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**D E C I S I O N**  
**of 26 October 2005**

**Case Number:** T 1137/03 - 3.4.01

**Application Number:** 98500165.0

**Publication Number:** 0893140

**IPC:** A61N 1/40

**Language of the proceedings:** EN

**Title of invention:**  
Hyperthermia device

**Applicant:**  
Indiba S.A.

**Opponent:**  
-

**Headword:**  
-

**Relevant legal provisions:**  
EPC Art. 84, 123(2)

**Keyword:**  
"Added subject-matter - no"  
"Clarity - yes (after amendments)"

**Decisions cited:**  
-

**Catchword:**  
-



Case Number: T 1137/03 - 3.4.01

**D E C I S I O N**  
of the Technical Board of Appeal 3.4.01  
of 26 October 2005

**Appellant:** INDIBA, S.A.  
Enamorados, 17-19  
E-08013 Barcelona (ES)

**Representative:** Pastells Teixido, Manuel  
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**Decision under appeal:** Decision of the Examining Division of the  
European Patent Office posted 18 June 2003  
refusing European application No. 98500165.0  
pursuant to Article 97(1) EPC.

**Composition of the Board:**

**Chairman:** B. Schachenmann  
**Members:** M. Rognoni  
R. Bekkering

## Summary of Facts and Submissions

- I. The applicant (appellant) lodged an appeal, received on 28 July 2003, against the decision of the examining division, dispatched on 18 June 2003, refusing the European patent application No. 98 500 165.0 (publication number 0 893 140). The fee for the appeal was paid on 28 July 2003. The statement setting out the grounds of appeal was received on 10 October 2003.
- II. In the contested decision the examining division held that claim 1 then on file was not clear within the meaning of Article 84 EPC and that its subject-matter extended beyond the content of the application as originally filed (Article 123(2) EPC).
- III. Oral proceedings were held on 26 October 2005.
- IV. The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the claim filed at the oral proceedings.
- V. The wording of the only claim of the appellant's request reads as follows:

*"A device for electrode - therapy [it should read: "electrotherapy"] comprising:*

*a transformer (2) functionally connected to a high-frequency amplifier, said transformer incorporating a primary winding (3) and a secondary winding (4), said secondary winding having first and second terminals (5) and (6) at the first and second ends and an*

*intermediate terminal (9) located between said first and second ends;*

*an active electrode (7) with an electrically insulating covering, functionally connected to the said first terminal (5);*

*a neutral return electrode (8) functionally connected to said second terminal (6); and*

*a metallic electrode (10) without an insulating covering, functionally connected to said intermediate terminal (9), said intermediate terminal (9) having a very reduced average impedance adapted only to the different sizes of the used metallic electrode (10);*

*whereby sparks are eliminated when setting or withdrawing said electrodes during their application to the body of the patient and thus the possibility of burning the same is avoided."*

VI. The appellant argued essentially as follows:

The present application related to a device for electrotherapy which comprised a transformer with three terminals. The first and the second terminals were connected to the two ends of the transformer's secondary winding, while the intermediate terminal was located between the secondary winding's ends. The active electrode connected to the first terminal had an insulating covering for providing a capacitive coupling to the patient's body. Its impedance was such that no visible sparks were formed between the electrode plate and the patient's skin when the electrode was laid on

or lifted off the patient's body. On the other hand, the metallic electrode connected to the intermediate terminal required no insulating covering for preventing sparks because of the lower voltage applied to it.

Both the active electrode and the intermediate electrode could be used to treat a specific part of the body, starting for instance with the insulated active electrode and then continuing the treatment with the metallic electrode when, because of its higher impedance, the former had reached a temperature which could cause discomfort to the patient. Furthermore, the active electrode with its capacitive coupling could be used to treat parts of the body which comprised bone tissue and thus had an essentially capacitive impedance, whereas the resistive coupling provided by the metallic electrode was particularly suitable for tissues which had a resistive impedance.

It was implicit that the impedance of the metallic electrode was much lower than the impedance of the active electrode, and that consequently the output impedance at the intermediate terminal had to be lower than the output impedance at the first terminal in order to provide an efficient transfer of power from the transformer to the metallic electrode.

## **Reasons for the Decision**

1. The appeal is admissible.
- 2.1 The only claim of the appellant's request is based on all the features recited in the independent claim of

the application as originally filed, whereby the amendments made to the wording of the latter are merely directed to improving the clarity of the claimed subject-matter.

2.2 The Board is thus satisfied that the present claim does not contain subject-matter which extends beyond the content of the application as originally filed, and that the claim is admissible under Article 123(2) EPC.

3.1 The claim relates to a device for electrotherapy comprising the following structural features:

- a transformer connected to a high-frequency amplifier and comprising a primary winding, a secondary winding and three terminals, whereby the first and second terminals correspond to the two ends of the secondary winding and the third intermediate terminal is located between the two ends of the secondary winding;
- an active electrode with an electrically insulating covering connected to the first terminal of the transformer;
- a neutral return electrode connected to the second terminal; and
- a metallic electrode without insulating covering connected to the intermediate terminal.

These features clearly describe the structure of the device shown in the only figure of the application.

3.2 The claim further specifies that the intermediate terminal has *"a very reduced average impedance adapted only to the different sizes of the used metallic electrode"*. As explained by the appellant, this expression relates essentially to the fact that the electrode connected to the intermediate terminal is a metallic electrode without insulating covering. Because of the very low resistance offered by the metallic electrode, the impedance of the load applied between the intermediate and second terminals is essentially a function of the (low) impedance of the patient's body. As generally known in the art, an efficient transfer of energy from the transformer to a low impedance load implies the selection of a low output impedance at the transformer's terminals. It is within this context that the expression *"very reduced"* referred to the output impedance has to be understood.

As to the term *"average"* referred to the impedance of the intermediate terminal, it accounts for the fact that the body impedance may vary not only from patient to patient but also for the same patient and that electrodes with different surface areas may be used. Furthermore, though the impedance of the load connected to the intermediate terminal can be regarded as mainly resistive, a certain dependence on the operating frequency cannot be excluded. An adjustment of the transformer's output impedance in dependence on the operating frequency and /or on the applied load is avoided by selecting an *"average"* output impedance.

3.3 As to the last feature of the claim (*"whereby sparks are eliminated when setting or withdrawing said electrodes during their application to the body of the*

patient and thus the possibility of burning the same is avoided"), it merely sets out the result the present invention wishes to achieve and should not be construed as a limiting functional feature of the intermediate terminal's impedance or of the device's other structural features.

Furthermore, it should be noted that the effects specified in the last clause of the claim can only occur when the device is in use and thus depend on parameters which may vary in accordance with the therapy to be administered, such as the operating voltage, the operating frequency and dielectric constant of the insulating covering of the active electrode, or which may be difficult to determine and control, such as moisture at the interface between the electrode and the patient's skin.

3.4 As to the definition of the amplifier as a "*a high-frequency amplifier*", the appellant has convincingly explained that the term "*high-frequency*" has a clear meaning in the field of electrotherapy and essentially corresponds to the frequency range (between 300 KHz and 1 MHz) specified in the document ES-A-2 102 301 acknowledged as prior art in the description of the present application.

3.5 In summary the Board is satisfied that the claim clearly expresses the subject-matter of the invention as set out in the application documents as originally filed in accordance with the requirements of Article 84 EPC.



4. Considering that the examining division rejected the present application merely on the grounds of Article 84 and Article 123(2) EPC and that such objections have been overcome by the claim of the appellant's request, the Board considers it appropriate to make use of its powers under Article 111(1) EPC and to remit the case to the first instance for further prosecution.

## **Order**

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

1. The decision under appeal is set aside.
2. The case is remitted to the first instance for further prosecution on the basis of the only claim filed at the oral proceedings.

The Registrar:

The Chairman:

R. Schumacher

B. J. Schachenmann