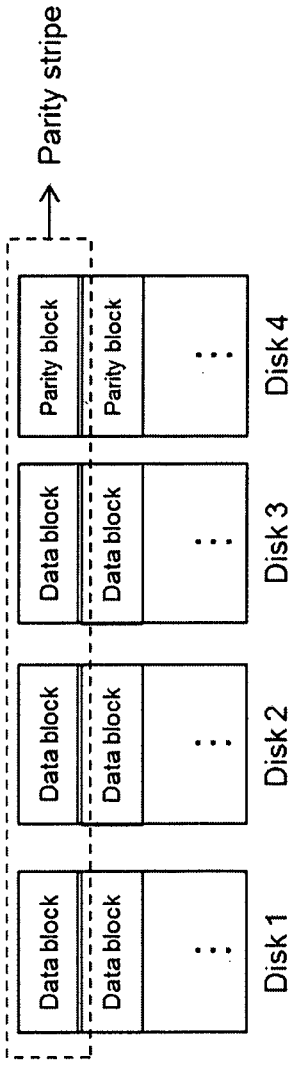
Parity stripe
Data block
Data block
Parity block
Parity block
Disk 1
Disk 2
Disk 3
Disk 4

FIG. 1A

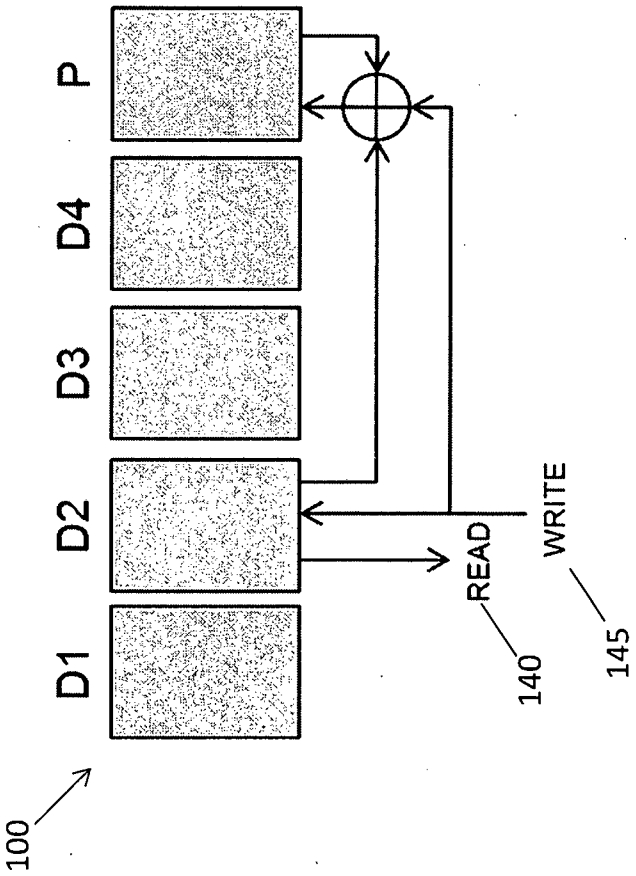
D1
D2
D3
D4
P
READ
WRITE
140
145
100

FIG. 1B

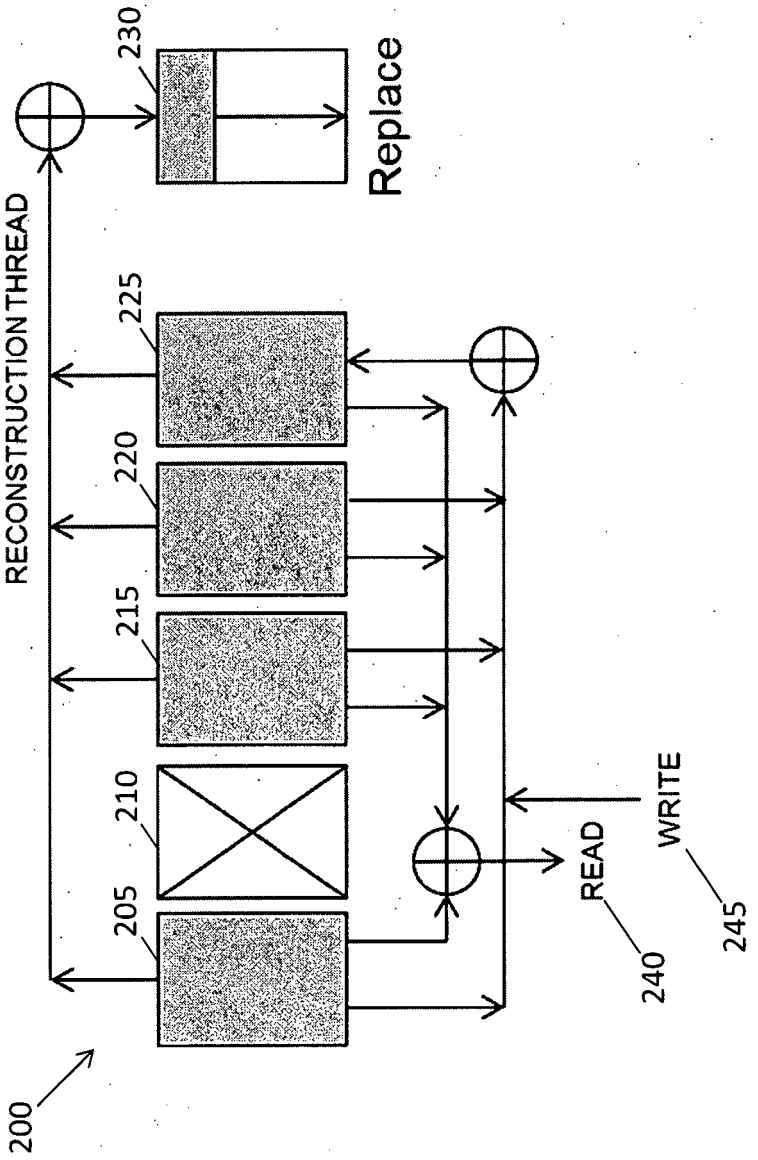
230
Replace
RECONSTRUCTION THREAD
225
220
215
210
205
200
READ
WRITE
240
245

FIG. 2

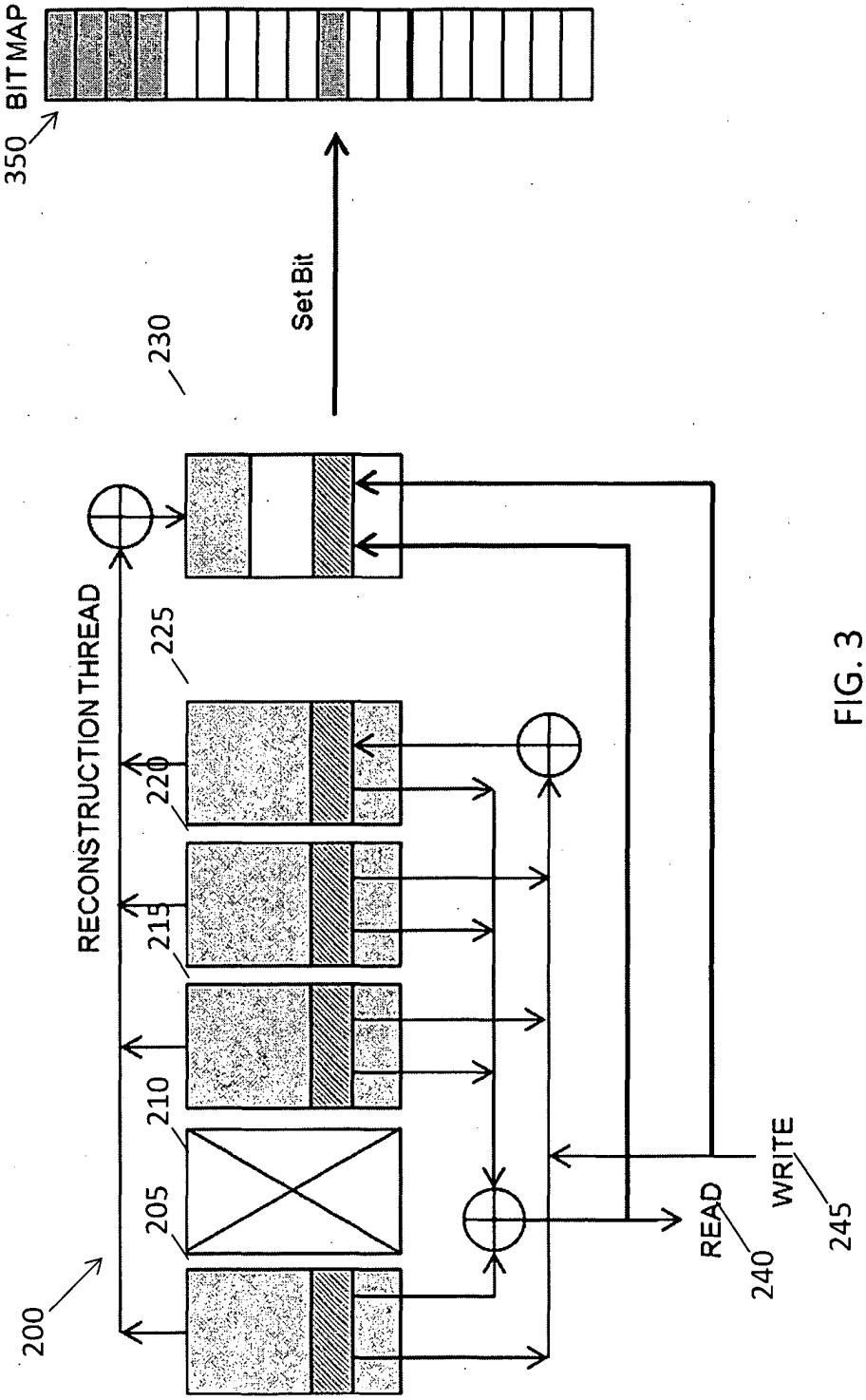
RECON BIT MAP
350
Set Bit
230
RECONSTRUCTION THREAD
225
220
215
210
205
200
READ
240
WRITE
245

FIG. 3

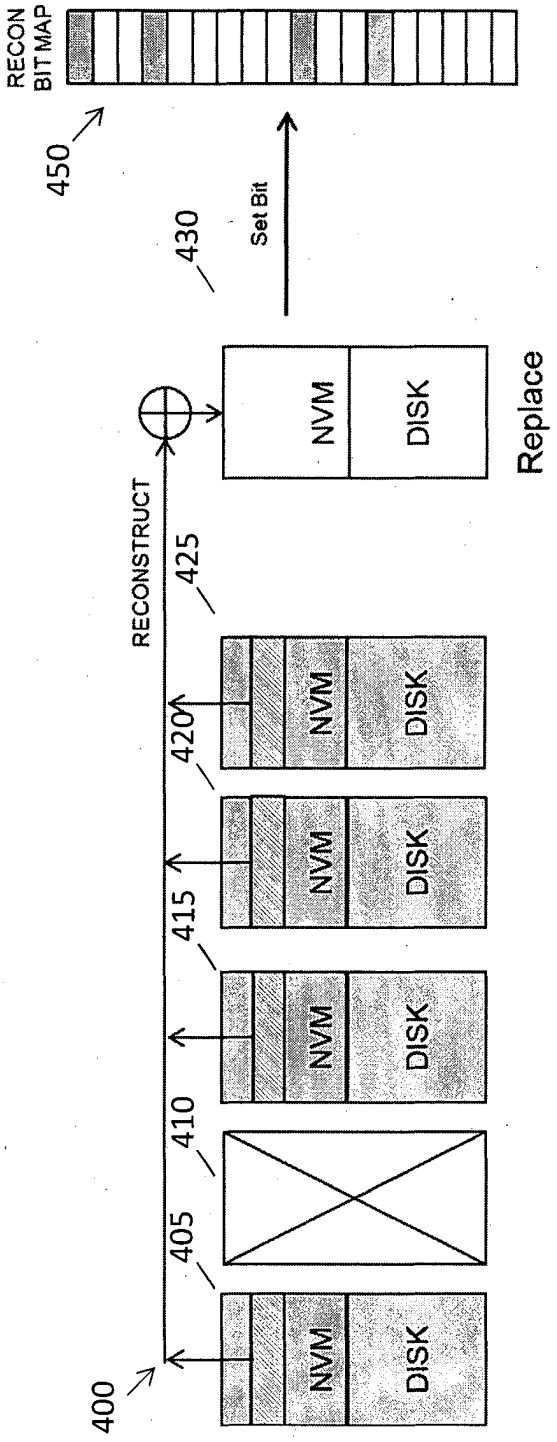
RECON BIT MAP
450
Set Bit
430
NVM
DISK
Replace
RECONSTRUCT
425
420
415
410
405
400

FIG. 4

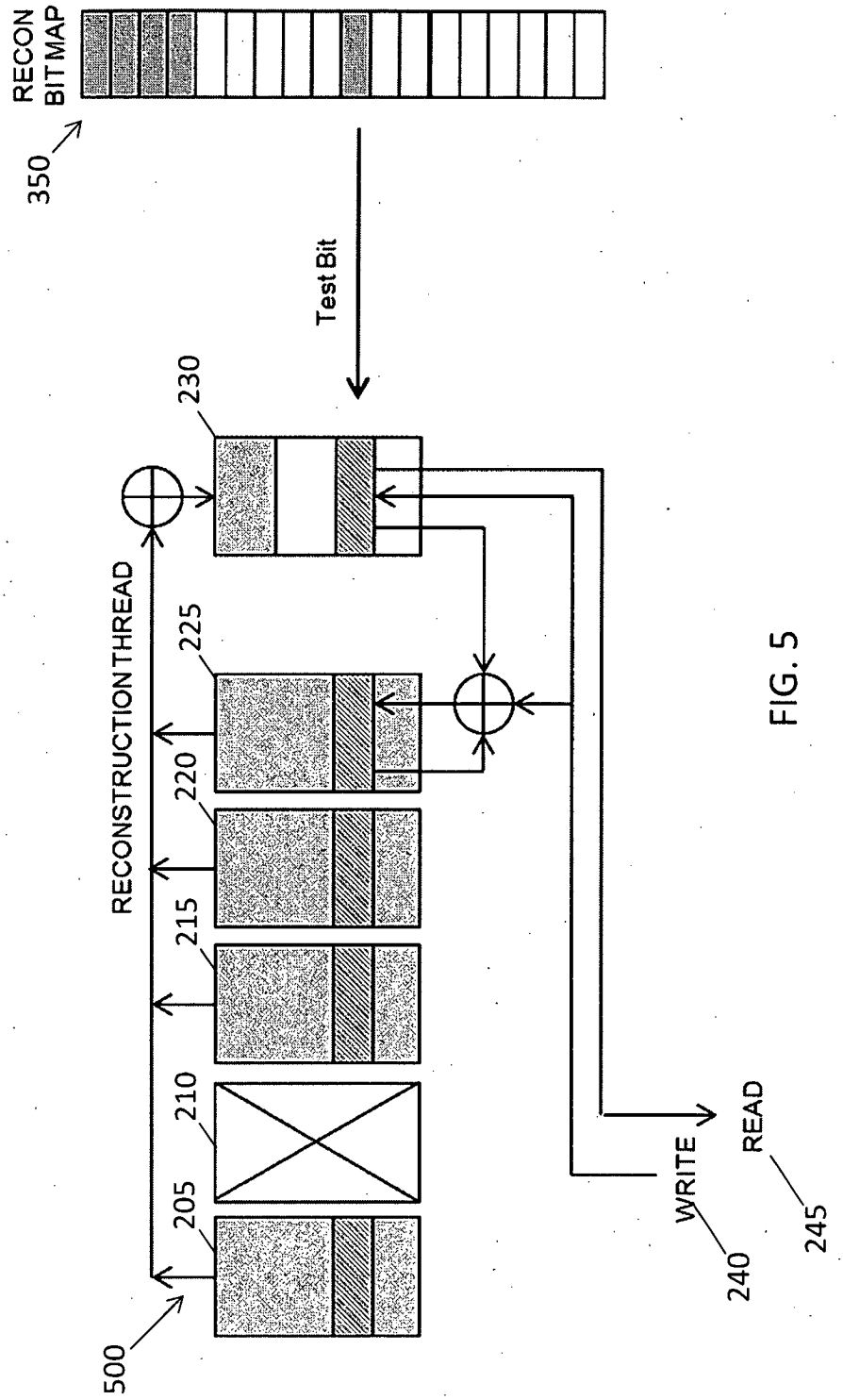
RECON BITMAP
350
Test Bit
230
225
220
215
210
205
RECONSTRUCTION THREAD
500
WRITE
240
READ
245

FIG. 5

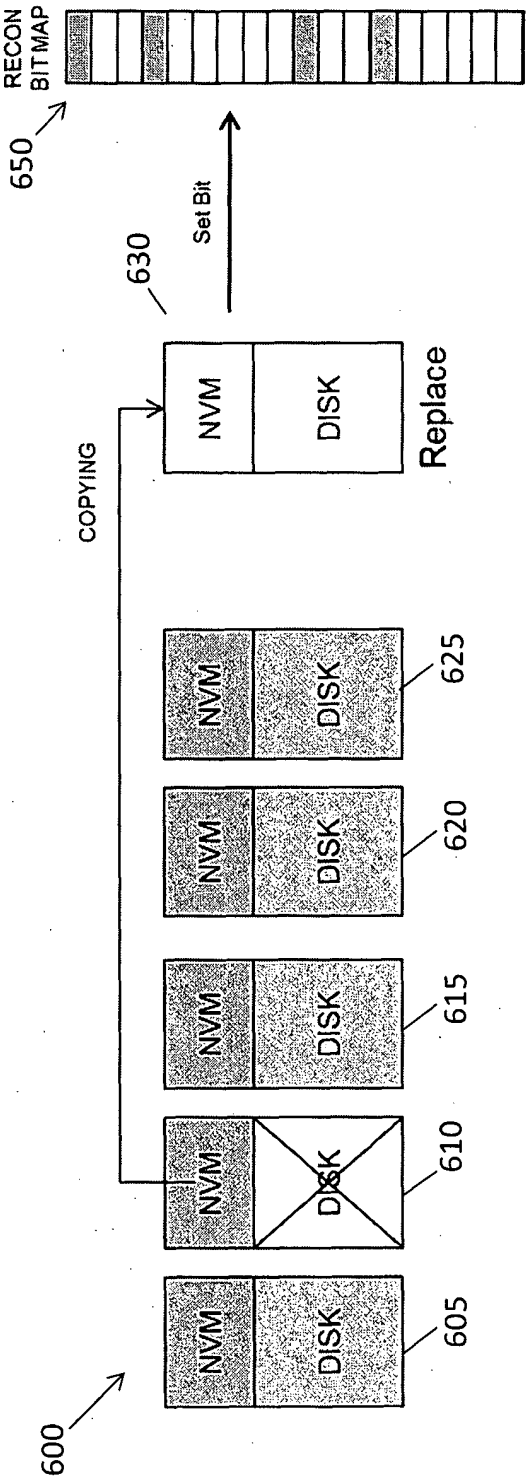
RECON BITMAP
650
Set Bit
630
NVM
DISK
Replace
COPYING
NVM
DISK
625
NVM
DISK
620
NVM
DISK
615
NVM
DISK
610
NVM
DISK
605
600

FIG. 6

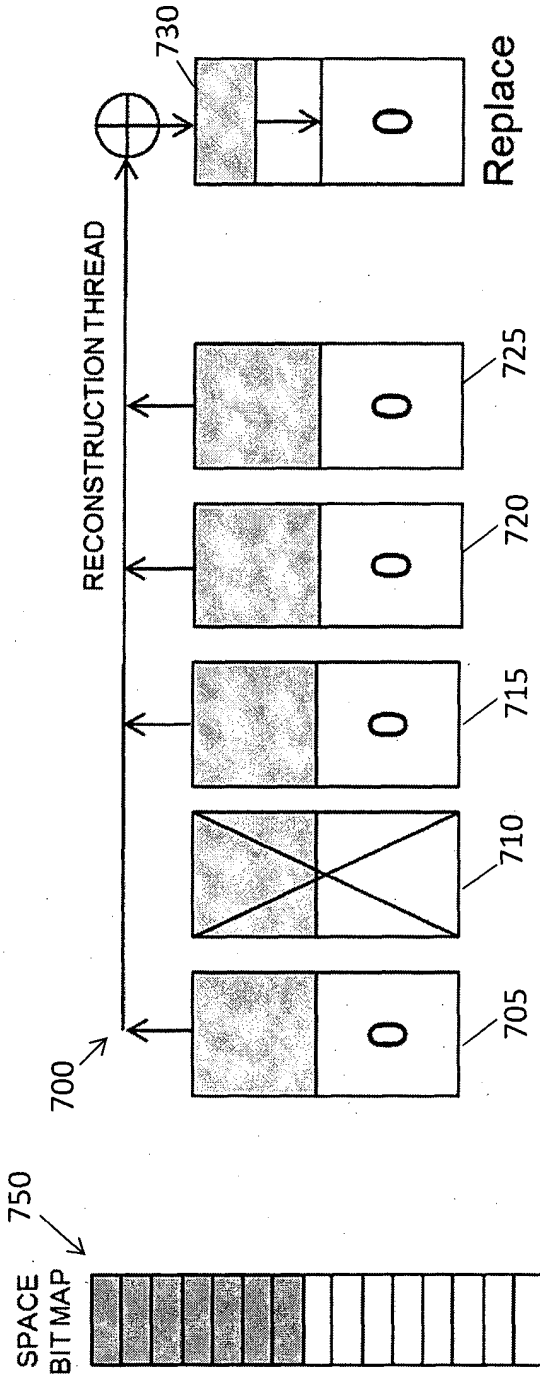
730
Replace
0
RECONSTRUCTION THREAD
725
720
715
710
705
700
750
SPACE BIT MAP

FIG. 7