

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

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte WILLIAM N. MAYER

Appeal 2007-0403
Application 10/440,859
Technology Center 3700

Decided: May 16, 2007

Before CHUNG K. PAK, PETER F. KRATZ, and
JEFFREY T. SMITH, *Administrative Patent Judges*.

PAK, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal from the Examiner's final rejection of claims 11 through 28, all of the claims pending the above-identified application. We have jurisdiction pursuant to 35 U.S.C. §§ 6 and 134.

I. APPEALED SUBJECT MATTER

The subject matter on appeal is directed to a shipping container for temperature-sensitive goods as illustrated in Figures 3 and 4 of the present application (Specification 2-5 and 10-12). Details of the appealed subject matter are recited in representative claims 11 and 12 reproduced below:

11. An apparatus defining a retention chamber and having sequential layers of (i) an inner phase change material having a melting point, (ii) a first layer of thermal insulation, (iii) an outer phase change material having a melting point which is different from the melting point of the inner phase change material, and (iv) a second layer of thermal insulation, wherein the retention chamber is fully encompassed by the inner phase change material.

12. An apparatus, comprising:

(a) a first enclosure defining a retention chamber and containing a first phase change material having a melting point which completely encompasses the retention chamber,

(b) a first insulating layer completely encompassing the first enclosure,

(c) a second enclosure containing a second phase material having a melting point which is different from the melting point of the first phase change material, wherein the second phase change material completely encompasses the first insulating layer, and

(d) a second insulating layer completely encompassing the second enclosure.

II. PRIOR ART

As evidence of unpatentability of the claimed subject matter, the Examiner relies upon the following references:

Hjertstrand	US 4,145,895	Mar. 27, 1979
Purdum	US 5,899,088	May 4, 1999
Choy	US 6,233,965 B1	May 22, 2001
Bostic	US 6,266,972 B1	Jul. 31, 2001

III. REJECTION

The Examiner has rejected the claims on appeal as follows:

- 1) Claims 11 through 14 and 19 through 28 under 35 U.S.C. § 103(a) as unpatentable over the combined teachings of Bostic, Choy, and Purdum; and
- 2) Claims 15 through 18 under 35 U.S.C. § 103(a) as unpatentable over the combined teachings of Bostic, Choy, Purdum, and Hjertstrand.

IV. ISSUE

1. Has the Examiner demonstrated that a person having ordinary skill in the art would have been led to place an additional phase change material (cooling medium) having a melting point different from that of a first phase change material between two insulation layers in Bostic's shipping container or freezer pallet within the meaning of 35 U.S.C. § 103?

V. PRINCIPLES OF LAW

Under 35 U.S.C. § 103, the factual inquiry into obviousness requires a determination of: (1) the scope and content of the prior art; (2) the differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) secondary consideration (e.g., the problem solved). *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17-18, 148 USPQ 459, 467(1966). “[A]nalysis [of whether the subject matter of a claim is obvious] need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR Int’l v. Teleflex, Inc.*, 127 S. Ct. 1727, 1740-41, 82 USPQ2d 1385, 1396 (2007) quoting *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336-37 (Fed. Cir. 2006); *see also DyStar Textilfarben GmBH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1361, 80 USPQ2d 1641, 1645 (Fed. Cir. 2006)(“The motivation need not be found in the references sought to be combined, but may be found in any number of sources, including common knowledge, the prior art as a whole, or the nature of the problem itself.”); *In re Bozek*, 416 F.2d 1385, 1390, 163 USPQ 545, 549 (CCPA 1969)(“Having established that this knowledge was in the art, the examiner could then properly rely, as put forth by the solicitor, on a conclusion of obviousness ‘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.’”); *In re Hoeschele*, 406 F.2d 1403, 1406-07, 160 USPQ 809, 811-812 (CCPA 1969) (“[I]t is proper to take into account not only specific teachings of the references but also the inferences which one

skilled in the art would reasonably be expected to draw therefrom...”). The analysis supporting obviousness, however, should be made explicit and should “identify a reason that would have prompted a person of ordinary skill in the art to combine the elements” in the manner claimed. *KSR*, 127 S.Ct. at 1731, 81 USPQ2d at 1389.

VI. ANALYSIS, FACTS, AND CONCLUSIONS OF LAW

As evidence of obviousness of the claimed subject matter under § 103, the Examiner has primarily relied on the disclosures of Bostic, Choy, and Purdum (Answer 3-5). The Examiner has correctly found at page 3 of the Answer that Bostic teaches a modular freezer pallet comprising a heat sink material (a phase change material) for maintaining desired cooling in the interior chamber and a layer of insulation between the heat sink material and the outer wall. (See also Bostic, col. 2, ll. 39-52, and col. 4, ll. 28-51). The Examiner has recognized that Bostic does not teach employing another phase change material having a different melting point and another insulation layer as required by independent claims 11 and 12 (Answer 3-4).

To remedy these deficiencies, the Examiner has referred to the disclosures of Choy and Purdum (*id*). The Examiner has found that “Choy teaches that in order to achieve further and better insulation, another series of insulators can be ***additionally nested within each other***” and Purdum teaches a plurality of reservoirs having different phase change materials in direct contact with the interior chamber of a shipping container (*id*). It appears to be the Examiner’s position that these findings would have led one of ordinary skill in the art to place sequentially an additional phase change material (having a melting point different than that of the first phase change

material) and an additional insulation layer over Bostic's phase change material and insulation layer (Answer 3-5). The Appellant does not agree with this position (Br. 3-5).

The dispositive question is, therefore, whether the Examiner has demonstrated that a person having ordinary skill in the art would have been led to place the above additional phase change material between two insulation layers of a shipping container or a freezer pallet within the meaning of 35 U.S.C. § 103. On this record, we answer this question in the negative.

As indicated *supra*, both Bostic and Purdum employ their phase change materials (cooling medium) directly in contact with the interior chamber of a freezer pallet or a shipping container to maintain desired cooling temperatures or conditions therein. As also indicated *supra*, Choy repeats only insulation layers (not cooling and insulation layers) to improve insulation. From these facts, there is no apparent reason to provide any phase change material (cooling medium), much less a phase change material having a different melting point, between two insulation layers. To do so would run counter to common sense of a person of ordinary skill in the art and the purpose of using the phase change material since the insulation layers would prevent the phase change material from performing its desired cooling function. Thus, contrary to the Examiner's contentions at page 4 of the Answer, we determine that a person having ordinary skill in the relevant art would not have been led to the claimed subject matter within the meaning of 35 U.S.C. § 103.

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VII. ORDER

The decision of the Examiner is reversed.

REVERSED

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