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(54) **INITIATIVE WEAR LEVELING FOR NON-VOLATILE MEMORY**

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G06F 12/00 (2006.01)

(52) **U.S. Cl.** **711/165**; 711/103; 711/173

(58) **Field of Classification Search** 711/103, 711/165, 173

See application file for complete search history.

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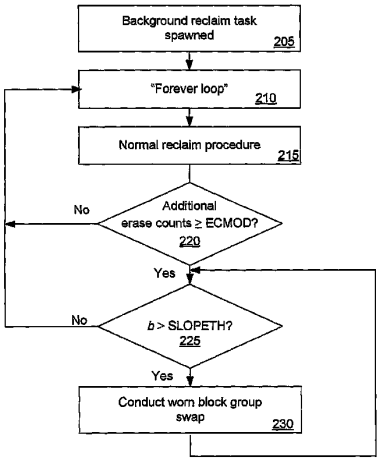
(57) **ABSTRACT**

A method and apparatus for initiative wear leveling for non-volatile memory. An embodiment of a method includes counting erase cycles for each of a set of multiple memory blocks of a non-volatile memory, the counting of erase cycles for each memory block including incrementing a first count for a physical block address of the memory block, and if the memory block is not a spare memory block, incrementing a second count for a logical block address of the memory block. The method also includes determining whether the non-volatile memory has uneven wear of memory blocks based at least in part on the counting of the erase cycles of the plurality of memory blocks.

16 Claims, 9 Drawing Sheets



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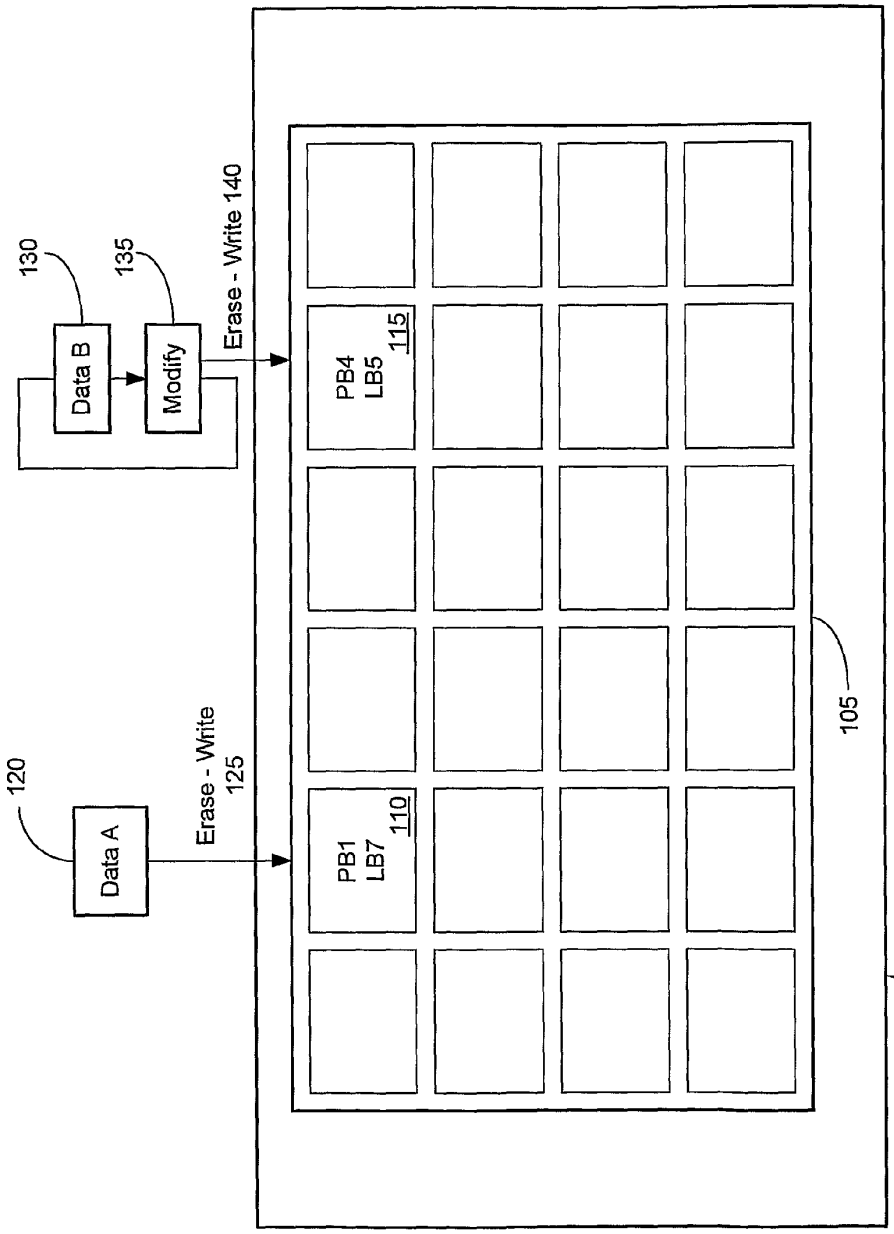


Fig. 1

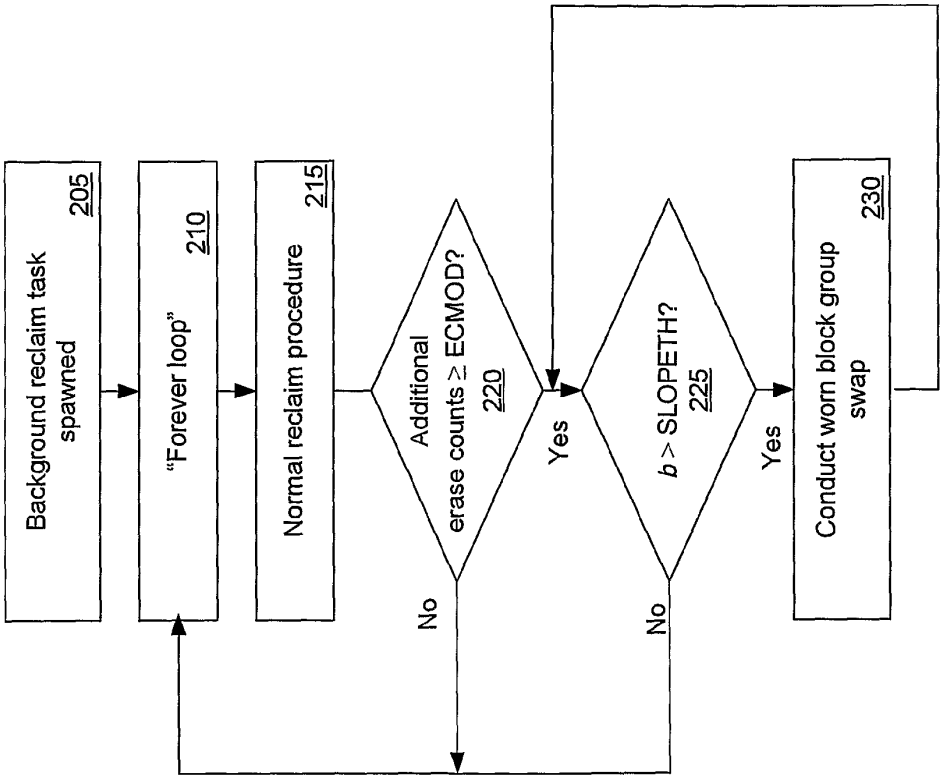
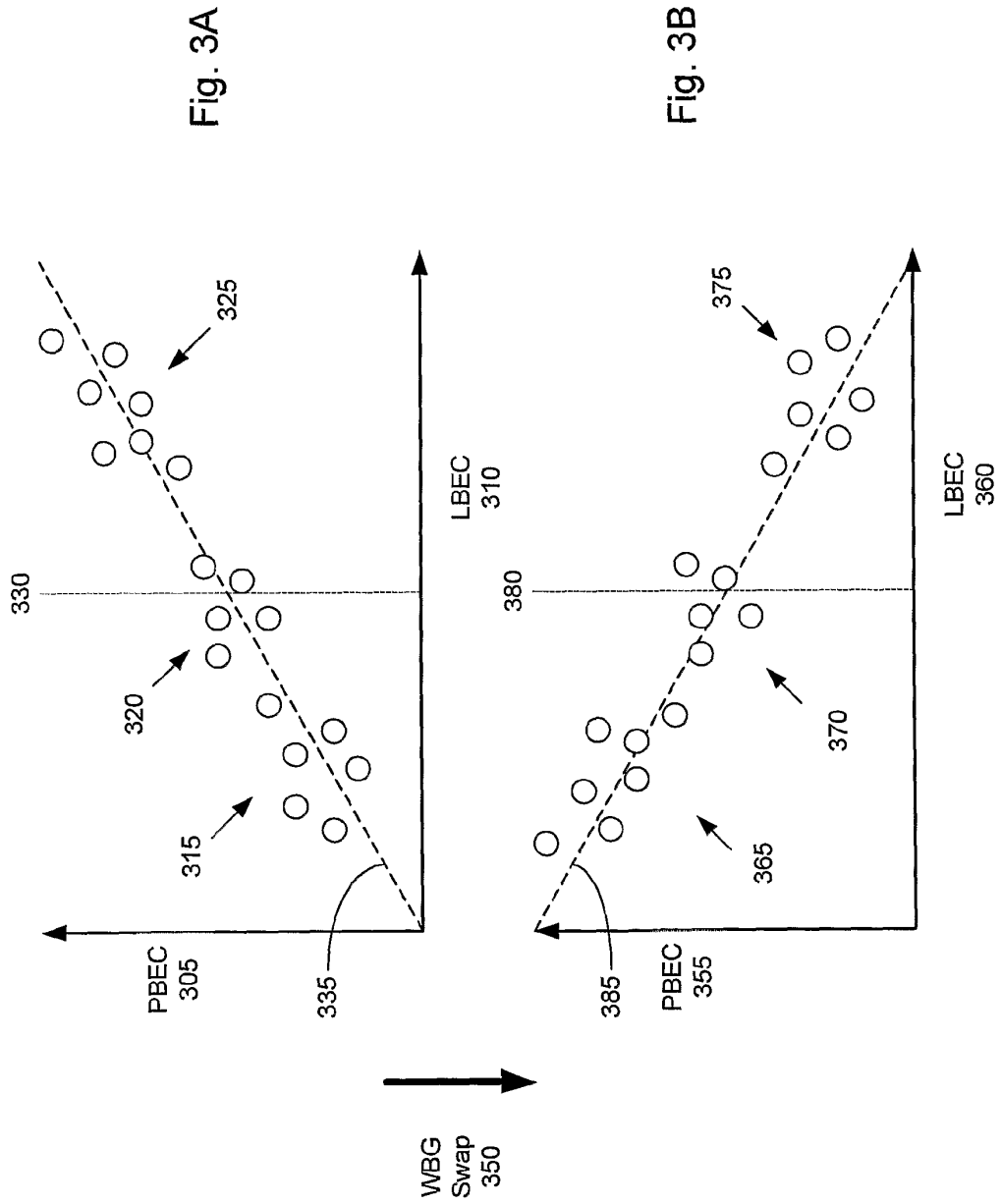


Fig. 2



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