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D E C I S I O N
of 13 April 2000

Case Number: T 0015/98 - 3.2.2

Application Number: 91310489.9

Publication Number: 0498111

IPC: A61G 7/015

Language of the proceedings: EN

Title of invention:

Beds

Patentee:

HUNTLEIGH TECHNOLOGY PLC

Opponent:

Hill-Rom GmbH

Headword:

-

Relevant legal provisions:

EPC Art. 54(2), 56

Keyword:

"Prior use (not proved)"

"Inventive step (yes)"

Decisions cited:

T 0002/83

Catchword:

-



Case Number: T 0015/98 - 3.2.2

D E C I S I O N
of the Technical Board of Appeal 3.2.2
of 13 April 2000

Appellant: Hill-Rom GmbH
(Opponent) Postfach 10 01 41
D-47878 Kempen (DE)

Representative: Beyer, Rudi (DE)
Patentanwalt Dipl.-Ing. Rudi Beyer
Am Dickelsbach 8
D-40883 Ratingen (DE)

Respondent: HUNTLEIGH TECHNOLOGY PLC
(Proprietor of the patent) 310-312 Dallow Road
Luton
Bedfordshire LU1 1SS (GB)

Representative: Jehan, Robert
Williams, Powell & Associates
4 St. Paul's Churchyard
London EC4M 8AY (GB)

Decision under appeal: Interlocutory decision of the Opposition Division
of the European Patent Office posted 11 December
1997 concerning maintenance of European patent
No. 0 498 111 in amended form.

Composition of the Board:

Chairman: W. D. Weiß
Members: M. G. Noël
C. Holtz

Summary of Facts and Submissions

I. Upon opposition by the appellant against the grant of European patent No. 0 498 111, the Opposition Division decided by the interlocutory decision dated 11 December 1997 to maintain the patent in amended form.

II. Claim 1 as amended reads as follows:

"A profiling bed comprising a mattress frame (40) including at least three successive portions (42,44,46,48) including a backrest (42) hinged for movement about an axis (52) transverse to the length of the bed, and a legrest (46) likewise hinged, a first motor (60) connected for raising and lowering the backrest and a second motor (58) connected for raising and lowering the legrest, both motors being reversible electric motors; characterised in that means (24) are provided for sensing the angle of parts of the bed, comparing the sensed angles with a microprocessor memory, and adjusting the motors to make automatically corrections so that a backrest adjustment brings about a similar but smaller legrest adjustment, such that the adjusted legrest angle is always a proportion only of the backrest angle."

III. The decision was based, principally, on the following prior art documents:

E0: FR-A-1 439 800

E22: US-A-4 435 862

E23: GB-A-2 209 464

IV. The first instance decided not to introduce into the procedure documents filed after the opposition period since they would not prejudice the maintenance of the patent. Further, the Opposition Division found that the alleged prior use of the IDEO bed was of less relevance than other citations from the written procedure. Also in view of the lack of relevance of the documentary evidence filed in support of the prior use, the Opposition Division decided not to invite the witnesses offered by the appellant to a hearing before the EPO.

V. The appellant lodged an appeal on 20 December 1997. In its statement of grounds filed on 8 April 1998 and in its subsequent written submissions the appellant contested the patentability of the claimed subject-matter vis-à-vis the state of the art, including the prior use of the IDEO bed. In this respect, it requested that late-filed documents be considered and that the witnesses be heard.

VI. A first communication was sent by the Board on 18 December 1998 with a view to clarifying procedural and legal questions such as the admissibility of the late-filed evidence, remittal of the case to the first instance and referral to the Enlarged Board of Appeal.

In a second communication sent on 25 November 1999 the Board specified the legal and factual framework to be considered and the issues to be discussed at the oral proceedings.

VII. Oral proceedings were held on 13 April 2000 at the beginning of which the evidence related to the prior use of the IDEO bed was discussed and the bed itself was presented.

Besides statements related to the prior use, the parties argued as follows:

(i) the appellant:

- the amendments made to claim 1 are not supported by the application as filed and result in an extension of the protection conferred, in contravention of Article 100(c) and 123 EPC,
- the subject-matter of claim 1 lacks novelty unless inventive step vis-à-vis either of the prior art documents E23 or E22, in which the same problem as in the present patent arises and is solved in the same way, with similar general and functional features. Having regard to the computing means proposed in these documents for performing all desired functions and operations, there cannot be any invention in a control system as claimed for adjusting angular positions of the backrest and the legrest.

(ii) the respondent (patentee)

- the amendments introduced in claim 1 have a restrictive effect on the protection as a whole. Therefore, they are acceptable.
- Starting from the closest prior art, none of the cited documents discloses the specific relation between the angular adjustments of the backrest and the legrest. Therefore, the subject-matter of claim 1 is not obvious.

VIII. Prior use

The parties' arguments of the prior use issue are summarised as follows:

(i) the appellant:

A bed, called the IDEO bed, offered by a Swedish company, was sold before the priority date in 1985 to a Norwegian company, according to an invoice dated 30 December 1985. The opponent also bought one IDEO bed. This bed had all the features of the bed of the patent in issue. Mr Lindblom, then executive director of the Swedish company, can testify that the bed was sold without any restrictions as to secrecy.

(ii) the respondent:

The sale of the IDEO bed is not proven. If it was sold to the Norwegian company, they could have been contacted to confirm it. The appellant has not submitted any written declaration about the facts. Hearing the witnesses at this late stage cannot remedy this deficiency. Further, there is a discrepancy as to model number in that the invoice, document E34, refers to a model 3EEE, whereas a model 3EE is described in the French and German brochures, documents E 19 and E 20. There are no facts regarding the distribution of the brochures. It would not be sufficient to hear Mr Lindblom in order to clarify which bed was sold. None of the brochures, the video film and photographs submitted proves how the IDEO bed works.

In addition to the brochures referred to by the appellant, a number of photographs of the purported prior use bed were submitted, ie. documents E42-54, as well as a parts list, E35 and three diagrams of the circuitry and printed board of the control motor, documents E 36-38. The IDEO bed purported to have been sold openly to the opponent before the priority date was demonstrated at the oral proceedings, together with a video film, document E33, whereupon the parties offered the following comments in summary:

(i) the appellant:

The claim of the patent in suit is not so detailed so as to make it possible to distinguish it from the IDEO bed. While it may be true that the motor of the latter is not a computer, it is still comparable to one, even if it is much larger and more unwieldy than the computers of today. In spite of these shortcomings, the motor is still programmable, which is the only thing one needs to do in order to arrive at the adjustable bed of the patent in suit.

(ii) the respondent:

The photographs do not prove that the bed shown thereon was available to the public. The video demonstration shows that the backrest is controlled by one motor only and that a set point is programmed, closing a limit switch which then activates the legrest motor. The system of the IDEO bed does not sense the relative positions of these two parts of the bed. It does not need to

know them because it only can be programmed to recognise the set limit positions. The leg- and backrests of the patented bed are interdependent, contrary to the IDEO bed. The motor of the patented bed contains data, but does not operate with set limit points, since it is constructed to continuously sense respective angles instead. The IDEO bed does not correspond to the brochures with regard to the location of the motor and also the motor circuitry in the brochures looks different. Further, the beds in the brochures show no weldings, whereas the demonstrated bed does.

IX. The appellant requested that the decision under appeal be set aside and that the European patent be revoked.

The respondent requested that the appeal be dismissed.

Reasons for the Decision

1. The appeal is admissible.
2. *Prior use*

Having regard to the fact that the IDEO bed was allegedly sold in 1985, i.e. almost 15 years ago, the Board cannot see that the witnesses could bring any clarity with regard to the details of the alleged sale, nor with regard to the exact features of the IDEO bed as purportedly sold. The Board therefore decided not to hear them.

The remaining evidence in support of the allegation that the IDEO bed was openly sold before the priority

date and that it contains all the features of claim 1 of the patent in issue therefore consists of the bed demonstrated at the oral proceedings, photos of the bed, a video film shown at the oral proceedings, the parts list and the three diagrams showing the circuitry of the motor, documents E35-38, and the invoice, document E34.

This evidence is not sufficient to prove prior use. There is no evidence that the bed as demonstrated is the same bed as referred to in the invoice and/or in the brochures. This invoice would be the only proof that an IDEO bed had been sold at or around the date of the invoice. However, the model number does not correspond to the one given in the brochures. There is no other evidence to provide the necessary link between the sold bed and the IDEO bed as demonstrated before the board.

No other evidence is on file proving that a bed with the features of the patent in suit was available before the priority date. Document E 35 is a parts list dated 3 December 1984, but does not contain any data from which it can be concluded whether these parts were available to the public. The model numbers given in this list are 3 E and 2 E, again other numbers than the one given in the invoice. The diagrams are not dated and cannot in the absence of any other data be linked to the bed of the invoice.

The Board therefore cannot acknowledge any prior use.

3. *Amendments*

With respect to the version as granted, claim 1 was

amended during the opposition proceedings by introducing the following feature into the characterising portion: "a backrest adjustment brings about a similar but smaller legrest adjustment, such that". This expression is fairly supported by the application as filed at page 6, second paragraph. The word "similar" refers necessarily to the direction of the adjustment since its magnitude is already characterised by the word "smaller".

Moreover, a "smaller adjustment" provides an additional quantitative information which is more specific than only "a proportion" as it was only previously defined. Therefore, the feature added to claim 1 introduces a restriction of the scope, in conformity with the provision of Article 123(3) EPC.

4. *Closest prior art and novelty*

Document E0 represents the closest prior art document as referred to in the introductory part of the description of the patent in suit. Using the terminology of the preamble of claim 1, document E0 discloses a profiling bed comprising a mattress frame including at least three successive portions 1 to 4 including a backrest 2 hinged for movement about an axis 8 transverse to the length of the bed, and a legrest 4 likewise hinged (at 12), a first motor 28 connected for raising and lowering the backrest and a second motor 29 connected for raising and lowering the legrest, both motors being reversible electric motors.

In document E0 the electric motors are operated by a pair of reverse switches preferably arranged side by side so that the respective inclination angles of the

backrest and of the legrest are varied independently of each other as long as the switches are operated and said bed portions have not reached a predetermined position. As this occurs, the respective motors are stopped by operation of a corresponding limit-switch.

Therefore, document E0 does not disclose any co-operation or interdependence between the movements of the backrest and the legrest. Claim 1 differs therefrom by its characterising features.

Since no other document comes close to the subject-matter of claim 1 and discloses all features in combination, claim 1 must be regarded as novel within the meaning of Article 54(1) EPC.

5. *Inventive step*

5.1 With regard to the above closest prior art which discloses a profiling bed with separate reversible motors for performing backrest and legrest adjustments, the problem underlying the present patent is to provide a predetermined control of said adjustments (cf. column 1, lines 30 to 31).

The solution is given by the characterising features of claim 1. Stated in other words, the backrest and the legrest are controlled to move interdependently in a specific relationship, such that operating the motor for the backrest automatically causes a proportionate but smaller operation in the like direction, of the motor for the legrest. This compensates for any sliding of the patient into an undesired and uncomfortable position due to the backrest reaching steeper angles.

5.2 Document E23 discloses a multi-positional bed comprising a plurality of sections such as back section 81, a thigh section 83 and a leg section 84, all tiltable with respect to one another by means of three controllable motors, so as to assume any one of many desired positions. However, the angular orientation of each section is controlled independently by means of a separate mechanism (cf. page 1, 1st paragraph and page 10, 2nd paragraph).

Thus, although the bed known from document E23 is liable to provide an infinite number of combinations of section's positions (page 11, 1st paragraph), the orientation of each section is independently controllable (page 14, 1st paragraph), which is clearly contrary to the purpose and the solution offered by the present patent. Even if other beds are said to be known (page 10, 2nd paragraph), in which the angular actuation of the thigh and leg sections are interdependent, it remains that none of the conventional beds discloses interdependent adjustment of the backrest and legrest in the claimed proportion.

For controlling the angular orientation of each mattress section in document E23, different electromechanical arrangements are actuated in response to either manually or computer supplied signals (page 16, 1st paragraph and Figure 11). However, the computerisation of the bed by a programmed microprocessor is aimed at avoiding unacceptable positions such as those illustrated in Figures 5d and 5e. Therefore, even if a microprocessor "could" be programmed with different sequential operations in order to perform as well desired as undesired functions, this does not mean that the specific

combination of adjustments as claimed of the bed sections "would" be necessarily investigated. In such a case, the very intention of the skilled person still must be taken into account for assessing the inventive step of the solution (T 2/83, OJ EPO 1984, 265).

It results therefrom that document E23 neither discloses nor suggests combining backrest and legrest adjustments in the way as claimed but rather teaches away from providing interdependent controlling means.

- 5.3 Document E22 likewise discloses (cf. Figures 1 to 4 and text referred to) an adjustable bed comprising three mattress supporting portions moved by appropriate motor controlled mechanisms. The motors may be actuated in selected combinations and sequences by means of a microprocessor (Figure 20), so as to achieve particular bed positions. To this end (column 7), a microprocessor includes a programmable memory (EPROM) for storing instructions concerning the coordination and sequence of actuation of the motors, ie control signals indicative of allowed and disallowed movements and control signals for actuating the motors and thereby moving the corresponding bed portions into the selected bed position. However, the motors are actuated independently and the bed portions separately moved to predetermined limiting positions. As explained in column 9, when for example the head portion 11 (backrest) is moved in response to a control signal from the microprocessor the selected position is detected by a limit switch which indicates that the motor should be interrupted.

Therefore, although a number of combinations and greater flexibility in position controlling are made

available by use of processing means, document E22 like E23 does not disclose the specific positioning control arrangement between the backrest and legrest according to the subject-matter of claim 1.

As further mentioned in document E22 (column 5, lines 15 to 24) as the head portion 11 of the bed is moved to and from a raised position, it is possible to also change the angulation of the thigh portion 14. This option, however, is less favoured because of difficulties in coordinating or combining the respective lift movements, which, for a skilled person, rather acts as a deterrent. Moreover, the following described embodiment involves only mechanical elements, such as those illustrated in Figures 8 to 10.

Contrary to the appellant's line of arguments, the protection conferred by claim 1 does not cover any kind of bed positioning control systems but is restricted to a specific proportioning control between the backrest and the legrest. Since, moreover, the invention is defined by a functional relationship, it is irrelevant whether all means, either electronic or mechanical, used for performing the function, are known *per se*.

- 5.4 Since the characterising features are not disclosed in any of the cited documents, the subject-matter of claim 1 must be regarded as inventive within the meaning of Article 56 EPC.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

V. Commare

W. D. Weiß