

**REMARKS**

In the Office Action mailed on March 13, 2012 (“Office Action”), claims 1-4, 6-9, and 11-16 were rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent Publication No. 2005/0069432 to Tomioka (“Tomioka”); claim 5 was rejected under 35 U.S.C. 103(a) as being unpatentable over Tomioka in view of U.S. Patent Publication No. 2005/0069432 to Lee et al. (“Lee”); claims 10, 17, 18, and 20 were rejected under 35 U.S.C. 103(a) as being unpatentable over Tomioka, in view of U.S. Patent No. 6,019,165 to Batchelder (“Batchelder”), and claim 19 was rejected under 35 U.S.C. 103(a) as being unpatentable over Tomioka and Batchelder as applied to claims 17, in view of Lee.

Applicant does not necessarily agree with the rejections in the Office Action. Nevertheless, to advance prosecution, Applicant amends claim 1, and cancels claims 6 and 9. These amendments find support in the originally filed specification and claims. Claims 1-5, 7, 8, and 10-20 are pending.

**Record of Personal Interview under 37 C.F.R. § 1.133(b).**

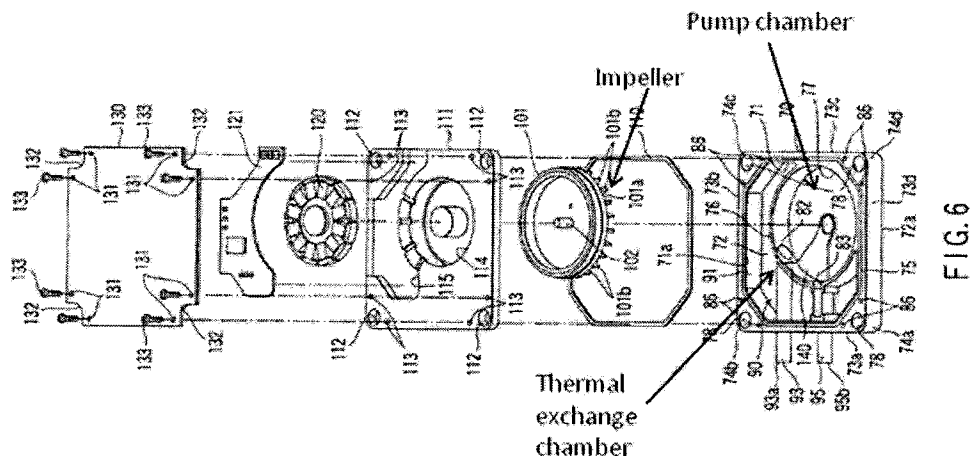
A telephone interview was conducted on Thursday, March 29, 2012 between a representative of the Applicant, Biju Chandran, Examiner Emmanuel Duke, and SPE Frantz Jules to discuss the Office Action. The Applicant and Applicant’s representative thank Examiner Duke and SPE Jules for taking the time to discuss this Office Action. Prior to the interview, in an email to the Examiner, the Applicant’s representative explained the differences between the recited reservoir of independent claims 12 and 17, and the reservoir of Tomioka. During the interview, the Examiner acknowledged the differences between independent claims 12 and 17 and Tomioka, but maintained that independent claim 1 does not include these differences. The

amendments and remarks in this response substantially conform to the discussions during the interview.

Among the pending claims, claims 1, 12, and 17 are independent.

Independent claim 12

Independent claim 12 recites a cooling system for a computer system including, among other features, a reservoir configured to be thermally coupled to a heat-generating component of the computer system, the reservoir including “a thermal exchange chamber adapted to be positioned in thermal contact with the heat-generating component; [and] a separate pump chamber vertically spaced part from the thermal exchange chamber and coupled with the thermal exchange chamber through one or more passages configured for fluid communication between the pump chamber and the thermal exchange chamber.” That is, independent claims 12 recites a reservoir with a “pump chamber vertically spaced part from the thermal exchange chamber.” In the Office Action, independent claim 12 was rejected as being anticipated by Tomioka. Office Action, pg. 2.



With reference to FIGS. 4-7 (FIG. 6 reproduced above), Tomioka describes a pump unit 60 of an electronic apparatus. Abstract. The pump unit 60 includes a housing 70. ¶ [0039]. The

bottom surface 72 of the housing 70 serves as a heat receiving surface that contacts a top surface of a CPU 33. ¶¶ [0039], [0050]. The housing 70 includes a centrally located pump chamber 77 that houses the impeller 101a of the pump, and a reserve tank 90 located radially outwards of the pump chamber 77. ¶¶ [0043], [0044]. The pump chamber 77 and the reserve tank 90 are separated by a partition member 76 having fluid passages (first pipe 93, second pipe 94, and third pipe 95) therethrough. ¶ [0043], ll.12-16; ¶ [0044]. In the Office Action, as illustrated in annotated FIG. 6 of Tomioka above, the central chamber 77 is interpreted as the “pump chamber,” and the reserve tank 90 is interpreted as the vertically spaced apart “thermal exchange chamber.” See Office Action, pg. 5, lns. 10-12; pg. 7, lns. 24-26. However, as agreed upon during the interview, these chambers are not vertically spaced apart as required by independent claim 12.

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” M.P.E.P. 2131 quoting *Verdegaal Bros. v. Union Oil Co. of California*, 814 F. 2d 628, 631, 2 USPQ 2d 1051, 1053 (Fed. Cir. 1987). Tomioka does not expressly or inherently disclose at least this aspect of independent claim 12. Accordingly, independent claim is not anticipated by Tomioka. Claims 13-16 depend from independent claim 12 and include all of its limitations. Therefore, these dependent claims are allowable over Tomioka at least for the same reason independent claim 12 is allowable over Tomioka. These dependent claims are also allowable because Tomioka does not expressly or inherently disclose the combined limitations of these dependent claims with independent claim 12.

Independent claim 17

Independent claim 17 recites a cooling system for a heat-generating component including, among other features, a reservoir including an impeller cover, an intermediate member and a heat exchange interface, wherein “a top wall of the reservoir and the impeller cover define a pump chamber for housing the impeller, and the intermediate member and the heat exchange interface define a thermal exchange chamber, the pump chamber and the thermal exchange chamber being spaced apart from each other in a vertical direction and fluidly coupled together.”

In the Office Action, independent claim 17 was rejected as being obvious over Tomioka and Batchelder. Office Action, pg. 7. Among these references, Tomioka was relied upon for the teaching of the vertically spaced apart pump chamber and thermal exchange chamber (Office Action, pg. 7), and Batchelder was relied upon for the teaching of the recited intermediate member. Office Action, pg. 8. However, for similar reasons as discussed with reference to independent claim 12, Tomioka does not disclose that “the pump chamber and the thermal exchange chamber [are] spaced apart from each other in a vertical direction,” as recited in independent claim 17. In fact, as explained below, Tomioka teaches away from spacing apart the pump chamber 77 and the reserve tank 90 in a vertical direction.

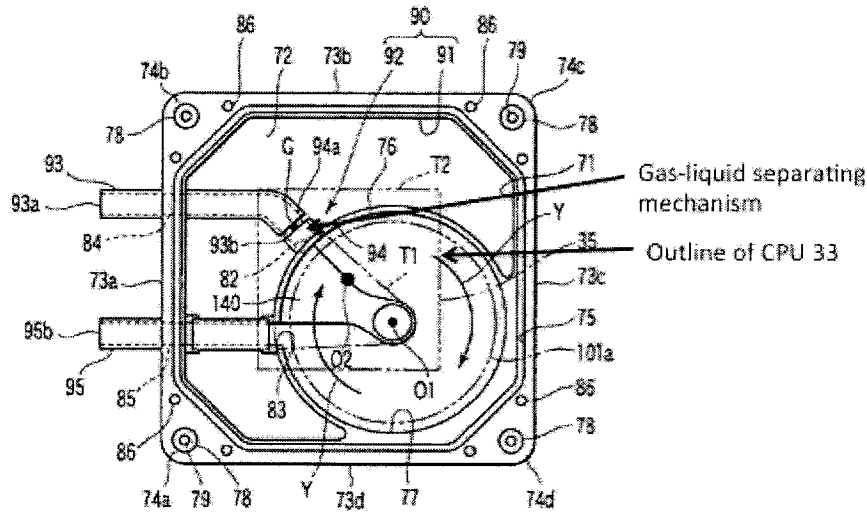


FIG. 7

With reference to FIG. 7 annotated and reproduced above, in Tomioka, a first pipe 93 delivers liquid from outside the pump housing 70 to the reserve tank 90, and the second pipe 94 directs the liquid from the reserve tank 90 to the pump chamber 77. ¶[0045]. The outlet 93b of the first pipe 93 and the inlet of the 94a of the second pipe 94 form a gas-liquid separating mechanism 92 (¶[0044]). This gas-liquid separating mechanism 92 operates by using the heat of the CPU 33. ¶[0050]. To enable the mechanism 92 to be heated by the heat of CPU 33, the mechanism 92 is positioned proximate the CPU 33. *Id.* Additionally, to ensure that the gas-liquid separating mechanism 92 is always submerged in the liquid in the pump housing 70 even when the housing 70 is tilted (see FIG. 8 and 9) (so that the mechanism works), the mechanism 92 is positioned at the center of mass (barycenter G) and proximate the bottom wall 72. ¶[0046]. Since the gas-liquid separating mechanism 72 is formed at the inlet of the passage which directs fluid from the reserve tank 90 to the pump chamber 77, if these chambers (pump chamber 77 and the reserve tank 90) were “spaced apart from each other in a vertical direction,” the gas-liquid separating mechanism 92 will be positioned further away from the bottom wall 72 and the CPU

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