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D E C I S I O N
of 29 June 2000

Case Number: T 0030/99 - 3.5.1

Application Number: 91102481.8

Publication Number: 0428505

IPC: G05B 19/10

Language of the proceedings: EN

Title of invention:

A control apparatus

Patentee:

GAMBRO AB

Opponent:

Presenius Medical Care Deutschland GmbH

Headword:

Control apparatus/GAMBRO

Relevant legal provisions:

EPC Art. 52(1), 56

Keyword:

"Inventive step (yes)"

Decisions cited:

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Catchword:

-



Case Number: T 0030/99 - 3.5.1

D E C I S I O N
of the Technical Board of Appeal 3.5.1
of 29 June 2000

Appellant: Fresenius Medical Care Deutschland GmbH
(Opponent) Gluckensteinweg
D-61350 Bad Homburg (DE)

Representative: Laufhütte, Dieter, Dr.-Ing.
Lorenz-Seidler-Gossel
Widenmayerstraße 23
D-80538 München (DE)

Respondent: GAMBRO AB
(Proprietor of the patent) Post Box 10101
220 10 Lund (SE)

Representative: Asketorp, Göran
Gambro AB
Patent Department
Box 10101
220 10 Lund (SE)

Decision under appeal: Interlocutory decision of the Opposition Division
of the European Patent Office posted
2 December 1998 concerning maintenance of
European patent No. 0 428 505 in amended form.

Composition of the Board:

Chairman: P. K. J. van den Berg
Members: R. Randes
P. H. Mühlens

Summary of Facts and Submissions

I. The appellant (opponent) lodged an appeal against the interlocutory decision of the opposition division to maintain the patent in amended form (Article 102(3) EPC). Opposition had been filed against the patent as a whole and was based on Article 100(a) together with Articles 52(1), 54 and 56 EPC. The opposition division held that the grounds for opposition mentioned in Article 100(a) EPC did not prejudice the maintenance of the patent as amended, having regard inter alia to the following documents:

D1: Sicherheitstechnik bei einem mikroprozessorgesteuerten Hämodialysgerät", R. Heitmeier et al., periodical "medizintechnik", vol. 105 4/85, pages 118 - 124 (published after the priority date of the patent)

D1a: Produktinformation zum Dialysegerät "HD segura" from the company B. Braun-Melsungen AG, brochure including 6 pages published on 1 November 1984

D1b: Prospektinformation zum Dialysegerät "HD segura", brochure including 2 pages from the company B. Braun-Melsungen AG published on 2 April 1985

In the proceedings before the opposition division the Patentees admitted that the contents of documents D1, D1a and D1b were available to the public before the priority date of June 4, 1985, even if document D1 was published later.

II. **Claim 1** of the amended patent reads as follows:

"A method of adjusting a control apparatus comprising:

at least two microprocessors;

a first of said microprocessors being adapted to control certain parameters in relation to first control constants stored in a first storage register associated with said first microprocessor;

a second of said microprocessors being adapted to monitor said parameters in relation to second control constants stored in a second storage register associated with said second microprocessor substantially for supervision of said parameters;

manually controllable input means for supplying values of said control constants to the respective storage registers;

characterized in

operating said input means by an operator for supplying new values for said control constants to be entered into one of said first or second storage register as new control constants;

subsequently digitally duplicating said new control constants as entered in said one storage register from this register and entering said duplicated new control constants into another of said storage registers, whereby identical values

for said new control constants are entered into all of said storage registers; and

finally displaying said duplicated new control constants for providing a feedback to the operator."

Claim 5 reads as follows:

Control apparatus intended for performing the method according to anyone of claims 1 to 4, comprising:

at least two microprocessors (44,50);

a first of said microprocessors (50) being adapted to control certain parameters (xxx, yyy) in relation to first control constants stored in a first storage register (52) associated with said first microprocessor;

a second of said microprocessors (44) being adapted to monitor said parameters in relation to second control constants stored in a second storage registers (46) associated with said second microprocessor substantially for supervision of said parameters;

manually controllable input means (6) for supplying values of said control constants to the respective storage registers;

characterized in that

said input means (6) is adapted to be operated by

an operator for supplying new values for said control constants to be entered into one of said first or second storage register (46, 52), as new control constants;

digital duplication means (48) for subsequently digitally duplicating said new control constants as entered in said one storage register from this register and entering said duplicated new control constants into another of said storage registers (46, 52), whereby identical values for said new control constants are entered into all of said storage registers; and

display means (11) for finally displaying said duplicated new control constants for providing a feed back to the operator.

III. The opposition division in its decision came to the conclusion that the feature of serial input of control constant values to the registers of the two microprocessors as was defined by the independent claims of the present invention was not disclosed by the closest prior art according to D1 and also that the subject-matter of the independent claims was not obvious to a skilled man.

IV. The Board summoned the parties to attend oral proceedings according to the auxiliary request of the appellant. It was mentioned in the communication, dispatched with the invitation to oral proceedings, that the technical problem to be solved by the present invention indicated by the appellant (and the opposition division) might not be appropriate and the parties were invited to file proposals for an

appropriate problem. Oral proceedings took place on 29 June 2000.

- V. In its argumentation against the inventive step of the invention the appellant formally attacked claim 5 of the patent. In the course of the appeal proceedings the appellant in summary argued as follows:

D1 disclosed a safety concept of an equipment for haemodialysis. The equipment comprised a function processor, a control processor and an image processor ("Anzeige Prozessor"). There was a keyboard connected to both the function processor and the control processor, so that the storage registers in the processors could be accessed in parallel. Each one of these processors were in turn separately connected to an image processor.

It was clear that the keyboard produced digital signals which could not be deformed during the transmission to the processors. Therefore, there was no need to have a serial communication between the function processor and the control processor. In fact, having regard to the Board's remark in the communication about the objective technical problem, it appeared that it was not easy to pose such a problem, because it was quite clear for a skilled person, that the parallel signals to the processors from the keyboard input to the two registers in the two different processors were identical. It was true that it was not explicitly disclosed in D1 in which way or by which means the data to the registers was duplicated. However, the function- and control processor worked independently from each other and had to receive the same data, otherwise no control was possible. Therefore, it was not easy to realise why a

skilled person would try to make the thing more complicated than it was. However, it was of course obvious to him that a serial input could be made from one register to another if necessary. In D1, which like the invention was concerned with safety aspects, a serial input of data was made over the function processor as well as over the control processor to the image processor. Thus, if the skilled man would experience a problem as indicated in the present patent specification, in that an analog input could produce different values to two different processors it would, of course, be obvious for him to use the serial or sequential input as proposed by the invention. This was, however, common general knowledge and could not establish an inventive step.

The respondent argued as follows:

The invention concerned a haemodialysis equipment of the second generation, wherein, in particular, the safety aspects were under consideration. The applicant had in fact found, that in an arrangement like the one disclosed in D1, wherein a keyboard was connected to a bus structure which connected a function processor and a control processor (Figure 1 in D1), it happened that the data transmitted to the processors from the keyboard could be deformed, i.e. they did not receive identical data. This was because the arrangement shown in D1 did not represent a strictly parallel transfer of data from the keyboard to the two microprocessors concerned, instead the data was delivered from the keyboard to the two registers of the processors upon polling. Therefore, there could be a delay between the polls and also between the delivery of data to the two separate processors. If e.g. a key was not depressed

any longer at the last poll, it happened in this prior art arrangement that the data transmitted from the keyboard was deformed and the data received by the two processors was not identical. Confronted with that problem the applicant came to the conclusion that the only safe way of avoiding that error source, was to input the data into one of the registers, to copy it and finally to introduce it into the other one of the registers.

Document D1 did not in the sense of the invention disclose a sequential input of control constants. According to the invention the data was, thus, first input to the first storage register, then further to the second register and finally to the display means. In the arrangement of D1 the information could be input from the keyboard to both the function- and the control processor. However, in which way it was transmitted to the image processor had not been disclosed. This was apparently not done in an uninterrupted way of steps as in the present invention. Thus, in D1 the two last steps were not disclosed at all. In fact, it appeared that the function- and control processors according to D1 functioned totally independently of each other and did cooperate only during the test program (see, page 122, point 3.4), wherein the control processor was checked.

The appellant therefore was of the opinion that the invention involved an inventive step.

VI. **The appellant** (opponent) requested that the **decision under appeal be set aside** and that the European patent No. 0 428 505 be revoked.

The respondent (patentee) requested that the **appeal be dismissed** and that

the patent be maintained on the basis of the main request before the opposition division and amended pages 3, 4, 4a of the description and amended Figure 6 (**main request**), and

as **auxiliary request I**, that the case be remitted to the opposition division for further prosecution on the basis of the auxiliary request before the opposition division and amended page 3 and amended Figure 6, and

as **auxiliary request II**, that the patent be maintained on the basis of the auxiliary request before the opposition division, amended page 3 of the description and amended Figure 6, amendments of description and drawing filed during the oral proceedings before the Board.

Reasons for the Decision

1. The appeal is admissible.
2. In the oral proceedings both parties apparently accepted that the subject-matter of the precharacterising part of claim 5 was disclosed by the teaching of D1. The Board, however, is of the opinion that none of the characterising features of the independent claim 5 is explicitly disclosed by D1.

It is noticed that the invention deals with the problem to input information safely from a manually controllable input means. It is also true that cited

reference D1 is concerned with safety aspects of haemodialysis equipments. The appellant has tried to convince the Board that according to D1 the data input to the keyboard was transmitted in parallel and in digital form to the two processors concerned. However, document D1 only mentions in passing that the control processor, in parallel with the function processor, receives data from the keyboard ("Er erhält parallel zum F- μ P die Tastatur"- paragraph 2.4 in D1). If this passage is interpreted to mean that both processors receive identical data, then this, as pointed out by the respondent, appears to be contrary to what is said in paragraphs 2.1 and 2.2 (page 120 in D1), wherein it is proposed that an inner protection system is supervised by the function processor and an outer protection system by the control processor. These systems appear to be quite separate and each of them have their own separate sensors.

Having regard to the first characterising feature, it appears that, if the interpretation of D1 according to the appellant is used, then this feature is not known from D1, since in this case the new values according to D1 are directly entered into both of the processors (control- and function processors) and not into only one of them as claimed. According to the respondent, in D1, either the function processor or the control processor is being supplied with the particular data, i.e. one of them is not supplied at all with that particular data concerned.

The appellant was of the opinion that it was self-evident to the skilled person that duplication means as identified in claim 5 must in some form be present in the arrangement of D1. However, the Board is of the

opinion that the appellant has not been able to show that such duplication means in the sense of the invention are present in D1. The first part of the second characterising feature is therefore not disclosed in D1. In any case, it is quite clear that according to D1 the "new control constants as entered in said one storage register" from the manual input device is not in turn entered "into another of said storage registers" as is claimed by the second part of the second characterising feature of claim 5. It is true that paragraph 3.2 in D1 mentions that data is transmitted in series from each of the function- and control processor to the image processor. However, D1 does not deal with input of information from manually controllable input means. As the respondent has pointed out, the information in the registers of the function- and control processors in D1 might have been entered from any input means or other sources by means of the bus structure.

Also, the last feature of claim 5 is not present in D1 in the sense of the invention, since D1 does not teach that new control constants are displayed sequentially in order to provide feed back to the operator. In D1 there is no indication that the input from the keyboard is immediately displayed.

Thus, it appears that all of the characterising features of claim 5 are novel in respect of the teaching of D5. Moreover, it is noticed that D1 does not at all mention, or even hint at, that any problems could exist if data is input to the registers of the function- and control processors from the keyboard. This was in fact strongly stressed by the appellants themselves (see, above, under V) in the course of the

oral proceedings and manifested by the statement, that it was hard to pose an objective technical problem which would lead to the invention, since the information flow structure shown in Figure 1 of D1 provided digital data that could not be deformed. According to the appellant it was nevertheless self-evident that a skilled man would arrive at the invention if for some reason deformation of data was detected.

The respondent, however, stated (see, above, under V and the letter, filed on 10 October 1999, first page, last paragraph) that the applicants of the present invention had, in fact, discovered that problems existed if a parallel supply of data was provided to the two processors by a manual input means, like a keyboard. Therefore, it had been necessary to improve the safety. The appellant during the oral proceedings contested this statement of the respondent and expressed the opinion that this could not be the case; the respondent had not proved that such problems existed.

Having regard to the alleged problems, arising at manual input of data, the Board is inclined to give the respondent the benefit of doubt and can, therefore accept the argumentation given by respondent. The appellant in the oral proceedings contested the technical background given by the respondent. However, it is established case law that normally in opposition proceedings and also in their continuation before the Boards of Appeal, the burden of proof lies on the side of the opponent.

Therefore, the Board takes the view that, if the

starting point of the invention is to be seen in the teaching of D1, and if the problem to be solved by the invention is seen in avoiding deformation of data input from the manual input means to the two processors, i.e. the data received by the processors must be identical, then already the posed problem contributes to inventive step, since this was a real practical problem that was not at all recognised by the skilled persons in the art before the priority date of the invention. The inventors in the present case, in fact, found that the values in the two registers were not always identical and also found why such a situation arose.

Moreover, the Board also is of the opinion that there is absolutely nothing in the prior art document D1 that in some way points in the direction of the solution of the invention if the starting point is the arrangement of that document. The appellants stated that it would be obvious to a skilled person to arrive at the invention if the deformation problems still existed which were proposed by the respondent. However, the appellants did not give any good reasons why this would be obvious. As pointed out by the Board above, the arrangement of D1, which does not have any of the characterising features of claim 5, does, in fact, not disclose a duplication means or copying means for providing an identical copy of data from one storage register to an other one, does not disclose a serial and sequential transmission of data, which is input manually to one microprocessor (in D1 into the function- and control processors) and from there to a second microprocessor (in D1 the image processor) and, moreover, does not disclose a display means which in the sense of the invention displays the new control constants manually input from the input means.

Thus, in addition to the fact that the problem to be solved is not derivable from D1, also the most salient features of the invention are not derivable from the teaching of it. It therefore appears that the skilled person could only arrive at the invention with hindsight.

3. The Board, therefore, takes the view that the subject-matter of claim 5 is not obvious to a skilled person and, therefore, involves an inventive step (Articles 56 and 52(1) EPC. Similarly claim 1 which is a method claim corresponding to the apparatus claim 5 involves an inventive step.

Dependent claims 2 to 4 and 6 to 10 identify embodiments of the invention and are therefore also allowable.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

M. Kiehl

P. K. J. van den Berg