

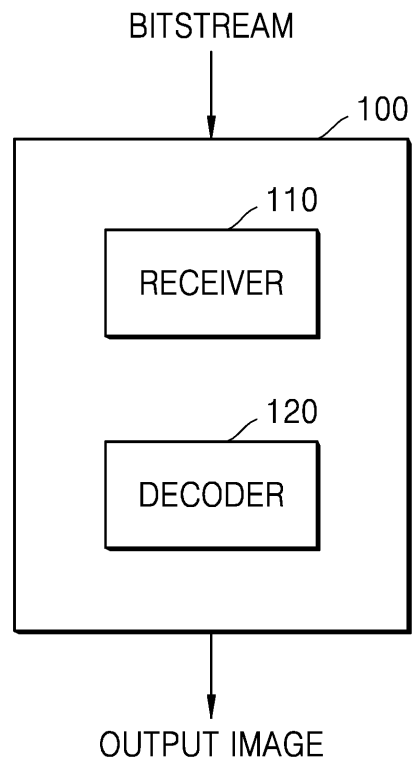
FIG. 1

FIG. 2

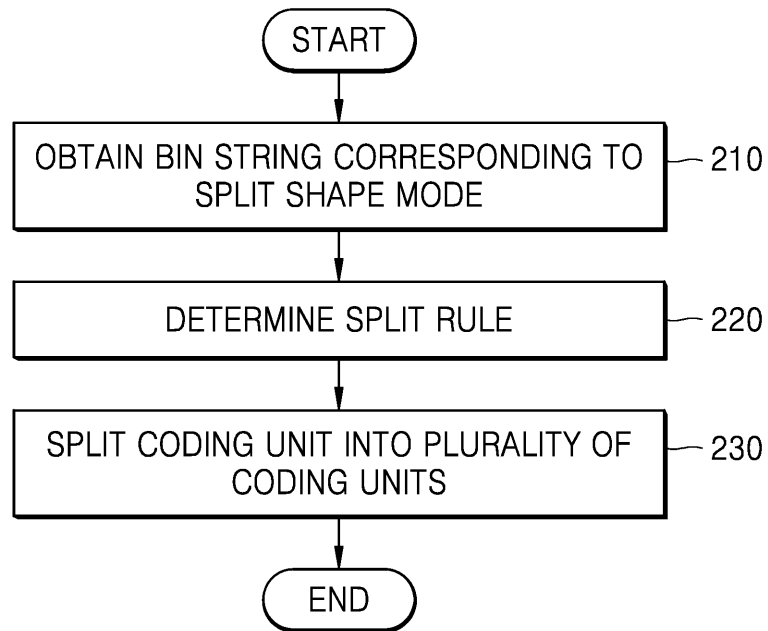


FIG. 3

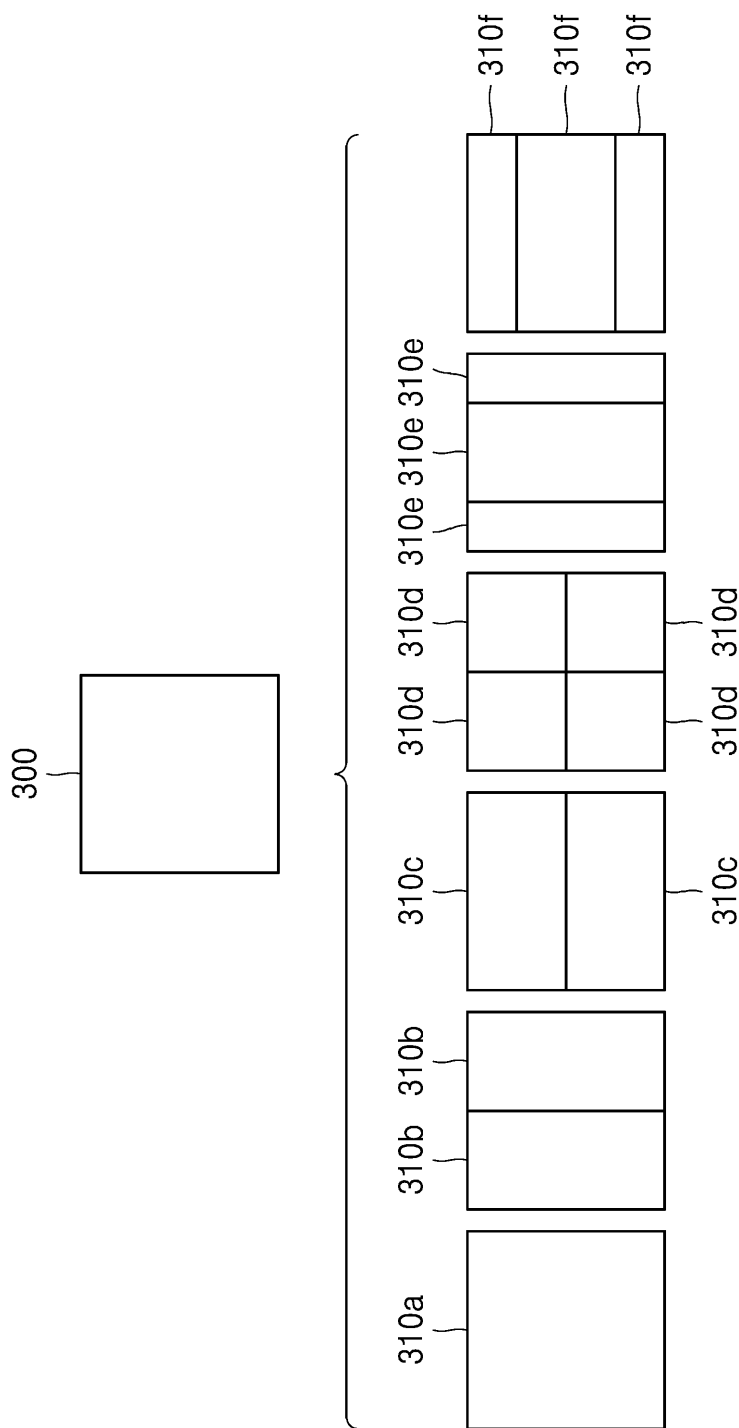


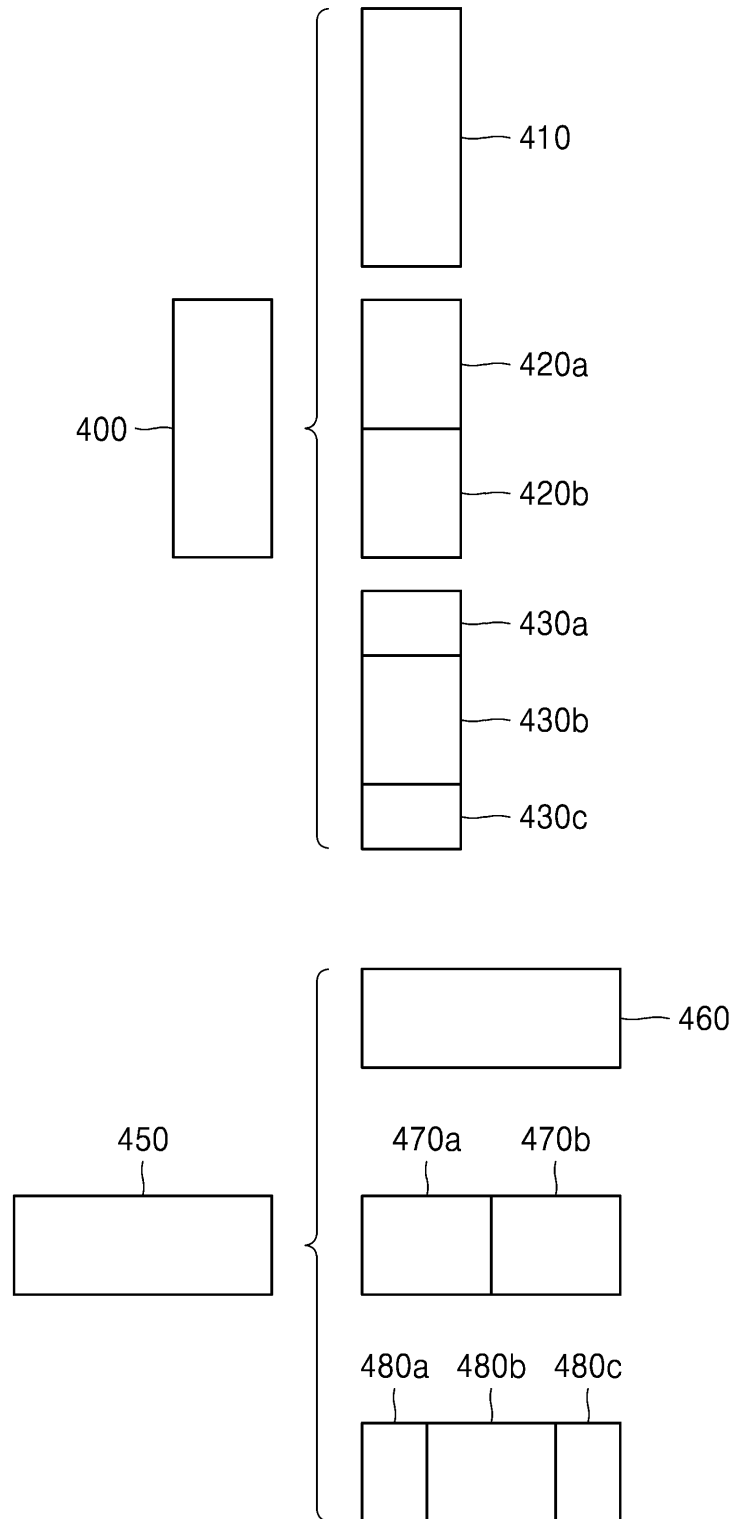
FIG. 4

FIG. 5

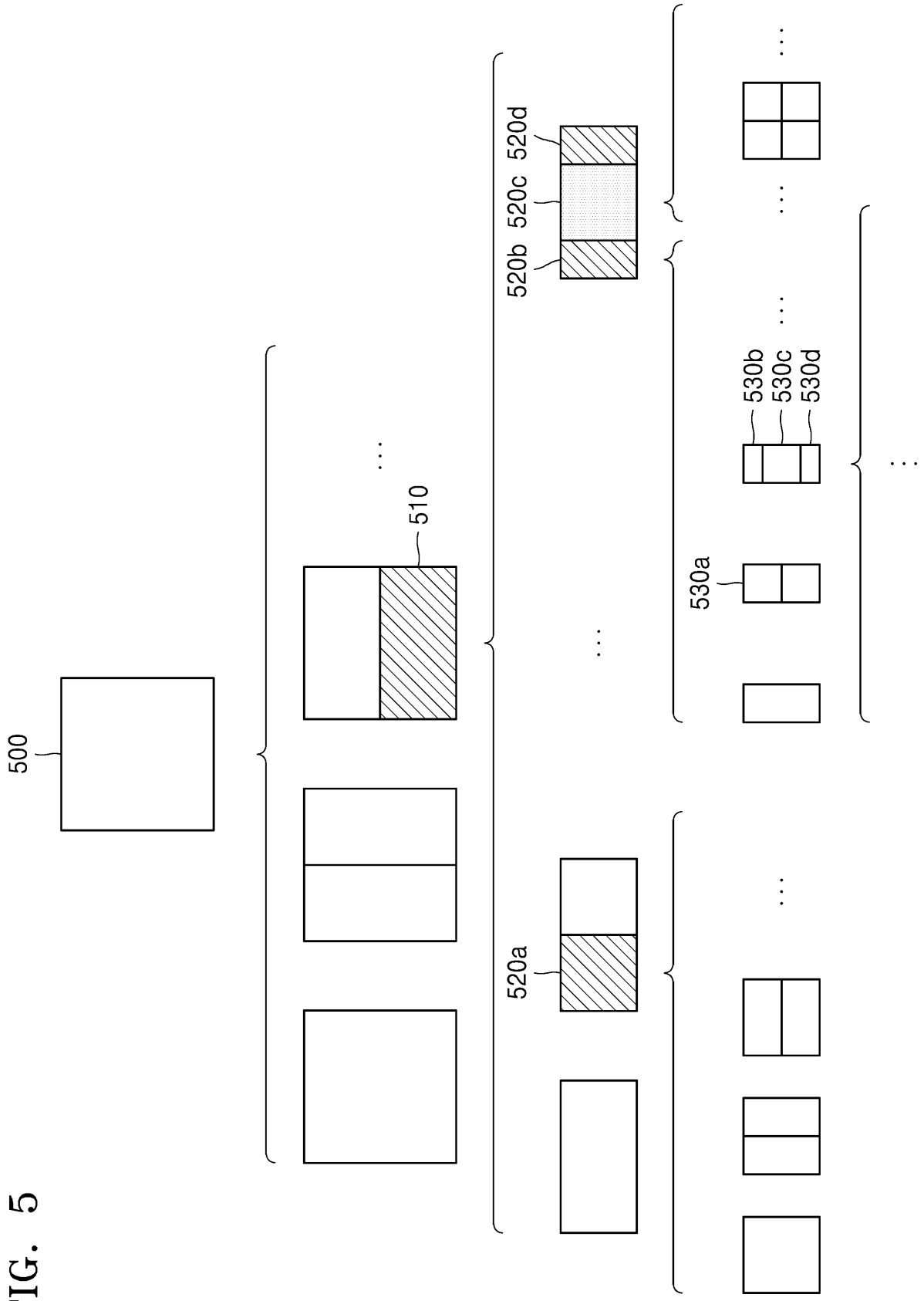


FIG. 6

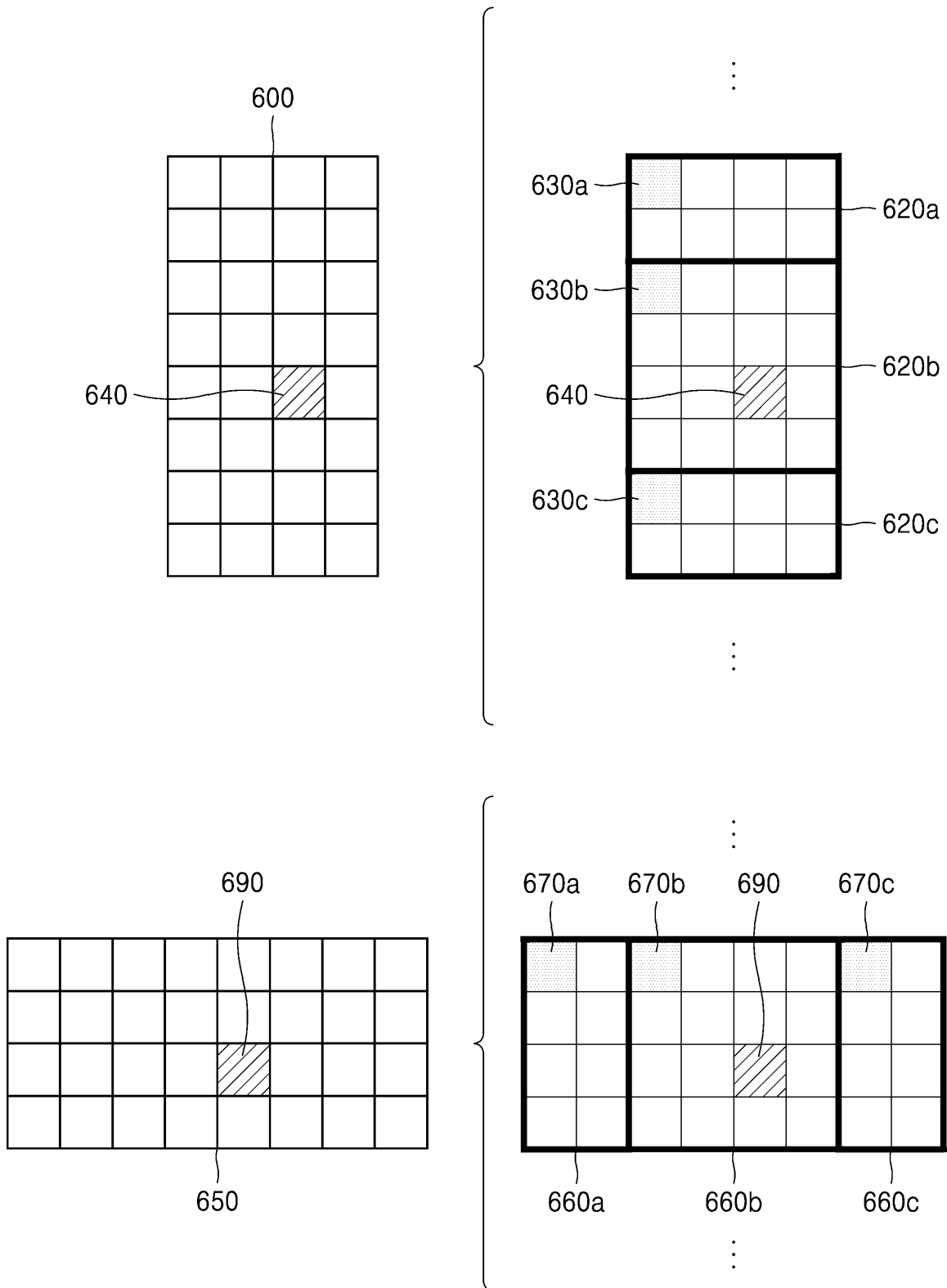


FIG. 7

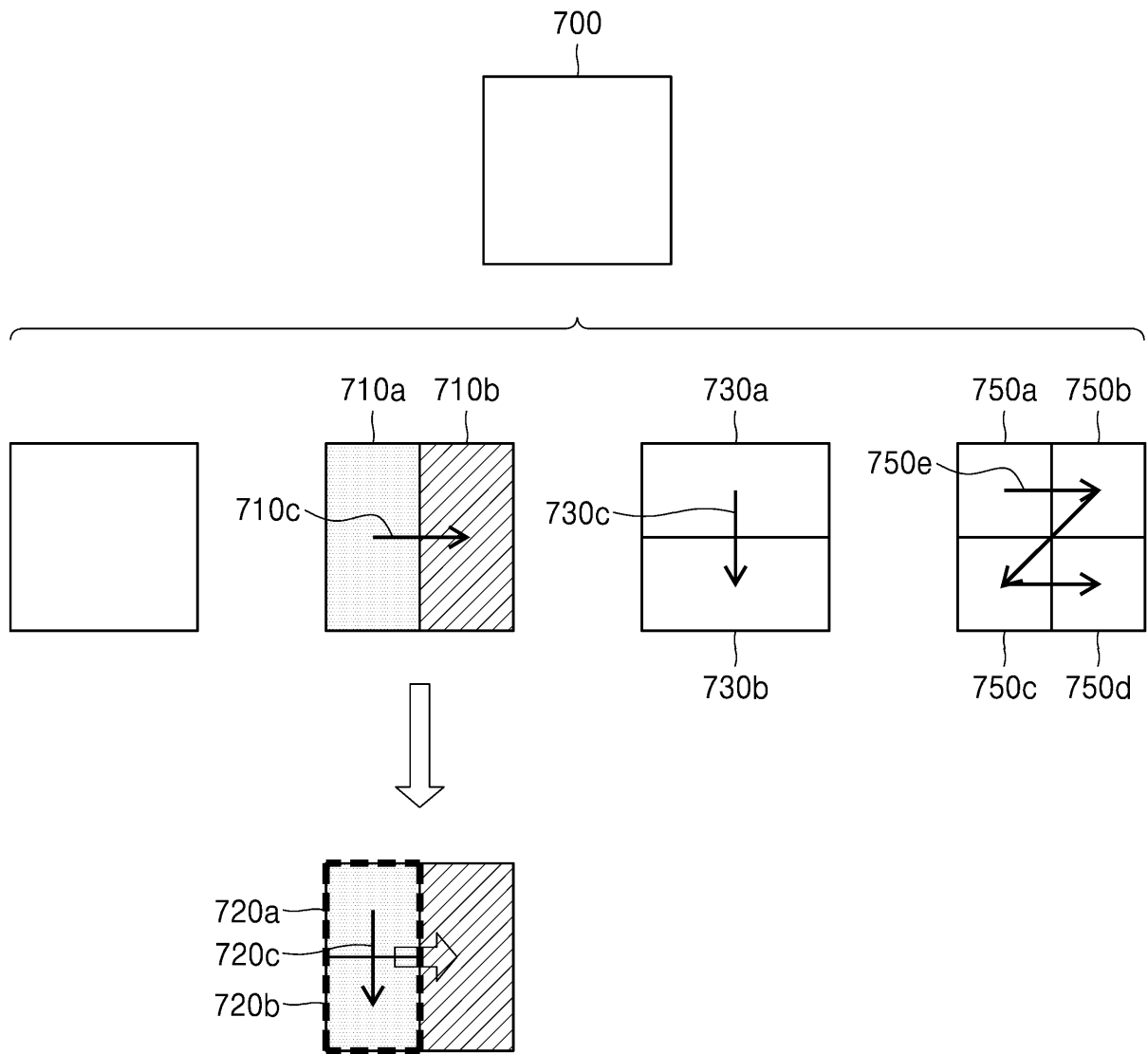


FIG. 8

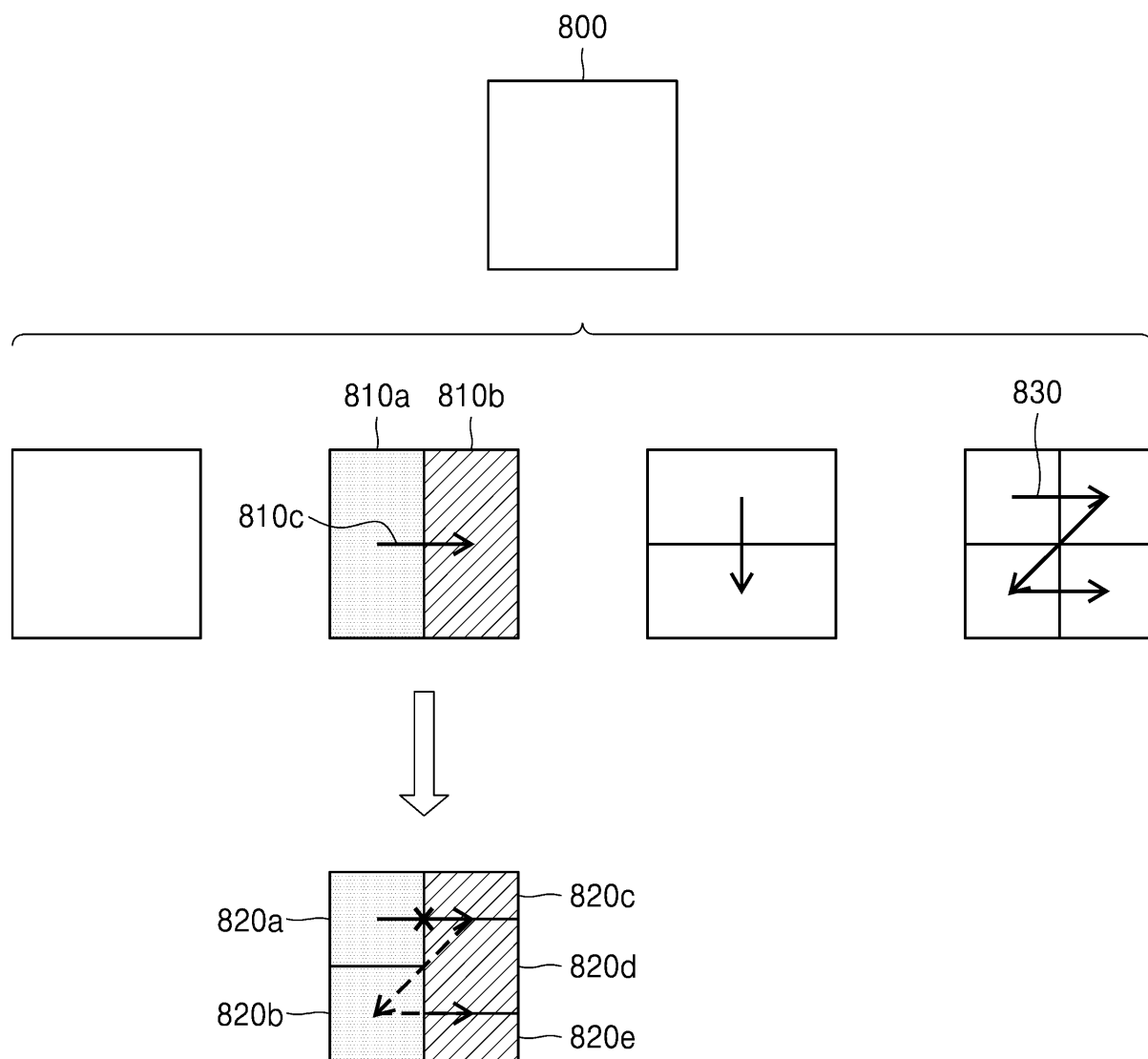


FIG. 9

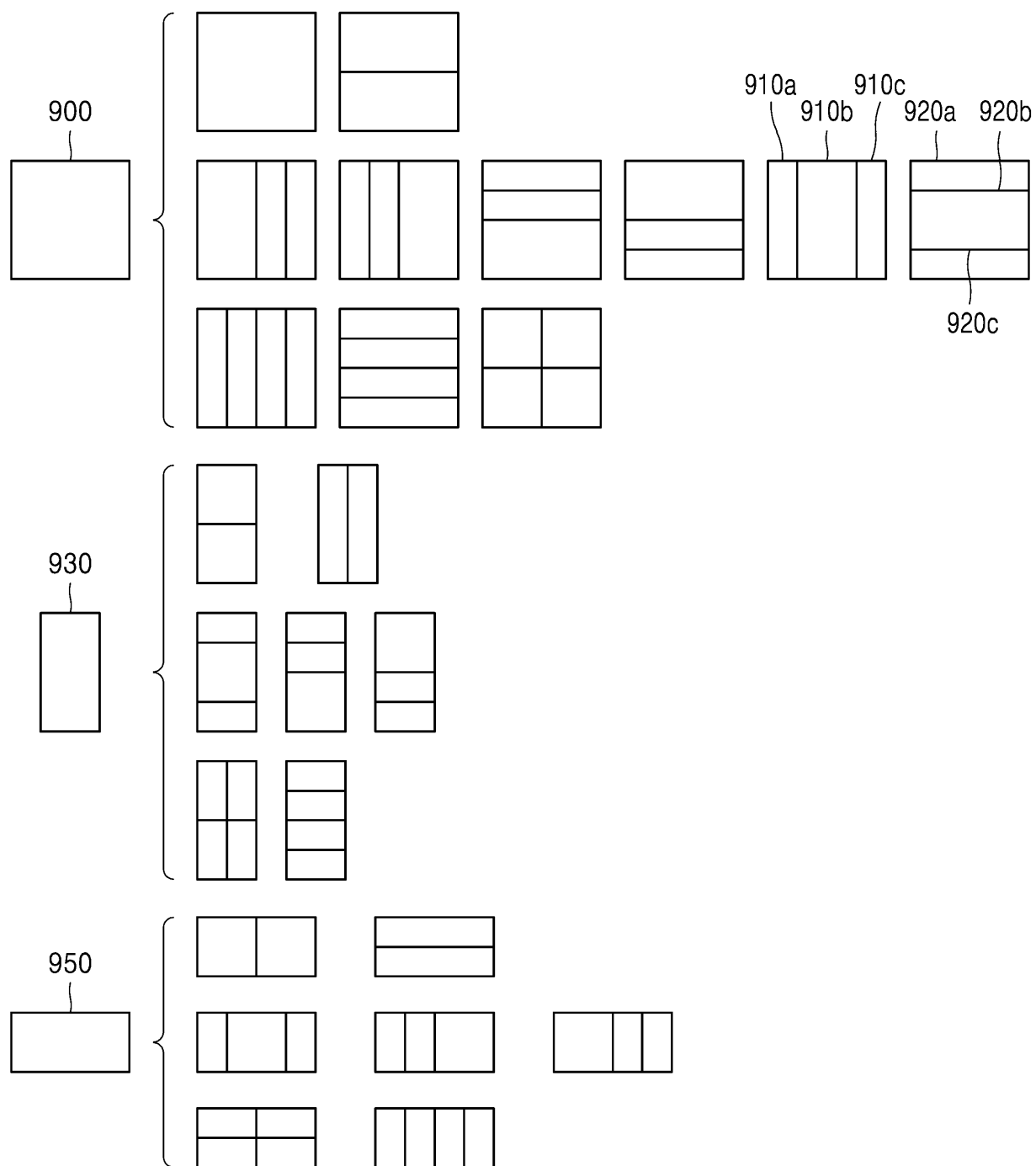


FIG. 10

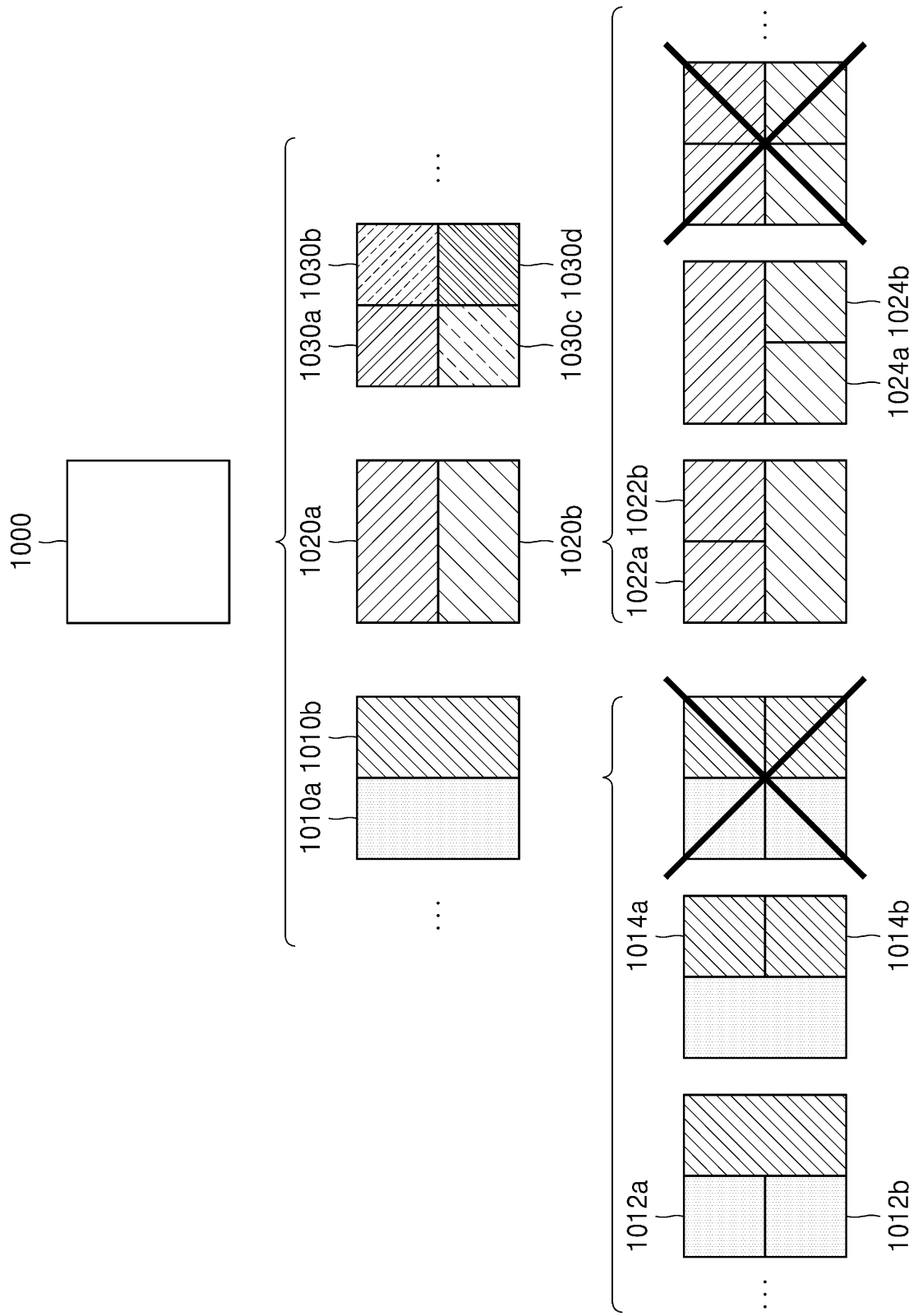


FIG. 11

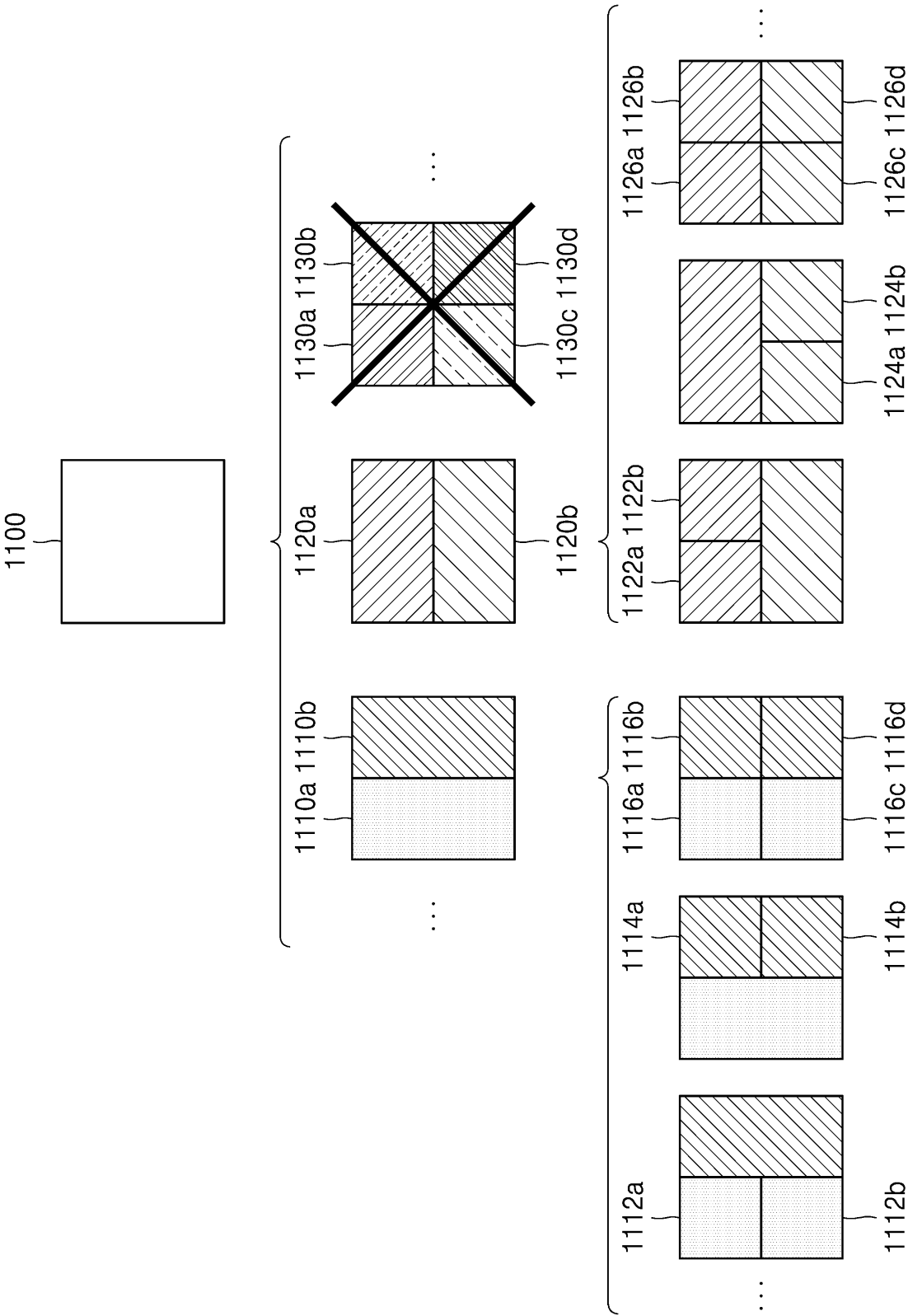


FIG. 12

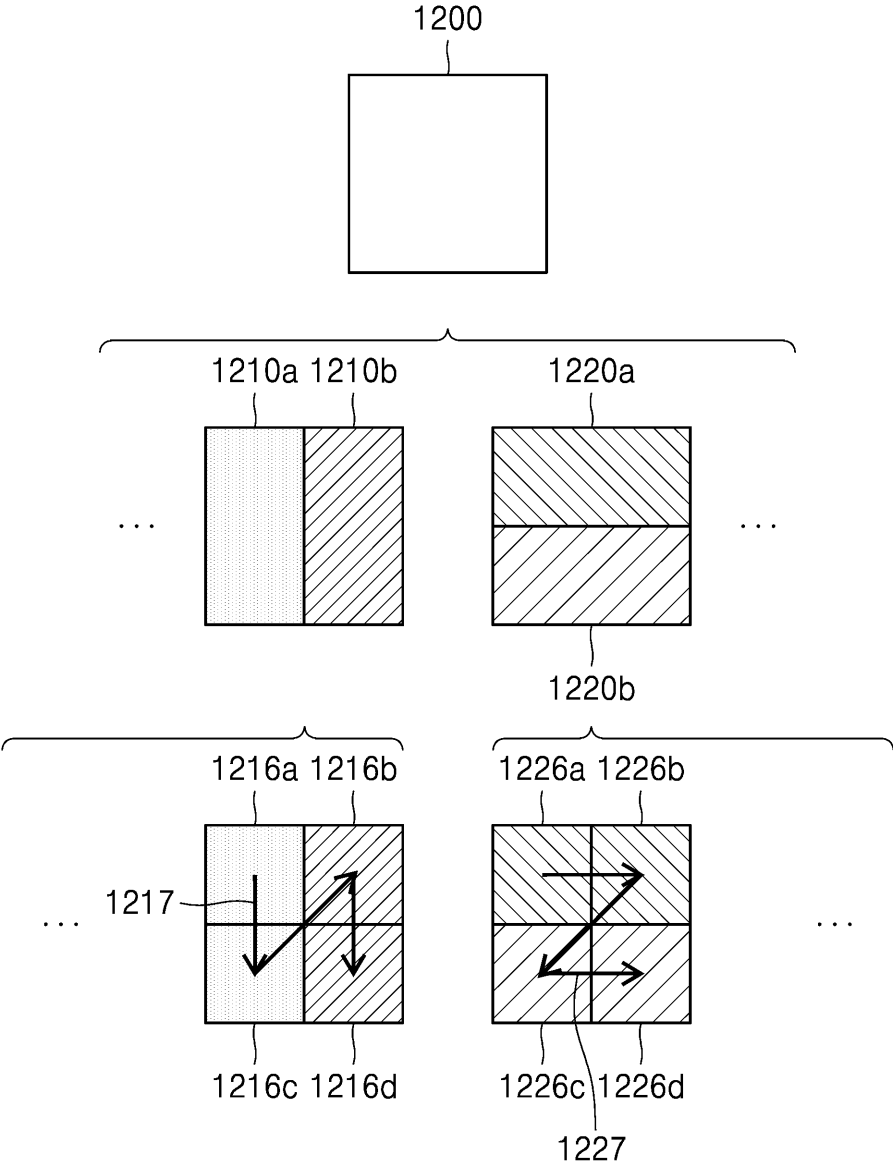


FIG. 13

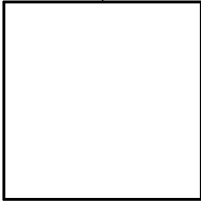
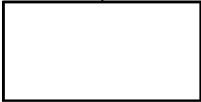
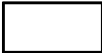
<div>BLOCK SHAPE</div> <div>DEPTH</div>	0: SQUARE	1: NS_VER	2: NS_HOR
DEPTH D	<div>1300</div> 	 <div>1310</div>	<div>1320</div> 
DEPTH D+1	 <div>1302</div>	 <div>1312</div>	 <div>1322</div>
DEPTH D+2	 <div>1304</div>	 <div>1314</div>	 <div>1324</div>
...	...	...	...

FIG. 14

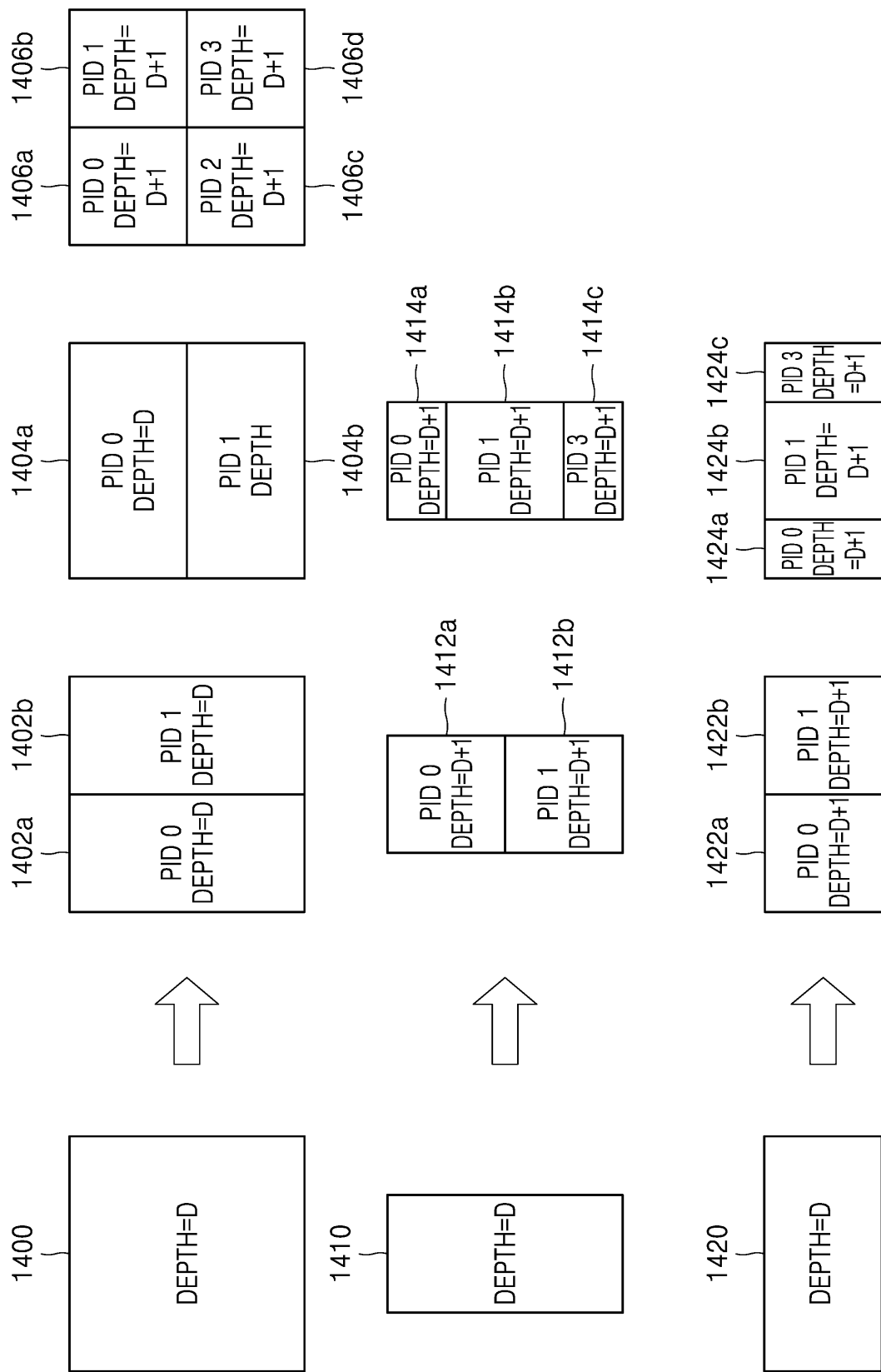


FIG. 15

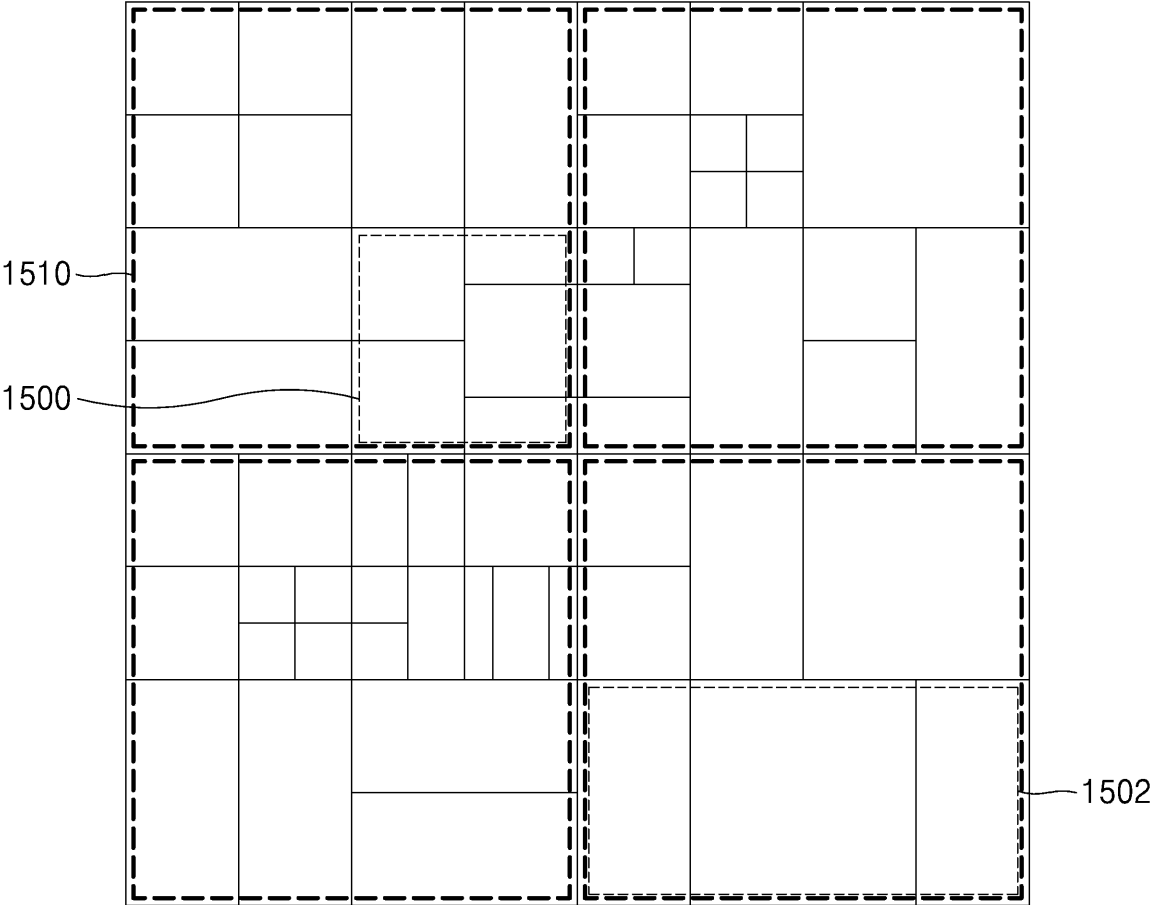


FIG. 16

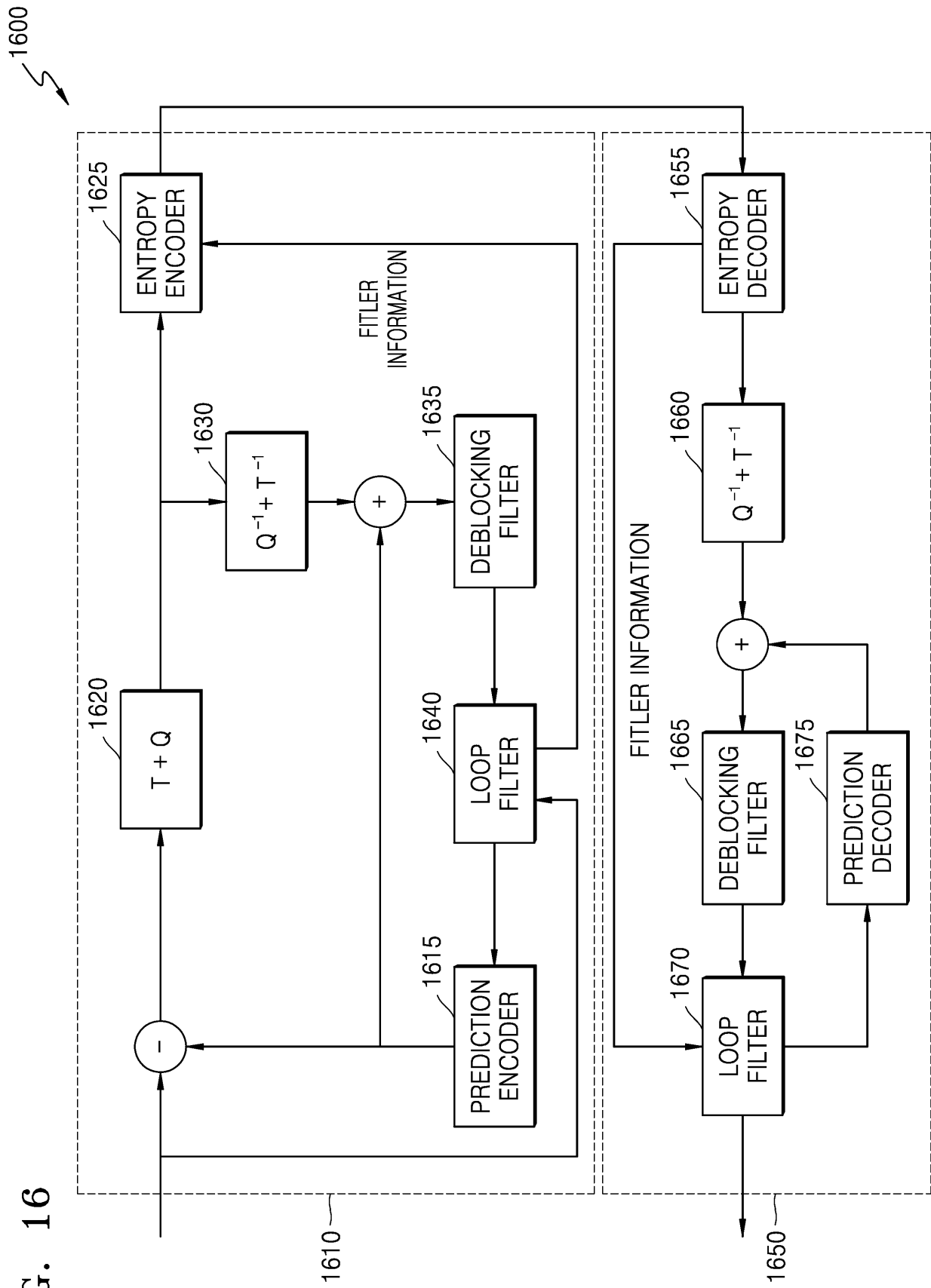


FIG. 17

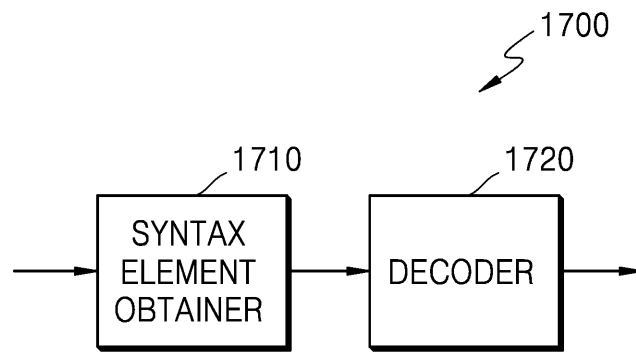


FIG. 18

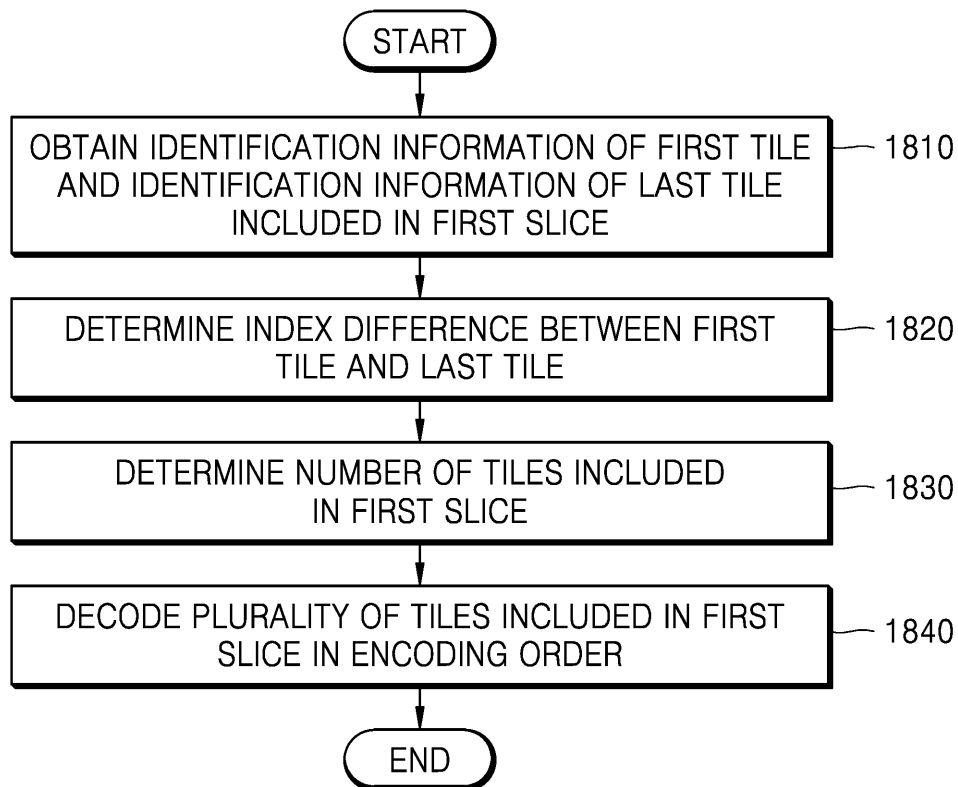


FIG. 19

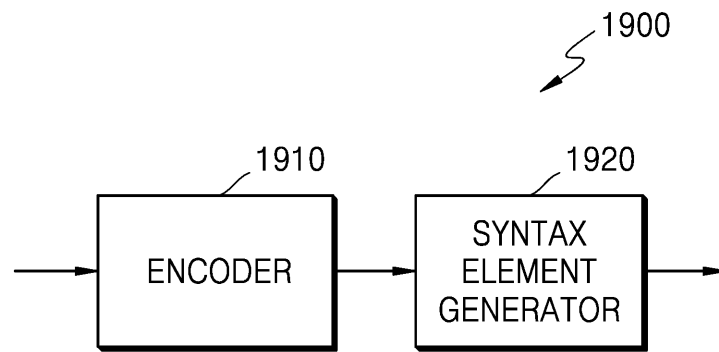


FIG. 20

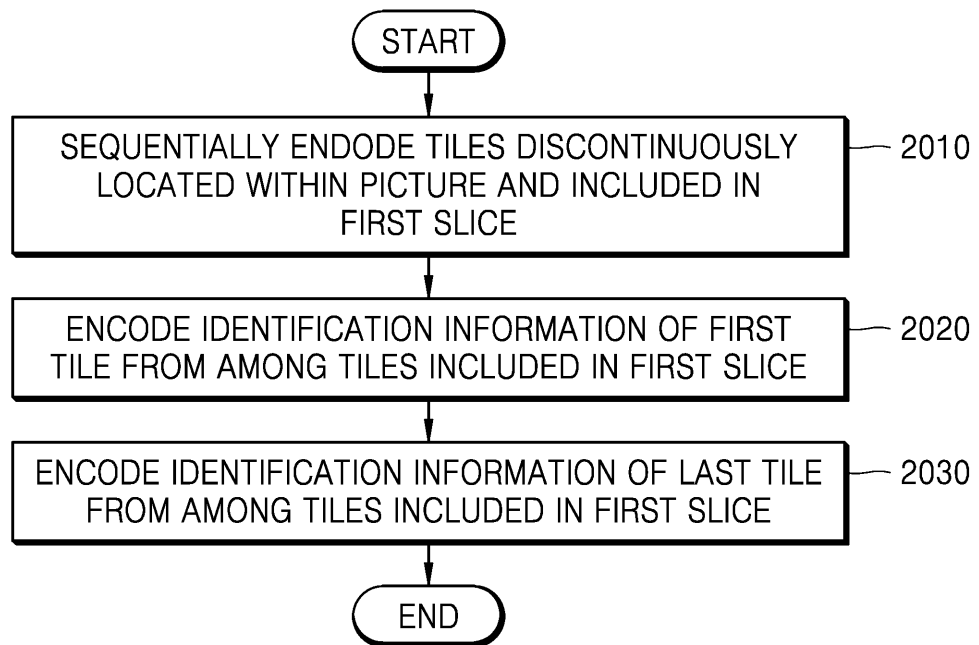
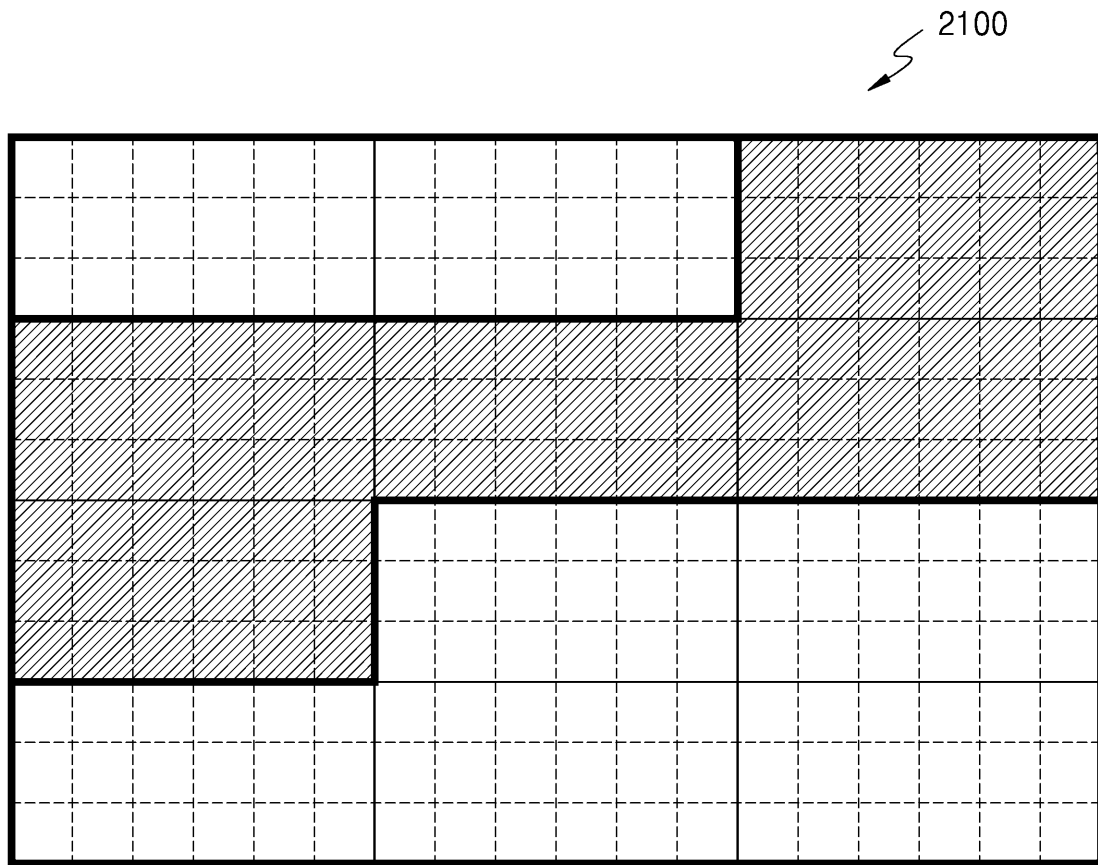


FIG. 21



 LARGEST
CODING UNIT

 TILE

 SLICE

FIG. 22

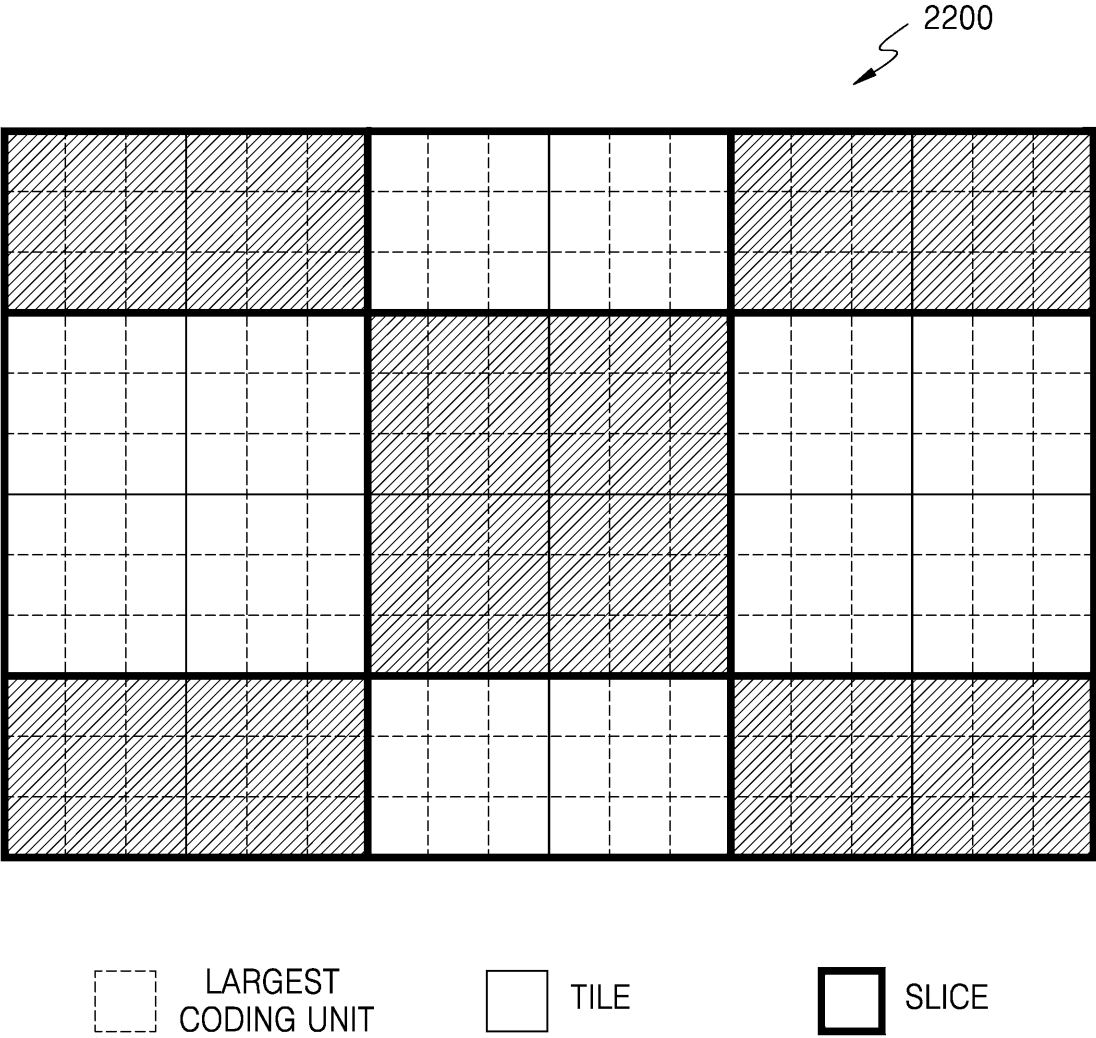


FIG. 23

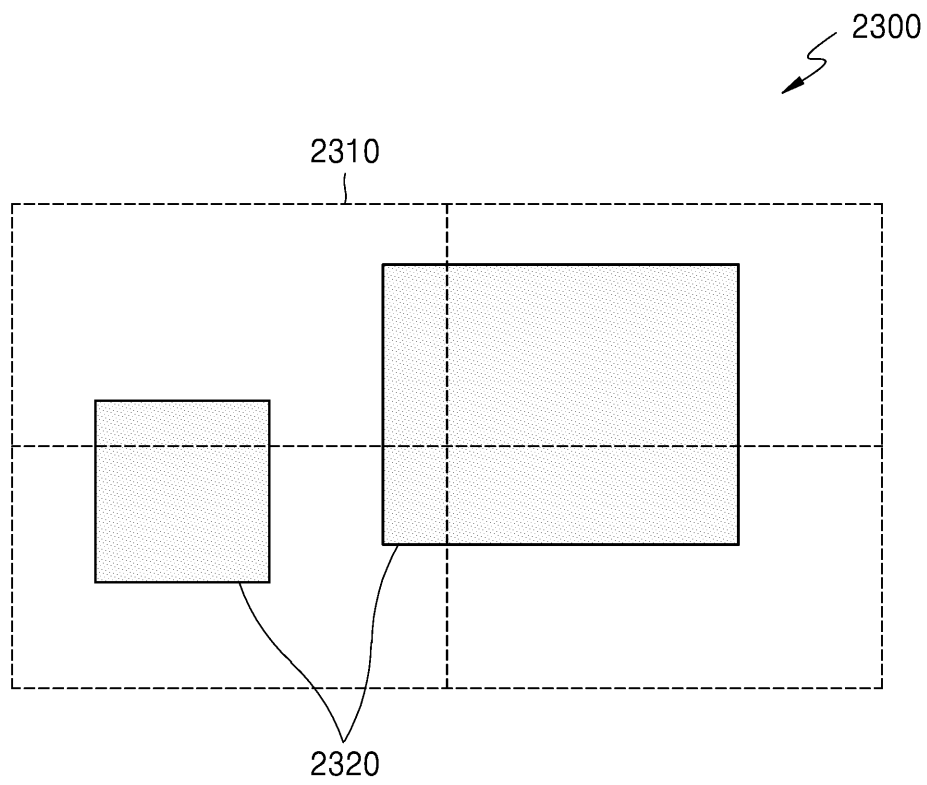


FIG. 24

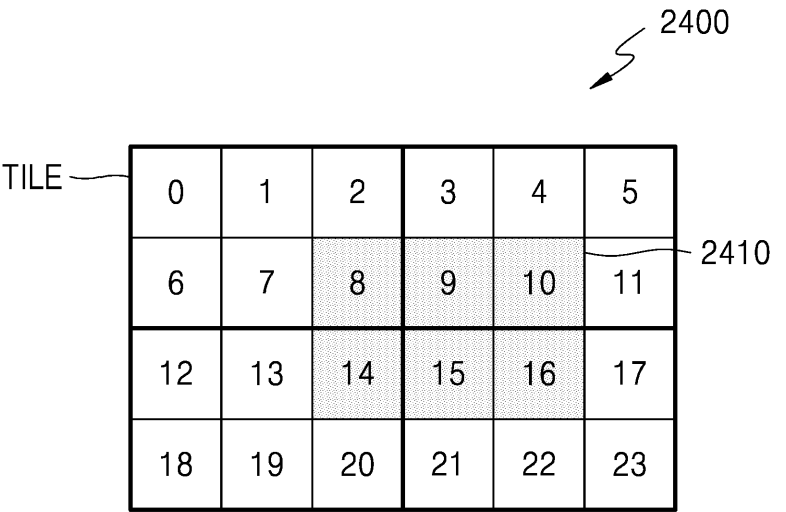


FIG. 25

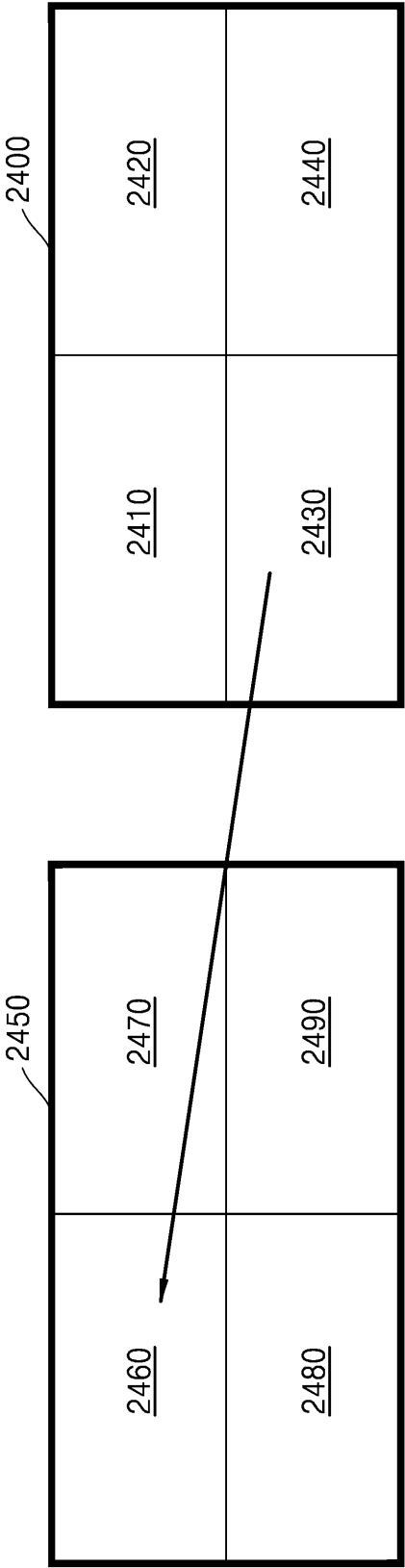


FIG. 26

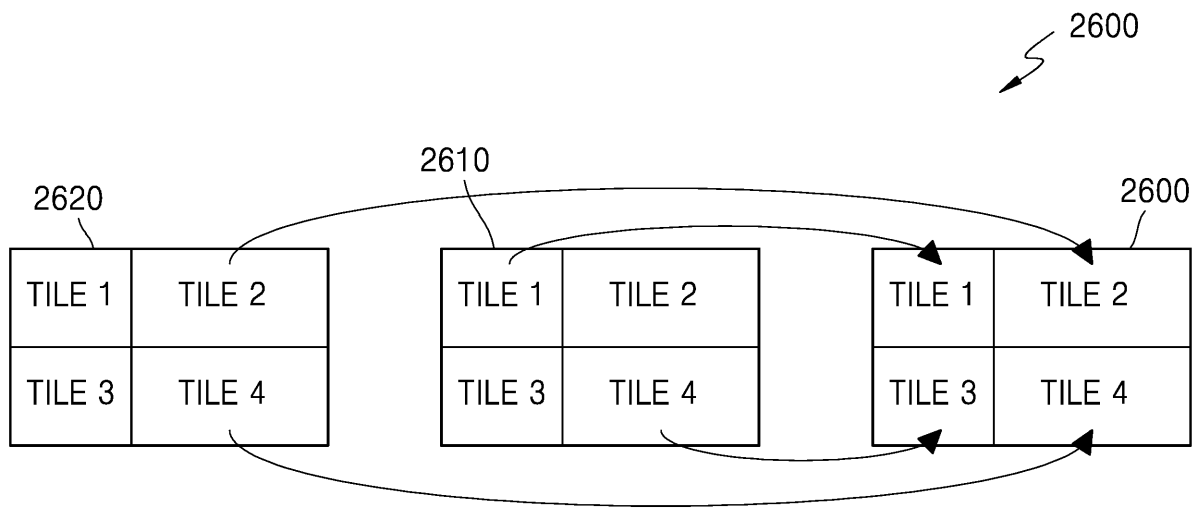
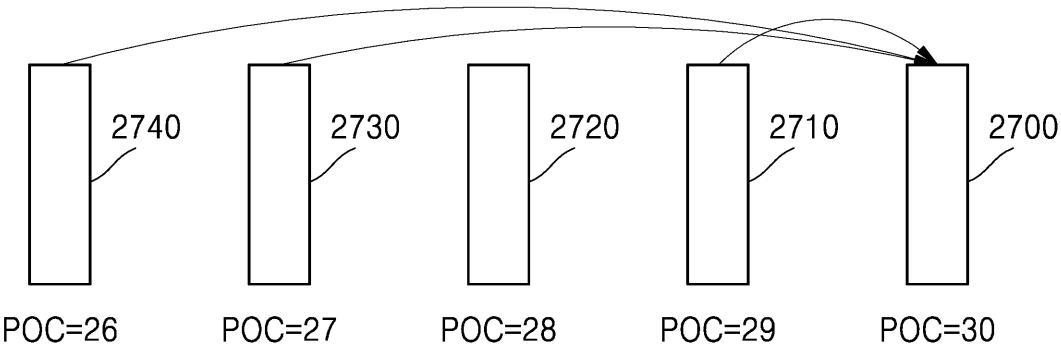


FIG. 27



RPL(PoC)	RPL(PoC DIFFERENCE)	RPL
[0] 29	[0]-1 (29-30)	[0]-1 (29-30)
[1] 27	⇒ [1]-3 (27-30) ⇒	[1]-2 (27-29)
[2] 26	[2]-4 (26-30)	[2]-1 (26-27)

FIG. 28

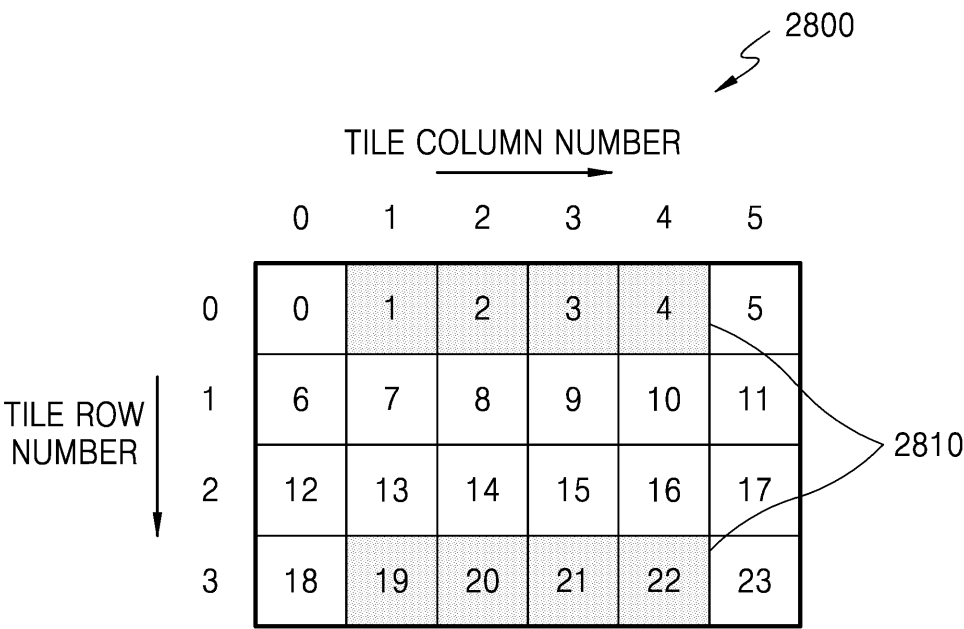


FIG. 29

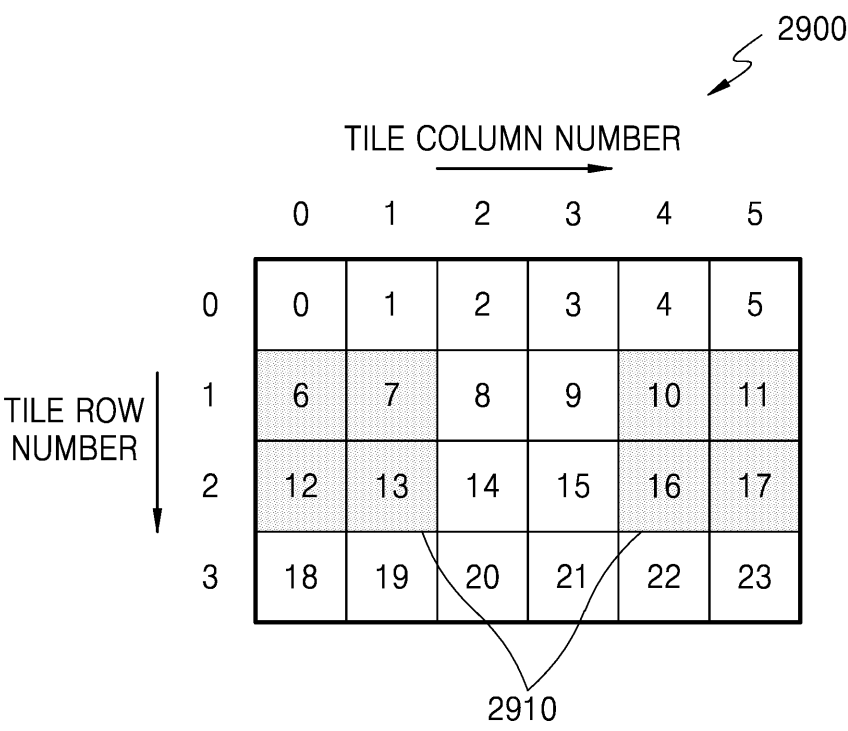


FIG. 30

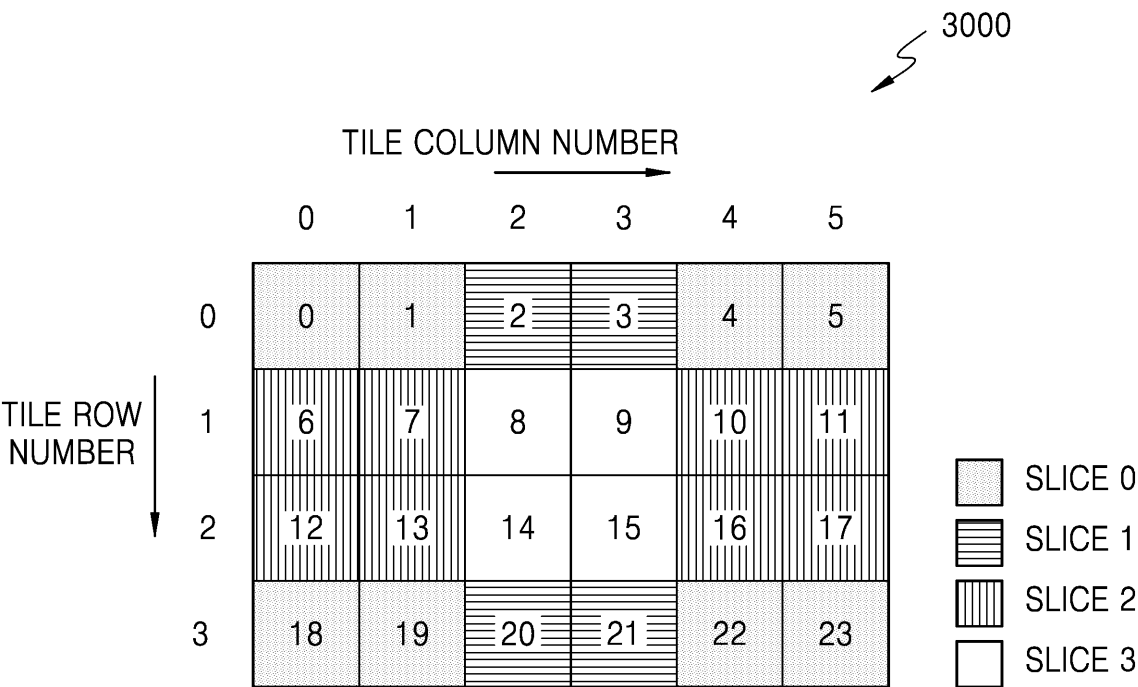


FIG. 31

SLICE NUMBER	FIRST TILE NUMBER	LAST TILE NUMBER	TILE ORDER
SLICE 0	22	1	22,23,18,19,4,5,0,1
SLICE 1	20	3	20,21,2,3
SLICE 2	10	13	10,11,6,7,16,17,12,13
SLICE 3	8	15	8,9,14,15

FIG. 32

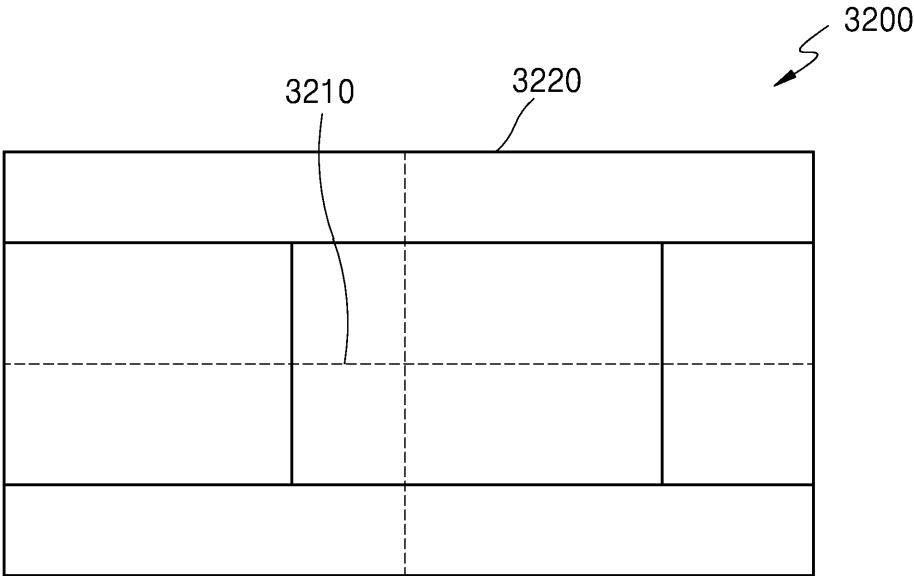


FIG. 33

3200



0	1	2	3
4	5	6	7
8	9	10	11
12	13	14	15

FIG. 34

SLICE LAYOUT A (ROI)	SLICE LAYOUT B (PARALLELISM)
SLICE 0: 0, 1, 2, 3	SLICE 0: 0, 1, 4, 5
SLICE 1: 4, 8	SLICE 1: 2, 3, 6, 7
SLICE 2: 5, 6, 9, 10	SLICE 2: 8, 9, 12, 13
SLICE 3: 7, 11	SLICE 3: 10, 11, 14, 15
SLICE 4: 12, 13, 14, 15	

FIG. 35

3500

tile_group_header() {
top_left_tile_id
bottom_right_tile_id
}

FIG. 36

3500

tile_group_data() {
tileidx = top_left_tile_id
for(j = 0; j < NumTileRowsInTileGroup; j++, tileidx += num_tile_columns_minus1 + 1) {
for(i = 0, CurrTileidx = tileidx; i < NumTileColumnsInTileGroup; i++, CurrTileidx++) {
if(CurrTileidx / NumTileColumnsInTileGroup > tileidx / NumTileColumnsInTileGroup)
CurrTileidx = CurrTileidx - NumTileColumnsInTileGroup;
if(CurrTileidx / NumTileColumnsInTileGroup >= NumTileRowsInTileGroup)
CurrTileidx = CurrTileidx - NumTilesInPic
ctbAddrInTs = FirstCtbAddrTs[CurrTileidx]
for(k = 0; k < NumCtusInTile[CurrTileidx]; k++, ctbAddrInTs++) {
CtCtbAddrInRs = CtbAddrTsToRs[ctbAddrInTs]
coding_tree_unit()
}
}
}

FIG. 37

```

* deltaTileIdx = ( bottom_right_tile_id < top_left_tile_id ) ? [bottom_right_tile_id -
top_left_tile_id + NumTilesInPic]: ( ( top_left_tile_id % ( num_tile_columns_minus1 + 1 ) )
< ( bottom_right_tile_id % ( num_tile_columns_minus1 + 1 ) ) ) ? [bottom_right_tile_id -
top_left_tile_id + num_tile_columns_minus1]:[bottom_right_tile_id - top_left_tile_id]
3710
3720
* NumTileRowsInTileGroup = ( deltaTileIdx / ( num_tile_columns_minus1 + 1 ) ) + 1 —3740
* NumTileColumnsInTileGroup = ( deltaTileIdx % ( num_tile_columns_minus1 + 1 ) ) + 1 —3750
* NumTilesInTileGroup = NumTileRowsInTileGroup * NumTileColumnsInTileGroup —3760

```

FIG. 38

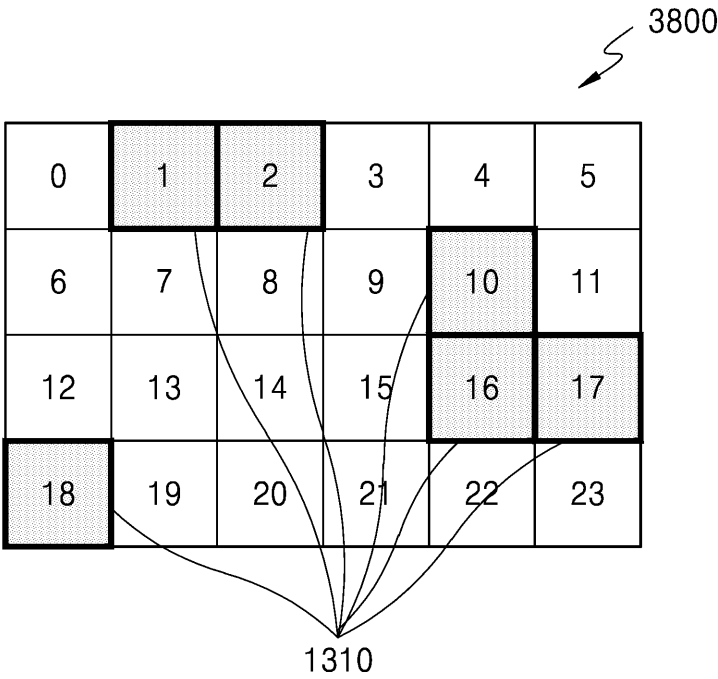


FIG. 39

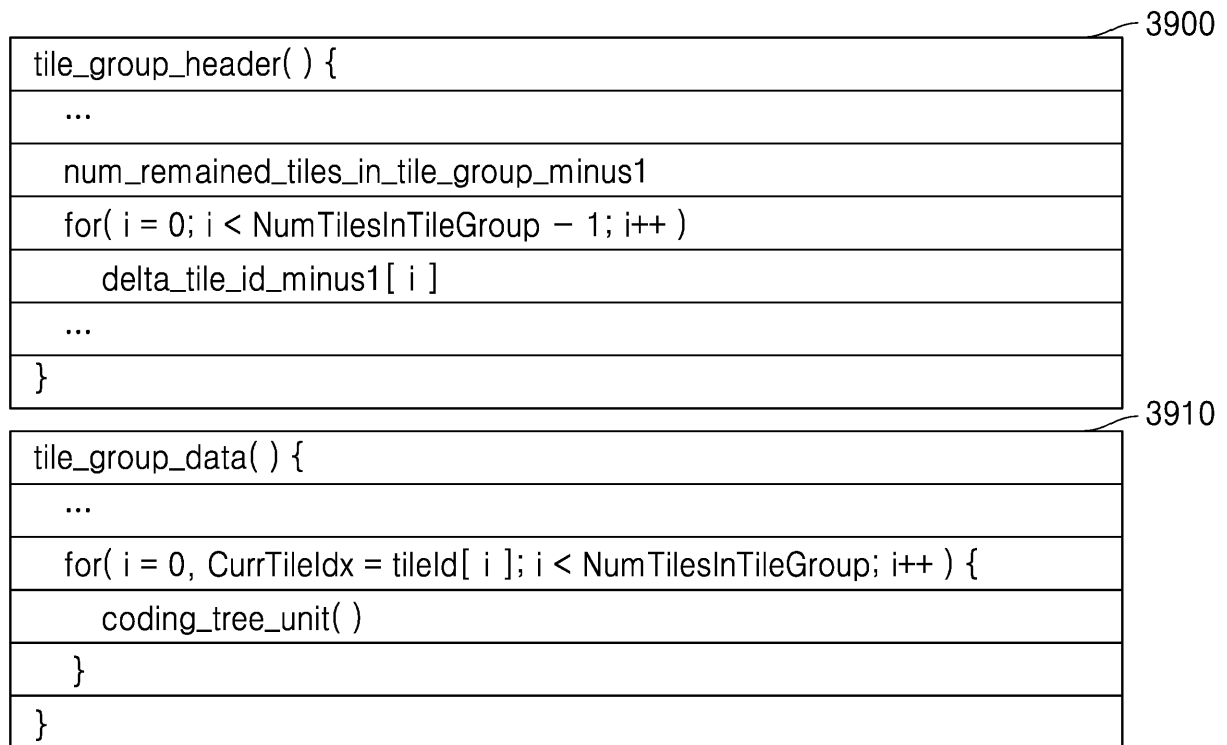


FIG. 40

$\text{NumTilesInTileGroup} = \text{num_remained_tiles_in_tile_group_minus1} + 2$ — 4010

$\text{tileId}[i] = (i > 0) ? \text{tileId}[i - 1] + \text{delta_tile_id_minus1}[i] + 1 : \text{top_left_tile_id}$ — 4020