



[54] **BLOCK STORAGE MEMORY MANAGEMENT SYSTEM AND METHOD UTILIZING INDEPENDENT PARTITION MANAGERS AND DEVICE DRIVERS**

Attorney, Agent, or Firm—Burns, Doane, Swecker & Mathis, L.L.P.

[57] **ABSTRACT**

[75] Inventors: **David Lee Smith**, San Francisco; **William J. Keenan**, Redwood; **Steven James Szymanski**, Cupertino, all of Calif.

A memory management system and method of managing a memory system are disclosed. The memory management system includes a plurality of physical storage media and a memory manager for generating virtual storage devices or "stores," with one or more first storage devices each having a corresponding first mapping plug-in, or device driver, associated with the plurality of physical storage media. Each first device driver scans its corresponding first storage device to determine its partitioning format and generates one or more second virtual storage devices from a partition map stored in the partitioning plug-in, or partition manager, associated with the corresponding first storage device, each second virtual storage device having one or more second partitioning formats, a second partition manager and second device driver. The first and second partition managers are independent of the first and second device drivers. The separation of disk driver and partition manager functions allows for the nesting of partition formats and avoids the replication of partitioning codes. The physical storage media may include at least one redundant array of independent disks (RAID), and the first device driver may be a small computer systems interface (SCSI) associated with the physical storage device.

[73] Assignee: **Apple Computer, Inc.**, Cupertino, Calif.

[21] Appl. No.: **644,412**

[22] Filed: **May 10, 1996**

[51] Int. Cl.<sup>6</sup> ..... **G06F 12/00**; G06F 12/10

[52] U.S. Cl. .... **711/202**; 711/209; 711/173; 711/114; 395/681

[58] Field of Search ..... 711/5, 202, 203, 711/209, 129, 153, 173, 114; 395/681

[56] **References Cited**

**U.S. PATENT DOCUMENTS**

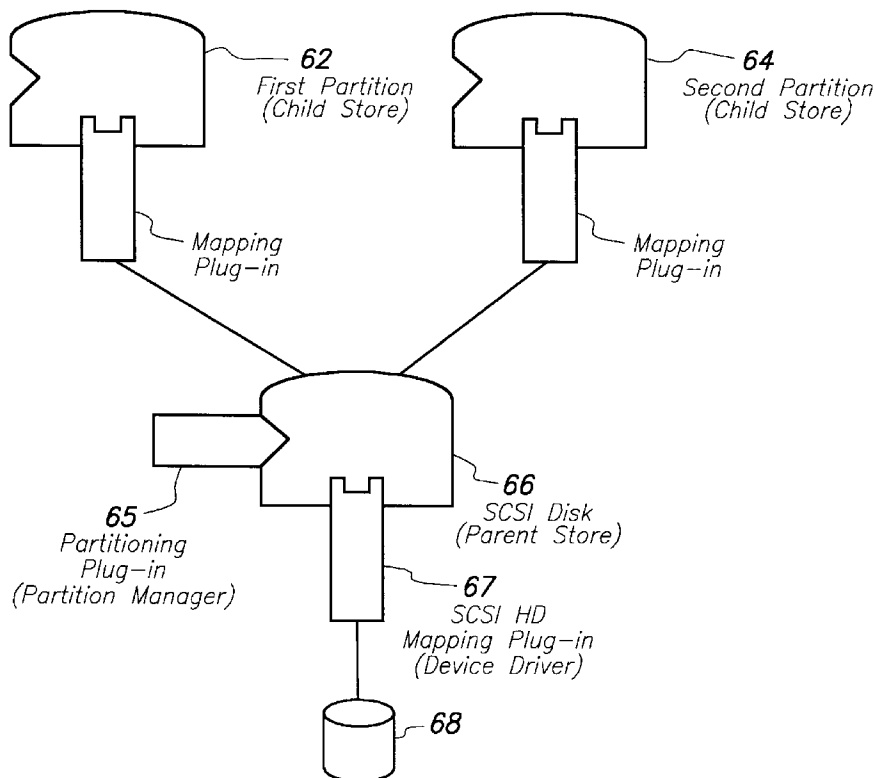
- 5,117,350 5/1992 Parrish et al. .... 711/1
- 5,129,088 7/1992 Auslander ..... 711/1
- 5,546,557 8/1996 Allen et al. .... 711/111

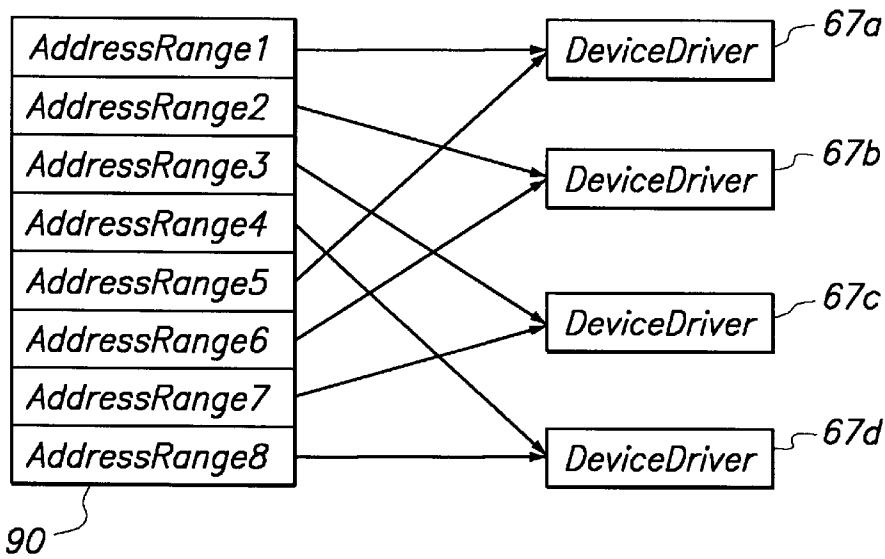
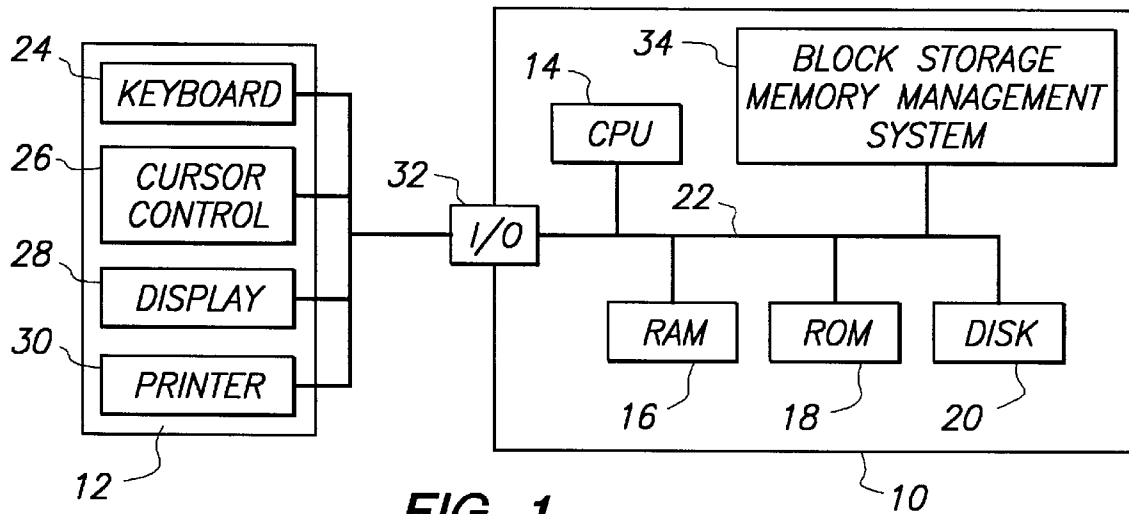
**OTHER PUBLICATIONS**

"The Raid Primer" published by the RAID Advisory Board, Inc., St. Peter, Minnesota, Mar. 1994.

Primary Examiner—Glenn Gossage

13 Claims, 5 Drawing Sheets





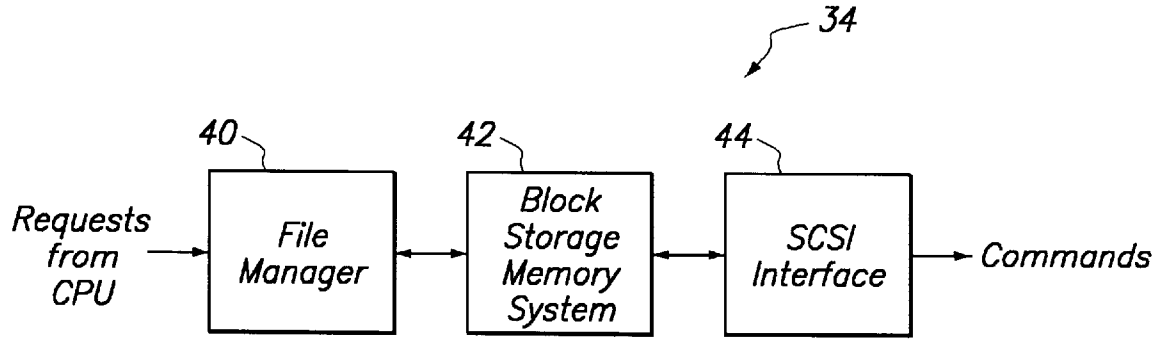


FIG. 2

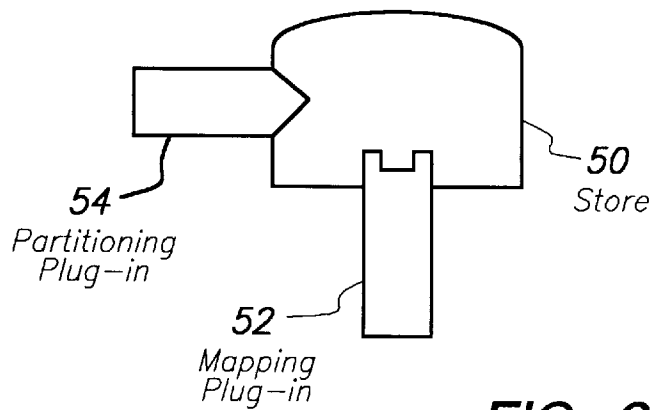


FIG. 3

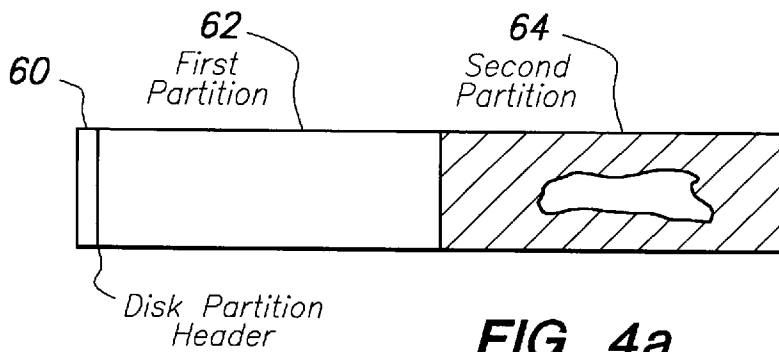
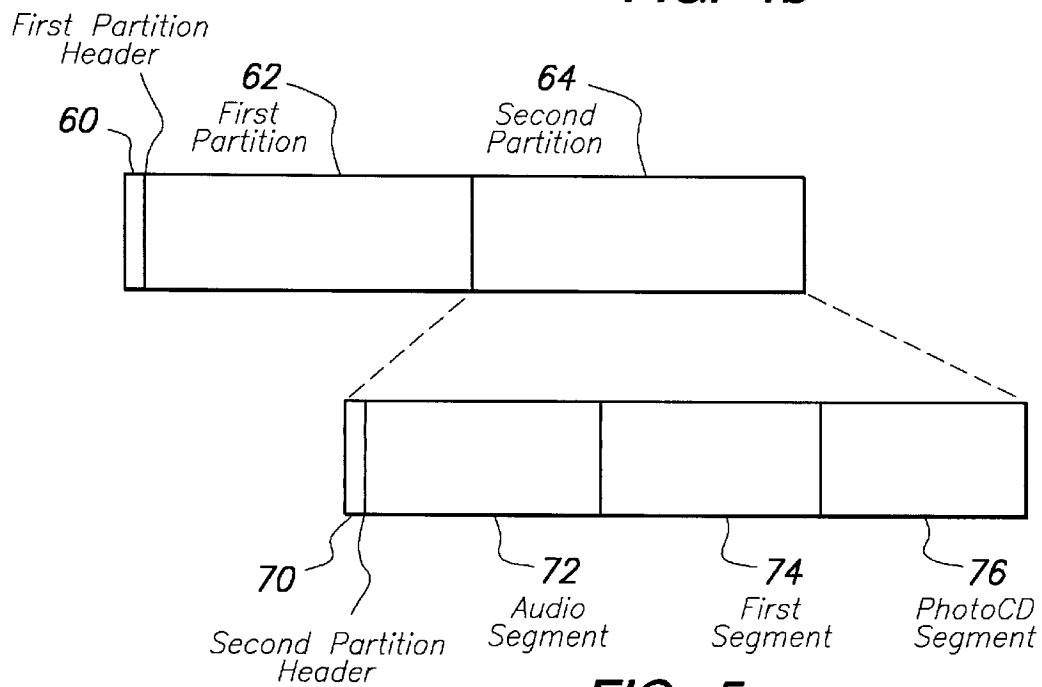
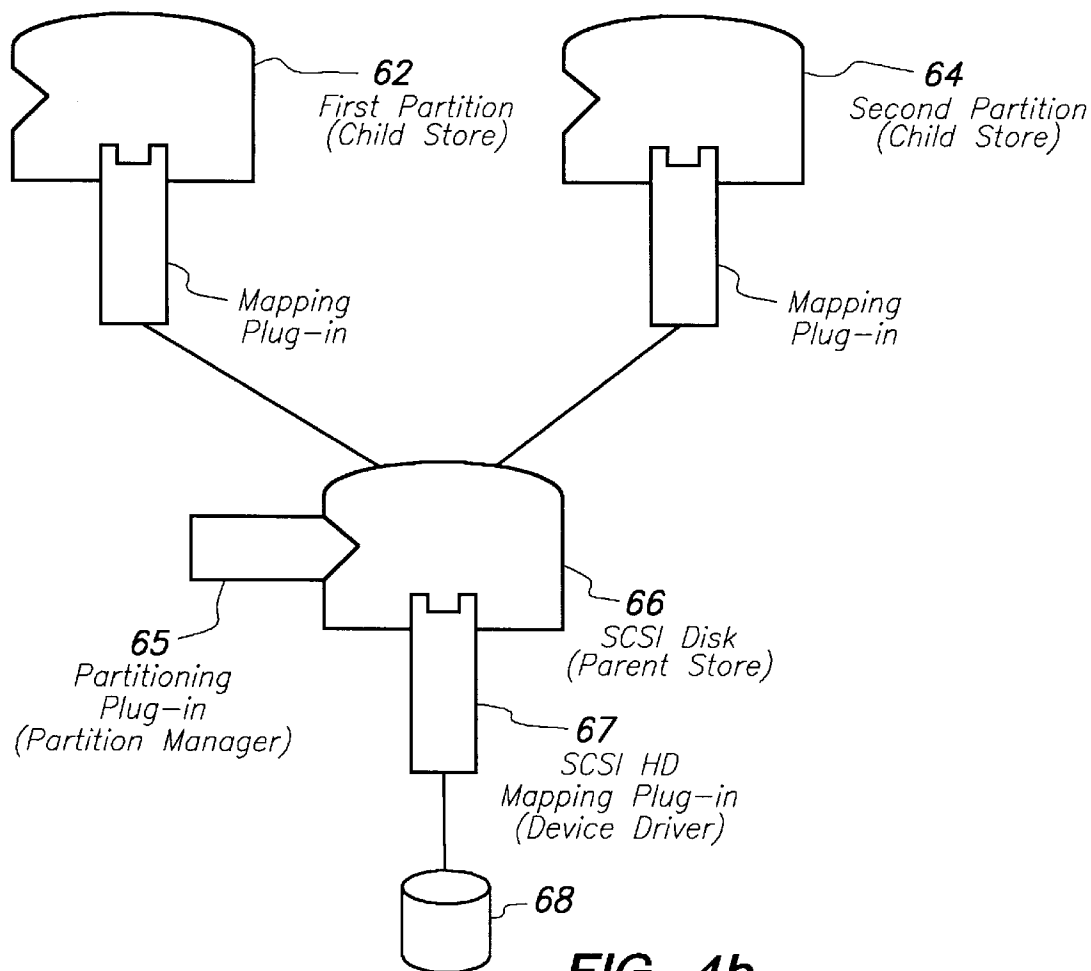


FIG. 4a



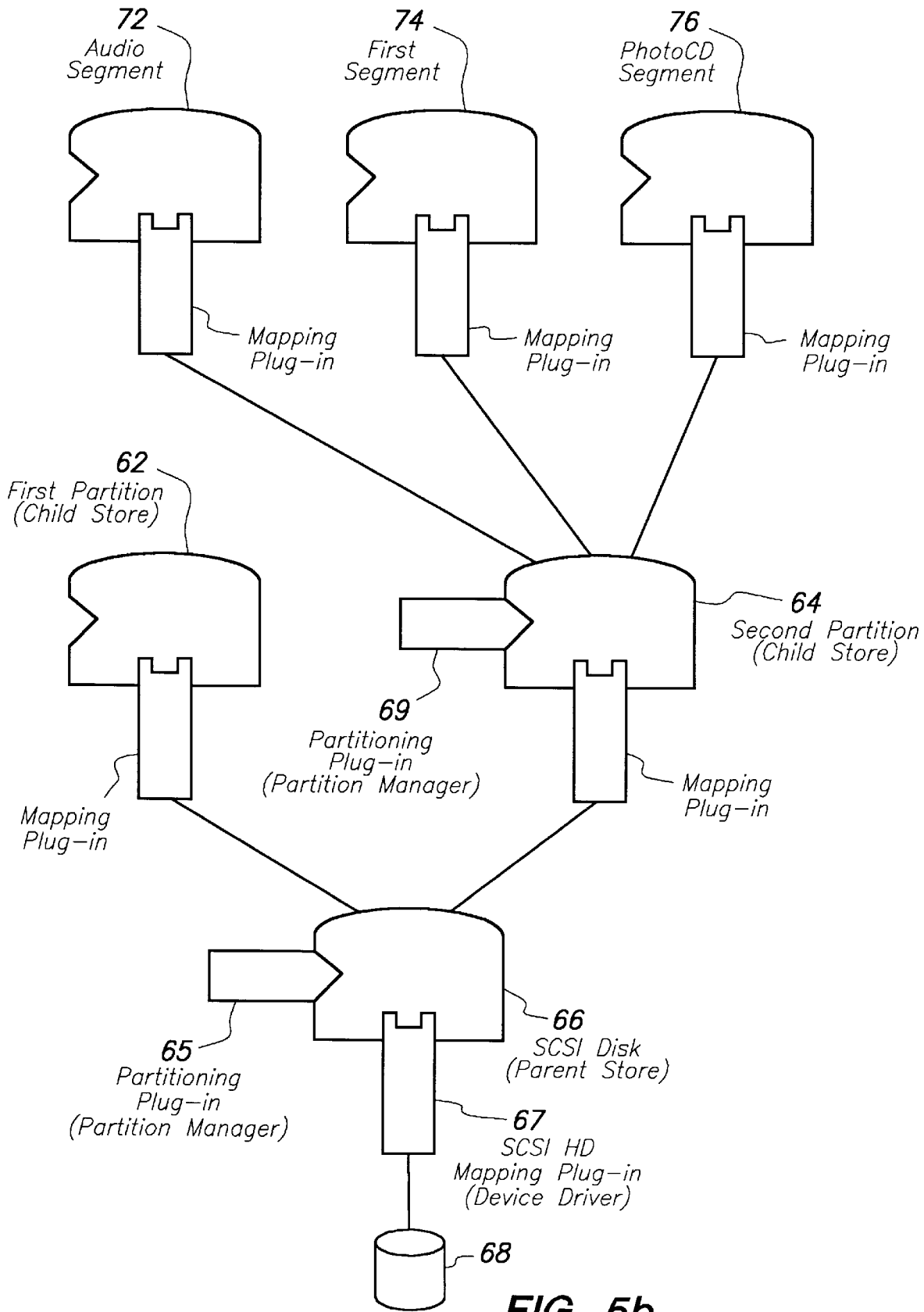


FIG. 5b

# 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.