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(54) Title: PINNED-CONTACT, OSCILLATING LIQUID-LIQUID LENS AND IMAGING SYSTEMS

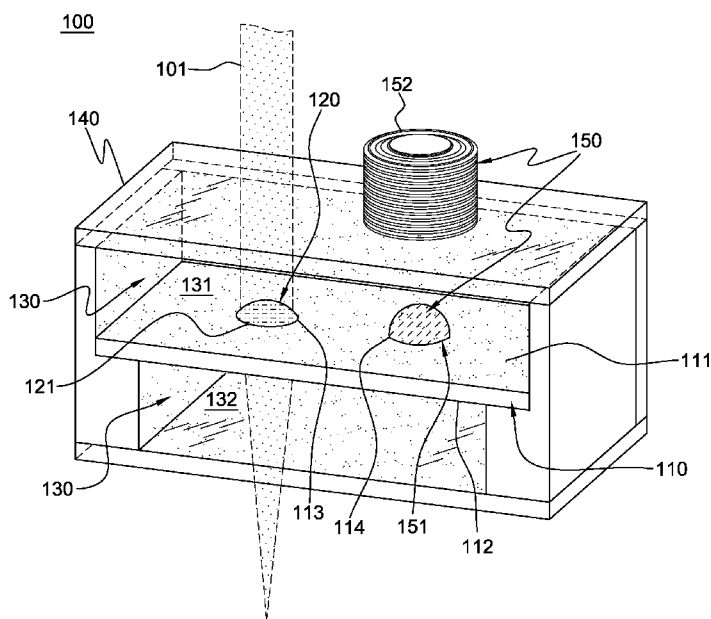


FIG. 1A

(57) Abstract: An oscillating liquid lens and imaging system and method employing the lens are provided. The liquid lens includes a substrate with a channel opening extending through the substrate. A liquid drop is disposed within the channel and is sized with a first droplet portion, including a first capillary surface, protruding away from a first substrate surface, and a second droplet portion, including a second capillary surface, protruding away from a second substrate surface. The liquid lens further includes an enclosure at least partially surrounding the substrate, and including a chamber. The liquid drop resides within the chamber, and the liquid lens includes a second liquid disposed within the chamber in direct or indirect contact with the liquid drop, and the liquid lens further includes a driver for oscillating the liquid drop within the channel.

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2011/045346**A. CLASSIFICATION OF SUBJECT MATTER****G02B 3/14(2006.01)i, G02B 3/12(2006.01)i, G02B 1/06(2006.01)i**

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

G02B 3/14; G02B 27/10; H01L 21/84; B41J 2/135; G02B 3/12; G03B 21/56; H05H 3/04; H04N 17/00; H01L 21/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models
Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: "liquid", "lens", "imaging", "surface", "substrate", "capillary", "chamber" and similar terms.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2009-0316003 A1 (AMIR H. HIRSA et al.) 24 DECEMBER 2009 See abstract; figures 1-4A,9; claims 1-19.	1-25
A	US 5952651 A (YUHKOH MORITO et al.) 14 SEPTEMBER 1999 See abstract; figures 1-6; claims 1,2.	1-25
A	US 2007-0127120 A1 (ICHIRO ONUKI et al.) 07 JUNE 2007 See abstract; figures 2,3,7,9; claims 38-42.	1-25
A	US 2006-0092519 A1 (HIRONORI HASEI) 04 MAY 2006 See abstract; figures 2-4; claims 1-9.	1-25
A	US 6328421 B1 (RYUTCHI KOJIMA et al.) 11 DECEMBER 2001 See abstract; figures 1B,3A,3B; claims 9-12.	1-25
A	US 2006-0166411 A1 (MASAFUMI MORISUE et al.) 27 JULY 2006 See abstract; figures 19A,19B,25; claims 1-3.	1-25

 Further documents are listed in the continuation of Box C. See patent family annex.

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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