

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 17

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MAX FRIEDHEIM

Appeal No. 1999-0406
Application 08/484,019¹

ON BRIEF

Before ABRAMS, McQUADE and CRAWFORD, Administrative Patent Judges.

McQUADE, Administrative Patent Judge.

DECISION ON APPEAL

Max Friedheim appeals from the final rejection of claims 1 through 42, all of the claims pending in the application.

We affirm-in-part and enter a new ground of rejection.

The invention relates to a "generator for rapid

¹ Application for patent filed June 7, 1995.

generation of superheated vapor such as superheated steam and further relates to a method for fabricating means for generating superheated vapor" (specification, page 1). Claims 1 and 29 are illustrative and read as follows:²

1. A superheated vapor generator for generating superheated vapor comprising:

a vapor generating volume for entry thereto of liquid to be vaporized, said vapor generating volume including at least one vaporization member, said at least one vaporization member including a portion for vaporizing contact with said liquid, said portion defining a plurality of holes, said holes having substantially circular cross-section.

29. A method for fabricating a vapor generator comprising the steps of:

(1) providing two thermally conductive parts with hollow interiors including at least one vaporizing member defining a plurality of holes, said holes having substantially circular cross-section; and

(2) welding said parts together to form a sealed vapor generating chamber.

The items relied upon by the examiner in support of the appealed rejections are:

Friedheim (Friedheim '037)	4,414,037	Nov. 8,
1983		

Friedheim (Friedheim '556)	5,471,556	Nov. 28,
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² The copies of claims 1 through 42 appended to the appellant's brief (Paper No. 15) contain numerous inaccuracies.

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1995

The items relied by the appellant in arguing the appealed rejections are:

The 37 CFR § 1.132 Declaration of Max Friedheim filed July 1, 1996 (Paper No. 5).

The 37 CFR § 1.132 Declaration of Max Friedheim filed February 28, 1997 (Paper No. 8).

The 37 CFR § 1.132 Declaration of Edward Bronzie filed October 22, 1997 (Paper No. 11).

Claims 1, 2, 4, 11, 14 through 16, 25, 28 through 31 and 41 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Friedheim '037.

Claims 3, 5, 12, 17, 18, 26, 27, 32, 33, 40 and 42 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Friedheim '037.

Claims 1 through 10, 13, 19 through 24 and 34 through 39 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 through 5 and 37 through 40 of the Friedheim '556

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patent in view of Friedheim '037.

Reference is made to the appellant's brief (Paper No. 15) and to the examiner's final rejection and answer (Paper Nos. 10 and 16) for the respective positions of the appellant and the examiner with regard to the merits of these rejections.

Turning first to the 35 U.S.C. § 102(b) rejection, Friedheim '037 discloses a superheated vapor generator 32 and a method of making same. As explained in the reference, the generator

is essentially in the form of metal castings in two parts and welded together as shown in FIG. 3 at 33 having a shape as shown having an integral opening as designated at 34 in the figures. . . . The castings are internally etched, as described to facilitate flashing. See FIG. 4 and the enlarged section FIG. 5.

Referring to the etching 33 of the generator, the final etch is non-uniform in size and produces cavities that range in size from pinpoint to **C**" diameter and depths ranging from 1/32" to shallow. Non-uniformity of the etched surfaces within the chamber is crucial for the successful operation of the steam generator. Liquid on contact with 550 F. aluminum surfaces will roll and ball up but the etched surface, as described herein, causes the liquid to explode (flash) instead and this is what enables it to create both the steam pressure and the continuing flow [column 4, lines 12 through 33].

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With additional regard to the method of making the generator, Friedheim teaches that

[a]fter casting, the inside of the generator parts are wire brushed and thoroughly cleaned, then the chambers are internally chemically etched with a caustic material. The generator halves are filled with the caustic material and allowed to remain so over night, at least 8 hours. Sufficient time is required to thoroughly etch and as deep as possible, for it is this surface which enables the liquid to explode (flash) upon contact when pumped into the chamber [column 2, line 63, through column 3, line 3].

Anticipation is established only when a single prior art reference discloses, expressly or under principles of inherency, each and every element of a claimed invention. RCA Corp. v. Applied Digital Data Sys., Inc., 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir. 1984). In other words, there must be no difference between the claimed invention and the reference disclosure, as viewed by a person of ordinary skill in the field of the invention. Scripps Clinic & Research Found. v. Genentech Inc., 927 F.2d 1565, 1576, 18 USPQ2d 1001, 1010 (Fed. Cir. 1991).

Independent claim 1 recites a vapor generator comprising,

inter alia, a vaporization member having a portion defining a plurality of holes having substantially circular cross-section. Independent claim 29 recites a method for fabricating a vapor generator comprising, inter alia, the step of providing such a vaporizing member. Independent claim 14 recites a vapor generator comprising, inter alia, a chamber wall defining a plurality of holes having substantially regular cross-section. The examiner's determination that these limitations are met by the etched cavities disclosed by Friedheim '037 (see page 3 in the final rejection and pages 3 and 4 in the answer) is not well founded. The fair teaching of Friedheim '037 as it would be viewed by a person of ordinary skill in the art is that the etched cavities have random shapes as shown in Figures 3 through 5, not shapes which are substantially circular or regular in cross-section as recited in claims 1, 14 and 29.³ The mere possibility that some of these randomly shaped cavities might inherently have circular or regular cross-sections is not sufficient to meet

³Figure 4 in the Friedheim '037 reference does not clearly show cavities having a circular cross-section as asserted by the examiner on page 4 in the answer.

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the limitations in question. As the court stated in In re Oelrich, 666 F.2d 578, 581, 212 USPQ 323, 326 (CCPA 1981)(quoting Hansgirg v. Kemmer, 102 F.2d 212, 214, 40 USPQ 665, 667 (CCPA 1939)):

Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing *may* result from a given set of circumstances is not sufficient. [Citations omitted.] If, however, the disclosure is sufficient to show that the natural result flowing from the operation as taught would result in the performance of the questioned function, it seems to be well settled that the disclosure should be regarded as sufficient.

Thus, Friedheim '037 does not meet all of the limitations in claims 1, 14 and 29. Accordingly, we shall not sustain the standing 35 U.S.C. § 102(b) rejection of these claims or of claims 2, 4, 11, 15, 16, 25, 28, 30, 31 and 41 which depend therefrom.

In addition to not teaching vapor generator holes having a substantially circular or regular cross-sections, Friedheim '037 would not have suggested such holes to one of ordinary skill in the art. Therefore, we shall not sustain the standing 35 U.S.C. § 103(a) rejection of claims 27 and 40, which depend from claims 14 and 29, respectively, as being

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unpatentable over Friedheim '037.

We also shall not sustain the standing 35 U.S.C. § 103(a) rejection of claims 12, 26 and 42 as being unpatentable over Friedheim '037. The subject matter recited in each of these independent claims encompasses at least two vapor generators. The examiner's conclusion that it would have been obvious to one of ordinary skill in the art "to provide and arrange multiple vapor generators to produce a bigger volume of heated vapors since multiple generators would produce more heated vapors than a single vapor generator" (final rejection, page 4) finds no factual support in Friedheim '037.

We shall sustain, however, the standing 35 U.S.C. § 103(a) rejection of claims 3, 5, 17, 18, 32 and 33 as being unpatentable over Friedheim '037.

Finding that Friedheim '037 meets all of the limitations in claims 3, 5, 17, 18, 32 and 33 except for those setting forth specific depths and widths of the holes, the examiner has concluded that it would have been obvious to one of

ordinary skill in the art "to make cavities or holes encompassing the claimed depth and width since Friedheim leaves it to one of ordinary skill in the art to make non-uniform and randomly chosen depths and width of hole/cavities for an improved vaporization of liquids" (final rejection, page 4). In essence, the appellant, relying on the 37 CFR § 1.132 declarations of record, contends that this rejection is unsound because the etched cavities disclosed by Friedheim '037 do not constitute "holes" and because the claimed subject matter affords new and unexpected results as compared with the Friedheim '037 subject matter.

The appellant's position here is not persuasive. Under the ordinary and accustomed meaning of the term,⁴ Friedheim's cavities certainly constitute "holes" as broadly recited in claims 3, 5, 17, 18, 32 and 33 to the same extent that the appellant's disclosed structures 22 constitute holes. As for the

⁴ Webster's New Collegiate Dictionary (G. & C. Merriam Co. 1977) defines "holes" as meaning "an opening often forced into or through a thing" or "a hollow place."

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alleged new and unexpected results, the appellant's declarations, taken as a whole, indicate that these results are afforded by a vapor generator having holes with substantially circular cross-section. None of the claims in question, however, requires that the holes be of substantially circular cross-section. Thus, to the extent that the appellant's showing does demonstrate surprising and unexpected results, it is not commensurate with the actual broad scope of claims 3, 5, 17, 18, 32 and 33.

Given the totality of the record, by a preponderance of evidence with due consideration to persuasiveness of argument, we are satisfied that the differences between the subject matter recited in claims 3, 5, 17, 18, 32 and 33 and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art.

As for the obviousness-type double patenting rejection, the question is whether any claim in the application defines merely an obvious variation of an invention disclosed and claimed in the patent. In re Vogel, 422 F.2d 438, 441, 164

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USPQ 619, 622 (CCPA 1970). In considering this question, the patent disclosure may not be used as prior art. Id.

According to the examiner,

[t]he U.S. Patent '556 discloses a vapor generator surface having randomly defined ridges and grooves whose height and depth vary substantially randomly. Friedheim '037 discloses a vapor generator surface having randomly etched cavities having random diameters and widths. In view of Friedheim '037 who teaches a superheated vapor generator having cavities, it would have been obvious to one of ordinary skill in the art to have [a] vapor generator surface having the combination of both surfaces having grooves, ridges and cavities/holes to improve producing superheated vapors [final rejection, page 2].

This rationale is unsound for at least two reasons. To begin with, the examiner has improperly relied on the disclosure of Friedheim '556 to support the rejection. Moreover, Friedheim '037 is devoid of any suggestion to combine grooves/ridges and cavities/holes as proposed by the examiner. Given these fundamental flaws in the examiner's analysis, we shall not sustain the standing obviousness-type double patenting rejection of claims 1 through 10, 13, 19 through 24 and 34 through 39.

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Finally, the following rejection is entered pursuant to
37 CFR § 1.196(b).

Claim 14, and claims 15, 16, 19 through 25, 27 and 28
which depend therefrom, are rejected under 35 U.S.C. § 112,
first paragraph, as being based on a specification which fails
to comply with the written description requirement of this
section of the statute.

The test for determining compliance with the written
description requirement is whether the disclosure of the
application as originally filed reasonably conveys to the
artisan that the inventor had possession at that time of the
later claimed subject matter, rather than the presence or
absence of literal support in the specification for the claim
language. In re Kaslow, 707 F.2d 1366, 1375, 217 USPQ 1089,
1096 (Fed. Cir. 1983). The content of the drawings may also

be considered in determining compliance with the written description requirement. Id.

Claim 14 recites a vapor generator comprising, inter alia, a chamber wall defining a plurality of holes having substantially "regular" cross-section. The 37 CFR § 1.132 Declaration of Max Friedheim filed February 28, 1997 (Paper No. 8) indicates that a "regular" cross-section is meant to encompass "any regular cross-section such as rectangular or triangular" (page 2, paragraph 5). There is no basis in the original disclosure, however, for holes which have a substantially "regular" cross-section. Thus, the disclosure of the application as originally filed would not reasonably convey to the artisan that the appellant had possession at that time of the subject matter now recited in claims 14 through 16, 19 through 25, 27 and 28.

In summary:

a) the decision of the examiner to reject claims 1, 2, 4, 11, 14 through 16, 25, 28 through 31 and 41 under 35 U.S.C.

§ 102(b) as being anticipated by Friedheim '037 is reversed;

b) the decision of the examiner to reject claims 3, 5,

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12, 17, 18, 26, 27, 32, 33, 40 and 42 under 35 U.S.C. § 103(a) as being unpatentable over Friedheim '037 is affirmed with respect to claims 3, 5, 17, 18, 32 and 33 and reversed with respect to claims 12, 26, 27, 40 and 42;

c) the decision of the examiner to reject claims 1 through 10, 13, 19 through 24 and 34 through 39 under the judicially created doctrine of obviousness-type double patenting is reversed; and

d) a new rejection of claims 14 through 16, 19 through 25, 27 and 28 is entered pursuant to 37 CFR § 1.196(b).

In addition to affirming the examiner's rejection of one or more claims, this decision contains a new ground of rejection pursuant to 37 CFR § 1.196(b) (amended effective Dec. 1, 1997, by final rule notice, 62 Fed. Reg. 53,131, 53,197 (Oct. 10, 1997), 1203 Off. Gaz. Pat. & Trademark Office 63,122 (Oct. 21, 1997)). 37 CFR § 1.196(b) provides, "A new ground of rejection shall not be considered final for purposes of judicial review."

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Regarding any affirmed rejection, 37 CFR § 1.197(b) provides:

(b) Appellant may file a single request for rehearing within two months from the date of the original decision

37 CFR § 1.196(b) also provides that the appellant, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of proceedings (37 CFR § 1.197(c)) as to the rejected claims:

(1) Submit an appropriate amendment of the claims so rejected or a showing of facts relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the application will be remanded to the examiner. . . .

(2) Request that the application be reheard under § 1.197(b) by the Board of Patent Appeals and Interferences upon the same record. . . .

Should the appellant elect to prosecute further before the Primary Examiner pursuant to 37 CFR § 1.196(b)(1), in order to preserve the right to seek review under 35 U.S.C. §§ 141 or 145 with respect to the affirmed rejection, the effective date of the affirmance is deferred until conclusion

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of the prosecution before the examiner unless, as a mere incident to the limited prosecution, the affirmed rejection is overcome.

If the appellant elects prosecution before the examiner and this does not result in allowance of the application, abandonment or a second appeal, this case should be returned to the Board of Patent Appeals and Interferences for final action on the affirmed rejection, including any timely request for reconsideration thereof.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR

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§ 1.136(a).

AFFIRMED-IN-PART; 37 CFR § 1.196(b).

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Administrative Patent Judge)	
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)	BOARD OF PATENT
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