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D E C I S I O N
of 6 October 1998

Case Number: T 0676/96 - 3.2.2

Application Number: 88119018.5

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Language of the proceedings: EN

Title of invention:

Shock wave treatment apparatus

Patentee:

Kabushiki Kaisha Toshiba

Opponent:

Siemens AG

Headword:

-

Relevant legal provisions:

EPC Art. 84, 108, 111, 123(2), (3)

Keyword:

"Admissibility of the appeal - (yes)"

"Clarity and adequate support - (yes, after amendments)"

"Remittal to the first instance"

Decisions cited:

J 0022/86, T 0105/87, T 0563/91

Catchword:

-



Case Number: T 0676/96 - 3.2.2

D E C I S I O N
of the Technical Board of Appeal 3.2.2
of 6 October 1998

Appellant: Kabushiki Kaisha Toshiba
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Representative: Henkel, Feiler, Hänzel
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Respondent: Siemens AG
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Representative: -

Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 9 May 1996 revoking
European patent No. 0 316 863 pursuant to
Article 102(1) EPC.

Composition of the Board:

Chairman: W. D. Weiß
Members: M. G. Noel
J. C. M. De Preter

Summary of Facts and Submissions

- I. By decision of 9 May 1996 the Opposition Division revoked European patent No. 0 316 863 on the ground that the subject-matter of claim 1 as amended (all requests) lacked clarity (Article 84 EPC) and adequate support (Article 123(2) EPC) and extended the protection conferred (Article 123(3) EPC).
- II. The appellant (proprietor of the patent) lodged an appeal against the first instance's decision on 19 July 1996 and filed a statement of grounds along with an amended claim 1. In the course of the proceedings further amended claims were successively filed in response to the counterstatements of the respondent (opponent).
- III. Claim 1 according to the main, and auxiliary requests, filed on 22 October 1997 and on 3 September 1998, respectively, read as follows (identifying letters (a) to (d) having been introduced by the Board for ease of reference):

Main request:

"1. A shock wave treatment apparatus comprising:
shock wave generation means (15) for generating a shock wave which converges at a convergent point (41a) for crushing an object (39) in a living body (32), said shock wave generating means (15) having a shock wave transmission surface (15a);

pulser means (18) for supplying a pulse signal to

said shock wave generation means (15);

a water tank (33) attached to the shock wave transmission surface (15a) of said shock wave generation means (15) and containing water, said water tank (33) having a bottom surface (37);

image information collecting means (16) arranged between said transmission surface (15a) and the convergent point (41a) of the shock wave generation means (15) and having an ultrasonic wave transmission/reception surface (16a) for collecting tomographic image data of the living body (32) by means of ultrasonic wave transmission/reception, said ultrasonic wave transmission/reception surface (16a) being set in contact with the surface of the living body (32); and

display means (27) for displaying processing image information;

characterised in that:

(a) said shock wave generation means (15) has a cut-away portion forming a central portion of said shock wave generation means (15), the central portion being coaxial with said image information collecting means (16);

(b) the cut-away portion and the convergent point (41a) define a region which is not included in that shock wave transmission region of said shock wave generation means (15) within which the shock wave generated by said shock wave generation means (15) is transmitted;

(c) the cut-away portion is arranged such that the shock wave transmission range of said shock wave generation means (15) does not interface with said image information collecting means (16) when the

collecting image data are collected; and
(d) said ultrasonic wave transmission/reception surface (16a) of said image information collecting means (16) is kept on substantially the same plane as the bottom surface (37) of said water tank (33) when the collecting image data are collected."

Auxiliary request:

"1. A shock wave treatment apparatus comprising:
shock wave generation means (15) for generating a shock wave which converges at a convergent point (41a) for crushing an object (39) in a living body (32), said shock wave generating means (15) having a shock wave transmission surface (15a);

pulser means (18) for supplying a pulse signal to said shock wave generation means (15);

a water tank (33) attached to the shock wave transmission surface (15a) of said shock wave generation means (15) and containing water, said water tank (33) having a bottom surface (37);

image information collecting means (16) arranged between said transmission surface (15a) and the convergent point (41a) of the shock wave generation means (15) and having an ultrasonic wave transmission/reception surface (16a) for collecting tomographic image data of the living body (32) by means of ultrasonic wave transmission/reception, said ultrasonic wave transmission/reception surface (16a) being set in contact with the surface of the living body (32); and

display means (27) for displaying processing image information;

wherein:

- (a) said shock wave generation means (15) has a cut-away portion forming a central portion of said shock wave generation means (15), the central portion being coaxial with said image information collecting means (16) which is arranged in the shock wave transmission range of the shock wave generation means (15) within said cut-away portion; and
- (d) said ultrasonic wave transmission/reception surface (16a) of said image information collecting means (16) is kept on substantially the same plane as the bottom surface (37) of said water tank (33) when the collecting image data are collected."

IV. Oral proceedings were held on 6 October 1998 during which the parties argued as follows:

(i) The appellant:

- The appeal is admissible since a statement setting out the grounds of appeal was filed in due time, in accordance with Article 108, third sentence EPC, along with an amended claim, with the view to overcoming the objections made in the contested decision. In particular, the omitted feature was reintroduced and still another feature was amended.

- In claim 1 according to the main request, the characterizing features (a) to (c) could be derived from Figure 4 of the patent in suit. Although these features were not mentioned expressly in the patent specification, they had to be regarded as sufficiently disclosed and supported, as required by Articles 84 and 123 EPC. In particular, Figure 4 showed shock wave generation means 15 including a central cut-away portion 43 which was clearly distinguished from the remaining portion of the generation means by shade lines directed in opposite directions, respectively. Thus, the cut-away portion 43 and the convergent point 41a defined a central conical region illustrated by small lines in Figure 4, which was excluded from the shock wave transmission range 41 so as not to interface with the image information collecting means 16.

- Claim 1 according to the auxiliary request corresponded to a previous simplified version filed with letter of 28 May 1997. This request was submitted in the event that the Board would not accept the appellant's finding that features (b) and (c) were sufficiently supported by Figure 4. In the auxiliary request, all features were unambiguously based on the patent specification, as required by Articles 84 and 123 EPC.

(ii) The respondent:

- The appeal was inadmissible because claim 1 filed with the statement of grounds of appeal still did not meet the objections of clarity and extended subject-matter, upon which the decision was based.

- Claim 1 according to the main request was not clear (Article 84 EPC) and introduced new matter extending beyond the content of the application as filed (Article 123(2) EPC). There was actually no mention in the description of the shock wave transmission surface 15a being centrally limited by the cut-away portion 43, this latter being in turn not clearly defined. Contrary to the appellant's assertion, Figure 4 clearly showed that the transmission surface extended through a continuous line up to the outer surface of the cylindrical ultrasonic transducer 16. Therefore, the narrow central conical region surrounding the transducer was included within the transmission range covered by the shock wave generation means and did actually interface with said transducer. In addition, in the case where the convergent point was located close to the surface of the living body, as illustrated on the sketch submitted during the oral proceedings, the shock wave transmission range clearly interfaced with the image information collecting means (ultrasonic transducer). This was in contradiction with the wording of features (a) and (b) as presently claimed. Also the additional

condition ("when the collecting image data are collected") imposed in the last feature of claim 1 provided for unduly extending its subject-matter.

- As to claim 1 according to the auxiliary request the same remarks as above continued to apply regarding the area covered by the transmission surface of the shock wave generation means and the additional condition imposed on the last feature.

V. The appellant requested that the decision under appeal be set aside and that the patent be maintained:

- on the basis of claim 1 as submitted by letter of 22 October 1997 (main request) or on the basis of claim 1 as filed by letter of 3 September 1998 (auxiliary request);
- and on the basis of the following documents:
 - claims 2 to 9 as granted;
 - description:
 - columns 1, 5, 6, 9 as granted;
 - column 2 as granted with the insertion submitted by letter of 23 October 1995;
 - columns 3, 4, 7 and 8 as submitted by letter of 7 April 1998;

- Figures as granted.

At the end of the oral proceedings the appellant declared that Figure 5 and claim 2 were not covered by the invention and that he was ready to cancel them.

The respondent requested that the appeal be dismissed.

Reasons for the Decision

1. *Admissibility of the appeal*

The first instance revoked the patent because none of the requests submitted then was formally acceptable. In claim 1 of the main request the omission of a feature led to infringement of Article 123(2) and (3) EPC, whereas in claim 1 of the auxiliary request one feature was said not to be in accordance with the invention as disclosed in the patent specification, which gave rise to objections under Article 84 and 123(2) EPC.

In order to remove the above-mentioned objections the appellant filed, together with its statement of grounds, a new claim 1 amended by reintroducing the omitted feature and, additionally, by a modification justified by reference to the description.

Article 108, third sentence EPC only requires the filing of a statement of grounds in the prescribed time limit. The extent to which amendment or cancellation of the impugned decision is requested is to be specified in the notice of appeal, according to Rule 64(b) EPC.

In the present case where the notice of appeal and the statement of grounds are merged in one and the same piece of document the minimum conditions required by Article 108, third sentence together Rule 64(b) EPC for the appeal to be regarded as admissible have been met (cf. J 22/86, OJ EPO 1987, 280, point 2).

Besides, the Board observes that it is sufficient that an appeal be based on the sole ground that - even though the correctness of the first instance decision is not questioned - subsequently amended claims have been submitted to which the reasoning of the decision no longer applied (cf. T 105/87, 25 February 1988, point 1 and T 563/91, 1 March 1993, point 1, both unpublished).

The question whether said amendments are appropriate to remove the objections of the first instance is, therefore, irrelevant to the issue of admissibility. In any case, the question does not arise any more since claim 1 filed then with the statement of grounds is no longer the subject of claim 1 now on file.

2. *Formal aspects (claim 1 - main request)*

2.1 According to feature (a) the shock wave generation means 15 has a cut-away portion forming a central portion. In the application as filed the sole mention of the cut-away portion is made with regard to an alternative embodiment of the water-tank 33 disposed on the side of piezo-electric transducer 15 (cf. page 9, lines 13 to 16 and Figure 7). According to this embodiment, the "upper end 45a of cylindrical member 45 is bonded to the periphery of cut-away portion 43 formed in the central portion of piezo-electric transducer 15 shown in Figures 4 and 5". Knowing that the "ultrasonic transducer 16 is inserted into cylindrical member 45" (page 9, lines 18 to 21), it is self-evident that the cut-away portion 43 is the opening provided in the piezo-electric transducer 15 for the passage of the ultrasonic transducer 16.

Further, even when considering that the central portion illustrated in the cross view of Figure 4 by shaded lines oriented in a different direction, is actually the cut-away portion, this would not allow to conclude that the transmission surface 15a should not arrive up to the central opening. As mentioned in the application as filed (page 6, lines 26 to 29) "ultrasonic transducer 16 (is) arranged in shock wave transmission area 41 ranging from shock wave transmission surface 15a of piezo-electric transducer 15 to convergent point 41a". This clearly means that the central cone surrounding the ultrasonic transducer 16 and defined by both the cut-away portion and the convergent point 41a, is not excluded from the transmission range 41.

As a result, although feature (a) is adequately based on the original application in accordance with Article 123(2) EPC, the Board's view is that the cut-away portion is not excluded from the transmission surface 15a which, therefore, extends without restriction up to the cylindrical outer surface of the collecting means.

- 2.2 According to feature (b) "the cut-away portion and the convergent point 41a define a region which is not included in that shock wave transmission region...within which the shock wave...is transmitted" and according to feature (c) "the cut-away portion is arranged such that the shock wave transmission range...does not interface with said image information collecting means 16". In other words, the ultrasonic wave transducer 16 would be placed in a region excluded from the shock wave transmission area 41.

Taking account of what has been said before, the Board's judgement is that the above-mentioned features are supported nowhere in the application as filed. The appellant's arguments to support the incorporation of features (b) and (c) into claim 1 are only based on his interpretation of Figure 4.

Actually, features (b) and (c) are in contradiction with the description (cf. page 7, lines 7 to 12) according to which, "In the case where the converging point is located close to living body surface 32S, some of the shock waves emitted from piezo-electric transducer 15 may collide against the outer wall of ultrasonic transducer 16 and may not reach the convergent point". This case was illustrated correctly in an amended version of Figure 4, submitted by the

respondent at the oral proceedings. The drawing showed an object to be crushed and associated convergent point 41a both located close to the living body surface and, therefore, close to the reception surface 16a of the collecting means. This situation is in accordance with the purpose of the invention (cf. page 2, lines 21 to 25 and page 3, lines 6 to 11) and the proposed solution (cf. paragraph bridging pages 3 and 4).

Thus, even if the above appellant's interpretation was accepted, that the central cone surrounding the collecting means should be excluded from the shock wave transmission area, when the collecting means 16 are set in contact with the living body surface (as set out in both the preamble and the feature (b) of claim 1), the end of said collecting means necessarily interface with some transmission shock waves within the transmission area 41. In this respect, it should be noticed that the appellant contradicts himself since, in his statement of grounds of appeal (cf. point II-2), it was admitted that "some of shock waves...reach the outer periphery of the collecting means 16".

2.3 From the foregoing it results that features (b) and (c) extend the subject-matter of the patent in suit beyond the content of the application as filed, in contravention with the requirements of Article 123(2) EPC. Consequently, claim 1 according to the main request is not allowable.

3. *Formal aspects (claim 1 - auxiliary request)*

3.1 Assuming that the word "wherein" has the same meaning as the words "characterised in that", the pre-characterising portion of claim 1 according to

either the main or the auxiliary request is the same and all features are adequately based on the application as filed.

With respect to the version as granted, the pre-characterising portion of claim 1 according to the auxiliary request has been amended by addition of the following feature: "said ultrasonic wave transmission/reception surface 16a being set in contact with the surface of the living body 32". Such addition amounts to restrict the scope of protection to the embodiment shown in Figure 4, the subject-matter of claim 2 illustrated by Figure 5, according to which the transmission/reception surface of the ultrasonic transducer is not in direct contact with the living body surface, being, therefore, excluded from the protection.

- 3.2 Features (b) and (c) having been deleted, the characterising portion of claim 1 is now restricted to features (a) and (d).

Feature (d) was already contained in claim 1 as originally filed and also in the version as granted, supplemented however by the following words at the end of said feature: "when the collecting image data are collected". In the Board's view, such amendment is confined to characterising the apparatus "in use", but this is of no consequence on the structure of the claimed arrangement. While said amendment is regarded as superfluous, the modified feature as a whole is adequately supported by the application as filed, however.

Feature (a) takes up again the corresponding feature of

claim 1 according to the main request which, as seen before (cf. item 2.1), is fairly supported by the application as filed, including also the expression "the central (cut-away) portion being coaxial with said image information collecting means 16" which can be derived unambiguously from Figure 4. The last portion of feature (a) refers to an additional feature ("which is arranged in the shock wave transmission range of the shock wave generation means 15 within said cut-away portion") which is also adequately based on the original application (cf. page 6, lines 26 to 29; page 10, lines 20 to 24 and Figure 4). With respect to the version as granted, feature (a) has been amended in a restricted and thus acceptable manner.

- 3.3 All things considered, the subject-matter of claim 1 according to the auxiliary request is clear and the amendments made are not such as to extend the content of the application as filed or the protection conferred by the patent. The requirements of Articles 84 and 123(2) and (3) EPC are, therefore, fulfilled.

4. *Remittal to the first instance*

Since the refusal by the first instance was restricted to formal aspects under Articles 84 and 123(2) and (3) EPC and considering that the main claim now at issue has been further amended by the appellant, the Board considers it appropriate to make use of its power conferred by Article 111(1) EPC to remit the case to the first instance for further prosecution on the basis of claim 1 according to the auxiliary request and the other documents listed in item V above.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the Opposition Division for further prosecution.

The Registrar:

The Chairman:

s. Fabiani

W. D. Weiß