

DETAILED CORRESPONDENCE

Notice of Pre-AIA or AIA Status

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

Response to Arguments

2. Applicant's arguments filed 2/15/2019 have been fully considered but they are not persuasive.
3. Regarding the objections to the specification, the arguments are not persuasive. The examiner holds the position that a net energy gain using fusion energy is yet to be achieved and therefore a person skilled in the art would not be able to make/use the claimed invention. As stated in paragraph [0005] of the specification, the inventor of the instant invention restates this position by saying the "High energy thermonuclear fusion, similar to the process that occurs in the sun and other stars, is being investigated as a promising future energy solution. However, while thermonuclear fusion has the potential to provide a tremendous amount of power, the technology to commercially produce this energy is not yet available, and is unlikely to be available for a long time." The net energy gain is a goal that is yet to be achieved and is therefore merely theoretical. The rejections are therefore maintained.

Specification

4. The following is a quotation of the first paragraph of 35 U.S.C. 112(a):

(a) IN GENERAL. — The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor or joint inventor of carrying out the invention.

The following is a quotation of the first paragraph of pre-AIA 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. The specification is objected to under 35 U.S.C. §112, first paragraph, as failing to provide an enabling disclosure. The specification fails to provide an adequate written description of the invention and fails to adequately describe how to make and/or use the invention as required by 35 U.S.C. §112, first paragraph.

Applicant states in paragraph [0024] “Under proper conditions, at least some of the neutral nuclei and/or deeply screened nuclei fuse with nuclei in the target material, directly releasing energy. This released energy may be used for power generation”. Yet, Applicant provides no evidence in the disclosure of any measurable energy production through this process via the claimed device and method.

One of ordinary skill in the art at the time of the invention would have expected that the disclosure corresponding to a device stemming from such an important inventive step and providing “solutions to the problems and needs in the art that have not yet been fully identified, appreciated, or solved by conventional nuclear processes” would include more detailed drawings than those provided in the instant disclosure. One of ordinary skill in the art at the time of the invention would have been skeptical that such this disclosure would be sufficient to reduce to practice such a novel invention that there exists no body of prior art on which to build.

One of ordinary skill in the art at the time of the invention would expect that such a purportedly extraordinary and novel invention would be bolstered by a body of scientific evidence extolling the discovery. Yet, Examiner can find no publications, reputable or otherwise, to suggest that an invention such as the one claimed has any recognized scientific or theoretical basis. The closest scientific research suggests that net energy production from fusion is at best an unproven theory.

Applicant's disclosure amounts to assumption and speculation based on theoretical concepts. Applicant presents to evidence to suggest that the disclosure represents an operative system that can convert matter into energy. Therefore, Applicant has not shown progress beyond the point of an unproven theory or concept that still requires an undue amount of experimentation to enable the artisan to make and use the inventive system for its indicated purpose. This view is also considered supported by the failure to set forth a full example of the specific parameters of an operative embodiment. One cannot rely on the skill in the art for the selection of the proper quantitative values to present an operative system, because those in the art do not know what would be these values. See *Bank v. Rauland Corp.*, 64 U.S.P.Q. 93 and *In re Corneil et al.*, 145 U.S.P.Q. 697.

Examiner has set forth a reasonable and sufficient basis for challenging the adequacy of the disclosure. The statute requires the applicant itself to inform, not to direct others to find out for themselves. See *In re Gardner et. al.*, 166 U.S.P.Q. 138 and *In re Scarborough*, 182 U.S.P.Q. 298. The disclosure must enable a person skilled in the art to practice the invention without having to design structure not shown to be readily available in the art; *In re Hirsch*, 131 U.S.P.Q. 198.

The claimed device and method is akin to a "cold fusion" system in that it purports to produce energy via a nuclear reaction that is undocumented by the scientific community. Rejection of "cold fusion" claims on the grounds of lack of enablement (35 U.S.C. §112) and operability/utility (35 U.S.C. §101) have been upheld by the Board and affirmed by the Court See *In re Dash*, No. 04-1145, 2004 WL 2829039 (Fed. Cir. Dec. 10, 2004) and *In re Swartz*, 232 F.3d 862, 56 USPQ2d 1703, (Fed. Cir. 2000). The Court construed the Dash claims to require the production of excess heat energy and to be directed to a method of achieving "cold fusion". The Court stated, "[g]iven 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." In *Swartz*, the Board held that the applicant had "produced no persuasive objective evidence, in our view, that overcomes the examiner's position." The Court

affirmed the Board's decision that the "claimed process had not been established and that [the] application did not satisfy the enablement requirement."

The examiner has the initial burden of challenging an asserted utility. Only after the examiner has provided evidence showing that one of ordinary skill in the art would reasonably doubt the asserted utility does the burden shift to the applicant to provide rebuttal evidence sufficient to convince one of ordinary skill in the art of the invention's asserted utility. In re Swartz, 232 F.3d 862, 56 USPQ2d 1703, (Fed. Cir. 2000)

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112(a):

(a) IN GENERAL. — The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor or joint inventor of carrying out the invention.

The following is a quotation of the first paragraph of pre-AIA 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 1-13 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 enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Applicant has not provided any evidence to suggest that the claimed device is capable of producing energy. Furthermore, the disclosure cannot possibly enable one of ordinary skill in the art to make and use the claimed invention. Based on the evidence regarding the below factors (In re Wands, 858 F.2d 731, 737, 8 USPQ2d 1400,

1404 (Fed. Cir. 1988)), the specification at the time the application was filed, would not have taught one skilled in the art how to make the full scope of the claimed invention without undue experimentation.

- The nature of the invention, the state of the prior art, the level of predictability of the art, and the skill level of one in the art suggests that the instant disclosure would have to provide more detail to enable one skilled in the art to make the claimed invention. As stated above, given such a purportedly extraordinary invention with which one of ordinary skill in the art would be unfamiliar, one of ordinary skill in the art at the time of the invention would need to be provided with extremely detailed drawings, theoretical calculations, numerical values, dimensions, experimental parameters, and experimental results to reproduce the claimed invention. The disclosure provides none of this.
- The amount of direction provided by the inventor—crude, diagrams and a disclosure with no concrete numerical parameters—would not have enabled one of ordinary skill in the art at the time of the invention to make the claimed invention.
- The absence of working examples indicates one of ordinary skill in the art would not have been enabled to make the claimed invention.
- Based on the content of the disclosure—the lack of crucial numerical and experimental parameters for the device that would enable one of ordinary skill in the art to reproducibly obtain energy for the claimed device—one of ordinary skill in the art would have had to conduct undue experimentation to make the claimed invention. Such experimentation would have involved—at a minimum—extensive theoretical calculation, years of design work to reduce any solid theory to a device, still more years of experimentation to determine the precise numerical, experimental parameters that enable the invention to produce energy, and still further years for optimizing the design of the device to achieve maximal energy output.

8. The following is a quotation of 35 U.S.C. 112(b):

(b) CONCLUSION.—The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), second paragraph:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-13 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 pre-AIA the applicant regards as the invention.

The claims include alternative limitations that are indefinite. For example, "hydrogen isotopes in the form of deuterium and/or tritium gas, a deuterated or tritiated liquid, a deuterated or tritiated solid, a plasma, or any combination thereof" in claim 1 is indefinite because it is unclear what other combination may exist in the claimed device. A similar situation exists with the fuel sources claimed. The conjunction of "comprise" with the alternative "a powder, nanoparticles, materials capable of donating electrons and neutrons to nuclear activation processes, or any combination thereof" in claim 7 is an especially egregious example of such indefinite language. This language is indefinite because it has several interpretations including some that may not have been claimed. Claims 9-11 are written in a similar manner.

Claim Rejections - 35 USC § 101

10. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

11. Claims 1-13 are rejected under 35 U.S.C. 101 because the disclosed invention is inoperative and therefore lacks utility. The reasons the inventions as disclosed are inoperative are the same as the reasons set forth above. There is no reputable evidence of record to indicate the invention has been reduced to the point of providing in current available form, an operative energy producing system. This invention is not considered as meeting the requirements of 35 U.S.C. 101 as being "useful."

The applicant at best 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. See *Brenner v. Manson*, 148 U.S.P.Q. 689.

Additionally, when the utility of the claimed invention is based upon allegations that border on the incredible or allegations that would not be readily accepted by a substantial portion of the scientific community, sufficient substantiating evidence of operability must be submitted by applicant. Note *In re Houghton*, 167 U.S.P.Q. 687 (CCPA 1970); *In re Ferens*, 163 U.S.P.Q. 609 (CCPA 1969); *Puharich v. Brenner*, 162 U.S.P.Q. 136 (CA DC 1969); *In re Pottier*, 152 U.S.P.Q. 407 (CCPA 1967); *In re Ruskin*, 148 U.S.P.Q. 221 (CCPA 1966); *In re Citron*, 139 U.S.P.Q. 516 (CCPA 1963); and *In re Novak*, 134 U.S.P.Q. 335 (CCPA 1962).

Claims 1-13 are also rejected under 35 U.S.C. 112(a) or pre-AIA 35 U.S.C. 112, first paragraph. Specifically, because the claimed invention is not supported by either a well-established utility for the reasons set forth above, one skilled in the art clearly would not know how to use the claimed invention.

Claim Rejections - 35 USC § 102 and 103

12. Due to the numerous clarity issues with the claims (see above) and the great deal of speculation required by the examiner when interpreting the claims, no art rejections are being presented in this action. See MPEP 2173.06(II). As stated in *In re Steele*, 305 F.2d 859, 134 USPQ 292 (CCPA 1962), a

rejection under 35 U.S.C. §103 should not be based on considerable speculation about the meaning of terms employed in a claim or assumptions that must be made as to the scope of the claims.

Conclusion

13. **THIS ACTION IS MADE FINAL.** 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 the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marshall P O'Connor whose telephone number is (571)270-5928. The examiner can normally be reached on Mon-Thurs, 7:00-4:00 EST.

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>.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on (571)272-6878. 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.

***/MARSHALL P O'CONNOR/
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