(19) United States

(12) Patent Application Publication (10) Pub. No.: US 2010/0312468 A1

Withanawasam

Dec. 9, 2010 (43) **Pub. Date:**

(54) INTEGRATED MICRO-ELECTRO-MECHANICAL SYSTEMS (MEMS) SENSOR DEVICE

Lakshman Withanawasam, Maple (75) Inventor: Grove, MN (US)

> Correspondence Address: HONEYWELL/FOGG **Patent Services** 101 Columbia Road, P.O Box 2245 Morristown, NJ 07962-2245 (US)

(73) Assignee: HONEYWELL

INTERNATIONAL INC.,

Morristown, NJ (US)

(21) Appl. No.: 12/477,667

(22) Filed: Jun. 3, 2009 **Publication Classification**

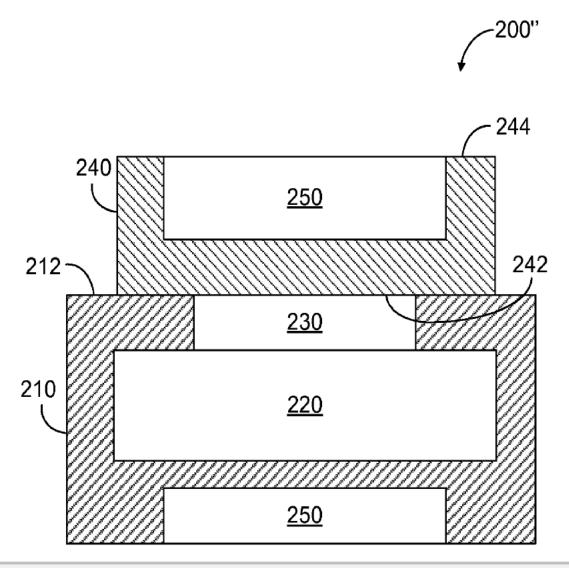
(51) Int. Cl. G01C 21/00 (2006.01)H01L 29/84 (2006.01)H01L 21/50 (2006.01)

(52) U.S. Cl. 701/207; 257/415; 438/51; 257/E29.324;

257/E21.499

(57)ABSTRACT

An integrated sensor device is provided. The integrated sensor device comprises a first substrate including a surface portion and a second substrate coupled to the surface portion of the first substrate in a stacked configuration, wherein a cavity is defined between the first substrate and the second substrate. The integrated sensor device also comprises one or more micro-electro-mechanical systems (MEMS) sensors located at least partially in the first substrate, wherein the MEMS sensor communicates with the cavity. The integrated sensor device further comprises one or more additional sen-





PROCESSOR
110

DISPLAY
140

INTEGRAGED MEMS
AND MAGNETIC
SENSOR
130

NAVIGATION AND
ORIENTATION
ROUTINE
120

FIG. 1

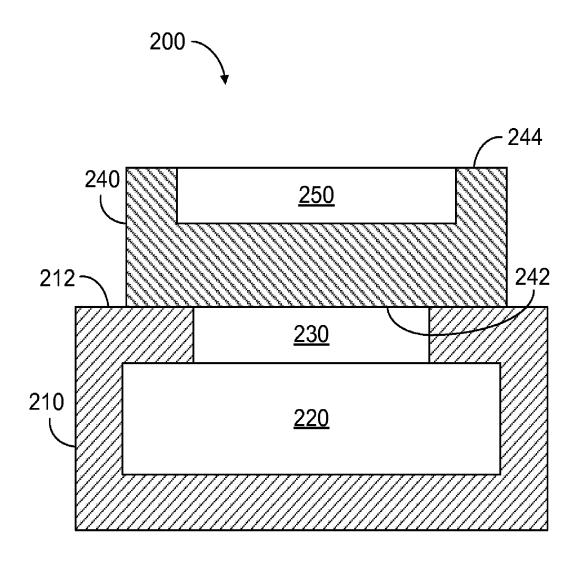


FIG. 2A

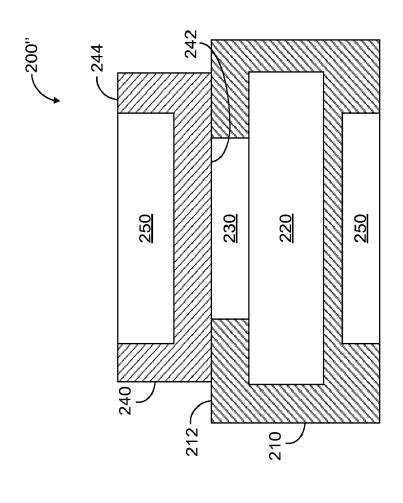


FIG. 2C

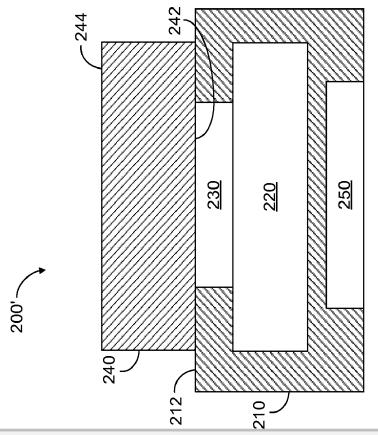


FIG. 2B

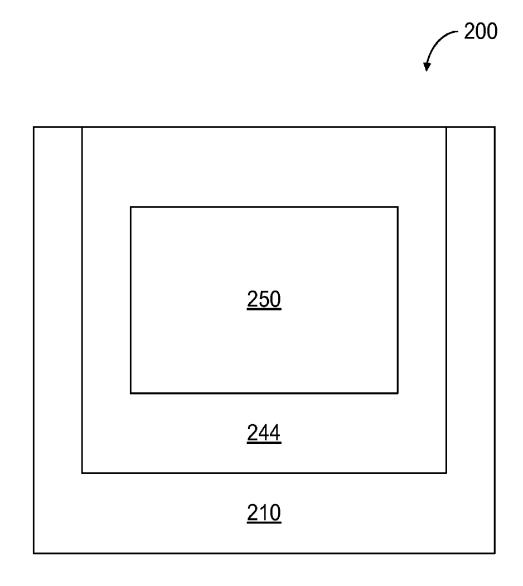


FIG. 2D

DOCKET

Explore Litigation Insights



Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time** alerts and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.

