

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. 19

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MICHEL POTIER and PHILIPPE LE GAUYER

Appeal No. 2001-2354
Application No. 09/186,687

ON BRIEF

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

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1 through 17 (Paper No. 10). Subsequent to the final rejection (Paper No. 11), claim 1 was amended, claim 5 canceled, and new claim 18 introduced. Thus, we have before us on appeal claims 1 through 4, and 6 through 18. These claims constitute all of the claims remaining in the application.

Appellants' invention pertains to a heat exchange device, to a method of manufacturing a heat exchanger, and to a heat

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exchange device for use with two different fluids. A basic understanding of the invention can be derived from a reading of exemplary claims 1, 11, and 15, respective copies of which appear in the APPENDIX to the brief (Paper No. 15).

As evidence of obviousness, the examiner has applied the documents listed below:

Scherer	3,860,468	Jan. 14, 1975
Humpolik et al (Humpolik)	4,531,577	Jul. 30, 1985
Pawlick	5,538,079	Jul. 23, 1996
Beamer et al (Beamer)	5,509,199	Apr. 23, 1996
Del Monte (European Patent Application)	0 429 401 A2	May 29, 1991
Goetz (Published PCT Application)	WO 91/19949	Dec. 26, 1991

The following rejections are before us for review.

1. Claims 1, 2, 4, 6, 9 through 12, and 14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Goetz in view of Humpolik.

2. Claim 15 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Goetz in view of Pawlick.

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3. Claim 13 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Goetz in view of Humpolik and Pawlick.

4. Claims 3, 4, 16, and 17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Goetz in view of Humpolik and Beamer.

5. Claims 7 and 18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Goetz in view of Humpolik and Del Monte.

6. Claim 8 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Goetz in view of Humpolik and Del Monte, as applied to claim 7 above, further in view of Scherer.¹

The full text of the examiner's rejections and response to the argument presented by appellants appears in the answer (Paper

¹ This rejection appears in the examiner's answer and the first office action (Paper No. 6) but apparently inadvertently was omitted from the final rejection (Paper No. 10). Since claim 8 indirectly depends from independent claim 1 via claim 6, and claims 1 through 4 and 6 through 10 are indicated by appellants to stand or fall together (main brief, page 4) the error of omission of the statement of the rejection in the final rejection does not appear to adversely affect appellants' position on appeal. We address this rejection, infra.

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No. 16), while the complete statement of appellants' argument can be found in the main and reply briefs (Paper Nos. 15 and 17).

OPINION

In reaching our conclusion on the obviousness issues raised in this appeal, this panel of the board has carefully considered appellants' specification and claims, the applied teachings,² and the respective viewpoints of appellants and the examiner. As a consequence of our review, we make the determinations which follow.

The first rejection

We cannot sustain the rejection of claim 1 and claims 2, 4, 6, 9 through 12, and 14 directly or indirectly dependent thereon.

² In our evaluation of the applied prior art, we have considered all of the disclosure of each document for what it would have fairly taught one of ordinary skill in the art. See In re Boe, 355 F.2d 961, 965, 148 USPQ 507, 510 (CCPA 1966). Additionally, this panel of the board has taken into account not only the specific teachings, but also the inferences which one skilled in the art would reasonably have been expected to draw from the disclosure. See In re Preda, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968).

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Claim 1 is drawn to a heat exchange device comprising, inter alia, a support plate having a (1) first portion including a plurality of holes adapted to serve as a header and (2) a second portion having openings for receiving tubes of a second array with a plurality of curved connectors, the second portion being adapted to receive in a forced fit manner the tube of the second array with said curved connectors.

We fully appreciate the highly relevant heat exchanger teaching of Goetz (Fig. 8) revealing a header plate 130 with inner tubes 126 and tubes 168 (Fig. 9a) passing therethrough, with the outlet ends 172 of adjacent tubes 168 being joined by crossover elbows 176 (Figs. 8 and 9). However, we do not perceive that one having ordinary skill in the art would have derived a suggestion from the Humpolik disclosure to alter the heat exchanger of Goetz by providing a portion of the header plate adapted to receive in a force fit manner the tubes 168 with the crossover elbows. Simply stated, it is the view of this panel of the Board that the pressure platen 6 in the heat exchanger of Humpolik would not have been understood to be a header (an apparent term of art) of a heat exchanger. Thus, while the Humpolik patent would have been suggestive of relying

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upon a pressure platen in joining heat exchanger tubes, as in Goetz, the resulting configuration would not be that now claimed by appellants.

The second rejection

We sustain the rejection of claim 15.

In applying the test for obviousness,³ we conclude that it would have been obvious to one having ordinary skill in the art, from a combined assessment of the Goetz and Pawlick references, to provide a resilient (rubber) grommet between the flat inner tubes 126 and the header 130 of Goetz (Fig. 8). From our perspective, the explicit teaching of resilient grommets for use with oblong tubes 4 having flat sides in Pawlick (Figs. 1 and 2) would have provided ample motivation to one having ordinary skill to effect the above modification for obtaining the art recognized

³ The test for obviousness is what the combined teachings of references would have suggested to one of ordinary skill in the art. See In re Young, 927 F.2d 588, 591, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991) and In re Keller, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981).

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benefits of a fluid tight seal (column 8, lines 12 through 14) and a cushioning effect (column 9, lines 17 through 20).

The argument of appellants (main brief, pages 11 through 14, and reply brief, pages 6 and 7) fails to convince us that the examiner erred in rejecting claim 15. We do not share appellants' point of view that the rejection is based upon impermissible hindsight (main brief, page 12). Clearly, the Pawlick reference instructs those having ordinary skill to apply a resilient grommet when sealing a tube to a header plate 14 with a header tank manifold 13 above (Fig. 1); the latter configuration being akin to the arrangement in Goetz of tubes 126, header plate 130, and tank 122. Thus, we are in basic agreement with the view of the examiner regarding claim 15 (answer, page 11).

The third rejection

We do not sustain the rejection of claim 13 since it depends from claim 11, the rejection of which latter claim we did not sustain, supra, and since the three applied references would not have been suggestive of the claimed subject matter.

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The fourth rejection

We do not sustain the rejection of claims 3 and 4 since they depend from claims the rejection of which we did not sustain above. However, the rejection of claims 16 and 17 is sustained since, as expressly indicated by appellants (main brief, page 4), these claims stand or fall together with claim 15, the rejection of which latter claim has been earlier sustained.

The fifth rejection

We do not sustain the rejection of claims 7 and 18. Claim 7 depends from claim 1, the rejection of which we sustained above. Further, we perceive that the applied teachings of Goetz, Humpolik, and Del Monte would not have been suggestive of the subject matter of claim 7. As to independent claim 18, it addresses a heat exchange device with the feature of a support plate adapted to serve as a header; the support plate having a first portion adapted to receive tubes by means of compressible seals and a second portion being adapted to receive in forced fit manner tubes with curved connectors. It is clear to us that the

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aforementioned three references simply would not have been suggestive of the forced fit feature of claim 18.

The sixth rejection⁴

We do not sustain the rejection of claim 8. This claim depends from claims the rejection of which we have not sustained. Further, the applied teachings to Del Monte and Scherer are not seen to overcome the deficiency of the teachings of Goetz and Humpolik, as addressed regarding the rejection of claim 1 above.

In summary, this panel of the board has:

not sustained the rejection of claims 1, 2, 4, 6, 9 through 12, and 14 under 35 U.S.C. § 103(a) as being unpatentable over Goetz in view of Humpolik;

sustained the rejection of claim 15 under 35 U.S.C. § 103(a) as being unpatentable over Goetz in view of Pawlick;

⁴ As indicated in footnote number 1 above, the statement of the rejection of claim 8 was apparently inadvertently omitted from the final rejection of claims 1 through 17. Based upon the commentary in the answer (page 7), it is clear that the examiner was not aware of the aforementioned omission.

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not sustained the rejection of claim 13 under 35 U.S.C. § 103(a) as being unpatentable over Goetz in view of Humpolik and Pawlick;

not sustained the rejection of claims 3 and 4 under 35 U.S.C. § 103(a) as being unpatentable over Goetz in view of Humpolik and Beamer, but has sustained the rejection of claims 16 and 17 on the same ground;

not sustained the rejection of claims 7 and 18 under 35 U.S.C. § 103(a) as being unpatentable over Goetz in view of Humpolik and Del Monte; and

not sustained the rejection of claim 8 under 35 U.S.C. § 103(a) as being unpatentable over Goetz in view of Humpolik, Del Monte, and Scherer.

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

The decision of the examiner is affirmed-in-part.

AFFIRMED-IN-PART

IRWIN CHARLES COHEN)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
NEAL E. ABRAMS)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
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JENNIFER D. BAHR)	
Administrative Patent Judge)	

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MORGAN AND FINNEGAN
345 PARK AVENUE
NEW YORK, NY 10154