

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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**Ex parte** DAVID BAKER

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Appeal No. 97-1080  
Application 08/201,733<sup>1</sup>

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ON BRIEF

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Before CALVERT, MEISTER, and PAK, **Administrative Patent Judges**.

MEISTER, **Administrative Patent Judge**.

**DECISION ON APPEAL**

David Baker (the appellant) appeals from the final rejection of 1, 2, 6, 8-11 and 16. Claims 3-5 and 12-15, the only other claims remaining in the application, stand allowed. We reverse.

The appellant's invention pertains to (1) a spacecraft, (2) a liquid pumping arrangement and (3) to an apparatus.

Independent claims 1, 8 and 16 are further illustrative of the

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<sup>1</sup> Application for patent filed February 25, 1994.

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appealed subject matter and copies thereof may be found in the appendix to the appellant's brief.

The references relied on by the examiner are:

Szwargulski	3,520,330	July 14, 1970
Mandroian	3,898,017	Aug. 5, 1975
Dowdy et al. (Dowdy)	4,957,157	Sep. 18, 1990

Claims 1, 2, 6, 8-10 and 16 stand rejected under 35 U.S.C. § 103 as being unpatentable over Dowdy in view of Mandroian.

Claim 11 stands rejected under 35 U.S.C. § 103 as being unpatentable over Dowdy in view of Mandroian and Szwargulski.

Both of the above-noted rejections are bottomed on the examiner's position that:

The patent Dowdy et al., Figures 1b, 3a and 3b and in column 3, line 26 through column 4, line 12, discloses [a] two phase closed-looped thermal control system consisting of a heat source (16), a capillary evaporator (26), radiator/heat exchanger (20), a coolant reservoir (50) and a power controlled electrical heater (54). The patent of Dowdy et al. fails to disclose a first and second check valves located at second and third locations. The features called for by the claim are directed to inlet/outlet type check valves for a pump connected to a fluid circuit. Such details are not limited to spacecraft but can be found in any system requiring a pump connected to a fluid circuit. The patent of Mandroian, in Figures 1 and 10 and in column 1, lines 45-59, in column 2, lines 46-54 and in column 4, lines 25-30, discloses first (40) and second (45) ball check valves located at second and third locations which are just before and just

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after the liquid (20) pumping reservoir (15) for the purpose of restricting fluid flow in an upstream or downstream direction in a heat actuated pumping system. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Dowdy et al. first and second ball check valves located just before and just after the liquid pumping reservoir for the purpose of restricting fluid flow in an upstream or downstream direction as disclosed in Mandroian. [Answer, pages 4 and 5.]

We do not agree with the examiner's position. The mere fact that the incorporation of Mandroian's first and second ball check valves into the device of Dowdy would result in Dowdy's fluid being restricted to either an upstream or downstream direction does not serve as a proper motivation for combining the teachings of Dowdy and Mandroian as the examiner apparently believes. Instead, it is well settled that it is the teachings of the prior art taken as a whole which must provide the motivation or suggestion to combine the references. ***See, e.g., Uniroyal, Inc. v. Rudkin-Wiley Corp.***, 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir. 1988) and ***Interconnect Planning Corp. v. Feil***, 774 F.2d 1132, 1143, 227 USPQ 543, 550-51 (Fed. Cir. 1985).

Essentially what the examiner has done is treated the reservoir/heater arrangement 50, 54 of Dowdy as though it were a pump for moving fluid around conduit loop 18, 24 and thereafter

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concluded that it would have been obvious to utilize check valves as taught by Mandroian in Dowdy's conduit loop for the purpose of directing the fluid flow in a desired direction. The problem is, however, that Dowdy does not utilize the reservoir/heater arrangement 50, 54 as a pump for moving the fluid around the conduit loop 18, 24 in a desired direction. Instead, Dowdy utilizes the reservoir/heater arrangement 50, 54 as a means to maintain the conduit loop at a generally constant pressure, thereby preventing any adverse affects such as a rupture of the conduit loop due to an undesired increase in pressure (see, generally, column 3). While, of course, in the broadest sense the reservoir/heater arrangement 50, 54 of Dowdy might be considered a pump, Dowdy simply utilizes the reservoir/heater arrangement 50, 54 to either add or remove fluid from the conduit loop, as distinguished from moving fluid around the conduit loop in a desired direction. Absent the appellant's own disclosure we are at a loss to understand why one of ordinary skill in this art would have been motivated to single out the check valves of Mandroian (which are used in arrangement wherein a heat-activated pumping system is utilized to move fluid along a conduit in a desired direction) and incorporate them into the disparate teachings of Dowdy. In our view, the examiner has impermissibly

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relied upon the appellant's own teachings in arriving at a conclusion of obviousness. As the court stated in *Uniroyal*, 837 F.2d at 1051, 5 USPQ2d at 1438, "it is impermissible to use the claims as a frame and the prior art references as a mosaic to piece together a facsimile of the claimed invention."

With respect to the rejection of claim 11 based on the combined teachings of Dowdy, Mandroian and Szwargulski, we have carefully reviewed the reference to Szwargulski but find nothing therein which would overcome the deficiencies of Dowdy and Mandroian that we have noted above.

The decision of the examiner is reversed.

**REVERSED**

IAN A. CALVERT	)	
Administrative Patent Judge	)	
	)	
	)	
JAMES M. MEISTER	)	BOARD OF PATENT
Administrative Patent Judge	)	APPEALS AND
	)	INTERFERENCES
	)	
	)	
CHUNG K. PAK	)	
Administrative Patent Judge	)	

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