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D E C I S I O N
of 26 September 2000

Case Number: T 0254/98 - 3.2.6

Application Number: 92117871.1

Publication Number: 0539837

IPC: B23Q 7/04

Language of the proceedings: EN

Title of invention:
Vertical lathe

Patentee:
MINGANTI S.p.A.

Opponent:
HESSAP Hessische Apparatebau GmbH
MAUS S.p.A.

Headword:
"Evidence not completely within the power of the opponent"

Relevant legal provisions:
EPC Art. 54, 56

Keyword:
"Public prior use (yes) - sufficient evidence"
"Novelty (yes)"
"Inventive step (yes) - non-obvious combination of known features"

Decisions cited:
T 0472/92; T 0506/95

Catchword:
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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 0254/98 - 3.2.6

D E C I S I O N
of the Technical Board of Appeal 3.2.6
of 26 Septeber 2000

Appellant:
(Proprietor of the patent)

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Decision under appeal:

Decision of the Opposition Division of the European Patent Office posted 23 January 1998 revoking European patent No. 0 539 837 pursuant to Article 102(1) EPC.

Composition of the Board:

Chairman: P. Alting van Geusau
Members: H. Meinders
M. J. Vogel

Summary of Facts and Submissions

I. European Patent No. 0 539 837, granted on application No. 92 117 871.1, was revoked by the Opposition Division by decision posted on 23 January 1998. It based the revocation on its finding that claim 1 of the patent in suit lacked inventive step over the disclosure contained in:

D5: GB-A-2 095 138

in combination with the teachings derivable from prior public use of "CNC-Team TNC-24" horizontal lathes delivered to the firm Brehm on 16 October 1991, as supported by the following evidence:

D1: Declaration of Mr Hans-Jörg Muller of the firm CNC-Team, with annexes:

A3-1: 2 colour copies of photographs of a "TNC-24 lathe, Nrs 24048 and 24051, Firma Brehm",

A3-2: description of the handling "Beschreibung des Handlings" and

A3-3: report of Mr Kienzle ("Kundendienstbericht") on the installation of two TNC-24 lathes Nrs 24048 and 24051 at the firm Brehm between 21 and 23 October 1991,

A4: Promotional video recording of one of the machines sold to the firm Brehm, minutes 54-57.

II. The Appellant (Patentee) both filed a notice of appeal against this decision and paid the appeal fee on 17 March 1998. On 14 May 1998 the grounds of appeal were filed.

III. In an annex to the summons to oral proceedings pursuant to Article 11(2) of the Rules of Procedure of the Boards of Appeal the Board expressed the preliminary opinion that the technical features of the TNC-24 lathes sold to the firm Brehm appeared not to be sufficiently proven and that it did not appear obvious to the skilled person to combine the teachings of the vertical lathe as disclosed in D5 with those of the horizontal lathes TNC-24.

Respondent I (Opponent 01) notified the Board with letter of 15 March 2000 that it would not attend the oral proceedings.

Respondent II (Opponent 02) filed with a reply dated 4 August 2000 a further video recording:

A5: TNC-24 horizontal lathe, Nr 24048.

IV. Oral proceedings took place on 26 September 2000.

The Appellant requested setting aside of the decision under appeal and maintenance of the patent as granted.

Respondent II requested dismissal of the appeal.

V. Claim 1 of the patent in suit reads:

"Vertical lathe designed to perform loading of the workpiece to be machined and unloading of the machined workpiece, comprising:
a) a chuck (G) for receiving a workpiece to be machined and for the to-be-machined workpiece to be rotated around a vertical axis for machining;
b) known means (T1, T2) for supporting, positioning and transferring the workpieces (P), said means being arranged so as to provide a station (S1) for loading the workpiece to be machined and a station (S2) for

receiving and unloading the machined workpiece, these stations (S1, S2) being horizontally spaced apart from said chuck (G) and being located on opposite sides of the chuck (G) at the same distance from the axis thereof;

c) a tool-carrying or cross slide (S) which is movable in both of the vertical and horizontal directions between the loading station (S1) and the unloading station (S2), as well as above the chuck (G), and this cross slide can take an intermediate position for the workpiece located on the chuck (G) to be machined;

d) manipulator means (M1, M2) designed to grip the workpiece to be machined and the machined workpiece, are mounted on the tool-carrying or cross slide (S) so as to pick up from the loading station (S1) a workpiece to be machined and to insert it into the chuck (G), and as to pick up from the chuck (G) the machined workpiece and locate it on the unloading station (S2),

characterized by the combination of the following features:

e) the manipulator means comprise two manipulators (M1, M2) which are attached directly to the same, single tool-carrying or cross slide (S) at opposite ends thereof;

f) the reciprocal distance between the two manipulators (M1, M2) is equal to the distance between each of the loading and unloading stations (S1, S2) and the axis of the chuck (G);

g) the tool-carrying or cross slide (S) is horizontally movable into two end positions, and in one end position one manipulator (M1) is located in the loading station (S1) for picking up a workpiece to be machined, and the other manipulator (M2) is located over the chuck (G) for picking up the machined workpiece, while in the other end position of the slide (S) the said one manipulator (M1) is located over the chuck (G) for

inserting thereinto the workpiece to be machined, and the said other manipulator (M2) is located in the unloading station (S2) for laying down the machined workpiece."

VI. In support of its request, the Appellant argued essentially as follows:

The evidence in support of the prior use was completely within the power and knowledge of Respondent II, who had not succeeded in proving it "up to the hilt" as required by decision T 472/92. From the video A4 - which was of poor quality in any event - no machining tools could be derived nor was there an indication as to the size and shape of the objects to be machined on these lathes. Despite his requests to furnish more convincing evidence the Opposition Division had decided that the evidence supplied so far by Respondent II was sufficient to prove the prior use.

Furthermore, teachings relating to horizontal lathes would not be applied by the skilled person to vertical lathes or vice versa as the objects to be machined on such lathes were fundamentally different. Horizontal lathes were meant for small objects of limited size and weight, vertical lathes accepted much larger and heavier objects.

As regards video A5, this was recorded as recently as May 2000, thus it could not prove anything about events which took place before the priority date of the patent in suit, namely 31 October 1991. In any event, what it shows could have been set up on purpose. Further, there was no reason why it could not have been produced in due time, i.e. in the opposition proceedings, thus the Board should not admit it into the appeal proceedings.

VII. Respondent II contended that there was no fundamental difference between vertical and horizontal lathes as suggested by the Appellant. This was also evident from the mention in the patent in suit that the vertical lathes according to the invention were suited to handle small or medium-sized workpieces.

The evidence relating to the prior use of TNC-lathes of the firm CNC-Team was not exclusively within its power, as the firm CNC-Team was a third party, not related in any way to Respondent II. Further proof than that already provided could not be obtained from the firm CNC-Team.

The proof furnished in respect of the prior use of the lathe sold to the firm Brehm, in particular with the additional video A5, covered all features of claim 1 of the patent in suit, apart from the fact that it related to a horizontal lathe instead of a vertical lathe. A skilled person, starting from these horizontal lathes, would need no inventive skills to apply these known principles to vertical lathes.

Subsidiarily, starting from the vertical lathe disclosed in D5, the advantages of the workpiece handling present in the TNC-lathes were so evident that applying these in a vertical lathe was obvious.

Reasons for the Decision

1. The appeal is admissible.

2. *Prior use of TNC-24 lathe Nr 24048*

2.1 The following facts need to be established for deciding whether a prior use is to be considered as belonging to the state of the art under Article 54(2) EPC:

- when did the prior use take place,

- what were the circumstances of this prior use?

- what was the subject of the prior use,

2.2 When?

The installation of the TNC-24 lathe with number 24048 has according to A3-3 taken place between 21 and 23 October 1991, thus the delivery took place before the priority date of 31 October 1991 of the patent in suit, which date counts as the date of filing of the European patent application pursuant to Article 89 EPC.

2.3 Which circumstances?

It is consistent case law of the Boards of Appeal that a single sale is sufficient to render the article sold available to the public within the meaning of Article 54(2) EPC, provided the buyer was not bound by an obligation to maintain secrecy.

In the present case the Appellant has not alleged the existence of such an obligation. There is also no reason to assume that such an obligation existed because a TNC-24 lathe is shown on the promotional video A4 of the firm CNC-Team. Such advertising is generally incompatible with sale under an obligation to maintain secrecy. Moreover, according to the declaration D1 the firm CNC-Team sold the TNC-24 lathe number 24048 to the firm Brehm without an obligation to maintain secrecy.

2.4 What?

2.4.1 According to A3-3 ("Kundendienstbericht CNC-Team") a TNC-24 lathe with machine number 24048 was installed by Mr Kienzle of CNC-Team at the firm Brehm, D-7900 Ulm, between 21 and 23 October 1991. The delivery of this lathe is corroborated by the declaration D1 of Mr Müller, authorised signatory for the firm CNC-Team.

According to the two colour photographs A3-1 annexed to the declaration D1 this horizontal lathe has a chuck for receiving and rotating a workpiece and a cross-slide with two manipulators. This information is supported by the annex A3-2 referring to the manipulators ("Greifer") on the cross-slide ("Linearschlitten"). A3-2 further refers to a loading ("Zufuhrlineal") and an unloading ("Förderband") station.

2.4.2 The video recording A4, mentioned in the declaration D1 and recorded according to that declaration on 16.10.91, the latter being a fact not disputed by the Appellant, shows from minute 54 onwards a horizontal TNC-24 lathe performing loading and unloading of the workpiece having a chuck for receiving and rotating the workpiece, a loading (supply tube) and an unloading station (conveyor belt) for respectively loading a workpiece and receiving/unloading the workpiece, both on opposite sides of the chuck at the same distance to the axis thereof. A cross-slide is provided movable in two directions, parallel and transverse to the axis of rotation of the chuck, two manipulators for gripping the workpiece which are both mounted on the cross-slide at opposite ends thereof. The reciprocal distance between the manipulators is equal to the distance between each of the loading and unloading stations and the axis of the chuck. The cross-slide is movable transversely (horizontally) into two end positions. In

one end position one manipulator is located at the loading station for picking up a workpiece and the other manipulator is over the chuck to pick up a workpiece, in the other end position the first manipulator is over the chuck to insert a workpiece therein, the other manipulator is at the unloading station to unload the previously picked-up workpiece. The above is consistent with the photographs A3-1, the description A3-2 and the declaration D1. The latter mentions that this part of the video recording A4 relates to the TNC-24 lathes sold to the firm Brehm.

It cannot be derived from the video recording A4 and the documents referred to above that the workpiece is machined and that for that purpose a tool is present. Between the manipulators only a black object between the manipulators on the cross slide can be distinguished.

2.4.3 The video recording A5, of May 2000, shows a TNC-24 lathe with machine number 24048 and date of completion 9/91, in which all the features mentioned above are present as well. The black object on the cross-slide derivable from the video recording A4 is recognisable in the further video recording A5 as a tool holder with a cutting tool. The video recording shows the machining of the workpiece by this cutting tool. Furthermore, on the video recording a person identifying himself as Mr Peter Wilhelm, professional representative of the firm Wilhelm & Dauster, states that the TNC-24 lathe shown on the video recording is installed at the firm Brehm. Next to him is a person identifying himself as Mr Holster, foreman of the machining shop of Brehm, confirming that the lathe shown in the following video recording A5 has been at the firm Brehm in the form shown since its initial installation in 1991. He himself was working in that department at the time.

The video recording A5 is therefore relevant for proving the presence of a working tool on the cross slide of the horizontal TNC-24 lathe delivered to the firm Brehm. Its filing can further be considered as a response to the provisional opinion of the Board as expressed in its communication of 2 March 2000, which differed from the assessment made by the Opposition Division. Since this video recording is relevant and there is no reason to doubt its authenticity, it is admitted into the appeal proceedings.

2.4.4 According to the Board this further substantiation of the prior use convincingly demonstrates that the TNC-24 lathe sold, delivered to and installed at the firm Brehm between 21 and 23 October 1991 involves a tool on the cross slide capable of machining the workpiece in the chuck.

2.4.5 Without any proof to the contrary the mere allegation of the Appellant that the video recording A5 or the lathe shown thereon "could" have been tampered with cannot be considered to throw doubt on the subject-matter of this prior use. There is in the Board's opinion no reason to put the evidence in doubt, particularly when taking into account that Mr Wilhelm - a professional representative, who for his actions as professional representative is subject to the Regulation on discipline for professional representatives before the EPO (see OJ 1978, 91) - is seen and heard declaring in the video recording A5 that the machine shown is the TNC-24 lathe bearing machine number 24048 installed at the firm Brehm. The foreman, Mr Holster, of the machining shop of the firm Brehm is presented in the video recording A5, who further declares that the lathe as shown has been at the firm Brehm in that form since its initial installation. The

additional video recording A5 produced by Respondent II in response to the Board's communication is considered conclusive and merely "completes the picture" of the subject of the prior use.

2.4.6 As discussed already above in points 2.4.1 to 2.4.3 the TNC-24 lathe Nr 24048 shows all the technical features of claim 1 of the patent in suit, apart from the fact that it is a horizontal lathe and that the tool carrying or cross-slide is movable in two horizontal directions instead of a vertical and a horizontal direction. However, when considered in relation to the axis of rotation of the chuck the movements of the tool carrying or cross-slide are identical for both the TNC-24 and the claimed lathe.

2.5 In view of the above assessment the Board comes to the conclusion that the TNC-24 horizontal lathe with machine number 24048 as delivered to and installed at the firm Brehm, with the features discussed in points 2.4.1 to 2.4.3 above, forms part of the state of the art according to Article 54(2) EPC.

2.6 In view of this conclusion it is not necessary to consider whether the promotional video recording A4 forms as such part of the state of the art according to Article 54(2) EPC in that it was shown to the public before the priority date of the patent in suit, as Respondent II contends.

2.7 The Appellant inferred that more evidence for the prior use of the TNC-lathes sold by the firm CNC-Team should have been presented, e.g. production drawings, so as to prove it "up to the hilt", in accordance with decision T 472/92 (OJ 1998, 161), as all evidence had to be considered as being within the power of Respondent II.

However, the facts of the present case are different from those of case T 472/92, as the firm which sold the TNC-24 lathe to the firm Brehm is not Respondent II, but a third party, the firm CNC-Team.

Furthermore, the Appellant provided no proof for the contention that it was not within its power to obtain counter-evidence from the firm CNC-Team. A party cannot relieve itself of the burden of providing counter-evidence for facts it alleges simply by referring to the above mentioned decision and stating that all the evidence is within the power of its adversary, without bringing proof that not he but only the Respondent was able to collect the evidence in support of the respective contention.

The video recording A4, supplemented by video recording A5 insofar as the machining tool is concerned, as well as the declaration D1 and annexes A3-1 and A3-2 are conclusive for the disclosure of the relevant features of the TNC-24 lathe with number 24048. The Board does not see the absence of construction drawings for this lathe as being detrimental to the case of Respondent II.

Therefore, as explained above, the Board does not consider gaps to be present in the chain of evidence produced by Respondent II in respect of the prior use of a TNC-24 lathe with machine number 24048. The requirements of T 472/92 (supra), even if applicable, would therefore be fulfilled.

3. *Novelty (Article 54 EPC)*

3.1 The TNC-24 lathe Nr 24048 forming prior art for the purposes of Article 54(2) EPC as discussed above distinguishes itself from the subject-matter of claim 1 by the fact that it is a horizontal lathe, not a vertical lathe.

3.2 The vertical lathe shown in D5 does not disclose the features of the characterising portion of claim 1 under attack. The remaining documentary evidence submitted in this case is even more remote from the subject-matter of claim 1.

3.3 Therefore the subject-matter of claim 1 of the patent in suit is novel.

In the oral proceedings Respondent II no longer maintained that the subject-matter of claim 1 of the patent in suit lacked novelty.

4. *Closest prior art*

4.1 It is the established case law of the Boards of Appeal (see e.g. T 506/95) that the closest prior art for assessing inventive step is that which is directed to a use similar to that of the invention under consideration, requiring the minimum of structural and functional modifications to arrive at the subject-matter of the invention.

In that respect the Board considers D5 to be the closest prior art for discussing inventive step, as it relates to a vertical lathe, as does the patent in suit.

4.2 The embodiment of the vertical lathe disclosed in D5 which comes closest to the subject-matter of claim 1 is the one referred to on page 2, lines 105 to 114. In that lathe each spindle and its associated turret functions independently and has its own loading and unloading station. There is, however, only one manipulator, mounted on the rotating tool turret, which carries out the loading and unloading of the workpieces as well as the introduction and retrieval thereof from the chuck, all as separate actions. This is time consuming.

The object of the invention is therefore to improve the feeding and unloading of workpieces by a more simple and economical solution (see the patent in suit, column 1, lines 51 to 55).

4.3 Respondent II argued that the horizontal TNC-24 lathe number 24048 sold by CNC-Team to the firm Brehm should be the starting point for assessing inventive step. It would not require inventive skills to transfer the principle of these horizontal lathes to vertical lathes.

In the Board's opinion, the fact that the horizontal TNC-24 lathe shows a large number of structural similarities with the solution as claimed in the patent in suit does not alter the circumstance that it would require substantial structural changes to convert such a horizontal lathe into a vertical lathe. One cannot simply rotate the spindle axis together with the manipulator means and the tool carrying slide over 90 degrees into a vertical position without fundamental structural changes to the arrangement of the loading and unloading stations and the removal of the cuttings, which all are facilitated by gravity in the horizontal TNC-24 lathe.

The above mentioned requirement that the minimum of structural and functional modifications should be required is therefore not fulfilled.

5. *Inventive step (Article 56 EPC)*

5.1 The subject-matter of claim 1 of the patent in suit differs principally from the disclosure in D5 in that:

- the manipulator means comprises two manipulators attached to the same tool-carrying or cross slide at opposite ends thereof,

- the reciprocal distance between the two manipulators is equal to the distance between each of the loading and unloading stations and the axis of the chuck,

- the tool-carrying or cross slide is horizontally movable into two end positions and in one end position one manipulator is located in the loading station for picking up a workpiece to be machined and the other manipulator is located over the chuck for picking up the machined workpiece, while in the other end position of the slide the said one manipulator is located over the chuck for inserting thereinto the workpiece to be machined, and the said other manipulator is located in the unloading station for laying down the machined workpiece.

5.2 The above mentioned features lead to a saving in time by having two manipulators work simultaneously. The parts to be machined and those that are finished are handled in a simple way, both in one and the same movement of the single tool-carrying or cross slide.

5.3 The Board considers that the skilled person would not contemplate applying the teachings of the horizontal TNC-24 lathe number 24048 to the vertical lathe of D5 for the following reasons:

5.3.1 The manipulators in the TNC-24 lathe are mounted on the cross slide. Applying that teaching to the vertical lathe would mean departing from the essence of the teaching in D5, which is the mounting of the manipulator on the tool turret and not on the cross slide.

5.3.2 If one would mount the manipulators directly on the cross-slide which is the clear teaching of the TNC-24 lathe, they should be sufficiently far removed from the rotating tool turret so as to allow the tools on the turret to rotate freely past the manipulators. This would involve increasing the size of the cross-slide which in turn increases the width of the vertical lathe, rendering the machine heavier and occupying more floor space.

Such an adaptation would thus involve a complete redesigning of the loading and unloading stations which would not be considered any further by the skilled person without a clear teaching in the direction of a possible solution of the problem stated. In the absence of such suggestions the skilled person would not apply the teachings of the TNC-24 lathe to the vertical lathe of D5.

5.3.3 Respondent II also argued that because the lathe of D5 has a rotating tool turret, the skilled person would mount the manipulators on the tool turret instead of on the cross slide, thus also arriving at a lathe having all features of claim 1 of the patent in suit.

Apart from the fact that it is not the teaching of the TNC-24 lathe to mount manipulators on a rotating turret, it is also not within the normal skills of the skilled person to transform the specific teaching derived from the TNC-24 lathe into the more general teaching of two manipulators capable of being put anywhere in the lathe.

5.3.4 For the above reasons it is not obvious to combine the teachings of the vertical lathe of D5 with those of the horizontal TNC-24 lathe number 24048.

5.4 Respondent II further contended that the technical trend in vertical lathes was such that rotating tool turrets were disappearing anyway, thus the skilled person would, in addition to mounting the two manipulators on the cross slide, consider replacing the rotating tool turret with tool holders arranged on the cross slide. In this way the technical difficulties discussed above would not present themselves.

However, Respondent II failed to provide supporting evidence for this contention. The Board further considers that even if there would be such a development, many other arrangements would be possible. In the prior art there is furthermore no suggestion to apply the teachings of the TNC-24 lathe in this way.

5.5 Respondent II has also argued that one could start from the TNC-24 lathe as closest prior art, of which the conversion to a vertical lathe would not require inventive skills.

Apart from the fact that the Board cannot share the view that the TNC-24 lathe should be considered as closest prior art (see point 4.3 supra), the structural and functional modifications involved in such a conversion are considered to go beyond what can be

expected of the skilled person. Further, none of the documents produced in these proceedings gives the skilled person an indication to carry out such a conversion, nor do they contain suggestions as to how to solve the problems involved in the above mentioned additional adaptations.

5.6 For the above reasons the subject-matter of claim 1 is considered to involve an inventive step.

5.7 The subject-matter of the dependent claim 2, being for a preferred embodiment of the vertical lathe according to claim 1 (Rule 29(3) EPC), also fulfils the requirements regarding novelty and inventive step.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The patent is maintained as granted.

The Registrar: The Chairman:

M. Patin P. Alting van Geusau