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**Datasheet for the decision
of 8 January 2020**

Case Number: T 0002/17 - 3.2.05

Application Number: 07789741.1

Publication Number: 2032364

IPC: B41F13/00, B41F33/00, B41K3/12

Language of the proceedings: EN

Title of invention:
Numbering device for typographic numbering

Patent Proprietor:
KBA-NotaSys SA

Opponents:
Komori Corporation
Paul Leibinger GmbH & Co. KG

Relevant legal provisions:
RPBA Art. 12(4)
EPC 1973 Art. 56, 114(2)

Keyword:
Late-filed evidence - resubmitted with the statement of grounds of appeal (admitted)
Inventive step - main request, auxiliary request I (no) - auxiliary request II (yes)

Decisions cited:

G 0007/93, T 0640/91



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Case Number: T 0002/17 - 3.2.05

D E C I S I O N
of Technical Board of Appeal 3.2.05
of 8 January 2020

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Decision under appeal: **Interlocutory decision of the Opposition
Division of the European Patent Office posted on
26 October 2016 concerning maintenance of the
European Patent No. 2032364 in amended form.**

Composition of the Board:

Chairman M. Poock
Members: T. Vermeulen
 C. Brandt

Summary of Facts and Submissions

- I. The appeals were lodged against the interlocutory decision of the opposition division that the European patent No. 2 032 364 as amended according to the first auxiliary request met the requirements of the EPC.
- II. The opposition had been filed against the patent as a whole on the grounds of Article 100(a) (lack of novelty and lack of inventive step), Article 100(b) and Article 100(c) EPC 1973.
- III. During the opposition proceedings an intervention was filed pursuant to Article 105 EPC by an assumed infringer against the patent as a whole on the grounds of Article 100(a) (lack of novelty and lack of inventive step), Article 100(b) and Article 100(c) EPC 1973.
- IV. The oral proceedings before the board of appeal took place on 8 January 2020.
- V. Appellant I (the intervener) and appellant II (the opponent) requested that the decision under appeal be set aside and that the patent in suit be revoked.

The respondent (the patent proprietor) requested that the appeals be dismissed (main request), or alternatively, that the patent be maintained on the basis of either auxiliary requests I or II, filed with letter dated 13 November 2019.
- VI. During appeal proceedings reference was made to the following documents:

E6 JP H06-68849 U;
E8 US 5 517 911;
B32 EP 1 389 524 A1;
B40 "Maxon 04/05" catalogue (excerpts);
B43 JP 2004-160788;
B44a English translation of B43, filed by the
patent proprietor during the oral
proceedings before the opposition division;
B53 GB 1 554 152.

VII. Claim 1 of the main request has the following wording:

"A numbering device (1) for carrying out numbering in sheet-fed or web-fed numbering presses, said numbering device (1) comprising a numbering unit (6) with rotatable numbering wheels (7) carrying alpha-numerical symbols thereon, which numbering wheels (7) are disposed next to each other and rotate about a common rotation axis, said numbering device further comprising electro-mechanical actuation means for setting the position of said numbering wheels (7), said electro-mechanical actuation means comprising a plurality of independent driving means (15, 18-23; 23*) for actuating a corresponding plurality of said numbering wheels (7), wherein each independent driving means (15, 18-23; 23*) at least comprises an electric motor (15) driving the associated numbering wheel through a gearing (16, 19-23; 23*), wherein said electro-mechanical actuation means are entirely located within said numbering device (1) and are mechanically autonomous, and wherein the numbering device comprises more than six rotatable numbering wheels (7) actuated by a corresponding number of independent driving means (15, 18-23; 23*), characterized in that each electric motor (15) is coupled to the gearing (16, 19-23; 23*) via a reduction gear (18), and in that said electric

motor (15) is a brush-less DC motor with electronic commutation."

VIII. Claim 1 of the auxiliary request I has the following additional feature:

"and wherein a reduction factor (R) between an output of the electric motor (15) and the corresponding numbering wheel (7) is selected to be such that a positional resolution of the numbering wheel, measured at its periphery, is of the order of 0.1 to 0.15 mm or less".

IX. Claim 1 of the auxiliary request II differs from claim 1 of the main request by the following additional feature:

"and wherein the numbering device further comprises calibration means (12, 13) for calibrating the position of the numbering wheels (7) about the rotation axis, which calibration means (12, 13) comprise, for each numbering wheel (7), a Hall effect detector (13) cooperating with at least one corresponding magnet (12) disposed on the numbering wheel (7) to be calibrated".

X. The submissions of appellant I may be summarised as follows:

Admission of document B53

The decision of the opposition division not to admit document B53 failed to consider the content of the document. Its prima facie relevance followed from Figure 6, where more than six numbering wheels were driven each by an electric motor. The only difference between B53 and the subject-matter of claim 1 of the

main request lied in the type of motor used. This was not inventive so that document B53 must be admitted in the proceedings.

Main Request

The embodiment of the schematic Figure 6 of document B53 was an appropriate starting point for assessing inventive step. It disclosed a numbering device with wheels driven by electric motors through a gear transmission. According to page 2, lines 3 to 6 of the description of document B53, the numbering wheels were driven by a reduction gear, similarly to the item depicted by reference sign 5 in Figure 5. The only difference with the claimed subject-matter lied in the type of motor used.

The technical effects of a brushless DC motor with electronic commutation consisted in its small size, long operating life, high rotation speed and high torque. There was no specific advantage of using such motors in the context of numbering machines. The objective technical problem was to find an appropriate motor type.

The respondent was wrong in claiming that only stepping motors were used before the filing date of the patent. Both documents B53 and B32 left open which type of motors should be used. Starting from document B53, the question to be asked was not whether one specific type of motor would be replaced by another but rather which specific motor would be chosen.

Selecting an appropriate motor belonged to the standard tasks of the skilled person, in particular as document B53 did not propose any specific motor type. In doing

so, the skilled person would encounter the catalogue B40, in which the use of brushless DC motors for positioning in start-stop operation was described. Page 26 of the catalogue pointed at the long operating life of such motors. Also page 150 showed a small motor in combination with planetary gears suitable for use in a numbering device.

Should the reduction gear not be considered as disclosed by the embodiment according to Figure 6 of document B53, it was submitted that this further distinguishing feature would be merely juxtaposed to the feature setting the motor type. The reduction gear did not necessarily affect the power and torque requirements of the motor as these were also influenced by the gearing between the reduction gear and the numbering wheels. The brushless DC motor on page 28 of the catalogue B40 was disclosed with an integrated planetary reduction gear.

Auxiliary Request I

The positional resolution of the additional feature in claim 1 was a mere selection of a value devoid of any special effect. When using numbering devices to print on a banknote, it was evident that the visible displacement of a number should be avoided by providing sufficient precision.

The claimed value of 0.1 mm appeared to correspond to the minimum deviation that the human eye could visibly perceive. The technical measures that resulted in this value were however not claimed.

Auxiliary Request II

According to document E8, column 5, lines 29 to 35, Hall sensors were known to cooperate with permanent magnets arranged in recesses of the numbering wheels to constantly monitor the rotational positions of the numbering wheels. It would be obvious for the skilled person to implement such a solution in the numbering device of document B53.

Although claim 1 referred to calibration rather than position monitoring, the detecting means for both applications was the same. A different treatment of the measured data was not excluded from the claimed subject-matter.

XI. Appellant II essentially argued as follows:

Admission of document B53

Document B53 was highly relevant to the claimed invention. The only difference with respect to the claimed subject-matter lied in the type of motor used. A brushless DC motor was however known to the skilled person.

Main Request

Figure 6 of document B53 disclosed individual motors rotationally driving the print wheels through a set of gears. Because of the layout of Figure 1 and the corresponding mention on page 2, lines 3 to 6, it was implicit that each of the boxes 25A to 25I in the embodiment of Figure 6 also included a reduction gear between the actual motor and the gear wheels 26A to 26I.

When starting from the embodiment of Figure 6, the differences with the subject-matter of claim 1 would lie in the arrangement of the numbering wheels about a common rotatory axis and in the type of electric motor used. Document B53 merely mentioned a "unidirectional drive motor".

The first distinguishing feature was obvious, see for example Figures 1 and 4 of document E6.

The second distinguishing feature did also not require any inventive merit. Stepping motors and brushless DC motors were very similar; there were no real differences between them. Both motors were electronically commutated, both were used for positioning applications. In addition, brushless DC motors were commonly used in the art whenever the need arose for a small and reliable drive system.

Document B40 disclosed that brushless DC motors of small size were used for precise positioning applications. To select the "brushless DC motor" of document B40 for the "unidirectional drive motor" of document B53 was an obvious choice.

Auxiliary Request I

According to paragraph [0049] of the patent, the additional feature of claim 1 should be construed in the sense that the overall reduction factor between the output of the motor and the corresponding numbering wheel was meant. The overall reduction factor also depended the rotation speed of the motor and on the size of the numbering wheels. On page 28 of the catalogue B40 reduction factors ranging from 4 : 1 to 6285 : 1 were disclosed. In combination with a smalle

motor with a typical rotation speed of the order of 10000 rpm, the precision required by claim 1 would be achieved. In absence of the dimension of the numbering wheels, the positional resolution measured at the periphery was, however, without substance and could not involve an inventive step.

Auxiliary Request II

As to the wording of the claim, a "calibration" would practically not be possible with only one magnet and a corresponding Hall sensor. This also perspired from the claim wording "at least one corresponding magnet".

Anyway, the use of Hall sensors was known from document B40, see in particular on page 150 and page 26 (bottom figure).

In order to increase the calibration precision, Figure 1 of document E8 proposed to use Hall effect detectors for each numbering wheel. These allowed a calibration of the numbering wheels, so that claim 1 did not involve an inventive step. A similar solution was also disclosed by document B43, see Figure 2b.

XII. The respondent's submissions were essentially as follows:

Admission of document B53

The opposition division took use of its discretionary power not to admit document B53 in accordance with Article 114(2) EPC 1973. Appellant I did not show how the opposition division committed an error in exercising its discretionary power. Document B53 was not more relevant than any of the other documents

already on file, in particular than document B43. There were no reasons for the skilled person not to start from the composite drive of document B43 when assessing inventive step. In addition, in view of its different embodiments, document B53 actually corresponded to two prior art documents.

Main Request

The invention related to a numbering device for security elements of banknotes. Before the priority date in 2006 such devices were still driven mechanically.

The appellants erred when combining features of the different embodiments of document B53 with the aim of determining the differences with respect to the claimed subject-matter. The arrangement of Figures 1 and 7 was very different than that of Figure 6. A reduction gearing was only disclosed in the embodiment of Figures 1 and 2, which only used a single motor 4 for driving a single additional wheel 3 for a check digit or symbol. The embodiment of Figure 6 disclosed neither a reduction gear nor a brushless DC motor with electronic commutation. The corresponding description on page 2, lines 77 to 87 only referred to an associated gearing. In the description of document B53 a distinction was made between a "motor" and a "gearing", so why would the skilled person all of a sudden understand the "motor" of Figure 6 to include a gearing?

The two distinguishing features had a combined effect, the power requirements of the device determining both the size of the motor and the need for a gear transmission. The objective technical problem was to provide an appropriate drive system.

The catalogue B40 merely listed different motors and accessories, one of which a brushless DC motor, without providing any hint why one would be preferred to the other. Unlike what was required by the subject-matter of claim 1, the skilled person would find a solution to the problem in document B43 and opt to use stepping motors known to perform well in positioning applications. As an alternative, document E6 suggested to use pulse motors. As stepping motors were normally more powerful, there would be no need to install a reduction gearing between the motor and the numbering wheel.

Auxiliary Request I

The motors disclosed in document B53 reacted in response to sensor signals in order to attain the desired precision. Faced with the objective technical problem of selecting a drive system so as to secure the product quality, the skilled person would not be prompted to change the solution already disclosed in document B53.

Auxiliary Request II

In order for the skilled person starting from document B53 to arrive at the numbering device of claim 1 according to auxiliary request II, not only a completely new drive system with a fast turning motor and a reduction gearing had to be introduced, each numbering wheel was further required to be provided with a calibrating means. This could not be obvious having regard to the state of the art. The opposite conclusion would be based on hindsight.

To comply with the additional feature of claim 1, it was not sufficient to place the calibration means on an intermediate wheel in the transmission. In that respect, the argumentation of the appellants ignored the disclosure on page 2, lines 82 to 87 of document B53, according to which detecting means were placed on a gear wheel instead of on the numbering wheel.

The Hall sensors known from B40 only served to control the motor.

The magnetic sensors used in document B43 provided information on a rotation angle of an intermediate gear, but had nothing to do with calibration.

The numbering wheels of document E8 did not have an individual wheel drive. To solve the objective technical problem of providing an accurate drive, this document would not be taken into account. The Hall sensors 28 aimed at monitoring the position of the numbering wheels; they were not suitable to carry out a calibration. Carrying out a certain indexing of a wheel by a sensor coupled to a control circuit did not equate to calibrating the wheel.

Reasons for the Decision

1. Admission of document B53
 - 1.1 Under Article 114(2) EPC 1973 it is at the opposition division's discretion not to admit late-filed documents.

A board of appeal should only overrule the way in which a department of first instance has exercised its

discretion when deciding on a particular case if it concludes that it has done so according to the wrong principles, or without taking into account the right principles, or in an unreasonable way. It is generally not the function of a board of appeal to review all the facts and circumstances of the case as if it were in the place of the department of first instance, in order to decide whether or not it would have exercised such discretion in the same way (cf. G 7/93, OJ 1994, 775 and T 640/91, OJ 1994, 918). This also applies to reviewing a decision of an opposition division not to admit late filed documents.

- 1.2 In the present case, appellant I filed document B53 in preparation of the oral proceedings before the opposition division. The opposition division did not admit this document. In point 6 on page 18 of the impugned decision, it was argued that document B53 "merely prove[s] that the distinguishing features a. and b. are only known per se, but not in combination" and that therefore "the Opposition Division does not admit [...] B53 into the proceedings".

- 1.3 Contrary to the assertions of the respondent, it is not clear exactly on what basis the opposition division's evaluation of document B53 was based. No reference is made in the decision to any of the embodiments of document B53 and nothing is said about the disclosure of any of the claim features other than "features a. and b." disclosed therein. It is therefore not clear whether the assessment of its prima facie relevance had actually been carried out.

In view of this, it seems that the opposition division did not exercise its discretion under Article 114(2) EPC 1973 according to the right principles.

1.4 Together with its statement setting out the grounds of appeal, appellant I resubmitted document B53. Following the provision of Article 12(4) of the Rules of Procedure of the Boards of Appeal (RPBA) 2007 (Article 25(2) RPBA 2020), it is at the discretion of the board not to admit a document into the appeal proceedings, which was not admitted in the first instance proceedings.

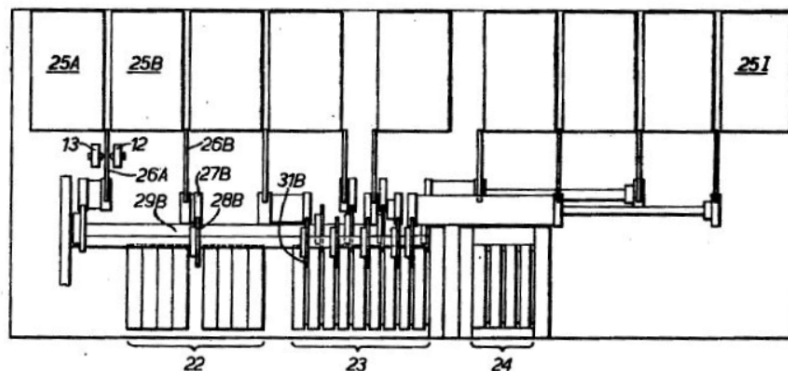
The board shares the appellants' view that document B53, in particular the embodiment of Figure 6 showing more than six numbering wheels each driven by an independent electric motor, is prima facie relevant and seems to be a reasonable starting point for arguing a potential lack of inventive step of the subject-matter of claim 1.

1.5 Accordingly, the board sees no reason not to admit the document B53 pursuant to Article 12(4) RPBA 2007.

2. Inventive Step

2.1 It was not disputed between appellant I and the respondent that the embodiment according to Figure 6 of document B53 disclosed a numbering device for carrying out numbering in sheet-fed or web-fed numbering presses according to the preamble of claim 1.

Appellant II took the view that the prior art numbering wheels 23 did not necessarily rotate about a common rotation axis. However, the board considers this to be implicit from Figure 6, reproduced below, taking into account that numbering devices generally take the form of a compact, cylindrical assembly of several rotating wheels disposed side by side.



All parties agreed that the nine electric motors 25A to 25I driving the corresponding numbering wheels 23 were not disclosed as brushless DC motors with electronic commutation. In fact, the entire document B53 remains silent as to which type of motors is used for driving the numbering wheels.

The appellants and the respondent found themselves at odds on the question whether the motors 25A to 25I were coupled to the gearing via a reduction gear. While it is true that the embodiment of Figures 1 and 2 of document B53 discloses a reduction gear 5 between each drive motor 4 and the corresponding gearing 6, 7 and 8, the board fails to see any indication of a similar arrangement in the embodiment of Figure 6. The board can also not share the view of the appellants that a comparison of the very schematic drawing of Figure 6 with those of either Figure 1 or Figure 7 would lead directly and unmistakably to the conclusion that a part of each of the rectangular boxes 25A to 25I was occupied by a reduction gear.

Hence, the subject-matter of claim 1 according to the main request differs from the embodiment according to Figure 6 of document B53 in that each electric motor is coupled to the gearing via a reduction gear, and in

that said electric motor is a brush-less DC motor with electronic commutation.

- 2.2 The board cannot agree with appellant I that a long operating life is a technical effect, in the present case, of a brushless DC motor with electronic commutation. Compared to a state of the art brushed DC electric motor it is certainly true that "friction and wear problems are limited to a big extent because of the brush-less configuration of such motors, thereby leading to a long life cycle" (paragraph [0047] of the patent). Yet this effect cannot be ascribed only to brushless DC motors; it is also applicable to stepper motors and asynchronous motors.

Taking account of the fact that, as is stated in paragraph [0019] of the patent, "[if there is no reduction factor between the motor output and the numbering wheels] ... the precision of this numbering device, as well as the rotational speed and torque will be directly dependent on the characteristics of the motor", the board concludes that the functions and thus the technical effects of the two distinguishing features are, to a large degree, entwined. Moreover, the effects "can be miniaturized to a substantial extent while still providing a sufficiently high speed and high torque to meet the requirements of numbering applications" attributed in paragraph [0047] to brushless DC motors largely depend on the size and on the specifications, respectively, of the reduction gearing coupled thereto.

The technical effect of the distinguishing features, taken in combination, is therefore that they form an appropriate drive for the numbering wheels according to the requirements of the numbering device.

The objective technical problem is therefore to find an appropriate drive for the wheels of a numbering device.

- 2.3 The skilled person looking for a solution to this problem is faced with a range of obvious possibilities. As a matter of routine they will ascertain which of the drive systems commonly known in the art would suit the purpose of driving the wheels of a compact, high precision numbering machine in the technical field of printing securities.

The board is satisfied that the skilled person with this specific technical purpose in mind will consult a company catalogue related to small precision drive systems, such as document B40. On page 26 thereof the skilled person is taught that a brushless DC motor with electronic block commutation is particularly suitable for start-stop operation and positioning tasks. Page 28 of the catalogue further draws the attention to the importance of transmitting the motor power with a reduced gear ratio in function of the desired output rotation speed and/or torque. Outer dimensions as low as 6 mm are feasible by using a planetary reduction gear with a reduction factor ranging from 4 : 1 to 6285 : 1 arranged in a common casing with the motor (upper and lower cutaway views and second column on page 28).

The skilled person therefore has good reason to adduce this further prior art and to apply its teaching to the numbering device known from the embodiment according to Figure 6 of document B53.

- 2.4 The board cannot follow the argument of the respondent that the mention of stepping motors or pulse motors in

patent documents B43 and E6, respectively, would discourage the skilled person to search further and consider alternative motor types, such as the one disclosed in catalogue B40. Even if a stepping motor or a pulse motor would be an equally valid solution for the drive of the wheels in document B53, this does not prevent a finding of obviousness in respect of a brushless DC motor with electronic commutation.

Whether a normally more powerful stepping motor, which does not require a reduction gearing, would be preferred over an assembly of a smaller brushless DC motor with planetary reduction gears will depend on extraneous issues and is often the result of a trade-off. In the present case, the board has not been presented with any convincing reasons why the drive units 25A to 25I of document B53 would lend themselves better to stepping or pulse motors than to electronically commutated brushless DC motors in combination with reduction gearing.

2.5 Therefore, in view of the numbering device of the embodiment according to Figure 6 of document B53 in combination with the disclosure of B40 and the common general knowledge of the person skilled in the art claim 1 does not involve an inventive step (Article 56 EPC 1973).

3. Auxiliary Request I

3.1 The additional feature of claim 1 according to auxiliary request I requires that a reduction factor between an output of the electric motor and the corresponding numbering wheel is selected to be such that a positional resolution of the numbering wheel,

measured at its periphery, is of the order of 0.1 to 0.15 mm or less.

A high positional resolution gives way to a fine adjustment of the position of the numbering wheels (paragraph [0048] of the patent), which allows the numbers to be printed with a high accuracy.

The board sees no reason to disagree with the respondent that, further to the problem formulated in point 2.2 above, the quality of the printed product should be ensured.

- 3.2 The behaviour of a numbering wheel carrying individual alpha-numerical indicia is determined by the speed and the torque at which it is operated. For a given electric motor these parameters are determined by the gear ratio of the transmission between the motor and the numbering wheel. It is therefore a matter of routine for the skilled person to determine the reduction factor in function of the quality requirements.

This is also evident from the broad range of reduction factors offered for the planetary gearset on page 28 of document B40 ("Untersetzungen von 4 : 1 bis 6285 : 1").

Furthermore, the board follows the argument of appellant II that the absolute value of the position resolution on the periphery of the wheel does not have any technical meaning without knowing the dimensions of the wheel. Indeed, a length measured in absolute terms on the wheel periphery remains without substance in the absence of the wheel diameter.

In any case, it is clear that a transmission with a reduction factor of the order of 6285 : 1 would be able to reduce the rotational speed and increase the torque of a brushless DC motor with outer dimensions as low as 6 mm to a degree where very accurate positioning is possible (cf. page 28 of document B40).

As a consequence, the problem as described in point 3.1 above is solved in an obvious manner.

3.3 The board therefore concludes that the subject-matter of claim 1 of auxiliary request I does not involve an inventive step (Article 56 EPC 1973).

4. Auxiliary Request II

4.1 With respect to claim 1 of the main request, the additional feature

"and wherein the numbering device further comprises calibration means (12, 13) for calibrating the position of the numbering wheels (7) about the rotation axis, which calibration means (12, 13) comprise, for each numbering wheel (7), a Hall effect detector (13) cooperating with at least one corresponding magnet (12) disposed on the numbering wheel (7) to be calibrated"

was added to claim 1 of auxiliary request II.

There is no dispute between the parties that this feature further distinguishes the claimed subject-matter from the numbering device shown in Figure 6 of document B53.

According to the common meaning of the word, calibration involves setting or adjusting an instrument by comparing its readings to a standard. As a consequence of the additional feature, the drive of the numbering wheels may be relied upon to be accurate.

The board therefore refines the problem formulated in point 2.2 above in that the drive should be more accurate.

- 4.2 Document E8 was advanced by appellant II in the context of inventive step regarding claim 1 of auxiliary request II. This document concerns a numbering device for printing banknotes, with numbering wheels that are operated manually (column 5, lines 1 to 6 and 64 to 67: "for a press operator to scan ... He needs then only to rotate the print element", "The numbering wheels ... are advanced in a way which is conventional ... Thus, referring to Fig. 2, there is a conventional wheel indexing lever 50"; column 7, lines 8 to 10 and 13 to 15: "all the wheels 11 to 20 are rotated manually", "the numbering wheels are manually rotated").

The board is not persuaded that the skilled person starting from a motor-driven numbering device with closed-loop position control will revert to a document discussing solutions involving the manual rotation of numbering wheels with the aim to provide an accurate drive.

Moreover, document E8 is not concerned with calibration. Instead, it is directed to monitoring the position of numbering wheels and providing a visual indication to the operator in case of a discrepancy with a desired position (claim 1; column 7, lines 4 to 15: "signal at the appropriate LED"). Unlike the

inherent characteristic of a calibration process, the output signals of the Hall sensors 28 are not fed back to the device to set or to adjust the position of the numbering wheels.

- 4.3 None of the other documents mentioned by the appellants disclose a calibrating means comprising, for each numbering wheel, a Hall effect detector cooperating with a magnet on the wheel.

The Hall sensors mentioned on page 26 of the catalogue B40 are built in the brushless DC motor to retrieve the rotational position of the rotor and conduct the electronic commutation of the motor.

The magnets M embedded in the side surface of intermediate gears 5 according to document B43 are detected by magnetic sensors S, see Figure 2(b). The output signal of the sensors is used to control the engagement member 7 in order to mechanically latch the numbering wheel 2 (paragraphs [0021] and [0022] of the translation B44a).

- 4.4 In view thereof, the appellants did not convince the board that the subject-matter of claim 1 of auxiliary request II was obvious having regard to the state of the art. Hence, the subject-matter of claim 1 of auxiliary request II involves an inventive step (Article 56 EPC 1973).

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 patent in amended form on the basis of
 - claims 1 to 16 according to auxiliary request II filed with letter dated 13 November 2019,
 - the description
 - paragraphs 1 to 27, 30 to 38, 40, 41, 44 and 48 to 87 of the patent specification,
 - paragraphs 21A, 28, 29, 42, 43, 45 to 47 of the description as filed during the oral proceedings before the opposition division on 29 September 2016,
 - paragraph 39 of the description as filed during the oral proceedings on 8 January 2020, and
 - drawing sheets 1/22 to 22/22 of the patent specification.

The Registrar:

The Chairman:



N. Schneider

M. Poock

Decision electronically authenticated