DECISION of 10 December 2000

Case Number: T 0497/98 - 3.2.2
Application Number: 91310446.9
Publication Number: 0486270
IPC: A61B 8/12
Language of the proceedings: EN
Title of invention: Transesophageal ultrasonic scanhead
Patentee: ADVANCED TECHNOLOGY LABORATORIES, INC.
Opponent: Olympus Optical Co., Ltd.
Headword: -
Relevant legal provisions: EPC Art. 53(1), 56
Keyword: "Inventive step (yes)"
Decisions cited: -
Catchword: -
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DECISION
of the Technical Board of Appeal 3.2.2
of 10 December 2001

Appellant: ADVANCED TECHNOLOGY LABORATORIES, INC.
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Respondent: Olympus Optical Co., Ltd.
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Decision under appeal: Decision of the Opposition Division of the European Patent Office posted 20 April 1998 revoking European patent No. 0 486 270 pursuant to Article 102(1) EPC.

Composition of the Board:
Chairman: W. D. Weiß
Members: S. S. Chowdhury
          R. T. Menapace
Summary of Facts and Submissions

I. The appellant (patent proprietor: Advanced Technology Laboratories, Inc) lodged an appeal against the decision of the opposition division to revoke European patent No. 0 486 270. The decision was dispatched on 20 April 1998.

The appeal and the fee for the appeal were received on 15 May 1998. The statement setting out the grounds of appeal were received on 21 August 1998.

The opposition was filed against the whole patent and was based on Article 100 (a) EPC (lack of inventive step).

The opposition division had found that, starting from document D3, the subject-matter of claim 1 of the main and auxiliary requests did not involve an inventive step, having regard to document D2.

The only prior art document considered during the appeal proceedings is:


Oral proceedings before the Board took place on 10 December 2001, at which only the appellant was represented. The respondent (opponent) was not represented as indicated in its letter dated 17 October 2001.
II. Requests

At the end of the oral proceedings the appellant requested that the decision under appeal be set aside and that the patent be maintained on the basis of claims 1 to 12 as submitted during the oral proceedings, description and figures as granted.

In its letter dated 17 October 2001, the respondent requested that the appeal be decided on its merits.

III. Claim 1 reads as follows:

"An ultrasonic diagnostic imaging system, including a scanhead (10) for providing ultrasonic diagnostic information from the interior of the body comprising: probe means (12,14) for insertion into the body, including transducer means (22,26) having first and second modes of operation for ultrasonic scanning; means (16) located external to the body during use of the scanhead for manipulating said probe means; means (20) for connecting said scanhead to instrument means for processing electrical information signals produced by said scanhead; switch means (36, C₁, C₂) located on said manipulating means and producing a selection signal for controlling the selection of one of said ultrasonic scanning modes of operation; and display means (40a-40c, 74) comprising a first display (74) responsive to signals from said transducer means for producing a diagnostic image in the selected mode of operation, characterised in that: said scanhead (10) is a transesophageal scanhead and in that: said display means (40a-40c, 74) comprises a second display (40a-40c) located on said manipulating means and responsive to said selection signal for producing a display..."
indictive of said selected mode of operation".

Claims 2 to 12 are dependent on claim 1.

IV. The appellant presented the following arguments:

In the claimed apparatus all actions were initiated by a selection signal from a switch, which signal was used by a microprocessor to energise the transducers, to cause the ultrasonic image to be displayed, and also to cause a second display to indicate the selected mode of operation. The subject-matter of claim 1 was restricted to this embodiment although before the priority date it was also not known to display, on the same display means, both the ultrasonic image as well as the selected mode of operation.

Medical systems were very expensive to design and make and the person skilled in the art would not make any changes to prior art systems without very good reasons. The applicant was the first to recognise the problem of the patent in suit, which itself involved an inventive step, and the applicant also provided a solution that was inventive, namely that a switch provided the selection signal that caused the selected mode of operation to be displayed together with the ultrasonic image.

The apparatus of document D3 did not rely on a selection signal. Also, it did not necessarily disclose two different images that could indicate the selected mode of operation, Figure 6 showed two differently shaped scan fields, which was not the same thing as the diagnostic image. Nor did document D3 display both the ultrasonic image as well as separately indicate the
The respondent, in its written submissions, presented the following arguments:

The impugned decision correctly interpreted claim 1 of the patent in suit as meaning that the display means defined in the preamble to the claim was the same as the display means in the characterising part of the claim. This feature was also disclosed in document D3 so that the subject-matter of claim 1 lacked inventive step.

**Reasons for the Decision**

1. The appeal is admissible.

2. Amendments

Claim 1 specifies that the display means comprises two displays, a first display being responsive to signals from the transducer means for producing a diagnostic image in the selected mode of operation, and a second display responsive to the selection signal, for producing a display indicative of the selected mode of operation. This is supported by the application as originally filed, for example in column 2, lines 21 to 43 of the A1 publication and the description with reference to Figures 7 and 8 in column 6.

Strictly speaking, the second display is not responsive to the selection signal T/L, but to the setting of the switch 36. However, since the switch setting and the signal T/L are invariant correlates of each other,
there is no confusion in interpreting the true meaning of the claim, which is that the second display is responsive to the setting of the switch.

A second amendment is the limitation in the claim that both the switch means and the second display are located on the manipulating means, and this is also supported by the cited passage in column 2.

Moreover, the above amendments narrow the scope of claim 1. The dependent claims correspond to the dependent claims as granted with consequential amendment following the amendment to claim 1.

Therefore, the position under paragraphs (2) and (3) of Article 123 EPC is satisfactory.

3. **Novelty**

The subject-matter of the independent claims is novel since no cited prior art document discloses the combination of the features thereof. Novelty of the claimed subject-matter has not been doubted by the respondent.

4. **Inventive step**

4.1 The opposed patent relates to ultrasonic transesophageal scanheads which may be introduced into a body cavity to perform ultrasonic scanning from within the body. It is desirable to obtain two types of images during such a procedure, namely, longitudinal and transverse images. The techniques for obtaining these two types of images include the use of separate transducers, one with a longitudinal orientation and
another with a transverse orientation. Through the use of a switch located on the scanhead (manipulating means), to control the ultrasonic imaging system to which the probe is connected, the clinician can conveniently choose one or the other of the two image orientations, or modes.

4.2 The technical problem

A physician often needs to change quickly and frequently from one image orientation to the other. It is possible during an operation on a patient to lose track of which mode is currently in use, so it is necessary to provide means which indicate unambiguously the current mode of operation. It is also desired to indicate the mode of operation on the scanhead itself.

4.3 The solution defined in claim 1 is that the display means comprise two parts, wherein a first display produces a diagnostic image in the selected mode of operation, and a second display produces, on the scanhead itself, an indication of the selected mode of operation.

4.4 Neither the above problem nor the solution are disclosed in the prior art. The provision of such an indication on the scanhead itself, together with the mode changing switch brings certain advantages. It means that the surgeon has available at the site of the surgical procedure both the mode selection mechanism as well as confirmation of the selected mode of operation, and his attention need not be directed away from the surgical site, either to change the mode of operation or to check the current mode, and thereby risk being distracted from the patient.
Whether or not document D3 discloses that the display means thereof produce a diagnostic image in the selected mode of operation and also produces a display indicative of the selected mode of operation may be left unanswered since the Board considers that the provision of a display indicative of the selected mode of operation on the scanhead itself involves an inventive step since this is not suggested in this document or in any other prior art document.

For the above reasons the claim 1 involves an inventive step, as do all the dependent claims 2 to 12.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside

2. The case is submitted to the first instance with the order to maintain the patent in amended form on the basis of claims 1 to 12 as submitted at the oral proceedings and the description and the figures as granted.

The Registrar: The Chairman:

V. Commare W. D. Weiß