



US006750848B1

(12) **United States Patent**
Pryor

(10) **Patent No.:** **US 6,750,848 B1**
(45) **Date of Patent:** **Jun. 15, 2004**

(54) **MORE USEFUL MAN MACHINE INTERFACES AND APPLICATIONS**

(76) Inventor: **Timothy R. Pryor**, 516 Old Tecumseh Road, Tecumseh, Ontario (CA), N8N 3S8

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/433,297**

(22) Filed: **Nov. 3, 1999**

Related U.S. Application Data

(60) Provisional application No. **60/107,652**, filed on Nov. **9, 1998**.

(51) Int. Cl.⁷ **G09G 5/00**

(52) U.S. Cl. **345/168; 345/719; 345/863**

(58) Field of Search **345/156, 157, 345/158, 168, 700, 719, 863; 340/407.2; 341/22; 400/719**

(56) **References Cited**

U.S. PATENT DOCUMENTS

- 3,718,116 A 2/1973 Thettu
- 3,831,553 A 8/1974 Thettu
- 3,846,826 A 11/1974 Mueller
- 4,309,957 A 1/1982 Swift
- 4,484,179 A 11/1984 Kasday
- 4,542,375 A 9/1985 Alles et al.
- 4,629,319 A 12/1986 Clarke et al.
- 4,668,537 A 5/1987 Matsuyama et al.
- 4,686,374 A 8/1987 Liptay-Wagner et al.
- 4,891,772 A 1/1990 Case et al.
- 4,908,670 A 3/1990 Ndebi
- 4,988,981 A 1/1991 Zimmerman et al.
- 5,045,843 A 9/1991 Hansen
- 5,168,531 A * 12/1992 Sigel 345/157
- 5,227,985 A 7/1993 DeMenthon
- 5,232,499 A 8/1993 Kato et al.

- 5,267,004 A 11/1993 Mills
- 5,297,061 A 3/1994 Dementhon et al.
- 5,388,059 A 2/1995 DeMenthon
- 5,454,043 A * 9/1995 Freeman 382/168
- 5,478,423 A 12/1995 Sassa et al.
- 5,528,263 A * 6/1996 Platzker et al. 345/156
- 5,534,062 A 7/1996 Dawson et al.
- 5,581,276 A 12/1996 Cipolla et al.
- 5,594,540 A 1/1997 Higaya et al.
- 5,616,078 A 4/1997 Oh
- 5,617,312 A * 4/1997 Iura et al. 345/157
- 5,709,423 A 1/1998 Romero
- 5,767,842 A * 6/1998 Korth 345/168
- 5,808,672 A * 9/1998 Wakabayashi et al. 348/552
- 5,864,334 A * 1/1999 Sellers 345/156
- 5,936,610 A * 8/1999 Endo 345/157
- 5,936,615 A * 8/1999 Waters 345/156
- 6,043,805 A * 3/2000 Hsieh 345/158
- 6,160,899 A * 12/2000 Lee et al. 345/863
- 6,191,773 B1 * 2/2001 Maruno et al. 345/158
- 6,252,598 B1 * 6/2001 Segen 345/156
- 6,265,993 B1 * 7/2001 Johnson 345/156
- 6,346,929 B1 * 2/2002 Fukushima et al. 345/156

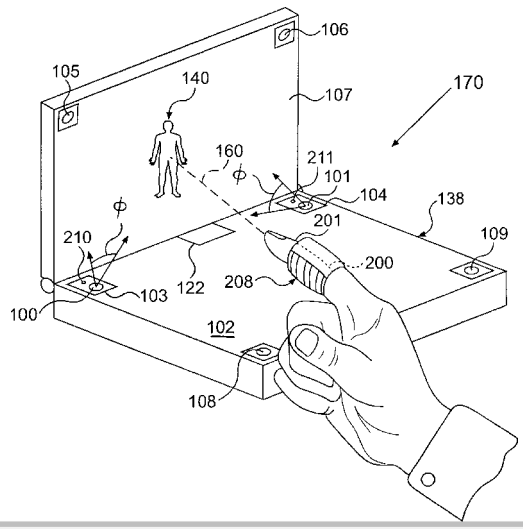
* cited by examiner

Primary Examiner—Chanh Nguyen
Assistant Examiner—Paul A. Bell
(74) *Attorney, Agent, or Firm*—Stites & Harbison PLLC; Douglas E. Jackson

(57) **ABSTRACT**

The invention is a continuation of earlier applications aimed at providing affordable methods and apparatus for inputting position, attitude(orientation) or other object characteristic data to computers for the purpose of controlling the display thereof. Preferred embodiments utilize electro-optical sensors such as TV cameras, to input data from objects and fingers, and/or other body parts of the user, to laptop, hand held and other computers used for Computer Aided learning, Gaming, 3D graphics, internet commerce and other applications.

22 Claims, 7 Drawing Sheets



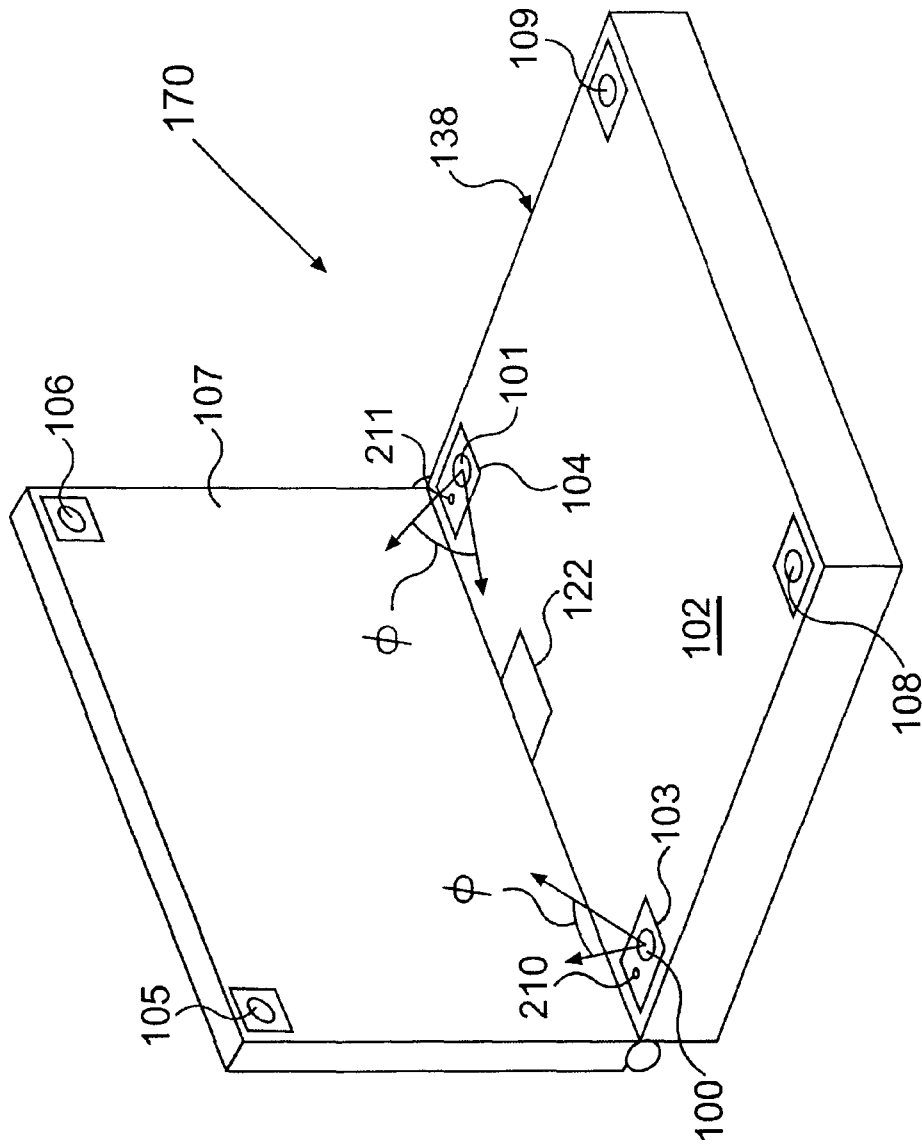


FIG. 1

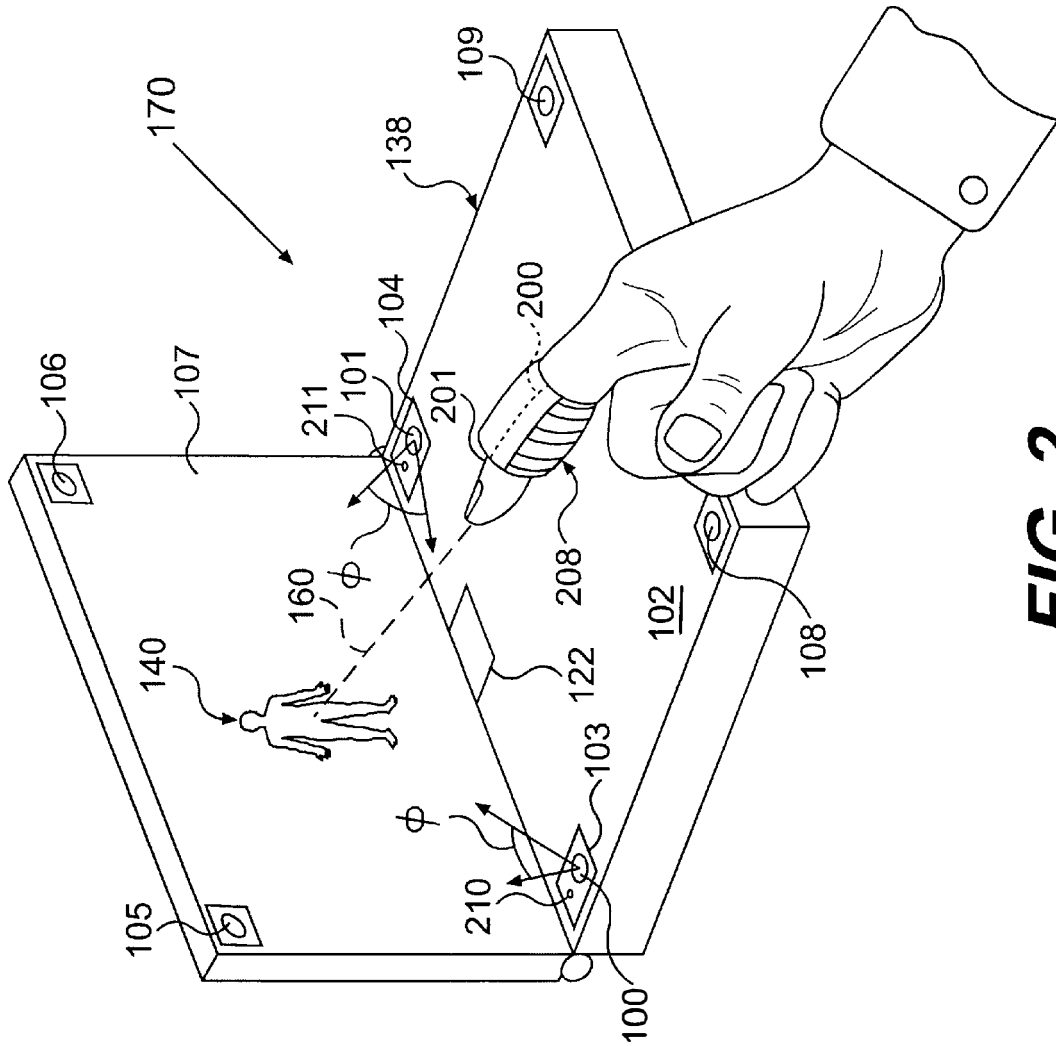


FIG. 2

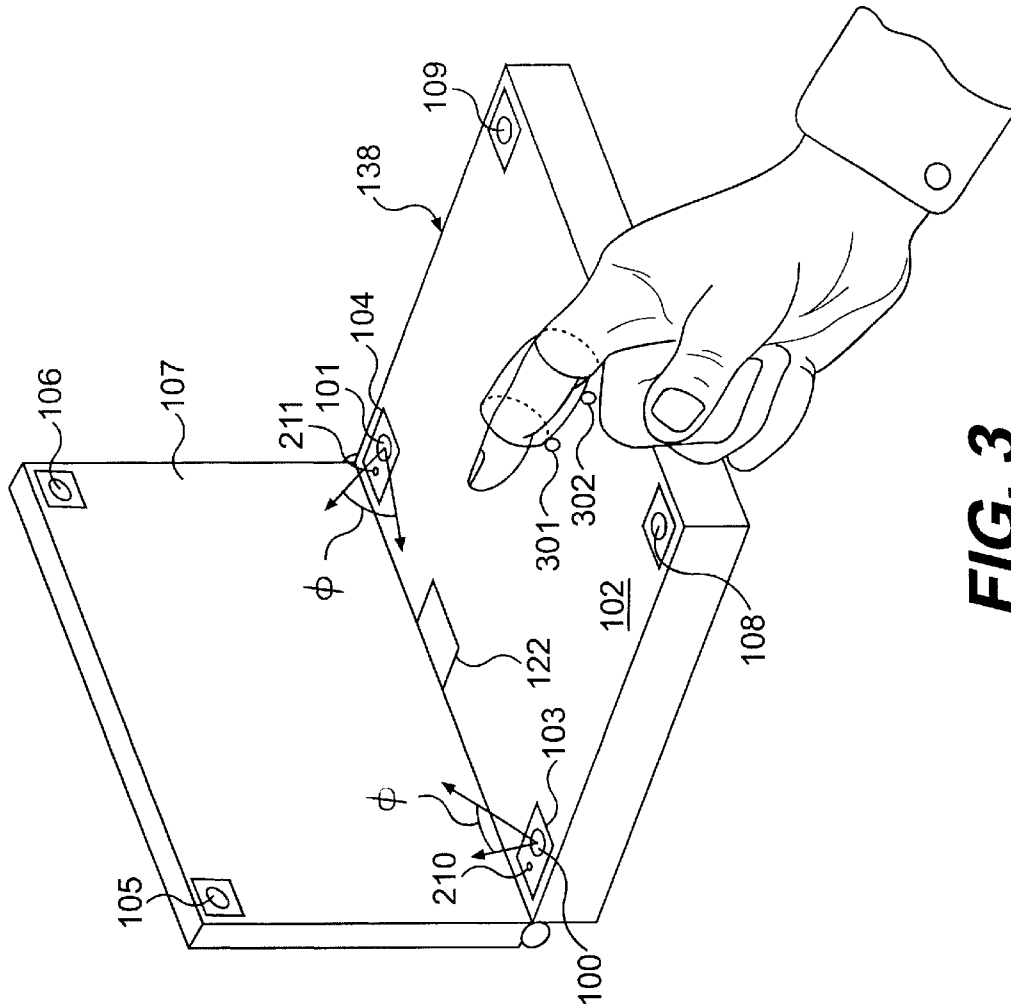


FIG. 3

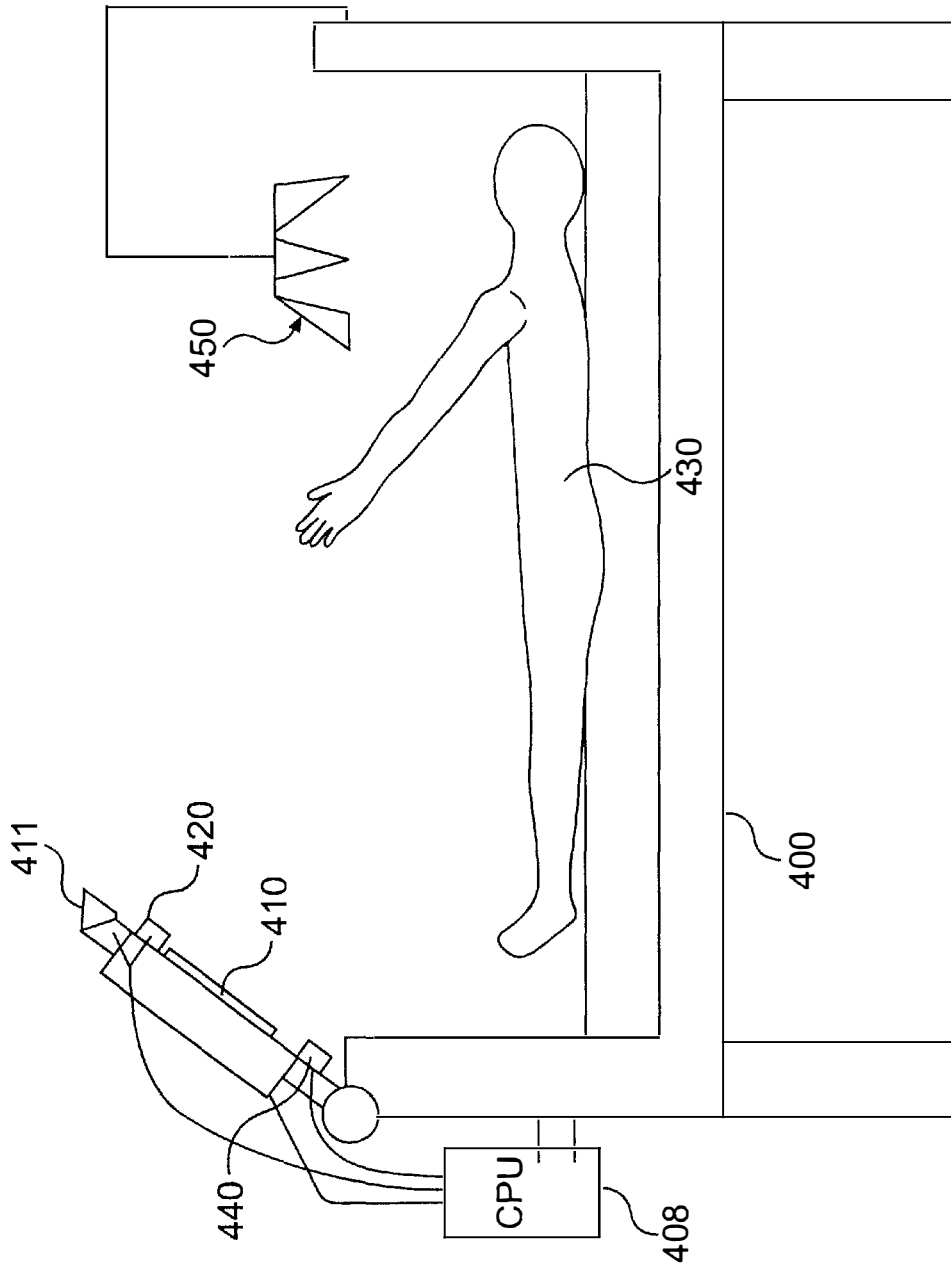


FIG. 4

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.