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United States Patent [19]

Straub et al.

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[45] Date of Patent: Sep. 15, 1998

[54] **METHOD AND APPARATUS FOR STORING COMPRESSED FILE DATA ON A DISK WHERE EACH MDFAT DATA STRUCTURE INCLUDES AN EXTRA BYTE**

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[73] Assignee: **Microsoft Corporation**, Redmond, Wash.

[21] Appl. No.: **506,971**

[22] Filed: **Sep. 26, 1995**

[51] **Int. Cl.**[6] **G06F 17/30**

[52] **U.S. Cl.** **395/601**; 395/612; 395/602; 395/439; 364/222.81

[58] **Field of Search** 395/430, 600, 395/404, 601, 602, 612, 439; 364/222.81

[56] **References Cited**

U.S. PATENT DOCUMENTS

5,237,675	8/1993	Hannon, Jr.	395/425
5,506,580	4/1996	Whiting et al.	341/51
5,551,020	8/1996	Flax et al.	395/612
5,574,907	11/1996	Jernigan, IV et al.	395/601

OTHER PUBLICATIONS

Peter Norton, Guide to DOS Updated to Cover 6.2, pp. 45–47,440,441,450–451, 1994.

Stac Electronic's Stacker, Data Sources Report, Computer Select, 1994.

Christopher Barr, "Stacker 3.1 for Windows and DOS", PC Magzine, vol. 12, No. 15, Sep. 14, 1993, pp. 124–126.

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Assistant Examiner—Greta L. Robinson

Attorney, Agent, or Firm—Jones & Askew, LLP

[57] **ABSTRACT**

A method and apparatus for storing compressed file data stored on a disk. The method includes an improved format for the Compressed Volume File (CVF), and more specifically, 10 an improved format for the MDFAT data structure stored within the CVF. The improved format includes using an additional byte for maintaining each entry in the MDFAT data structure which increases the number of sectors within the Sector Heap that can be addressed and accessed. The improved format further allows compressed clusters to be stored in fragments in various portions of vacant storage space located throughout the Sector Heap. The new format for the MDFAT data structure includes a bit that identifies whether each cluster is being stored in fragments. The method stores the locations of each of the fragments in a Fragment Pointer List located in the first sector of the first fragment.

44 Claims, 13 Drawing Sheets

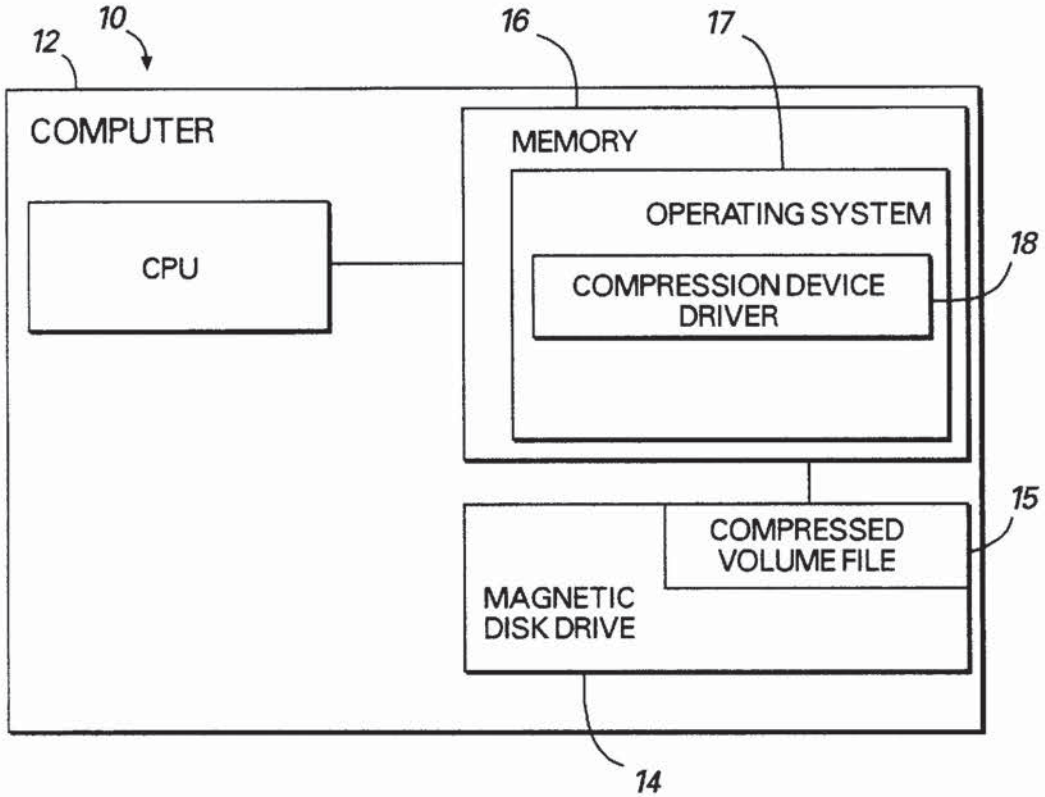

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FIG. 1A

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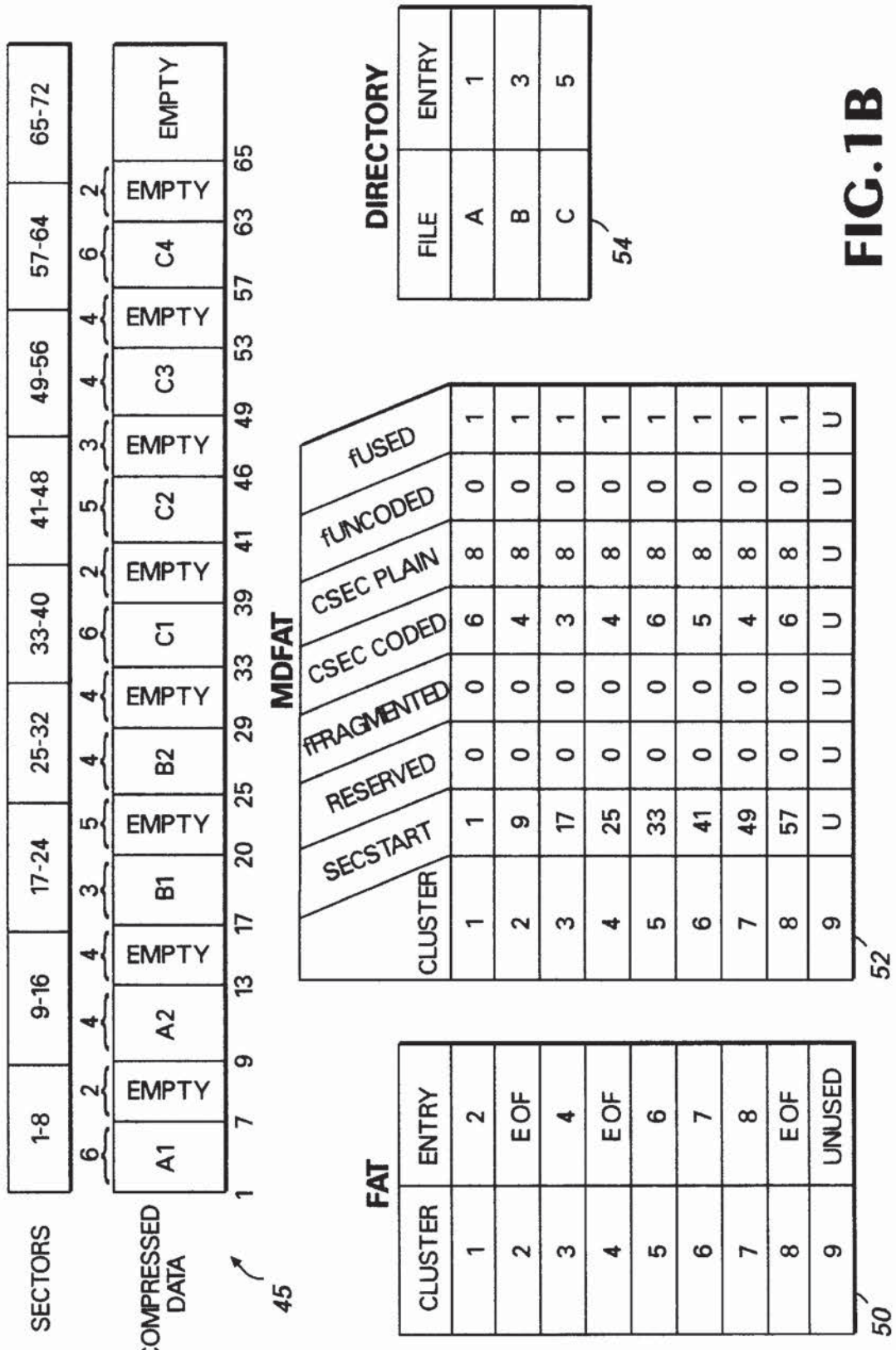

FIG. 1B

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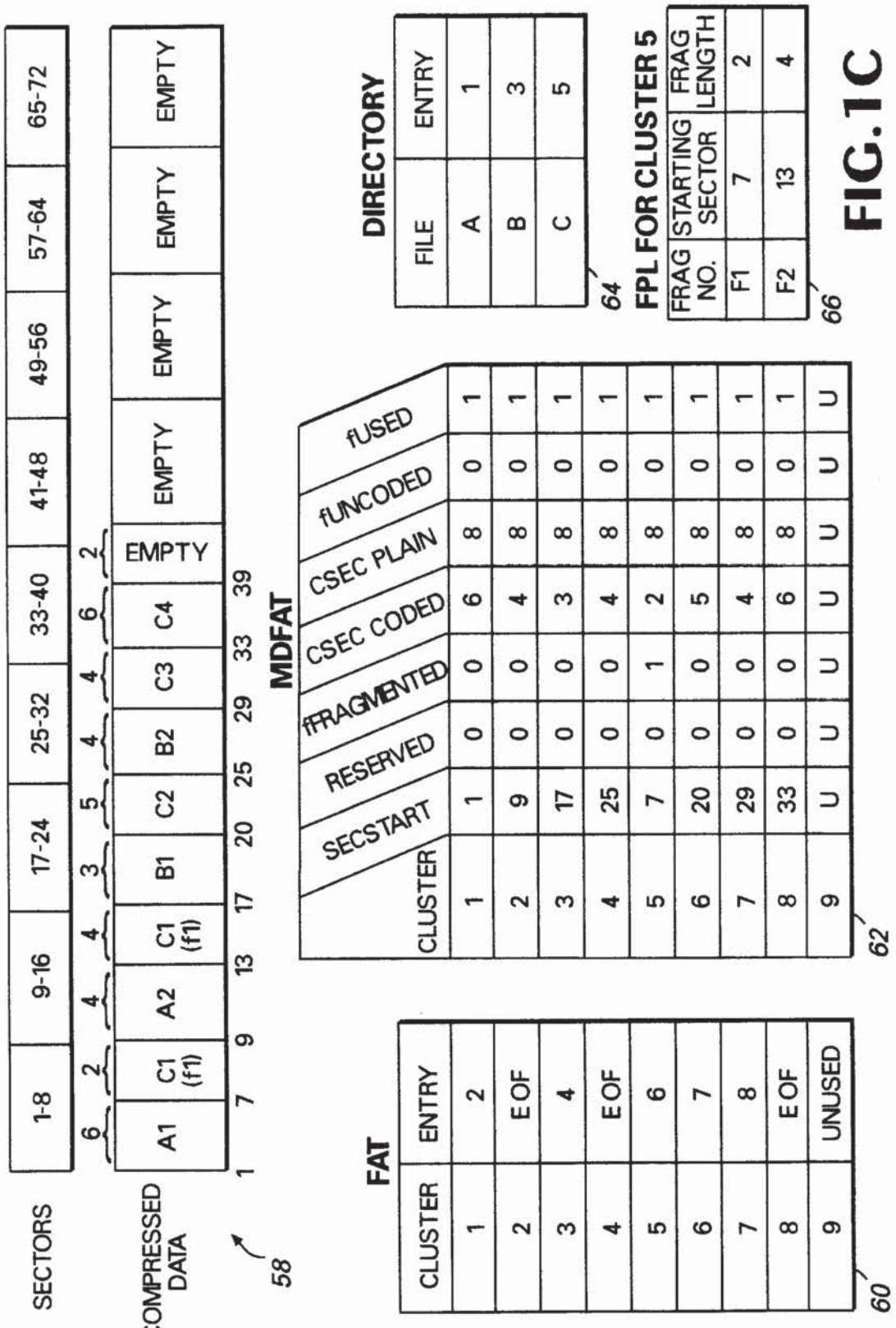

FIG. 1C

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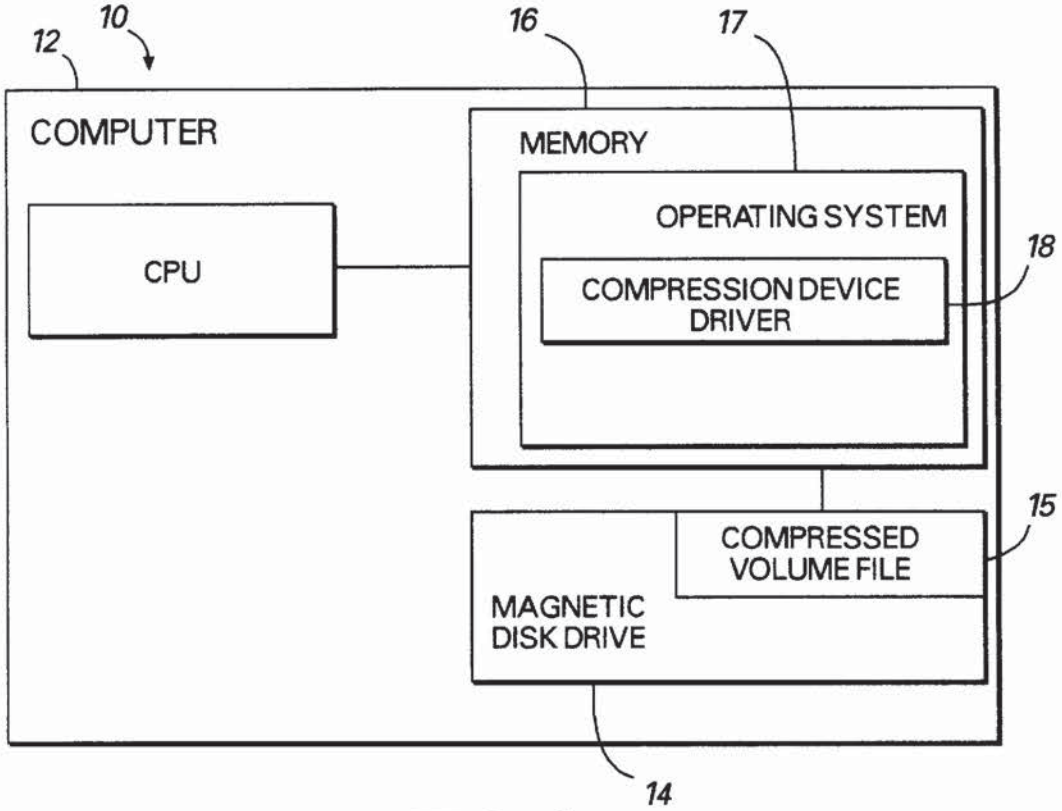

FIG.2

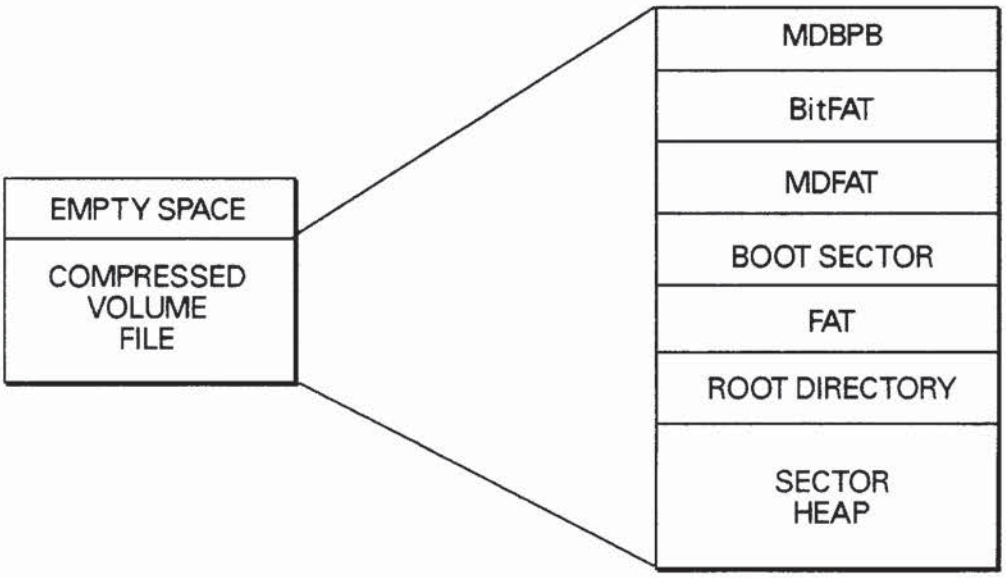

FIG.3

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