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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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FISH & RICHARDSON P.C. (TC)
PO BOX 1022
MINNEAPOLIS, MN 55440-1022

EXAMINER	
FERRIS III, FRED O	

ART UNIT	PAPER NUMBER
3992	

NOTIFICATION DATE	DELIVERY MODE
06/07/2023	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATDOCTC@fr.com

Office Action Summary	Application No. 17/541,072	Applicant(s) Pelletier et al.	
	Examiner FRED O FERRIS III	Art Unit 3992	AIA (FITF) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☑ Responsive to communication(s) filed on 12.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL.** 2b) ☑ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5) ☑ Claim(s) 20-29 is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6) ☐ Claim(s) _____ is/are allowed.

7) ☑ Claim(s) 20-29 is/are rejected.

8) ☐ Claim(s) _____ is/are objected to.

9) ☐ Claim(s) _____ are subject to restriction and/or election requirement

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to **PPHfeedback@uspto.gov.**

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☑ Notice of References Cited (PTO-892)

2) ☑ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date 8/18/22.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.

4) ☐ Other: _____.

DETAILED ACTION

This office action is responsive to reissue application 17/541,072 filed Dec. 2, 2021 of US Patent Number US 9,655,279 B2 issued to Pelletier *et al* on May 16, 2017.

For reissue applications filed on or after September 16, 2012, all references to 35 U.S.C. 251 and 37 CFR 1.172, 1.175, and 3.73 are to the current provisions.

Applicant is reminded of the continuing obligation under 37 CFR 1.178(b), to timely apprise the Office of any prior or concurrent proceeding in which Patent No. 8,515,912 is or was involved. These proceedings would include interferences, reissues, reexaminations, and litigation.

Applicant is further reminded of the continuing obligation under 37 CFR 1.56, to timely apprise the Office of any information which is material to patentability of the claims under consideration in this reissue application.

Status of claims

Original claims 1-19 are cancelled. Claims 20-29 are new and now pending

Claim Objections

Claims 21 and 24 are objected to because of the following informalities:

Claim 21 recites that *the cover arrangement is configured such that when it is released* ***form*** *the tank…* The examiner believes applicants intended the phrase to recite ***from*** *the tank*.

Claim 24 is an exact duplicate of claim 23.

Appropriate correction is required.

37 CFR 1.173(c) Objections

The amendment filed 12/2/2021 proposes amendments to claims that do not comply with 37 CFR 1.173(c) which requires an explanation of support for claim changes. See, e.g. MPEP 1453. While applicant's remarks filed 7/5/2022 on page 1 alleges a showing of support for new claims 20-29, it refers only to nonexistent claims 38 and 39-47. Corrective action is required.

Reissue Oath/Declaration

The reissue oath/declaration filed 12/02/2021 with this application is defective because it fails to identify at least one error which is relied upon to support the reissue application.

See 37 CFR 1.175 and MPEP § 1414. The declaration states in-part:

It is not sufficient for an oath/declaration to merely state that the invention is "broadened by way of two new categories of invention." Rather, the oath/declaration must specifically identify an error. In addition, it is not sufficient to merely reproduce the claims with brackets and underlining and state that such will identify the error. See *In re* Constant, 827 F.2d 728, 729, 3 USPQ2d 1479 (Fed. Cir.), cert. denied, 484 U.S. 894 (1987). Any error in the claims must be identified by reference to the specific claim(s) and the **specific claim language** wherein lies the error.

It is acknowledged that applicants have filed a broadening reissue and that claims 20-29 are new. However, the alleged error of not requiring *"said coolant having a first fraction and a second fraction, the first fraction having a different boiling point from the second fraction"* as required by original claim 1 appears to be based on recaptured subject matter. (see below)

Thus, the error is defective.

Claims 20-29 are rejected as being based upon a defective reissue oath/declaration under 35 U.S.C. 251 as set forth above. See 37 CFR 1.175.

The nature of the defect(s) in the oath/declaration is set forth in the discussion above in this Office action.

Recapture

Claims 20-29 are rejected under 35 U.S.C. 251 as being an impermissible recapture of broadened claimed subject matter surrendered in the application for the patent upon which the present reissue is based.

See *Greenliant Systems, Inc. et al v. Xicor LLC*, 692 F.3d 1261, 103 USPQ2d 1951 (Fed. Cir. 2012); *In re Shahram Mostafazadeh and Joseph O. Smith*, 643 F.3d 1353, 98 USPQ2d 1639 (Fed. Cir. 2011); *North American Container, Inc. v. Plastipak Packaging, Inc.*, 415 F.3d 1335, 75 USPQ2d 1545 (Fed. Cir. 2005); *Pannu v. Storz Instruments Inc.*, 258 F.3d 1366, 59 USPQ2d 1597 (Fed. Cir. 2001); *Hester Industries, Inc. v. Stein, Inc.*, 142 F.3d 1472, 46 USPQ2d 1641 (Fed. Cir. 1998); *In re Clement*, 131 F.3d 1464, 45 USPQ2d 1161 (Fed. Cir. 1997); *Ball Corp. v. United States*, 729 F.2d 1429, 1436, 221 USPQ 289, 295 (Fed. Cir. 1984).

The reissue application contains claim(s) that are broader than the issued patent claims. The record of the application for the patent shows that the broadening aspect (in the reissue) relates to claimed subject matter that applicant previously surrendered during the prosecution of the application. Accordingly, the narrow scope of the claims in the patent was not an error within the meaning of 35 U.S.C. 251, and the broader scope of claim subject matter surrendered in the application for the patent cannot be recaptured by the filing of the present reissue application.

New claims 20-29 are broader than original patented claims 1-19 at least in that they do not require *coolant having a first fraction and a second fraction, the first fraction having a different boiling point from the second fraction*;.

During prosecution of the '269 application, the examiner applied the prior art reference Attlesey et al to independent claim 1 in a rejections under §§ 102. *See* '269., Non-Final Rejection 2/5/2016, pp. 2. The applicant amended independent claim 1 to include, ". . . *coolant having a first fraction and a second fraction, the first fraction having a different boiling point from the second fraction*,". . . Response,11/18/2016. In other words, the claims were asserted as distinguishable from prior art adding the limitation requiring *coolant having a first fraction and a second fraction, the first fraction having a different boiling point from the second fraction*,".. *See id.*

New claims 20-29, by contrast, have eliminated the feature requiring *coolant having a first fraction and a second fraction, the first fraction having a different boiling point from the second fraction*,". Because these features were specifically added to independent claim 1 (the only independent claim) by an amendment to make the claims allowable over the prior art and the applicant relied on these features to overcome the prior art, these features relate to surrendered subject matter. See, e.g. MPEP 1412.02 II(B)(2) Since these features do not appear to be present in new claims 20-29, the broadening of the reissue claims is clearly in the areas of the surrendered subject matter. The reissue claims do not appear to have been materially narrowed relative to the surrendered subject matter.

Claim Rejections - 35 USC § 112

Claims 20-29 are rejected under 35 U.S.C. 112(a) or 35 U.S.C. 112 (pre-AIA), first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor or a joint inventor, or for applications subject to pre-AIA 35 U.S.C. 112, the inventor(s), at the time the application was filed, had possession of the claimed invention.

Specifically, independent claim 20 recites a ***cover arrangement*** (also recited in claim 21) and requires ***the CPU being mounted to the cover arrangement***. However, the '279 specification does not appear to expressly disclose a cover arrangement *per se* or indicate that the CPU (the one being cooled) is actually attached to a "cover arrangement" as claimed.[1] Further, the '279 specification appears to be silent on how the "**cover arrangement**" is configured such that it is "**releasably mountable**" to the tank as claimed.

Claims 20-29 are further rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor (or for applications subject to pre-AIA 35 U.S.C. 112, the applicant), regards as the invention.

Specifically, the term "cover arrangement" is ambiguous because the term is not used in the '279 specification and hence remains undefined.

Dependent claims inherit the defect of the claims from which they depend.

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[1] While the term "cover" does appear in the '279 specification (e.g. at 1:47, 11:44), there is no express description of a "cover arrangement" as claimed. To the extent that applicants indented to refer to lid 26, the examiner suggests using descriptive language that is consistent with, and supported by, the '279 specification. However, the examiner again finds no '279 passages disclosing that the CPU being cooled is mounted to lid 26. Clarification is therefore requested.

Claim Rejections - 35 USC § 103

Claims 20-21 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over US 2011/0075353 to Attlesey *el al* (Attlesey) alone or in the alternative in view of US 2011/0075373 Al to Campbell (Campbell).

Attlesey discloses the claimed features as follows:

Per claim 20:

A system comprising:

a. *a Central Processing Unit (CPU) having a heat generation side* (Abstract), (Figs. 1-10)

b. *a cooling system, including*: (Abstract), (Figs. 1-10)

i. a tank (1) *for holding coolant* [0045] *in a liquid phase* [0004],

ii. a cover arrangement, the CPU being mounted to the cover arrangement, the cover arrangement being configured such that it is releasably mountable to the tank to seal the tank and place the heat generation side of the CPU in direct contact with the coolant.

While as noted above, the '279 specification fails to disclose a cover arrangement per se, or expressly disclose that the CPU being cooled is actually mounted to the tank cover, the examiner interprets the phrase as best understood to mean that the CPU is simply attached by any means. Attlesey renders obvious this understanding of the claim language by showing that daughter cards are engaged with the lid. (See e.g. Fig. 8A, [0057])

To the extent this feature is not expressly taught by Attlesey as claimed, Prior art Campbell discloses a cover door 330 in contact with electronics rack 310. (See, e.g. Campbell at Fig. 3, [0032])

Per claim 21:

A system as defined in claim 20, wherein the cover arrangement is configured such that when it is released form the tank, the CPU is removed from the coolant.

Attlesey renders this limitation obvious by showing that daughter cards are engaged with the lid. (See e.g. Fig. 8A, [0057])

MOTIVATION

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Attlesey relating to a system for cooling a CPU inclusive of cover arrangement (e.g. a lid) either alone or in combination with Campbell relating to cover door in contact with electronics rack to realize the invention as claimed. See e.g. MPEP 2143: Examples of Basic Requirements of a Prima Facie Case of Obviousness. I. A. Combining prior art elements according to known methods to yield predictable results.(e.g. improved CPU cooling) In this case all of the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination yielded nothing more than predictable results to one of ordinary skill in the art. *KSR*, 550 U.S. at 416, 82 USPQ2d at 1395.

Claims 22-26 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable in further view of JP H11239971A or WO 2014045714 A1.

Per claim 22:

A system as defined in claim 20, wherein the heat generation side includes a surface with a treatment to create a porous layer.

Porous material was known to be used to facilitate cooling and bubble formation at the time of the invention. (See, e.g. WO 2014045714 A1 at Fig. 4 description or JP H11239971A [0005] Figs. 3-5)

Per claims 23 and 24:

23. A system as defined in claim 22, wherein the porous layer is configured to facilitate coolant bubble formation.

Porous material was known to facilitate cooling bubble formation at the time of the invention. (See, e.g. JP H11239971A [0005] Figs. 3-5)

Per claims 25-26:

25. A system as defined in claim 22, wherein the porous layer includes open pores to allow coolant bubbles to escape.

Obvious in view of '997 which recites at [0005]: *The size of the bubbles in the foamed coolant is mainly determined by the size of the space (continuous pores, open pores) surrounded by the lattice in the porous member 14.*

26. A system as defined in claim 23, wherein an average pore size of the porous layer is larger than an average coolant bubble size.

Obvious in view of '997 which recites at [0005]: *The size of the bubbles in the foamed coolant is mainly determined by the size of the space (continuous pores, open pores) surrounded by the lattice in the porous member 14.*

MOTIVATION

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Attlesey relating to a system for cooling a CPU inclusive of cover arrangement (e.g. a lid) either alone or in combination with Campbell relating to cover door in contact with electronics rack, and to further modify these teachings with the teachings of JP H11239971A or WO 2014045714 A1 relating to porous material and bubble formation to

realize the invention as claimed. See e.g. MPEP 2143: Examples of Basic Requirements of a Prima Facie Case of Obviousness. I. A. Combining prior art elements according to known methods to yield predictable results.(e.g. improved CPU cooling) In this case all of the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination yielded nothing more than predictable results to one of ordinary skill in the art. *KSR*, 550 U.S. at 416, 82 USPQ2d at 1395.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred Ferris whose telephone number is 571-272-3778.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hetul Patel can be reached at (571) 272-4184.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-9000. Information regarding the status of an application may be obtained from the

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/FRED O FERRIS III/
Reexamination Specialist, Art Unit 3992

/JOHN M HOTALING/
Reexamination Specialist, Art Unit 3992
/MICHAEL FUELLING/
Supervisory Patent Examiner, Art Unit 3992