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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte BRUCE MCCORMICK

Appeal 2019-000390
Application 13/333,457
Technology Center 3700

Before MICHAEL L. HOELTER, WILLIAM A. CAPP, and
JEREMY M. PLENZLER, *Administrative Patent Judges*.

PLENZLER, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant¹ appeals under 35 U.S.C. § 134(a) from the Examiner's decision rejecting claims 1 and 3–29.² Final Act. 1. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE and enter a NEW GROUND OF REJECTION in accordance with 37 C.F.R. § 41.50(b).

¹ We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as Savsu Technologies LLC. Appeal Br. 3.

² Claim 2 is cancelled.

THE CLAIMED SUBJECT MATTER

Claims 1 and 19 are independent. Claims 3–18 and 26–29 depend from claim 1. Claims 20–25 depend from claim 19. Claim 1 is reproduced below.

1. A storage system, comprising:

a thermally insulated storage container having a storage area and comprising one or more side walls that partly define the storage area, each of the side walls including a layer of insulating material;

a contents container having a contents container storage area for temperature-sensitive items and sized to fit in the storage area of the thermally insulated storage container;

one or more thermal batteries, each thermal battery including thermal mass for increasing the total heat capacity of the storage system and each thermal battery being sized to fit in the storage area of the thermally insulated storage container such that the contents container and the one or more thermal batteries are stacked together in the storage area of the thermally insulated container, wherein the thermal mass comprises a phase change material; and

a plurality of passive thermal moderators having a plurality of different R-values and configured to be interchangeable and modular components of the storage system, each passive thermal moderator shaped to be in thermal communication with the storage area of the contents container via a first thermal communication area having a first known surface area and with one of the one or more thermal batteries via a second thermal communication area having a second known surface area,

wherein a first one of the thermal moderators of the plurality of thermal moderators is configured for placement between the contents container storage area and each thermal battery when the storage system is used in a first environment having a first expected temperature, the first thermal moderator having a first R-value calculated and provided to balance a

thermal energy flow rate between the storage area of the contents container and the one or more thermal batteries with a thermal energy flow rate between the storage area of the contents container and the first environment during a phase change of the phase change material, and

wherein a different second one of the thermal moderators of the plurality of thermal moderators is configured for placement between the contents container storage area and each thermal battery when the storage system is used in a second environment having a second and different expected temperature, the second thermal moderator having a different second R-value calculated and provided to balance the thermal energy flow rate between the storage area of the contents container and the one or more thermal batteries with a thermal energy flow rate between the storage area of the contents container and the second environment during the phase change of the phase change material, thereby maintaining a desired temperature in the storage area of the contents container via use of the first thermal moderator in the first environment and the second thermal moderator in the second environment and the respective balanced thermal energy flow rates in each of the different environments,

wherein the thermal energy flow rate between the storage area of the contents container and the one or more thermal batteries is determined at the thermal communication areas and the thermal energy flow rate between the storage area of the contents container and each of the first and second environments is determined in part by the difference between the respective first and second expected temperatures outside of the storage system and the desired temperature in the storage area of the contents container.

REJECTIONS

References	Basis	Claims
Williams ³	§ 103(a)	1, 3–9, and 11–16
Williams and Fine ⁴	§ 103(a)	10
Williams and Mayer ⁵	§ 103(a)	17
Williams and Schryver ⁶	§ 103(a)	18
Sekiya ⁷ , Rickson ⁸ , and Romero ⁹	§ 103(a)	19–25
Williams and Schumacher ¹⁰	§ 103(a)	14 and 26–29

OPINION

Independent claims 1 and 19 are each directed to a “storage system” including a “thermal moderator.” The claims recite properties of the “thermal moderator” in terms of a “thermal energy flow rate” provided by the “thermal moderator.” Claim 1, for example, recites that

the thermal energy flow rate between the storage area of the contents container and the one or more thermal batteries is determined at the thermal communication areas and the thermal energy flow rate between the storage area of the contents container and each of the first and second environments is determined in part by the difference between the respective first

³ US 7,908,870 B2, issued Mar. 22, 2011.

⁴ US 6,070,427, issued June 6, 2000.

⁵ US 2004/0079794 A1, published Apr. 29, 2004.

⁶ US 2011/0308271 A1, published Dec. 22, 2011.

⁷ US 2006/0191282 A1, published Aug. 31, 2006.

⁸ US 6,666,032 B1, issued Dec. 23, 2003.

⁹ US 2008/0135564 A1, published June 12, 2008.

¹⁰ US 4,003,214, issued Jan. 18, 1977.

and second expected temperatures outside of the storage system and the desired temperature in the storage area of the contents container.

Claim 19 recites that “the pre-determined thermal energy flow rate is defined as: $Q = (\Delta T)(A)/R$, wherein ΔT is the difference between the phase change temperature of the thermal mass and the expected temperature of said environment, A is said thermal communication area, and R is the R -value of the super-insulating material.” Each claim defines the structure of the “storage system,” at least in part, based on the “expected temperature” of the outside environment in which the “storage system” is used.

We reject claims 1 and 19, as well as claims 3–18 and 20–29 depending therefrom, under 35 U.S.C. § 112, ¶ 2 as indefinite. A claim is properly rejected as indefinite if, after applying the broadest reasonable interpretation in light of the specification, the metes and bounds of a claim are not clear because the claim contains words or phrases whose meaning is unclear. *In re Packard*, 751 F.3d 1307, 1310 (Fed. Cir. 2014) (per curiam); *see also Ex parte McAward*, Appeal No. 2015-006416, 2017 WL 3669566, at *5 (PTAB Aug. 25, 2017) (precedential) (adopting the approach for assessing indefiniteness approved by the Federal Circuit in *Packard*). Based on the language in claims 1 and 19, we do not know the structure specified by the recited “thermal energy flow rate” requirements because it is based on the environment in which the “storage system” is used (i.e., the temperature of the environment).¹¹ That

¹¹ Claim 1 additionally recites that the “thermal energy flow rate” is based, in part, on “the desired temperature in the storage area of the contents container,” as “the difference between the respective first and second expected temperatures outside of the storage system and the desired

temperature is unknown, and is not defined in the claim or Specification in a manner that imparts sufficient specificity into the claims.

The claims say nothing about any particular temperature of the environment, only that it is an “expected temperature.” The Specification provides an example use for the storage system, but that, too, only indicates that “the exterior environment is at a temperature higher than 8°C.” Spec. ¶ 30. Indeed, the Specification acknowledges that “the temperature of the environment outside of the storage system may certainly vary, and calculations used to determine appropriate material properties for their thermal moderators may use average values in many cases.” *Id.* ¶ 47. Because we have no guidance as to what the “expected temperature” of the environment might be, and the claims are each defined, at least in part, based on that “expected temperature,” we reject the claims as indefinite under 35 U.S.C. § 112, ¶ 2.

The main dispute between Appellant and the Examiner with respect to the obviousness rejections concerns whether the asserted references teach the “thermal energy flow rate” recited in the claims, which is dependent on the recited “expected temperature” of the environment. *See* Appeal Br., *generally*. Because we determine the claims to be indefinite, and addressing the “thermal energy flow rate” limitations in dispute would require speculation on our part, we do not reach the merits of the obviousness rejections. Instead, we reverse those rejections *pro forma*. *See In re Steele*, 305 F.2d 859, 862 (CCPA 1962) (holding that the Board erred in affirming a

temperature in the storage area of the contents container.” That *desired* temperature, too, fails to provide any guidance as to a particular temperature.

rejection of indefinite claims under 35 U.S.C. § 103(a), because the rejection was based on speculative assumptions as to the meaning of the claims).

CONCLUSION

In summary:

Claims Rejected	Basis	Affirmed	Reversed	New Ground
1, 3–9, 11–16	§ 103(a) Williams		1, 3–9, 11–16	
10	§ 103(a) Williams and Fine		10	
17	§ 103(a) Williams and Mayer		17	
18	§ 103(a) Williams and Schryver		18	
19–25	§ 103(a) Sekiya, Rickson, and Romero		19–25	
14 and 26–29	§ 103(a) Williams and Schumacher		14 and 26–29	
1 and 3–29	§ 112, ¶ 2			1 and 3–29
Overall Outcome			1 and 3–29	1 and 3–29

Pursuant to our authority under 37 C.F.R. § 41.50(b), we enter a new ground of rejection of claims 1 and 3–29 under 35 U.S.C. § 112, ¶ 2.

Section 41.50(b) provides “[a] new ground of rejection pursuant to this paragraph shall not be considered final for judicial review.”

Section 41.50(b) also provides that Appellant, **WITHIN TWO MONTHS FROM THE DATE OF THE DECISION**, must exercise one of the following two options with respect to the new grounds of rejection to avoid termination of the appeal as to the rejected claims:

(1) *Reopen prosecution*. Submit an appropriate amendment of the claims so rejected or new evidence relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the proceeding will be remanded to the examiner.

(2) *Request rehearing*. Request that the proceeding be reheard under § 41.52 by the Board upon the same Record.

Further guidance on responding to a new ground of rejection can be found in the Manual of Patent Examining Procedure § 1214.01.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). 37 C.F.R. § 1.136(a)(1)(iv).

REVERSED; 37 C.F.R. § 41.50(b)