

**Internal distribution code:**

- (A) [ ] Publication in OJ  
(B) [ ] To Chairmen and Members  
(C) [X] To Chairmen  
(D) [ ] No distribution

**Datasheet for the decision  
of 11 June 2008**

**Case Number:** T 0878/05 - 3.2.02

**Application Number:** 96918910.9

**Publication Number:** 0835074

**IPC:** A61B 5/05

**Language of the proceedings:** EN

**Title of invention:**

Apparatus and method for analyzing body composition using a new electrode system based on bioelectrical impedance analysis

**Patentee:**

Biospace Co., Ltd.

**Opponent:**

Diebold, Steffen, Dr.

**Headword:**

-

**Relevant legal provisions:**

EPC Art. 54

**Relevant legal provisions (EPC 1973):**

-

**Keyword:**

"Novelty (no)"

**Decisions cited:**

-

**Catchword:**

-



Case Number: T 0878/05 - 3.2.02

**D E C I S I O N**  
of the Technical Board of Appeal 3.2.02  
of 11 June 2008

**Appellant:** Biospace Co., Ltd.  
(Patent Proprietor) 363 Yangjae-dong  
Seocho-gu  
Seoul, 137-130 (KR)

**Representative:** Hering, Harmut  
Patentanwälte  
Berendt, Leyh & Hering  
Innere Wiener Strasse 20  
D-81667 München (DE)

**Respondent:** Diebold, Steffen, Dr.  
(Opponent) Biedersteinerstr. 6  
D-80802 München (DE)

**Representative:** Rutetzki, Andreas  
Müller-Boré & Partner  
Patentanwälte  
Grafinger Strasse 2  
D-81671 München (DE)

**Decision under appeal:** Decision of the Opposition Division of the  
European Patent Office posted 2 June 2005  
revoking European patent No. 0835074 pursuant  
to Article 102(1) EPC.

**Composition of the Board:**

**Chairman:** S. Chowdhury  
**Members:** R. Ries  
C. Vallet

## Summary of Facts and Submissions

- I. Opposition was filed against European patent No. 0 835 074 as a whole and was based on Articles 100(a) and 100(c) EPC.

The opposition division held that the subject matter of independent claim 7 as granted lacked novelty with respect to the disclosure of document

E1: JP-A-07079938; with English abstract and partial translation into English

The decision to revoke the patent was dispatched on 2 June 2005.

- II. The appellant (patent proprietor) lodged an appeal against this decision. The appeal was received at the European Patent Office on 6 July 2005 and the appeal fee was paid on the same date. The statement setting out the grounds of appeal was received on 26 September 2005 and included in the annex, as an auxiliary request, amended claims 1 and 7.

- III. In its replies to the appellant's statement, the respondent (opponent) referred, inter alia, to the documents:

E13: JP-A-07-12635

E13' translation of E13 into English

- IV. Oral proceedings before the Board took place on 11 June 2008 at the end of which the following requests were made:

The appellant (patent proprietor) requested that

- the decision under appeal be set aside and
- the patent be maintained as granted (main request) or on the basis of claims 1 and 7 filed with the grounds of appeal (auxiliary request).

The respondent (opponent) requested that the appeal be dismissed.

V. Independent claim 7 as granted (main request) reads as follows:

"7. An apparatus for analyzing human body composition based on a bioelectrical impedance method, comprising: eight electrodes (E1 to E8) for contacting with a right palm, a right thumb, a left palm, a left thumb a right front sole, a right rear sole, a left front sole and a left rear sole;

an impedance measuring instrument (11) for measuring the impedance based on a voltage-current ratio after an alternating current has been injected between any two of said electrodes (E1 to E8) as current electrodes and by reading the voltage difference between any other two of said electrodes (E1 to E8), said any other two of said electrodes (E1 to E8) being different from said current electrodes, as voltage electrodes;

a microprocessor (14);

an electronic switch (10) being controlled by said microprocessor (14) to select electrical connections between said electrodes (E1 to E8) and said impedance measuring instrument (11) for determining said current electrodes and said voltage electrodes; and

and an A/D converter (13) and amplifiers (12, 19) to interface said impedance measuring instrument (11) to said microprocessor (14);  
wherein said microprocessor (14), in addition to controlling said electronic switch (10), processes the data received from said impedance measuring instrument (11)."

Claim 7 of the auxiliary request reads as follow:

"7. An apparatus for analyzing human body composition, comprising:

    a right palm electrode (E1) designed to be surrounded by a right hand and the fingers excluding the right thumb,

    a right thumb electrode (E2) designed to be contacted with only the right thumb,

    a left palm electrode (E3) designed to be surrounded by a left hand and the fingers excluding the left thumb,

    a left thumb electrode (E4) designed to be contacted with only the left thumb,

    a right front sole electrode (E5) designed to be contacted with only a right front sole,

    a right rear sole electrode (E6) to be contacted with only a right rear sole,

    a left front sole electrode (E7) designed to be contacted with only a left front sole,

    a left rear sole electrode (E8) designed to be contacted with only a rear sole,

    an impedance measuring instrument (11) for measuring the impedance based on a current-voltage ratio after an alternating current has been injected between any two of said electrodes (E1 to E8) as

current electrodes and by reading the voltage difference between any other two of said electrodes (E1 to E8), said any other electrodes (E1 to E8) being different from said current electrodes, as voltage electrodes;

a microprocessor (14);

an electronic switch (10) being controlled by said Microprocessor (14) to select electrical connections between said electrodes (E1 to E8) and said impedance measuring instrument (11) for determining said current electrodes and said voltage electrodes; and

an A/D converter (13) and amplifiers (12, 19) to interface said impedance measuring instrument (11) to said microprocessor (14);

wherein said microprocessor (14), in addition to controlling said electronic switch (10), processes the data received from said impedance measuring instrument (11)."

VI. The appellant's arguments are summarized as follows:

Document E1 as the closest prior art disclosed an apparatus for analyzing human body composition based on a biometrical method using eight electrodes. Left and right grips 12 and 13 of the apparatus shown in E1, Figure 1 comprised "two left hand electrodes" (17, 19) and two "right hand electrodes" (18, 20) which provided electrical contact with the left and right hand, respectively. Since however these electrodes were randomly grasped by the user's hands, measurement errors of the biometrical impedance analysis occurred. Over a narrow cross-sectional area, a hand showed greatly differing levels of resistance so that a small displacement of the electrodes (on the hand) resulted

in a huge variation of the measured values and, in consequence thereof, in a large error.

This source of uncertainty was eliminated by the apparatus claimed in the patent. As depicted in Figures 1A and 1B and described in paragraph [0029] of the specification, the cylindrical grip portion for the right hand and the left hand was designed to include one electrode (E1, E3) to be surrounded by the fingers or the palm, and a second electrode (E2, E4) to be contacted only by the distal region of the right or left thumb, respectively. This particular design of the grip portion and the arrangement of the electrodes forced the user to grasp the grip always in the same manner so that the electrodes came into contact with the same parts of the hand. In consequence thereof, a reliable and correct measurement was obtained.

The particular "thumb electrodes" and "palm electrodes", as designed and claimed in the patent, were disclosed in neither of E1 and E13. Although the known apparatuses did actually comprise two separate electrodes for each hand grip, no distinction was made in either of these documents between an "electrode for contacting the palm or fingers" and a "thumb electrode", contrary to the apparatus claimed in the patent. It could happen hypothetically that the user of the apparatus of E1 or E13 touched the grip electrodes unintentionally with a palm and a thumb, but the skilled reader of E1 or E13 would realize that doing so was random and neither intended nor suggested. Novelty of the subject matter of claim 7 of the main and the auxiliary request which defined the electrodes and the

arrangement thereof even more precisely was therefore given.

VII. The respondent's arguments are summarized as follows:

The apparatuses disclosed in each document E1 and E13 were designed for the same purpose as claimed in the patent. The known apparatuses comprised eight electrodes, two of them for each hand and each foot. It was immediately evident from the design of the hand grip and the arrangement of the electrodes that they were suitable for being used in the same manner as described in the patent. Given this situation and that both documents disclosed all the technical features of the apparatus stipulated in claim 7 of the main and auxiliary request, respectively, the claimed subject matter lacked novelty (see Guidelines for examination in the European Patent Office, C-III 4.13).

## **Reasons for the Decision**

1. The appeal is admissible.
2. *Main request*
  - 2.1 Like the patent at issue, both documents E1 and E13 relate to an apparatus for analyzing the body composition based on a bioelectrical impedance analysis by using an electrode system. At the oral proceedings the parties and the Board acknowledged that all the technical features set out in independent apparatus claim 7 are known by the disclosure of either document E1 or E13, and the appellant only disputed that the



structure of the hand electrodes was known from these documents. Particular reference is made to Figure 1 of document E1 which discloses a pair of hand grips (12, 13) including left hand electrodes (17, 19) and right hand electrodes (18, 20). Likewise, Figure 1 of document E13 discloses handles (20 and 20') which are attached to the operating box (10) of the apparatus and include hand electrodes (25, 25') in the upper part and hand electrodes (24, 24') in the lower part of each grip. Crucial to the present decision is therefore to evaluate whether or not the hand electrodes of the known apparatuses are actually suitable for the use as defined in claim 7.

2.2 At the oral proceedings, the appellant disputed the suitability of the hand electrodes the grips of the known apparatuses were provided with for the use as stipulated in claim 7. According to the appellant, the wording "electrode for contacting with..." in claim 7 of the main request implied more than the mere suitability for being touched by or contacted with (a) the palm and (b) with thumb. As was apparent from Figures 1A and 1B and explained in paragraph [0029] of the patent specification, claim 7 implied a particular design, i.e. a spatial arrangement of the electrodes on a cylinder that was surrounded by the fingers and the palm, and one electrode at the distal/end of the cylinder that was touched by the thumb.

2.3 The Board disagrees with the appellant's arguments for the following reasons. Claim 7 of the patent at issue merely defines hand electrodes which are provided for contacting with a palm or with a thumb, respectively. Contrary to the appellant's view, claim 7 neither

defines any geometrical arrangement or precise placement of the electrodes nor the physical properties of the electrodes. In particular, the claim does not define the particular design mentioned in point 2.2. The way of gripping the handles depicted in Figures 1A and 1B of the patent and referred to by the appellant merely reflects one possibility of how the hand electrodes could be arranged in the hand grip, but it is not the only one. The general wording of claim 7 merely requires the hand electrodes to be suitable for contacting with the palm and fingers or with the thumb.

When looking at the Figures of documents E1 and E13, it is beyond doubt that the arrangement of the electrodes embedded in the grip makes the grip portion suitable for being grasped with the user's hand so that they come into contact only with the palm (or fingers) and only with the thumb, respectively. In its statement of the grounds of appeal, the appellant itself has conceded the suitability of the known apparatuses for this purpose. On page 2, third full paragraph of the statement it is admitted that the user of the apparatus of E1 could, albeit unintentionally or as a fortuitous result, grasp the first electrode with the thumb and the second electrode with the hand or palm only, without the thumb; see also point VI above.

- 2.4 Given that in the known apparatuses the hand electrodes are in a form in which they are "suitable" for the stated use, i.e. for being touched individually by the palm and thumb, respectively, they deprive the subject matter of claim 7 of novelty, despite the fact that the documents E1 and E13 do not describe that particular use. In this respect the respondent has correctly cited

the Guidelines for examination, Chapter III 4.13, second paragraph.

In conclusion thereof, the subject matter of claim 7 of the main request lacks novelty.

3. *Auxiliary request*

The same reasoning holds for claim 7 of the auxiliary request. In the Board's assessment, the wording "a palm electrode designed to be surrounded by a right hand and the fingers excluding the right thumb" does not define a patentable distinction over the technical disclosure of E1 and E13. It merely describes a particular way of touching the respective electrodes rather than a technical feature defining the nature or type of electrodes. Hence the subject matter of claim 7 of the auxiliary request also lacks novelty with respect to the disclosure of documents E1 or E13 for the same reasons given above with respect to the main request.

4. After the closing of the debate by the Chairman at the oral proceedings, the appellant broached the possibility of filing a further request. This was refused by the Board since a proper justification for the late filing of the request was not given. Moreover, it was not clear that any claims could be filed that were clearly allowable and could be easily dealt with during the oral proceedings by the respondent and by the Board.

**Order**

**For these reasons it is decided that:**

The appeal is dismissed.

The Registrar:

The Chairman:

V. Commare

S. Chowdhury