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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/566,593	09/24/2009	Nicholas A. Sims	P8103US1/12270US.1	2675

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WOMBLE CARLYLE SANDRIDGE & RICE LLP
Attn: IP Docketing
P. O. BOX 7037
ATLANTA, GA 30357-0037

EXAMINER

VALONE, THOMAS F

ART UNIT	PAPER NUMBER
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2858

NOTIFICATION DATE	DELIVERY MODE
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04/10/2013

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):

IPDocketing@WCSR.com

Office Action Summary	Application No. 12/566,593	Applicant(s) SIMS ET AL.	
	Examiner THOMAS F. VALONE	Art Unit 2858	

-- 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 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, 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 30 November 2012.
- 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) 22 and 24-43 is/are pending in the application.
- 5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☒ Claim(s) 22, 24-28 and 37-43 is/are allowed.
- 7) ☒ Claim(s) 29-36 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 30 November 2012 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).
- a) ☐ All b) ☐ Some * c) ☐ None of:
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) | 3) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____. | 4) ☐ Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 29-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eastlack (8,232,775) in view of Koenck (4,553,081) of record.

Regarding claim 29, Eastlack teaches a method for controlling and providing output power from a power converter voltage regulator stage (108, Fig. 1) and an AC to DC converter stage in an active state (col. 4, line 1-60), storing energy in an energy storage device with the output power (battery, col. 5, line 1-20), and measuring load current delivered by the power converter to a load (sense resistor and detection module, col. 6, line 1-25 and Fig. 4). Eastlack further teaches transitioning the power converter to a standby “decoupling” state when the load current is less than a first load current threshold (col. 3, line 1-20 and col. 6, line 1-10), using a sense resistor to measure load current (438, Fig. 4) and a detection module to measure the voltage across the sense resistor (Fig. 4) for sensing the cut off voltage threshold for current draw (col. 8, line 35-50). Eastlack also teaches using a voltage regulator for output power (Fig. 1, 2, 4, and col. 4, line 1-20).

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Eastlack does not teach the voltage regulator being powered by the energy storage device.

Koenck from the same field of endeavor teaches the voltage regulator being powered by the battery energy storage device (col. 5, line 40-60 and Fig. 5, Fig. 2 and col. 10, line 5-10 and col. 18, line 10-20) with a battery current series resistance element (131, col. 9, line 55-65 and col. 10, line 5-15) and the converter having a low power standby mode (col. 12, line 60-67) in the same manner as the applicant. As to the standby state, it is also found in the Koenck reference (col. 12, line 60-65).

Furthermore, this is equivalent to when a battery charger is "detached" or "disconnected" as in Koenck (col. 18, line 10-20) or the energy storage device is overcharged and offline as in Koenck (col. 19, line 45-65) to one of ordinary skill, such as found in the Koenck reference who supplies a regulated voltage from an energy storage device (col. 5, line 40-55), controlled by a battery processor (82, Fig. 5).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have applied the Eastlack voltage regulator in an electronic device powered by an energy storage device as taught by Koenck for the benefit of maintaining a continuous operating voltage of a device as suggested by Koenck (col. 5, line 45-55), during any arbitrarily related condition including when an AC to DC converter is in a standby state.

Regarding claims 30-32, 34, Eastlack teaches monitoring stored energy and transitioning the AC/DC converter stage from standby to active when the stored energy

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is less than a predetermined threshold and back to an isolating, standby mode, “self disconnect” when exceeded (col. 5, line 1-30).

Regarding claim 33, Eastlack also teaches a switch (col. 5, line 30-50) for the same intended use as claimed.

Regarding claim 35, Eastlack further teaches periodically measuring a voltage output of the power converter with a comparator circuit (col. 6, line 40-67).

Regarding claim 36, Eastlack teaches providing no output power for the power converter when the measured load is greater than a second load current threshold (col. 5, line 15-25).

Allowable Subject Matter

3. Claims 22, 24-28 and 37-43 are allowed.

Response to Arguments

4. Acknowledgement is given for the extensive amendments to the claims and drawings. As a result, the objection to the drawings and the rejections under 35 USC 112 have been withdrawn.

5. Applicant's arguments filed 11/30/12 have been fully considered but they are not persuasive.

6. Regarding the applicant's single argument about claim 29, concerning the rejection under 35 USC 103, the combination of a voltage regulator stage powered by an energy storage device as claimed is found in the prior art in both situations claimed, when the AC to DC converter is in an active state with Eastlack who teaches a method

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for controlling and providing output power from a power converter voltage regulator stage (108, Fig. 1) and an AC to DC converter in an active state (col. 4, line 1-60) as claimed, storing energy in an energy storage device with the output power (battery, col. 5, line 1-20), and measuring load current delivered by the power converter to a load (sense resistor and detection module, col. 6, line 1-25 and Fig. 4). As to the standby state also found in the Koenck reference (col. 12, line 60-65), this is equivalent to when a battery charger is "detached" or "disconnected" as in Koenck (col. 18, line 10-20) or the energy storage device is overcharged and offline as in Koenck (col. 19, line 45-65) to one of ordinary skill, such as found in the Koenck reference who supplies a regulated voltage from an energy storage device (col. 5, line 40-55), controlled by a battery processor (82, Fig. 5).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

1. Any inquiry concerning this communication or earlier communications from the examiner should be directed to THOMAS F. VALONE whose telephone number is (571)272-8896. The examiner can normally be reached on M-Tu-W-Th, 9:30-8:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Assouad can be reached on 571-272-2210. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/THOMAS F VALONE/
Primary Examiner, Art Unit 2858

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Patent Examiner
Art Unit 2858
571-272-8896

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