

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 36

UNITED STATES PATENT AND TRADEMARK OFFICE

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Ex parte WILLIAM J. DRASLER, ROBERT G. DUTCHER, MARK L. JENSON,
JOSEPH M. THIELEN and EMMANUIL I. PROTONOTARIOS

Appeal No. 2000-1359
Application No. 08/351,613

ON BRIEF

Before ABRAMS, STAAB, and BAHR, Administrative Patent Judges.
ABRAMS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 79-86, 90, 91, 102, 105 and 106, as amended after the final rejection. Claims 87-89, 92-101, 103, 104 and 107-110 have been indicated as containing allowable subject matter. The remaining claims have been canceled.

We AFFIRM.

BACKGROUND

The appellants' invention relates to a device for removing thrombus or other tissue from an occluded or obstructed biological or synthetic body vessel or from a body cavity. An understanding of the invention can be derived from a reading of exemplary claims 79, 80 and 81, which appear in the appendix to the appellants' Brief.

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

Wallach	3,930,505	Jan. 6, 1976
Plechinger <u>et al.</u> (Plechinger)	5,318,518	Jun. 7, 1994

Claims 79-81, 85, 86, 90, 91, 102, 105 and 106 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Plechinger.

Claims 82-84 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Plechinger in view of Wallach.

Rather than reiterate the conflicting viewpoints advanced by the examiner and the appellants regarding the above-noted rejections, we make reference to the Answer (Paper No. 32) for the examiner's complete reasoning in support of the rejections, and to the Brief (Paper No. 27) for the appellants' arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to the appellants' specification and claims, to the applied prior art references, and to the respective positions articulated by the appellants and the examiner. As a consequence of our review, we make the determinations which follow.

The Rejection Under Section 102

Anticipation is established only when a single prior art reference discloses, either expressly or under the principles of inherency, each and every element of the claimed invention. See, for example, In re Paulsen, 30 F.3d 1475, 1480-1481, 31 USPQ2d 1671, 1675 (Fed. Cir. 1994). Anticipation by a prior art reference does not require either the inventive concept of the claimed subject matter or recognition of inherent properties that may be possessed by the reference. See Verdegaal Brothers Inc. v. Union Oil Co. of California, 814 F.2d 628, 633, 2 USPQ2d 1051, 1054 (Fed. Cir. 1987). Nor does it require that the reference teach what the applicant is claiming, but only that the claim on appeal "read on" something disclosed in the reference, *i.e.*, all limitations of the claim are found in the reference. See Kalman v. Kimberly-Clark Corp, 713 F.2d 760, 772, 218 USPQ 781, 789 (Fed. Cir. 1983), *cert. denied*, 465 U.S. 1026 (1984).

The examiner has taken the position that all of the subject matter recited in claim 79 is disclosed or taught by Plechinger. The only argument advanced by the appellants

in opposition to this rejection is directed to the following recitation in claim 79 regarding the high pressure fluid jets issuing from the orifices in the first passage:

wherein one or more of the fluid jets emanating from said distal end of said first passage impinges on said open distal end of said second passage, thereby providing stagnation pressure to drive the flow of effluent and emulsified tissue from said distal end of said second passage towards said proximal end of said second passage.

The examiner is of the view that the jet emanating from nozzle 14 in the Plechinger irrigating catheter and flowing into the distal end of discharge tube 18 provides “stagnation pressure,” as required by the claim, in that it brings about the aspiration of a suction flow volume (Answer, pages 3 and 4). The appellants argue that this is not the case because Plechinger directs the jet into a tube that has a diffuser to generate a suction effect, which is different than providing stagnation pressure (Brief, page 4). We find ourselves in agreement with the examiner, and therefore we will sustain the rejection of claim 79. Our reasoning follows.

As illustrated in Figure 3, the appellants’ invention comprises an outer sheath 102 within which is a fluid pressure supply passage 110 and an exhaust lumen 112. The supply passage terminates at its distal end in a loop 114 that has a plurality of discharge nozzles 116, 118 and 120 which direct fluid through an open space and into the distal end exhaust lumen 112. As explained on page 4 of the specification, the high pressure flow removes tissue from the body lumen or cavity in which the device is installed “by flow generated as a result of stagnation pressure which is induced at the

mouth of the exhaust lumen by conversion of kinetic energy to potential energy (i.e., pressure)" (emphasis added). No additional explanation is provided in the specification, other than the statement that high pressure is involved.

Plechinger discloses a device for accomplishing the same task as the appellants' invention (column 3, lines 4-6). As is best shown in Figure 2, it comprises a first passage 12 terminating at its distal end in an orifice 14 through which pressurized fluid flows under pressure through a space 130. The fluid jet is directed into the inlet 16 of a second passage 18 that carries the fluid and entrained material toward its proximal end. According to Plechinger "[t]he impulse of the irrigating fluid jet, which leaves the orifice 14 and flows into the inlet 16 . . . is transferred by friction and turbulence . . . partly to the surrounding medium within the distance 130 and brings about the aspiration of a suction flow volume . . . [which is] used to remove material from the vessel 8" (column 3, lines 56-63). Plechinger continues that "[t]he function of the irrigating catheter is to form a jet-suction device" (column 4, lines 48 and 49), and this action "entrains material from its surroundings and produces a negative pressure in the region of distance 130" (column 4, lines 62-64).

Absent convincing evidence to the contrary, which has not been brought to our attention, we do not agree that there is a difference between the effect created by the Plechinger jet in the open space 130 between orifice 14 and inlet 16 and that created by the appellants' invention. It seems to us that the appellants have merely applied a

new term to the phenomenon of creating a low pressure area by means of the flow of a jet of high pressure fluid through a surrounding fluid and into a confined passage. This being the case, we are not persuaded by the appellants' arguments, and we will sustain the Section 102 rejection of claim 79. In arriving at this conclusion, we wish to point out that the appellants' argument that Plechinger fails to meet the terms of the claim because it incorporates a diffuser in the outlet passage is of no consequence, if for no other reason than the claim is presented in a "comprising" format, which opens the claim to inclusion of elements or steps other than those recited therein. In re Hunter, 288 F.2d 930, 932, 129 USPQ 225, 226 (CCPA 1961).

Since the appellants have elected to group the dependent claims with the independent claims from which they depend, the rejection of claims 85/79, 86/79, 90/79, 91/79, 102/79, 105/79 and 106/79 also is sustained.

Claim 80 sets forth this portion of the appellants' invention in terms of the fluid jets producing "a low pressure region which tends to bring the tissue towards the fluid jet(s)." Again, the examiner rejects this as being anticipated by Plechinger. The appellants argue that their invention creates a "localized vacuum adjacent to the jet," which they contend Plechinger can achieve only by adding a diffuser, not required by their invention. However, as was the case above, we are not persuaded that there is any difference between the Plechinger structure and in the action caused thereby and that recited by the appellants in claim 80. In this regard, we again point out that

Plechinger explicitly describes his device as creating a jet-suction effect between the nozzle and the entrance to the discharge passage.

We therefore will sustain the Section 103 rejection of independent claim 80 and the claims depending therefrom which are rejected on the same grounds.

Independent claim 81 requires that the high pressure fluid emanating from the first passage be “greater than approximately 500 psi.” In this regard, the examiner points out Plechinger’s teaching that the pressure in his device can be as high as 150 bar, which is 2175 psi. The appellants have not disputed this finding, but have merely argued that Plechinger requires a diffuser, wherein their invention does not. As we explained above, we do not regard this argument as being persuasive. The rejection of claim 81 and those claims depending therefrom is sustained.

The Rejection Under Section 103

A prima facie case of obviousness is established when the teachings of the prior art itself would appear to have suggested the claimed subject matter to one of ordinary skill in the art (see In re Bell, 991 F.2d 781, 782, 26 USPQ2d 1529, 1531 (Fed. Cir. 1993)). This is not to say, however, that the claimed invention must expressly be suggested in any one or all of the references, rather, the test for obviousness is what the combined teachings of the references would have suggested to one of ordinary skill in the art (see, for example, Cable Elec. Prods. v. Genmark, 770 F.2d 1015, 1025,

226 USPQ 881, 887 (Fed. Cir. 1985)), considering that a conclusion of obviousness may be made from common knowledge and common sense of the person of ordinary skill in the art without any specific hint or suggestion in a particular reference (see In re Bozak, 416 F.2d 1385, 1390, 163 USPQ 545, 549 (CCPA 1969)), with skill being presumed on the part of the artisan, rather than the lack thereof (see In re Sovish, 769 F.2d 738, 743, 226 USPQ 771, 774 (Fed. Cir. 1985)). Insofar as the references themselves are concerned, we are bound to consider the disclosure of each for what it fairly teaches one of ordinary skill in the art, including not only the specific teachings, but also the inferences which one of ordinary skill in the art would reasonably have been expected to draw therefrom (see In re Boe, 355 F.2d 961, 965, 148 USPQ 507, 510 (CCPA 1966) and In re Preda, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968)).

Dependent claims 82-84 stand rejected as being unpatentable over Plechinger in view of Wallach. Claim 82 requires that the high pressure fluid source be a positive-displacement piston pump, claim 83 adds to claim 82 that the flow be a "largely pulsatile or periodic unsteady flow," and claim 84 adds to claim 82 the requirement that the flow be "largely steady." The examiner applies Wallach for its teaching of utilizing a selectively adjustable piston pump to provide high pressure fluid jets used to cut through unwanted tissue on the lens of an eye, concluding that it would have been obvious to utilize the Wallach pump with the Plechinger device (Answer, page 4). We

begin our analysis here by pointing out that the appellants have not challenged the combining of the references, but base their opposition upon two other arguments.

The first of these is that the presence of a diffuser in the Plechinger device renders the Section 103 rejection defective (Brief, page 7). We again find this not to be persuasive, for the same reasons as were set forth above with regard to the rejections under Section 102. Second, while the appellants admit that the Wallach pump is pulsatile (Brief, page 8), they inconsistently argue on the same page that the reference fails to disclose a pump that operates in the manner required by these rejected claims, a conclusion with which we do not agree.

Wallach discloses using a pulsing device to provide a suction-creating jet in which the pulse frequency, pulse duration, pressure and liquid volume output are continuously adjustable. Wallach suggests a positive displacement piston pump whose stroke is adjustable and which is driven by a variable speed electric motor and is provided with a pressure relief or bypass valve so that the variable and adjustable parameters are easily and conveniently achievable (column 4, lines 43-54).

From our perspective, the combined teachings of Plechinger and Wallach establish a prima facie case of obviousness with regard to the subject matter recited in claim 82. Plechinger discloses all of the subject matter recited in claims 79, 80 and 81, from which claim 82 depends, but does not disclose the specific type of pump recited in claim 82. However, Wallach teaches using a positive displacement piston pump, which

is precisely what is required by claim 82. Since a characteristic of such pumps is to provide a largely pulsatile or periodic unsteady flow, this combination of references also renders the subject matter of claim 83 obvious. Finally, contrary to the appellants' assertions on page 8 of the Brief, claim 84 requires not that the pump provide a steady flow, but "a largely steady flow" (emphasis added). Since the appellants have not pointed out a specific definition of this terminology, in which they utilize a term of degree, it is our view that the adjustable and variable operation and controls disclosed by Wallach would enable the pump to provide a flow that meets this condition. The rejection of claim 84 also is sustained.

SUMMARY

Both of the rejections are sustained.

The decision of the examiner is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

NEAL E. ABRAMS)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
LAWRENCE J. STAAB)	APPEALS AND
Administrative Patent Judge)	INTERFERENCES
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JENNIFER D. BAHR)	
Administrative Patent Judge)	

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HUGH D. JAEGER
SUITE 302
1000 SUPERIOR BLVD.
WAYZATA, MN 55391-1873

RETURN TO LESLEY

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APPLICATION NO. 08/351,613

APJ ABRAMS

APJ BAHR

APJ STAAB

DECISION: **AFFIRMED**

Prepared By: LESLEY GORDON

DRAFT TYPED: 07 Aug 03

FINAL TYPED: