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D E C I S I O N
of 19 February 2002

Case Number: T 0352/99 - 3.4.2

Application Number: 88200117.5

Publication Number: 0284113

IPC: G09B 21/00, G03F 3/023

Language of the proceedings: EN

Title of invention:
Work station comprising a braille reading line

Patentee:
Vennootschap onder firma: ALVA

Opponent:
Baum Elektronik GmbH
FRANK AUDIODATA
Metec Ingenieur GmbH

Headword:
-

Relevant legal provisions:
EPC Art. 56

Keyword:
"Inventive step - confirmed"

Decisions cited:
-

Catchword:
-

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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 0352/99 - 3.4.2

D E C I S I O N
of the Technical Board of Appeal 3.4.2
of 19 February 2002

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Decision under appeal: **Interlocutory decision of the Opposition Division of the European Patent Office posted 1 February 1999 concerning maintenance of European patent No. 0 284 113 in amended form.**

Composition of the Board:

Chairman: E. Turrini
Members: M. A. Rayner
V. Di Cerbo

Summary of Facts and Submissions

I. The appellant (=opponent II) has appealed against the interlocutory decision of the opposition division that account being taken of the amendments made by the proprietor of European patent number 0 284 113 (application number 88 200 117.5), the patent and the invention to which it relates meet the requirements of the EPC. The patent concerns a work station comprising a Braille reading line. In the decision under appeal, reference was made *inter alia* to the following:

P3: DE-A-3 233 115

E16: Anlage 1 (photograph of a keyboard), submitted by the appellant on 13 February 1992

E17: Anlage 2 (photograph of a keyboard), submitted by the appellant on 13 February 1992

E22: Affidavit (Herr Frasch) concerning a demonstration at the CEBIT Hannover beginning on 11 March 1986.

The opposition division considered the subject matter of claims 1 to 7 of the patent as amended to be new and to involve an inventive step with regard *inter alia* to the disclosure of document P3 and the demonstrations of the devices shown in documents E16 and E17 as supported by the affidavit E22 submitted by the appellant.

II. The appellant requests revocation of the patent and the respondent (=patent proprietor) requests the board to dismiss the appeal. In the statement setting out the grounds of appeal, the appellant requested oral proceedings on an auxiliary basis. The remaining two

opponents in the proceedings before the first instance did not participate in the appeal proceedings.

III. According to the appellant, document P3 discloses a workstation with a keyboard and a Braille reading line, the workstation comprising information retrieval sensor means which can be arranged adjacent to the Braille line. In addition, according to the paragraph bridging pages 4 and 5 of document P3 this arrangement has the advantage that the user does not have to move his hands away from the keyboard region, thus ensuring a stable orientation.

According to point 3 of affidavit E22, the position of the horizontal slider of the keyboard shown in disclosure E17 determines within a predetermined line a corresponding point, the information content of which is then retrieved and displayed in a Braille reading line arranged along the keyboard. Further, the slider also operates to move the cursor. A slider is technically equivalent to an array of switches and both are commonly used in the field of electrotechnical engineering.

In these circumstances, the person skilled in the art confronted with the problem of the loss of positional orientation when actuating the slider shown in disclosure E17 and being aware of the disclosure of document P3 and the equivalence between sliders and switch arrays, would have considered it obvious to replace the slider by an array of switching sections according to document P3, thus arriving, without any inventive step, at the subject matter of claim 1 of the amended patent.

Moreover, the device disclosed in disclosure E16 comprises two arrays of tactile pin elements respectively arranged on the side and below the keyboard and which, like a Braille line, allow a tactile reading of screen information as disclosed from page 11 of document P3. In addition, the device also comprises an array of switches positioned parallel and adjacent to the array of pin elements and arranged to move the cursor. Therefore, the provision of a switching device with switching sections for moving the cursor is also known from the prior use of the device shown in disclosure E16. This prior use illustrates the obviousness in the provision of the device disclosed in document P3 either as a slider or as an array of switches and shows the equivalence between these two means.

It is incomprehensible why the opposition division did not pursue the prior use according to document E16 and the decision is silent about a combination of document P3 with the prior uses according to disclosures E16, E17 (interpreted according to affidavit E22).

IV. According to the respondent, document P3 is directed to selection, by means of either sliders or key arrays, of a window on the monitor screen for enlarging and/or reproducing in spoken language the information in the window. Where a Braille reading line is used, the sliders or keys can be used for selecting a specific line on the screen. The document does not, however, mention the problem considered in the patent, namely control of the movement of the cursor to a desired location independently of the previous position of the cursor. The tactile pin elements disclosed in the document merely indicate to the user whether on the

corresponding location of the text on the screen a character or a space is present; the characters, however, cannot be read by means of the pin elements. Any advantage in the provision of sliders on the keyboard are relative to a separate unit and this is totally different to orientation of the hand relative to a Braille reading line not being lost in operating the additional cursor control means according to the invention.

Disclosure E16 shows a keyboard with horizontally and vertically disposed switches for selecting a location on the screen which has to be displayed in an enlarged manner or reproduced orally. Single tactile pin cells are arranged along the switches. As in document P3, however, these tactile pin cells do not constitute a Braille reading line or cursor control means.

Disclosure E17 shows a keyboard with a Braille reading line and a horizontal and a vertical slider. According to E22 the keys Alt F10 "Punkt" have to be activated to enable cursor control by means of the slider. Neither operation of the keys Alt F10 "Punkt" nor actuation of the sliders is possible without the orientation of the hand relative to the Braille cell of the Braille reading line being lost.

According to its communications, the opposition division realised at an early stage in the proceedings that document P3 and disclosures E16 and E17 (E22) were irrelevant to the invention.

V. Oral proceedings were appointed during which it was argued as follows:

Appellant

The novelty of the subject matter of claim 1 is not contested. The intended object of the patent can be seen from column 2, line 5 et seq and column 3, line 36 of the patent. According to page 6 of document P3, operation of a sensor and a switch together define information at a point, which for a blind person is a cursor for changing or reading out. According to the last paragraph on page 10 a Braille output is provided, which means a Braille line. Therefore the same problem as the patent is addressed. Disclosure E17 provides a sliding switch. In disclosure E17, the slider has the advantage that it is easier for the blind person to find. Document P3 does not disclose cursor control means, but what is done is the same using two switches at the same time. Exactly the same person in the art is addressed in relation to either the keyboard or the Braille line, and thus not losing orientation, the basic problem is the same in both cases.

Respondent

Document P3 does not disclose cursor control as this is not the same as nor suggested by selecting portions of text. According to pages 5 and 12 of document P3 both hands are used for selecting text. It is not necessary to have a Braille reading line nor is it necessary for this to be near the keyboard. Document P3 mentions orientation of hand relative to keyboard and not a single Braille cell. Important for a blind person is correlation between what is being read on the Braille line and keyboard, not what image is on the screen.

Considering the problem solution approach in relation

to disclosure E17 (taken with affidavit E22) the problem is that the slider is slid to a Braille cell causing loss of orientation, which is further complicated by the necessity of the Alt F10 "Punkt" command. There is no solution in P3 to this problem as orientation with respect to a keyboard which is much larger than a Braille cell does not help for the smaller Braille cell size. There is also no reason to move to switches in document P3 as sliders are portrayed as more advantageous.

In the case of document E16, there is no Braille reading line, there are simply pin cells, there being no clue to cursor control.

VI. Claim 1 of the patent in dispute is worded as follows:

1. A working station comprising a keyboard (2) for the input of data into a memory, said keyboard including cursor displacement control keys, said working station further having a braille reading line (4) comprising a plurality of braille cells (4a.....4u), the working station further comprising additional cursor displacement control means (10) provided in or parallel to the braille reading line (4), said additional cursor displacement control means being arranged to be operated by a visually handicapped person without the orientation of the hand relative to a braille cell of the braille reading line being lost wherein said additional cursor displacement control means (10) comprise a switching device (10) characterised in that the switching device (10) comprises corresponding with each braille cell (4a...4u) of the braille reading line (4), a separately actuable switching section (10a...10u) and that the

cursor displacement control means (10) are adapted, upon operation of a switching section (10a...10u) of the switching device associated with a certain braille cell (4a-4u), to move the cursor directly to the data position corresponding with each braille cell.

VI. The board gave its decision at the end of the oral proceedings.

Reasons for the Decision

1. The appeal complies with the provisions mentioned in Rule 65(1) EPC and is therefore admissible.

Amendments (Article 123 EPC)

2. Claim 1 does not differ from the claim before the first instance. Its subject matter derives from claim 1 as granted further limited by, in substance, the features of granted claim 8. This subject matter was present in the documents as filed (see claims) and the description has been amended consequentially. Accordingly the requirements both of Articles 123(2) and 123(3) EPC can be considered satisfied.

Documents P3, E16 or E17 (interpreted by E22)

3.1 Document P3 discloses a device for communication with a computer installation for blind or visually impaired persons. Output data is supplied in voice or large text form and Braille output in known fashion is also mentioned. Document P3 teaches provision of apparatus for determining a coordinate point of a screen for such output using sensors. Sensors disposed in the keyboard

region as opposed to the screen region are recited as offering a more secure orientation because the operator does not have to move his hands away from the keyboard. Advantageously the sensors are in the form of switching devices and are arranged in mutually perpendicular coordinate directions, one above or below and the other to the side of the keyboard, to define a virtual screen. Switching devices in the form of large easily locatable sliders with a relatively small switching region are mentioned as advantageous. Such sliders remain in their last position of use. A push button switch on each slider make it possible to activate the switches. Raised or lowered tactile point elements are mentioned as indicating whether or not a coordinate point contains information. A row and column of sensor switches is shown in the specific embodiment.

3.2 Disclosure E17 is a photograph, which as interpreted by affidavit E22, discloses a slider equipped keyboard as described in document P3 together with a Braille readout line arranged below the keyboard. Command Alt F10 "Punkt" causes the software to bring the cursor to the position defined by the sliders.

3.3 Disclosure E16 shows a row and column of tactile point elements and switches defining coordinate points and arranged under and at the side, respectively, of a keyboard.

Novelty

4. A definition of coordinates on a virtual screen for content readout is not the same as positioning a cursor. Therefore, neither of documents P3 or E16 disclose additional cursor control means within the

meaning of claim 1. Tactile point elements indicate whether data is present but not its contents. Therefore disclosure E16 does not provide a Braille line. Moreover, the disclosure of output in known Braille fashion according to document P3 gives no information about the disposition of a Braille line with respect to additional cursor control means. Disclosure E17 (interpreted by affidavit E22) does not disclose the characterising features of claim 1 whereby orientation is not lost. The subject matter of claim 1 is therefore novel with respect to any one of document P3, disclosure E16 or disclosure E17 (interpreted by affidavit E22).

Inventive step

5.1 While documents P3, E16 or E17 (interpreted by affidavit E22) all concern keyboard arrangements for use by visually handicapped persons, only disclosure E17 refers explicitly to cursor movement and, for this reason the board considers it to represent the most appropriate starting point for assessment of inventive step.

The objective problem solved by the novel features of claim 1 is facilitating editing by a visually handicapped operator. This is because the cursor is moved directly to the data position corresponding to a Braille cell without loss of orientation upon operation of the corresponding switch.

5.2 The arrangement according to disclosure E17 (interpreted by affidavit E22, with reference to the claim 6 embodiment of document P3, mentioned therein) provides a virtual screen emulated by orthogonally arranged sliders and enables the visually handicapped

operator to move quickly to a point on a computer screen to read out what is there displayed. The cursor is not involved in this process which is not editing, but occurs as a substitute for visually scanning the screen diagonally by a sighted person. When the Braille line begins to be used for content determination, the operator can bring the cursor to a point in the line, but in doing this loses contact with the Braille cell because of it being necessary for the sliders to be brought from their last point of use and actuation via command Alt F10 "Punkt". Therefore, the cursor is not brought *directly* to the Braille cell and the operator cannot be sure, that the correct cell has been reached. The appellant saw this difficulty as being met by using the switches mentioned in documents P3 or E16, but the board is not persuaded by this approach because it confuses the substitute visual scanning process not associated with cursor operation with an editing procedure involving the cursor. The appellant attempted to gloss over this defect in his argument by submitting that defining a readout position and positioning a cursor are the same thing for a blind operator. This attempt however only illustrates confusion between the diagonal scanning of a virtual screen and editing the tactile output of a Braille line and therefore did not convince the board.

Nevertheless, even accepting that the skilled person *could* have replaced the sliders shown in disclosure E17 (interpreted by affidavit E22) by the switches mentioned in document P3 or disclosure E16, the view of the board is that the necessity of using the command Alt F10 "Punkt" would still have prevented movement of the cursor directly to the data position corresponding to the braille cell.

Accordingly, the argument of the appellant that the subject matter of claim 1 could be reached in an obvious way starting from the teaching of disclosure E17 (interpreted by affidavit E22), in the light of disclosure E16 or document P3, did not convince the board.

5.3 In the view of the board, starting from disclosure E16 or document P3, i.e. where there is a row and column of tactile point elements and switches, does not lead to a different conclusion. This is because it is not obvious that the skilled person would, in taking over the cursor control from disclosure E17, have taken the further step of dispensing with the sliders as this runs counter to the advantages ascribed to the sliders such as being easy to find and permitting closer point spacing in the virtual screen. The submission that, in general, use of sliders as opposed to switches is obvious, is not persuasive in relation to the specific teachings relating to the advantage of the sliders in the present case. Moreover, even if this step had been taken, the necessity of using the command Alt F10 "Punkt" with its attendant disadvantage in loss of orientation would have remained.

While remaining in the keyboard region as opposed to requiring movement of the hands to the screen region obviously offers more secure keyboard operation, the board sees this teaching of document P3 as offering no hint towards a more secure operation *within the keyboard region* and thus no relevance to secure operation in relation to individual Braille cells.

Accordingly, the argument of the appellant that the subject matter of claim 1 could be reached in an

obvious way starting from the teaching of disclosure E16 or document P3, in the light of disclosure E17 (interpreted by affidavit E22), did not convince the board.

5.4 As can be seen from the foregoing, the opposition division was correct in its assessment of document P3 and disclosures E16 and E17 (interpreted by affidavit E22) and therefore did not need to pursue the disclosures further.

5.5 The board is therefore satisfied that the subject matter of claim 1, and that of claims 2 to 7 which depend therefrom, can be considered to involve an inventive step within the meaning of Article 56 EPC.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

P. Martorana E. Turrini