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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/071,561	03/25/2011	Jerliang Yeh	DEENAR-PT001	4266
3624	7590	09/09/2013	EXAMINER	
VOLPE AND KOENIG, P.C. UNITED PLAZA 30 SOUTH 17TH STREET PHILADELPHIA, PA 19103			ROY, SIKHA	
			ART UNIT	PAPER NUMBER
			2879	
			NOTIFICATION DATE	DELIVERY MODE
			09/09/2013	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):

eoffice@volpe-koenig.com

Office Action SummaryApplication No.
13/071,561Applicant(s)
YEH ET AL.Examiner
SIKHA ROYArt Unit
2879AIA (First Inventor to File)
Status
No

-- 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 6/28/13.
 A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.
- 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) 1,3-6 and 8-20 is/are pending in the application.
5a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 6) Claim(s) _____ is/are allowed.
- 7) Claim(s) 1,3-6 and 8-20 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 _____ 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).

Certified copies:

- a) All b) Some * c) None of the:
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)
- 2) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 6/28/13
- 3) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 4) Other: _____.

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The present application is being examined under the pre-AIA first to invent provisions.

DETAILED ACTION

The Amendment, filed on June 28, 2013 has been entered and acknowledged by the Examiner.

Cancellation of claims 2 and 7 has been entered.

Claims 1,3-6 and 8-20 are pending in the instant application.

Claim Objections

Claim 3 is objected to because of the following informalities:

In claim 3 line 2 'set of zoom elements' should be ---set of first zoom elements--.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of pre-AIA 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.

Claims 1, 3-8 , 9-14 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over by US 2005/0174775 to Conner, and further in view of US 2010/0165297 to Mizushima et al.

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Regarding claim 1 Conner discloses (Figs. 1, 5 [0030]-[0032]) an apparatus for controlling a three dimensional optical field the apparatus comprising a light emission device emitting light and a set of zoom elements 74 disposed in front of the light emission device and focusing the light from the light emission device wherein the light emission device has a plurality of portions (72, 72', 72'') each of which corresponds to a single one of the set of zoom elements 74, the set of zoom elements comprise a plurality of first zoom elements.

Conner is silent about each of the set of zoom elements includes a liquid lens.

Mizushima in same field of endeavor of two-dimensional light modulation discloses (Fig. 7 [0084]) zoom operation of projection optical system 72 includes a liquid lens. Mizushima teaches the liquid lens provides the advantage of changing the focus position by applying/changing voltage to the lens and hence zoom operation can be performed by changing the voltage to the liquid lens in place of shifting a part of the lens group.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to include a liquid lens in each of the set of zoom elements of Conner as suggested by Mizushima for changing the focusing of the zoom elements by changing the voltage to the liquid lens in place of shifting a part of the lens group.

Regarding claim 3 Conner discloses the apparatus further comprising a second zoom element 76 disposed in front of the first zoom elements.

Regarding claim 4 Conner discloses the light emission device is a set of light emission units 72.

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Regarding claim 5 Conner discloses the light emission unit comprises an LED.

Regarding claim 6 Conner discloses (Figs. 1,5) the set of zoom elements 74 have a portion corresponding to a single one of the set of light emission units 72.

Regarding claim 8 Conner discloses (fig. 5 [0054])each of the set of zoom elements further includes a solid lens 36.

Regarding claim 9 Conner as modified by Mizushima discloses (Figs. 1, 5 [0030]-[0032]) an apparatus for controlling a three dimensional optical field, the apparatus comprising a set of zoom light sources , wherein the set of zoom light sources include a plurality of zoom light units each of which includes a light emission unit 72 and a first zoom element 34/74 disposed in front of the light emission unit and the first zoom element includes a liquid lens.

Regarding claim 10 Conner discloses (fig. 5) the first zoom element further includes a solid lens 36.

Regarding claim 11 Conner discloses the light emission unit comprises an LED.

Regarding claim 12 Conner discloses (Fig. 7 [0059]) each of the zoom light units comprises a plurality of light emission units 194R, 194G, 194B and the first zoom element 174 is a single zoom element.

Regarding claim 13 Conner discloses (Fig. 1) the first zoom element further comprises a plurality of zoom elements 74,76 and the light emission unit 12 is a single unit 74.

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Regarding claim 14 Conner discloses a second zoom element 18 is disposed in front of the first zoom element.

Regarding claim 15 Conner as modified by Mizushima discloses the method of controlling a three-dimensional optical field, comprising steps of providing a plurality of zoom light units, each of which has a respective light intensity, a respective focal length and a liquid lens and controlling the three-dimensional optical field by adjusting the respective light intensity and the respective focal length.

Regarding claim 16, combining the liquid lens of Mizushima which offers variation of focusing by changing applied voltage with the light module (including zoom elements) of Conners it would be obvious to specify that two dimensional light shape is controlled by a variation of intensity of plurality of zoom light units and the focal plane at a light axis is controlled by the zooming action of the zoom light units.

Regarding claim 17 Conners as modified by Mizushima discloses each of the plurality of zoom light units further includes a solid lens.

Regarding claim 18 Conners and Mizushima disclose a step of providing a second zoom light unit (lens 76) disposed in front of the plurality of zoom light units.

Regarding claim 19 Conner discloses the zoom light units comprise a plurality of light emission units 72.

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Regarding claim 20 Conner discloses (Figs. 1, 5) each zoom light unit (with single LED 72) comprises a light source and the light source is a single light emission unit.

Response to Arguments

Applicant's arguments with respect to claims 1,9 and 15 have been considered but are moot in view of current rejection.

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 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.

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Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sikha Roy whose telephone number is (571) 272-2463. The examiner can normally be reached on Monday-Friday 8:00 a.m. – 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization 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.

/Sikha Roy/
Primary Examiner, Art Unit 2879