

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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 GUNTER KEINTZEL, HORST-DIETER OLDENBURG,  
MANFRED SCHMITZ-GOEB and KARL-HEINZ DINSTUHLER

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Appeal No. 97-2594  
Application 08/444,389<sup>1</sup>

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ON BRIEF

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Before CALVERT, COHEN and CRAWFORD, Administrative Patent Judges.

CALVERT, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1, 11 and 15. Claims 2 to 10, 12 to 14, 16, 17 and 19 to 26, the other claims remaining in the application, stand withdrawn from consideration as being directed to nonelected species.

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<sup>1</sup>Application for patent filed May 19, 1995.

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37 CFR 1.142(b).

The claims on appeal are drawn to a method and apparatus for generating steam using solar radiation. A copy of claims 1, 11 and 15 is contained in the appendix to appellants' brief.<sup>2</sup>

The reference relied upon in rejecting the claims is:

Diggs                    3,993,041                    Nov. 23, 1976

Claims 1, 11 and 15 stand finally rejected as unpatentable over Diggs, under 35 USC § 103.

In the final rejection (Paper No. 7) the examiner took the position that (as to claims 1 and 11) Diggs disclosed all the claimed subject matter except for the limitation that the length of the short-term heat storage device in the flow direction of the heated air is "substantially identical to the length of the thermocline zone of said short-term heat storage

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<sup>2</sup>We note that claim 1, line 11 recites "determining a length" of the storage device, but not that the storage device is the recited length. Also "a length" in claim 1, line 11 and claim 11, line 25 evidently should be -- the length --. To be consistent with the paragraph bridging pages 10 and 11 of the specification, we have interpreted "determining a length" in claim 1, line 11, as -- the length --; "to be" in claim 1, line 12, as -- being --; and "a length" in claim 11, line 25, as -- the length --. The claims should be appropriately amended in any subsequent prosecution.

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device during full load of the [said] steam generator" (claim 1, lines 12 and 13; claim 11, lines 25 to 27). However, he asserted that this length appears "to be inherent in all [heat storage] devices" (such as Diggs' vault 22).

With the amendment filed April 22, 1996 (Paper No. 6), appellants submitted a copy of page 5 of a German publication<sup>3</sup>, and now, on pages 8 and 9 of their brief, include a translation of that page. Appellants assert<sup>4</sup>, and the examiner does not dispute, that (brief, pages 9 to 10; original emphasis):

This publication makes clear that the thermocline zone (= heat transfer zone), in fact, extends only over a portion of the length of the heat storage device. It is also pointed out that in an efficient storage facility the thermocline zone is narrow with respect to the heat storage device. Thus, the thermocline zone is not inherently identical to the length of the storage facility; it is, in fact, generally a very narrow band within the heat storage device. The length of the thermocline zone does not change when the length of the heat storage device is changed since the length of the thermocline zone

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<sup>3</sup>Speicherung solarer Hochtemperaturwärme [Storing High Temperature Heat Energy] (Paul Scherrer Institut, Dec. 1993).

<sup>4</sup>The examiner has not rejected the claims under 35 USC § 112, first paragraph, or otherwise contended that the claimed subject matter is not enabled by appellants' disclosure.

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depends on the heat storage material and the heat transmission coefficient. For example, in the illustrated device of *PSI publication* the thermocline zone is only about 1/3 of the total length of the heat storage device. This would not be changed if the length of the heat storage device were vertically extended. The length of the thermocline zone would remain the same. It is noted in the *PSI publication* that the length of the thermocline zone depends on the efficiency of the heat storage device. The efficiency of the storage device is, of course, dependent on the type of material, the heat

transmission coefficient, and the construction of the storage facility. For example, a cylinder of a small diameter will have a longer thermocline zone than a cylinder with a large diameter (given an identical storage material). These relationships are well known to any engineer skilled in the art and need no further explanation. Likewise, an engineer skilled in the art of heat transfer is able to calculate, based on the material, the heat transmission coefficient etc. (these values are available from respective handbooks), the length of the thermocline zone.

The examiner's response to appellants' arguments seems to be that, depending on a user's needs, the mass of Diggs' heat storage material could be made quite small. However, as shown by appellants, the thermocline zone does not necessarily extend over the length of the heat storage device. The fact that the Diggs device could be modified or constructed to have

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the particular length recited in the claims does not make such modification or construction obvious unless there is some suggestion in the prior art of the desirability of doing so. In re Fritch, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1783-84 (Fed. Cir. 1992); In re Laskowski, 871 F.2d 115, 117, 10 USPQ2d 1397, 1398 (Fed. Cir. 1989). We find no such suggestion in Diggs and therefore will not sustain the rejection.

The examiner's decision to reject claims 1, 11 and 15 is reversed.

Reversed

IAN A. CALVERT	)	
Administrative Patent Judge	)	
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	)	BOARD OF PATENT
IRWIN CHARLES COHEN	)	APPEALS AND
Administrative Patent Judge	)	INTERFERENCES
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MURRIEL E. CRAWFORD )  
Administrative Patent Judge )

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