

File

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 29

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

MAILED

FEB 26 1997

*Ex parte* DREW D. WEAVER

PAT.&T.M. OFFICE  
BOARD OF PATENT APPEALS  
AND INTERFERENCES

Appeal No. 95-4231  
Application 08/200,541<sup>1</sup>

HEARD: FEBRUARY 4, 1997

Before CALVERT, STAAB and McQUADE, *Administrative Patent Judges*.  
STAAB, *Administrative Patent Judge*.

DECISION ON APPEAL

Drew D. Weaver (appellant) appeals from the final rejection of claims 1 through 5, all the claims currently pending in the

<sup>1</sup> Application for patent filed February 22, 1994. According to appellant, this application is a continuation of 07/991,974 filed December 17, 1992, now abandoned.

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application.<sup>2</sup> We reverse and enter a new rejection of certain of the appealed claims pursuant to our authority under 37 CFR § 1.196(b).

Appellant's invention pertains to a cautery instrument used to cauterize flesh or tissue. The instrument has at least a portion coated with a coating consisting essentially of diamond of a thickness permitting transmission of radio-frequency electrical energy to flesh or tissue principally by capacitive coupling. According to appellant, "[t]he present invention overcomes the problem of the prior art and provides coated cautery instruments to which coating there is substantially no adherence of charred tissue during cauterization . . . ." (specification, page 5). Independent claim 1 is illustrative of the subject matter on appeal and reads as follows:

1. A cautery instrument comprising a first predetermined region for contact with flesh or tissue, said instrument being coated over at least a portion of said predetermined region by a coating consisting essentially of diamond, said diamond coating

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<sup>2</sup> An amendment filed subsequent to the final rejection has not been entered. See the advisory letter mailed January 26, 1995 (Paper No. 17).

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being of a thickness permitting transmission of radio-frequency electrical energy from said first said predetermined region through said diamond coating to flesh or tissue principally by capacitive coupling.

The references of record relied upon by the examiner in support of a rejection under 35 U.S.C. § 103 are:

Blanch	4,785,807	Nov. 22, 1988
Kitamura et al. (Kitamura)	4,980,021	Dec. 25, 1990

Claims 1 to 5 stand rejected under 35 U.S.C. § 112, second paragraph, "as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention" (final rejection, page 2).

Claims 1 to 5 stand further rejected under 35 U.S.C. § 103 as being unpatentable over Blanch in view of Kitamura.

Reference is made to the final rejection (Paper No. 14, mailed July 25, 1994), the answer (Paper No. 22, mailed May 15, 1995) and the supplemental answer (Paper No. 24, mailed July 15, 1995) for the details of the examiner's understanding of the references and for the reasoning in support of the above noted rejections. The points of argument advocated by appellant appear

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in the main brief (Paper No. 20, filed February 6, 1995) on pages 3 to 10 thereof, and the reply brief (Paper No. 23, filed June 12, 1995).

*OPINION*

Having carefully considered appellant's specification and claims, the teachings of the applied references, and the respective positions expressed by appellant and the examiner, it is our determination that the standing rejections under 35 U.S.C. § 112, second paragraph, and 35 U.S.C. § 103 should not be sustained. In addition, since we are of the opinion that appealed claims 1 to 3 and 5 do not distinguish over Kitamura, we will enter a new rejection thereof pursuant to our authority under 37 CFR § 1.196(b).

Considering first the rejection of claims 1 to 5 under 35 U.S.C. § 112, second paragraph, the examiner considers that the claims fail to particularly point out and distinctly claim the subject matter sought to be patented because it is unclear what thickness is encompassed by the language of claim 1 calling for "said diamond coating being of a thickness permitting

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transmission of radio-frequency electrical energy . . . through said diamond coating to flesh or tissue principally by capacitive coupling." In the examiner's view, "any given coating thickness can transmit a RF electrical energy of sufficient magnitude [to cauterize tissue]" (final rejection, page 2). In this regard, the examiner opines on page 4 of the answer that the thickness of the coating is not a factor in the transmission of radio-frequency electrical energy by capacitive coupling. Technical arguments in support of this position are found on pages 3 to 5 of the advisory letter mailed October 29, 1993 (Paper No. 7 of the parent application; erroneously referred to as Paper No. 14 on page 4 of the answer).

Appellant argues on pages 1 to 3 of the reply brief that the examiner is simply wrong in her assertion that the thickness of the coating is not a factor in the transmission of radio-frequency electrical energy by capacitive coupling and provides technical arguments in support of this position. It appears to be appellant's basic position that one of ordinary skill in the art would readily understand the metes and bounds of the claim 1 recitation regarding the thickness of the diamond coating when the claim language is read in light of the specification.

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The second paragraph of 35 U.S.C. § 112 requires claims to set out and circumscribe a particular area with a reasonable degree of precision and particularity. *In re Johnson*, 558 F.2d 1008, 1015, 194 USPQ 187, 193 (CCPA 1977). In this regard, the definiteness of the language in the claims must be analyzed, not in a vacuum, but always in light of the teachings of the prior art and of the particular application disclosure as it would be interpreted by one possessing the ordinary level of skill in the pertinent art. *Id.*

While we are not unmindful of the technical points of argument raised by the examiner in support of her position, in this instance we think the appellant's argument that the thickness of the coating is at least a factor in the transmission of radio-frequency electrical energy by capacitive coupling is the better view. Given this view, and in light of the discussion of the appropriate thickness of the diamond coating found on page 8, line 11 through page 9, line 23 of the specification, the language of claim 1 calling for "said diamond coating being of a thickness permitting transmission of radio-frequency electrical energy . . . through said diamond coating to flesh or tissue principally by capacitive coupling" defines the claimed subject

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matter with a reasonable degree of precision and particularity..  
Accordingly, we shall not sustain the standing § 112 rejection of  
claims 1 to 5.

An unstated concern of the examiner appears to be with the breadth of claim 1 with respect to the thickness of the diamond coating. The mere fact that claim 1 covers any and all embodiments that both satisfy the requirements for the thickness of the diamond coating set forth in the last 5 lines of the claim and meet the structural requirements called for elsewhere in the claim does not make the claim indefinite. Instead, it simply makes the claim broad. Breadth, however, is not to be equated with indefiniteness. *See, for example, In re Miller*, 441 F.2d 689, 693, 169 USPQ 597, 600 (CCPA 1971).

Turning to the rejection of claims 1 to 5 under 35 U.S.C. § 103 as being unpatentable over Blanch in view of Kitamura, the examiner concedes that the cautery instrument of Blanch does not have a portion coated with a diamond coating. The examiner cites Kitamura for its teaching of a medical tool having a portion coated with diamond and concludes that it would have been obvious to one of ordinary skill in the art to have provided a portion of

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the cautery instrument of Blanch with a diamond coating "since the diamond coating improves the durability of the surgical instrument" (final rejection, page 3).

While we appreciate the examiner's position, we do not agree that it would have been obvious, in view of Kitamura, to modify the cautery instrument of Blanch in the manner proposed. In essence, we consider the subject matter of Kitamura to be too far-removed from Blanch in terms of its fundamental objectives to have suggested modifying the latter. In this regard, although both references disclose what might be termed surgical instruments, the Blanch instrument is primarily an electrically activated cauterizing instrument that may or may not also be used for cutting. In use, the Blanch instrument raises the temperature of tissue through inductive heating to thereby cause the tissue to cauterize. An important objective of Blanch is the provision of a non-stick coating on the flesh contacting portions of a cautery instrument so as to inhibit build-up of charred tissue thereon while cauterizing (Blanch, column 1, line 62 through column 2, line 14). On the other hand, the Kitamura instrument is an edged medical instrument used for cutting. An important objective of Kitamura is the provision of a diamond

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coating on an edged tool with the diamond coating being finely etched to roughen the surface. According to Kitamura, the etching surprisingly decreases the frictional resistance between the tool and the living tissue that is being cut (Kitamura, column 3, line 64 through column 4, line 2). The divergent objectives of Blanch and Kitamura are simply not relevant to each other. Furthermore, it is our opinion that there is nothing in either reference which would have led the ordinarily skilled artisan to conclude that a diamond-coated surface of the type disclosed by Kitamura would be effective to cauterize tissue by the transmission of RF electrical energy by capacitive coupling, much less that said diamond-coated surface would also be effective in inhibiting the build-up of charred tissue, which is the primary concern of Blanch. Simply stated, there is no suggestion in either reference, or need in view of the divergent objectives of the references, for their combination. Accordingly, we will not sustain the standing § 103 rejection of claims 1 to 5.

Pursuant to our authority under 37 CFR § 1.196(b), we enter the following new rejection.

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Claims 1 to 3 and 5 are rejected under 35 U.S.C. § 102(b) as being anticipated by Kitamura.

Anticipation under 35 U.S.C. § 102(b) is established only when a single prior art reference discloses, either expressly or under principles of inherency, each and every element of a claimed invention. *RCA Corp. v. Applied Digital Data Systems, Inc.*, 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir. 1984), cert. dismissed sub nom., *Hazeltine Corp. v. RCA Corp.*, 468 U.S. 1228 (1984). However, the law of anticipation does not require that the reference teach specifically what an appellant has disclosed and is claiming but only that the claims on appeal "read on" something disclosed in the reference, i.e., all limitations of the claim are found in the reference. *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 772, 218 USPQ 781, 789 (Fed. Cir. 1983), cert. denied, 465 U.S. 1026 (1984), (and overruled in part on another issue) 775 F.2d 1107, 227 USPQ 577 (Fed. Cir. 1985). Furthermore, anticipation by a prior art reference does

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not require recognition of inherent properties that may be possessed by the prior art reference. *Verdegaal Bros. Inc.—v. Union Oil of Calif.*, 814 F.2d 628, 633, 2 USPQ2d 1051, 1054 (Fed. Cir. 1987).

Using the language of claim 1 as a guide, and with particular reference to Kitamura's Example 1, the reference discloses a surgical instrument comprising a tungsten carbide base having an edged portion for cutting flesh or tissue. The edged portion is coated with a carbonaceous coating layer having a crystalline structure of diamond. Further, the coating has a thickness of 15 to 18 nm.

As to the preamble recitation that denominates the claimed subject matter as being a "cautery instrument," that recitation does not require any particular structure in addition to the structure taught by Kitamura's Example 1. In that the edged medical tool of Kitamura's Example 1 reasonably appears to be capable of functioning as a "cautery instrument," we hold that nothing in the language of the preamble of the appealed claims is effective to distinguish the claimed subject matter from that which is taught by Kitamura. See *In re Casey*, 370 F.2d 576, 580,

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152 USPQ 235, 238 (CCPA 1967); *In re Sinex*, 309 F.2d 488, 492, ..  
135 USPQ 302, 305 (CCPA 1962).

With respect to the terminology of claim 1 calling for the diamond coating to have a thickness "permitting transmission of radio-frequency electrical energy . . . principally by capacitive coupling," we are aware (1) that the thickness of the diamond coating in Kitamura is much thinner than the diamond coating of appellant's disclosed device and (2) of appellant's comment on page 4 of the main brief that

although in theory it might be considered that any given coating thickness can transmit an RF wave form, it should be noted that in reality, the coating must be sufficiently thick to exhibit adequate dielectric strength so as to prevent catastrophic breakdown of the coating when subjected to radio frequency electrical potentials lying in conventional working ranges. Thus, extremely thin coatings would not meet the limitations of the claims because such coatings would catastrophically fail and become inoperative as dielectric coating. [emphasis in original]

We must point out, however, that the appealed claims do not require any particular power level, electrical frequency, or voltage ranges at which the RF electrical energy is to be transmitted. Accordingly, the diamond layer disclosed by

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Kitamura reasonably appears to be capable of transmitted RF electrical energy "principally by capacitive coupling" (as called for in claim 1) and "substantially exclusively by capacitive coupling" (as called for in claim 5) for at least some power levels, frequencies and voltage ranges.

In light of the foregoing, it is our view that Kitamura establishes a *prima facie* case of anticipation of the subject matter of claims 1 and 5.

Given the manner in which the diamond coating is applied to the edged instrument of Kitamura, as described at column 4, lines 10 to 39, the entire blade portion of the instrument is considered to be coated with the diamond coating, thus satisfying claim 2. Claim 3 does not distinguish over Kitamura in that the instrument of the reference is a scalpel.

In summary:

(a) the standing rejection of claims 1 to 5 under 35 U.S.C. § 112, second paragraph, is reversed, ...

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(b) the standing rejection of claims 1 to 5 under 35 U.S.C. § 103 is reversed, and\_\_\_\_\_

(c) a new rejection of claims 1 to 3 and 5 pursuant to our authority under 37 CFR § 1.196(b) has been made.

The decision of the examiner is reversed.

The new rejection under 37 CFR § 1.196(b) should not be considered final for the purpose of judicial review.

Any request for reconsideration or modification of this decision by the Board of Patent Appeals and Interferences based upon the same record must be filed within one month from the date of the decision. 37 CFR § 1.197. Should appellant elect to have further prosecution before the examiner in response to the new rejection under 37 CFR § 1.196(b) by way of amendment or showing of facts, or both, not previously of record, a shortened statutory period for making such response is hereby set to expire two months from the date of this decision.



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John L. Sigalos  
12900 Preston Road  
Ste. 804  
Dallas, TX 75230