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**Datasheet for the decision
of 23 January 2014**

Case Number: T 0616/12 - 3.2.06

Application Number: 05750221.3

Publication Number: 1758710

IPC: B23Q17/22

Language of the proceedings: EN

Title of invention:
CUTTING TOOL ADJUSTMENT SYSTEM

Patent Proprietor:
Rigibore Limited

Opponent:
KOMET GROUP GmbH

Headword:

Relevant legal provisions:
EPC 1973 Art. 54, 56, 84

Keyword:
Novelty - (yes)
Inventive step - (yes)
Grounds for opposition
clarity objection against a combination of granted claims
(inadmissible) - (Reasons 1.2)

Decisions cited:

Catchword:



**Beschwerdekammern
Boards of Appeal
Chambres de recours**

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Case Number: T 0616/12 - 3.2.06

D E C I S I O N
of Technical Board of Appeal 3.2.06
of 23 January 2014

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Decision under appeal: **Interlocutory decision of the Opposition
Division of the European Patent Office posted on
9 January 2012 concerning maintenance of the
European Patent No. 1758710 in amended form.**

Composition of the Board:

Chairman: M. Harrison
Members: M. Hannam
W. Sekretaruk

Summary of Facts and Submissions

I. An appeal was filed by the appellant (opponent) against the interlocutory decision of the opposition division which found that European patent No. 1 758 710 in an amended form met the requirements of the EPC. In support of its request to revoke the patent, the appellant submitted arguments under Articles 84, 54 and 56 EPC. In support of a prior use for an M042 head adjustment system, the following documents *inter alia* were cited:

- E1 Komet - "Feinbearbeitung mit direktem Meßsystem, Info M042", 12/93
- E5 Drawing Nos. PM042002200, PM042002204 and PM04002205
- E12.6 Declaration of Mr E Hasselkuss, dated 2 November 2011
- E12.7 Declaration of Mr E Hasselkuss, dated 2 December 2011

II. The Board issued a summons to oral proceedings including a communication containing its provisional opinion, in which it indicated *inter alia* that the objection under Article 84 EPC appeared inadmissible. The Board further identified which features in both claim 1 and the M042 prior use might require discussion regarding the issue of whether the subject-matter of claim 1 was novel (Article 54 EPC).

III. Oral proceedings were held before the Board on 23 January 2014, during which the appellant filed a single sheet (numbered as E13 by the Board):

E13 annotated figures of the patent and of the prior use in E5

The appellant requested that the decision under appeal be set aside and that the European patent No. 1 758 710 be revoked. The respondent (proprietor) requested that the appeal be dismissed.

IV. Claim 1 of the main request reads as follows (with alphabetic paragraph annotation added by the Board for ease of reference):

'A cutting tool adjustment system comprising

- a) a body (10) for adjustably holding a cutting tool (10a),
- b) adjustment means (17;23;29) mechanically releasably engageable with the body (10) for positionally adjusting a cutting edge of the cutting tool (10a),
- c) wherein the cutting tool adjustment system further comprises means (19,20;30,31) electronically releasably engageable with the body (10) and
- d) including power supply means for at least powering means providing information (21;28) as to adjustment made, in use, to said cutting edge position by said adjustment means (17;23;29), characterised in that
- e) the adjustment means (17;23;29) is fitted to the means (12;13;30,31) electronically engageable with the body (10) to define an adjuster tool (14;22;25).'

V. The appellant's arguments may be summarised as follows:

E5 disclosed feature b) of claim 1 by way of a plug ('Binder-Stecker') which was insertable into, and

removable from, a socket 29 in the tool head of the M042 system, which tool head contained a servo motor 31, whereby power and a control signal was delivered through the plug. Through connection of a computer with the tool head via the plug and the RS-232 interface cable, the servo motor was driven and the position of the tool was also registered. The claimed mechanical engagement had solely to be with the body 10, not with the adjusting screw 11.

Feature c) of claim 1 was also known from the RS-232 interface cable connection since, via the plug, this provided electronic releasable engagement for the tool head with a computer control.

In this M042 system, power was provided via the plug to allow positional information of the tool to be gathered as described in feature d) of claim 1. Furthermore feature e) was also disclosed through the computer being connected to the RS-232 interface cable which thus defined an adjuster tool combining the adjustment means with the electronically engageable means.

The M042 system further disclosed adjustment means through the servo motor interacting with pins 1 and 2 of the Binder plug. It furthermore disclosed separate means electronically releasably engageable with the body through pins 4 and 5 of the plug. It was implicitly clear that pins 1 and 2 could operate in isolation of pins 4 and 5 since only pins 1 and 2 were required to activate the servo motor. From the figures of the patent, similarly to the case in the M042 system, it was clear that the mechanical and electrical means were always simultaneously engaged; engagement of the mechanical means was not possible separately from engagement of the electrical means.

The patent in suit also covered the case in which both the adjustment means and the means electronically releasably engageable with the body comprised common elements (see E13). Pins 1, 2, 4 and 5 of the Binder plug thus anticipated the adjustment means of claim 1, pins 4 and 5 the means electronically releasably engageable with the body.

As an alternative attack on the novelty of the subject-matter of claim 1, the RS-232 interface cable could be considered as disclosing feature b), the wireless connection providing the electronically engageable means of feature c) as well as the power supply of feature d) and the PC combining the two different means into an adjuster tool as required in feature e). The M042 system thus deprived the subject-matter of claim 1 of novelty (Article 54 EPC).

The subject-matter of claim 1 lacked an inventive step when starting from the M042 system and combining this with the general knowledge of the skilled person. When trying to solve the technical problem of simplifying the known cutting tool adjustment system, the skilled person would have arrived at a simpler open loop control by separating the function of pins 1 and 2 from that of pins 4 and 5, particularly since all hardware requirements for such a modification were already present in the M042 system. A hint was even given towards this simpler control, since this open loop control capability would have been a well-known substitute for the identical manual adjustment of the cutting head achieved using the allen key, thus merely automating the manual adjustment which was already there.

VI. The respondent's arguments may be summarised as follows:

The appellant's objections under Article 84 EPC were not occasioned by amendments made to the claims during opposition proceedings, nor were they a ground for opposition under Article 100 EPC, and so were not to be admitted.

Claim 1 set out two separate, differentiable means as indicated by the 'fitted to' wording in feature e) and the 'further comprises' wording in feature c). There was furthermore no indication in the documents supporting the M042 system prior use that pins 1 and 2 were arranged to operate independently of pins 4 and 5. The subject-matter of claim 1 was thus novel (Article 54 EPC).

Regarding the subject-matter of claim 1 involving an inventive step (Article 56 EPC), the skilled person could have carried out the necessary modifications to the M042 system, but he would not have done so in the light of wishing to simplify the existing system. The M042 system optimised end-user complexity by employing a closed-loop control system; moving to an open-loop capability would have increased user complexity. Furthermore, a simplified system already existed in the M042 system by way of the allen key adjustment possibility, such that the skilled person would not have considered an open-loop electrical drive solution to replace this existing simple adjustment capability, unless inventive skill were exercised. The modification of the M042 system in order to reach the subject-matter of claim 1 would not have been obvious in the light of the cited prior art unless the benefit of hindsight

were used, which was impermissible in an objective problem-solution approach.

Reasons for the Decision

1. Article 84 EPC 1973
 - 1.1 The objections raised by the appellant with respect to claim 1 lacking clarity under Article 84 EPC are not admissible.
 - 1.2 An objection to the clarity of granted claims is not foreseen within the opposition procedure, as lack of clarity is not a ground for opposition (see Article 100 EPC, which provides an exclusive list of grounds for opposition). Since claim 1 is a combination of granted claims 1 and 15, a clarity objection to this claim is tantamount to raising an objection of lack of clarity to the claims as granted.

Furthermore it is not apparent how, neither did the appellant argue why, a lack of clarity has resulted from an amendment caused by combining the granted claims.

In this context, it should be noted that in the granted patent, claim 15 is a claim which is directly and truly dependent on claim 1 and thus, in accordance with e.g. Rule 43(4) EPC, includes all the features of that claim. Claim 15 as granted, is thus nothing more than an abbreviated form of the combination of features defined in both claims 1 and 15. Since claim 15 was dependent on any of claims 1 to 14, the amendment of claim 1 to include the features of only claims 1 and 15 cannot be understood as anything more than a deletion

of claim 1 and its substitution by claim 15. The deletion of the back-reference to claim 1 in granted claim 15 cannot be regarded as anything but an appropriate and indeed necessary adaptation for reasons of linguistic correctness when moving from the abbreviated form to the full text. Also, the replacement of the words "characterised in that" by "wherein", and the deletion of certain reference numerals which are no longer applicable, are not changes which imply any amendment to the claim in a substantive sense, whereby the clarity of granted claim 15, dependent then on claim 1, also cannot be affected.

It thus follows that the objection to lack of clarity in claim 1 is inadmissible.

2. Article 54 EPC 1973

2.1 The subject-matter of claim 1 is found to be novel over the prior use represented by the M042 system.

2.2 The prior use M042 discloses the following features of claim 1:

a cutting tool adjustment system (see E1: "Das Kompensationssystem M042"; and E12.7: second paragraph, lines 1-4);

a body for adjustably holding a cutting tool (see E1, "Das Kompensationssystem M042", third paragraph); and

adjustment means (see E12.6, page 2/2, Pins 1, 2, 4 and 5 of the Binder plug series 711 connected, via the RS-232 interface cable, to a computer) mechanically releasably engageable (the pins of the plug mechanically engage with the receiving holes in the

socket on the body of the M042 system; the pins can equally be disengaged from the holes in the socket once more by removing the plug) with the body for positionally adjusting a cutting edge of the cutting tool (note - the power supplied by the interface cable and the data transmitted thereby to and from the computer are used to drive the servo-motor).

The Board finds however that feature c) in combination with feature d), and feature e) are not known from the M042 system since the pins 4 and 5 of the Binder plug, which are indeed electronically releasably engageable with the body, are not means in addition to the adjustment means of feature b) since the adjustment means itself comprise pins 1, 2, 4 and 5. The requirement in claim 1 for the 'adjustment means' and the 'means electronically releasably engageable with the body' to be physically separate items is given in feature e), which reads 'the adjustment means is fitted to the means electronically engageable with the body...'. For the adjustment means to be fitted to the further means, linguistically clarifies that these two means must indeed be distinct, separate entities.

- 2.3 Regarding the appellant's argument that the adjustment of the servo motor in the M042 system was also possible by way of activating solely pins 1 and 2, the Board does not accept this. Whilst M042 indeed appears to show that pins 1 and 2 alone provide power to the servo motor (see E12.6, page 2/2, third paragraph), the documents on file for the M042 system fail to disclose the operation of pins 1 and 2 (i.e. operation of the servo motor) in isolation of simultaneous connection and activation of pins 4 and 5. This understanding of how the M042 system works is indeed underlined by E12.7, third paragraph, lines 8-11 which state that the

desired position of the slider is transmitted from the computer to the M042 adjustment head via the RS-232 interface with pin 4 of the Binder plug. This shows that the operation of the servo motor (and thus movement of the slider) is dependent not only on the provision of power via pins 1 and 2, but also on the provision of a desired position control signal via pin 4.

It is noted that the appellant was unable to provide a reference to any passage in the documents supporting the M042 prior use indicating that the servo motor could be operated solely through providing power via pins 1 and 2. The Board also saw no unambiguous disclosure in the cited documents of this being possible.

The features in the M042 system corresponding to the adjustment means (feature b) in claim 1) thus comprise pins 1, 2, 4 and 5 of the Binder plug (which then interact with the servomotor). The features in the M042 system corresponding to the means electronically releasably engageable with the body (feature c) in claim 1) comprise pins 4 and 5 of the Binder plug.

From the above it follows that two distinct and separate means (adjustment means and means electronically releasably engageable with the body) are not present in the M042 system, since pins 4 and 5 are necessarily required for the function of each of the two claimed means.

- 2.4 Regarding the appellant's argument that the patent, equally to the M042 system, was unable to separate the interaction of the 'adjustment means' with the body from the interaction of the 'means electronically

releasably engageable with the body' with the body, the Board finds this argument unconvincing. The comparison suggested by the appellant is made with the figures of the patent (particularly as annotated in E13) and fails to reflect the subject-matter of claim 1 of the opposed patent. It is true that in the invention as described, these two means are always activated together due to their both being fitted to each other in an adjuster tool, and similarly in the M042 system the two means are activated together due to the pins being combined in the single Binder plug. However, unlike the M042 system which has pins 4 and 5 of the Binder plug included in both means, the subject-matter of claim 1, as shown in point 2.2 above, includes two distinct and physically separate means, namely the adjustment means and the means electronically releasably engageable with the body. These physically separate means are not present in the M042 system.

- 2.5 Regarding the appellant's further contention that the M042 system implicitly used solely pins 1 and 2 in conjunction with the servo motor to realise the adjustment means of claim 1, the Board finds otherwise. Such an interpretation of the M042 system would amount to an open-loop control of the slider adjustment, whereby an adjustment would occur upon inserting the Binder plug (and thus connecting pins 1 and 2 with the servomotor) into the socket on the M042 head. Such an adjustment would continue unabated until the plug were disconnected or until a control signal were provided (via pins 4 and 5) or via an operator input action. Such an operation of the M042 system is not explicitly disclosed, nor is it to be implicitly derived, particularly since, as identified in point 2.3, E12.7 discloses that the desired position of the slider is transmitted from the computer to the M042 adjustment

head via the RS-232 interface with pin 4 of the Binder plug. This shows that the operation of the servo motor (and thus movement of the slider) is dependent not only on the provision of power via pins 1 and 2, but also on the provision of a desired position control signal via pin 4. The alleged implicit adjustment solely via pins 1 and 2 is thus contradicted by E12.7.

2.6 Regarding the appellant's argument that claim 1 also covers the case in which both the adjustment means and the means electronically releasably engageable with the body comprise common elements, this is not supported by the wording of claim 1. Feature e) reads that 'the adjustment means is fitted to the means electronically engageable with the body...' which clearly implies that the two means are separately identifiable elements which can be fitted together. For one of the means to be 'fitted to' the other, as in feature e), excludes the interpretation of the claim suggested by the appellant.

2.7 Regarding the appellant's alternative novelty attack based on a combination of the RS-232 interface cable and the wireless (inductive) transfer of power and control signal, this is also unconvincing. It is noted that the RS-232 interface cable connects to the Binder plug when the M042 system is being calibrated (see E12.7, page 1/2, third paragraph), providing power and the driving signal for the servo motor. The inductive transfer of power to the servo motor and the control electronics of the M042 system is described in E12.7, page 1/2, second paragraph, yet this inductively powered mode of operation is stated as being an alternative to that of using the RS-232 interface cable (see E12.6, page 1/2, second paragraph), i.e. when not undergoing calibration. It thus follows that the two

different ways of providing power and electronic signals from a computer to the M042 head are used for two different purposes (calibration or normal operation) and that the use of the RS-232 interface cable and the inductive transfer of power and control signal never occur simultaneously.

The appellant's arguments are thus based on combining features from two different embodiments of the M042 system, one for calibration and the other for normal operation of the system. The features of these embodiments (RS-232 interface cable on the one hand, inductive power and data transfer on the other) are not disclosed as being used in a single mode of operation of the M042 system, such that their unambiguous disclosure is also not present therein. The subject-matter of claim 1 is thus not anticipated by this system in light of the arguments presented by the appellant.

2.8 The Board thus finds that the subject-matter of claim 1 is novel (Article 54 EPC 1973) over the cited prior art.

3. Article 56 EPC 1973

3.1 The subject-matter of claim 1 involves an inventive step over the cited prior art when considering the arguments of the appellant put forward to support its objection.

3.2 Starting from the M042 system, the subject-matter of claim 1 differs therefrom in that the adjustment means and the means electronically releasably engageable with the body are physically separate means. Based on this differentiating feature of claim 1, the objective

technical problem being addressed by the skilled person when trying to reach the claimed subject-matter may be seen as how to simplify the M042 system.

It is firstly noted that in the context of the M042 system, pins 1, 2, 4 and 5 (as identified in point 2.3) always operate together providing power and a control signal to the servo motor, corresponding to feature b) in claim 1. Secondly, the control model disclosed for the M042 system is a closed-loop control, with pins 4 and 5 being the electrical contacts for the data transfer (see E12.6, page 2/2, third paragraph) corresponding to feature c) of claim 1. Starting from the M042 system, the modification required in order to reach the subject-matter of claim 1 is to separate the operation of pins 1 and 2 from the operation of pins 4 and 5 (i.e. to provide physically separate means) so that pins 1 and 2 alone control the servo motor. This would correspond to the servo motor of M042 being operable in an open-loop control mode, without the control provided through pins 4 and 5.

The Board finds that there is no reason why the skilled person would wish to modify the M042 system from a closed-loop adjustment system to one with an open-loop control unless inventive skill were used. As such, the provision of an additional control capability in the form of an open-loop control offers the user no advantage in the adjustment of the cutting tool during operation of the system. The existing, functioning closed-loop control system offers the simplest way of controlling the adjustment of the cutting tool position, such that the proposed solution also fails to solve the objective problem of simplifying the known system.

3.3 The appellant's argument that an open-loop system would remove the complication of keeping an allen key for manual adjustment of the cutting tool (as described in the respective last paragraphs of E12.6 and E12.7) is found unconvincing. The Board holds that the inclusion of an open-loop control capability in addition to the existing closed-loop control would be a further complication of the existing system, rather than a simplification as demanded by the objective technical problem. Whilst indeed no great hardware modification would be required in order to achieve the change, a software modification would be required which, being a completely separate control philosophy for the system, would involve an additional degree of complexity for the overall control system. It follows that the skilled person could indeed make this modification but he would not do so, particularly not in the light of the underlying technical problem of wishing to simplify the existing system.

Rather than simplifying the hardware, a simplification in operation for the user could also be sought. However, equally here no simplification can be recognised through the addition of an open-loop control capability. With such capability, the user would be required to operate the servo motor manually to adjust the cutting tool, rather than adjusting the cutting tool with an allen key. Despite this, an equal amount of monitoring of the cutting tool position would be required for each of these adjustment methods, thus effectively resulting in no simplification for the user.

3.4 Regarding the appellant's contention that a separation of the two means would be trivial and would allow the operator to manually drive the tool into position, the

Board finds that such a modification does not solve the objective technical problem. The modification of the known M042 system must be viewed in relation to the objective technical problem to be solved, namely to simplify the known system. As identified in point 3.3, separation of the adjustment means and electronically engageable means of the M042 system into two physically separate entities would require a significant software modification, thus adding complexity to the software controlling the servo motor, rather than the sought-after simplification.

- 3.5 The Board thus finds that the subject-matter of claim 1 involves an inventive step (Article 56 EPC 1973) over the cited prior art when considering the arguments presented by the appellant.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



M. H. A. Patin

M. Harrison

Decision electronically authenticated