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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/065,629      | 11/04/2002  | Roman Chistyakov     | ZON-002             | 4225             |

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EXAMINER

LEE, WILSON

ART UNIT PAPER NUMBER

2821

DATE MAILED: 10/07/2003

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

EX 1007

**Office Action Summary**

|                                      |  |  |
|--------------------------------------|--|--|
| <b>Application No.</b><br>10/065,629 | <b>Applicant(s)</b><br>CHISTYAKOV, ROMAN |  |
| <b>Examiner</b><br>Wilson Lee        | <b>Art Unit</b><br>2821                  |  |

-- 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) 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 the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- 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 04 November 2002.
- 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) 1-44 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5)  Claim(s) \_\_\_\_\_ is/are allowed.
- 6)  Claim(s) 1-24, 26, 31-33, 35-37, 41, 43 and 44 is/are rejected.
- 7)  Claim(s) 25, 27-30, 34, 38-40 and 42 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 04 November 2002 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).
- 11)  The proposed drawing correction filed on \_\_\_\_\_ is: a)  approved b)  disapproved by the Examiner.
 

If approved, corrected drawings are required in reply to this Office action.
- 12)  The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13)  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.
- 14)  Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
  - a)  The translation of the foreign language provisional application has been received.
- 15)  Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1)  Notice of References Cited (PTO-892)
- 2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3)  Notice of Substantive Examination (PTO-102)
- 4)  Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5)  Notice of Informal Patent Application (PTO-152)

### **Drawings**

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the second volume of feed gas, third volume of feed gas, a means for exchanging the strongly-ionized plasma, a gas exchange means for exchanging the weakly-ionized plasma must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### **Claim Rejections – 35 U.S.C. 112**

The following is a quotation of the first paragraph of 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.

Claims 1-21, 43 are rejected under 35 U.S.C. 112, 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.

In regard to Claims 1, 3, 10, 12 and 43, a second volume of feed gas, a third volume of feed gas, a means for exchanging the strongly-ionized plasma and a means for exchanging weakly-ionized plasma have not been disclosed in the specification to enable one skilled in the art to make or use the invention. Applicant is respectfully

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requested to point out the above limitations shown in the specification if examiner overlooked the disclosure.

Claims 2-9 and 11-21 are vague by virtue of their dependency on claims 1 and 10

### **Claim Rejections – 35 U.S.C. 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.

Claims 1, 2, 4-11, 19, 20, 22-24, 26, 31-33, 35-37, 41, 43, 44, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Koloc (5,041,760).

In regard to Claim 1, Koloc discloses an apparatus for generating a strongly-ionized plasma, the apparatus comprising:

- an ionization source (18 in figure 1) that generates a weakly-ionized plasma (plasma at the pre-ionization region 62 in figure 8) from a volume of feed gas (from gas source 88 in figure 9);
- a power supply (46) that applies an electrical pulse across the weakly-ionized plasma to generate the strongly-ionized plasma (See Col. 5, lines 1-37, Col. 13, lines 39-59); and
- a means (power supply 80 in figure 9 or high voltage source 16 in figure 1) for exchanging the strongly-ionized plasma with a second volume of feed gas

(from gas source 88 in figure 9) while applying the electrical pulse (intensive pulsed electric field to produce a high stressed voltage condition. See Col. 14, lines 27-56) across the second volume of feed gas to generate an additional strongly-ionized plasma.

In regard to Claim 2, Koloc discloses that the power supply (80 or 16) applies the electrical pulse across the weakly-ionized plasma to excite atoms in the weakly-ionized plasma and to generate secondary electrons, the secondary electrons inherently ionizing the excited atoms, thereby creating the strongly-ionized plasma (See Col. 5, line 53 to Col. 6, line 6.

In regard to Claims 4 and 5, Koloc discloses the power supply inherently generates a constant power and a constant voltage since the power source must constantly generate power or voltage to the ion source in order to generate plasma.

In regard to Claim 6, Koloc discloses that the ionization source is an X-ray source, an electron beam source, or an ion beam source (See Col. 7, lines 3-11).

In regard to Claim 7, Koloc discloses that a magnet (36) that is positioned to generate a magnetic field (flux 34) proximate to the weakly-ionized plasma, the magnetic field trapping electrons in the weakly-ionized plasma.

In regard to Claim 8, Koloc discloses that the magnet comprises an electro-magnet since it receives electricity or plasma from electrode 76 and plasma gun (70) (See Figure 9).

In regard to Claim 9, Koloc discloses the magnet is movable since it is not physically connected to anything shown in figure 9.

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