

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 19

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte BOAZ AVITALL

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Appeal No. 1998-1045  
Application 08/482,674

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ON BRIEF

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Before ABRAMS, STAAB, and GONZALES, Administrative Patent Judges.

GONZALES, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal from the examiner's final rejection of claims 38 through 46, which are all of the claims in the application.<sup>1</sup>

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<sup>1</sup> Independent claim 38 was amended subsequent to the final rejection. See Paper No. 9.

Appeal No. 1998-1045  
Application 08/482,674

We REVERSE.

The subject matter on appeal is directed to a catheter tip control system. Claim 38, the only independent claim, is illustrative of the subject matter on appeal and is reproduced in the "Appendix" attached to the brief.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Narula 1989	4,882,777	Nov. 21,
Jackowski 1990	4,920,980	May 1,
Takahashi 14, 1991	5,014,685	May
Gould et al. (Gould) 1991	5,055,109	Oct. 8,

Claims 38, 39 and 44 through 46 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Gould in view of Jackowski.

Claim 40 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Gould in view of Jackowski, as applied above to claim 38, and further in view of Narula.

Claims 41 through 43 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Gould in view of Jackowski,

Appeal No. 1998-1045  
Application 08/482,674

as applied above to claim 38, and further in view of Takahashi.

The full text of the examiner's rejections and the response to the arguments presented by appellant appear in the final rejection (Paper No. 8, mailed July 30, 1996) and the answer (Paper No. 14, mailed April 7, 1997), while the complete statement of appellant's arguments can be found in the main and reply briefs (Paper Nos. 13 and 15, filed January 13, 1997 and June 11, 1997, respectively).

#### OPINION

In reaching our decision in this appeal, we have given careful consideration to appellant's specification and claims, to the applied prior art references, and to the respective positions articulated by appellant and the examiner. As a consequence of our review, we conclude that the rejections cannot be sustained.

In rejecting claims under 35 U.S.C. § 103, the examiner bears the initial burden of presenting a prima facie case of obviousness. See In re Rijckaert, 9 F.3d 1531, 1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993). A prima facie case of

Appeal No. 1998-1045  
Application 08/482,674

obviousness is established by presenting evidence that the reference teachings would appear to be sufficient for one of ordinary skill in the relevant art having the references before him to make the proposed combination or other modification. See In re Lintner, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972). Furthermore, the conclusion that the claimed subject matter is prima facie obvious must be supported by evidence, as shown by some objective teaching in the prior art or by knowledge generally available to one of ordinary skill in the art that would have led that individual to combine the relevant teachings of the references to arrive at the claimed invention. See In re Fine, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). Rejections based on § 103 must rest on a factual basis with these facts being interpreted without hindsight reconstruction of the invention from the prior art. The examiner may not, because of doubt that the invention is patentable, resort to speculation, unfounded assumption or hindsight reconstruction to supply deficiencies in the factual basis for the rejection. See In

Appeal No. 1998-1045  
Application 08/482,674

re Warner, 379 F.2d 1011, 1017, 154 USPQ 173, 178 (CCPA 1967),  
cert. denied, 389 U.S. 1057 (1968). Our reviewing court has  
repeatedly cautioned against employing hindsight by using the  
appellant's disclosure as a blueprint to reconstruct the  
claimed invention from the isolated teachings of the prior  
art. See, e.g., Grain Processing Corp. v. American  
Maize-Products Co., 840 F.2d 902, 907, 5 USPQ2d 1788, 1792  
(Fed. Cir. 1988).

Claim 38 recites a catheter tip control system comprising  
a catheter having a highly flexible, tubular distal catheter  
section extending from a main catheter tube and having a  
central axis, a catheter wall and describing a distal catheter  
lumen and having a flexible distal tip area to be precisely  
maneuvered independent of the main catheter; a lateral  
deflection control element for angularly displacing "said  
distal tip"<sup>2</sup> (claim 38, line 9) about the central axis  
threaded within the distal catheter lumen and having a distal

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<sup>2</sup> Technically, there is no antecedent basis for the language "the  
distal tip" and "said distal tip" in claims 38, 39, 40 and 44. For purposes  
of our review, we consider the quoted language to read --the distal tip area--  
and --said distal tip area--, respectively, as actually recited in claim 38,  
lines 5 and 6. Correction of these informalities is in order upon return of  
the application to the jurisdiction of the examiner.

end anchored to the catheter wall at or near the distal tip area in such a manner that the application of rotational torque to the lateral deflection control element produces a corresponding displacement of the distal tip area in a plane substantially parallel to the direction of the applied rotational torque when the distal tip area is deflected from a linear disposition; and means for applying rotational torque to the lateral deflection control element.

With reference to Figure 1, Gould discloses a torque transmitting assembly for guidewires, steerable fixed wire catheters and the like including an outer tubular member 16, a balloon 17 secured to the distal end thereof, an inner tubular member 18, a core member 21 extending through an inner lumen 22 of the inner tubular member, through the interior of balloon 17 and out the distal end thereof with a flexible coil tip 23 disposed about and secured to the portion of the core member 21 which extends out the distal end of the balloon. See col. 2, line 67 through col. 3, line 4. The proximal end 30 of core member 21 is fixed to a pinion gear 25 which is driven by a ring gear 24 formed within a rotatable housing 14.

Appeal No. 1998-1045  
Application 08/482,674

See Figures 2 and 5. Rotation of the housing 14 and the ring gear 24 causes the rotation of the pinion gear 25 and the core member 21. The torque applied to the core member 21 is transmitted to the distal tip of the guidewire or catheter. See col. 5, lines 24-33.

Jackowski discloses a steerable suction/ablation catheter 10 including a tubular body 12 defining a lumen 14, a wire member 16 loosely positioned in lumen 14, and a tubular electrode 18 positioned adjacent the distal end 20 of the catheter. The distal tip 24 of wire member 16 is hooked into electrical contact with electrode 18 and soldered in place. See col. 3, lines 33-41. Jackowski further discloses that end portion 26 of wire member 16 is typically tapered and flattened which helps to direct the tip portion 28 of catheter 10 into a predetermined direction of bending which is generally perpendicular to the plane of flattened end 26. Jackowski also teaches that "[a]ntirotation lock means may be provided to prevent rotation of wire member 16 to avoid spiraling or twisting thereof" (col. 3, lines 55-57). During use, the catheter is inserted into a vein of the patient with

distal end 28 being in a straight configuration. However, when it is necessary for further advancement, wire member 16 is pulled relative to the rest of the catheter, to impose a curved configuration upon distal end 28, as shown in phantom lines in Fig. 2, with the degree of such curvature dependent upon the distance that wire member 16 is pulled rearwardly (id. at lines 58-66).

The examiner describes Gould as disclosing all of the limitations of claim 38, except that the deflection control element 21 of Gould is not anchored to the catheter wall (final rejection, page 2). Jackowski is cited as teaching a catheter having a deflection control element 16 anchored to the catheter wall (id.). It is the examiner's position that

[i]t would have been obvious, in view of Jackowski, to anchor the deflection control element of Gould . . . to the wall to better control the bending of the distal tip. (Id.)

Appellant, on the other hand, argues (main brief, pages 10-13) that motivation is lacking for combining the teachings of Gould and Jackowski along the lines of claim 38.

As both the examiner and appellant recognize, obviousness cannot be established by combining the teachings of the prior

Appeal No. 1998-1045  
Application 08/482,674

art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination. The extent to which such suggestion must be explicit in, or may be fairly inferred from, the references, is decided on the facts of each case, in light of the prior art and its relationship to the appellant's invention. As in all determinations under 35 U.S.C. § 103, the decision maker must bring judgment to bear. It is impermissible, however, simply to engage in a hindsight reconstruction of the claimed invention, using appellant's structure as a template and selecting elements from references to fill the gaps. The references themselves must provide some teaching whereby the appellant's combination would have been obvious. In re Gorman, 933 F.2d 982, 986, 18 USPQ2d 1885, 1888 (Fed. Cir. 1991) (citations omitted). That is, something in the prior art as a whole must suggest the desirability, and thus the obviousness, of making the combination. See In re Beattie, 974 F.2d 1309, 1312, 24 USPQ2d 1040, 1042 (Fed. Cir. 1992); Lindemann Maschinenfabrik GmbH v. American Hoist and Derrick Co., 730 F.2d 1452, 1462, 221 USPQ 481, 488 (Fed. Cir. 1984).

After reviewing the combined teachings of the applied prior art, we reach the conclusion that the subject matter of claim 38 would not have been suggested to one of ordinary skill in the art at the time the invention was made. Specifically, we agree with the appellant that there is no suggestion, motivation, or teaching in the prior art whereby the person of ordinary skill would have been instructed to attach the core member 21 of Gould to the catheter wall at or near the distal tip area as opposed to the flexible coil or coiled tip 23 explicitly taught by Gould absent the use of impermissible hindsight. We note that claim 38 is concerned with the anchoring of a torque transmitting member to the wall of a catheter. However, Jackowski's wire member 16 is clearly not intended to be twisted or to serve as a torque transmitting member. Further, while Jackowski does teach that bending control can be achieved by a wire member 16 hooked into electrical contact with an electrode 18 which is mounted in the catheter wall, the reference provides no teaching or suggestion that we can discern that improved bending control of the catheter can be achieved by attaching the wire member

Appeal No. 1998-1045  
Application 08/482,674

to the catheter wall. It is well settled that an examiner cannot establish obviousness by locating references which describe various aspects of an applicant's invention without also providing evidence of the motivating force which would impel one skilled in the art to do what applicant has done. See Ex parte Levengood, 28 USPQ2d 1300, 1302, (BPAI 1993). Here, we find no persuasive evidence of such a motivating force.

Since the examiner has not established a prima facie case of obviousness with regard to the subject matter of independent claim 38, the rejection of claim 38 and of claims 39 and 44 through 46, which depend from claim 38, under 35 U.S.C. § 103(a) over Gould in view of Jackowski will not be sustained.

We have also reviewed the patent to Narula, applied along with Gould and Jackowski against dependent claim 40, and the patent to Takahashi, applied along with Gould and Jackowski against dependent claims 41 through 43, but find nothing in those references which would have made it obvious at the time the invention was made to a person having ordinary skill in

Appeal No. 1998-1045  
Application 08/482,674

the art to have arrived at the claimed invention. Therefore,  
we will also not sustain the standing 35 U.S.C. § 103  
rejections of claims 40 through 43.

Appeal No. 1998-1045  
Application 08/482,674

CONCLUSION

To summarize, the rejections of claims 38 through 46 under 35 U.S.C. § 103 are reversed.

REVERSED

NEAL E. ABRAMS )  
Administrative Patent Judge )  
)  
)  
) BOARD OF PATENT  
LAWRENCE J. STAAB )  
Administrative Patent Judge ) APPEALS  
AND )  
) INTERFERENCES  
)  
JOHN F. GONZALES )  
Administrative Patent Judge )

Appeal No. 1998-1045  
Application 08/482,674

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APPENDIX

38. A catheter tip control system comprising:

(a) a catheter having a highly flexible, tubular distal catheter section extending from a main catheter tube and having a central axis, catheter wall and describing a distal catheter lumen and having a flexible distal tip area to be precisely maneuvered independent of said main catheter, said control system further comprising:

(1) a lateral deflection control element for angularly displacing said distal tip about said central axis threaded within the distal catheter lumen and having a distal end anchored to the catheter wall at or near the distal tip of the distal catheter section in a manner such that the application of rotational torque to the lateral deflection control element produces a corresponding displacement of the distal tip in a plane substantially parallel to the direction of the applied rotational torque when said distal tip is deflected from a linear disposition; and

(2) means for applying rotational torque to the lateral deflection control element.