

(12) **United States Patent**
Bathiche et al.

(10) **Patent No.:** US 7,145,551 B1
 (45) **Date of Patent:** Dec. 5, 2006

(54) **TWO-HANDED COMPUTER INPUT DEVICE WITH ORIENTATION SENSOR**

(75) Inventors: **Steven Bathiche**, Seattle, WA (US);
Mark K. Svancarek, Redmond, WA (US); **Matthew J. Stipes**, Woodinville, WA (US); **Aditha M. Adams**, Seattle, WA (US); **Thomas W. Brooks**, Seattle, WA (US); **Melissa S. Jacobson**, Seattle, WA (US); **Wolfgang A. Mack**, Seattle, WA (US)

(73) Assignee: **Microsoft Corporation**, Redmond, WA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 892 days.

(21) Appl. No.: **09/251,519**

(22) Filed: **Feb. 17, 1999**

(51) **Int. Cl.**
G09G 5/08 (2006.01)

(52) **U.S. Cl.** **345/158; 463/37**

(58) **Field of Classification Search** 340/711, 340/706; 341/22; 345/161, 158, 169, 7, 345/156; 463/37, 38, 3; 273/148 B; 365/428, 365/629, 634, 636, 641, 731, 733, 740, 760, 365/764; 358/1.15, 1.18; 707/201, 203, 707/217, 219, 10; 709/201, 206, 217, 219; 715/517, 522, 526, 527, 530, 513
 See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,059,958 A * 10/1991 Jacobs et al. 340/706

5,189,403 A *	2/1993	Franz et al.	340/711
5,396,265 A *	3/1995	Ulrich et al.	345/158
5,410,333 A *	4/1995	Conway	345/169
5,624,117 A *	4/1997	Ohkubo et al.	273/148 B
5,643,087 A *	7/1997	Marcus et al.	463/38
5,721,842 A *	2/1998	Beasley et al.	395/311
5,786,807 A *	7/1998	Couch et al.	345/161
5,820,462 A *	10/1998	Yukoi et al.	463/37
5,838,304 A *	11/1998	Hall	345/157
5,874,906 A *	2/1999	Willner et al.	341/22
6,068,554 A *	5/2000	Tyler	463/38
6,069,594 A *	5/2000	Barnes et al.	345/7

* cited by examiner

Primary Examiner—Sumati Lefkowitz

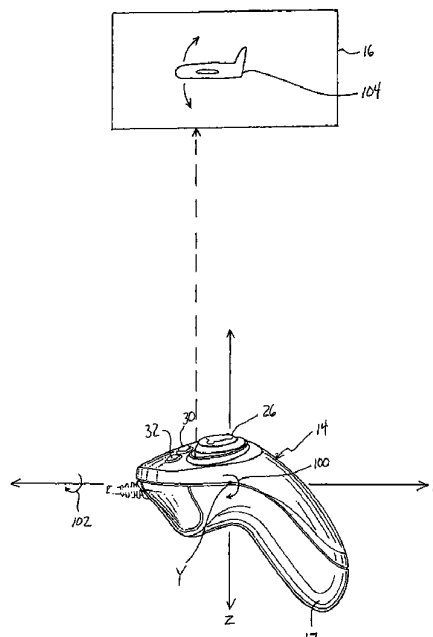
Assistant Examiner—Srilakshmi K Kumar

(74) *Attorney, Agent, or Firm*—Leanne R. Taveggia; Westman, Champlin & Kelly, P.A.

(57) **ABSTRACT**

A hand held computer input device includes a first housing portion having at least one user actuable input device. A first extending handle is coupled to, and extends away from, the first housing portion. A second handle is also coupled to, and extends away from, the first housing portion. An orientation sensor is coupled to the first housing and is configured to sense a physical orientation of the first housing portion. The orientation sensor provides an orientation signal indicative of the physical orientation sensed.

13 Claims, 11 Drawing Sheets



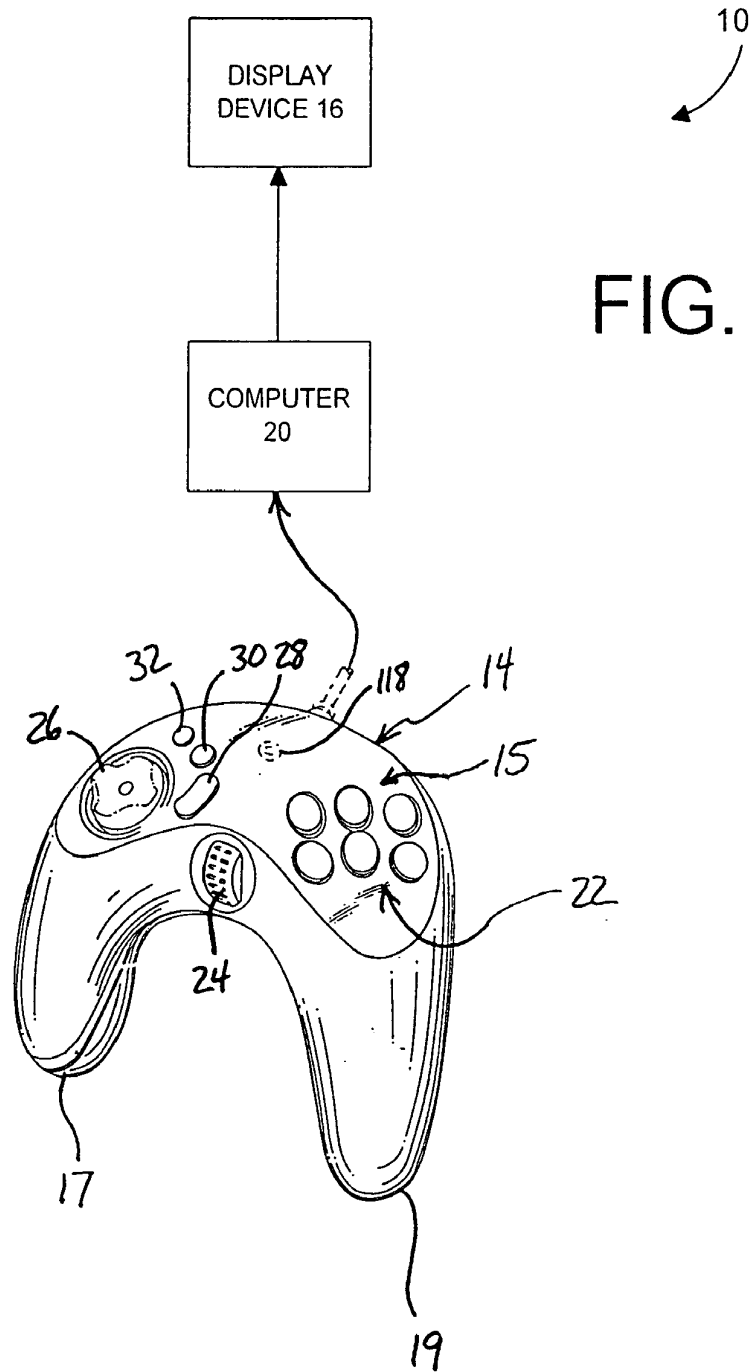
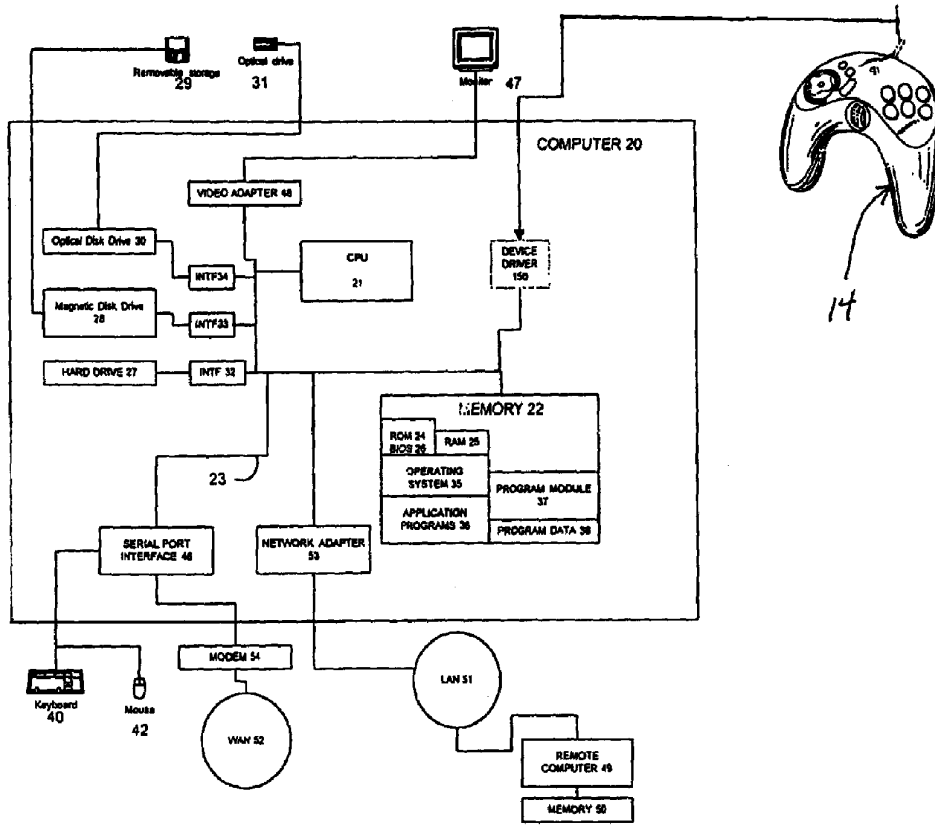
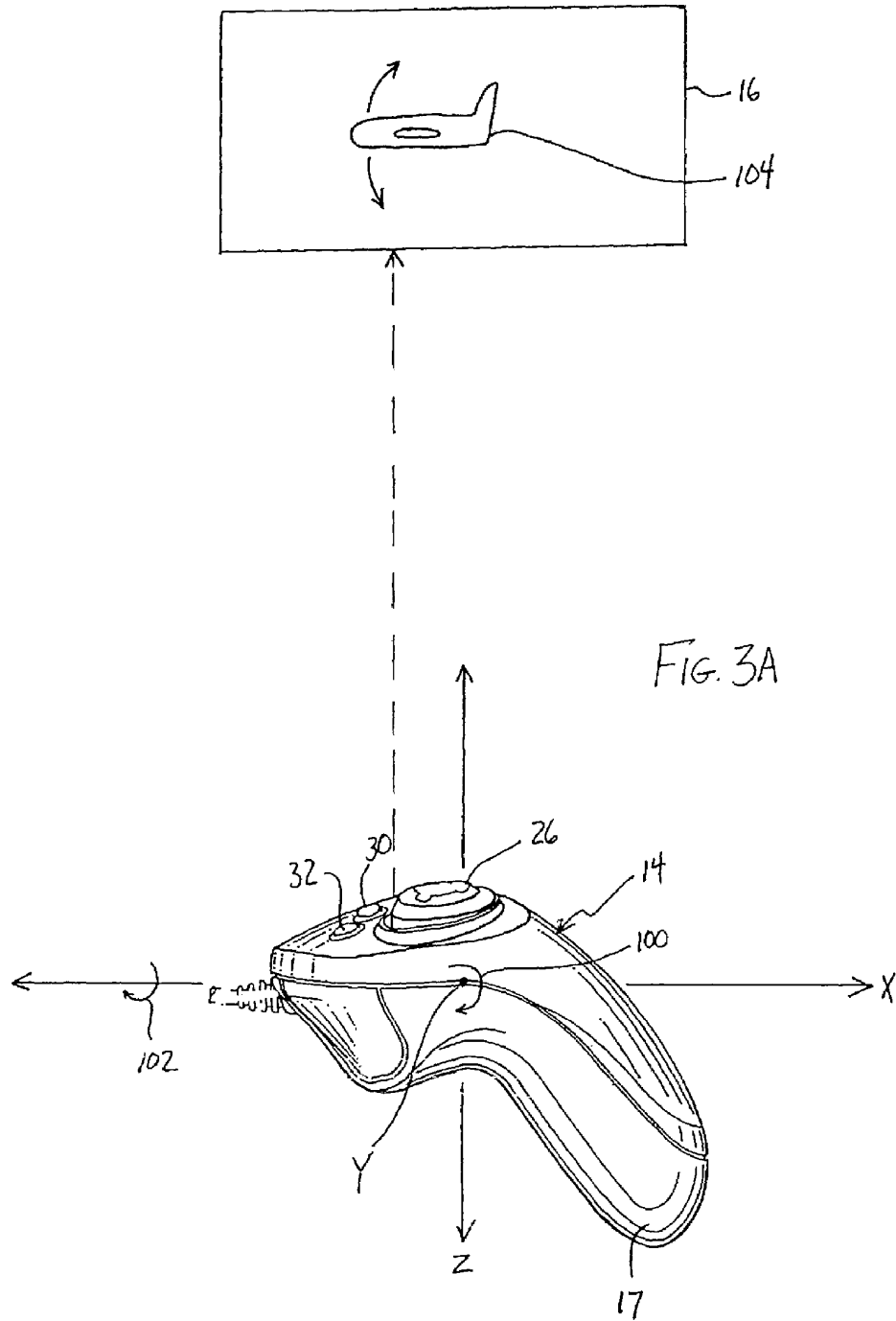


FIG. 1

FIG. 2





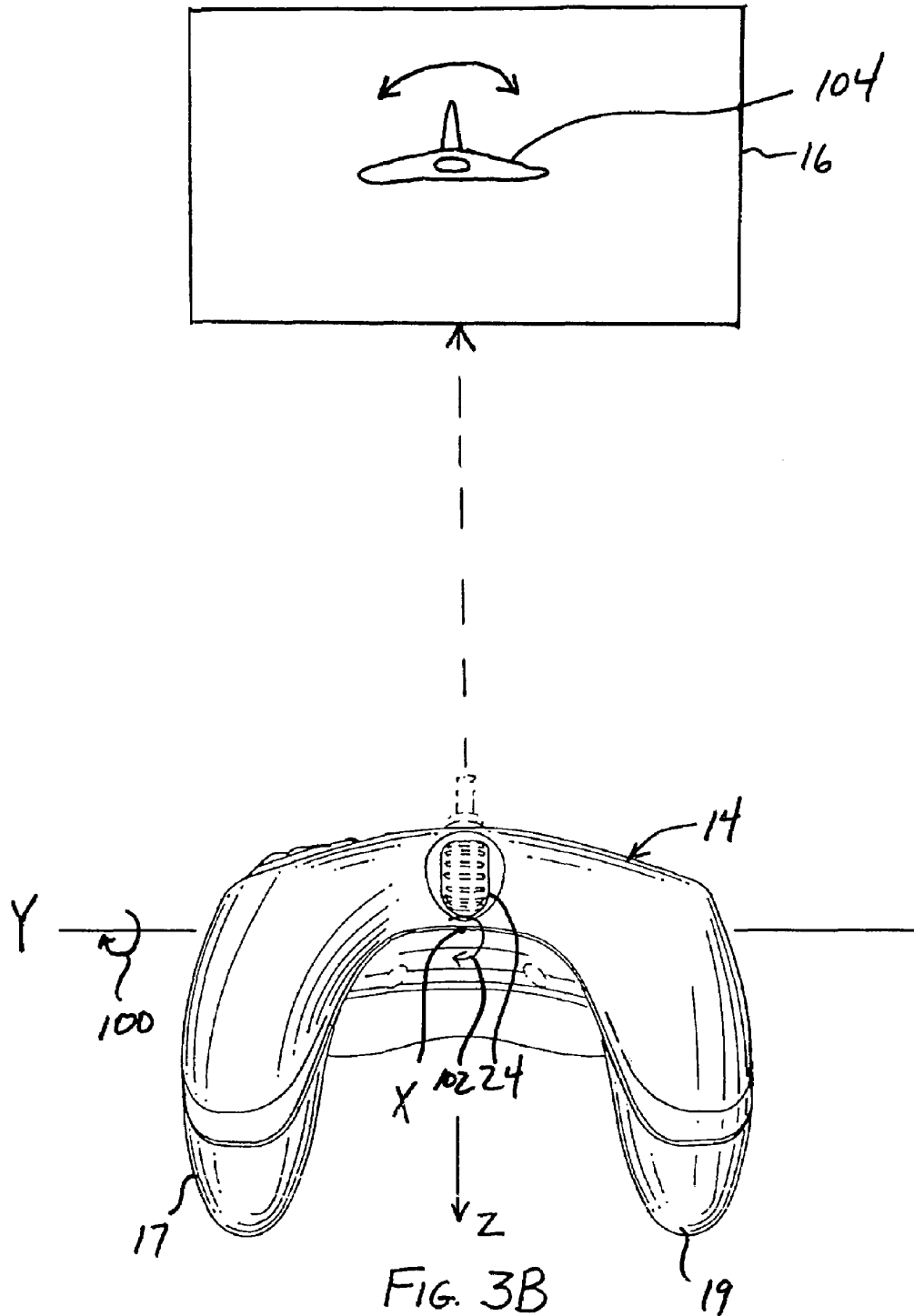


FIG. 3B

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.