



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/006,299	06/12/2018	G.R. MOHAN RAO	GRTD60-34138	6732
25883	7590	01/24/2019	EXAMINER	
MUNCK WILSON MANDALA L.L.P			REIDLINGER, RONALD LANCE	
P.O. Drawer 800889			ART UNIT	PAPER NUMBER
DALLAS, TX 75380			2824	
			NOTIFICATION DATE	DELIVERY MODE
			01/24/2019	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

IPdocketing@munckwilson.com  
admin@dalpat.com  
eofficeaction@apcoll.com



### DETAILED ACTION

Claims 1-9 are pending.

Claim 1 is independent.

#### ***Notice of Pre-AIA or AIA Status***

The present application is being examined under the pre-AIA first to invent provisions.

#### ***Claim Rejections - 35 USC § 103***

In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under pre-AIA 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

**Claims 1-4 and 7-9 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Gorobets et al. (U.S. Patent Application Publication No. 2010/0172179, on record in parent application 13/455,267) in view of Goodson et al. ("Design Tradeoffs in a Flash Translation Layer," on record in parent application 13/455,267).**

Regarding claim 1, Gorobets et al. teach,

A system for storing data (e.g. Fig. 20) comprising:

memory space containing volatile memory space (Fig. 15 Cache (RAM)) and nonvolatile memory space (Fig. 15, MLC Memory, including Main Memory and Binary Cache), wherein the nonvolatile memory space includes both multilevel cell (MLC) (Figs. 15, 20 Main Memory of MLC Memory) space (Figs. 15, 20 Main Memory of MLC Memory) and single level cell (SLC) space (Figs. 15, 20 Binary Cache of MLC Memory);

at least one controller (Fig. 8 Memory Manager No. 300; see also Fig. 15 Controller) to operate memory elements and associated memory space (Flash Memory No. 200);

at least one MLC nonvolatile memory element (Fig. 20 Main Portion MLC No. 2003; this is a primary characteristic of flash EEPROM of which this device is, see e.g. ¶ [0008]);

at least one SLC nonvolatile memory element (Fig. 20 Binary Portion No. 2001; again, this is a primary characteristic of flash EEPROM of which this device is, see e.g. ¶ [0008]);

at least one random access volatile memory element (see Fig. 15 Cache (RAM));

wherein the at least one controller (Fig. 8 Memory Manager No. 300; see also Fig. 15 Controller) of both maintain an address table in one or more of the memory elements (see ¶ [0096]); and

wherein the address table maps logical and physical addresses (memory manager in the controller maps logical addresses to physical addresses, see ¶ [0096]) adaptable to the system, wherein

the mapping is performed as necessitated by the system to maximize lifetime, and wherein the mapping maps blocks, pages, or bytes of data in either volatile or nonvolatile, or both, memories (see ¶ [0152-154], explaining the use of spare block pool management to increase lifetime of the memory device; mapping would be necessary to remap any logical address pointing to a retired block so that it points to a replacement block, or new physical address).

Gorobets et al. explain address translation layers for flash memory, but do not describe the specific term “an FTL flash translation layer.”

Nevertheless, Goodson et al. document the purpose and motivation for using FTL for a flash memory device (see Title, “Design Tradeoffs in a Flash Translation Layer,” and §§ 1-2, which explain the purpose of flash translation layers).

It would have been obvious to one of ordinary skill in the art at the time of the invention to apply the teachings of Goodson et al. to the teachings of Gorobets et al. such that an FTL (as explained by Goodson et al.) is used with the flash device taught by Gorobets et al. for the purpose of allowing the files system of the flash memory device to maintain the block interface of the disk without sacrificing the tighter integration and control over how the flash is managed and because it hides the complexity of the flash by providing a logical block interface for the flash device.

Regarding claims 2 and 9, Gorobets et al. explain that flash memory is most commonly provided in the form of a memory card (i.e., module or standalone unit as claimed) or a flash drive (i.e., module or standalone unit or hard drive, as claimed) (see background ¶ [0015]). Because Gorobets et al. embodiments involve flash memory, the provisions of being a module, standalone device or hard drive, as claimed, are met.

Regarding claim 3, Gorobets et al. teach at least one of the volatile or nonvolatile memories are embedded in the at least one controller (see Fig. 15 volatile Cache (RAM) 102 is embedded within Controller).

# 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.