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**Datasheet for the decision
of 12 November 2012**

Case Number: T 2184/09 - 3.2.06

Application Number: 01301146.5

Publication Number: 1177847

IPC: B23B 31/08

Language of the proceedings: EN

Title of invention:

Tap holder

Patentee:

Tapmatic Corporation

Opponent:

Eugen Fahrion GmbH & Co.

Headword:

-

Relevant legal provisions:

EPC Art. 123(2), 123(3), 54
RPBA Art. 13(1)

Relevant legal provisions (EPC 1973):

EPC Art. 100 (c), 56

Keyword:

"Grounds for opposition - added subject-matter (yes)"
"Admissibility of auxiliary requests 1 to 3 - prima facie
allowable (no)"
"Admissibility of auxiliary request 4 - prima facie allowable
(yes)"
"Inventive step (yes)"

Decisions cited:

-

Catchword:

-



Case Number: T 2184/09 - 3.2.06

D E C I S I O N
of the Technical Board of Appeal 3.2.06
of 12 November 2012

Appellant: Eugen Fahrion GmbH & Co.
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Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 25 August 2009
rejecting the opposition filed against European
patent No. 1177847 pursuant to Article 101(2)
EPC.

Composition of the Board:

Chairman: M. Harrison
Members: T. Rosenblatt
W. Sekretaruk

Summary of Facts and Submissions

I. This appeal lies from the decision of the opposition division, by which the opposition filed against the European patent No. 1 177 847 was rejected.

II. Claim 1 of the patent as granted has the following wording:

*"A tap driver for rigid tapping, the tap driver comprising:
a tap driver body (2) comprising:
a shank portion (2a) at a first end of the tap driver body, the shank portion being configured to be secured to a tapping machine;
a chuck portion (2c) at a second end of the tap driver;
and
a central body portion (2b) between the shank portion and the chuck portion, the central body portion having a predetermined axial compressibility in response to forces imparted on the tap driver during tapping;
characterised in that
the predetermined axial compressibility of the central body portion is provided in the circumferential surface of the central body portion."*

III. The prior art referred to by the appellant (opponent) relevant to the present decision is

E4 : EP-A-0 614 020,
E5 : DE-A-43 07 497,
E6 : SU-837581,
E7 : DE-A 197 25 950.

- IV. Oral proceedings before the Board were held on 12 November 2012.
- V. The appellant requested that the decision under appeal be set aside and that the European patent No. 1 177 847 be revoked.
- VI. The respondent requested that the appeal be dismissed or the European patent be maintained on the basis of one of auxiliary requests 1 or 2, both filed 12 October 2012, or on the basis of one of auxiliary requests 3 or 4 (claims 1-5, description columns 1-7, each filed 12 November 2012, together with drawings Fig. 1-6 as granted).
- VII. The entire characterising portion of claim 1 as granted has been replaced in claim 1 of the auxiliary requests 1 to 4, respectively, by the following wording:

(a) Auxiliary request 1

"characterised in that the circumferential surface of the central body portion is machined to provide the predetermined axial compressibility of the central body portion in the circumferential surface of the central body portion."

(b) Auxiliary request 2

"characterised in that the circumferential surface of the central body portion is cut into to provide the predetermined axial compressibility of the central body portion."

portion in the circumferential surface of the central body portion."

(c) Auxiliary request 3

"characterised in that the central body portion is cut into around the circumference to provide the predetermined axial compressibility of the central body portion."

(d) Auxiliary request 4

"wherein helical coils have been cut into the central body portion around the circumference to provide the predetermined axial compressibility of the central body portion, characterised in that the shank portion (2a), the chuck portion (2c) and the central body portion (2b) are integrally formed."

VIII. The arguments of the appellant may be summarised as follows

(a) The feature that the predetermined axial compressibility should be provided in the circumferential surface of the central body portion constituted an unallowable generalisation of the embodiments disclosed in the application. These only had helical coils, a honeycomb area or an O-ring as features providing the required compressibility of the central body portion. The expression "circumferential surface" was nowhere disclosed and the only basis for similar terminology could be found on page 7, line 8, which disclosed however helical coils around the

circumference. The added feature covered also annular cuts in radial planes, or embodiments in which the axial compressibility was obtained by whatever method of treatment of the central body portion. The expression did not even require that the feature providing the compressibility had a radial depth going through the entire wall thickness of the central body portion as disclosed with respect to the helical coil and honeycomb area.

- (b) The amendments to claim 1 of the auxiliary requests 1 to 3 still constituted generalisations of the embodiment of Figure 2 for which the passage on page 7, lines 7 to 10 or the embodiment of Figure 7 did not provide any support; a helical coil was still not defined. These requests were thus *prima facie* not allowable.

- (c) Auxiliary request 4 should not be admitted into the proceedings. It was filed at a very late stage. The Board's objections had already been made clear long before. It also did not fulfil the requirements of Article 123 EPC. The deletion of "circumferential surface" lead to an extension of the scope of protection and not all features of the embodiment were included in the claim. The subject-matter of claim 1 was furthermore not inventive. E6 disclosed a tap driver for rigid tapping. The features in the characterising portion of claim 1 according to auxiliary request 4 provided for an alternative construction of the known device. The skilled person always aimed at simplifying a particular design, in particular

reducing the number of its components, thereby simplifying the assembly and reducing costs. E4 and E5, both relating to similar devices, were examples indicating that the skilled person in this technical field would have known that the number of components in tool holders could be reduced by forming them integrally. The subject-matter of claim 1 was thus obvious.

IX. The respondent's arguments may be summarised as follows.

- (a) The feature in question in granted claim 1 was based on the preferred embodiments, in particular those of Figures 2 and 7. The application thereby disclosed two embodiments in which the axial compressibility could be provided by either helical coils or a honeycomb area, so that the skilled person would have recognised that the exact structure as well as the way of forming it was not essential. Applying the three step test according to the Guidelines Part H-V 3.1.2 with respect to the features disclosed in the passage on page 7, lines 7 to 10, confirmed that the helical coil was not an essential feature and could be omitted. It was moreover clear in view of the entire disclosure that the claim language did not cover features which were only machined to a limited radial depth in the central body portion, so that there was no difference between the wording used in that passage on page 7, i.e. "*cut into the body around the circumference*", and the expression used in the claim "*circumferential surface of the central body portion*".

- (b) The amendments in the auxiliary requests 1 to 3 were *prima facie* allowable because they replied to the outstanding objections in defining that the axial compressibility was obtained by machining or by cutting in the respective auxiliary requests 1 and 2. The third auxiliary request in which the expression "*circumferential surface*" had been replaced by wording from page 7, lines 7 to 10, should be admitted because this objection was not raised by the appellant in its grounds of appeal and not clearly expressed in the Board's communication either. The amendment made in auxiliary request 3 clearly addressed this issue and overcame it.
- (c) Auxiliary request 4 should be admitted into the proceedings. It addressed all points made up to that time and was *prima facie* both novel and inventive. The amendment to claim 1 was almost literally relying on page 7, line 7 to 10, and comprised in addition the features of granted claim 10. E6 did not disclose a tap driver body which comprised integrally formed shank, chuck and central body portions. The skilled person faced with the objective problem to provide an alternative tap driver for rigid tapping would not have considered E4 or E5 since they dealt with devices used in different fields. In any case it would not have been obvious to modify the particular structure of the tap driver of E6 so as to form the body integrally.

Reasons for the Decision

1. *Main request - Article 100(c) EPC 1973*

1.1 Claim 1 as originally filed specifies that the central body portion has a predetermined axial compressibility. The added feature in the characterising portion of claim 1 of the patent in suit defines the location where this compressibility is provided on the central body portion, namely "*in the circumferential surface*" thereof. This feature is not defined in any of the claims as originally filed and also not mentioned in any of the general description (pages 1 to 3, bottom of page 13 to page 15). The respondent referred instead to the preferred embodiments as a basis for the added feature. It needs to be established whether this feature taken in isolation from the other features of the preferred embodiments is directly and unambiguously derivable from the application as filed, and if so, whether it may be added to the more general wording in claim 1 as filed.

1.2 The application as filed discloses three embodiments of a tap driver for rigid tapping. In respect of the first embodiment of the tap driver according to Figure 2 it is stated on page 7, lines 7 to 10: "*In the central portion 2b of the tap driver body 2, helical coils 5 have been cut into the body around the circumference to provide a spring or tension and compression properties (and limited lateral flexure) different or dissimilar from that in the shank portion 2a and chuck portion 2c.*". Throughout the remaining paragraphs concerning this embodiment, only helical coils cut or machined into the tap driver body are mentioned (see also page 8,

lines 5/6, or original method claim 10). The meaning of the wording "*helical coil cut (or machined) into the body*" can only be understood in the sense that the cutting or machining process has been performed through the entire wall thickness of the central body portion, since this results in a "helical coil" being formed, which must have an exterior and an interior surface, rather than referring merely to a helical groove which is of limited radial depth (in the wall of that body portion). This is also entirely in line with the corresponding drawings and was not contested by the respondent.

In the second embodiment illustrated in Figure 7, the predetermined axial compressibility is realised by a honeycomb or matrix configuration, instead of a helical coil. From Figure 7 it may be derived that this structure extends around the circumference of the central body portion and the apertures therein are formed through the entire wall thickness of the central body portion.

The third embodiment of a tap driver illustrated in Figure 8 relates to an entirely different construction not falling under the scope of claim 1, as was also acknowledged by the opposition division in the impugned decision (item 5.5 of the reasons). This was also not contested by the respondent.

In summary, in the first and second embodiments the required axial compressibility is obtained respectively by a helical coil or a honeycomb area, respectively, which both are formed around the circumference of the

central portion and extend entirely through the wall thereof.

- 1.3 The respondent could not indicate any literal basis in the application as filed for the expression "*circumferential surface*". Rather the respondent argued that this expression had the same meaning as the term "*circumference*" found in line 8 of page 7. Both expressions taken in the respective context in which they are employed, i.e. in the granted claim and in the application as filed, however have a different meaning. The addition of the term "surface" changes the location which is defined. Granted claim 1 encompasses embodiments in which the corresponding structural feature, for example a helical coil, extends around the body's circumference, from its surface through the entire wall thickness of the body portion, as illustrated in Figure 2. It encompasses also embodiments in which the feature providing for the compressibility is only machined to a limited, i.e. superficial, depth in the circumferential surface of the body. That this latter interpretation is technically reasonable in this context is evident from the disclosure of e.g. E7, in which an axial compressibility is achieved by an annular groove (limited depth) in the surface of a body portion filled with some elastomeric material. The expression employed in granted claim 1 is thus much broader than what was originally disclosed. In the absence of any indication in the application as filed which would support such generalisation, the resulting subject-matter extends beyond the content of the application as filed.

1.4 The abovementioned feature of granted claim 1 is furthermore not limited to helical coils or to a honeycomb or matrix structure of the respective Figures 2 or 7. Instead it covers other structures, for example annular grooves or segmented annular cuts in the tap driver body's wall. The respondent referred to the three step test for intermediate generalisations as it is set out in the EPO Guidelines for Examination (June 2012) in Part H - Chapter V 3.2.1. It appears questionable whether that test is applicable at all in the present case, since the added feature, i.e. the provision of the axial compressibility in the circumferential surface, is not disclosed at all in the application as filed. Thus, it cannot be established whether such an undisclosed feature is inextricably linked to some feature of an embodiment. If it were assumed for the sake of argument that the added feature is interpreted to mean "axial compressibility provided in the body (throughout the entire wall) around the circumference", the argument that the helical coil of the embodiment of Figure 2 would not be inextricably linked to it, is anyway unconvincing. It is the very helical coil cut into the body around the circumference in the embodiment of Figure 2 (in Figure 7 it is the honeycomb or matrix structure) which provides for the predetermined axial compressibility. The helical coil cut into the body is therefore inextricably linked to the feature according to which the axial compressibility is provided around the body's circumference or, using the words of the claim, "in the circumferential surface" of the central body portion. Consequently, when considering the disclosure provided by the embodiment of Figure 2, the feature "helical coil cut into the body" may not be omitted. The fact

that a second embodiment (Figure 7) is disclosed is not sufficient to omit a definition of the structure by which the axial compressibility is achieved.

- 1.5 The feature defined in the characterising portion of granted claim 1 is hence far more general than what can be derived from the disclosure in respect of the embodiments of Figures 2 and 7. It covers structures, including for example annular or segmented cuts extending around the circumference in a radial plane, or structures which are not even "cut into" the central portion in the above sense, but which may be formed by whatever method, such as casting or moulding, only to a superficial extent in the circumferential surface of the central portion.

The subject-matter of granted claim 1 therefore extends beyond the content of the application as filed so that the ground of opposition under Article 100(c) EPC 1973 prejudices the maintenance of the patent as granted.

2. *Auxiliary requests 1 to 3 - Article 13(1) RPBA*

- 2.1 These auxiliary requests were all filed after the respondent's reply to the grounds of appeal. According to Article 13(1) of the Rules of Procedure of the Boards of Appeal (RPBA) they constitute amendments which may be admitted and considered at the Board's discretion. At least when considering the requirement of procedural economy in Article 13(1) RPBA, for an amended request to be admitted, it should be *prima facie* allowable, at least in the sense that it overcomes the raised objections without introducing any further objection.

- 2.2 In independent claims 1 of auxiliary requests 1 and 2 it is specified in addition to the features of granted claim 1 that the circumferential surface of the central body portion is machined or cut into. This however does not exclude that the corresponding structure is only provided with a limited radial depth in the circumference of the central body portion, nor are the claims limited to helical coils or a honeycomb area, so that the former objections still apply. In claim 1 of auxiliary request 3 the expression "*circumferential surface*" was replaced by wording based on the passage on page 7, line 8. The feature "*helical coils*" which the Board considers inextricably linked to the added feature of that embodiment, is still missing. Therefore none of these amendments had the potential to overcome the objections present in the main request.
- 2.3 Auxiliary requests 1 to 3 were thus not *prima facie* allowable, so that the Board exercised its discretion under Article 13(1) RPBA not to admit them into the proceedings.
- 2.4 The respondent's argument that the objection with respect to the expression "*circumferential surface*" was not raised by the appellant in its grounds and not clearly expressed in the Board's communication either, does not alter the foregoing conclusions. It is also irrelevant whether that specific objection was raised initially by the appellant (it anyway being noted that this was the case) or whether it was fully understood by the respondent from the Board's communication, since the request was not admitted because it did not also overcome the objection with respect to the feature

"*helical coils*". Moreover, this request was submitted during the oral proceedings after the detailed discussion of the main request. The omission of the feature "*helical coils*", which was clearly mentioned by the appellant in its grounds, had been discussed extensively by the parties and the Board had already stated with respect to the main request its opinion that it did not consider this omission from the passage on page 7 allowable. When filing this request during the oral proceedings, the respondent was therefore aware that any amendment to claim 1 based on this cited passage without this feature would not be allowable and could not have expected that such a request would be admitted.

3. *Auxiliary request 4 - Amendments*

3.1 In claim 1 of the fourth auxiliary request the features derived from page 7, lines 7 to 10, and from granted claim 10 were added together with the feature that the axial compressibility is provided "*in the circumferential surface*" being deleted. The Board finds that the amendment meets the requirements of Articles 84 EPC 1973 and 123(2), (3) EPC.

3.1.1 The appellant considered that the omission of the expression "*circumferential surface*" contravened the requirement of Article 123(3) EPC. The feature "*helical coils have been cut into the central body portion around the circumference*" constitutes however a limitation of the scope of protection compared to the scope of granted claim 1 which is clearly allowable under this provision. Helical coils as specified now in claim 1 have to be considered as a structure which

extends throughout the entire wall thickness of the central body portion, presenting an outer and an interior surface. The helical coil is thus not only cut into the circumferential surface, but extends all the way through the body. The limitation of the scope of protection provided by the feature "circumferential surface" is thus still in claim 1, but limited further by the replacement definition. It excludes thereby embodiments, like helical grooves, which are cut only to a limited radial depth in the circumferential surface of the body.

3.1.2 The appellant also objected that the passage on page 7, lines 7 to 10, was not added in its entirety, so that the requirement of Article 123(2) EPC was allegedly not met. The Board considers that the further statements contained in this passage are however implicit in the combination of features in claim 1. The skilled person would commonly understand that the different portions of a tap driver are formed of rigid material, unless it is expressively stated otherwise. Since the central body portion comprises a helical coil cut into it around the circumference to provide a predetermined axial compressibility therein, the skilled person would therefore understand in the present context that this portion's compressibility is different or dissimilar from that of the adjacent shank and chuck portions.

3.2 The amendments to claim 1 overcome all previous objections and do not introduce any new. The request is therefore *prima facie* allowable. Neither the appellant nor the Board considered the subject-matter of this request too complex to be handled during the oral proceedings either. Thus, the Board exercised its

discretion under Article 13(1) RPBA to admit auxiliary request 4 into the proceedings, even though it was filed at the latest possible stage in the proceedings.

3.3 The respondent adapted the description, the Figures and the remaining claims to amended claim 1 of auxiliary request 4. The Board is satisfied that the relevant requirements of EPC are also met in this respect and the appellant made no objection to these specific amendments.

4. *Auxiliary request 4 - Novelty and inventive step*

4.1 Document E6 discloses (see the sole Figure) a tap driver suitable for rigid tapping comprising a shank portion (1), a chuck portion (4) and a central body portion (5) comprising a helical coil cut into it around its circumference, as defined in the preamble of claim 1 of auxiliary request 4. The central body portion is formed as a bushing which has, in a central region, the helical coil. At its upper end the bushing is attached to the shank portion by screws clamping a mandrel which extends from the shank portion through the bushing. At its lower end the bushing is fixed by screws to a cylindrical extension of the chuck portion. The mandrel is received in an opening formed in this cylindrical extension. In the initial phase of tapping, the tap driver acts as a rigid body, the bushing rigidly holding or clamping the mandrel, both transmitting torque and forward feed to the tap via the chuck portion. During tapping the torque acting on the tap, chuck portion and bushing increases the interior diameter of the helical coil. As a consequence, the mandrel and coil do not act anymore as a rigid body, so

that the coil may, similar to a spring, compensate for axial (and lateral) deviations between forward feed and the pitch of the tapped thread.

- 4.2 The subject-matter of claim 1 differs from the known tap driver of E6 only by the feature that the three body portions are integrally formed. The subject-matter of claim 1 is thus new within the meaning of Article 54(1) and (2) EPC 1973. The appellant also did not dispute this
- 4.3 In the absence of any particular technical effect achieved by this distinguishing feature, an objective technical problem to be solved, starting from E6 as the closest prior art, may be seen as being the provision of an alternative tap driver for rigid tapping.
- 4.4 The Board finds that the combination of features according to claim 1 is not obvious to the skilled person in view of the cited prior art and common general knowledge, so that its subject-matter involves an inventive step (Article 56 EPC 1973).

Although it may be conceded that the skilled person is always concerned with the simplification of a certain design and/or the reduction of the number of its components, thereby considering also whether and which components may potentially be integrally formed, it would however not have been obvious to integrally form the bushing, shank and chuck portions of the tap driver in E6 because this would have required a complete redesign. In particular, integrally forming the bushing and the shank portion with its mandrel extending through the bushing so as to provide for an initial

rigid coupling of coil and mandrel, its dynamic widening under torque and their resulting independent relative movement, goes beyond common practice and exceeds the common general knowledge of the skilled person. E4 and E5 do not give any hint in relation to such a problem since the devices disclosed therein do not show any such complex interacting features. Thus, whilst these each disclose tools where a multi-part or integral structure can be selected as desired (see e.g. E4, column 3, lines 18 to 22, or E5, claim 3), these structures are not comparable to the structure in E6.

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 with the order to maintain the European patent with the following documents:
 - claims 1-5 and description columns 1-7, filed as auxiliary request 4 on 12 November 2012,
 - drawings Fig. 1-6 as granted.

The Registrar

The Chairman

B. Atienza Vivancos

M. Harrison