



US008965449B2

(12) **United States Patent**
Alvarez Rivera et al.

(10) **Patent No.:** **US 8,965,449 B2**
(45) **Date of Patent:** **Feb. 24, 2015**

(54) **DEVICES AND METHODS FOR PROVIDING ACCESS TO INTERNAL COMPONENT**

(75) Inventors: **Felix Jose Alvarez Rivera**, San Jose, CA (US); **Richard Hung Minh Dinh**, Cupertino, CA (US); **Scott A. Myers**, San Francisco, CA (US)

(73) Assignee: **Apple Inc.**, Cupertino, CA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 812 days.

(21) Appl. No.: **13/082,118**

(22) Filed: **Apr. 7, 2011**

(65) **Prior Publication Data**

US 2012/0258773 A1 Oct. 11, 2012

(51) **Int. Cl.**
H04M 1/00 (2006.01)
G06F 1/16 (2006.01)
G06F 21/32 (2013.01)
G06F 21/83 (2013.01)
H04L 29/06 (2006.01)
H04W 12/06 (2009.01)

(52) **U.S. Cl.**
CPC **G06F 1/1656** (2013.01); **G06F 21/32** (2013.01); **G06F 21/83** (2013.01); **G06F 1/1684** (2013.01); **H04L 63/0861** (2013.01); **H04W 12/06** (2013.01); **G06F 2221/2101** (2013.01)
USPC **455/552.1**; 455/566; 455/556.2; 455/550.1

(58) **Field of Classification Search**
CPC H04W 12/00; G06K 9/00006
USPC 455/556.1, 556.2, 550.1, 566, 552.1, 455/410, 411, 414.1, 418; 370/329, 401; 345/58, 82, 522, 589, 173, 6, 629

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

7,215,881 B2 5/2007 Borngraber et al.
7,447,772 B2 11/2008 Natuno et al.
2007/0255961 A1* 11/2007 Tracy et al. 713/186

(Continued)

FOREIGN PATENT DOCUMENTS

EP 1850205 10/2007
KR 20-1999-0025961 7/1999

(Continued)

OTHER PUBLICATIONS

International Search Report and Written Opinion dated Sep. 26, 2012, PCT/US2012/031663, 18 pages.

(Continued)

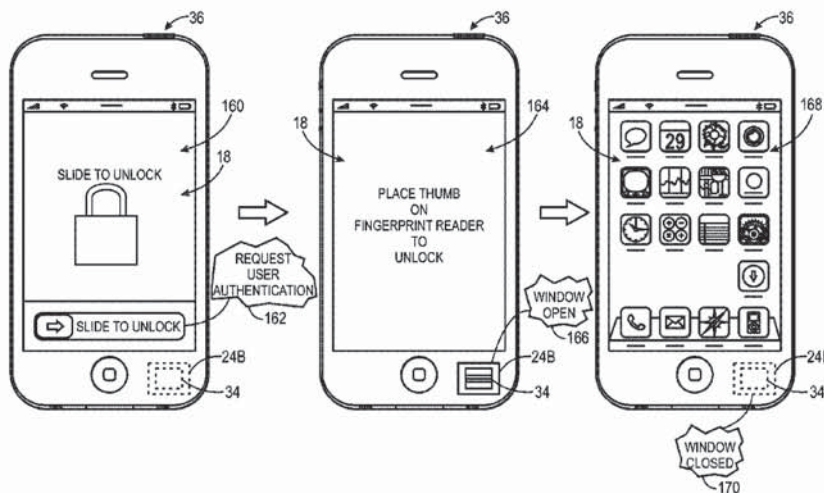
Primary Examiner — John J Lee

(74) *Attorney, Agent, or Firm* — Brownstein Hyatt Farber Schreck, LLP

(57) **ABSTRACT**

Systems, methods, and devices are disclosed for applying concealment of components of an electronic device. In one embodiment, an electronic device may include a component that is disposed behind a window configured to selectively become transparent or opaque, such as a polymer-dispersed liquid crystal (PLDC) window. The component includes an image capture device, a strobe flash, a biometric sensor, a light sensor, a proximity sensor, or a solar panel, or a combination thereof. Additionally, the electronic device includes data processing circuitry configured to determine when an event requesting that the component be exposed occurs. Furthermore, the electronic device includes a window controller that may control the window to become transparent, to expose the component upon the occurrence of the event requesting that the component be exposed.

18 Claims, 13 Drawing Sheets



Apple and Samsung Ex. 1117

(56)

References Cited

WO WO 02/103504 12/2002
WO WO 2008/030976 3/2008

U.S. PATENT DOCUMENTS

2008/0266773 A1* 10/2008 Szolyga et al. 361/683
2009/0273562 A1 11/2009 Baliga et al.
2010/0066928 A1 3/2010 Pelfrey

FOREIGN PATENT DOCUMENTS

KR 10-2003-0014946 2/2003

OTHER PUBLICATIONS

Korean Office Action dated Sep. 26, 2014, KR 10-2013-7028335, 14 pages.

* cited by examiner

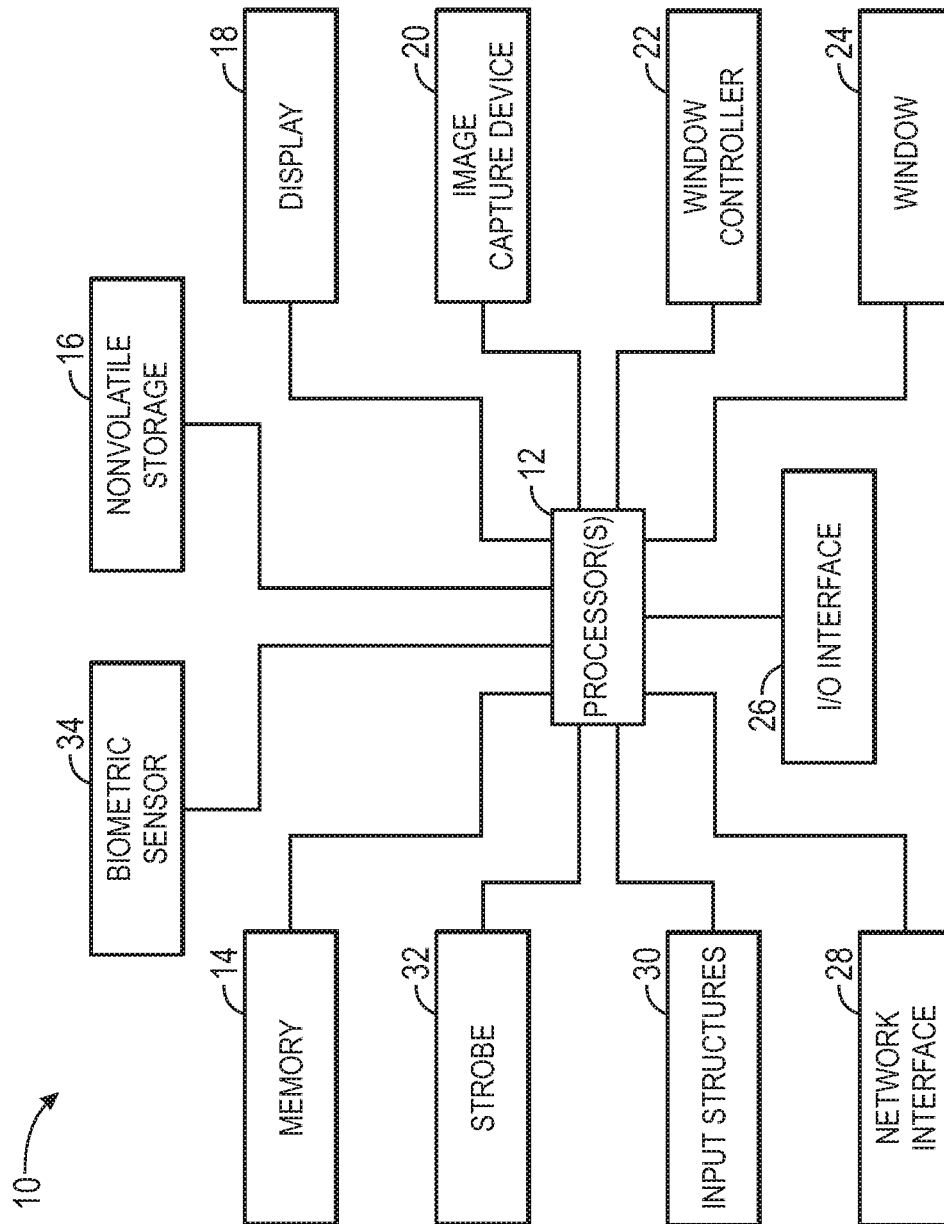


FIG. 1

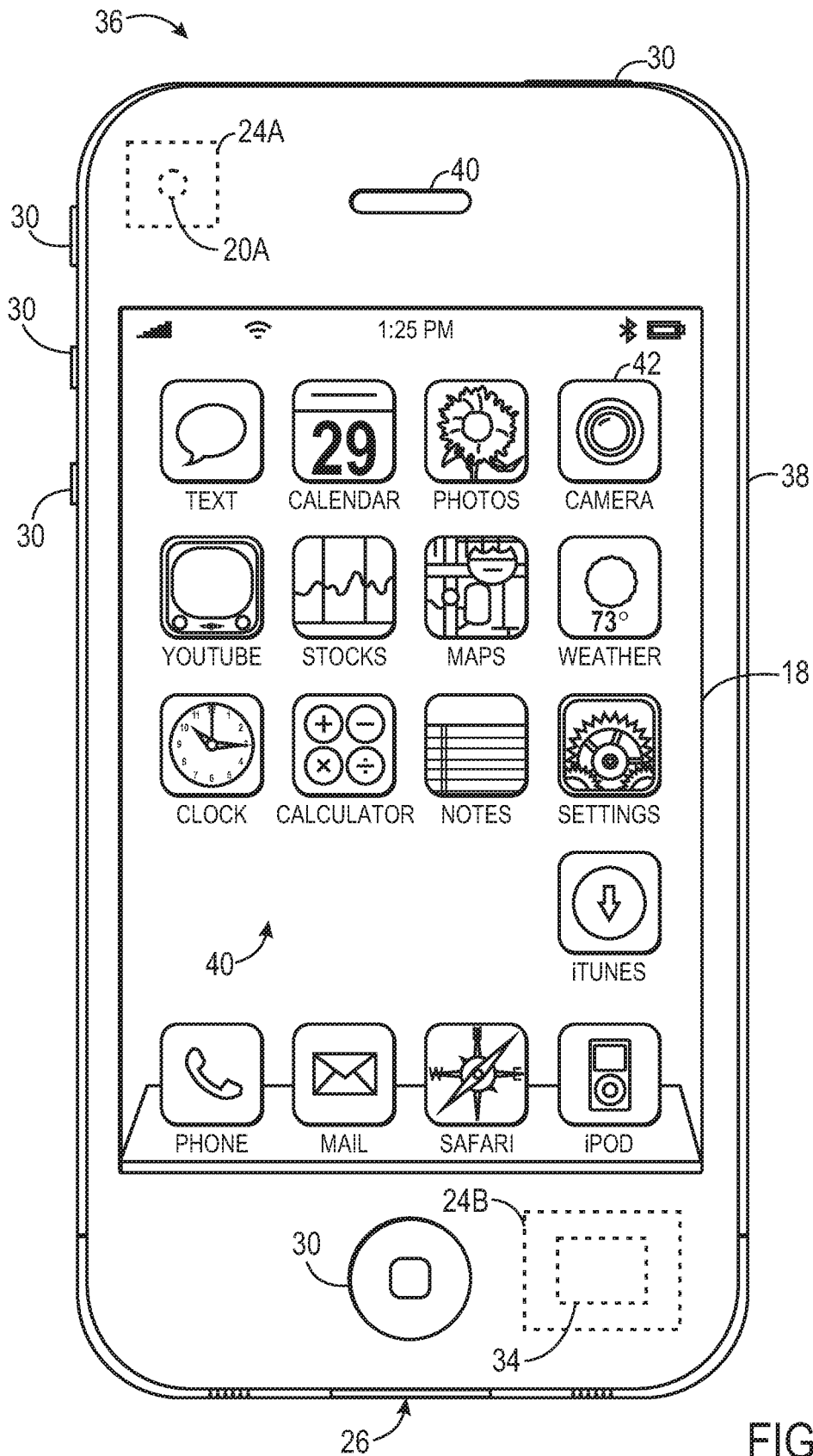


FIG. 2

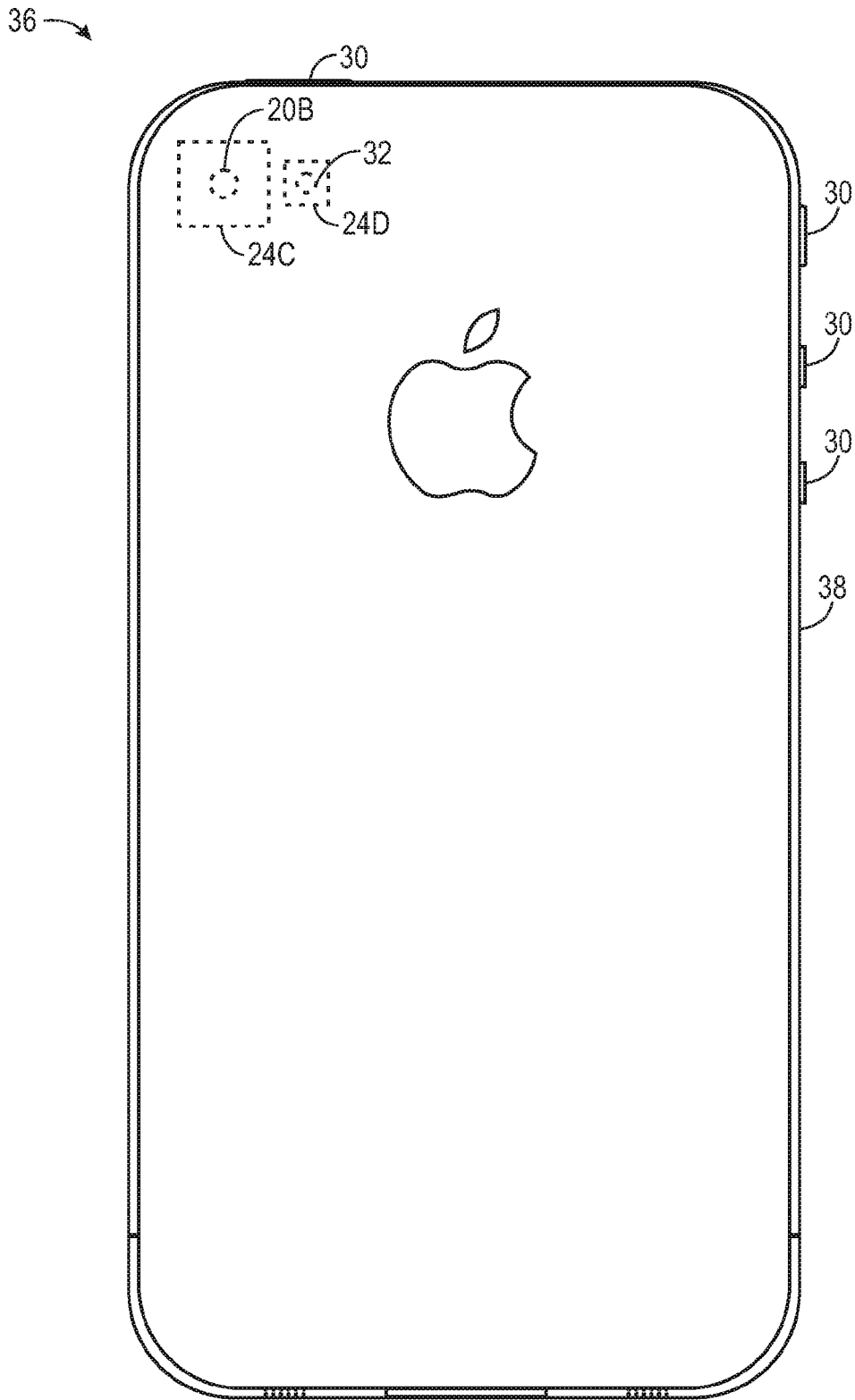


FIG. 3

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.