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[Continued on next page]

(54) Title: TACTILE SENSOR USING ELASTOMERIC IMAGING

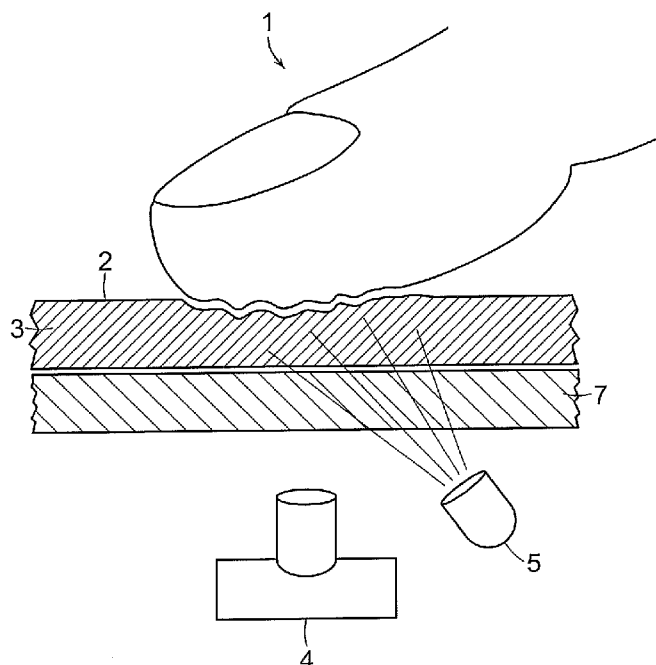


FIG. 1

(57) Abstract: A tactile sensor includes a photosensing structure, a volume of elastomer capable of transmitting an image, and a reflective skin covering the volume of elastomer. The reflective skin is illuminated through the volume of elastomer by one or more light sources, and has particles that reflect light incident on the reflective skin from within the volume of elastomer. The reflective skin is geometrically altered in response to pressure applied by an entity touching the reflective skin, the geometrical alteration causing localized changes in the surface normal of the skin and associated localized changes in the amount of light reflected from the reflective skin in the direction of the photosensing structure. The photosensing structure receives a portion of the reflected light in the form of an image, the image indicating one or more features of the entity producing the pressure.

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2009/047930**A. CLASSIFICATION OF SUBJECT MATTER****G01L 1/24(2006.01)i, G01L 5/16(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)

G01L 1/24; A61B 5/00; A61C 17/22; G01D 5/353; G06K 9/00; H01J 40/14; H04N 5/235

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 since 1975.

Japanese utility models and applications for utility models since 1975.

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

eKOMPASS(KIPO internal) & Keywords: "tactile", "sensor", "photosensing", "elastomer", "image", "reflect", and similar terms.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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Y	US 2004-0252867 A1 (Lan Je-Hsiung and Van Zandt John) 16 DECEMBER 2004 See abstract; paragraphs [0203]-[0411]; figures 1,11,17,20,21,22 ; claims 22-60.	1-28
Y	US 6909084 B2 (Susumu Tachi and Hiroyuki Kajimoto) 21 JUNE 2005 See abstract; column 3, line 64-column 12, line 45; figures 1-21 ; claims 1-24.	1-28
A	US 2007-0146536 A1 (Michel Marie Rene Clotaire Lemoine) 28 JUNE 2007 See abstract; figures 1,2; claims 1-9.	1-28
A	WO 06/098719 A1 (THE PROCTER & GAMBLE COMPANY) 21 SEPTEMBER 2006 See abstract; figures 1-5; claims 1-30.	1-28
A	WO 05/085766 A2 (UNIVERSITY OF WASHINGTON TECHTRANSFER INVENTION LICENSING) 15 SEPTEMBER 2005 See abstract; figures 1,2,8,9; claims 1-15.	1-28



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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