Datasheet for the decision of 29 October 2013

Case Number: T 1325/09 – 3.2.02
Application Number: 02737267.1
Publication Number: 1401518
IPC: A61M 5/168, A61M 1/36, A61B 5/00
Language of the proceedings: EN
Title of invention: Needle Dislodgement Detection
Opponents: GAMBRO LUNDIA AB Fresenius Medical Care Deutschland GmbH
Headword:

Relevant legal provisions:
EPC Art. 54, 56, 84, 123(2)
EPC R. 115(2)
RPBA Art. 15(3)

Keyword:
"Added subject-matter (no)"
"Clarity (yes)"
"Novelty (yes)"
"Inventive step (yes)"

Decisions cited:

Catchword:
Case Number: T 1325/09 - 3.2.02

DECISION
of the Technical Board of Appeal 3.2.02
of 29 October 2013

Appellant: Baxter International Inc.
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Decision under appeal: Interlocutory decision of the Opposition
Division of the European Patent Office posted
on 22 April 2009 concerning maintenance of the
European Patent No. 1401518 in amended form.

Composition of the Board:

Chairman: E. Dufrasne
Members: C. Körber
M. Stern
Summary of Facts and Submissions

I. On 22 April 2009 the Opposition Division posted its interlocutory decision concerning maintenance of European patent No. 1401518 in amended form.

II. Appeals were lodged against this decision by the patent proprietor and opponent 2, by notices received on 30 and 19 June 2009 respectively, with the appeal fees being paid on the same days. The statements setting out the grounds of appeal were received on 27 and 24 August 2009 respectively.

III. By communication of 13 May 2013, the Board forwarded its provisional opinion to the parties and summoned them to oral proceedings.

IV. Oral proceedings were held on 29 October 2013.

Although duly summoned by communication dated 13 May 2013, the party as of right (opponent 1) was not present, as it had announced by letter dated 27 September 2013. In accordance with Rule 115(2) EPC and Article 15(3) RPBA, the proceedings were continued without this party.

The appellant (patent proprietor), hereinafter referred to as "patentee", requested that the decision under appeal be set aside and that the patent be maintained on the basis of the main request, filed during the oral proceedings or, in the alternative, on the basis of one of the second and third auxiliary requests, filed with letter dated 26 September 2013. All other requests were withdrawn.
The party as of right (opponent 1) had not submitted any requests.

The appellant (opponent 2), hereinafter referred to as "opponent", requested that the decision under appeal be set aside and that the European patent No. 1401518 be revoked. All requests for documents to be excluded from file inspection were withdrawn.

V. The following documents are of importance for the present decision:

D1: FR-A-2 737 124
D17: DE-A-40 14 572

VI. Claim 1 of the main request reads:

"1. An apparatus for detecting dislodgement of a needle (16) inserted into a patient (14) comprising a sensor (10, 50) capable of detecting wetness due to blood upon dislodgement of the needle, a sterile absorbent pad (20) capable of absorbing blood lost from the patient due to the dislodgement of the needle; and a sensor holder (12, 48) adapted to secure the sensor and the absorbent pad adjacent to the needle, such that the absorbent pad is disposed between the sensor and the"
needle, characterised in that the sensor is located inside of the sensor holder such that the sensor does not contact blood and the absorbent pad for detecting wetness therein, and in that the sensor comprises a capacitive sensor."

Claim 10 reads:

"A method of detecting needle (16) dislodgement comprising the steps of:
providing an apparatus according to claim 1; and
securing the sensor and absorbent pad to the patient using the sensor holder so that the absorbent pad lies between the sensor and the needle."

Claims 2 to 9 are dependent claims.

VII. The opponent's arguments are summarised as follows:

The securing function of the sensor holder with respect to the absorbent pad as defined in claim 1 was originally disclosed only in combination with the channeled area 60 and the spacers 62 shown in Figure 3A to 3C and the material of the needle holder being fluid impermeable, as described in lines 15 to 24 of page 11. The embodiment shown in Figure 1 could not serve as a basis for this feature since the sensor was in contact with the absorbent pad. The sentence in lines 28 to 30 of page 10 also did not disclose this feature as it merely indicated that the sensor holder could be made from a molded flexible plastic or polymeric material. Accordingly, claim 1 comprised a feature which was an unallowable intermediate generalisation beyond the original disclosure. Moreover, there was no basis in the
original disclosure for the feature of the sensor being located inside of the sensor holder such that the sensor did not contact blood and the absorbent pad.

The term "sterile" introduced into claim 1 was not clear, and was not defined in the description. The sterility of the absorbent pad could only be maintained as long as it was packaged and thus protected from the unsterile environment and it was lost as soon as the pad was ready for use in the sensor holder, as evidenced by D21. It was further not clear what was meant by "the sensor does not contact blood". Moreover, the expression that "the sensor comprises a capacitive sensor" was unclear and should rather read that the sensor is a capacitive sensor, as defined in granted claim 2. Furthermore, the definition that "the sensor does not contact blood and the absorbent pad" was misleading. It appeared to mean that the sensor neither contacted blood nor the absorbent pad. Moreover, it was not clear whether the word "therein" at the end of line 13 referred to the absorbent pad or the blood. Paragraphs [0053] to [0055] of the amended patent specification were not in line with the subject-matter defined in claim 1 and thus misleading.

There were no further objections under Articles 84 and 123(2) EPC with respect to the main request.

Among the cited documents, D20 was novelty-destroying since the capacitive sensor (20) was enclosed in a housing (22) as depicted in Figure 2, which housing also served as a sensor holder. A sensor holder was further disclosed in lines 63 to 67 of column 5. The unclear term "sterile" could not serve as a delimitation with
respect to the garment (19) of D20, corresponding to the absorbent pad as claimed.

The subject-matter of present claim 1 was obvious under five lines of attack, namely in view of D20 when starting from any one of documents D1, D11, D13 and D18, and from D18 alone.

The embodiment depicted in Figure 1 of D1 clearly disclosed the features of the preamble of claim 1. There was no constructional difference between capacitive and resistive sensors for detecting blood. Resistive sensors also comprised two electrodes separated by a medium, thus forming a capacitor the capacity of which changed when blood was present between the electrodes. Accordingly, the only distinguishing feature over D1 was the lack of contact between the sensor and blood and the absorbent pad, i.e. the "no contact" feature. The technical advantage underlying this feature was that the sensor was thereby reusable. The skilled person, looking for a reusable sensor, would turn to document D20 since Figure 2 disclosed this feature for exactly the same purpose, as explicitly mentioned in the corresponding part of the description. The capacitive sensor for detecting urine described in D20 was also sufficiently sensitive for sensing blood. Moreover, it was clear from D18 and D19 that sensors for detecting urine could also be used for detecting blood. Furthermore, the patent in suit was entirely silent with regard to sensitivity.

Alternatively, the embodiment of Figure 15 in D11 disclosing the features of the preamble of claim 1 could be used as a starting point. The electrodes (99, 100) also constituted a capacitive sensor. Moreover, it was
mentioned in the sentence bridging columns 10 and 11 that different types of sensors could be used. Again the only distinguishing feature was the "no contact" feature. This feature was obvious from D20 for the same reasons as given above.

Since the structure of the sensor shown in D13 was almost identical to that depicted in Figure 2B of the patent in suit, a capacitive sensor was clearly anticipated by this document. The sheet of material onto which the electrodes were printed constituted a sensor holder. An absorbent pad was disclosed in the form of a second sheet in lines 22 to 26 of column 6. Accordingly, the only difference was again the "no contact" feature, which was not inventive in view of D20.

Figure 7 of D18 disclosed a sensor (11) being held by a sensor holder (75) adjacent to a bleeding wound (73). The sensor was embedded between two materials, the lower one of which (71) constituted a sterile absorbent pad. Accordingly, all features of the preamble of claim 1 were anticipated. As further described at page 21, lines 8 to 24, the sensor comprised a capacitive sensor. Even though the sensor shown in Figure 7 was in contact with the absorbent pad, the "no contact" feature was rendered obvious by the second paragraph of page 22 of D18 where it was mentioned that the sensor could be built in a container and was thus protected from external damage. The subject-matter of claim 1 was therefore already obvious from D18 alone. From the above-mentioned passage of page 22 and from the third paragraph of page 14 it became furthermore clear that direct contact was not necessary. Moreover, in the embodiment depicted in Figures 10A and 10B, the sensor 101 was clearly not in
contact with the fluid. Accordingly, D18 could not be said to teach away from the "no contact" feature. Consequently, when looking at D20, the subject-matter of claim 1 was obvious to the skilled person.

Claim 1 as upheld by the Opposition Division was obvious from D17 in view of D5, D19 or D20. The electrodes (22, 24) of the sensor 20 could also be used to measure capacity, the "no contact" feature thus being the only distinction over D17. Since D17 explicitly addressed the issue of electrode corrosion, the skilled person was incited to avoid this problem and would thus have been made aware by D5, D19 or D10 that capacitive sensors did not require contact with the liquid to be sensed. He would thus encase the electrodes, thereby realising the "no contact" feature in an obvious manner.

VIII. The patentee's arguments are summarised as follows:

The securing function of the sensor holder with respect to the absorbent pad as defined in claim 1 was originally disclosed in a general manner in the sentence in lines 28 to 30 of page 10, since the pad was clearly part of the "other components" mentioned in that sentence. At page 12, lines 1 to 4, it was explicitly stated that the sensor did not contact the absorbent pad "and for that matter blood".

The term "sterile" had a recognised and well-established technical meaning in the field of medical devices and was therefore clear. The term "comprises" was commonly used in patent claim language. The term "and" had been introduced in order to clarify that the previously used term "or", which had been objected to with respect to
the "no contact" feature in claim 1, was to be understood as a conjunctive rather than a disjunctive "or". It was grammatically and technically clear that the term "therein" referred to the absorbent pad. The use of the term "embodiment" in paragraphs [0053] to [0055] of the specification was not in contradiction with the claims. It related to further optional features of the invention as claimed.

There was no disclosure in D20 that the garments or diapers described therein were sterile. Also, diapers, when packaged prior to use, could not be assumed to be sterile in a medical sense.

When starting from the blood detectors disclosed in documents D1, D11, D13 or D18, the skilled person would not look at a document such as D20 which dealt with wetness detectors in diapers, i.e. an entirely different technical field. As already indicated in paragraph [0005] of the patent in suit, such detectors did not provide the necessary level of sensitivity required for blood detection due to needle dislodgement, where small volumes of blood leaking into the pad had to be sensed quickly and reliably. Due to the high blood flow rates during dialysis treatment, these criteria were imperative, in contrast to the much less critical situation when detecting a wet diaper. Neither from D18 nor from D19 could it be derived that a sensor for detecting wetness in diapers would actually work to the required standard for detecting blood leakage due to needle dislodgement. Moreover, the sensors disclosed in documents D1, D11, D13 or D18 required contact with blood and the wound dressing. Consequently, the electrodes of these sensors were all located within the
wound dressing. Furthermore, in contrast to what was stated in the impugned decision with respect to D1 and D11, the disclosed resistive sensors could not be equated to a capacitive sensor.

The invention was also not obvious from D18 alone since throughout this document it was emphasised that contact between the sensor and the blood was necessary, thus teaching away from the "no contact" feature. The two passages of D18 cited by the opponent could not be interpreted as hinting towards this feature.

When starting from D17, the invention was not obvious in view of D5, D19 or D20 for the same reasons as presented with respect to document D1 as closest prior art.

**Reasons for the Decision**

1. The appeals are admissible.

2. Amendments

Claim 1 of the main request is based on original claims 1, 2, 6 and 13 and claims 17, 19 and 21 in combination with page 12, lines 1 to 4 and page 10, lines 28 to 30 of the original description as published (WO-A-03/000315). The latter passage specifies that the sensor holder secures the sensor and "other components" of the apparatus of the invention. It is evident from the overall disclosure that the sterile absorbent pad forms part of these "other components". Accordingly, the sensor holder is adapted to secure the sensor and the absorbent pad adjacent to the needle, as claimed. The
cited passage discloses the securing function of the sensor holder with respect to the pad in a general manner, i.e. without indicating that the presence of any other features such as the channelled area 60 and the spacers 62 is necessary for achieving this function. These elements are mentioned only in the specific context of the subsequent part of the description at page 11, lines 15 et seq. relating to the embodiment depicted in Figures 3A to 3C. Regarding the materials from which the sensor holder is made (molded flexible plastic or polymeric material, impermeable to fluids), it is clear from the term "preferably" at page 10, lines 15 to 17 and 28 to 30, that these features are optional. Accordingly, the claimed function of the sensor holder to secure the absorbent pad does not represent an unallowable intermediate generalisation. Lastly, the first sentence of page 12 (lines 1 to 4) provides clear support for the feature that the sensor does not contact blood and the absorbent pad.

The Board is satisfied that the requirements of Article 123(2) EPC are met.

3. Clarity

The term "sterile" in claim 1 of the main request has a clear technical meaning in the field of medical devices such as wound dressings. As described in paragraph [0046] of the patent specification, the sterile absorbent pad (20) is made from a medically sterile material as conventionally used for covering wounds such as the access site (18). The fact that sterility is only maintained until the pad is ready for use (as indicated in the second paragraph of column 4 of D21) and that the
pad may become unsterile during use is commonplace and does not render the term "sterile" unclear.

The Board cannot see any lack of clarity in the expression "the sensor does not contact blood".

The definition in claim 1 that the sensor "comprises" a capacitive sensor implies that it may comprise further kinds of sensors in addition to the capacitive sensor. This corresponds to the usual meaning of the term "comprises" in patent claim language and does not constitute a lack of clarity.

The definition that the sensor does not contact blood "and" the absorbent pad was included in the claim to clarify the meaning of the previously used term "or" as a conjunctive "or". The fact that a wording such as "neither ... nor" might be more appropriate does not render the present wording unclear.

It is grammatically and technically clear that the word "therein" at the end of line 13 of claim 1 refers to the absorbent pad, rather than to the preceding word "blood": detecting wetness in the blood would not be technically meaningful.

In paragraph [0038] of the amended specification it has been clarified that the previous embodiments shown in Figures 1 and 2A no longer form part of the invention as presently claimed. The use of the term "embodiment" in paragraphs [0053] and [0054] (column 7, lines 26 and 37) of the amended specification is not in contradiction with what is defined in the present set of claims. In paragraphs [0053] and [0054], the term "embodiment" is
used in relation to further optional components of the apparatus depicted in Figure 1, such as straps (42, 44) or a force transducer (47). It is clear to the skilled person reading this passage that these components could also be optional features of the invention as presently claimed and may thus be denoted by the term "embodiment". Also, in paragraph [0055], the phrase "[i]n an embodiment, the apparatus can include ..." is not in contradiction with the invention as presently claimed, since the sensor holder (48) and the sensor (50) located therein are referred to "as shown in Figures 3A to 3C" wherein further details are depicted which are additional to the features of claim 1 and thus optional.

Accordingly, the Board considers that the requirements of Article 84 EPC are met.

4. Novelty

Document D20 fails to teach that the garment (19) disclosed therein, corresponding to the absorbent pad as claimed, is sterile. There is no explicit disclosure regarding sterility of this garment in D20. From column 3, lines 39 to 42 it can be derived that the garment can be a disposable paper diaper or cloth diaper. However, even in their packaged state prior to use, such disposable diapers cannot be assumed to be generally sterile in a medical sense. As mentioned above, the term "sterile" in the claim has a well-established technical meaning and cannot be regarded as unclear (and thus not suited for delimitation against the prior art). A disposable diaper cannot be equated to a sterile absorbent pad overlying a vascular access region of a venous needle.
Accordingly, for this reason alone, D20 does not anticipate the subject-matter of claim 1 of the main request. The same applies to independent method claim 10 which makes reference to apparatus claim 1 and thus also requires that the absorbent pad be sterile. The subject-matter of claims 1 and 10 of the main request is novel within the meaning of Article 54 EPC.

5. Inventive step

5.1 D1 as starting point

Among the documents cited by the opponent as a starting point for challenging inventive step, D1 represents the closest prior art since it deals with the detection of blood loss due to needle dislodgement, especially during a hemodialysis treatment, which corresponds exactly to the situation and problem considered in the patent in suit.

D1 discloses, in the wording of claim 1 of the main request, an apparatus for detecting dislodgement of a needle (3) inserted into a patient (4) comprising a sensor (6) capable of detecting wetness due to blood upon dislodgement of the needle, a sterile absorbent pad (7) capable of absorbing blood lost from the patient due to the dislodgement of the needle; and a sensor holder (8) adapted to secure the sensor and the absorbent pad adjacent to the needle, such that the absorbent pad is disposed between the sensor and the needle (Figure 1).

From page 5, lines and 1 to 3 and 7 to 8 it can be derived that the physical quantity being measured is
conductivity or impedance and that the electrodes of the sensor (6) are in contact with the absorbent pad. Accordingly, D1 fails to teach the features of the characterising portion of claim 1. The Board does not endorse the view expressed in points 5 and 9 of the Reasons of the impugned decision, shared by the opponent, that two spaced electrodes for measuring impedance constitute a capacitive sensor, since the physical parameter which is measured by a capacitive sensor, viz. electrical capacity, is different from resistance. Accordingly, a capacitive sensor cannot be equated to a resistive sensor.

The technical effect underlying these distinguishing features is that the non-contacting sensor can be used repeatedly without having to clean it after each use or at least minimising the amount of cleaning that is required, and that a capacitive sensor, which does not require contact with the blood to be detected, is able to detect wetness due to the presence of blood in the situation under consideration, requiring a high degree of sensitivity and specificity with a fast response time (paragraphs [0003], [0055], [0061] and [0070] of the patent specification).

The objective technical problem solved by the invention is to provide an apparatus for detecting needle dislodgement with a sensor that can be easily reused.

D1 itself gives no hint towards the above-mentioned problem and does not incite the skilled person to deviate from the disclosed concept of resistive sensing, requiring contact with the blood to be detected.
D20 discloses a capacitive sensor (20) which is totally contained in a housing (22), i.e. without contact to the liquid to be detected, and thereby protected from becoming soiled and reusable (column 1, lines 6 to 12, and column 5, lines 35 to 43). Accordingly, D20 provides a clear teaching of the features of the characterising portion and gives a hint in the direction of the above-mentioned objective technical problem. In this respect, D20 is more pertinent than D19 or D5. However, in the Board's view, the skilled person, starting from D1 and attempting to improve an apparatus for detecting needle dislodgement and resultant blood loss, would not look for a solution in D20, a document dealing exclusively with detecting wetness in diapers and undergarments. In contrast to the view expressed in point 9 of the Reasons of the impugned decision, shared by the opponent, the Board considers that such a document does not belong to the same technical field as D1 (International Patent Classification A61M 5/14: devices for introducing media into the body). It is established jurisprudence ("Case Law of the Boards of Appeal of the EPO", 7th ed. 2013, section I.D.8.2) that the skilled person would also look for suggestions in neighbouring fields, as for instance the cited prior art relating to the detection of wetness in wound covers in general, i.e. not caused by bleeding due to needle dislodgement, but a document on wet diaper detection such as D20 cannot be considered as belonging to a neighbouring field. The conditions and requirements for detecting blood leaks on the one hand and detecting wetness in diapers on the other hand are rather different, and the skilled person cannot be assumed to be aware that a "no contact" capacitive sensor for detecting wetness in diapers would actually work to the required standard for blood leak detection due to needle
dislodgement, i.e. a critical situation as mentioned above. As indicated in paragraph [0005] of the specification of the patent in suit, rather the contrary seems to be the case. Contrary to the opponent's view, such information cannot be derived from documents D18 and D19 where identical sensors are used for detecting the leakage of urine and other fluids. With regard to D18, even though the monitoring of bleeding wounds and people with urinary incontinence is discussed, the sensor or detector is required to contact the leaking fluid directly, as will be discussed in further detail below. As to D19, there is merely a general statement at column 2, lines 17 to 23 that the detector can be used to detect any material where the sensing of moisture is desired, without however even mentioning blood. Accordingly, the combination of D20 with D1 as closest prior art is not obvious.

5.2 D11 or D13 as starting points

Documents D11 and D13, also cited by the opponent as starting points for challenging inventive step, are more remote from the invention than D1. Both documents also exclusively deal with resistive sensing requiring blood contact. D11 relates generally to the detection of bleeding in a wound site, but does not address the issue of needle dislodgement. The general statement at the top of column 11 that "any sensors (physical, chemical or optical)" can be used cannot be regarded as a hint towards the features of the characterising portion of claim 1. D13 also deals with detecting blood loss in general and additionally fails to disclose a sensor holder since a sheet of absorptive material onto which a pattern of electrodes is printed does not constitute a
sensor holder as claimed. It does not give any hint to deviate from the concept of resistive sensing. The combination of D20 with D11 or D13 as starting points is not obvious for the same reasons as indicated above in section 5.1.

5.3 D18 as starting point

Among the various embodiments disclosed in document D18, the arrangement shown in Figure 7 is the most pertinent one with respect to the invention, since it discloses a sensor (resonant circuit 11) held by a sensor holder (tape 75) adjacent to a bleeding wound (73). As further described in more detail with respect to Figures 2A to 2D, the resonant circuit comprises a capacitive sensor (page 21, lines 8 to 24). The sensor is embedded between two materials, the lower one of which (71) is said to be fluid permeable (page 25, lines 4 to 7). Even if this lower layer is regarded as a "sterile absorbent pad" as claimed, as argued by the opponent, the sensor is clearly in contact therewith, and it is not disclosed that "the sensor is located inside of the sensor holder such that the sensor does not contact blood and the absorbent pad for detecting wetness therein" as defined in claim 1.

The Board does not share the opponent's view that the statement in lines 8 to 12 of page 22 of D18 makes the "no contact" feature obvious to the skilled person. It is stated in this passage that the sensor can be built into a container or carrier in order to protect the sensitive coils from external damage. This, however, does not represent a hint towards the "no contact" feature as claimed and the advantage of protection
against damage does not correspond to the technical problem of re-usability underlying this feature as described above. Accordingly, the subject-matter of claim 1 is not obvious from document D18 alone.

In document D18 it is consistently emphasised that direct contact of the sensor with the fluid to be detected is necessary (page 6, lines 1 to 4 and 22 to 28; page 13, lines 23 to 26; page 14, line 2 and lines 21 to 25; page 20, lines 29 to 32; page 23, lines 21 to 25 and 32 to 36; page 25, lines 4 to 7; independent claims 1 and 6). The general statement in lines 17 to 19 of page 14 cited by the opponent that the sensing devices can be manufactured in any suitable way that allows the external parameters to affect the impedance of the resonant circuits cannot be construed as an indication that contact is not necessary. Accordingly, the skilled person starting from the above-mentioned embodiments of D18 would not deviate from the concept of contact of sensor and fluid consistently disclosed therein and would therefore not consider the teaching of a document such as D20 disclosing the "no contact" feature, since D18 actually teaches away therefrom.

The embodiment depicted in Figures 10A and 10B and described in at page 26, lines 4 to 15 of D18 comprises a sensor (101) attached to the outside of an infusion bag (102), and thus not in contact with the infusion liquid contained within the bag. This embodiment was referred to by the opponent only with respect to subject-matter which is different from what is presently claimed, and the Board agrees that this arrangement is not a proper starting point since the underlying purpose, viz. detecting when the fluid in the bag sinks below a
certain level, is entirely unrelated to that of the invention, and since claimed features such as the sterile absorbent pad and the sensor holder do not form part of this embodiment.

Consequently, the subject-matter of claim 1 is also not obvious from document D18 in view of D20.

5.4 D17 as starting point

The embodiment shown in Figure 2 of document D17, cited as closest prior art by the opponent against claim 1 as upheld by the Opposition Division, discloses a resistive sensor (20) which is in contact with the sterile absorbent pad (34). As mentioned in point 5.1 above, a resistive sensor cannot be equated to a capacitive sensor. Accordingly, D17 fails to disclose (at least) the features of the characterising portion of claim 1. In lines 47 to 57 it is emphasised that even small quantities of blood must be reliably detected and that the whole device should be reusable, thus addressing issues related to the technical effects achieved by the invention mentioned in point 5.1. The Board does not accept the opponent's argument that the fact that D17 addresses the problem of corrosion of the sensor electrodes (column 3, lines 20 to 24) would direct the skilled person to the teachings of D5, D19 or D20, thus rendering obvious the solution according to claim 1. Following the problem-solution approach as detailed above with respect to D1, the subject-matter of claim 1 is not obvious from D17, for the same reasons as indicated in point 5.1. The issue of whether or not D17 discloses a sensor holder as claimed can thus be left aside.
5.5 The subject-matter of claims 1 and 10 of the main request therefore involves an inventive step within the meaning of Article 56 EPC.

6. Since the main request is allowable as indicated above, there is no need for the Board to deal with the auxiliary requests.
Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the department of first instance with the order to maintain the patent on the basis of:
   - claims 1 to 10 of the main request filed during the oral proceedings;
   - adapted description, columns 1 to 11, filed during the oral proceedings; and
   - figures 1 to 3C of the patent as granted.

The Registrar: The Chairman:

D. Hampe E. Dufrasne