PNY Technologies, Inc.

EXHIBIT 1004

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(54) **ELECTRONIC FLASH MEMORY EXTERNAL STORAGE METHOD AND DEVICE**

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(58) **Field of Search** 710/105, 36, 305, 710/306, 313–316; 711/103, 115; 365/189.01, 185.11, 185.08, 185.33; 713/1, 2, 100

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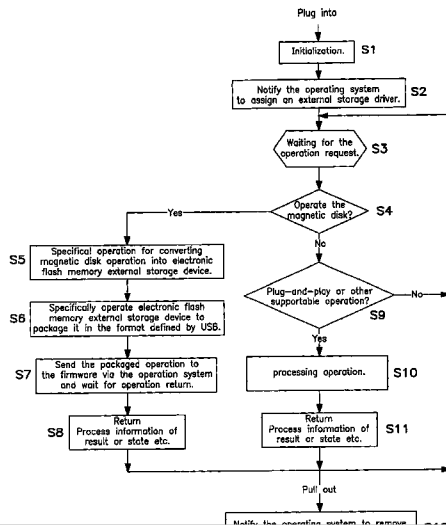* cited by examiner

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Assistant Examiner—Zhuo Li

(57) **ABSTRACT**

An electronic flash memory external storage method and device for data processing system, comprising firmware which directly controls the access of electronic storage media and implements standard interface functions, adopts particular reading and writing formats of the external storage media, receives power via USB, externally stores data by flash memory and access control circuit with cooperation of the firmware, and the driver with the operating system, and has write-protection so that the data can be safely transferred. The method according to the present invention is highly efficient and all parts involved are assembled as a monolithic piece so that it has large-capacity with small size and high speed. The device operates in static-state and is driven by the software. It is plug-and-play and adapted to micro-data processing system.
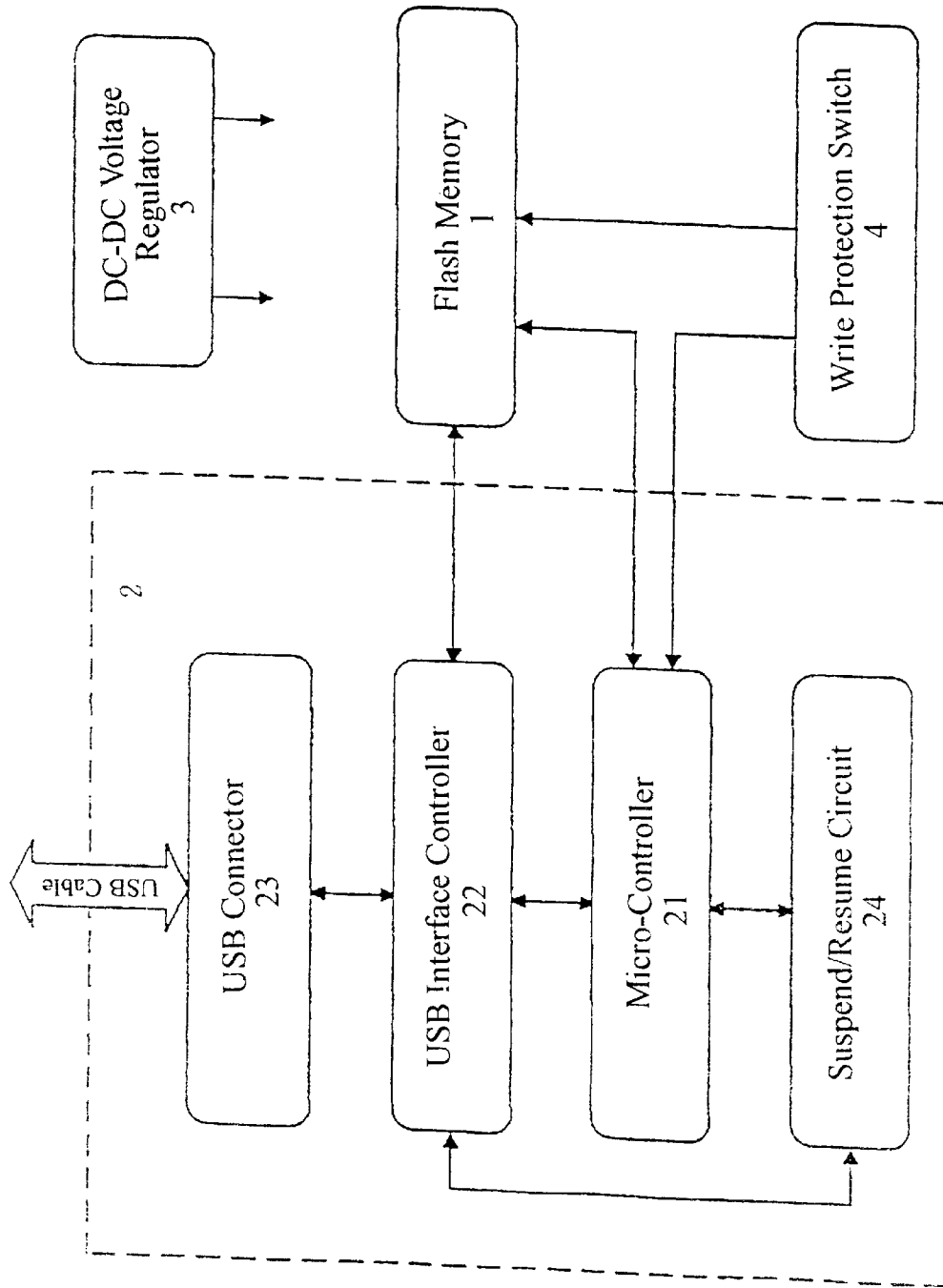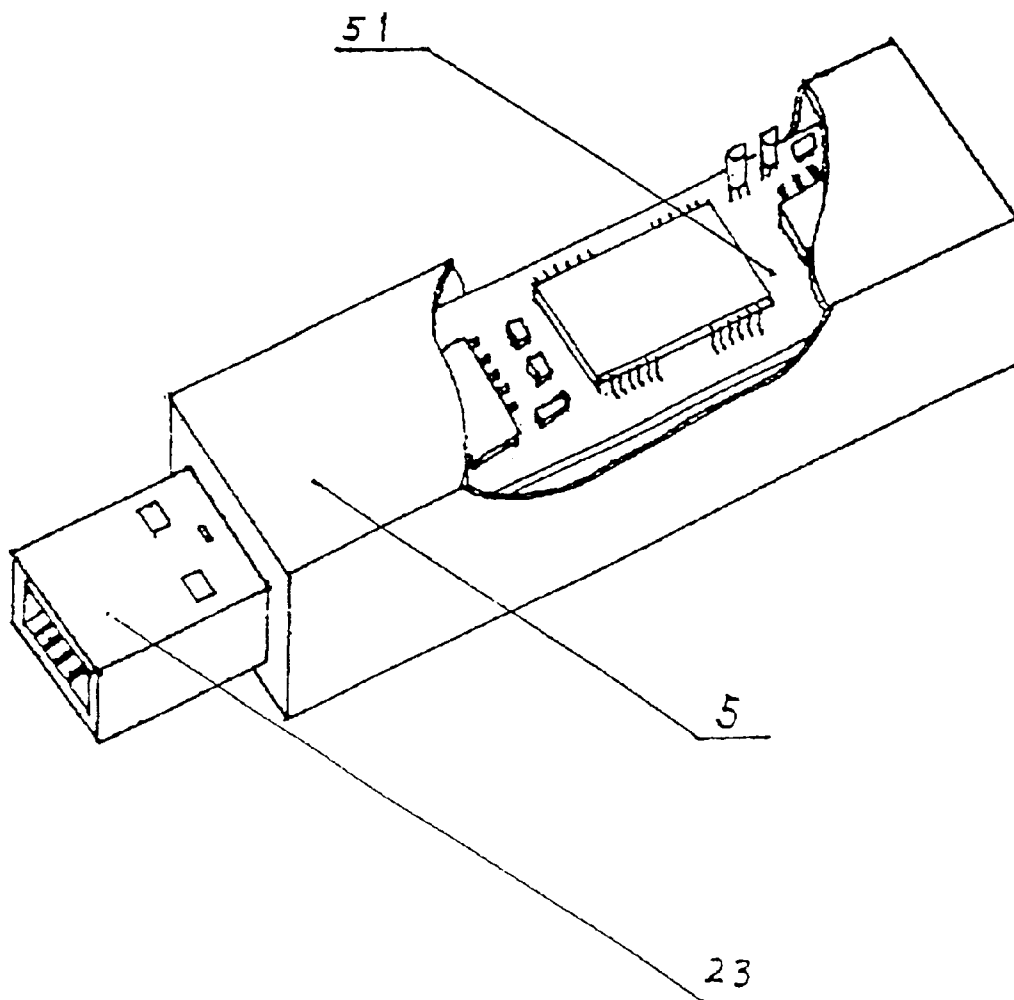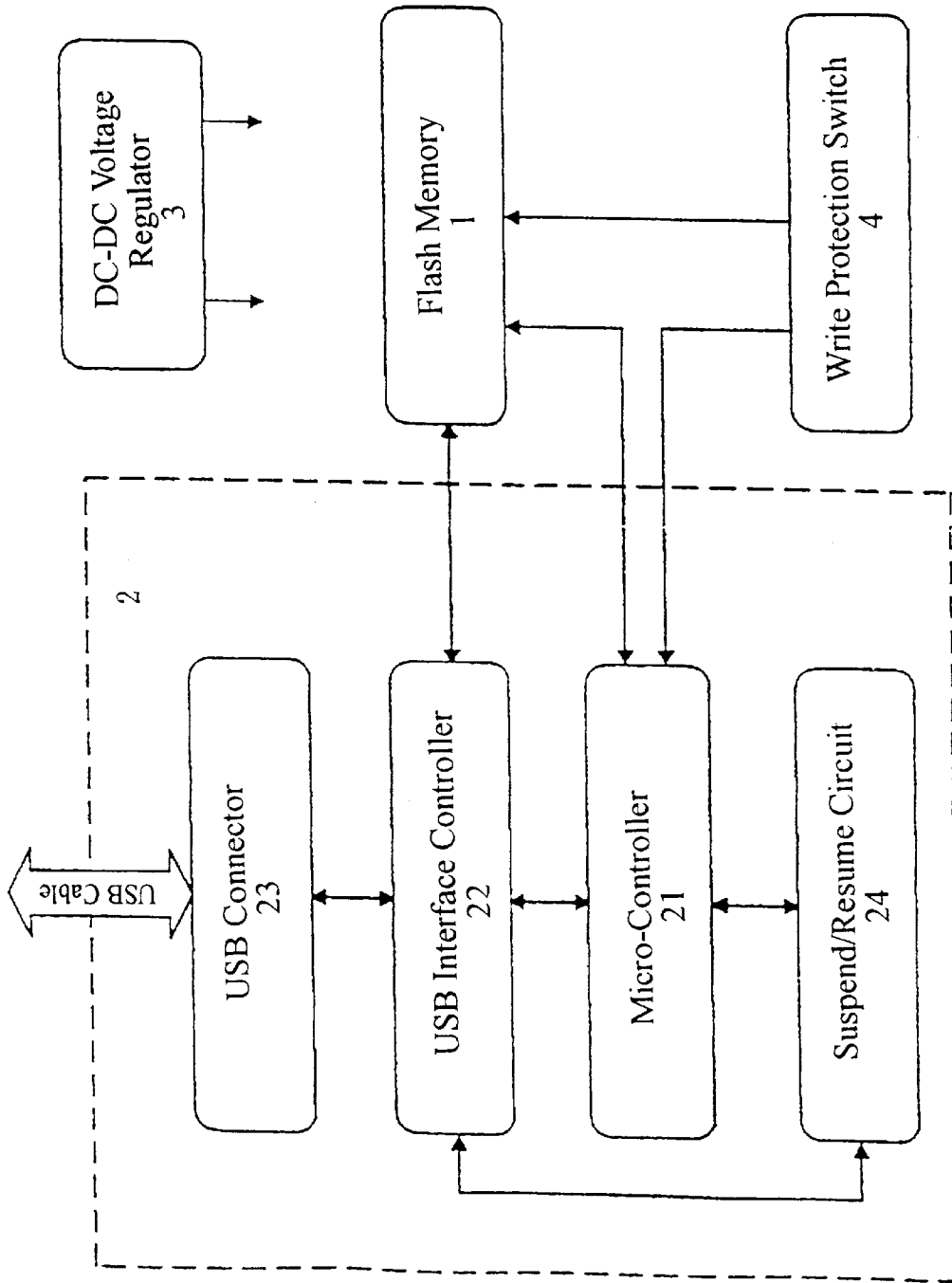
22 Claims, 8 Drawing Sheets

Fig.1

Fig.2

Fig.3

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