

FIG. 1

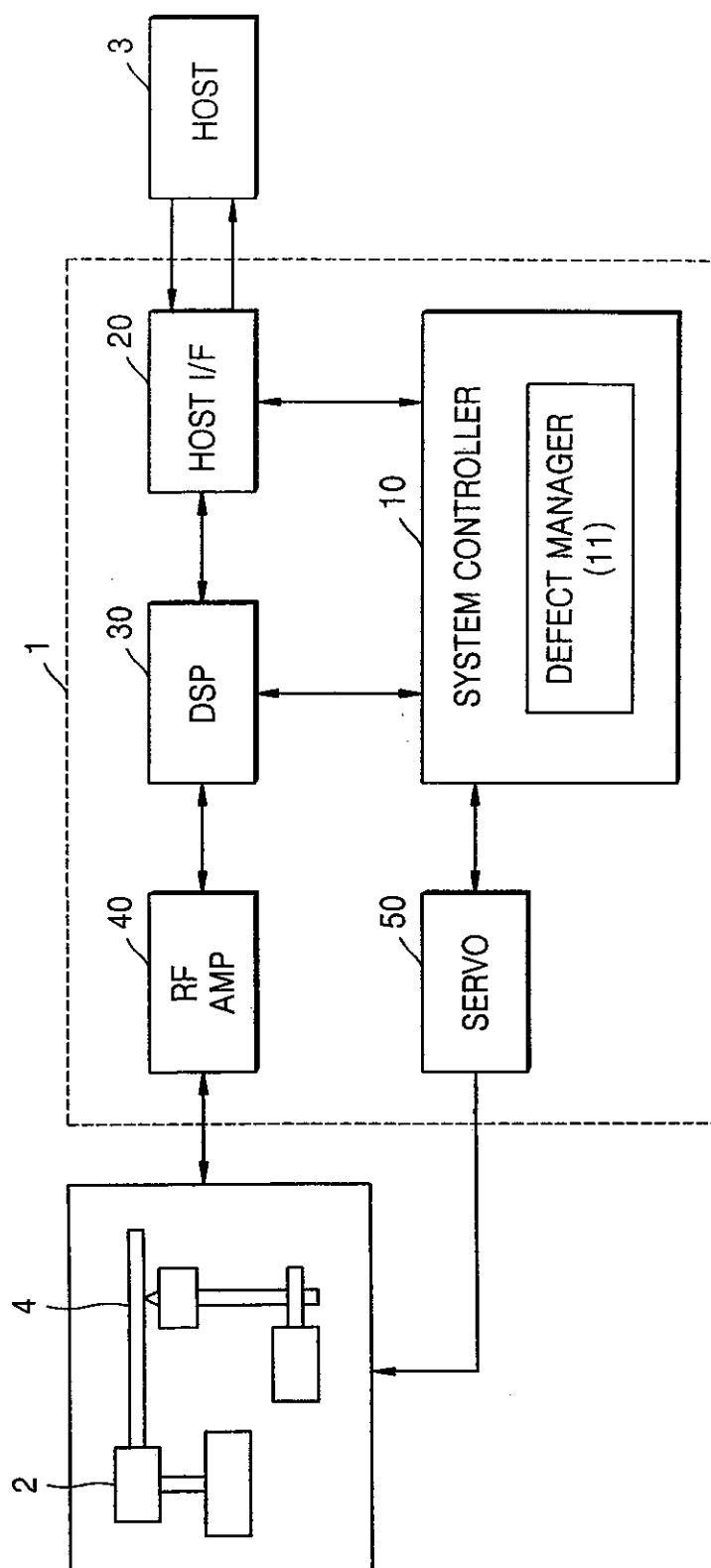


FIG. 2

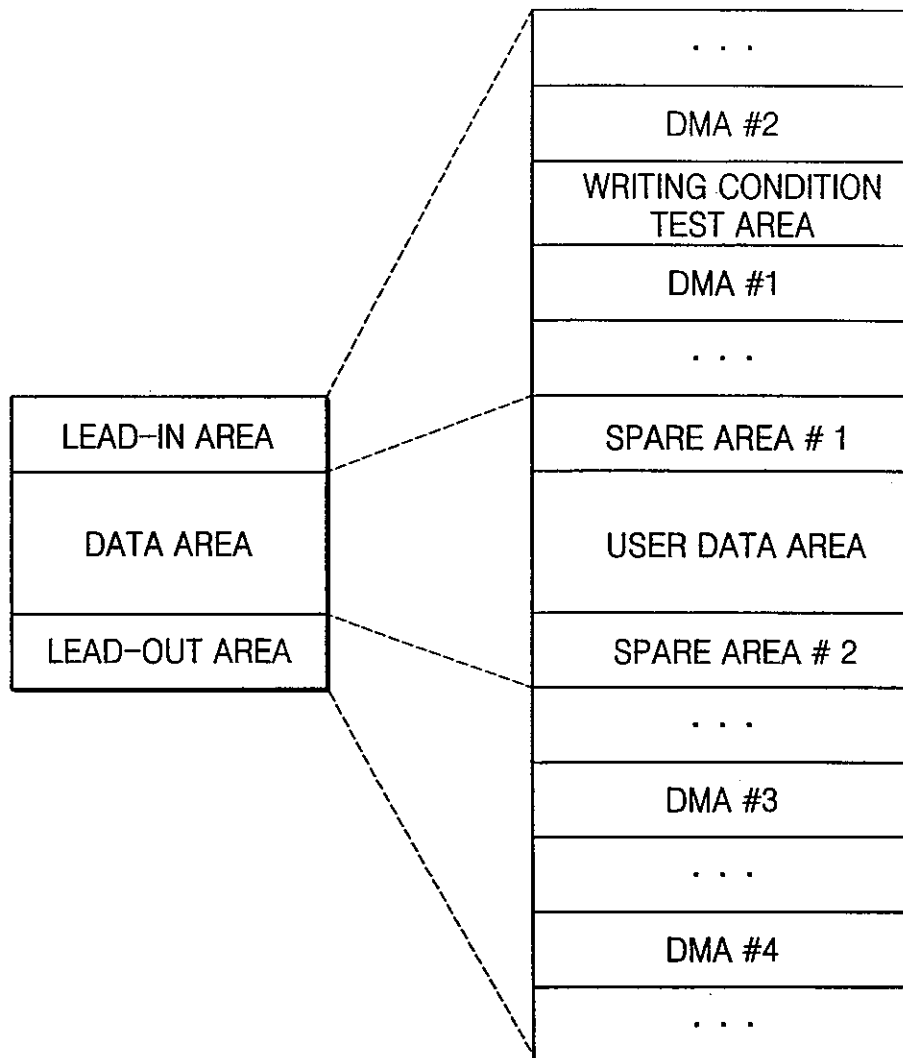


FIG. 3

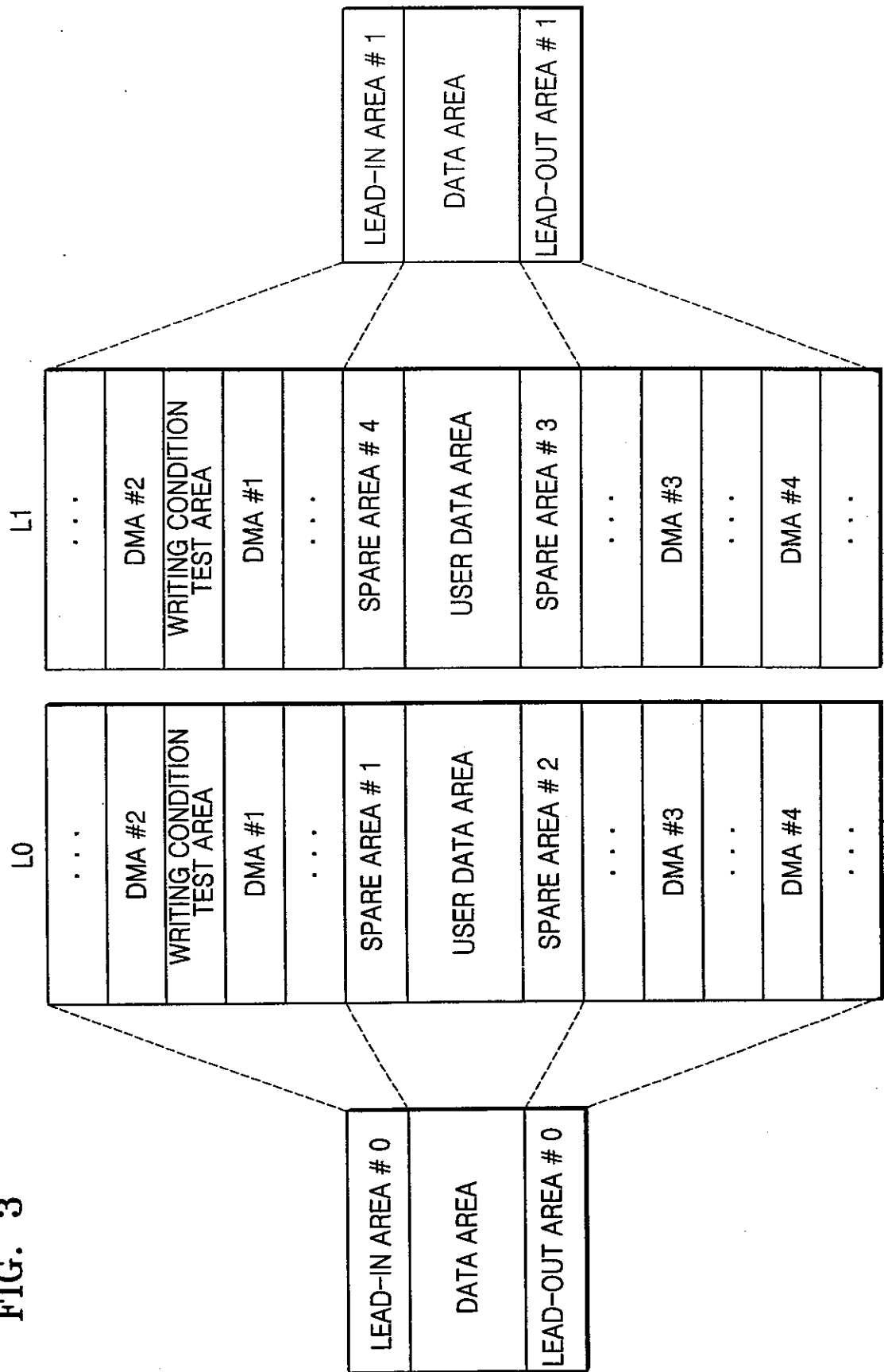


FIG. 4

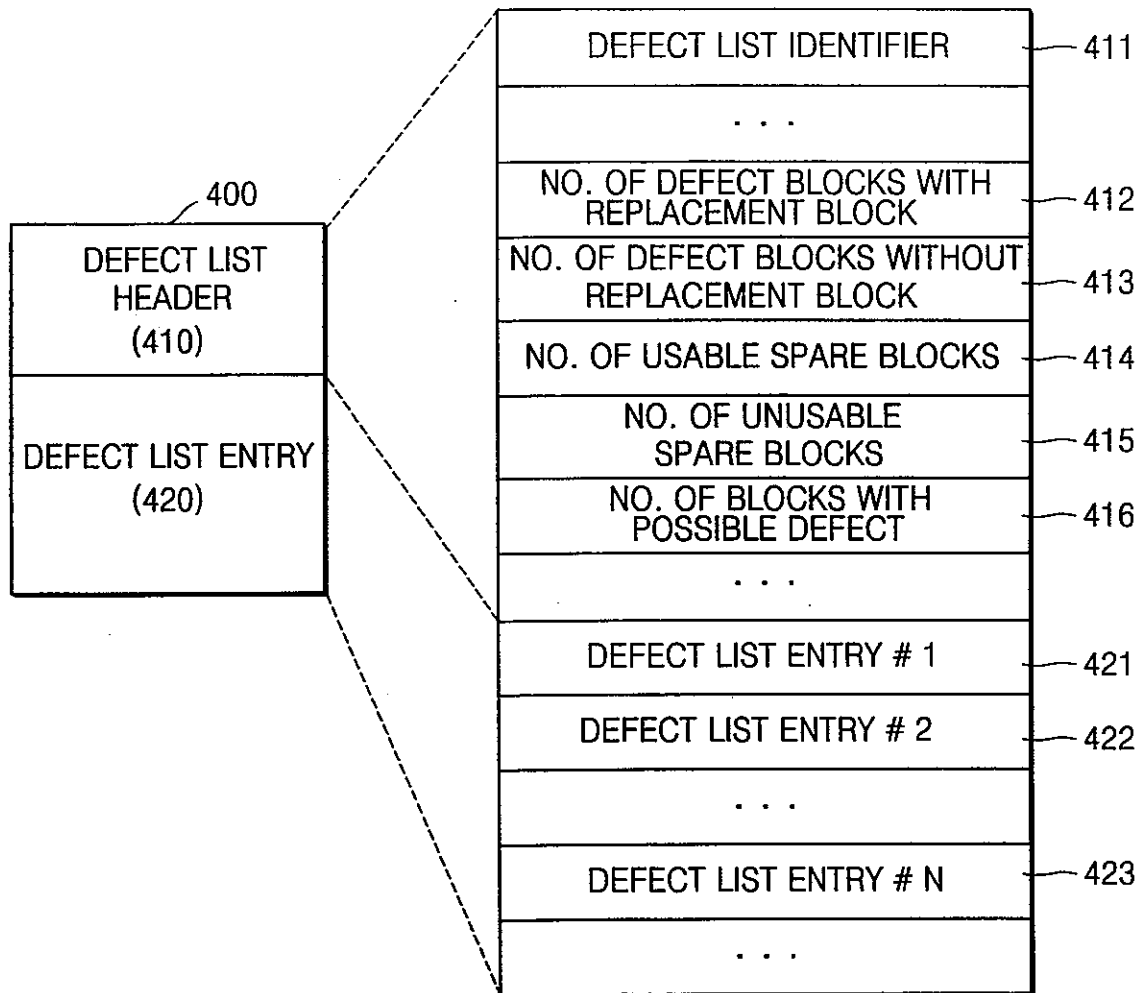


FIG. 5

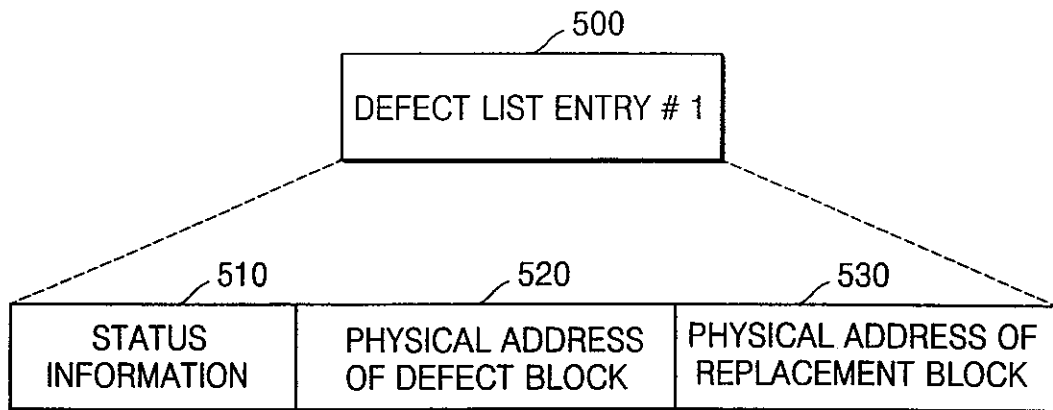


FIG. 6

| STATUS INFORMATION | 510 |
|--------------------|-----|
| "1"                |     |
| "2"                |     |
| "3"                |     |
| "4"                |     |
| "5"                |     |

FIG. 7

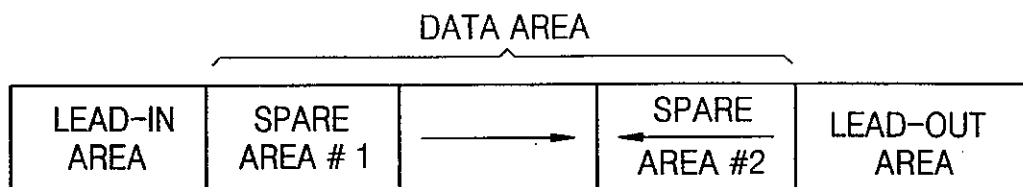


FIG. 8

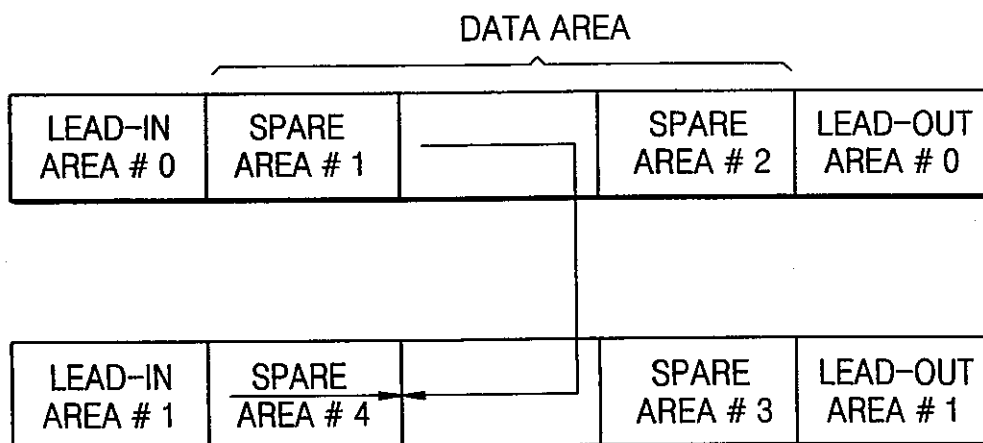


FIG. 9A

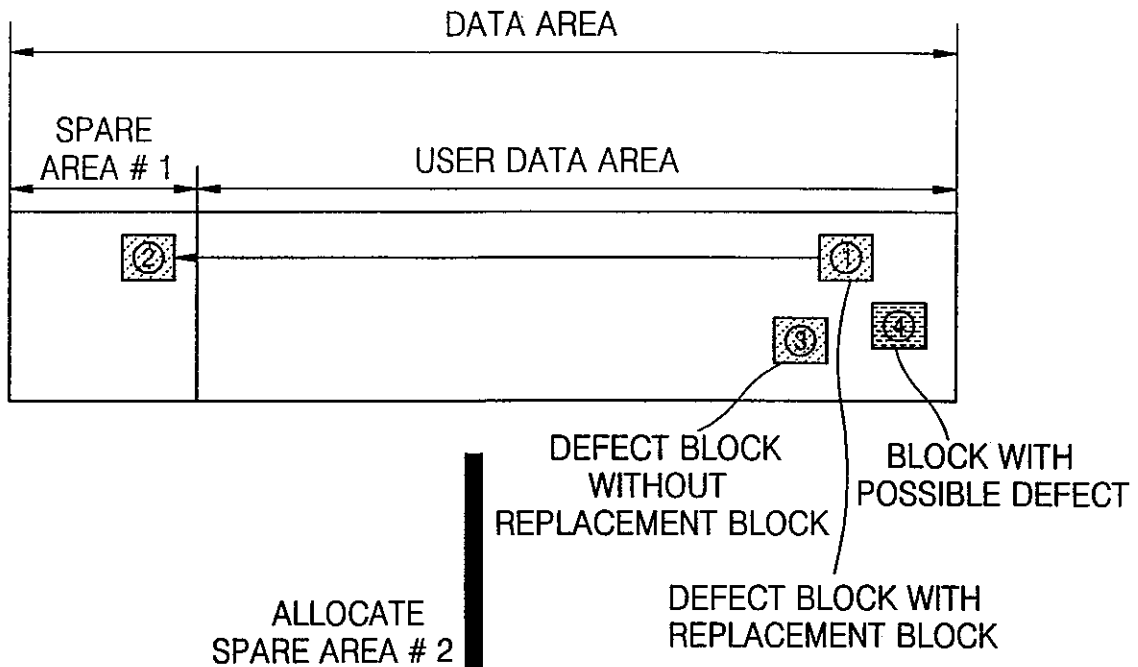


FIG. 9B

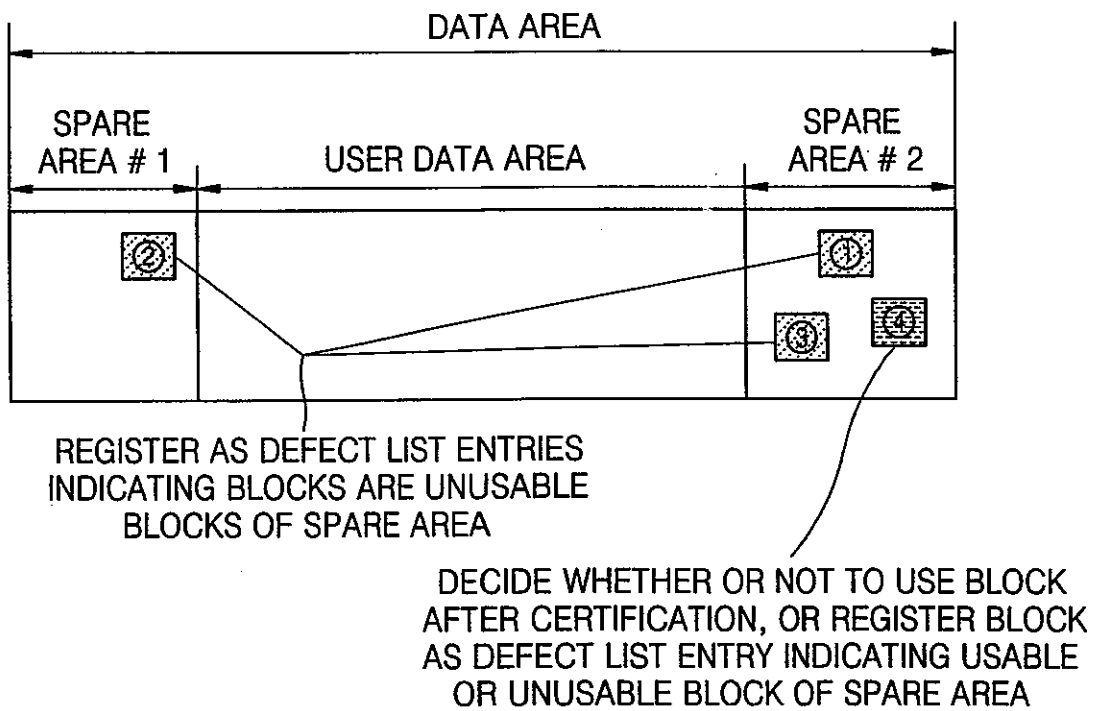


FIG. 10A

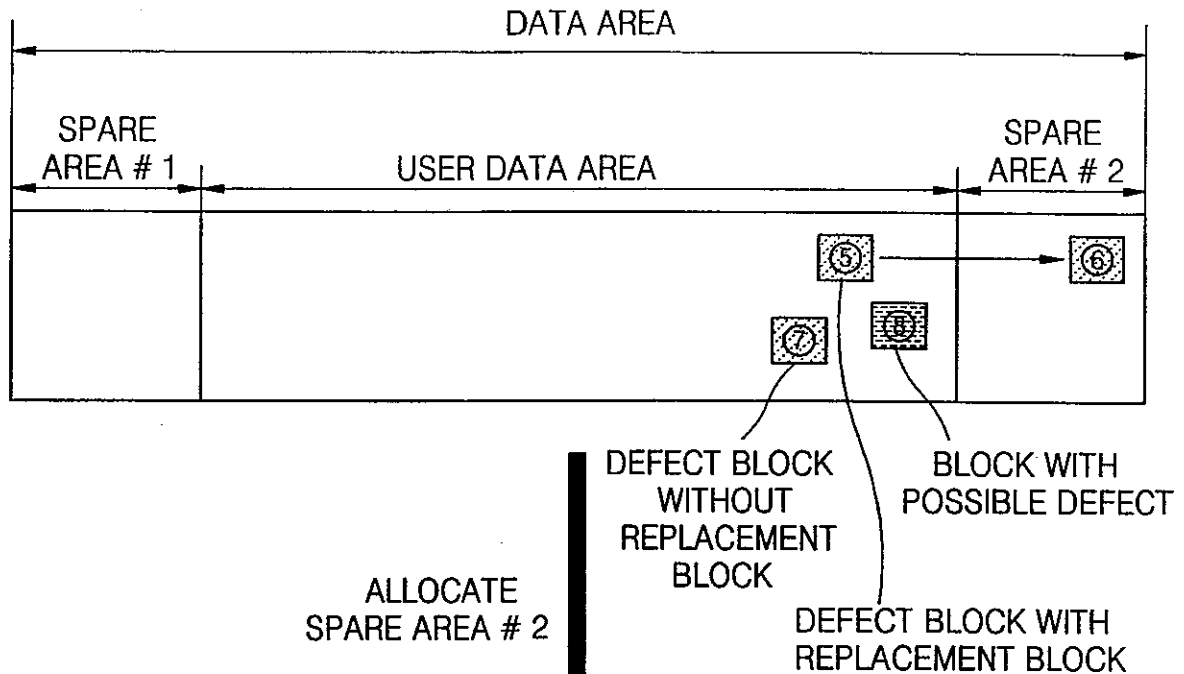


FIG. 10B

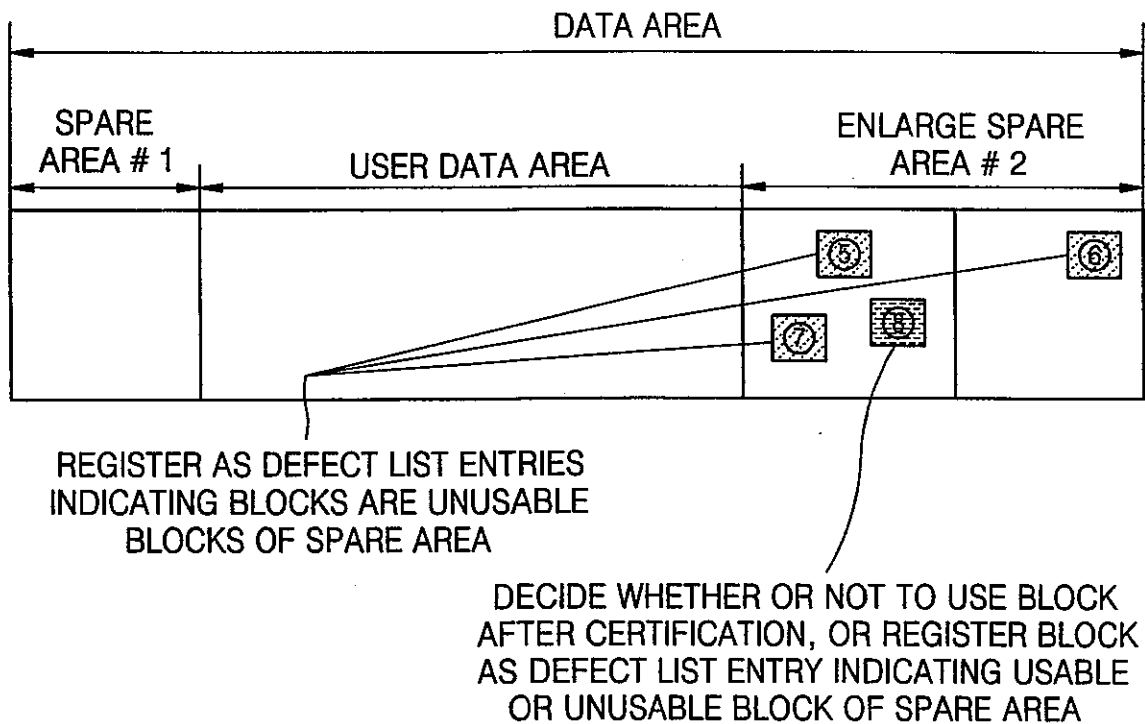


FIG. 11A

DEFECT LIST ENTRY BEFORE ENLARGING OR  
NEWLY ALLOCATING SPARE AREA

| STATUS<br>INFORMATION | PHYSICAL ADDRESS<br>OF DEFECT BLOCK | PHYSICAL ADDRESS OF<br>REPLACEMENT BLOCK |
|-----------------------|-------------------------------------|------------------------------------------|
| 1                     | 0010000h ①                          | 0100000h ②                               |
| 2                     | 0010100h ③                          | .                                        |
| 3                     | 0010110h ④                          | .                                        |

FIG. 11B

DEFECT LIST ENTRY AFTER ENLARGING OR  
NEWLY ALLOCATING SPARE AREA

| STATUS<br>INFORMATION | PHYSICAL ADDRESS<br>OF DEFECT BLOCK | PHYSICAL ADDRESS OF<br>REPLACEMENT BLOCK |
|-----------------------|-------------------------------------|------------------------------------------|
| 4                     | .                                   | 0010110h                                 |
| 5                     | .                                   | 0010000h                                 |
| 5                     | .                                   | 0010100h                                 |
| 5                     | .                                   | 0100000h                                 |

FIG. 12A

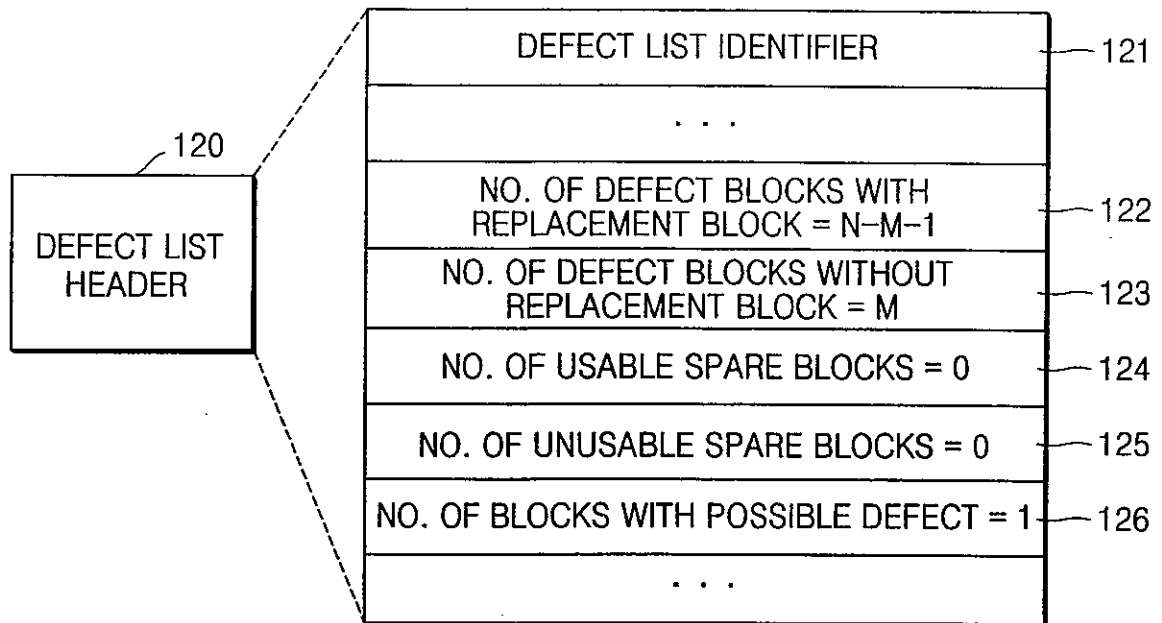


FIG. 12B

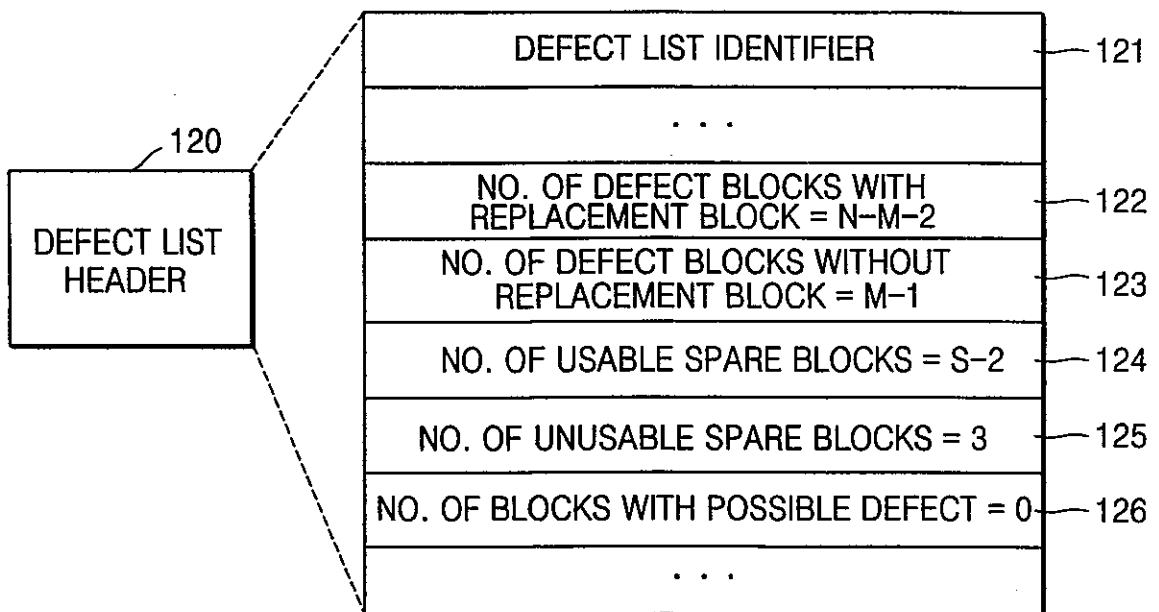


FIG. 13A

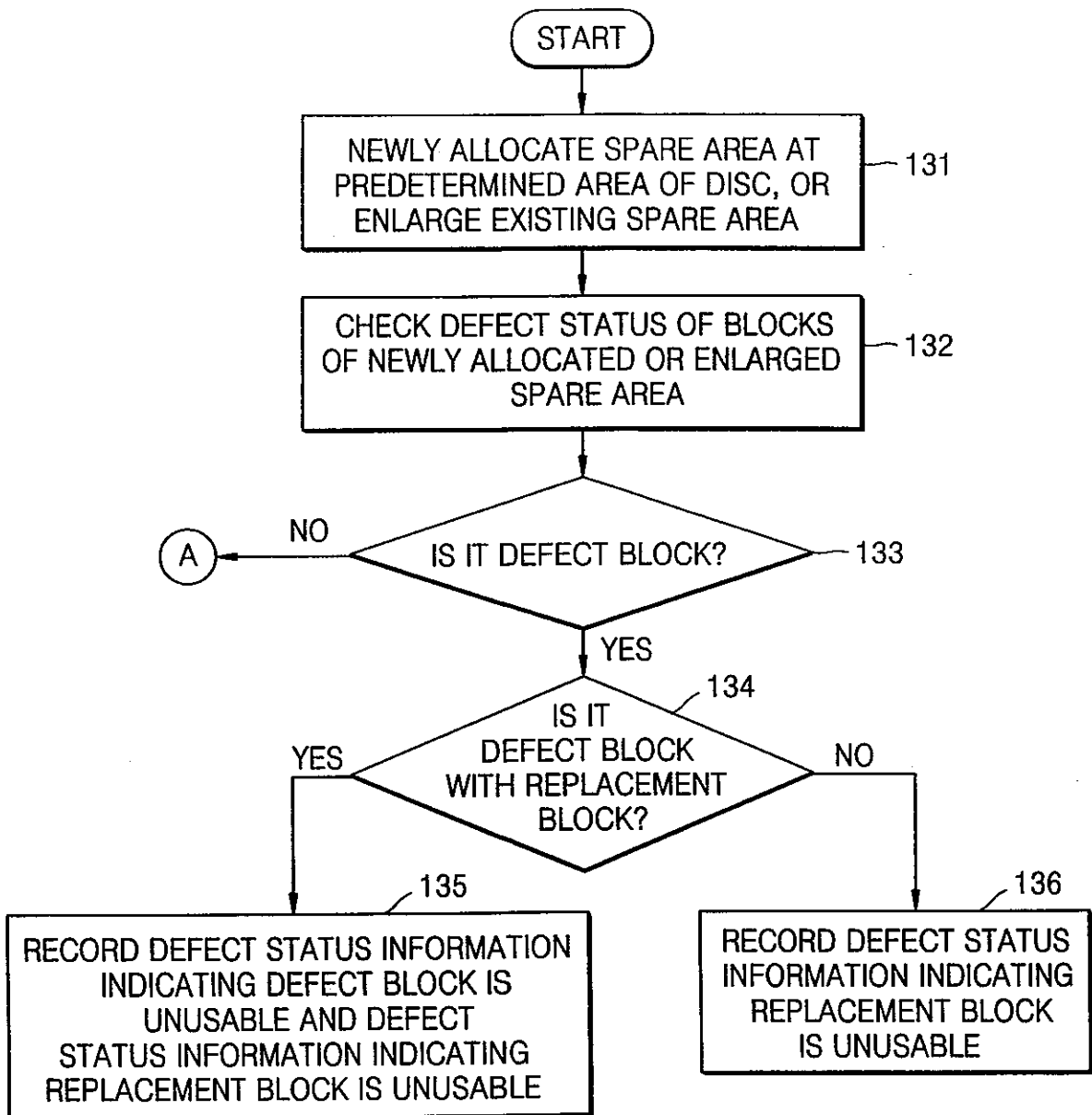


FIG. 13B

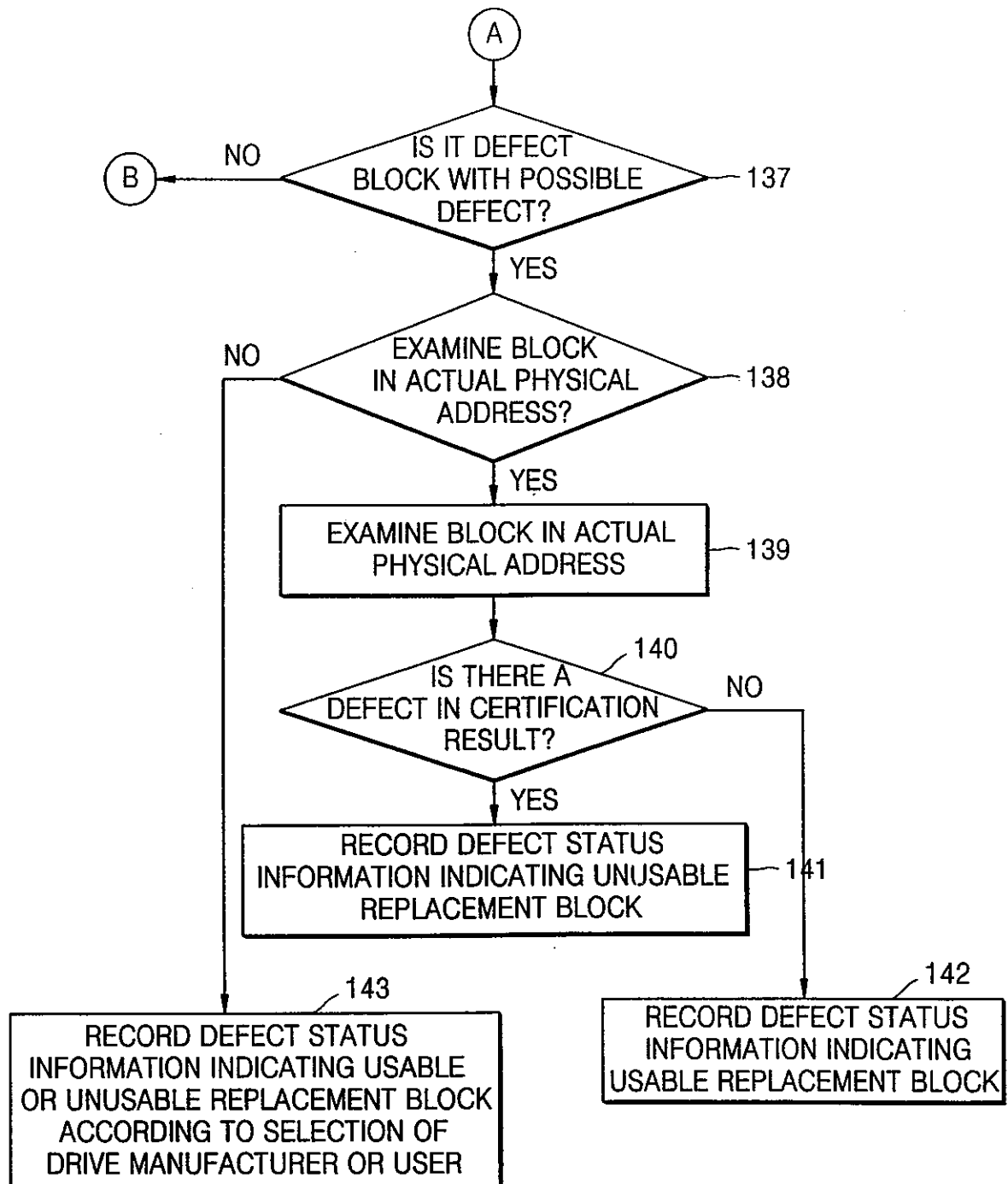


FIG. 13C

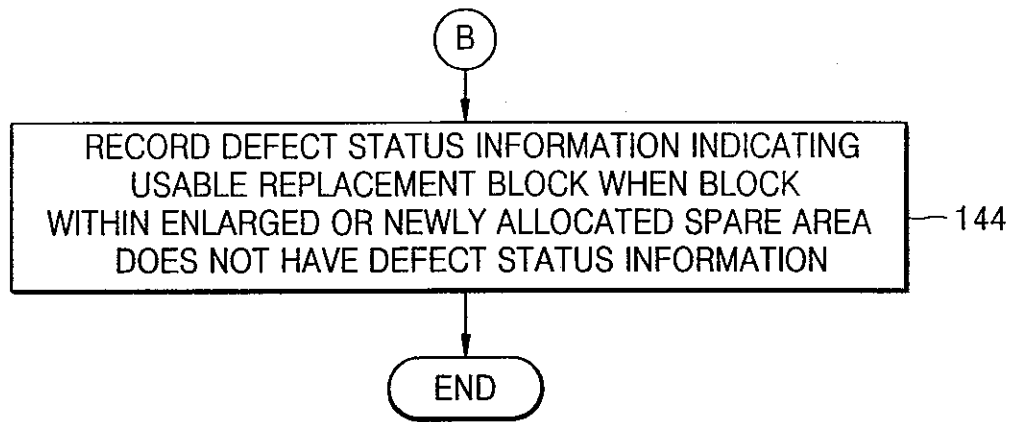


FIG. 14

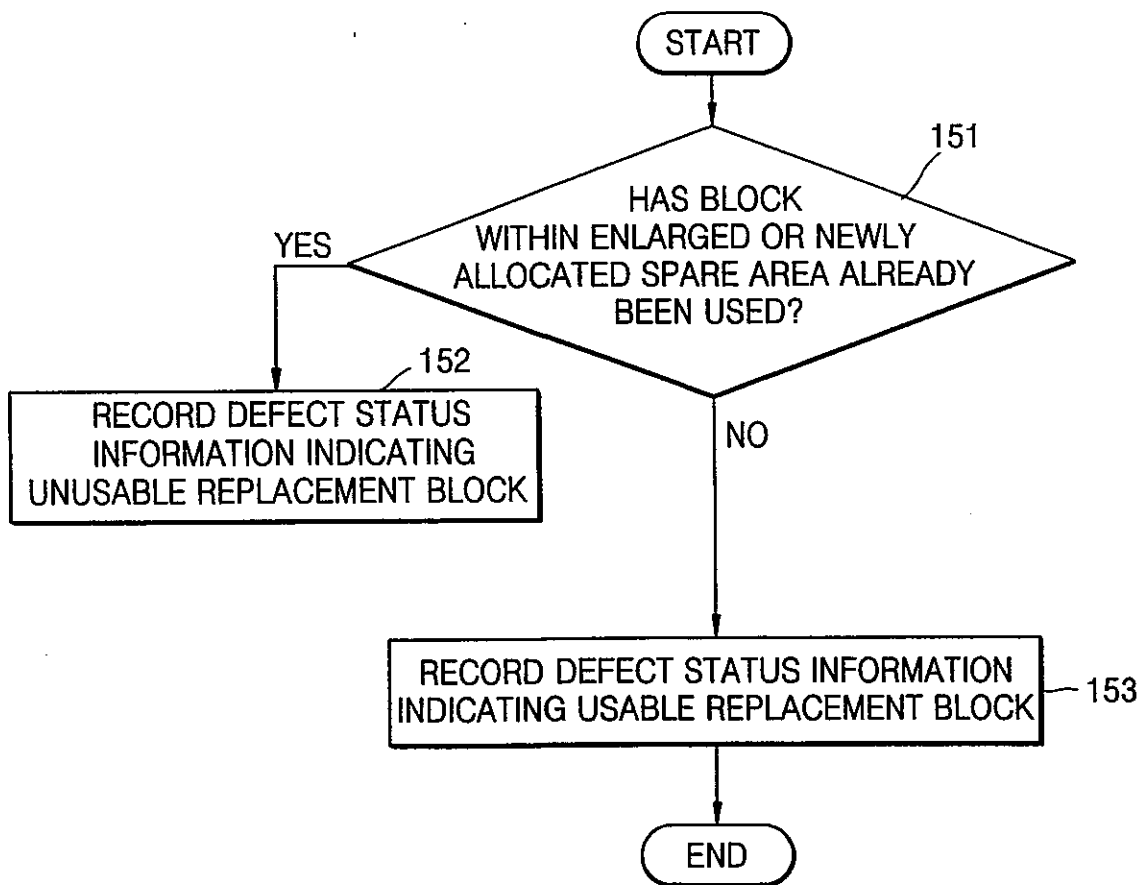


FIG. 15A

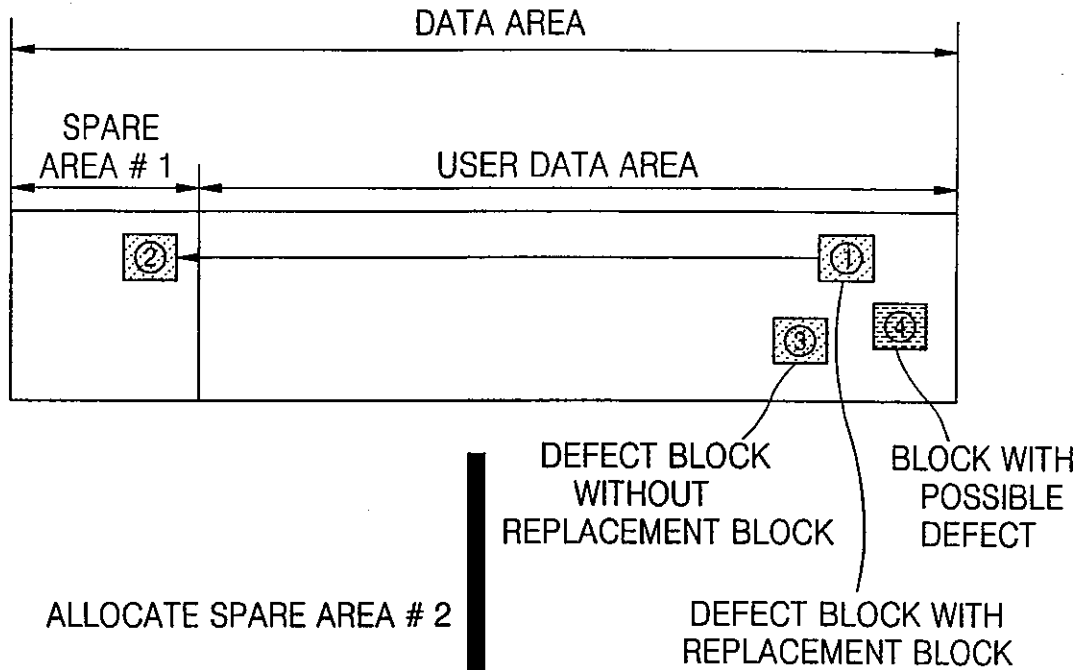


FIG. 15B

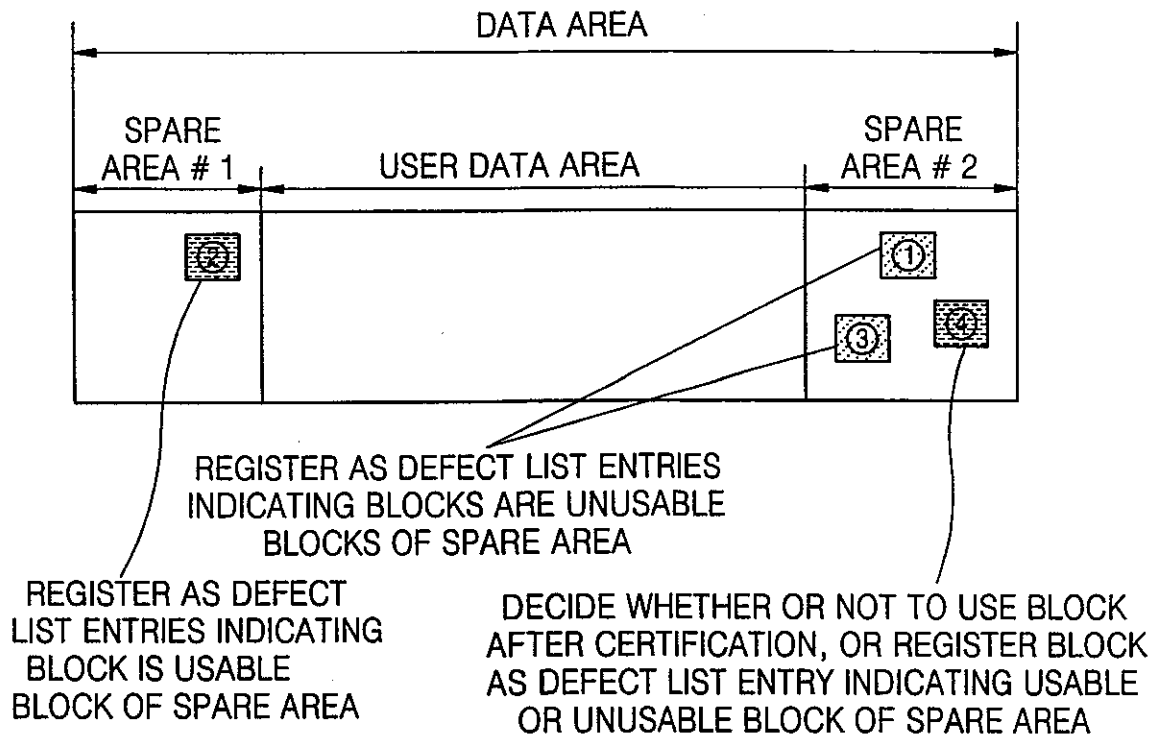


FIG. 16A

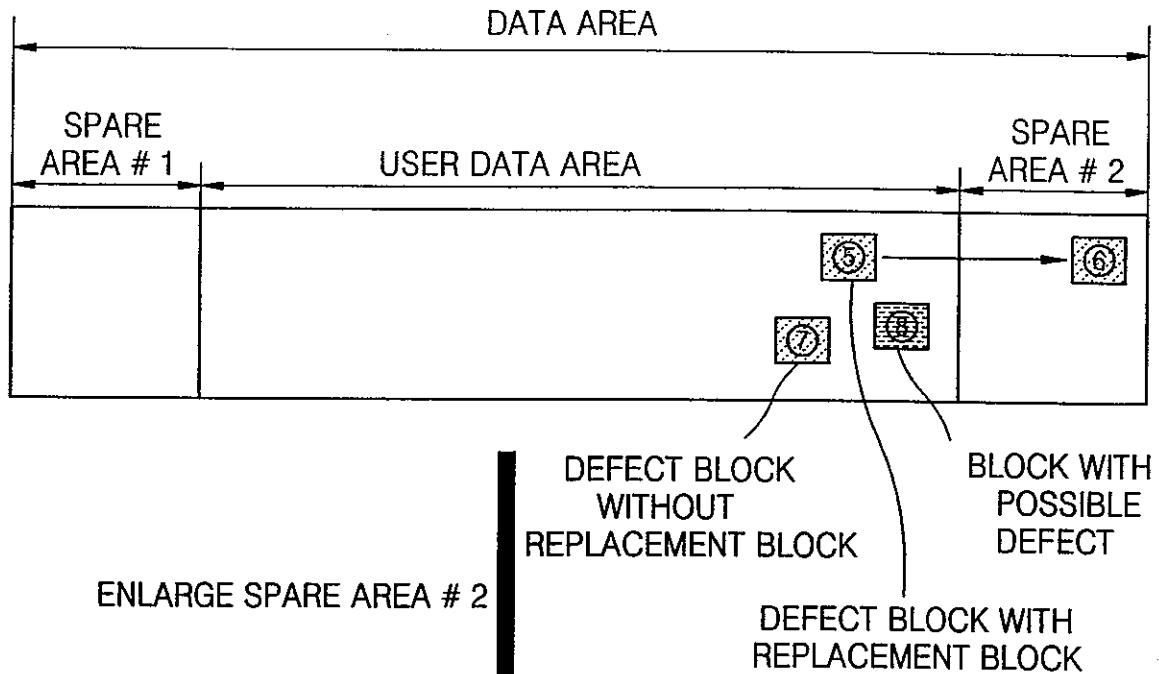


FIG. 16B

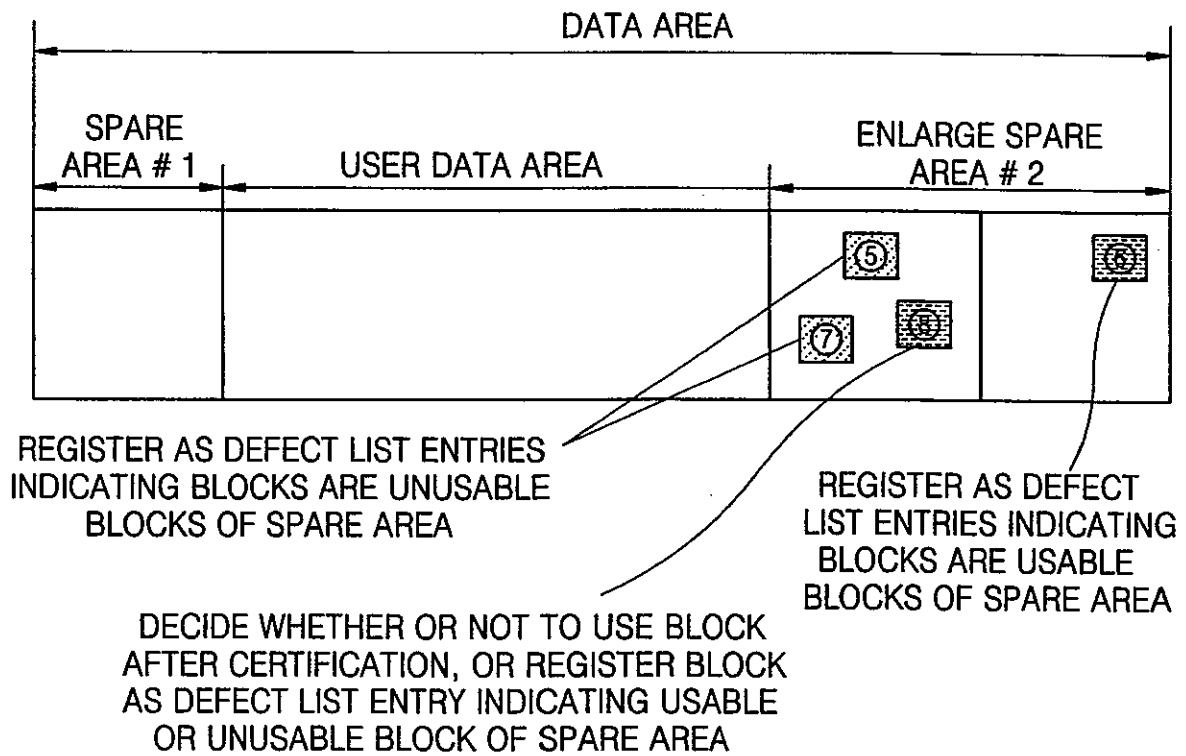


FIG. 17A

DEFECT LIST ENTRY BEFORE ENLARGING  
OR NEWLY ALLOCATING SPARE AREA

| STATUS<br>INFORMATION | PHYSICAL ADDRESS<br>OF DEFECT BLOCK | PHYSICAL ADDRESS OF<br>REPLACEMENT BLOCK |
|-----------------------|-------------------------------------|------------------------------------------|
| 1                     | 0010000h ①                          | 0100000h ②                               |
| 2                     | 0010100h ③                          | .                                        |
| 3                     | 0010110h ④                          | .                                        |

FIG. 17B

DEFECT LIST ENTRY AFTER ENLARGING  
OR NEWLY ALLOCATING SPARE AREA

| STATUS<br>INFORMATION | PHYSICAL ADDRESS<br>OF DEFECT BLOCK | PHYSICAL ADDRESS OF<br>REPLACEMENT BLOCK |
|-----------------------|-------------------------------------|------------------------------------------|
| 4                     | .                                   | 0010110h                                 |
| 5                     | .                                   | 0010000h                                 |
| 5                     | .                                   | 0010100h                                 |
| 4                     | .                                   | 0100000h                                 |

FIG. 18

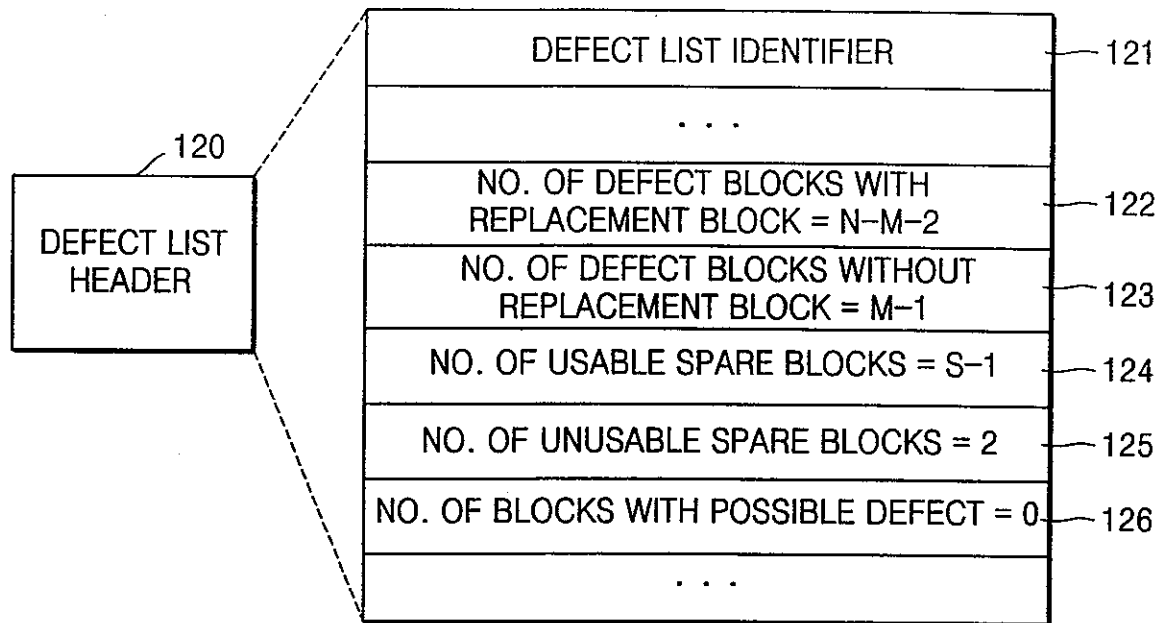


FIG. 19

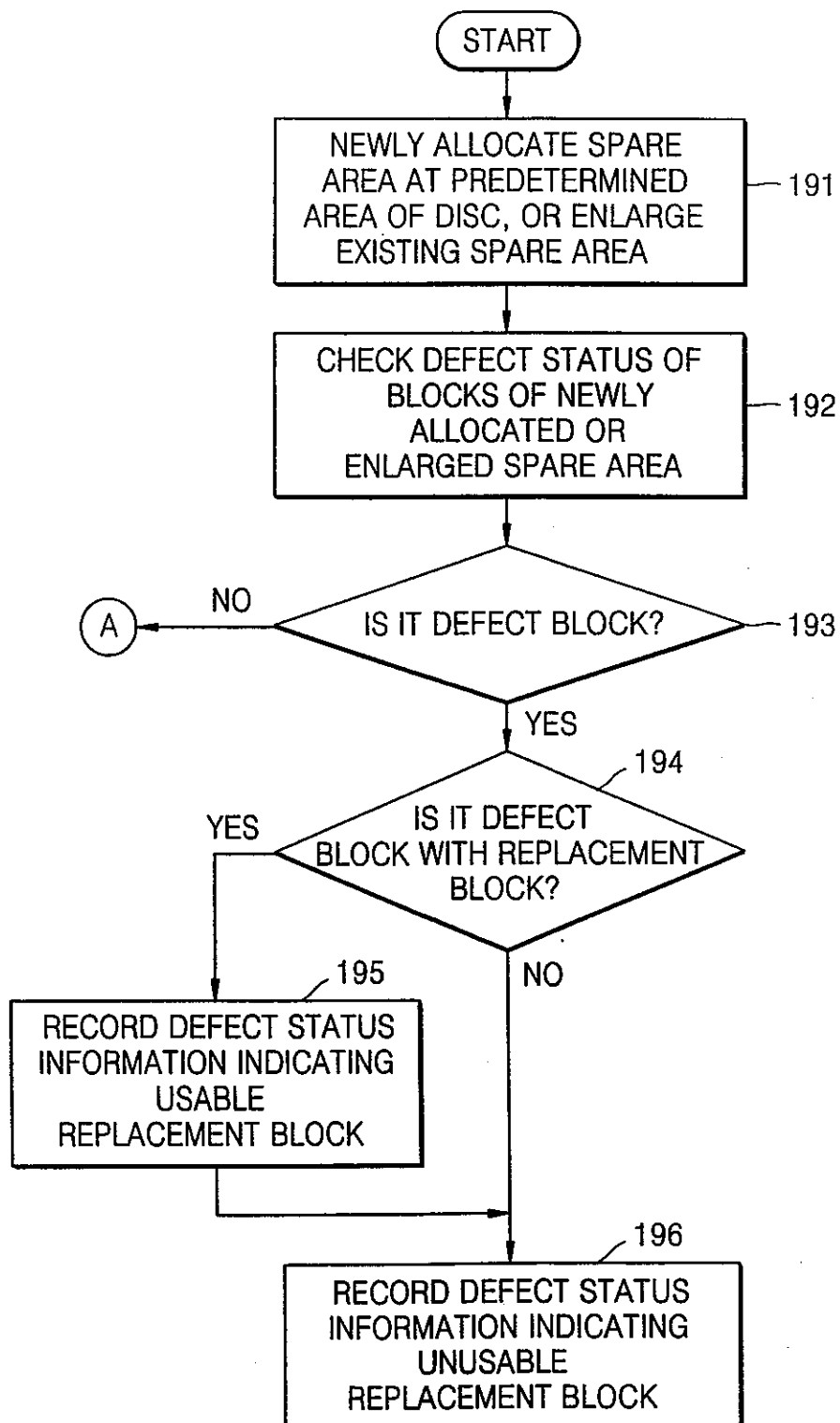


FIG. 20A

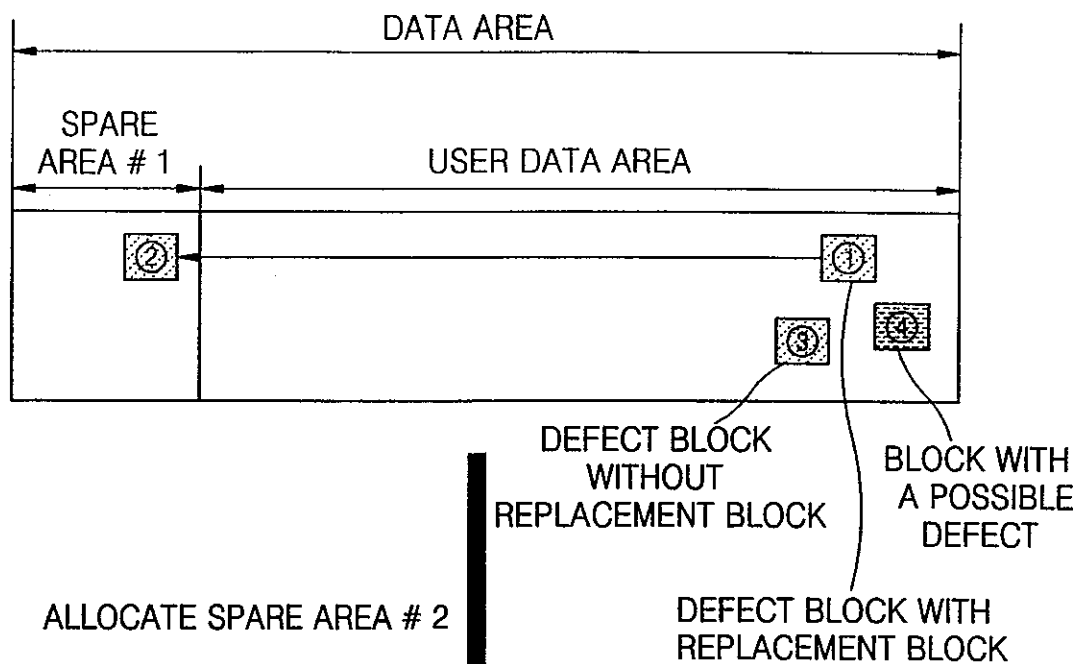


FIG. 20B

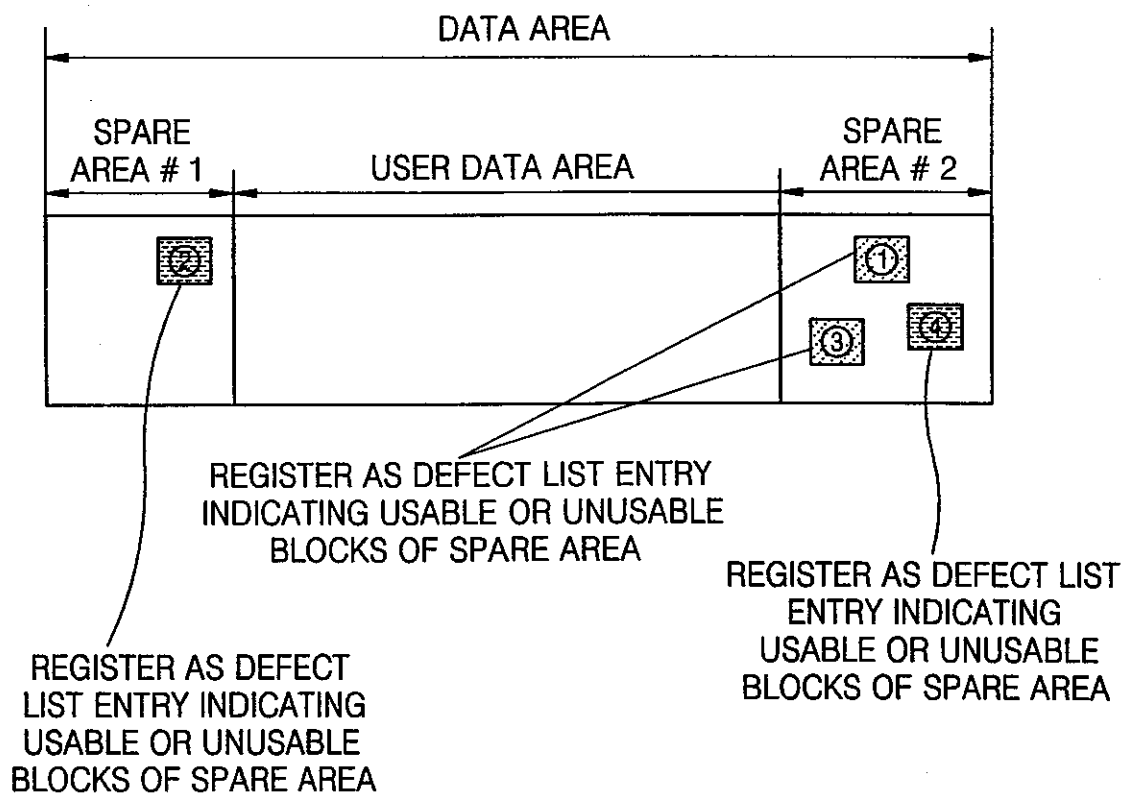


FIG. 21

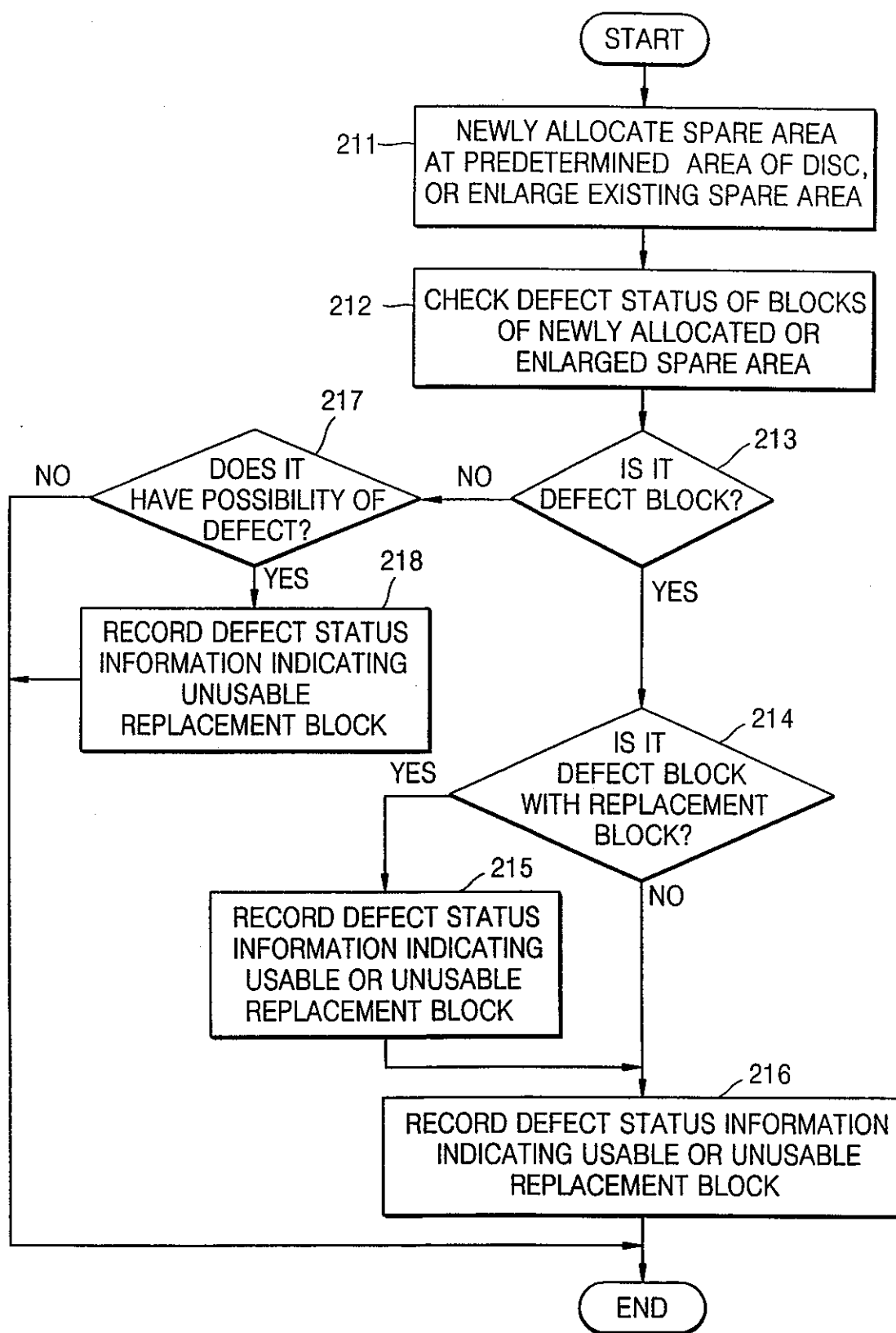


FIG. 22

| BEFORE ENLARGING<br>OR NEWLY<br>ALLOCATING SPARE AREA                    | AFTER ENLARGING OR NEWLY ALLOCATING SPARE<br>AREA WHILE USING DISC                    |                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------------------------------------------------------------|---------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                          | WHEN IN USER<br>DATA AREA                                                             | WHEN IN SPARE AREA                                                                                                                                                                                                                                                                                                                                                                                         |
| DEFECT BLOCK OF DEFECT<br>LIST ENTRY HAVING<br>REPLACEMENT BLOCK         | MAINTAIN IN<br>CURRENT STATE                                                          | CHANGE TO AND REGISTER AS DEFECT<br>LIST ENTRY INDICATING USABLE<br>REPLACEMENT BLOCK                                                                                                                                                                                                                                                                                                                      |
| REPLACEMENT BLOCK<br>OF DEFECT LIST<br>ENTRY HAVING<br>REPLACEMENT BLOCK | SUCH SITUATION DOES<br>NOT OCCUR BY<br>ENLARGING OR NEWLY<br>ALLOCATING SPARE<br>AREA | 1) WHEN CORRESPONDING DEFECT BLOCK<br>IS IN SPARE AREA AFTER ENLARGING OR<br>NEWLY ALLOCATING SPARE AREA,<br>CHANGE TO AND REGISTER AS DEFECT<br>LIST ENTRY INDICATING USABLE<br>REPLACEMENT BLOCK<br>2) WHEN CORRESPONDING DEFECT BLOCK<br>IS IN USER DATA AREA AFTER ENLARGING<br>OR NEWLY ALLOCATING SPARE AREA,<br>MAINTAIN IN SAME STATE AS BEFORE<br>ENLARGING OR NEWLY ALLOCATING NEW<br>SPARE AREA |
| DEFECT BLOCK OF DEFECT<br>LIST ENTRY WITHOUT<br>REPLACEMENT BLOCK        | MAINTAIN IN<br>CURRENT STATE                                                          | CHANGE TO AND REGISTER AS DEFECT<br>LIST ENTRY INDICATING UNUSABLE<br>REPLACEMENT BLOCK                                                                                                                                                                                                                                                                                                                    |
| DEFECT BLOCK OF DEFECT<br>LIST ENTRY WITH<br>POSSIBLE DEFECT             | MAINTAIN IN<br>CURRENT STATE                                                          | CHANGE TO AND REGISTER AS DEFECT<br>LIST ENTRY INDICATING USABLE<br>REPLACEMENT BLOCK                                                                                                                                                                                                                                                                                                                      |