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**Datasheet for the decision
of 3 December 2020**

Case Number: T 2071/17 - 3.2.01

Application Number: 11161167.9

Publication Number: 2517812

IPC: B23B51/02

Language of the proceedings: EN

Title of invention:

A cutting head comprising a drill tip and a drill having such a cutting head

Patent Proprietor:

SECO TOOLS AB (publ)

Opponent:

Iscar Ltd.

Headword:

Relevant legal provisions:

EPC Art. 52(1), 56

RPBA Art. 12(2), 12(4)

Keyword:

Inventive step main request - (no)

Statement of grounds of appeal - auxiliary requests not substantiated

Decisions cited:

Catchword:



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Case Number: T 2071/17 - 3.2.01

D E C I S I O N
of Technical Board of Appeal 3.2.01
of 3 December 2020

Appellant: SECO TOOLS AB (publ)
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Decision under appeal: **Interlocutory decision of the Opposition
Division of the European Patent Office posted on
12 July 2017 concerning maintenance of the
European Patent No. 2517812 in amended form.**

Composition of the Board:

Chairman J. J. de Acha González
Members: V. Vinci
O. Loizou

Summary of Facts and Submissions

- I. The appeal was filed by the appellant (patent proprietor) against the interlocutory decision of the opposition to maintain the patent in amended form according to Article 101(3)(b) EPC on the basis of the auxiliary request III.
- II. The opposition division decided that the subject-matter of independent claim 1 as granted and as amended according to the auxiliary requests I and II did not meet the requirements of Article 52(1) and 56 EPC in view of the following state of the art:

D1: US 6 270 298 B1

in combination with common general knowledge.
- III. Oral proceedings were held before the Board on 3 December 2020.
- IV. The appellant (patent proprietor) requested that the decision under appeal be set aside and that the patent be maintained as granted (main request) or in the alternative that the patent be maintained in amended form on the basis of one of the auxiliary requests I and II filed with the statement of the grounds of appeal.
- V. The respondent (opponent) requested that the appeal be dismissed.
- VI. Independent claim 1 of the main request, corresponding to claim 1 as granted, reads as follows (numbering of

the features as in the contested decision):

- 1.1 *A cutting head comprising a drill tip (4), the drill tip comprising:*
- 1.2 *a chisel edge (5),*
- 1.3 *at least two main cutting edges (6, 7, 6'), each main cutting edge extending between a central end (8, 9) at said chisel edge and an outer end (10, 11),*
- 1.4 *and a recess (17, 17') associated with each main cutting edge and located at each side of the chisel edge, **characterized in that***
- 1.5 *each said recess (17, 17') comprises a chip breaking groove (18, 18') extending along the main cutting edge (6, 6', 7)*
- 1.6 *spaced from the main cutting edge by a distance (d).*

Independent claim 1 of the auxiliary request I corresponds to claim 1 of the main request amended by introducing the feature:

wherein each said chip breaking groove (18, 18') has a depth (dp) of 0.05-1 mm.

Independent claim 1 of the auxiliary request II corresponds to claim 1 of the auxiliary request I further amended by introducing the feature:

and wherein said chip breaking groove (18, 18') has a width (w) of 0.5-3 mm.

Reasons for the Decision

MAIN REQUEST - PATENT AS GRANTED

Inventive Step: Articles 52(1) and 56 EPC

1. Document D1 is considered to represent the closest prior art. It is not contested that this document discloses a cutting head comprising a drill tip (15) and at least two main cutting edges (16, 25) and a recess (19) associated with each main cutting edge (see for example figures 1, and 8-11).
- 1.1 The appellant contested the conclusion of the opposition division that document D1 discloses a groove in the meaning of features 1.5 and 1.6 of claim 1. When assessing whether a prior art document discloses a feature it has to be determined whether the person skilled in the art would directly and unambiguously derive this subject-matter from the whole disclosure of the prior art document. In the appellant's view, the person skilled in the art would not consider the chip breaker (32) shown in figures 1, and 9 to 11 of D1 to be a "groove" as in the generally accepted meaning that this term normally has in the relevant art, namely "*a long and narrow channel or indentation built into a material*".
- 1.2 The Board is of the opinion that the term "*groove*" is generally understood by the person skilled in the art as meaning a channel or indentation built into the material having a predominant extension in a certain direction. In fact, as correctly pointed out by the respondent, in view of the inherent relative character of the terms "narrow" and "long" present in the definition provided by the appellant, any indentation

extending in one direction more than in the direction perpendicular thereto will fall within the meaning of the term "groove". The Board thus follows the view of the respondent and of the opposition division that an elliptical/oval indentation can be considered to be a "groove" at least in the broad meaning that the person skilled in the art has to give to the wording of claim 1 taking also into account that, as correctly pointed out by the respondent, no particular dimensioning or geometry (for example length, width, shape) of the chip breaking groove is specified in the claim which might distinguishing it from any indentation showing an elongated shape.

- 1.3 The appellant further argued that the element (32) shown in figures 1 and 9 to 11 is only described and defined in D1 as being a "chip breaker" and that no elongate shape thereof can be directly and unambiguously derived from the specification. In this respect the appellant emphasized that, according to established Case Law of the Boards of Appeal, in order to be allowed to derive features solely shown in the drawings, both the structure of the feature and the technical function achieved thereby should be directly and unambiguously derivable from the whole disclosure. In the appellant's view, this is not the case regarding the chip breaker (32) when considering the recognized schematic character of the drawings of a patent application together with the fact that in the representation of figures 9 and 10 the surface (37) in which the chip breaker (32) has been cut into is not orientated perpendicular to the viewing direction but in perspective. It results therefore that the person skilled in the art, on the basis of the drawings only and due to the perspective representation, cannot exclude that the oval or somehow kidney-like shaped

cavity (32) shown in figures 9 and 10 of D1 is in fact a circular cavity thus not falling within the meaning of the term "groove".

- 1.4 The Board does not agree and follows the arguments of the opposition division and of the respondent for the following reasons:

The person skilled in the art, looking at the representation in figures 1 and 9-11 and in view of the inherent functionality of the chip breaker (32) as described in D1, column 2, lines 53-57, concludes that in order to carry out its chip breaking function the chip breaker (32) needs to have a shape mainly extending along the the direction of the cutting edge. This is consistent with the representation in figures 1 and 9-11 showing that the chip breaker (32) has an elliptical or kidney-shape having the longitudinal and greater extension substantially orientated along the cutting edge. The allegation of the appellant that figures 1 and 9-11, in view of the perspective representation, would not exclude that the chip breaker (32) may also have a circular shape that, as such, would not fall within the aforesaid definition of groove, is not convincing because, as explained above, a circular shape would not be consistent with the functionality of a chip breaker which is required, as it is well known in the relevant state of the art, to be shaped and arranged in such a way to prevalently extend in the direction of the cutting lip and to interact with the strip-like chip produced at the cutting edge.

- 1.5 The appellant further argues that it cannot be directly and unambiguously derived from the figures of D1 even in combination with the passage in column 5, lines

52-55, cited by the opposition division and the respondent, that the chip breaker (32) extends "*along the main cutting edge (6, 6', 7) spaced from the main cutting edge by a distance (d)*" according to feature 1.6 of claim 1. The Board disagrees for the following reasons:

- 1.6 As correctly pointed out by the respondent, the wording of claim 1 does not require that the chip breaking groove extends along the whole cutting edge, nor that it is parallel thereto (in other word that the distance (d) is constant). The Board is convinced that on the basis of figures 1, 9 and 11 in combination with the aforementioned passage in column 5 indicating the tangential path to be followed by the cutting tool employed for cutting the chip breaker in the chip former surface, the person skilled in the art would unambiguously and directly derive that the chip breaker of D1 is cut and thus substantially extends along (at least a part of) the cutting edge. This interpretation is fully consistent with and supported by the chip breaker (32) as described and shown in D1.
- 1.7 The Board follows the view of the opposition division that a chisel edge is neither implicitly nor explicitly disclosed in D1. The respondent considered that D1 also disclosed a chisel edge and consequently feature 1.2 of granted claim 1. This question can however be left unanswered, since, as explained in the following, this difference cannot justify an inventive step. The subject matter of claim 1 differs thus from the cutting head disclosed in D1 in the provision of chisel edge according to feature 1.2, said chisel edge being arranged on the drill tip according to features 1.3 and 1.4 of claim 1.

- 1.8 The Board shares the view of the respondent that it is well known in the technical field of the manufacture of drill bit that a chisel edge is provided when it is required to stabilize the drill throughout the cutting process. Moreover, a chisel edge, in combination with a pre-manufactured center hole, achieves a correct positioning and centering of the drill before the main cutting edges begin to cut.
- 1.9 It follows that, starting from D1 as closest prior art, the technical problem to be solved by the contested patent has to be seen in modifying the known drill in order to stabilize the drill throughout the cutting process and to allow a more precise centering of the drill at the beginning of the cutting operation.
- 1.10 The Board concurs with the opposition division and the respondent that, considering as explained above the advantages in terms of stabilisation and centering of the drill achieved by the use a drill with a chisel edge are well known, it would be obvious for the person skilled in the art to modify the geometry of the tip of the drill of D1 by introducing a chisel edge in order to solve the technical problem stated above.
- 1.11 This conclusion is also supported by the statement on column 5, line 47-52 of D1 disclosing the possibility of modifying the geometry of the drill tip shown in figure 8 by providing chip-forming notches which do not extend beyond the axis of rotation. This modification which can be obtained by reducing web thinning will leave enough material between the cutting edges for providing a chisel edge of required length to be determined in view of the use foreseen for the drill. It follows that the provision of a chisel edge cannot add any inventive contribution to the technical content

of D1.

1.12 The appellant argued that D1 relates to a very special kind of 2-flute drill (reference was made to column 1, lines 8-10 and to the figures) where a chisel edge is not required or is at least incompatible with the geometry of this kind of cutting tool. Furthermore, the person skilled in the art would be not encouraged to add a chisel edge in the drill tip of D1 because this prior art document teaches away from or even excludes this possibility.

1.13 These arguments are not convincing for the following reasons:

As correctly observed by the respondent, the fact that D1 does not explicitly mention a chisel edge, or the lack thereof, does not necessarily mean that the person skilled in the art would be taught away from such a solution or that a chisel edge would be disadvantageous or technically inconsistent with the geometry of the drill of D1. In this respect the respondent correctly observed that no passage of D1 supports the allegation of the appellant that a chisel edge is incompatible with the drill disclosed therein or that a chisel edge shall be avoided. On the contrary, the aforesaid passage in column 5, line 47-52 suggests that the geometry of the drill of D1 can be modified in such a way to create sufficient space between the cutting edges for providing a chisel edge. Furthermore, in the Board's view the allegation of the appellant that the provision of a chisel edge is inconsistent with the geometry of a 2-flute drill has not been convincingly proved.

1.14 In view of the reasons given above the Board does not see any reason for deviating from the assessment of the opposition division that the subject-matter of claim 1 does not involve an inventive step in the meaning of Articles 52(1) and 56 EPC with respect to D1 in view of the common general knowledge. The main request is thus not allowable.

AUXILIARY REQUESTS I and II

2. These auxiliary requests correspond to the auxiliary requests I and II underlying the decision under appeal which have been rejected by the opposition division also on the ground of lack of inventive step with respect to D1 in view of common general knowledge. This conclusion is contested by the appellant with the statement of the grounds of appeal.

2.1 The Board notes that the opposition division has recognized that the range specified for the depth and for the width of the chip breaking groove in claim 1 of the auxiliary requests I and II respectively are not disclosed in D1, thereby further limiting the subject-matter of this claim with respect to document D1. However, the opposition division considered these additional features to represent an arbitrary and non inventive selection of a reasonable range of values for the reason that it can be obtained by trial and error by the skilled person and that it does not achieve any surprising technical effects. Further, the opposition division concluded that the additional features regarding the depth and width of the groove could not differentiate the definition of a groove since a groove was not exclusively defined by a specific depth and width.

2.2 According to Article 12(2) RPBA in the version 2007 (Rules of Procedure of the Boards of Appeal OJ EPO 2007, 536) which applies to this appeal according to Article 25 RPBA 2020 (Rules of Procedure of the Boards of Appeal OJ EPO 2019, A63), the statement of the grounds of appeal

"shall set out clearly and concisely the reasons why it is requested that the decision under appeal be reversed, amended or upheld and should specify expressly all the facts, arguments and evidences relied on."

2.3 In the section of the statement of the grounds of appeal relating to the auxiliary request I the appellant merely alleged that the introduction of the addition feature that the chip breaking groove has a depth of 0.05 to 1 mm in claim 1 would clearly distinguish the chip breaking groove of claim 1 from the the allegedly non-circular recess (32) of D1. The same allegation has been submitted with respect to the additional feature that the width of the chip breaking groove is in the range of 0.5 to 3 mm introduced in claim 1 of the auxiliary request II.

2.4 However, the Board is of the opinion that the appellant has neither duly substantiated the allegations above nor has explained as it should in view of Article 12(2) RPBA 2007, why the conclusion of the opposition division that the specific dimensioning of the chip breaking groove introduced in claim 1 does not involve an inventive step in view of D1 in combination with common general knowledge is incorrect. In particular, the appellant has not explained why, unlike the assessment of the opposition division, the additional features introduced in claim 1 of the auxiliary

requests would provide some technical effect contributing to an inventive step with respect to the cited prior art, and why these additional features would alter the allegedly wrong interpretation of the groove that was taken by the opposition division which indeed excluded a circular recess. The same applies to the similar argumentation put forward by the appellant during the oral proceedings before the Board.

- 2.5 According to Article 12(4) last sentence RPBA 2007, *"everything presented by the parties under (1) shall be taken into account by the Board if and to the extent it relates to the case under appeal and meets the requirements in (2)"*.
- 2.6 In view of the above the Board concludes that the auxiliary requests I and II have not been duly substantiated as required by Article 12(2) RPBA 2007 and therefore the submissions brought by the appellant in its statement of grounds of appeal and during oral proceedings in this regard are not taken into account in accordance with Article 12(4) RPBA 2007, last sentence.
- 2.7 The Board has accordingly not been provided with any reason for deviating from the assessment of the opposition division that the subject-matter of claim 1 of the auxiliary requests I and II does not meet the requirements of Article 52(1) and 56 EPC.
- 2.8 In conclusion the appeal is to be dismissed because there are no allowable requests pending.

Order

For these reasons it is decided that:

1. The appeal is dismissed.

The Registrar:

The Chairman:



D. Magliano

J. J. de Acha
González

Decision electronically authenticated