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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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11/463,337

08/09/2006

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EXAMINER

RUMP, RICHARD M

ART UNIT

PAPER NUMBER

4181

NOTIFICATION DATE

DELIVERY MODE

01/13/2009

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):

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Office Action Summary	Application No. 11/463,337	Applicant(s) KOBAYASHI ET AL.	
	Examiner Richard M. Rump	Art Unit 4181	

-- 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 19 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ 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

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 13-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 August 2006 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).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

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) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1: 06/19/2007 2: 01/12/2007 3: 11/15/2006</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Application

Claims 1-12 are pending and presented for examination. Claims 13-17 are withdrawn from consideration due to being drawn to a non-elected species following restriction requirement by the examiner. Acknowledgement is made of Applicant's traversal of the restriction requirement.

Priority

Acknowledgement is made of applicant's request for foreign priority under 35 U.S.C. §119(a)-(d). Certified copies of the priority documents have been **received**.

Information Disclosure Statement

The information disclosure statements (IDS) submitted on 15 November 2006, 12 January 2007, and 19 June 2007 are acknowledged and the references listed thereon have been considered by the examiner on the attached copies of the PTO-1449 forms.

Response to Arguments

Applicant's arguments filed 19 December 2008 have been fully considered but they are not persuasive. The Applicant is traversing the restriction requirement with the following rationale:

- 1) That the inventions of Group I and II would not present a serious burden upon the examiner.
- 2) That the classifications stated by the Examiner do not represent a serious search burden.

Art Unit: 4181

Regarding argument 1, it is obvious according to the Examiner's Office Action dated 12 November 2008 that the different classification of the Groups is the rationale for the restriction. Furthermore, restriction IS proper as the Examiner has shown that there is a separate status in the art of Group II with similar features were made by a mutually different process as evidenced by the prior art cited in the above mentioned Office Action.

Regarding argument 2, the Examiner has fulfilled the five requirements as set forth under 35 U.S.C 121.

"Restriction for examination purposes as indicated is proper because all these inventions listed in this action are independent or distinct for the reasons given above and there would be a serious search and examination burden if restriction were not required because one or more of the following reasons apply:

- (a) the inventions have acquired a separate status in the art in view of their different classification;
- (b) the inventions have acquired a separate status in the art due to their recognized divergent subject matter;
- (c) the inventions require a different field of search (for example, searching different classes/subclasses or electronic resources, or employing different search queries);
- (d) the prior art applicable to one invention would not likely be applicable to another invention;

(e) the inventions are likely to raise different non-prior art issues under 35 U.S.C. 101 and/or 35 U.S.C. 112, first paragraph. “

At least the different status in the art (b) and different classifications and search terms (c) can be considered met. The method of producing the particles fails expressly address the limitations of the produced particles, as such the methodology to create the particles would enable a skilled artisan to create a wide variety of them. Regarding the Applicant's statement detailing that a complete search would uncover both inventions, given that the limitations of the particle not being recited **only** in instantly claimed independent claim 1, this would require a different search as these specific properties would have to uncovered. Applicant is reminded that restriction is only between independent claims, and that limitations of a dependant claim are not read therein.

After fully considering the Applicant's argument the Examiner maintains the restriction. As such, **THE RESTRICTION REQUIREMENT IS MADE FINAL**. Claims 13-17 will stand withdrawn. Applicant is afforded and requested to file a divisional application drawn to the non-elected species. Applicant is reminded that in the event claims 1-12 are found allowable that claims 13-17 will need to be cancelled.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 4181

Claims 1-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Bouyer et al, Suspension Plasma Spraying for Hydroxyapatite Powder Preparation by RF Plasma (hereinafter referred to as Article 1; Provided by Applicant).

Regarding claims 1 and 10-12, Article 1 discloses a method of producing hydroxyapatite particles, having a particle diameter between 15 and 21 microns, via mixing phosphorus and calcium (See chemical formula 1 on page 1067) fed into a heated area and being atomized (1067 part B). The suspension is gas atomized via the RF Plasma via a 50-kW Tekna Plasma System (Though 35-45kW is also mentioned see Table 1 and Abstract). The product is then crystallized (page 1069, paragraph 3).

Regarding claims 2 and 3, the chemical formula on page 1067 is listed below:



In this formula it is inherent that the second listed reactant is a phosphorous oxide and that the first listed reactant is a calcium salt.

Regarding claims 4 & 5, given some decomposition of the HA (page 1071, chemical formula 4 (and the text immediately surrounding it)), there is a small amount of lime produced. While the amount of lime from the decomposition of HA is not expressly stated, it would be inherent that given the broadest reasonable interpretation of the term "small", that the amount of lime produced would not be enough to cause serious problems with the HA product. Furthermore it would be inherent that there would be some decomposition resulting in a minor level of impurities.

Art Unit: 4181

Regarding claim 6, the plasma is produced by ionization of Ar/O₂ and Ar/H₂ from an ambient atmosphere at a pressure of 30kPa.

Regarding claim 7, given the output quantity of 35 to 45 kW and the statement by the Applicant that at 70 kW the temperature of the plasma is 10,000 °C, it would be inherent that 35 (one-half) of 70kW would equate to approximately one-half the temperature. As such a temperature of 5000°C would be produced by Article 1.

Regarding claim 8, a cooling step is used to assist in crystalization (Article 1, page 1067, last paragraph bridging onto page 1068). Specifically it is stated that to "reduce... possible decomposition of the HA crystals... low-temperature stage (~168 °C) cooled with liquid nitrogen". It would be inherent that this step would occur during the crystallization step to aid in reducing decomposition and production time.

Regarding claim 9, figure (a) on page 1069 shows that the particles are spherical in nature.

Double Patenting

A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

Claims 1, 6, 11 and 12 of this application conflict with claims 1, 2, 12 and 13 of US patent Application No. 11541526. 37 CFR 1.78(b) provides that when two or more applications filed by the same applicant contain conflicting claims, elimination of such claims from all but one application may be required in the absence of good and sufficient reason for their retention during pendency in more than one application. Applicant is required to either cancel the conflicting claims from all but one application or maintain a clear line of demarcation between the applications. See MPEP § 822. This is a provisional rejection as both applications are pending.

Citation of Relevant Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a) US 5322675 – Discloses a method to produce calcium phosphate particles.
- b) WO 2004011050 (Provided by Applicant) – Discloses a method to produce calcium phosphate particles from a plasma stream.
- c) US 5858318 – Discloses a method to create HA.
- d) US 20040076685 – Discloses a method of creating calcium phosphate morsels via plasma generation.

Conclusion

Claims 1-12 have been rejected. Claims 13-17 are withdrawn due to restriction requirement. The Examiner notes that more restrictions could have been crafted,

Art Unit: 4181

however wished to not burden Applicant with multiple rejections. Applicant is encouraged to read any art cited above and amend around it to **possibly** place the application in condition for allowance.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard M. Rump whose telephone number is (571)270-5848. The examiner can normally be reached on Monday through Friday 7:30 AM-5:00 PM (-5 GMT).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vickie Kim can be reached on (571)272-0579. 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.

/R. M. R./
Examiner, Art Unit 4181

Application/Control Number: 11/463,337

Page 9

Art Unit: 4181

/Vickie Kim/

Supervisory Patent Examiner, Art Unit 4181