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D E C I S I O N
of 30 November 2004

Case Number: T 0971/02 - 3.2.6

Application Number: 94120429.9

Publication Number: 0722798

IPC: B23B 31/107

Language of the proceedings: EN

Title of invention:

Annular cutter connecting apparatus and annular cutter

Patentee:

Nitto Kohki Co., Ltd.

Opponent:

K. K. Miyanaga

Headword:

-

Relevant legal provisions:

EPC Art. 54, 56, 112(1)(a), 123(2), 123(3)

Keyword:

"Extension of protection (no) "

"Added subject-matter (no) "

"Novelty (yes) "

"Inventive step (no) "

"Referral (no) "

Decisions cited:

G 0001/99, T 0056/87, T 0845/90, T 0939/92

Catchword:

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Case Number: T 0971/02 - 3.2.6

D E C I S I O N
of the Technical Board of Appeal 3.2.6
of 30 November 2004

Appellant:
(Opponent)

K. K. Miyanaga
2393 Fukui, Miki-shi
Hyogo 673 - 04 (JP)

Representative:

Patentanwälte Maxton & Langmaack
Postfach 51 08 06
D-50944 Köln (DE)

Respondent:
(Proprietor of the patent)

Nitto Kohki Co., Ltd.
2-9-4, Nakaikegami
Ota-ku
Tokyo (JP)

Representative:

Geyer, Ulrich F., Dr. Dipl.-Phys.
Wagner & Geyer
Patentanwälte
Gewürzmühlstraße 5
D-80538 München (DE)

Decision under appeal:

Interlocutory decision of the Opposition
Division of the European Patent Office posted
20 June 2002 concerning maintenance of European
patent No. 0722798 in amended form.

Composition of the Board:

Chairman: H. Meinders
Members: G. Pricolo
J. H. van Moer

Summary of Facts and Submissions

I. By decision dated 20 June 2002 the Opposition Division maintained European Patent 0 722 798 in amended form.

The Opposition Division considered that the claims of the main, first and second auxiliary requests complied with the requirements of Article 123(2) and (3) EPC. However, claim 1 according to the main and the first auxiliary request did not fulfil the requirements of Article 84 EPC. The patent as amended in accordance with the second auxiliary request met the requirements of the EPC. In particular, the subject-matter of claim 1 was novel and presented inventive step over:

E1: EP-A-0 556 713.

Of the documents filed in the opposition proceedings the following are relevant for the present decision:

E3: US-A-3 747 946,

E4: GB-A-2 131 915,

E8: US-A-4 452 554.

II. Against this decision the Appellant (Opponent) filed an appeal on 26 August 2002, paying the appeal fee on that same date. The statement of grounds of appeal was filed by the Appellant on 30 October 2002, stating that the claims as upheld by the Opposition Division did not comply with the requirements of Articles 123(2) and (3) EPC and that the subject-matter of claim 1 of these claims did not present inventive step.

Of the new documents filed with the statement of grounds of appeal the following is relevant for the present decision:

E11: DE-A-3 727 799.

The Respondent (Patentee) submitted further arguments in support of the claims as maintained by the Opposition Division.

III. The Board issued a communication dated 9 September 2004, giving its preliminary opinion on the questions of clarity and allowability of the amendments (Articles 84 and 123 EPC) as well as of inventive step (Article 56 EPC).

With letters of 28 October 2004 and 18 November 2004 the Respondent replied thereto with a set of claims according to a main and an auxiliary request. The appellant did not react to this communication.

IV. Oral proceedings were held on 30 November 2004.

The Appellant requested setting aside of the decision under appeal, the referral of a question to the Enlarged Board of Appeal and revocation of the patent.

The Respondent requested rejection of the request to refer a question to the Enlarged Board of Appeal and as sole request maintenance of the patent on the basis of the following documents:

Claims 1-10 as filed at the oral proceedings,

Description,

pages 2 to 7 with inserted pages A and B filed at the oral proceedings,

Drawings, figures 1-3 filed at the oral proceedings, figures 4-17 as granted.

V. The wording of claim 1 as granted is as follows (taken from the "Druckexemplar" in the file, for the proper indentations):

"1. An annular cutter connecting apparatus which comprises:

an arbour (101) including cylindrical one end portion (111) having an outer diameter, a central bore (102) and a plurality of holding holes (112) arranged circumferentially in said one end portion (111); locking members (113) received in said holding holes (112) for connecting an annular cutter to the arbour (101) and

a sleeve (118) surrounding said one end portion (111) of said arbour (101) and provided with:

- (a) a first control face (119) having an inner diameter equal to said outer diameter of said one end portion (111) of said arbour (101), for extending said locking members (113) from said holding holes (112) by a predetermined length into said central bore (102) when said first control face (119) engages said locking member (113); and
- (b) second control faces (120) for receiving said locking members (113) in such a manner that said locking members (113) are held in said holding holes (112) in a state in which said locking

members (113) are cleared off said central bore (102) of said arbour (101), that said first control face (119) and said second control faces (120) are arranged so that said locking members (113) selectively engage said first control face (119) and said second control faces (120), and that, upon connecting, to said arbour (101), an annular cutter (130A, 130B, 130C, 130D) having an outer peripheral surface and locking member passing means (133,135), said locking members (113) are made engaged with depressed locking member receiving portions (134A, 134B, 134C, 134D) formed in or on said locking member passing means (133, 135), characterised in that said second control faces (120) are formed in said first control face (119) and arranged circumferentially thereof; said locking member passing means (133, 135) is formed on said outer peripheral surface and is made to pass through regions of said locking members (113) and further comprising a supporting member (114) provided axially movably in said central bore (102) of said arbour (101) and provided on one end of said supporting member (114) with an annular neck (116) for receiving said locking members (113); and spring means (115) provided in said central bore (102), for setting said supporting member (114) in a position in which said annular neck (116) receives said locking members (113)."

The wording of claim 6 as granted is as follows:

"A combination of an annular cutter connecting apparatus according to claim 1 and an annular cutter wherein said annular cutter comprising a substantially cylindrical blade portion (131) having one end, a shank portion (132A, 132B, 132C, 132D) having a lateral side and two ends and coaxially connected at one of said two ends to said one end of said blade portion (131), locking member passing means (133, 135) formed on said lateral side of said shank portion (132A, 132B, 132C, 132D), and depressed locking member receiving portions (134A, 134B, 134C, 134D) formed in said side of said shank portion (132A, 132B, 132C, 132D) and in or at said locking member passing means (133, 135) characterised in that means (153) for passing a locking member of a conventional annular cutter connecting apparatus is provided on said outer peripheral surface of said shank portion (132D) between two adjacent ones of said flat portions (133)."

VI. The wording of independent claim 1 according to the Respondent's request is as follows:

"A combination of an annular cutter connecting apparatus and an annular cutter, said annular cutter connecting apparatus comprising:
an arbour (101) including cylindrical one end portion (111) having an outer diameter, a cylindrical central bore (102) and a plurality of holding holes (112) radially extending through said one end portion (111) and arranged circumferentially in said one end portion (111);

locking members (113) received and radially movable in said holding holes (112) for connecting an annular cutter (130A, 130B, 130C, 130D) to the arbour; and a sleeve (118) surrounding said one end portion (111) of said arbour (101) and provided with:

- (a) a first control face (119) having an inner diameter equal to said outer diameter of said one end portion (111) of said arbour (101), for extending said locking members (113) from said holding holes (112) by a first predetermined length into said central bore (102) when said first control face (119) engages said locking members (113); and
- (b) second control faces (120) for receiving said locking members (113) in such a manner that said locking members (113) are held in said holding holes (112),

said second control faces (120) being positioned radially outwardly relative to said first control face (119) and adapted to engage with said locking members (113) in such a manner that the locking members (113) are allowed to retract from said central bore (102) in such a manner that said locking members (113) extend from said holding holes (112) by a second predetermined length which is less than said first predetermined length into said central bore (102) of said arbour (101), said sleeve (118) being rotatable around its axis between a first position and a second position so that said first control face (119) engages with said locking members (113) when said sleeve (118) is positioned at said second position, upon connecting an annular cutter (130A, 130B, 130C, 130D) to said arbour (101) by inserting into said central bore (102) of said arbour (101) a shank (132A, 132B, 132C, 132D) of said

annular cutter having an outer peripheral surface, said locking members (113) being made engaged with depressed locking member receiving portions (134A, 134B, 134C, 134D) arranged circumferentially and formed in said outer peripheral surface,

wherein

spring means (124) is provided between said arbour (101) and said sleeve (118) to urge said sleeve (118) towards said first position;

said sleeve (118) is adapted to be moved to said first position by said spring means (124) when said locking members (113) are engaged with said depressed locking member receiving portions (134A, 134B, 134C, 134D), whereby said first control face (119) engages with and positively secures the corresponding locking members (113) in said depressed locking member receiving portions (134A, 134B, 134C, 134D) so that said shank (132A, 132B, 132C, 132D) is prevented from rotating and axially moving in said cylindrical bore (102), said second control faces (120) are formed in said first control face (119) and arranged circumferentially thereof;

locking member passing means (133, 135) is formed on outer peripheral surface of said shank (132A, 132B, 132C, 132D) to enable said shank to enter into said central bore (102) said locking member passing means (133, 135) is made to pass through regions of said locking members (113) engaged by said second control faces (120) and extending into said central bore (102); a supporting member (114) is provided axially movably in said central bore (102) of said arbour (101) and provided on one end of said supporting member (114) with an annular neck (116) for receiving said locking members (113) engaged by said second control face (120)

and extending into said central bore (102) when said shank (132A, 132B, 132C, 132D) of said annular cutter (130A, 130B, 130C, 130D) is not inserted in said central bore (102);
spring means (115) is provided in said central bore (102), for setting said supporting member (114) in a position in which said annular neck (116) receives said locking members (113); said annular cutter comprising a substantially cylindrical blade portion (131) having one end, a shank portion (132A, 132B, 132C, 132D) having a lateral side and two ends and coaxially connected at one of said two ends to said one end of said blade portion (131), locking member passing means (133, 135) formed on said lateral side of said shank portion (132A, 132B, 132C, 132D) and depressed locking member receiving portions (134A, 134B, 134C, 134D) formed in said locking member passing means (133, 135); and said locking member passing means comprises flat faces (133) formed on and arranged circumferentially of said side of said shank portion (132A, 132B, 132C), and said depressed locking member receiving portions (134A, 134B, 134C) are formed in said flat faces (133)."

The wording of independent claim 8 is as follows:

"A combination of an annular cutter connecting apparatus and an annular cutter, said annular cutter connecting apparatus comprising:
an arbour (101) including cylindrical one end portion (111) having an outer diameter, a cylindrical central bore (102) and a plurality of holding holes (112) radially extending through said one end portion (111) and arranged circumferentially in said one end portion (111);

locking members (113) received and radially movable in said holding holes (112) for connecting an annular cutter (130A, 130B, 130C, 130D) to the arbour; and a sleeve (118) surrounding said one end portion (111) of said arbour (101) and provided with:

- (c) a first control face (119) having an inner diameter equal to said outer diameter of said one end portion (111) of said arbour (101), for extending said locking members (113) from said holding holes (112) by a first predetermined length into said central bore (102) when said first control face (119) engages said locking members (113); and
- (d) second control faces (120) for receiving said locking members (113) in such a manner that said locking members (113) are held in said holding holes (112),

said second control faces (120) being positioned radially outwardly relative to said first control face (119) and adapted to engage with said locking members (113) in such a manner that the locking members (113) are allowed to retract from said central bore (102) in such a manner that said locking members (113) extend from said holding holes (112) by a second predetermined length which is less than said first predetermined length into said central bore (102) of said arbour (101), said sleeve (118) being rotatable around its axis between a first position and a second position so that said first control face (119) engages with said locking members (113) when said sleeve (118) is positioned at said first position and said second control faces (120) engage with said locking members (113) when said sleeve (118) is positioned at said second position, upon connecting an annular cutter

(130A, 130B, 130C, 130D) to said arbour (101) by inserting into said central bore (102) of said arbour (101) a shank (132A, 132B, 132C, 132D) of said annular cutter having an outer peripheral surface, said locking members (113) being made engaged with depressed locking member receiving portions (134A, 134B, 134C, 134D) arranged circumferentially and formed in said outer peripheral surface,

wherein

spring means (124) is provided between said arbour (101) and said sleeve (118) to urge said sleeve (118) towards said first position;

said sleeve (118) is adapted to be moved to said first position by said spring means (124) when said locking members (113) are engaged with said depressed locking member receiving portions (134A, 134B, 134C, 134D), whereby said first control face (119) engages with and positively secures the corresponding locking members (113) in said depressed locking member receiving portions (134A, 134B, 134C, 134D) so that said shank (132A, 132B, 132C, 132D) is prevented from rotating and axially moving in said cylindrical bore (102), said second control faces (120) are formed in said first control face (119) and arranged circumferentially thereof;

locking member passing means (133, 135) is formed on outer peripheral surface of said shank (132A, 132B, 132C, 132D) to enable said shank to enter into said central bore (102) said locking member passing means (133, 135) is made to pass through regions of said locking members (113) engaged by said second control faces (120) and extending into said central bore (102); a supporting member (114) is provided axially movably in said central bore (102) of said arbour (101) and

provided on one end of said supporting member (114) with an annular neck (116) for receiving said locking members (113) engaged by said second control face (120) and extending into said central bore (102) when said shank (132A, 132B, 132C, 132D) of said annular cutter (130A, 130B, 130C, 130D) is not inserted in said central bore (102); spring means (115) is provided in said central bore (102), for setting said supporting member (114) in a position in which said annular neck (116) receives said locking members (113); said annular cutter comprising a substantially cylindrical blade portion (131) having one end, a shank portion (132A, 132B, 132C, 132D) having a lateral side and two ends and coaxially connected at one of said two ends to said one end of said blade portion (131), locking member passing means (133, 135) formed on said lateral side of said shank portion (132A, 132B, 132C, 132D) and depressed locking member receiving portions (134A, 134B, 134C, 134D) formed in said locking member passing means (133, 135); and said locking member passing means comprises a cylindrical guide portion (135) having a smaller outer diameter than said shank portion (132D) and formed on the outer end of said shank portion (132D), an annular step portion (136) in which said depressed locking member receiving portions (134D) is defined between said shank portion and said guide portion (135)."

VII. The question to be referred to the Enlarged Board of Appeal reads as follows:

"Stellt eine Ergänzung eines ursprünglich erteilten Gegenstands, der einen ersten unabhängigen Anspruch gerichtet auf eine Vorrichtung und einen zweiten

nebengeordneten Anspruch gerichtet auf die Kombination aus Vorrichtung gemäß des ersten Anspruchs und eines angekoppelten Bauteils aufweist,

- eine unzulässige Erweiterung gemäß Artikel 123 (3) EPÜ,
- eine Erweiterung des Schutzbereiches nach Artikel 69 EPÜ oder
- ein *Aliud* dar,

und ist daher unzulässig,

wenn der erste Anspruch auf die Vorrichtung und das angekoppelte Bauteil als Kombination im Einspruchsverfahren ausgerichtet wird, aber nicht gleichzeitig alle Merkmale des ursprünglich erteilten zweiten Anspruchs bezüglich der Kombination aufweist?".

In a free translation by the Board this reads:

Does the addition of a feature to originally granted subject-matter in the form of a first independent claim relating to an apparatus and a second, dependent claim relating to the combination of the apparatus of the first claim supplemented with a further constructional part constitute:

- an inadmissible extension according to Article 123(3) EPC,
- an extension of protection pursuant to Article 69 EPC or
- an *aliud*,

and is therefore inadmissible,

when in opposition proceedings the first claim is directed to the apparatus combined with the further constructional part, but does not at the same time disclose all features of the originally granted second claim concerning the combination?

VIII. The arguments of the Appellant can be summarized as follows:

Claims 1 and 8 as now requested (and for the same reasons claims 1 and 9 as upheld by the Opposition Division) did not comply with the requirements of Article 123(3) EPC. A perfectly feasible technical feature ("locking means are held in said holding holes in a state in which said locking members **are cleared off the central bore**" (emphasis added by the Board)) had been replaced by a feature no longer requiring the locking means to be cleared off the central bore, i.e. no longer at or outside of the inner perimeter the central bore, but **extending into the bore**.

Together with the further qualification that this extension was by a second predetermined length which was less than the first predetermined length which the locking members extended into the central bore when in contact with the first control face, an *aliud* was now claimed, contrary to the requirements of Article 123(3) EPC.

Further, independent claim 1 as granted related to an annular cutter connecting apparatus **as such** and independent claim 6 related to the combination of the annular cutter connecting apparatus of claim 1 together with a specific annular cutter. Present claim 1 now related to a combination of an annular cutter connecting apparatus with an annular cutter, however without the specific features of the cutter as claimed in claim 6 as granted. Thus an *aliud* was created, contrary to the requirements of Article 123(3) EPC,

resulting in a cutter with **different** features being brought under the protection conferred by the patent.

In this respect, the proposed question should be referred to the Enlarged Board of Appeal, as this was a situation to which Decision G 1/99 (OJ EPO 2001, 381) could not readily be applied. This decision would see more and more application in practice, thus the proposed question was important enough to be resolved.

A further objection pursuant to Article 123(3) EPC had to be made in respect of the feature that the sleeve was "**rotatably** surrounding said one end portion". This had been amended to simply read: "surrounding said one end portion", i.e. the location of where the sleeve was rotatable was no longer part of claim 1.

In any case, there was no basis for many of the amendments carried out in respect of the claims, before grant as well as in opposition proceedings (Article 123(2) EPC).

Closest prior art for the discussion of inventive step was the connecting apparatus of the drill disclosed in E1, which was not limited to accommodating the adapter shown in E1, but could also accommodate an annular cutter with a shank having a cylindrical locking member passing means as claimed in present claim 8, which shank was identical to the shank of the adapter discussed in E1. In fact, E8 showed that annular cutters usually had a cylindrical shank with a locking member receiving portion on the peripheral surface of the shank.

The combination of the teaching of E1 with that of either E3 or E11, which would be obvious to the skilled person, resulted in the subject-matter of present claims 1 and 8.

In its written submissions the Appellant further referred to E4 for the feature of the spring urging the rotatable sleeve towards the first (locking) position for lack of inventive step of claim 3 as granted, which involved such a spring.

IX. The Respondent argued as follows:

The design of the arbour and the locking members of claim 1 which the Appellant alleged to be perfectly feasible did not make technical sense:

- the supporting member would not be capable of receiving the locking members in a state where they were cleared off from the central bore, unless its neck had protrusions extending into longitudinal grooves in the central bore to receive the locking members, which was contradictory to it having an annular neck;
- if the locking member passing means on the peripheral surface of the shank of the cutter were to pass the locking members, which were "cleared off the central bore" according to claim 1 as granted, the central bore needed longitudinal grooves to receive locking member passing means in the form of spline-shaped protrusions on that peripheral surface of the shank.

In the present case, where statements in the claim were clearly contradictory or made no technical sense, Article 69 and its Protocol on Interpretation should be employed to establish the extent of protection of the claim as granted, so as to be able to examine whether that was extended by any amendments (Article 123(3) EPC).

The combination as presently claimed in claim 1 complied with Article 123(3) EPC. The request for referral of a question to the Enlarged Board of Appeal should be rejected; by formulating it as a general question the Appellant intended to have a specific factual question, the answer to which depended on the circumstances of the case, decided upon by the Enlarged Board of Appeal, which was not the purpose of a referral.

The added features of the annular cutter in claims 1 and 8 clarified its arrangement in the combination and limited the annular cutter further.

In a combination of the teachings of E1 with either E3 or E11 there would still be the following features missing, thus the result of the combination of these teachings could not be the combination as presently claimed in claim 1 or claim 8:

- the sleeve rotatable between two positions,
- the spring means between arbour and sleeve.

Neither E3 nor E11 offered any indication to the solution provided by the combination of either claim 1 or claim 8.

Reasons for the Decision

1. The appeal is admissible.
2. *Amendments in respect of claim 1 as granted (Articles 123(2) and (3) EPC)*

Present claim 1 consists of claim 1 according to the second auxiliary request as filed in the opposition proceedings and upheld by the Opposition Division, with further amendments carried out in the appeal proceedings.

- 2.1 Claim 1 has been amended in the opposition proceedings in respect of claim 1 as granted by the replacement of the feature:

"second control faces said locking members are held in said holding holes in a state in which said locking members are **cleared off said central bore** of said arbour ..." (emphasis has been added and reference signs have been left out by the Board),

by the feature "the second control faces said locking members are held in said holding holes, said second control faces ... being adapted to engage with said locking members in such a manner that the locking members are allowed to retract from said central bore in such a manner that said locking members **extend from**

**said holding holes by a second predetermined length
into said central bore of said arbour ...".**

- 2.2 The Appellant objected against this amendment by which the locking members were no longer cleared off the central bore, but could now extend into the central bore.

The granted version of claim 1 provided an arrangement of the locking members which was technically perfectly feasible; it did not contain inconsistencies and needed therefore no interpretation nor clarification.

The outer peripheral surface of the shank of the annular cutter could have been provided with longitudinal spline-shaped locking member passing means, which could "pass through regions of the locking members if these were cleared off the central bore", as claimed. It only needed corresponding grooves in the central bore or an outer diameter of the spline-shaped locking member passing means which corresponded to the inner diameter of an ungrooved central bore of the arbour, to accommodate such a shank.

Further, the translations of the claims into the two other official languages used the same expression; these had been supplied by the Respondent, thus must have had its approval, so must have expressed what it intended to claim.

- 2.3 The Board does not agree with the Appellant; a skilled person making technical sense of the wording of claim 1 will not come up with the arrangement the Appellant considers feasible.

Firstly, the annular neck of the supporting member as claimed cannot receive said locking members if these would be "cleared off" the central bore (i.e. would not extend into the central bore), since the annular neck by definition has a diameter smaller than the central bore. The spring means provided in the central bore and cooperating with the supporting member would furthermore push it out of the central bore.

Secondly, providing longitudinal spline-shaped locking member passing means on the outer cylindrical surface of the shank of the cutter as suggested by the Appellant is a complicated arrangement, compared with a normal cylindrically shaped shank.

Thirdly, if the suggested longitudinal spline-shaped locking member passing means had an outer diameter corresponding to the inner diameter of the central bore the entire support for the shank of the annular cutter would have to rely on the outer spline surfaces, which is not a technically favourable solution.

Fourthly, providing not only individual longitudinal splines on the outer cylindrical surface of the shank, but also corresponding longitudinal grooves in the central bore is an even more complicated arrangement.

Such arrangements would not immediately spring to mind of the skilled person making normal technical sense of the wording of claim 1 as granted.

- 2.4 The translation of the claims as granted into the two other official languages of the EPO not forming the

authentic text of the patent pursuant to Article 70(1) EPC to be decided upon by the Board, the arguments of the Appellant based on those translations need not be gone into.

- 2.5 If the wording of a claim as granted does not make technical sense to the skilled reader, it has to be determined what is the object of such a claim, so as to determine its extent of protection and thus examine whether it is extended by an amendment, contrary to Article 123(3) EPC.

The Board is of the opinion that claim 1 as granted does not comply with the requirements of Article 84 EPC as it is unclear and inconsistent in respect of the manner in which the locking members are held in the holding holes, being on the one hand "cleared off" the central bore and on the other hand being "received by an annular neck of a supporting member which is axially movable in the central bore". Further, the locking member passing means being formed on the outer peripheral surface of the annular cutter, passing through regions of the locking members, make no sense if the locking members do not extend into the central bore.

- 2.6 In this case the claim needs to be interpreted in the light of the description and the drawings of the patent as granted, according to Article 69 EPC and its Protocol.

- 2.6.1 The description of the patent in suit does not mention anywhere the locking members as being "cleared off the central bore". In actual fact, all references to the

position of the locking members in respect of the central bore, when they are received by the second control faces, indicate that they extend to a certain predetermined length into the central bore:

Firstly, column 6, lines 35-47 refer to the cylindrical supporting member 114 being axially slidably fitted in the central bore having an annular neck 116 with a smaller outer diameter than the remaining part of the outer peripheral wall (of the supporting member) for receiving the locking members ("fixing balls") which "partially project from the holding holes 112 toward the central bore".

This is the position they occupy when there is no shank of an annular cutter inserted, i.e. when the locking members are in contact with the second control faces (according to column 7, lines 13-24). In this passage it is referred to figure 4 which shows the locking members extending into the central bore.

From the description (in particular column 6, line 35 to column 7, line 24 and column 9, line 35 to column 10, line 12) and the drawings (in particular figures 4, 7-10), it further results that in the waiting position, with no annular cutter shank being present in the bore, the locking members extend into the central bore by a predetermined length E when in contact with the second control faces, E being the depth of the annular neck 116 (the latter having a smaller diameter than the supporting member 114, i.e. a smaller diameter than the central bore 102).

Secondly, the locking member passing means are either disclosed as flat faces 133 on the cylindrical shank in embodiments 1-3 discussed in column 7, line 38 - column 8, line 33, or as a cylindrical guide portion 135, discussed in column 8, lines 34-55, with a diameter smaller than the diameter of the shank of the annular cutter. If these are to pass through regions of the locking members (which on that occasion are in contact with the second control faces) when the shank is introduced into the arbour (see column 9, lines 37-51), the locking members have to extend into the central bore.

- 2.6.2 Thus it is to be concluded that the characterization, in granted claim 1, of the position of the locking members, when received by the second control faces, as being "cleared off the central bore" is incorrect and has to be interpreted differently, namely that the locking members "extend to a predetermined length into the central bore".

This may be an *aliud*, i.e. something different from what has been granted as claim 1, however, in the opinion of the Board it is the only acceptable interpretation of the subject-matter of this claim, applying the principles of Article 69 EPC and its Protocol.

- 2.7 As regards this feature, the Appellant further argued that the presently claimed extension into the central bore by the locking members by a "first" predetermined length, when in contact with the first control face, and a "second" predetermined length, when in contact with the second control faces, the second predetermined

length being smaller than the first predetermined length, was not in accordance with the requirements of Article 123(3) EPC.

- 2.7.1 Under point 2.6 the Board has set out why it considers that the feature "cleared off the central bore" is incorrect and has to be interpreted as meaning "extend to a predetermined length into the central bore", taking due account of the description and the drawings of the patent as granted.
- 2.7.2 Upon insertion of the shank of an annular cutter (see the passages of the patent in suit referred to above) the locking members cannot move radially outwardly, as they rest against the second control faces. The sleeve is in its second position. The shank can only be introduced with its locking member passing means being positioned opposite the locking members, the latter rolling thereon. As soon as the locking members receiving portions (which lie radially inward of the locking member passing means on the shank of the annular cutter) reach the locking members, the locking members are freed and can move radially inwardly. The sleeve with the first and second control faces rotates due to the return spring to the first position with the first control face engaging the locking members and pushing them into the locking member receiving portions on the shank. By nature, the distance the locking members now extend into the central bore is larger than the distance by which the locking members were extending into the central bore when in contact with the second control faces. Thus the predetermined length of the extension of the locking members into the bore when received by the second control faces can be

- qualified a second predetermined length which is less than the first length which they extend into the bore when in contact with the first control face.
- 2.7.3 The above interpretation of the subject-matter of claim 1 as granted "extend into the central bore to a predetermined length" now being further specified, thus limited, by the relationship between the first and second predetermined length of extension of the locking members into the central bore, this wording complies with the requirements of Article 123(3) EPC.
- 2.8 The corresponding basis for the above interpretation (point 2.6.2) as well as the above further limitation (point 2.7.2) in the original application documents, for the purposes of Article 123(2) EPC, can be found on page 10, line 33 - page 11, line 9; page 11, line 33 - page 12 line 8; page 12, line 23 - page 14, line 27 and figures 4, 7-10.
- 2.9 The Appellant further argued that in claim 1 as granted the sleeve was "rotatably surrounding said one end portion", whereas in present claim 1 the sleeve was simply "surrounding said one end portion", i.e. the location of where the sleeve was rotatable was no longer part of claim 1.

The Board notes, however, that according to present claim 1 the sleeve is "rotatable around its axis so that said first control face engages with said locking members ... ", that this first control face is "for extending said locking members from said holding holes" and that these holding holes are "radially extending through said one end portion".

From this wording of present claim 1 it is thus evident that the sleeve is rotatably surrounding said one end portion, as in claim 1 as granted.

2.10 The Appellant finally argued that present claim 1 related to a **combination of an annular cutter connecting apparatus and an annular cutter**, in contrast to claim 1 as granted which related **only to an annular cutter connecting apparatus**. Thus an annular cutter was now benefiting from protection, being included in the combination.

Only claim 6 as granted, incorporating the annular cutter connecting apparatus of claim 1, related to such a **combination**. However, the **annular cutter** mentioned in that claim further comprised the features: "means (153) for passing a locking member of a conventional annular cutter connecting apparatus is provided on said outer peripheral surface of said shank portion (132D) between two adjacent ones of said flat portions (133)".

These features were not claimed for the annular cutter in the present combination of claim 1, contrary to Article 123(3) EPC. Thus present claim 1 represented an *aliud* when compared with the subject-matter of claim 6 as granted.

2.10.1 Claim 1 as granted relates to an annular cutter connecting apparatus and comprises features of an annular cutter as follows:

"... and that, upon connecting, to said arbour (101), an annular cutter (130A, 130B, 130C, 130D) having an

outer peripheral surface and locking member passing means (133, 135), said locking members are made engaged with depressed locking member receiving portions (134A, 134B, 134C, 134D) formed in or on said locking members passing means (133, 135), .."

in the preamble, and

"... said locking member passing means (133, 135) is formed on said outer peripheral surface and is made to pass through regions of said locking members (113) ..",

in the characterising portion.

Therefore claim 1 as granted, due to the mention that an annular cutter is connected to the annular cutter connecting apparatus ("... upon connecting, to said arbour (101), an annular cutter (130A, 130B, 130C, 130D)..") in actual fact is for an annular cutter connecting apparatus (with the features recited in claim 1) **combined** with an annular cutter, the latter having only the features:

- an outer peripheral surface and locking member passing means formed on that outer peripheral surface, passing through regions of the locking members when the annular cutter is connected to the arbour of the annular cutter connecting apparatus,
- depressed locking member receiving portions formed in or on said locking member passing means, engaging with the locking members when the annular

cutter is connected to the arbour of the annular cutter connecting apparatus.

2.10.2 The subject-matter of present claim 1 involves a **combination** of an **annular cutter connecting apparatus**, which in any case is more limited in its features than the annular cutter connecting apparatus of claim 1 as granted (see above, point 2.7.2, and below, point 2.11), with an **annular cutter** with the features as defined above. However this annular cutter has the **additional limiting features** of:

- a substantially cylindrical blade portion having one end,
- a shank portion having a lateral side and two ends and coaxially connected at one of said two ends to said one end of said blade portion,
- locking member passing means comprising flat faces formed on and arranged circumferentially of said side of said shank portion,
- the locking member receiving portions being formed in said flat faces.

These features further limiting the **annular cutter** of the combination as claimed in claim 1 as granted, there cannot be a question of extension of protection (Article 123(3) EPC).

2.10.3 The basis for these features in the original application documents (Article 123(2) EPC) is to be found as follows:

- the annular cutter comprising the substantially cylindrical blade portion to which a shank portion with a lateral side is connected with one of its ends, the locking member passing means being provided on that lateral side: claim 7 as filed and page 12, line 23 - page 13, line 14 of the original description.
- the locking members comprising flat faces with the locking member receiving portions being formed therein: page 12, line 23 - page 13, line 33.

2.10.4 Claim 1 as granted needs no interpretation with respect to the features of the annular cutter or of the combination of the annular cutter with the annular cutter connecting apparatus, by taking account of the description and drawings (see point 2.9.2 above), thus there is no question of the application of Article 69 EPC and its Protocol.

2.10.5 The Board agrees with the Appellant that the subject-matter of claim 1 **differs from that of granted claim 6**, i.e. represents an *aliud* when compared with the subject-matter of that claim, as the annular cutter in the combination with the annular cutter connecting apparatus according to present claim 1 does not involve the means for passing a locking member of a conventional annular cutter connecting apparatus.

However, as set out above, for present claim 1 it is the **combination in claim 1 as granted** which determines the extent of protection conferred by the patent, and thus the allowability of this amendment, **not claim 6**.

2.11 For the purposes of Article 123(2) EPC, the basis for the further amendments to claim 1 can be found at the following locations in the application as filed:

- the cylindrical central bore: page 9, line 22;
- the holding holes radially extending through the one end portion: figures 4, 5, 8, 10;
- the second control faces positioned radially outwardly relative to said first control face: figures 8 and 10; it further follows from the fact that the second predetermined length is less than the first predetermined length (see above);
- the second control faces adapted to engage with said locking members in such a manner that the locking members are allowed to retract from the central bore: this follows from the reverse operation of the sleeve, against the return spring, to free the annular cutter, as is described on page 18, lines 12-31;
- the sleeve being rotatable between a first and a second position, the first control face being in contact with the locking members when the sleeve is in the first position, the second control faces being in contact with the locking members when the sleeve is in the second position: page 11, line 33 to page 12, line 20 and page 15, line 31 - page 16, line 10;

- the locking member receiving portions being formed in the outer peripheral surface of the shank: if according to claim 1 as originally filed, the locking member passing means are arranged on the outer peripheral surface of the shank and the locking member receiving portions are formed in the locking member passing means, the locking member receiving portions are by nature formed in the outer peripheral surface of the shank;
- the shank being enabled to enter the central bore by passing the locking members engaged by the second control faces and extending into the central bore before the shank is inserted in the central bore: page 12, lines 1-8, page 16, lines 11-34 and figure 4;
- the second control faces receiving the locking members such that they are held in the holding holes: claim 1 as originally filed;
- the spring means being provided between the arbour and the sleeve: claim 2 as originally filed.

These features further limiting the annular cutter connecting apparatus of claim 1, also the requirements of Article 123(3) EPC have been met.

2.12 The Appellant also argued that the arrangement of the return spring had only been originally disclosed in the more limited arrangement of figure 8. Further, the only disclosure of the overall arrangement was with three locking balls, three holding holes and the particular shank of figure 4. Claims 1 and 8 should therefore be

limited to only such an embodiment so as to comply with the requirements of Article 123(2) EPC.

2.12.1 The Board cannot agree with the Appellant in this:

Claim 2 as originally filed provides sufficient basis for the presently claimed arrangement of the spring means, which is not limited to the embodiment of figure 8.

2.12.2 It cannot be derived from the application as originally filed that **only three locking balls** and thus the particular shank of figure 4 have been envisaged:

The second control faces are not limited to three, see original page 11, lines 23-26 and dependent original claim 5, thus also the number of locking members is not limited to three. The original description of the invention on page 7, lines 2-31 uses both the general term "locking members" and the more specific term "balls"; claim 1 as originally filed mentions the general "locking members"; the "balls 113" are mentioned as exemplary for the locking members on page 10, lines 22 and 23 of the originally filed description; in general, for annular cutter connecting apparatuses balls are mentioned only as possible locking members, see page 1, line 30.

2.13 The wording of independent claim 8 differs from present claim 1 only in that the last feature of claim 1:

"said locking member passing means comprises flat faces (133) formed on and arranged circumferentially of said side of said shank portion (132A, 132B, 132C), and said

depressed locking member receiving portions (134A, 134B, 134C) are formed in said flat faces (133)"

is replaced in claim 8 by the feature:

"said locking member passing means comprises a cylindrical guide portion (135) having a smaller outer diameter than said shank portion (132D) and formed on the outer end of said shank portion (132D), an annular step portion (136) in which said depressed locking member receiving portions (134D) is defined between said shank portion and said guide portion (135)".

The basis (Article 123(2) EPC) for these further limiting features (Article 123(3) EPC) to the annular cutter of the combination as claimed in claim 1 as granted is to be found in claim 12 as originally filed and page 14, lines 6 - 22 of the description as originally filed.

The other amendments to claim 8 being the same as for claim 1, the reasoning given above for these amendments applies equally to claim 8.

- 2.14 The amendments to the description bring it into line with present claims 1 and 8 (Article 84 EPC) and relate to the discussion of the closest prior art, E1, for the purposes of Rule 27(1)(b) EPC, thus are not objectionable either.

3. *Request to refer a question to the Enlarged Board of Appeal (Article 112 EPC)*

3.1 The Board cannot refer the Appellant's question to the Enlarged Board of Appeal. It may have been formulated as a general question of law involving three subquestions, it consists, however, of questions of fact because the answers to these subquestions cannot be a simple "yes" or "no", but are for each: "it depends on the circumstances of the particular case".

Questions of fact cannot be referred to the Enlarged Board of Appeal pursuant to Article 112(1) EPC (see also decisions T 845/90, reasons 2.3, not published in OJ EPO, and T 939/92, reasons 4.1, OJ EPO 1996, 309); they should be answered by the competent Board itself, as has been done above.

3.2 The patent as held allowable by the Opposition Division not being inadmissibly amended (see above, point 2), there is no need for application of the principles of Decision G 1/99 (*supra*). Therefore in the present case the practical necessity of the referral, argued by the Appellant to be based on this decision, does not exist.

4. *Reformatio in peius*

Claim 1 (and claim 8 in the same respects) as upheld by the Opposition Division having been further limited by the features of:

- the second control faces receiving the locking members such that they are held in the holding holes;

- the spring means being provided between the arbour and the sleeve,

there is no situation resulting in the Opponent as sole Appellant being put in a worse position than if he had not appealed (*reformatio in peius*).

5. *Novelty (Article 54 EPC)*

Novelty of the subject-matter of claims 1 and 8 was not an issue between the parties; the Board has verified that none of the available documents on its own discloses all features of these claims.

6. *Inventive step (Article 56 EPC)*

The Board considers that closest prior art for the discussion of inventive step is E1 as supported by the parties. The arrangement of the shank of the adapter shown in E1 and its cylindrical locking member passing means more closely resemble the shank of the annular cutter in the combination of independent claim 8, therefore the Board will discuss inventive step in detail only with respect to that claim.

6.1 The combination of claim 8 differs from the arrangement of the arbour of the drill and the adapter mounted thereon as shown and discussed in E1, by the following features:

- (a) the mounting of an annular cutter onto the arbour instead of an adapter, the first mentioned having

a substantially cylindrical blade portion coaxially connected to one end of its shank,

- (b) the first control face of the sleeve having an inner diameter equal to the outer diameter of the end portion,
- (c) a plurality of second control faces formed in the first control face and arranged circumferentially thereof,
- (d) the sleeve being rotatable around its axis between a first position (with the first control face engaging the locking members) and a second position (with the second control faces engaging with the locking members), spring means being provided between the arbour and the sleeve to urge the sleeve towards the first position.

6.2 The discussion on inventive step can concentrate on features (b), (c) and (d), taking - for the sake of argument - the Appellant's position that instead of the shank of the adapter also such a shank of an annular cutter, as claimed in claim 8, could be introduced into the bore of the arbour shown and discussed in E1.

The arbour of the drill of E1, when used with an annular cutter as claimed in claim 8 instead of the adapter shown, has the disadvantage (see patent in suit, column 3, lines 37-42 and column 4, lines 37-40) that the sleeve 8 for freeing the locking balls 7 from the shank 14 inserted into the arbour 4 and for having the locking balls engage the depressed locking receiving portions 13 in the shank is an **axially** movable sleeve,

which can sometimes be pushed up by metal cuttings against the urging force of the compression spring 11, thus inadvertently loosening the shank of the annular cutter. The same can happen with the sleeve and the arbour of the prior art drill as mentioned in the patent in suit (and shown in figures 1 and 2): JP-A-6 274 515.

The features (b), (c) and (d) of the annular cutter connecting apparatus of claim 8 solve this problem by providing the sleeve as a **rotatable** sleeve, urged by spring means towards the first position in which the locking members engage with the locking receiving portions on the shank of the annular cutter.

The features (b) and (c) have the additional advantage of making the sleeve more compact.

- 6.3 It is true that the drill arbour discussed in E3 has a rotatable sleeve for having the locking members engage the locking receiving portions on the shank of a cutting tool.

Contrary to the sleeve as claimed in claim 8, this sleeve is, however, rotated by hand as well as finally by wrench to have the locking members engage (and in reverse order) disengage the locking member receiving portions. There is no spring urging that sleeve to the first position.

Further, the first control faces making the locking members engage do not have an inner diameter equal to the outer diameter of the end portion of the arbour, the second control faces are therefore not formed in

the first control face nor are they arranged circumferentially of the first control face, as now claimed.

Thus the Board can only conclude that E3 does not provide the skilled person with indications to modify the axially actuatable sleeve on the arbour of the drill of E1 to a rotatable sleeve with a first control face and second control faces arranged in the first control face, the sleeve being **spring urged** into a closing position, as claimed in claim 8.

6.4 Moreover, following the line of argumentation of the Appellant, by which the drill arbour disclosed in E1 was not necessarily limited to be used with the adapter (and thus resulting in the problem regarding metal cuttings pushing up the sleeve of the drill arbour and thus loosening the shank in that arbour) the Board notes that the skilled person, using the drill of E1 with an annular cutter inserted into the arbour of the drill and confronted with that problem, has the solution to the problem directly at hand: E1 teaches to use an **adapter** inserted with its shank into the arbour of the drill, the adapter shielding the axially movable sleeve 8 from any metal cuttings. Starting from the drill discussed in E1 the skilled person has no need to search for solutions to this problem elsewhere.

6.5 E8 relates only to an annular cutter and does not provide any indication to lock such a cutter into the arbour of an annular cutter connecting apparatus with a spring loaded rotatable sleeve.

E11 shows an axially movable sleeve actuating locking members, thus does not provide any indication to the rotatable sleeve arrangement of the annular cutter connecting apparatus by which claim 8 differs from the connecting apparatus disclosed in E1.

- 6.6 The Appellant argued that the sleeve 8 of the drill head disclosed in E1 was also rotatable, in view of the disclosure in column 5, lines 46-49. There it is mentioned that the sleeve could be rotated to bring the locking balls at a position in which they could engage the locking member receiving portion on the shank of the adapter.

The Board agrees that the sleeve is described in the indicated passage as being rotatable. However, this is a rotation relative to the drill housing, not relative to the arbour, as is the case for the annular cutter connecting apparatus of claim 8.

If the sleeve 8 is rotated the arbour rotates with it, as the locking balls 7 are on the one hand received in the pockets 15 of the sleeve and on the other are held in the holding holes 6 of the arbour. Thus there is no rotation of the sleeve in respect of the arbour between a first and a second position.

- 6.7 For the sake of completeness: E4 discloses a rotatable sleeve which is spring loaded towards a first position in which the locking members engage a groove in the shank of a tool inserted in the central bore. However, this arrangement is only disclosed in combination with a tool shank construction entirely different from the

one claimed in claim 8 for the shank of the annular cutter:

the shank is not cylindrical; there is not a plurality of locking member receiving portions, only one single groove is present in the shank; finally, locking member passing means are lacking.

It is established case law of the Boards of Appeal that the technical disclosure in a prior art document should be considered in its entirety, as it would be done by a person skilled in the art. It is not justified arbitrarily to isolate parts of such document from their context in order to derive from them technical information which would be distinct from or even in contradiction with the integral teaching of the document (see T 56/87, OJ EPO 1990, 188, Reasons point 3.1). E4 therefore cannot provide indications for the design of the annular cutter shank as presently claimed in claim 8.

6.8 To the combination of claim 1, involving an annular cutter with a shank of a design which differs from the one involved in claim 8, E1 provides even less indications.

Hence, the Board comes to the conclusion that the subject-matter of claims 1 and 8 cannot be derived in an obvious manner from the prior art and accordingly involves an inventive step (Article 56 EPC).

The subject-matter of claims 2-7 and 9 and 10 relate to preferred embodiments of the combinations of an annular cutter connecting apparatus and an annular cutter of

claims 1 and 8 respectively, thus their subject-matter also is novel and involves inventive step.

The patent can therefore be maintained according to the request of the Respondent.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the first instance with the order to maintain the patent on the basis of the following documents:

Claims 1-10 as filed at the oral proceedings,

Description,

pages 2 to 7 with inserted pages A and B filed at the oral proceedings,

Drawings, figures 1-3 filed at the oral proceedings, figures 4-17 as granted.

The Registrar:

The Chairman:

M. Patin

H. Meinders