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United States Patent [19]

Miller

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[54] **AUTOMATIC FILE DIFFERENCING AND UPDATING SYSTEM**

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[21] Appl. No.: **754,486**

[22] Filed: **Nov. 22, 1996**

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

[52] **U.S. Cl.** **707/203**

[58] **Field of Search** 707/203

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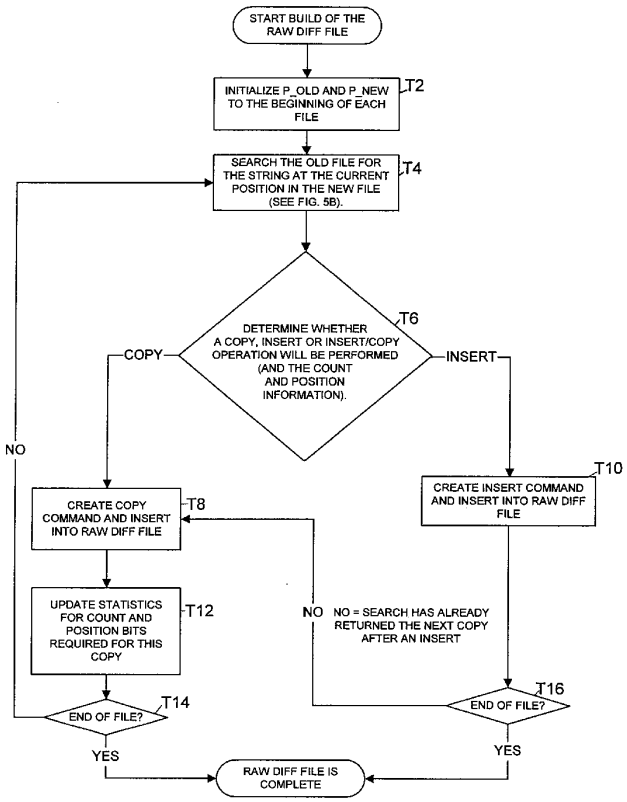
Attorney, Agent, or Firm—Townsend and Townsend and Crew LLP

[57] **ABSTRACT**

A method and file structure for generating an efficient difference files from and old file and a new file so that a difference file can be transmitted to a second computer system where the difference file and a duplicate of the old file can quickly be used to create a copy of the new file is disclosed. A differencing process compares an old file and a new file to generate a difference file in which the old file is used as a database of byte strings. The differencing process reads strings of data from the new file, searches for the existence of those strings in the old file, and notes the locations in the old file in which strings in the new file are found and stores in a difference file an indication of the location where a matching string is found and an indication of the length. A specific file structure for the difference file is disclosed.

28 Claims, 13 Drawing Sheets



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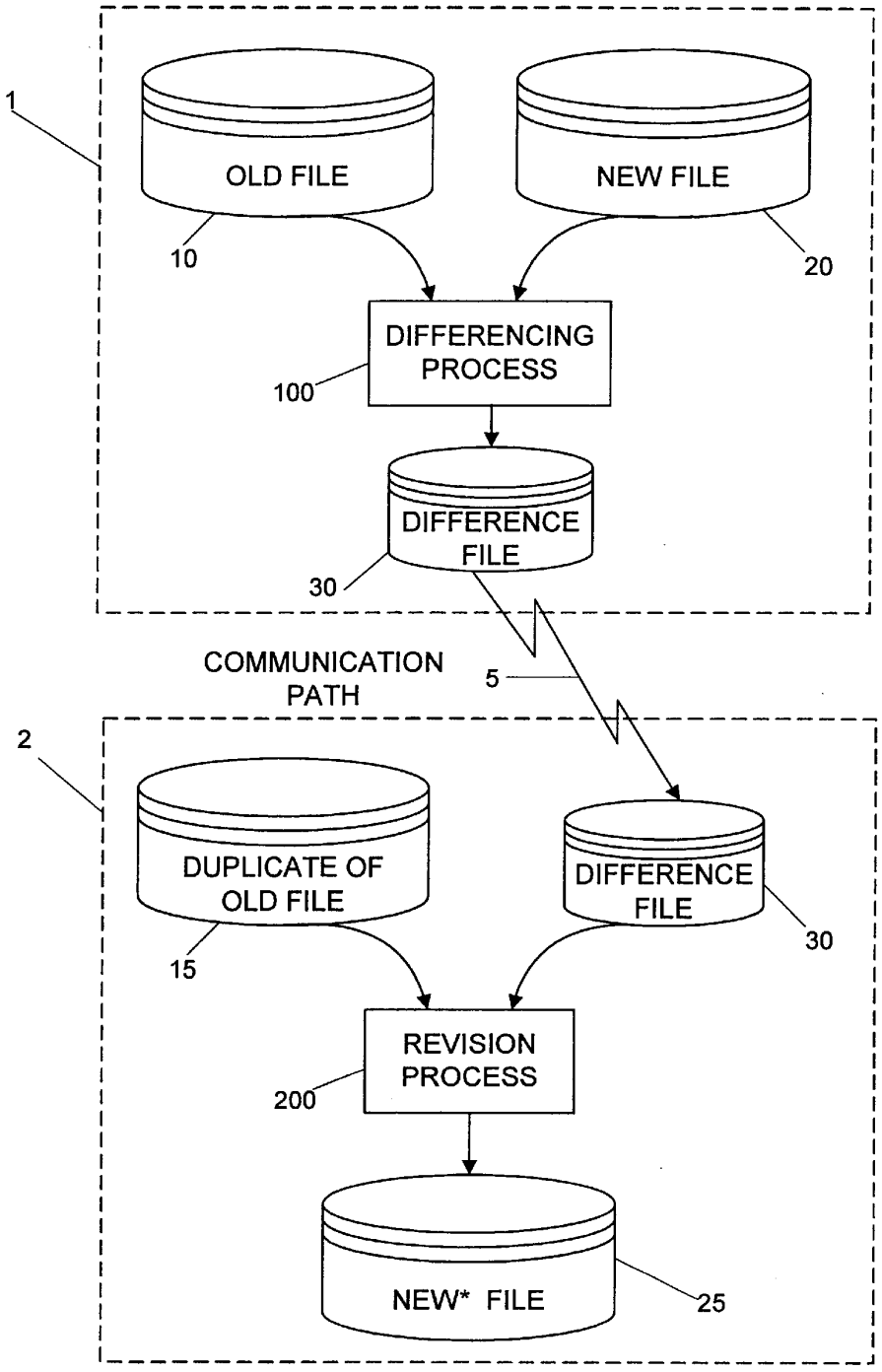

FIG. 1

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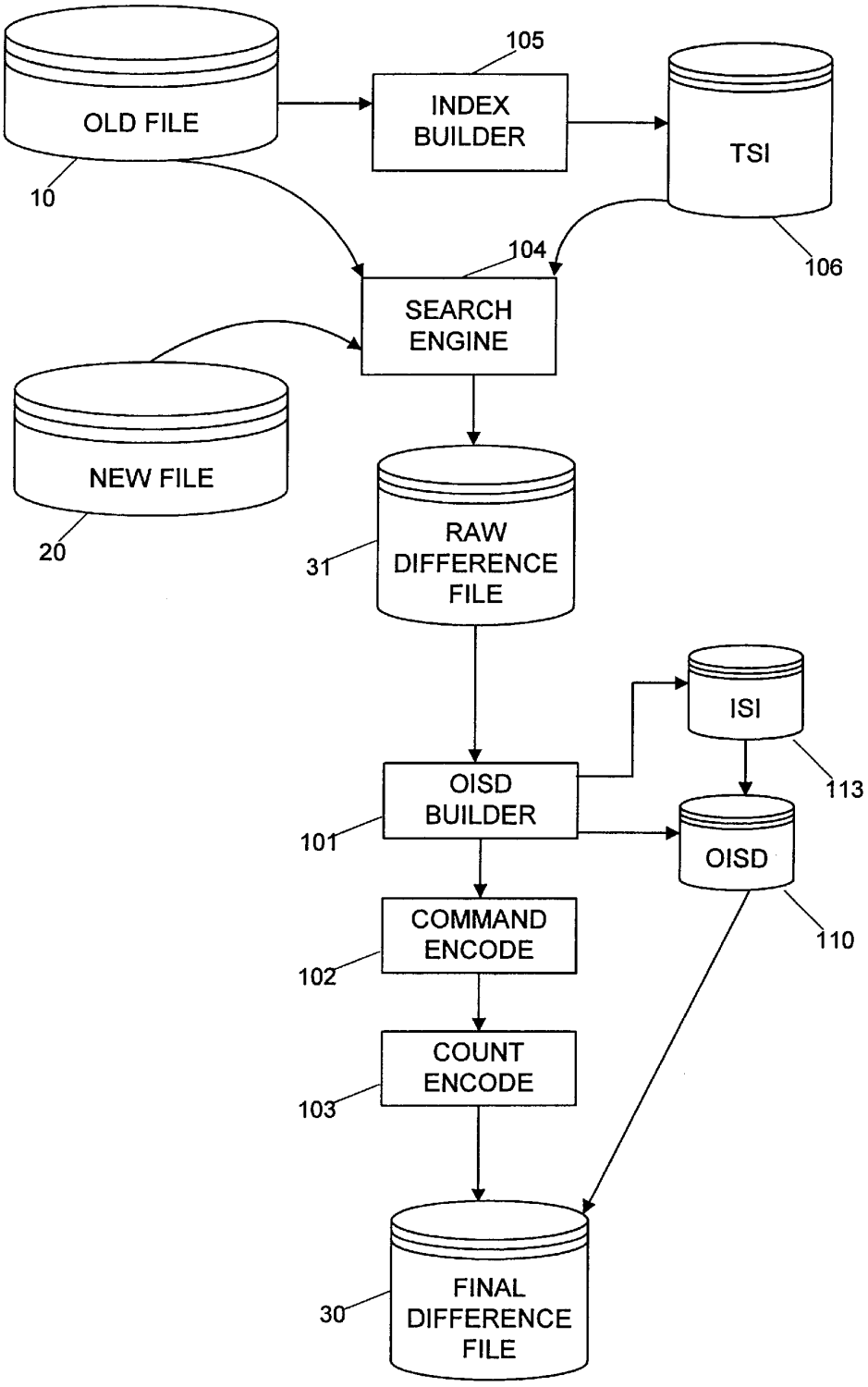

FIG. 2

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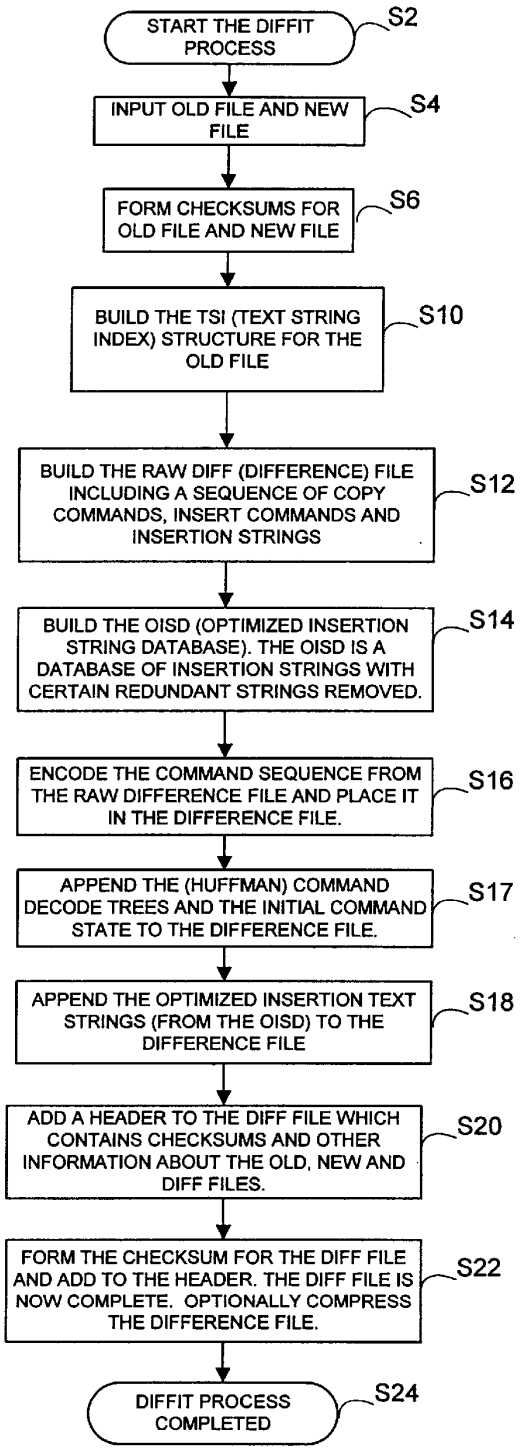

FIG. 3

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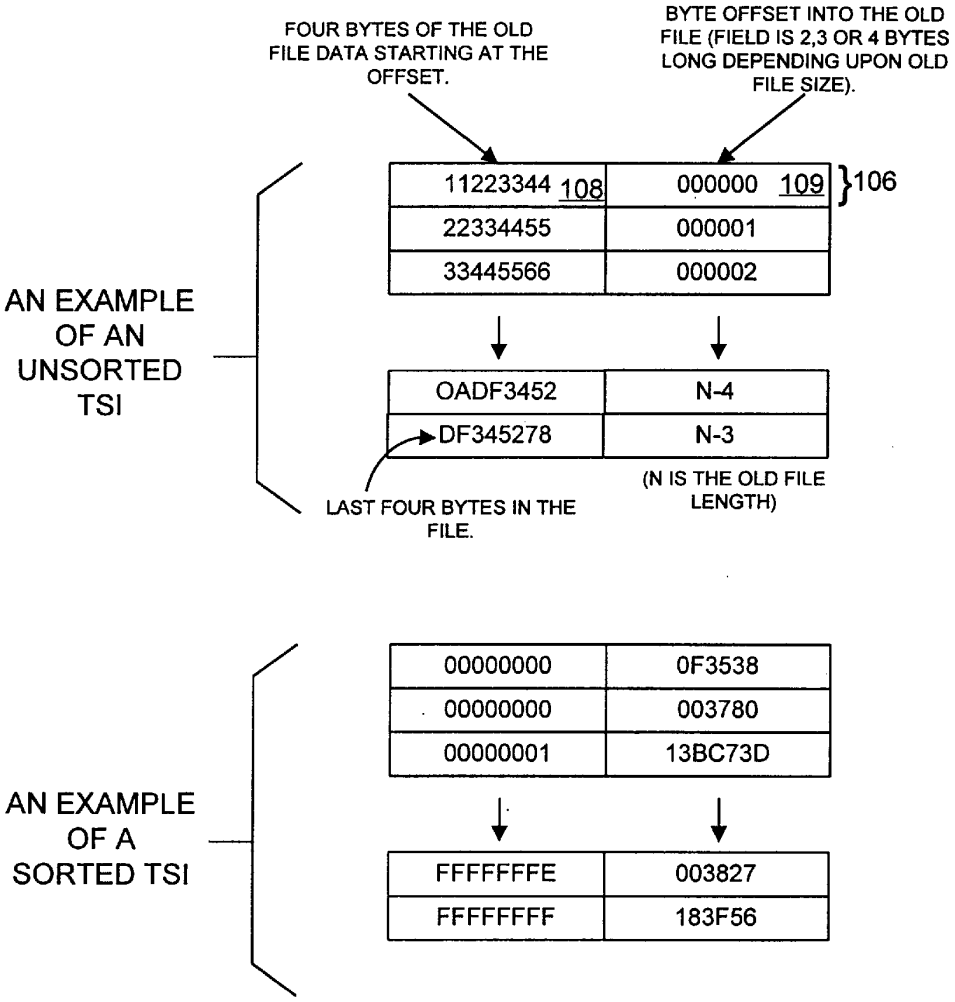

FIG. 4A

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