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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/096,030	10/24/2018	Roger Sherman Stringham	TUP46395	3694
62439	7590	06/08/2020	EXAMINER	
SINORICA, LLC 20251 Century Blvd. Suite 140 Germantown, MD 20874			WASIL, DANIEL D	
			ART UNIT	PAPER NUMBER
			3646	
			NOTIFICATION DATE	DELIVERY MODE
			06/08/2020	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):

SINORICA@GMAIL.COM
pair@sinorica.com
sinorica@outlook.com

Notice of Abandonment	Application No.	Applicant(s)
	16/096,030	Stringham, Roger Sherman
	Examiner	Art Unit
	Daniel Wasil	3646

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

This application is abandoned in view of:

1. Applicant's failure to timely file a proper reply to the Office letter mailed on 06 November 2019.
 - (a) A reply was received on _____ (with a Certificate of Mailing or Transmission dated _____), which is after the expiration of the period for reply (including a total extension of time of _____ month(s)) which expired on _____.
 - (b) A proposed reply was received on _____, but it does not constitute a proper reply under 37 CFR 1.113 to the final rejection. (A proper reply under 37 CFR 1.113 to a final rejection consists only of: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) if this is utility or plant application, a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. Note that RCEs are not permitted in design applications.)
 - (c) A reply was received on _____ but it does not constitute a proper reply, or a bona fide attempt at a proper reply, to the non-final rejection. See 37 CFR 1.85(a) and 1.111. (See explanation in box 8 below).
 - (d) No reply has been received.

2. Applicant's failure to timely pay the required issue fee and publication fee, if applicable, within the statutory period of three months from the mailing date of the Notice of Allowance (PTOL-85).
 - (a) The issue fee and publication fee, if applicable, was received on _____ (with a Certificate of Mailing or Transmission dated _____), which is after the expiration of the statutory period for payment of the issue fee (and publication fee) set in the Notice of Allowance (PTOL-85).
 - (b) The submitted fee of \$ _____ is insufficient. A balance of \$ _____ is due.
The issue fee required by 37CFR 1.18 is \$ _____. The publication fee, if required by 37 CFR 1.18(d), is \$ _____.
 - (c) The issue fee and publication fee, if applicable, has not been received.

3. Applicant's failure to timely file corrected drawings as required by, and within the three-month period set in, the Notice of Allowability (PTO-37).
 - (a) Proposed corrected drawings were received on _____ (with a Certificate of Mailing or Transmission dated _____), which is after the expiration of the period for reply.
 - (b) No corrected drawings have been received.

4. The letter of express abandonment which is signed by the attorney or agent of record or other party authorized under 37 CFR 1.33 (b). See 37 CFR 1.138(b).

5. The letter of express abandonment which is signed by an attorney or agent (acting in a representative capacity under 37 CFR 1.34) upon the filing of a continuing application.

6. The decision by the Patent Trial and Appeal Board rendered on _____ and because the period for seeking court review of the decision has expired and there are no allowed claims.

7. The dismissal of the appeal in an application having no allowed claims. (When an appeal is dismissed in an application having no allowed claims the application stands abandoned. See MPEP 1215.04 subsections I-V for an explanation of the reasons why an appeal is dismissed.)

8. The reason(s) below:

/DANIEL WASIL/
Examiner, Art Unit 3646

/JACK W KEITH/
Supervisory Patent Examiner, Art Unit 3646

Petitions to revive under 37 CFR 1.137, or requests to withdraw the holding of abandonment under 37 CFR 1.181, should be promptly filed to minimize any negative effects on patent term.



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DETAILED ACTION

Notice of Pre-AIA or AIA Status

1. The present application, filed on or after 16 March 2013, is being examined under the first inventor to file provisions of the AIA.

Continued Examination Under 37 CFR 1.114

2. The request for continued examination (RCE) filed 17 October 2019 has been entered. The amendments to the claims and specification have been entered. Claims 1, 3, 5-12, and 18-20 are pending.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Response to Arguments

3. Applicant's arguments have been fully considered but they are not persuasive. Applicant argues that the disclosed fusion via cavitation is similar to muon fusion. The examiner asserts that Applicant's disclosure is not directed to (nor includes a discussion of) muon fusion. Thus, Applicant's arguments rely on subject matter (i.e., new matter) that was not in the initially filed disclosure.

Nevertheless, Applicant's disclosure still allows the claims to obtain heat from nuclear fusion, such as via loading (increasing density) of deuterium at a (Pd) target foil. The specification contains no disclaimer statement against the occurrence of nuclear fusion. Rather, Applicant's arguments indicate that the claims support nuclear fusion.

For reasons already of record, the examiner contends that Applicant's reliance on (cavitation) target loading to induce nuclear fusion events is a well-known (but unproven) "low energy nuclear reaction" (LENR) concept. At best, Applicant has set forth what may be considered a concept or an object of scientific research. However, it has been held that such does not present a utility within the meaning of 35 U.S.C. 101.

Additionally, the examiner contends that a muon (and deuterium) supply/density would be insufficient to enable nuclear fusion that results in usable heat. A usable muon flux/density is not provided by Applicant. Also, muons have a very short lifetime of about 2.2 microseconds (two millionths of a second). That is, the time allotted for use of an unstable muon is the muon's miniscule lifetime. Also, muons have a short stopping range (i.e., they can be stopped in a short distance). Also, muon-catalyzed fusion has a well-known "sticking" problem. There is no reputable evidence of record to support the assertions of using muons for production of nuclear fusion with usable heat.

"Reproducibility" must go beyond one's own lab. One must produce a set of instructions (i.e., a recipe) that would enable anyone to produce the same results. It is the Examiners' position that an undue amount of experimentation would be required to produce an operative nuclear fusion embodiment of Applicant's invention. Also, even if the alleged nuclear fusion were somehow possible, it is unlikely to produce useful heat.

The statute does not require independent verification or substantiation of a disclosure of an invention. However, enablement is determined based on whether one of ordinary skill in the art can make and use the invention, and an independent verification or substantiation of a disclosure of an invention is merely one non-limiting example of how an Applicant may meet the statute.

With regard to the drawing objection, Applicant (at Remarks page 8) states that “Applicant amends the drawings to overcome the objections”. However, the Reply filed 17 October 2019 does not include any amendment to the drawings. Pending Figure 1 still shows the exchanger output (902) being at least partly positioned inside the heating chamber (1). Thus, the objection remains.

Claim Rejections - 35 USC § 112(b)

4. Claims 1, 3, 5-12, and 18-20 are rejected under 35 U.S.C. 112(b) as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor regards as the invention.

Claim 1

It is unclear what constitutes an “adequate amount of heat”. The claims do not allow the public to be sufficiently informed of what would constitute infringement.

The source of the “heat” is unclear. It is unclear whether the heat is a result of: cavitation bubble collapse; some other means (e.g., nuclear fusion); or both cavitation bubble collapse and some other means (e.g., nuclear fusion). The claim is incomplete for omitting essential structural cooperative relationships of features, such omission amounting to a gap between the features. See MPEP § 2172.01.

Claim Rejections - 35 USC § 112(a)

5. Claims 1, 3, 5-12, and 18-20 are rejected under 35 U.S.C. 112(a) as failing to comply with both the written description requirement and the enablement requirement.

The reasons for rejection set forth in the Office Action dated 12 March 2019 and the Office Action dated 17 June 2019 are herein incorporated by reference.

The disclosure (and claims) allows for an apparatus (cavitation heating system) that collapses cavitation bubbles to implant/impact deuterium ions into a (Pd) target at a density which causes nuclear fusion events to produce heat. Thus, the disclosure (and claims) is considered being based on the unproven concept of low temperature nuclear fusion (cold fusion), which also has other names such as "low energy nuclear reaction" (LENR), etc. This concept allows for the incorporation of nuclei (e.g., deuterium) into a material (e.g., a palladium crystal lattice) to produce nuclear fusion. However, the broad scientific community has generally concluded that reactions using deuterons (in the manner Applicant argues) do not give rise to nuclear fusion and thus an adequate amount of heat.

The Examiner is guided by the U.S. Federal Court of Appeals decision *In re Dash*, No. 04-1145, 118 Fed. Appx. 488 (Fed. Cir. Dec. 10, 2004), cert. denied, 126 S. Ct. 346 (2005). Also note *In re Swartz*, 232 F.3d 862, 56 USPQ2d 1703 (Fed. Cir. 2000). The CAFC construed the Dash claims to require the production of excess heat energy and to be directed to a method of achieving "cold fusion". The CAFC stated, "Given the scientific community's considerable doubt regarding the utility of 'cold fusion' processes, we hold that the examiner established a prima facie case of lack of utility and enablement."

Persuasive arguments as to the adequacy of the disclosure and the patentability of the invention must unequivocally explicate both the controversial physics in question, and how and in what manner the invention achieves its stated, and arguably incredible object.

Claim Rejections - 35 USC § 101

6. Claims 1, 3, 5-12, and 18-20 are rejected under 35 U.S.C. 101 because the disclosed invention is inoperative and therefore lacks utility.

The reasons for rejection set forth in the Office Action dated 12 March 2019 and the Office Action dated 17 June 2019 are herein incorporated by reference.

Objection to the Specification

7. The claimed invention as disclosed is deemed non enabling.

The reasons for objection set forth in the Office Action dated 12 March 2019 and the Office Action dated 17 June 2019 are herein incorporated by reference.

Objection to the Drawings

8. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims or the feature(s) must be canceled from the claim(s). No new matter should be entered.

The following recited feature is not shown:

- the exchanger output being positioned outside of the heating chamber (claim 1).

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Interview Information

9. Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, Applicant is encouraged to use the USPTO Automated Interview Request (AIR) at <http://www.uspto.gov/interviewpractice>.

Contact Information

10. Examiner Daniel Wasil can be reached at (571) 272-4654, on Monday-Thursday from 10:00-4:00 EST. Supervisor Jack Keith (SPE) can be reached at (571) 272-6878.

/DANIEL WASIL/
Examiner, Art Unit 3646
Reg. No. 45,303

/JACK W KEITH/
Supervisory Patent Examiner, Art Unit 3646