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D E C I S I O N
of 16 May 2006

Case Number: T 0231/03 - 3.2.02

Application Number: 94307240.5

Publication Number: 0705565

IPC: A61B 8/08

Language of the proceedings: EN

Title of invention:

Method and apparatus for evaluating the progress of
osteoporosis by ultrasonic signals

Applicant:

Kabushiki Kaisha Ishikawa Seisakusho, Ltd.

Opponent:

-

Headword:

-

Relevant legal provisions:

EPC Art. 84

Keyword:

"Clarity (no) "

Decisions cited:

-

Catchword:

-



Case Number: T 0231/03 - 3.2.02

D E C I S I O N
of the Technical Board of Appeal 3.2.02
of 16 May 2006

Appellant: Kabushiki Kaisha Ishikawa Seisakusho, Ltd.
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Decision under appeal: Decision of the Examining Division of the
European Patent Office posted 22 August 2002
refusing European application No. 94307240.5
pursuant to Article 97(1) EPC.

Composition of the Board:

Chairman: T. Kriner
Members: S. Chowdhury
A. Pignatelli

Summary of Facts and Submissions

I. This appeal is against the decision of the examining division dated 22 August 2002 to refuse European patent application no. 94 307 240.5.

The application was refused on the grounds that the method of claim 1 defined a diagnostic method which fell under the exclusion criteria of Article 52(4) EPC.

II. On 14 October 2002 the appellant (applicant) lodged an appeal against the decision and paid the prescribed fee on the following day. On 19 December 2002 a statement of grounds of appeal was filed with new claims 1 to 7 of a main request and claim 1 of an auxiliary request.

III. In a communication annexed to the summons to attend oral proceedings, dated 11 January 2006, the Board informed the appellant, inter alia, that the claims lacked clarity (Article 84 EPC) and also appeared to be objectionable under Article 123(2) EPC. The communication went unanswered.

IV. Oral proceedings were held on 16 May 2006 in the absence of the appellant's representative, in accordance with Rule 71(2) EPC. The appellant had neither written in to say that it would not be represented at the oral proceedings, nor did it appear at the oral proceedings.

V. The appellant requested in its grounds of appeal, that the decision under appeal be set aside and that the application be allowed on the basis of claims 1 to 7 of

the main request or claim 1 of the auxiliary request filed with the grounds of appeal.

VI. Claims 1 and 7 of the main request reads as follows:

"1. A method for evaluating the progress of osteoporosis by utilizing ultrasonic signals characterized in that an ultrasonic signal is transmitted through a heel bone or patella of a person being examined to obtain a propagation velocity of transmission in the bone, a two-dimensional ratio of a compact bone to a bone structure (hereinafter called Au) is computed from a one-dimensional ratio of a compact bone to a bone structure (hereinafter called Eu) based on a propagation velocity obtained according to a calculation formula stated below, and an imitative image of a cross-sectional view of the bone which represents a bone condition of the person being examined based on the obtained Au is displayed.

$$Eu = \frac{1 / Va - 1 / Vb}{1 / Va - 1 / Vc}$$

where,

Vb: Ultrasonic propagation velocity in bone

Va: Ultrasonic propagation velocity in marrow (1500m/s)

Vc: Ultrasonic propagation velocity in compact bone (3000m/s) and

Au= EuxEu.

7. Apparatus for evaluating the progress of osteoporosis by utilizing ultrasonic signals, comprising:

means (3) for transmitting and receiving ultrasonic signals to and from a heel bone or patella of a person being examined;

means (1) suitable for computing a two-dimensional ratio of a compact bone to a bone structure (hereinafter called Au) based on propagation velocity information of an ultrasonic signal transmitted through the bone structure by said means for transmitting and receiving ultrasonic signals;

means for drawing an imitative image of an inner bone structure according to the obtained Au;

a display (2) for displaying the imitative image of the bone which represents a bone condition of the person being examined; and

means for displaying an imitative image of a bone which represents a bone condition of a healthy person on said display by choosing the imitative image of a bone of a healthy person, who is of the same sex and age as the person being examined, from a plurality of imitative images representing various conditions of the bone by age and sex group, wherein the imitative images are sorted by color for a portion which is different from each other.

Claims 2 to 6 are dependent on claim 1.

Claim 1 of the auxiliary request is identical with claim 7 of the main request.

In the statement of grounds of appeal the appellant argued that the method claims were not only novel and inventive but also related to an invention within the meaning of Article 52(4) EPC.

Reasons for the Decision

1. The appeal is admissible.

Main request

2. The claims are not understood.

- 2.1 In claim 1 the expressions "a two-dimensional ratio of a compact bone to a bone structure (hereinafter called Au)" and "a one-dimensional ratio of a compact bone to a bone structure (hereinafter called Eu)" are not understood since it is not clear what is meant by "compact bone" and "bone structure".

According to equations 1 and 2 in column 7 of EP-A-0 705 565 both Eu and Au are dimensionless numbers, so it is not clear how they can represent one or two-dimensional ratios. The definitions of Eu and Au in column 7 are also not understood. Moreover, the value of Eu would appear to be zero since Va and Vb have the same value according to page 7, lines 6 to 10, so that the equation in claim 1 makes no sense.

The expression "an imitative image of a cross-sectional view of the bone" is not understood. The words "imitative image" are not used in the application as originally filed or explained in the application, nor is it clear how such an image is obtained from the values Eu and Au.

- 2.2 The description also reads in poor technical English. Large parts thereof are not understood, for example

many passages in columns 7 to 9, presumably pertaining to the obtaining of the image referred to in claim 1, are not understood. In particular it is not understood how "the portion painted in black" is obtained. From column 2, first paragraph and column 10, lines 4 to 11 the derivation of the image would appear to be intimately related to the object of the invention, but it is not clear how this object is met. This apparently has something to do with the "fractal dimension", defined in equation 4, which equation, however, is not defined clearly since it is not stated what "S" and "a" in that equation represent.

The paragraphs commencing in column 7, lines 33 and 50 are also not understood, lines 51 to 53 being particularly obscure, and it not clear what is meant by "artificially drawing a diagram" in the next paragraph. In the following paragraph it is not explained what parameters are used or which rules are to be following in order to draw a square and "punch" the "elliptical basic holes", and the last sentence of that paragraph is also obscure. Similarly, the next four paragraphs in column 8 are not understood, and in particular equation 4 is not understood.

- 2.3 Therefore, a perusal of the description does not help in understanding the claims, which do not meet the clarity requirement of Article 84 EPC, accordingly.

Auxiliary request

3. Claim 1 is open to the same objections as claim 1 of the main request, at least because it contains the expressions "a two-dimensional ratio of a compact bone

to a bone structure" and "imitative image", which are unclear as explained above, so this claim is also objectionable at least under Article 84 EPC.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar

The Chairman

V. Commare

T. K. H. Kriner