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Anmeldenummer / Filing No / N° de la demande : 86 902 542.9

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Bezeichnung der Erfindung: Indicator device
Title of invention:
Titre de l'invention :

Klassifikation / Classification / Classement : B23Q 17/22

## ENTSCHEIDUNG / DECISION

vom / of / du 16 November 1990

Anmelder / Applicant / Demandeur : Industriverktyg AB

Patentinhaber / Proprietor of the patent /
Titulaire du brevet :

Einsprechender / Opponent / Opposant :

Stichwort / Headword / Référence :

EPÜ / EPC / CBE Art. 56

Schlagwort / Keyword / Mot clé : "Inventive step (yes)"

Leitsatz / Headnote / Sommaire

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Case Number : T 208/90 - 3.2.4

# D E C I S I O N
of the Technical Board of Appeal 3.2.4
of 16 November 1990

Appellant : Industriverktyg AB
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Representative : Winblad, Hans Peter
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Decision under appeal : Decision of Examining Division 096 of the European Patent Office dated 1 September 1989 and dispatched on 25 October 1989 refusing European patent application No. 86 902 542.9 pursuant to Article 97(1) EPC

Composition of the Board :

Chairman : C. Andries
Members : H. Seidenschwarz
O. Bossung

**Summary of Facts and Submissions**

I. European patent application 86 902 542.9 filed on 25 March 1986 as an international application PCT/SE86/00133 and published under the number WO 86/05735 (corresponding to EP-A-216 890) was refused by a decision of the Examining Division 096 dated 1 September 1989 and dispatched on 25 October 1989.

II. The reason for the refusal was that the subject-matter of Claim 1 filed with the letter of 25 May 1989 did not involve an inventive step in the light of the teaching known from document SE-C-125 907 in combination with the teaching known from the document CH-A-504 934.

III. By telex received on 20 December 1989, confirmed in writing on 22 December 1989, the Appellant lodged an appeal against the decision and paid the fee for appeal simultaneously. The Statement of Grounds was submitted on 22 February 1990 by facsimile and confirmed in writing on 28 February 1990.

IV. In response to communications of the Board of Appeal the Appellant filed with letter dated 14 September 1990 a single new claim and new pages 2 to 5 of the description, and with letter dated 8 October 1990 a new page 1 of the description.

The single new claim reads as follows:

"Indicator device for use in setting a predetermined distance between a workpiece set up in a working machine, and a tool set up in said machine, said device comprising a lower portion (2) with an underside (13) which is adapted to lie against the workpiece, an upper portion (1) with a topside (8) against which the tool is intended to

come into contact, said topside being parallel to the underside (13) of the lower portion and movable towards said underside against the effect of a resilient force, a voltage source (4) and an indicator means (5), abutment surfaces (11,15) on the upper portion and the lower portion being adapted - when abutting one another under the influence of the resilient force acting between said portions - to limit the movement of the upper portion (1) away from the lower portion (2), characterized in that said predetermined distance to be set is provided by the distance between the topside (8) and the underside (13) in the unloaded state of the indicator, in which the abutment surfaces abut each other under the action of the resilient force, that the underside (13) is electrically insulated from the topside (8), and that the indicator means (5) and the voltage source (4) are coupled such that the indicator means (5) is activated when a circuit (16) between the topside (8) and the underside (13) is closed via the workpiece, the working machine and the tool."

V. The Appellant requests implicitly that

- the decision under appeal be set aside, and
- a European patent should be granted on the basis of the following documents:

claim and pages 2 to 5 of the description filed with letter dated 14 September 1990;
page 1 of the description filed with letter dated 8 October 1990;
drawing as originally filed.

**Reasons for the Decision**

1. The appeal is admissible.

2. The single Claim comprises a combination of the features mentioned in Claims 1 and 2 as originally filed with features which are disclosed in the description and single drawing as originally filed.

The amendment concerning the replacement of the expression "Indicator device for determining the distance" in Claim 1 as originally filed by the expression "Indicator device for use in setting a predetermined distance" is not literally mentioned in the original description. However, a precise analysis of the described state of the art, its problem and solution (cf. page 1, line 12 to page 2, line 4) as well as of the described operation of the indicator device (cf. page 4, lines 16 to 19; page 5, lines 19 to 29) leads to the conclusion that for the person skilled in the art, it is unequivocally deducible from the original description that the setting of a predetermined distance between a workpiece and a tool both set up in a working machine is the only purpose of the claimed device.

The description is adapted to the wording of the single Claim and discusses the state of the art.

Hence, the application complies with Article 123(2) EPC.

3. The Appellant derived the precharacterising portion of the Claim from an indicator device disclosed in the document SE-C-125 907. According to the finding of the Board of Appeal, this indicator device is the closest to the subject-matter of the Claim among the devices according to the documents being in the file.

The known indicator device does however not comprise the feature that the "said topside being ... spaced from the underside said predetermined distance", since the construction of the known indicator device permits only to determine the distance between a tool and a workpiece within certain intervals. This is due to the fact that the three indicator means (lamps 11, 12 and 13) are activated by pressing the upper part (3) into the lower part (2) so that after a certain degree of depression biased contact screws (4,5) in the upper part come into contact with corresponding set screws (6,7), which are isolated in the lower part, thus giving different readings.

The Appellant has, therefore, mentioned in the preamble of the Claim only all those features which, in combination, are part of the indicator device made available to the public by the aforesaid patent specification. The Claim therefore satisfies Rule 29(1)(a) EPC.

Consequently, the Claim is in this respect not open to objection.

4. It follows from the statement in the foregoing paragraph that the Board of Appeal, having examined the available documents has come to the conclusion that the indicator device as defined in the single Claim is also not disclosed in any one of them.

The subject-matter of the single Claim is, therefore, novel having regard to the state of the art.

5. On the question of whether or not the cited prior art would suggest the indicator device according to the single Claim, the following should be observed:

5.1 Document SE-C-125 907

With the indicator device known from this document it is only possible to set the distance between the tool and the workpiece within certain intervals and to check temporarily the distance between the tip of the tool and the upper surface of the workpiece (cf. above paragraph 3).

5.2 The problem underlying the invention is, therefore, to provide a simple indicator device, which gives an exact indication of a desired predetermined distance between the workpiece and the tool.

5.3 According to the teaching of Claim 1, this problem is solved by using the height of the indicator device in its unloaded state as the predetermined distance, so that the indicator means and the voltage source are only coupled when said distance is less than said height.

5.4 Document CH-A-504 934

This document discloses a battery operated device adapted for mounting on a machine to visually indicate the movement of a movable machine member past a pair of reference points.

This known indicator device (10) comprises a steel tubular housing (22) having end members (24,26) which close the opposite ends of the housing and are formed of non-conductive material. An elongated metal rod (28) carrying a sensing head (30) on its outer end is reciprocally mounted in one of the end members and is electrically isolated from the housing, but electrically partly directly connected and partly connectable to indicator means (58,60). Said indicator device is mounted to a work

table (12) so that as the work table reciprocates in its cutting cycle, it moves the indicator device toward and away from a stop member (20) which is fixedly mounted on a machine base. The work table and the fixed stop member as well as the machine base are all formed of electrically conductive material. Because the work table is in metal-to-metal contact with the fixed stop member a contact established between this stop member and the sensing head closes an electric circuit to the first indicator means (lamp 58). When the device is moved further towards the stop member an additional contact is established between the elongated metal rod and a metal channel-spaced bracket (36) energising the second indicator means (lamp 60), which metal bracket is mounted on the inner side of the outer end of the housing. From this results (cf. also Figure 4) that the indicator means (58,60) and the battery (50) are coupled so that the indicator means are activated when an electric circuit between the stop member (20) and the sensing head (30) is closed via the work table (12), the metal rod (28) and the metal bracket (36) respectively. In operation the indicator device (10) is slid into position until the sensing head contacts the stop member. At this exact point the first indicator means commences to glow. After a certain amount of cutting cycles the inner end of the metal rod contacts the metal bracket and the second indicator means commences also to glow: cf. column 1, lines 1 to 5, 22 to 28; column 2, lines 31 to 34; column 3, lines 4 to 9; 19 and 20; column 3, line 62 to column 4, line 2; column 4, lines 11 to 29.

From the document CH-A-504 934 the person skilled in the art, therefore, learns to indicate a desired length of the movement of the cutting tool between two different predetermined positions for which the distance between the two end members (24,26) of the housing (22) is of no

relevance. From this it is clear that the Swiss document is not concerned with the problem of indicating exactly a desired predetermined distance between a workpiece and the tool just by placing the indicator device between the workpiece and the tool. Although it is known from this document to close an external circuit in order to provide an indication upon contact between the movable portion of the indicator device and a machine part, the document does not contain any hint to set the scale of a working machine by taking only into account the height of an indicator device in an unloaded state, thus avoiding the direct contact between the workpiece, which eliminates the risk of damage to an easily damaged workpiece surface.

5.5 Document DE-A-2 739 533 relates to a process and related device for the longitudinal adjustment of tools for individual working spindles of a multiple-spindle numerically controlled machine tool, in all cases on a working-part reference point as the zero point co-ordinate of the common processing programme. The tools introduced into the working spindles in the direction of their lengths, and which have to be adjusted are run in rapid advance in all cases against a measuring device, which is deflected accordingly. The device produces a first signal if the measuring device is deflected such that a certain first position is reached by its upper surface. The rapid advance of the corresponding working spindles is thereby switched to a crawl speed. After a further deflection of the measuring device, reaching thereby the working part reference point and producing a second signal, the corresponding spindles are switched off individually. This device carries on its upper side a scanning surface for the tools which assumes three individual positions together with a displaceable upper part of the measuring device (cf. page 20, lines 3 to 12; Claim 1; Fig. 1 and 6). It is clear that the aforementioned document cannot

give any hint to the person skilled in the art to solve the problem underlying the invention (cf. point 5.2 above) according to which the height of the measuring device in its unloaded state is used as the predetermined distance between the tools.

5.6 Therefore, the teachings of documents CH-A-504 934 and DE-A-2 739 533, either alone or in combination with the closest prior art document SE-C-125 907, cannot lead the person skilled in the art to an indicator device according to the single Claim.

5.7 Hence, in the Board's judgment the subject-matter of the Claim involves an inventive step within the meaning of Article 56 EPC.

6. Consequently the Claim is allowable.

**Order**

**For these reasons, it is decided that:**

1. The contested decision is set aside.

2. The case is remitted to the first instance with the order to grant a European patent on the basis of the documents as defined in above point V.

The Registrar: The Chairman:

N. Maslin C. Andries

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