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BEFORE THE PATENT TRIAL AND APPEAL BOARD

CoolIT SYSTEMS, INC.,
Third Party Requester, Respondent,

v.

ASETEK A/S,
Patent Owner, Appellant.

Appeal 2015-007934
Reexamination Control 95/002,386
Patent US 8,245,764 B2[1]
Technology Center 3900

Before STEVEN D.A. McCARTHY, BRETT C. MARTIN, JON M. JURGOVAN, *Administrative Patent Judges*.

MARTIN, *Administrative Patent Judge*.

DECISION ON APPEAL

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[1] Issued to André Sloth Eriksen on August 21, 2012 (hereinafter the '764 patent).

STATEMENT OF THE CASE

Appellant appeals under 35 U.S.C. § 134(b) from a rejection of claims 1–30. We have jurisdiction under 35 U.S.C. §§ 134(b) and 315(a). Oral arguments were heard in this matter on April 13, 2016.

We are informed that the '764 patent is currently involved in the following litigations: 1) Asetek Holdings, Inc. v. CoolIT Systems, Inc., Civil Action No. 3:12-CV-04498-EMC, and 2) Asetek Holdings, Inc. v. CMI USA, Inc., Civil Action No. 3:13-CV-00457-JST. Both the litigations are pending in the U.S. District Court for the Northern District of California.

We REVERSE.

CLAIMED SUBJECT MATTER

The claims are directed to "a cooling system for a central processing unit (CPU) or other processing unit of a computer system." Spec. col. 1, ll. 11–13. Claims 1, 10, and 15 are independent. Claim 1, reproduced below, is illustrative of the claimed subject matter:

> 1. A cooling system for a heat-generating component, comprising:
>
> a double-sided chassis adapted to mount a pump configured to circulate a cooling liquid, the pump comprising a stator and an impeller, the impeller being positioned on the underside of the chassis and the stator being positioned on the upper side of the chassis and isolated from the cooling liquid;
>
> a reservoir adapted to pass the cooling liquid therethrough, the reservoir including:
>
> a pump chamber including the impeller and formed below the chassis, the pump chamber being defined by at least an impeller cover having one or more passages for the cooling liquid to pass through;

> a thermal exchange chamber formed below the pump chamber and vertically spaced apart from the pump chamber, the pump chamber and the thermal exchange chamber being separate chambers that are fluidly coupled together by the one or more passages; and
>
> a heat-exchanging interface, the heat-exchanging interface forming a boundary wall of the thermal exchange chamber, and configured to be placed in thermal contact with a surface of the heat-generating component; and
>
> a heat radiator fluidly coupled to the reservoir and configured to dissipate heat from the cooling liquid.

REFERENCES

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Koga	US 7,544,049	Jun. 9, 2009

REJECTIONS

Claims 1–19, 21–23, 25–27, 29, and 30 stand rejected under 35 U.S.C § 102(b) as being anticipated by Koga. RAN 3–4.

Claims 20, 24, and 28 stand rejected under 35 U.S.C § 103(a) as being unpatentable over Koga. RAN 5.

ISSUE

The issues in this appeal can be narrowed to one dispositive issue, namely whether or not Koga teaches a "thermal exchange chamber" as claimed. All of the claims rejected over Koga require such a thermal exchange chamber and thus resolution of this issue will affect all pending rejections.

FINDINGS OF FACT

Koga describes a centrifugal pump 1 for cooling an electronic component such as an integrated circuit chip configured as a central processing unit 2. Col. 4, ll. 3–7. Centrifugal pump 1 is enclosed in a pump casing 15 that rests on a top surface of chip 2. Pump casing 15 defines a pump room 15A enclosing an impeller 11. When energized, a ring magnet 13 and a stator 14 induce impeller 11 to rotate in a horizontal plane about a vertical axis. When rotating, impeller 11 draws liquid coolant 41 into pump room 15A through a sucking channel 19 and discharges the coolant from the pump room through a tangential discharging channel 20. Col. 4, ll. 27–37, 51–58 and 61–67; col. 7, ll. 39–42; col. 8, ll. 4–11; *see also* Figs. 3 and 5.

Referring to Figures 3 and 5, Koga describes the lower surface of pump room 15A as follows:

> On radially outer wall surface 15C of the pump room 15A, a large number of dimples 21 are formed. A recess (recessed area) 15E defines a radially inner wall surface on a bottom of the pump room 15A that faces toward impeller 11, and has a large number of protrusions 24 projected from the radially outer wall surface and toward impeller 11. Recess 15E, slope 27, and radially outer wall 15C together define an inner wall face 50 of casing 15. Col. 4, ll. 43–51.

The portion of Koga's pump casing 15 contacting the top surface of chip 2 defines a heat-receiving plane 15B. Heat-receiving plane 15B collects heat evolved by chip 2. Col. 4, ll. 38–43. Koga states that "[s]ucking channel 19 is disposed between heat-receiving plane 15B and inner wall face 50." Col. 4, ll. 58–60; *see also* Fig. 3. Koga teaches that "the heat generated from component 2 travels to casing 15 and is transferred to protrusions 24 projected from recess 15E [on the inner wall face 50

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