION

Headword:

Relevant legal provisions:
EPC Art. 100(c), 111(1)

Keyword:
Grounds for opposition - added subject-matter (no)
Appeal decision - remittal to the department of first instance
(yes)

Decisions cited:

Catchword:



Beschwerdekammern
Boards of Appeal
Chambres de recours

Boards of Appeal of the
European Patent Office
Richard-Reitzner-Allee 8
85540 Haar
GERMANY
Tel. +49 (0)89 2399-0
Fax +49 (0)89 2399-4465

Case Number: T 0650/16 - 3.2.08

D E C I S I O N
of Technical Board of Appeal 3.2.08
of 15 March 2019

Appellant: Iscar Ltd.
(Patent Proprietor) P.O. Box 11
24959 Tefen (IL)

Representative: Vossius & Partner
Patentanwälte Rechtsanwälte mbB
Siebertstrasse 3
81675 München (DE)

Respondent: MITSUBISHI MATERIALS CORPORATION
(Opponent) 5-1, Ohtemachi 1-chome,
Chiyoda-ku
Tokyo 100-8117 (JP)

Representative: Hoffmann Eitle
Patent- und Rechtsanwälte PartmbB
Arabellastraße 30
81925 München (DE)

Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 18 January 2016
revoking European patent No. 1711296 pursuant to
Article 101(3) (b) EPC.**

Composition of the Board:

Chairman M. Alvazzi Delfrate
Members: A. Björklund
P. Schmitz

Summary of Facts and Submissions

I. The appeal is directed against the decision of the opposition division posted on 18 January 2016. The opposition division decided that the ground for opposition under Article 100(c) EPC prejudiced the maintenance of the patent and thus revoked the patent.

II. The appellant (patent proprietor) filed an appeal against this decision.

III. Oral proceedings before the Board took place on 15 March 2019.

IV. At the end of the oral proceedings, the requests were as follows:

The appellant requested that the appealed decision be set aside, and that the case be remitted to the opposition division for further prosecution.

The respondent (opponent) requested that the appeal be dismissed.

V. The following document is referred to in the decision:

D9: WO 03/101655

VI. Claim 1 of the patent as granted, with feature references added by the Board, reads:

1 "A double-sided cutting insert (10), for use in a milling cutter, comprising:
2 two identical opposing end surfaces (12) and a peripheral side surface (14) extending therebetween,

3 the peripheral side surface (14) comprising two
opposing identical major side surfaces (18) and
two opposing identical minor side surfaces (16);
4 four spaced apart major cutting edges (34), each
major cutting edge (34) formed at the intersection
of each major side surface (18) with each end
surface (12);
5 four spaced apart minor cutting edges (36), each
minor cutting edge (36) formed at the intersection
of each minor side surface (16) with each end
surface (12); and
6 a primary relief surface (50) adjacent each major
cutting edge (34), wherein
7 in each cross section of the cutting insert (10)
taken in a plane generally perpendicular to the
major side surfaces (18), a line (L, LA, LB, LC)
tangent to each primary relief surface (50)
extending from the major cutting edge (34)
adjacent each primary relief surface (50) is
inclined to a median plane (M) of the cutting
insert (10) at an acute interior angle (α , α_A , α_B ,
 α_C); and wherein
8 each end surface (12) comprises a rake surface
(44) adjacent each major cutting edge (34), the
rake surfaces (44) extending from the major
cutting edges (34) in a generally inward direction
of the cutting insert (10) towards the median
plane (M) to a single inner end surface (46);
9 each end surface (12) has four corners (28, 30),
two diagonally opposed lowered corners (30) and
two diagonally opposed raised corners (28), the
lowered corners (30) being closer to the median
plane (M) than the raised corners (28);
10 each end surface (12) comprises two raised corner
edges (40) and two lowered corner edges (42),

formed by the intersection of corner side surfaces (20) with each end surface (12), the raised corner edges (40) being corner cutting edges, the lowered corner edges (42) being corner cutting edges;

11 each major cutting edge (34) extends between a given raised corner edge (40) and given lowered corner edge (42); and

12 each minor cutting edge (36) extends between a given raised corner edge (40) and given lowered corner edge (42),

wherein:

13 a through bore (22) extends between, and opens out to, the major side surfaces (18),

and **characterized in that:**

14 the single inner end surface (46) of each end surface (12) is flat and the single inner end surfaces (46) of each end surface (12) are parallel to each other, and

15 in each cross section of the cutting insert (10) taken in a plane generally perpendicular to the major side surfaces (18), each inner end surface (46) is closer to the median plane (M) than its two associated major cutting edges (34)."

VII. The appellant argued essentially the following:

In the appealed decision, the opposition division had found literal support for features 8, 14 and 15 in the application as filed but considered that the figures cast doubt on this support. The decision was incorrect since the person skilled in the art would have assessed the content of the drawings in the context of the description and not the drawings on their own.

Disputed features 8, 14 and 15 contained clarifications which did not go beyond the content of the application as filed.

Rake surfaces extending to a flat single inner end surface as required by features 8 and 14 were unambiguously disclosed on page 5, lines 9-12 and 24-25, page 9, lines 5-10 and in claims 4 and 9 of the published application.

Page 9, lines 5-10, and claims 4 and 9 said that the rake surfaces extended to an inner end surface and that, if desired, the respective inner end surfaces on each side of the cutting insert were flat and parallel to each other. However, the intermediate strips shown in, for example, Figures 5A to 5C were not flat and parallel to the intermediate strips on the other side of the cutting insert. Thus, the intermediate strips did not belong to the inner end surface but to the rake surfaces. While it was described that the chips flowed along the rake surfaces during metal cutting, this did not mean that the chips necessarily were in physical contact with the rake surfaces or that the entire rake surface needed to be actively guiding the chips. Furthermore, rake surfaces could have multiple facets as was the case in the embodiment of the contested patent shown in the figures. On the left side of the cross section of Figure 5C, only the intermediate strip was shown and indicated by reference sign 44, which was used for the rake surface. This underlined that the intermediate strips were part of the rake surfaces. That both facets of the rake surfaces were straight or concavely curved as described on page 10, lines 10-11, could be seen in Figures 5A to 5C respectively Figure 7.

Regarding the submission of 24 October 2012 during the examination of the application, cited by the respondent, the appellant (at the time, the applicant) had merely argued how the amended claim differed from the cutting insert of D9 depending upon various possible interpretations of the surfaces shown in Figure 6A of this document. However, this did not mean that the appellant had suggested that these surfaces were a single inner end surface according to features 8 and 14 of the contested patent.

Feature 15 defined that the inner end surfaces were closer to the median plane than the associated major cutting edges at each cross section, but not that this was required also at the cutting corners. The claimed arrangement was disclosed on page 5, lines 9-12, page 9, lines 5-10, as well as in claim 4 of the published application. It was also corroborated by the drawings, in particular Figure 4, where only the rake surfaces but not the inner end surface could be seen.

Since features 8, 14 and 15 had a direct and unambiguous basis in the application as filed, claim 1 of the granted patent did not extend beyond the content of the application as filed. The case should therefore be remitted to the opposition division for further prosecution to consider the ground for opposition under Article 100(a) EPC.

VIII. The respondent argued essentially the following:

Features 8 and 14 required that the rake surfaces extend from the major cutting edges to a single inner end surface which was flat. This was not clearly and unambiguously disclosed in the application as filed.

Rather, the figures showed a cutting insert where the single inner end surface was not flat.

Page 10, lines 10-11, described that the rake surfaces were straight as shown in Figures 5A to 5C or concavely curved as shown in Figure 7. The figures also showed intermediate strips between the rake surfaces 44 and the flat surface 46. Since the intermediate strips as shown in Figures 5A to 5C were not oriented as rake surfaces 44, they were not part of the rake surfaces.

When examining the figures, it should also be taken into account that the drawings were schematic and with certain inaccuracies, as could be seen in Figure 3, where the intermediate strip first disappeared and then reappeared at the lower left corner. The use of reference sign 44 for the intermediate strip in the cross section in Figure 5C was another inaccuracy and did not mean that the intermediate strips belonged to the rake surfaces.

Furthermore, as described on page 9, lines 11-15, during metal cutting, chips flow along the rake surfaces. The chips would not, however, flow along the intermediate strips which were more inclined than the rake surfaces. This underlined the fact that the intermediate strips did not belong to the rake surfaces.

Page 9, lines 5-8, described that the rake surfaces extended to an inner end surface. Since the intermediate strips were not part of the rake surfaces, they had to be part of the single inner end surface.

It must be noted that the appellant itself, during the examination of the application of the patent in points

3.5 to 3.7 of the submission of 24 October 2012, had argued that both groove 62 and deflector 64 of the cutting insert shown on Figure 6A of D9 belonged to the inner end surface. In analogy, the intermediate strips on the figures of the published application of the contested patent belonged to the inner end surface.

Since the inclined intermediate strips seen in the figures were part of the single inner end surface but not flat, the inner end surface was not flat. It followed that rake surfaces extending to a single flat inner end surface as required by features 8 and 14 were not disclosed in the application as filed.

Feature 15 required that the inner end surface be closer to the median plane (M) than its associated major cutting edges in each cross section. While this was true for the cross sections shown in Figures 5A, 5B and 5C, the drawings did not unambiguously show that it was also true for cross sections closer to the lower left corner of the insert seen in Figure 3. Thus, feature 15 was not clearly and unambiguously disclosed in the application as filed.

Claim 1 of the granted patent thus extended beyond the content of the application as filed.

Reasons for the Decision

1. Article 100(c) EPC

The respondent has argued that features 8, 14 and 15 of claim 1 of the granted patent extend beyond the content of the application as filed.

- 1.1 Features 8 and 14 read together require that respective rake surfaces extend from the major cutting surfaces to a single inner end surface of the cutting insert and that this inner end surface is flat.
- 1.1.1 The drawings of the application show surfaces indicated as rake surfaces by reference 44 and surfaces indicated as an inner end surface by reference 46. These surfaces are connected by surfaces called intermediate strips by the parties, which are not indicated by any reference sign in Figures 5A, 5B, 6 and 7, and are not mentioned in the description or the claims. Hence, it cannot be deduced from the drawings alone whether the intermediate strips are part of the rake surface or part of the inner end surface. If the intermediate strips were part of the inner end surface 44, this would not be flat as required by claim 1 of the granted patent.
- 1.1.2 The respondent referred to page 10, lines 10-11 (of the published application). This passage defines that the rake surfaces may be straight as shown in Figures 5A to 5C or concavely curved as shown in Figure 7. Although the intermediate strips shown in these drawings are not oriented as surfaces 44, they are straight (in Figures 5A to 5C) or concave (in Figure 7). Thus, this passage does not clarify whether the intermediate strips belong to the rake surface or to the inner end surface.
- 1.1.3 The fact that the rake surface is a surface along which the (metal) chips flow during cutting also does not clarify whether the intermediate strips belong to the rake surface or to the inner end surface. As described on page 9, lines 11-15 (of the published application), the chips flow along surface 44 and in general continue to flow along at least part of the inner end surface

46. Thus, the chips also flow along, although not necessarily in contact with, the intermediate strips between surfaces 44 and 46.

- 1.1.4 The clarification is provided on page 9 and by claims 4 and 9. Page 9, lines 4-10 (of the published application), states that "rake surfaces 44 extend from the major and minor cutting edges... in an inward direction... to an inner end surface 46." and that "If desired, the inner end surface 46 of each end surface 12 is flat and the inner end surface 46 of each end surface 12 are parallel to each other." Claim 4 of the application reads "...the rake surface (44) extending from the major cutting edges... to an inner end surface", and claim 9 of the published application reads "The cutting insert (10) according to claim 4, wherein the inner end surface (46) of each end surface (12) is flat...".

From these passages, it is clear that each end surface of the cutting insert has one inner end surface and also that the rake surfaces extend to this inner end surface. This is corroborated by the drawings. The use of the word "single" in feature 8 to clarify that there is only one inner end surface does not change anything in this respect. Furthermore, the cited passages explicitly state that this surface is flat.

- 1.1.5 Thus, only surface 46 is the inner end surface, and the intermediate strips shown in the figures belong to the rake surfaces.
- 1.1.6 This is in accordance with the fact that on the left side of Figure 5C, reference sign 44, which consistently indicates the rake surfaces, is used for the intermediate strip.

1.1.7 This finding does not contradict the submissions in the appellant's letter of 24 October 2012 during the examination proceedings. In this letter, the appellant pointed out differences between the claimed cutting insert of the patent application and the cutting insert disclosed in the figures of D9 depending upon various possible interpretations of the different surfaces in the figures, identifying, *inter alia*, the differences which existed when (if) considering surfaces 62 and 64 as an inner end surface. This is, however, not a statement that these surfaces were considered part of the inner end surface by the appellant.

1.1.8 Therefore, the application as originally filed discloses that the intermediate strips are part of the rake surfaces and that the inner end surface is flat.

Thus, feature 8 and 14 are directly and unambiguously derivable from the application as filed.

1.2 Feature 15 requires that "in each cross section of the cutting insert taken in a plane generally perpendicular to the major side surfaces, each inner end surface is closer to the median plane (M) than its two associated major cutting edges".

1.2.1 The respondent has argued that the drawings do not show whether this is fulfilled for all cross sections because the cross sections in Figures 5A to 5C, indicated as V A to V C in Figure 3, do not show all possible cross sections. The major cutting edge nearer to the lower left corner in Figure 3 could in fact be closer to the median plane than the inner end surface.

1.2.2 However, the disclosure of the application is not limited to the drawings. Page 5, lines 9-12, and claim 4 of the application disclose that the rake surface extends from the major cutting edges in a generally inward direction of the cutting insert to an inner end surface, without any further qualifications. Thus, the single inner end surface must be further inward, i.e. closer to the median plane, than the major cutting edges, and this must be true for each cross section.

Consequently, feature 15 is directly and unambiguously derivable from the application as filed.

1.3 Conclusion

Features 8, 14 and 15 are directly and unambiguously derivable from the application as filed.

Consequently, claim 1 of the contested patent does not extend beyond the content of the application as filed.

The ground for opposition under Article 100(c) EPC therefore does not prejudice the maintenance of the patent.

2. Remittal to the opposition division

The appealed decision only concerned the ground for opposition under Article 100(c) EPC. However, the patent was opposed also under the ground for opposition under Article 100(a) EPC.

Hence, in view of the primary object of the appeal proceedings to review the decision under appeal in a judicial manner, the Board considers it appropriate to remit the case to the opposition division for further

prosecution as requested by the appellant (Article 111(1) 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.

The Registrar:

The Chairman:



I. Aperribay

M. Alvazzi Delfrate

Decision electronically authenticated