FIG. 1

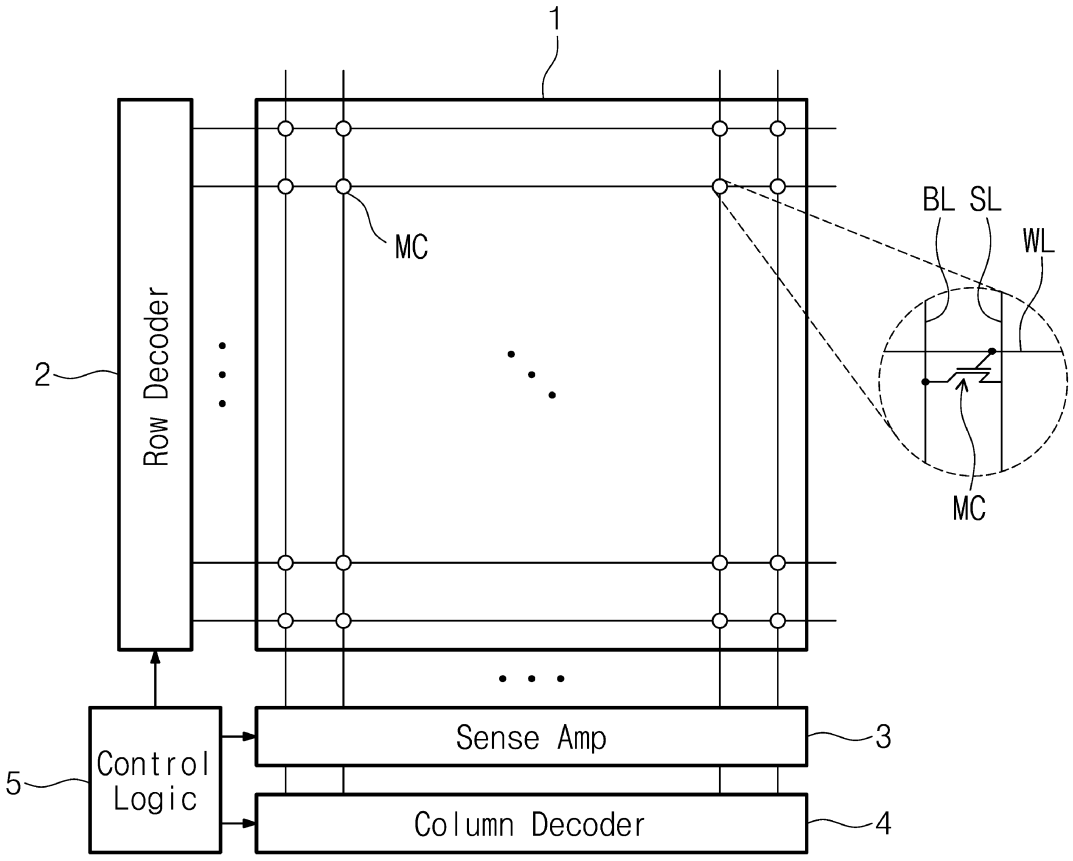

1
Row Decoder
2
MC
BL SL
WL
MC
Control Logic
5
Sense Amp
3
Column Decoder
4

FIG. 2A

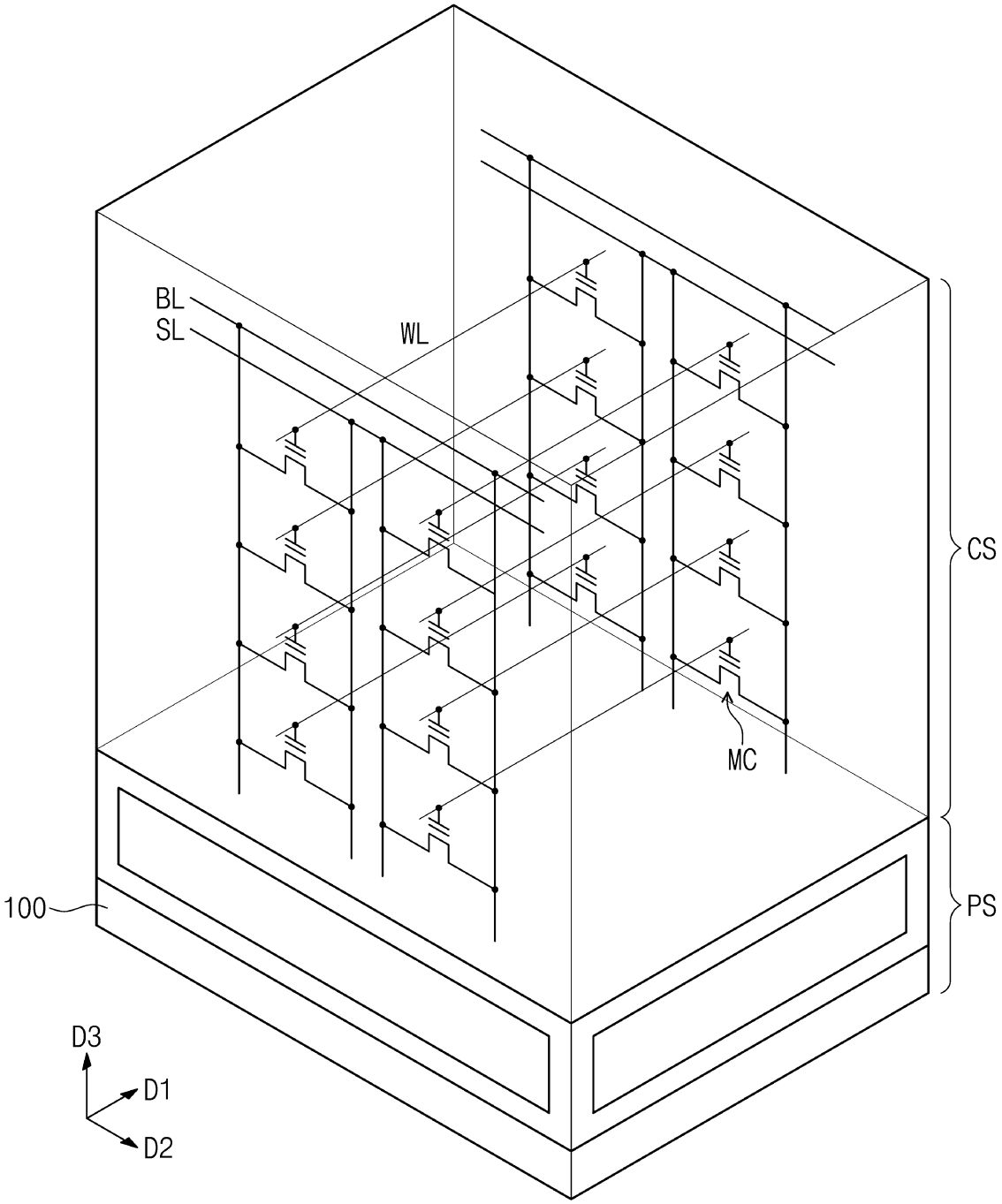


FIG. 2B

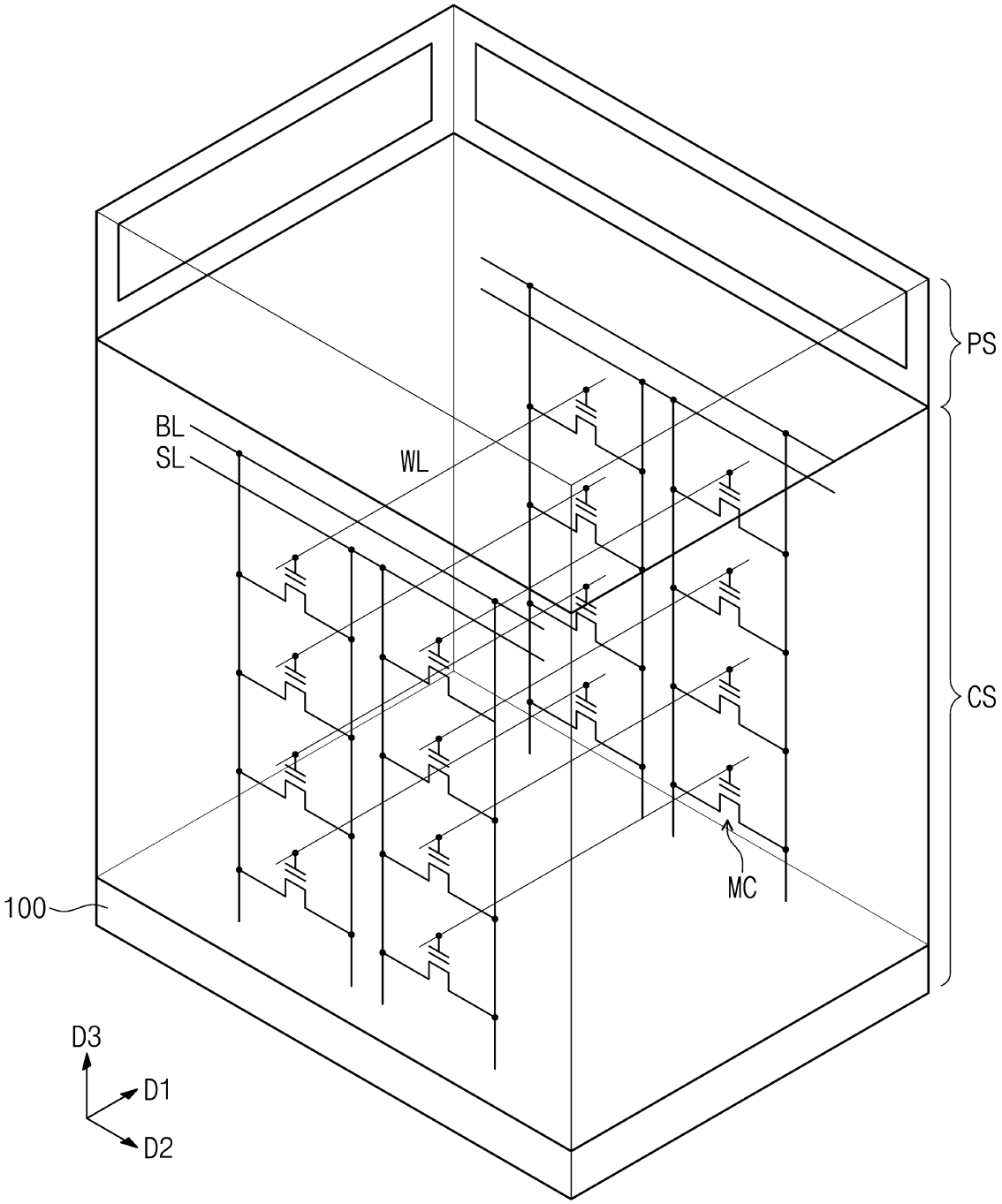


FIG. 2C

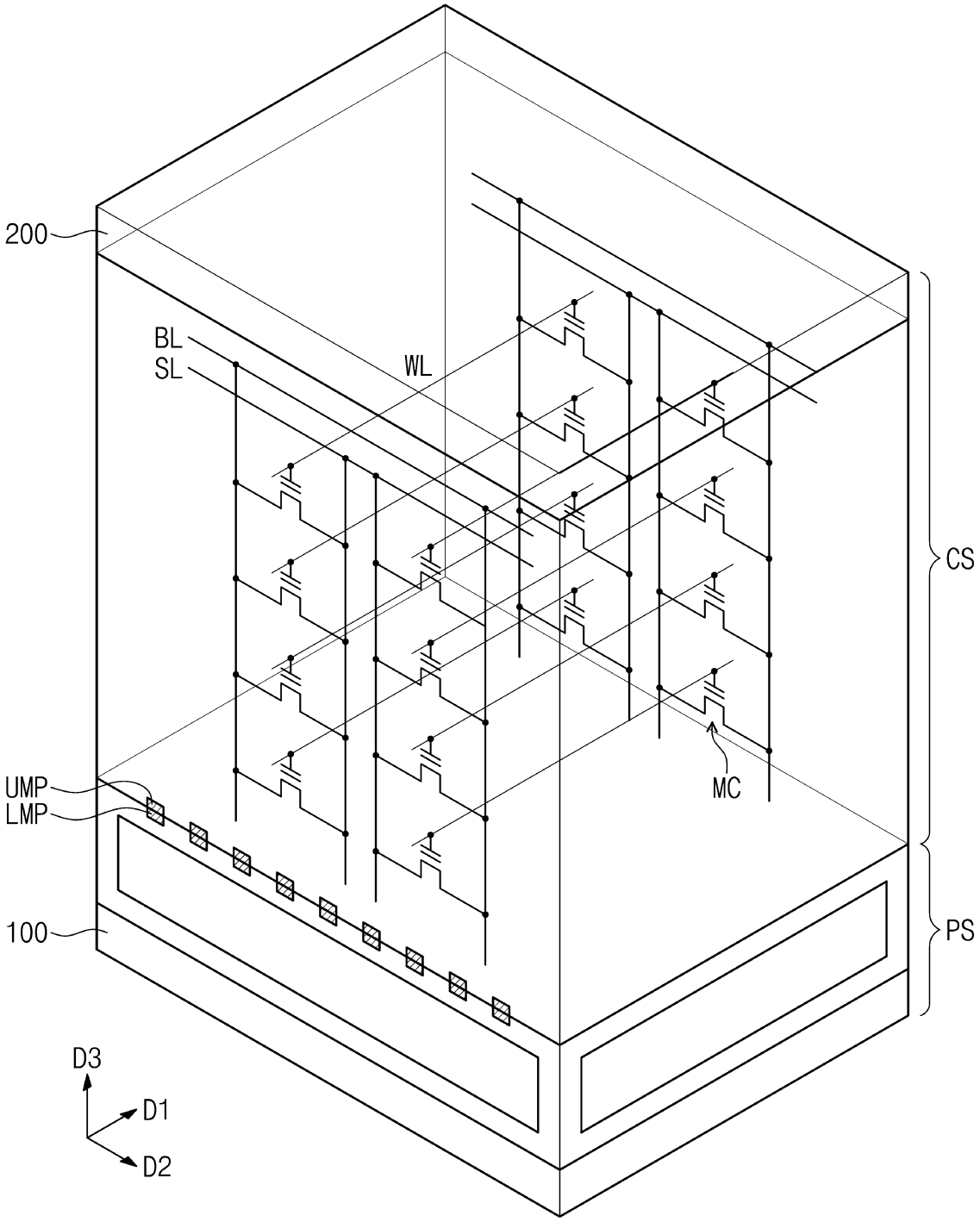


FIG. 3A

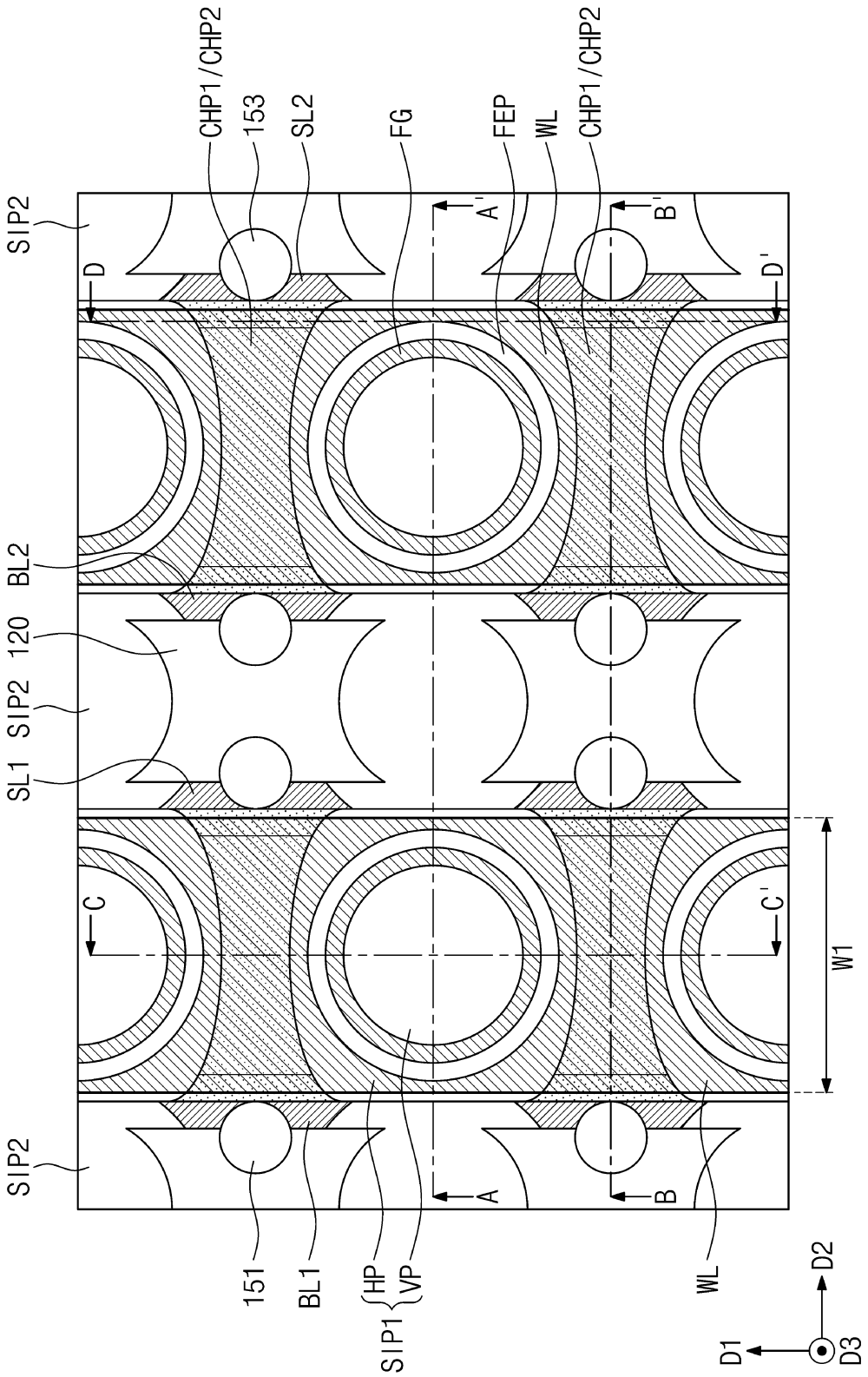

CHP1/CHP2
153
SL2
FG
FEP
WL
CHP1/CHP2
SIP2
D
A'
B'
D'
BL2
120
SIP2
SL1
C
C'
W1
SIP2
151
BL1
HP
VP
SIP1
A
B
WL
D1
D2
D3

FIG. 3B

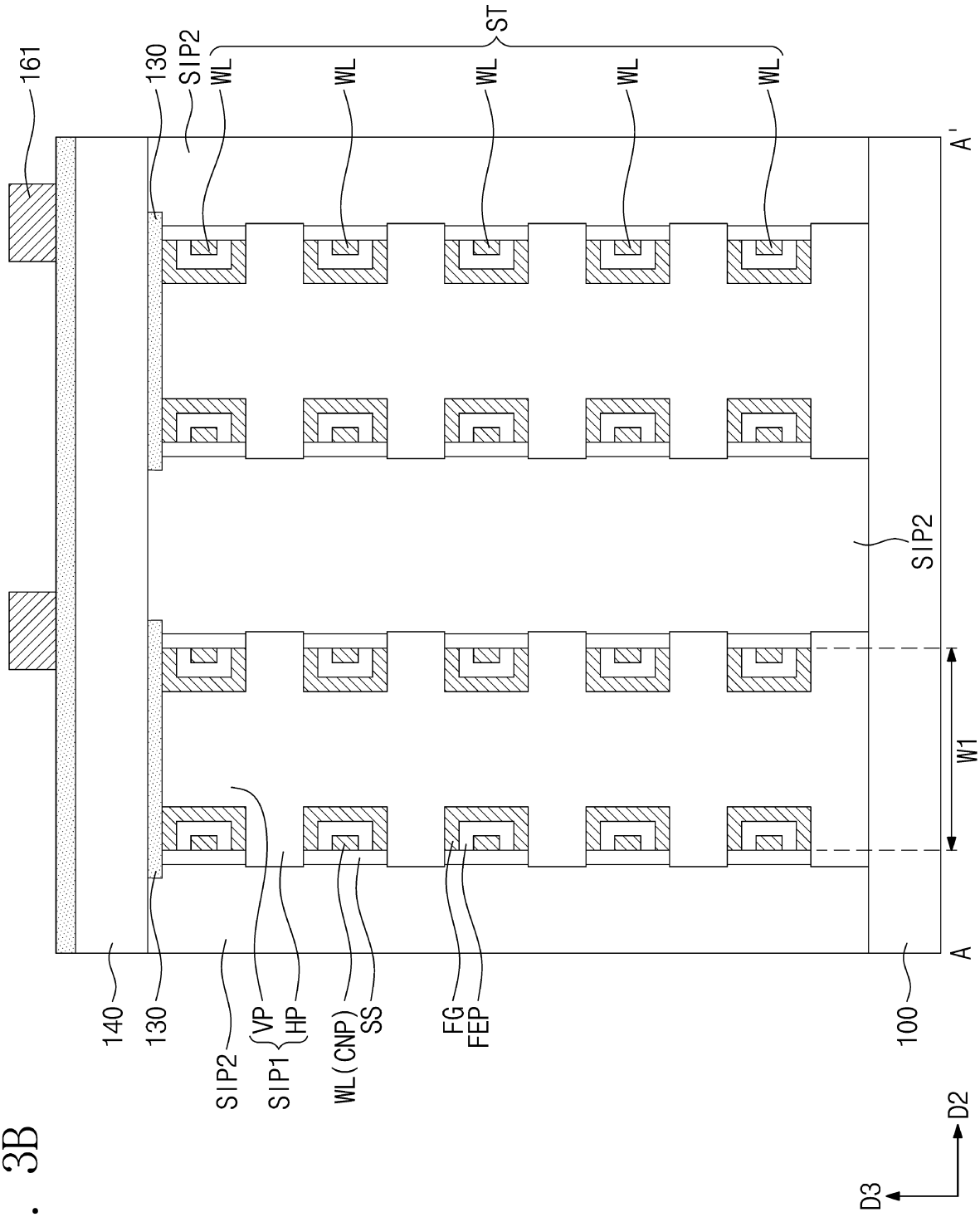

161
130
SIP2
WL
ST
A'
SIP2
W1
A
140
130
SIP2
VP
SIP1
HP
WL(CNP)
SS
FG
FEP
100
D2
D3

FIG. 3C

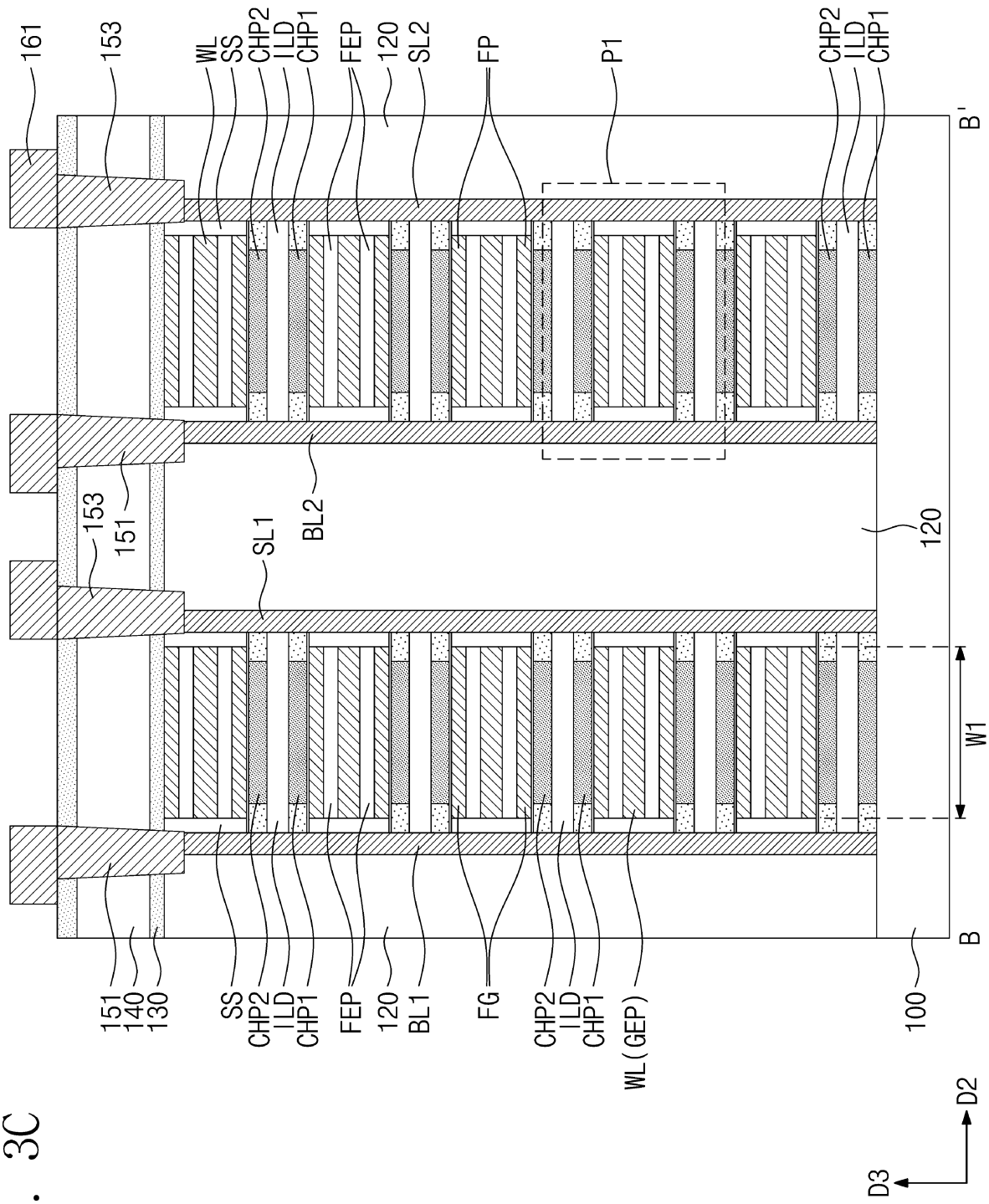

161
153
WL
SS
CHP2
ILD
CHP1
FEP
120
SL2
FP
P1
CHP2
ILD
CHP1
B'
153
151
SL1
BL2
120
W1
151
140
130
SS
CHP2
ILD
CHP1
FEP
120
BL1
FG
CHP2
ILD
CHP1
WL(GEP)
100
B
D3
D2

FIG. 3D

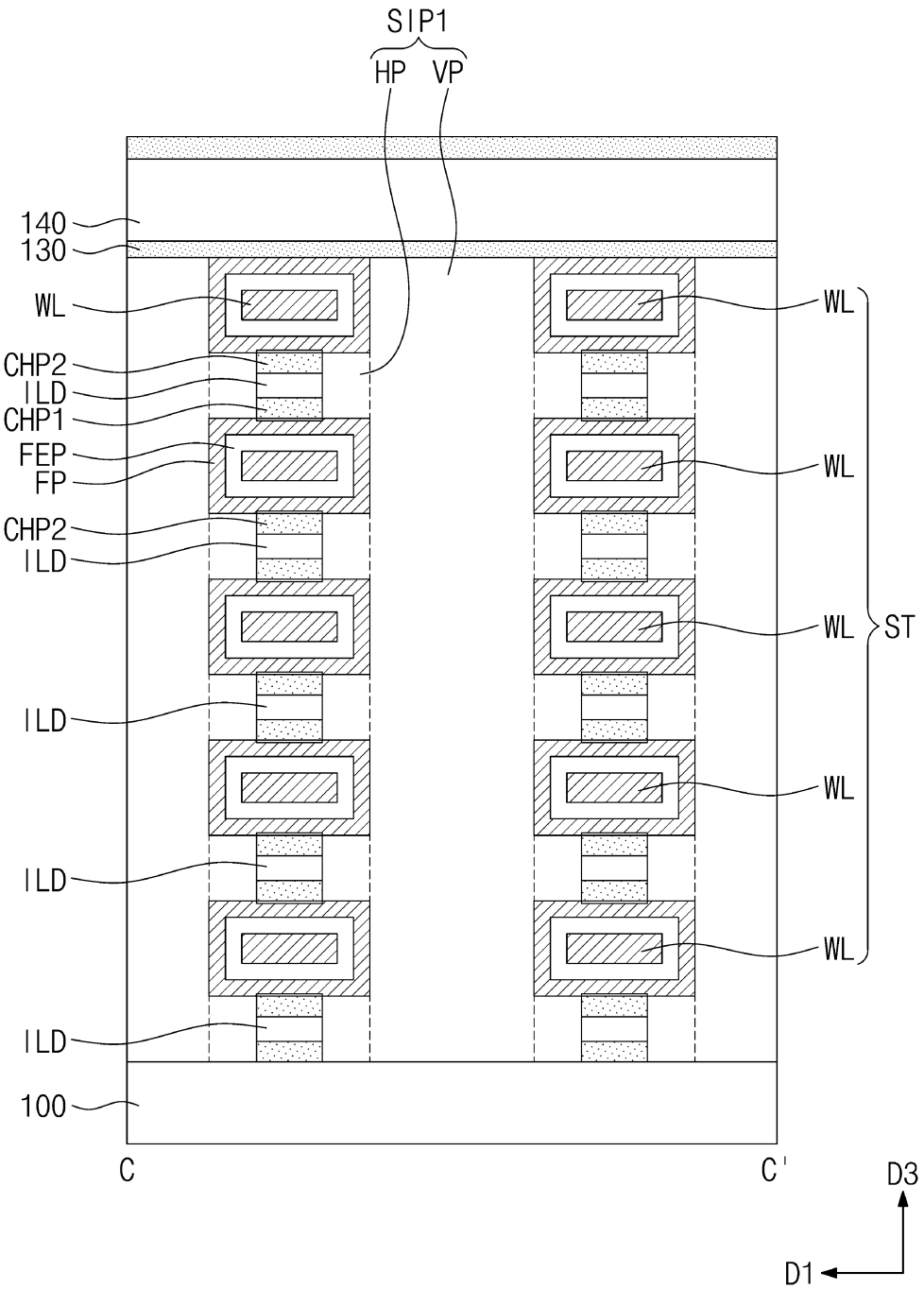

SIP1
HP
VP
140
130
WL
CHP2
ILD
CHP1
FEP
FP
CHP2
ILD
ILD
ILD
ILD
100
WL
WL
WL
WL
WL
ST
C
C'
D3
D1

FIG. 3E

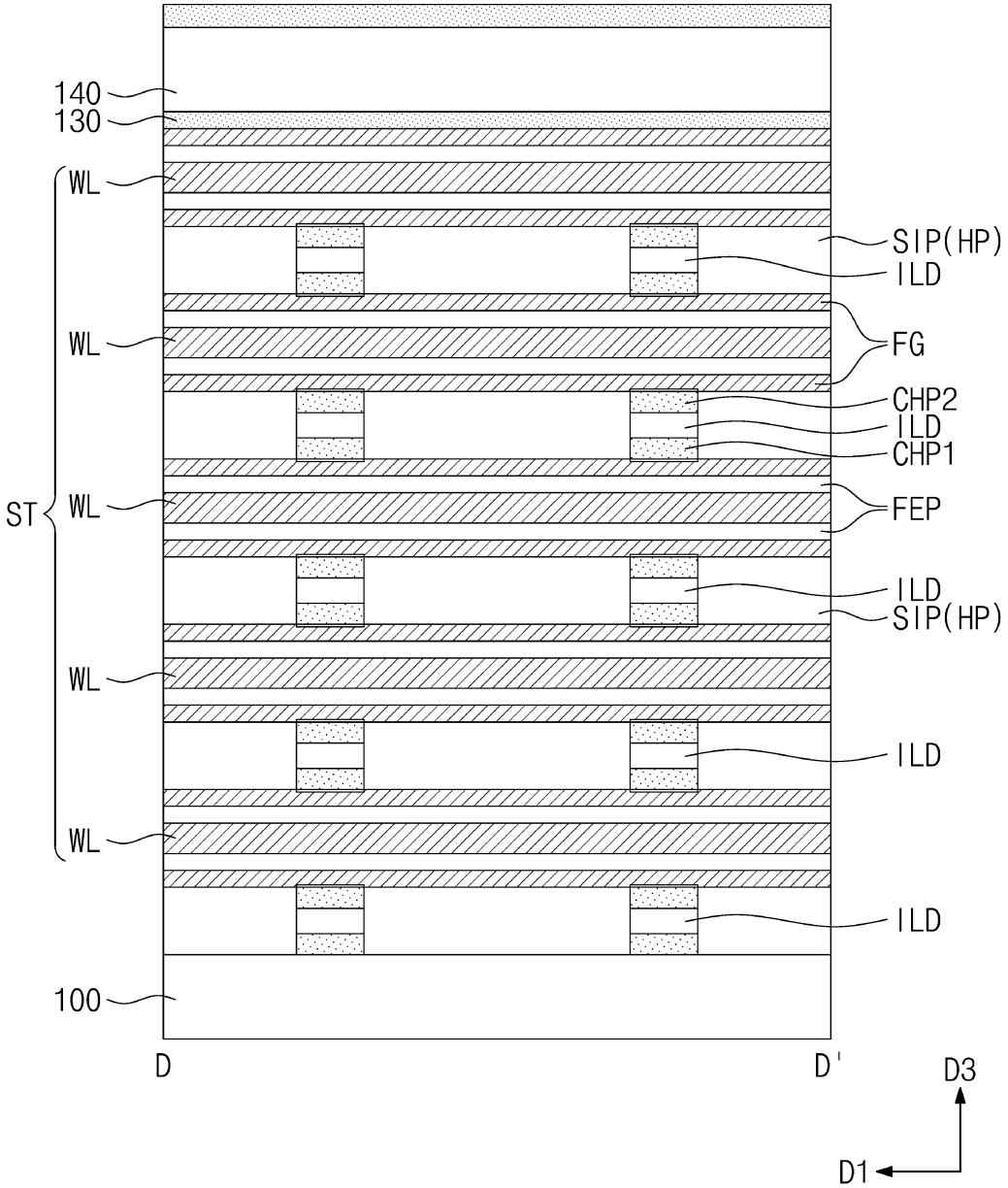

140
130
WL
WL
WL
WL
WL
ST
SIP(HP)
ILD
FG
CHP2
ILD
CHP1
FEP
ILD
SIP(HP)
ILD
ILD
100
D
D'
D3
D1

FIG. 4

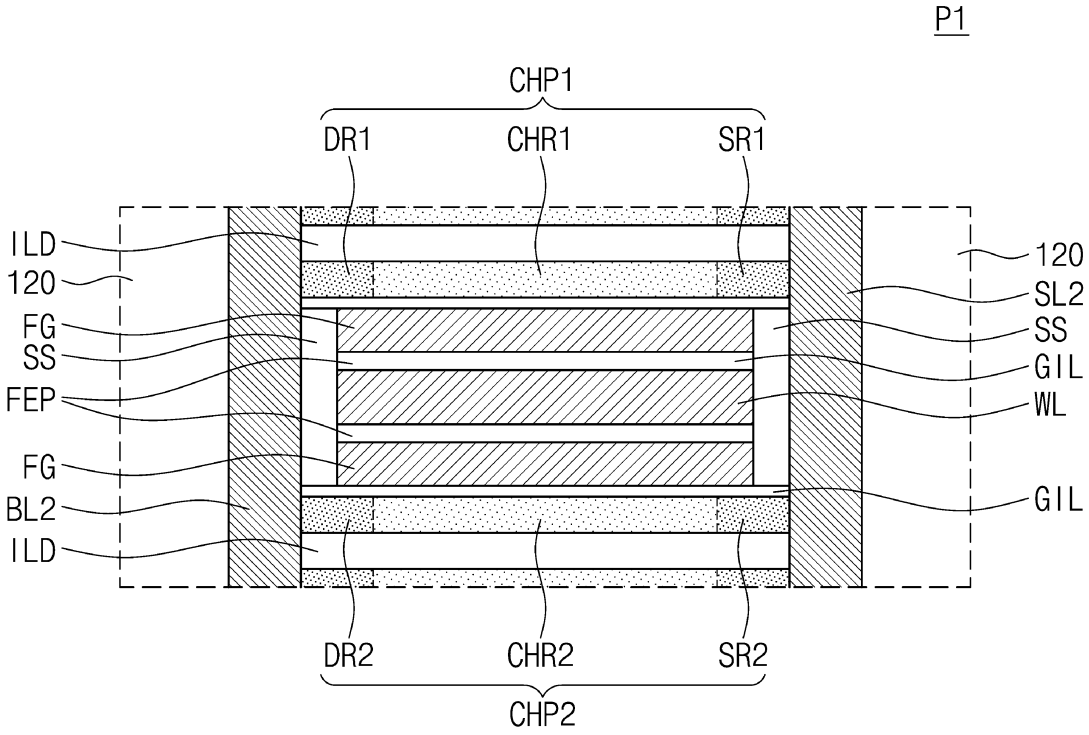

P1
CHP1
DR1
CHR1
SR1
ILD
120
FG
SS
FEP
FG
BL2
ILD
120
SL2
SS
GIL
WL
GIL
DR2
CHR2
SR2
CHP2

FIG. 5A

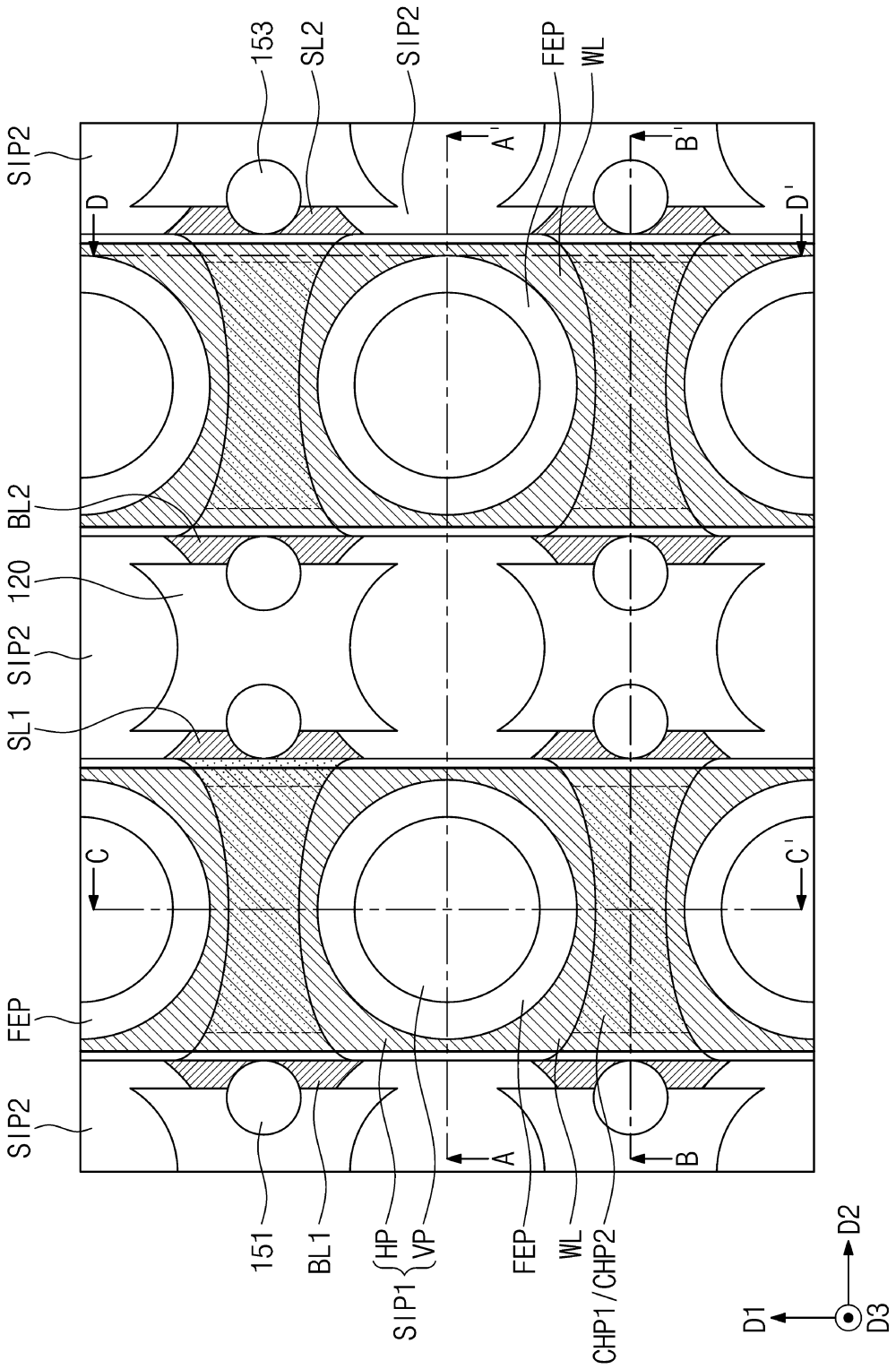

SIP2
153
SL2
SIP2
FEP
WL
A'
B'
D
D'
BL2
120
SIP2
SL1
C
C'
FEP
SIP2
151
BL1
SIP1
HP
VP
A
B
FEP
WL
CHP1/CHP2
D1
D2
D3

FIG. 5B

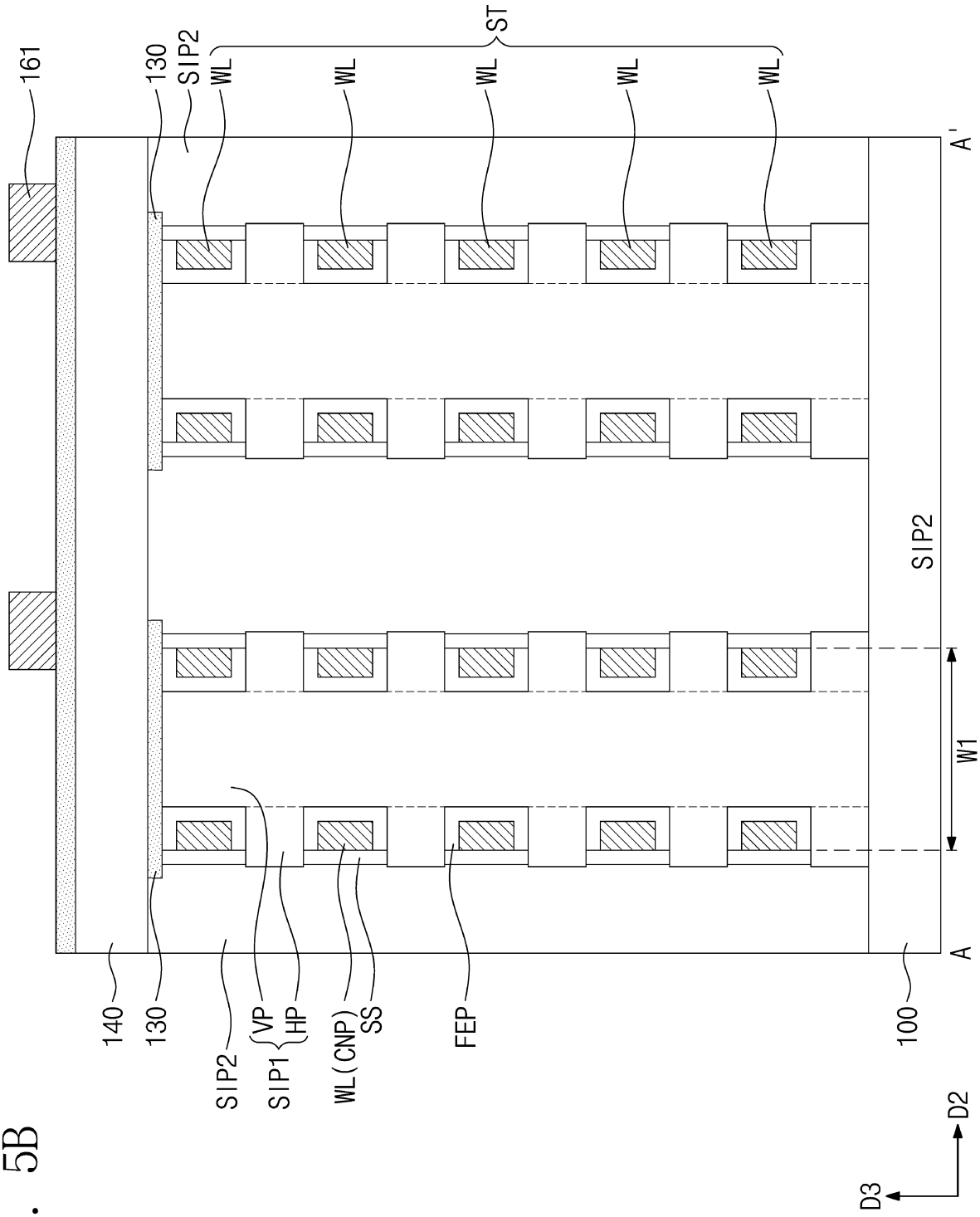

161
130
SIP2
WL
ST
A'
SIP2
W1
A
140
130
SIP2
VP
SIP1
HP
WL(CNP)
SS
FEP
100
D3
D2

FIG. 5C

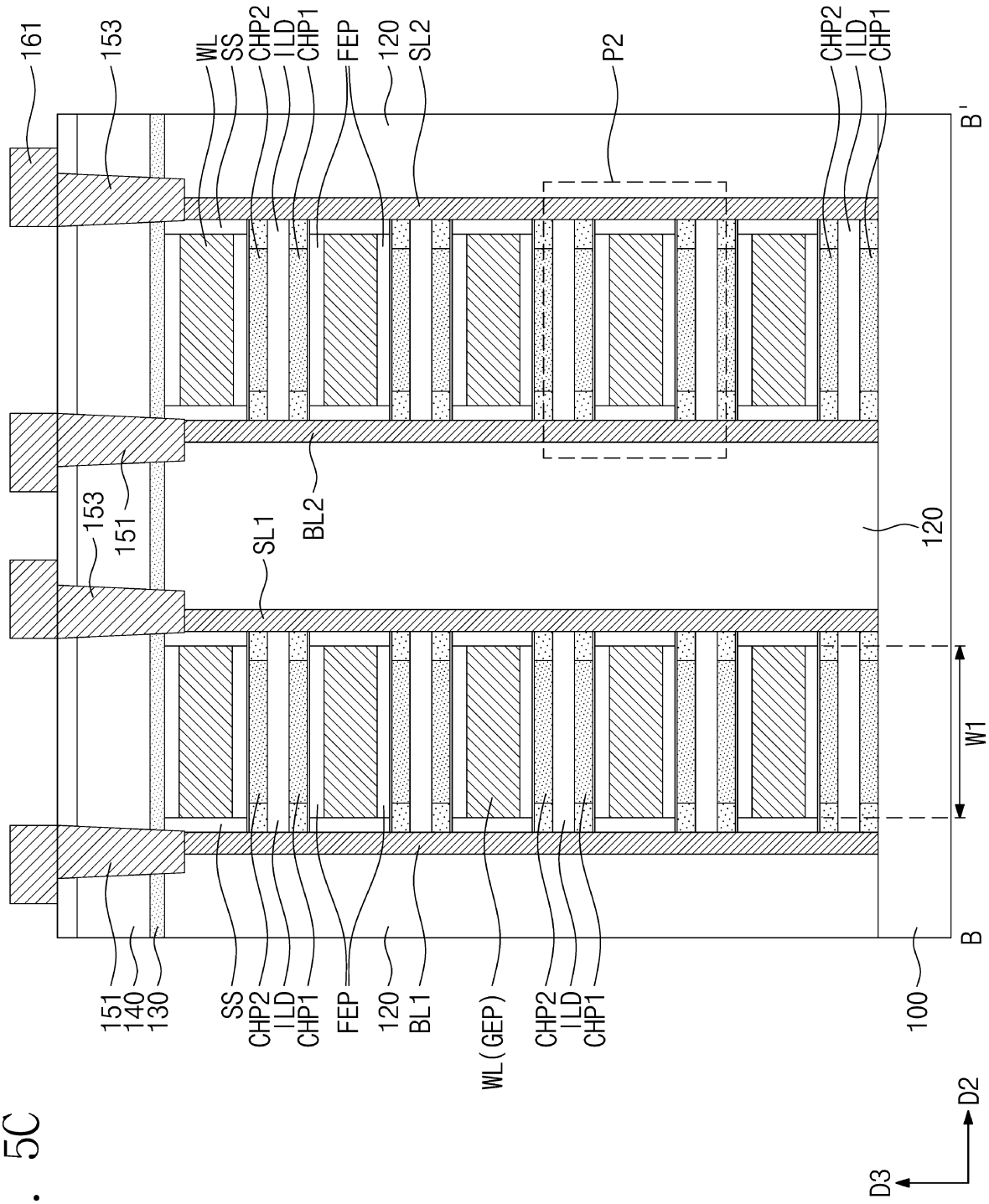

161
153
WL
SS
CHP2
ILD
CHP1
FEP
120
SL2
P2
CHP2
ILD
CHP1
B'
153
151
SL1
BL2
120
W1
151
140
130
SS
CHP2
ILD
CHP1
FEP
120
BL1
WL(GEP)
CHP2
ILD
CHP1
100
B
D3
D2

FIG. 5D

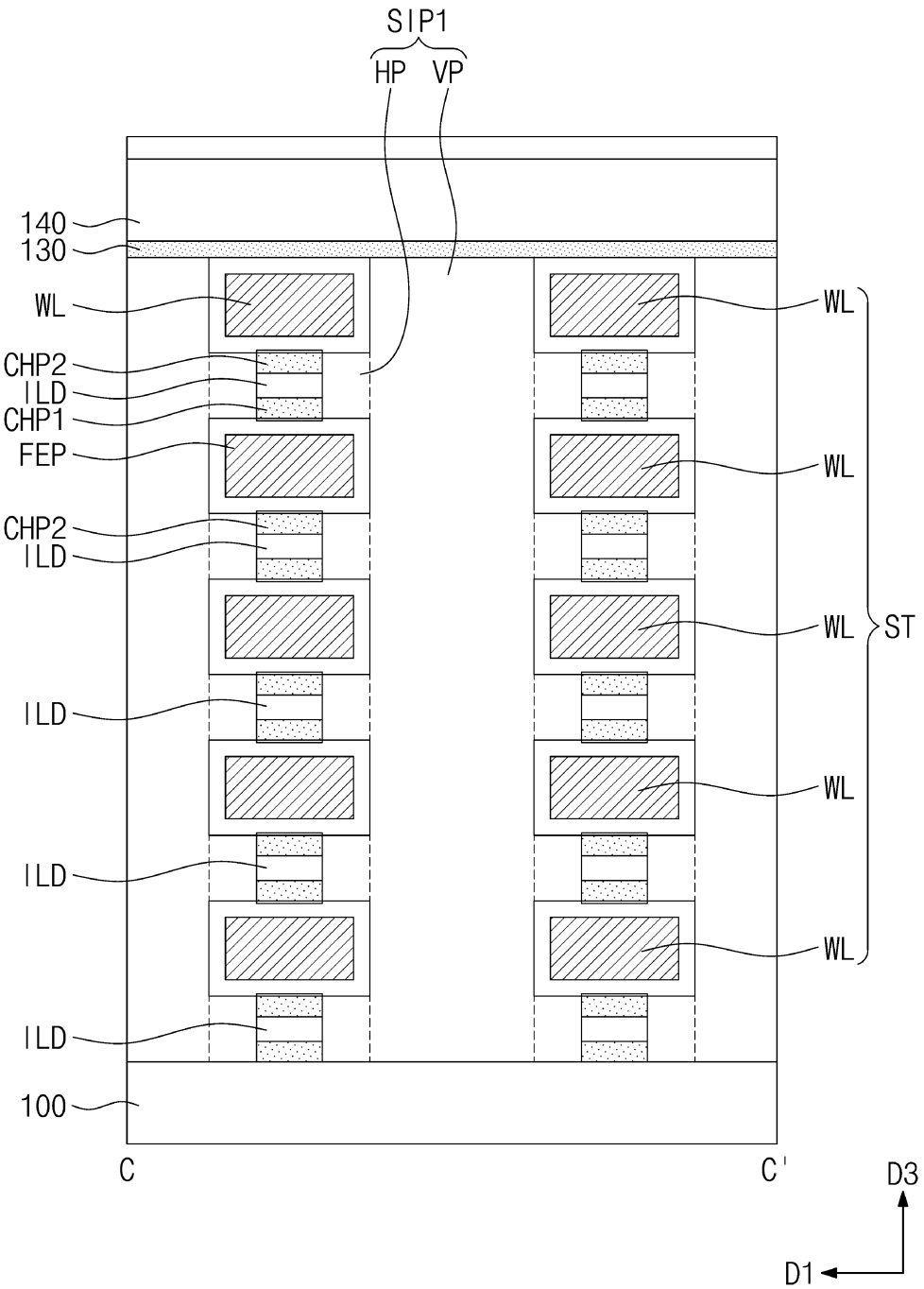

SIP1
HP
VP
140
130
WL
CHP2
ILD
CHP1
FEP
CHP2
ILD
ILD
ILD
ILD
100
C
C'
WL
WL
WL
WL
WL
ST
D3
D1

FIG. 5E

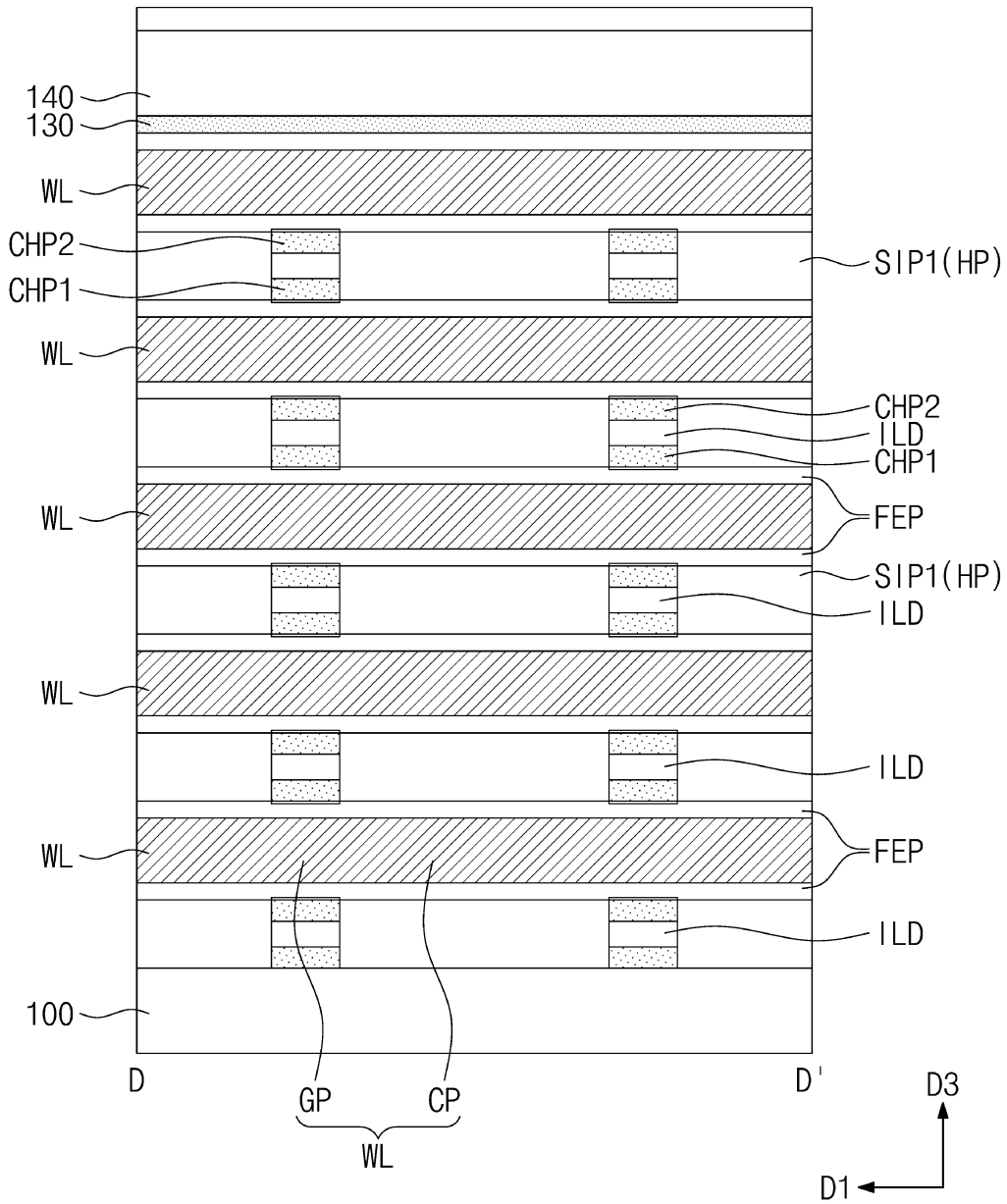

140
130
WL
CHP2
CHP1
SIP1(HP)
WL
CHP2
ILD
CHP1
WL
FEP
SIP1(HP)
ILD
WL
ILD
WL
FEP
ILD
100
D
D'
GP
CP
WL
D3
D1

FIG. 6

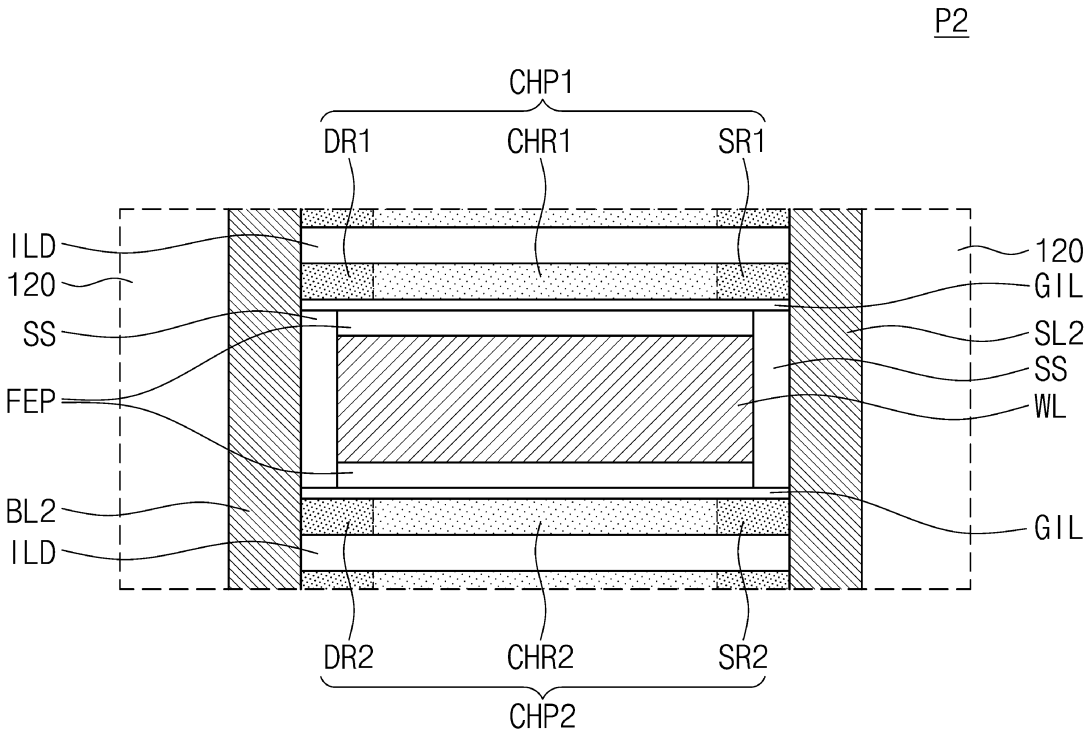

P2
CHP1
DR1
CHR1
SR1
ILD
120
SS
FEP
BL2
ILD
120
GIL
SL2
SS
WL
GIL
DR2
CHR2
SR2
CHP2

FIG. 7A

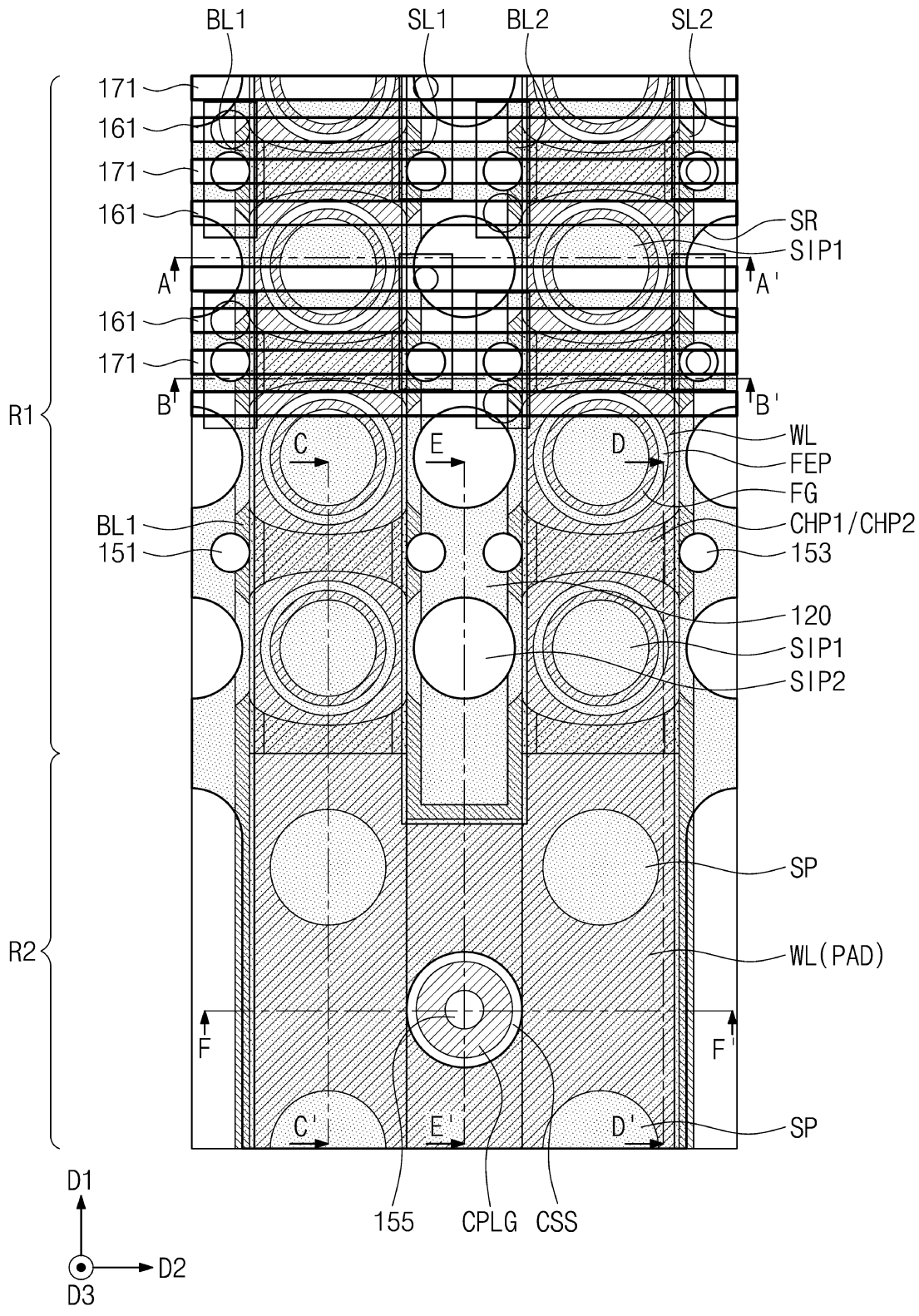

BL1
SL1
BL2
SL2
171
161
171
161
SR
SIP1
A
A'
161
171
B
B'
R1
C
E
D
WL
FEP
FG
BL1
151
CHP1/CHP2
153
120
SIP1
SIP2
SP
R2
WL(PAD)
F
F'
C'
E'
D'
SP
155
CPLG
CSS
D1
D2
D3

FIG. 7B

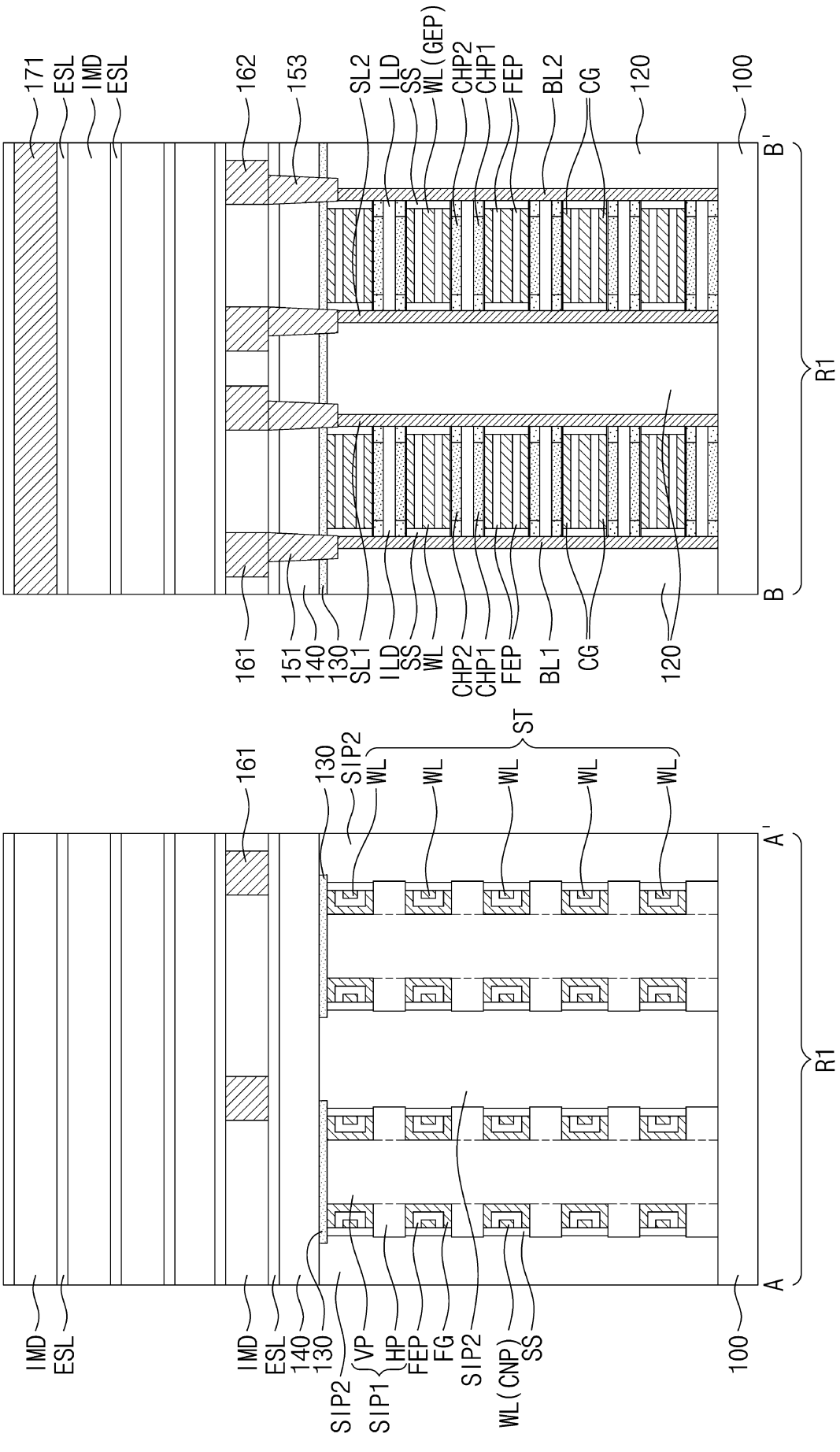

171
ESL
IMD
ESL
162
153
SL2
ILD
SS
WL(GEP)
CHP2
CHP1
FEP
BL2
CG
120
100
B'
B
R1
161
151
140
130
SL1
ILD
SS
WL
CHP2
CHP1
FEP
BL1
CG
120
ST
SIP2
WL
A'
A
IMD
ESL
140
130
SIP2
VP
SIP1
HP
FEP
FG
SIP2
WL(CNP)
SS
100

FIG. 7C

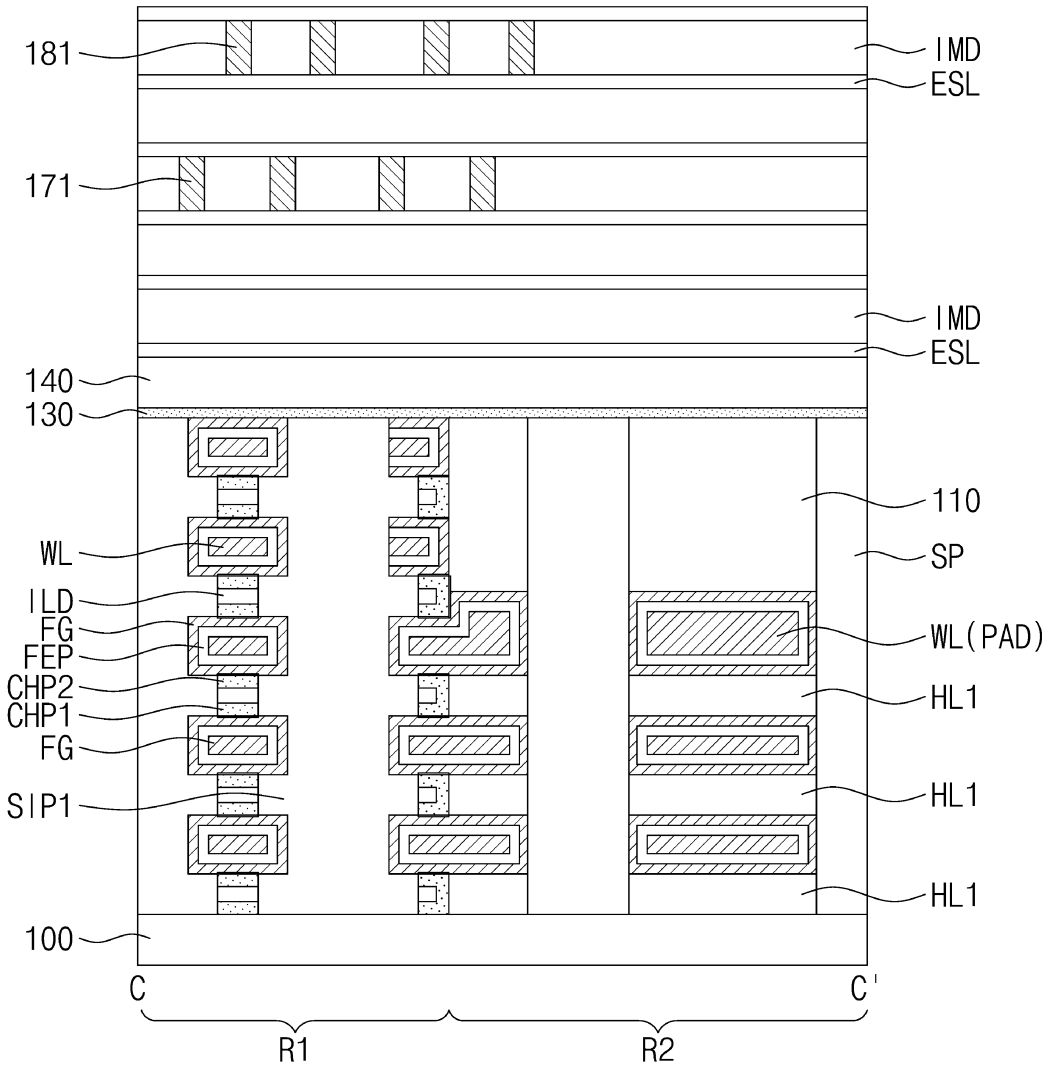

181
171
140
130
WL
ILD
FG
FEP
CHP2
CHP1
FG
SIP1
100
C
C'
R1
R2
IMD
ESL
IMD
ESL
110
SP
WL(PAD)
HL1
HL1
HL1

FIG. 7D

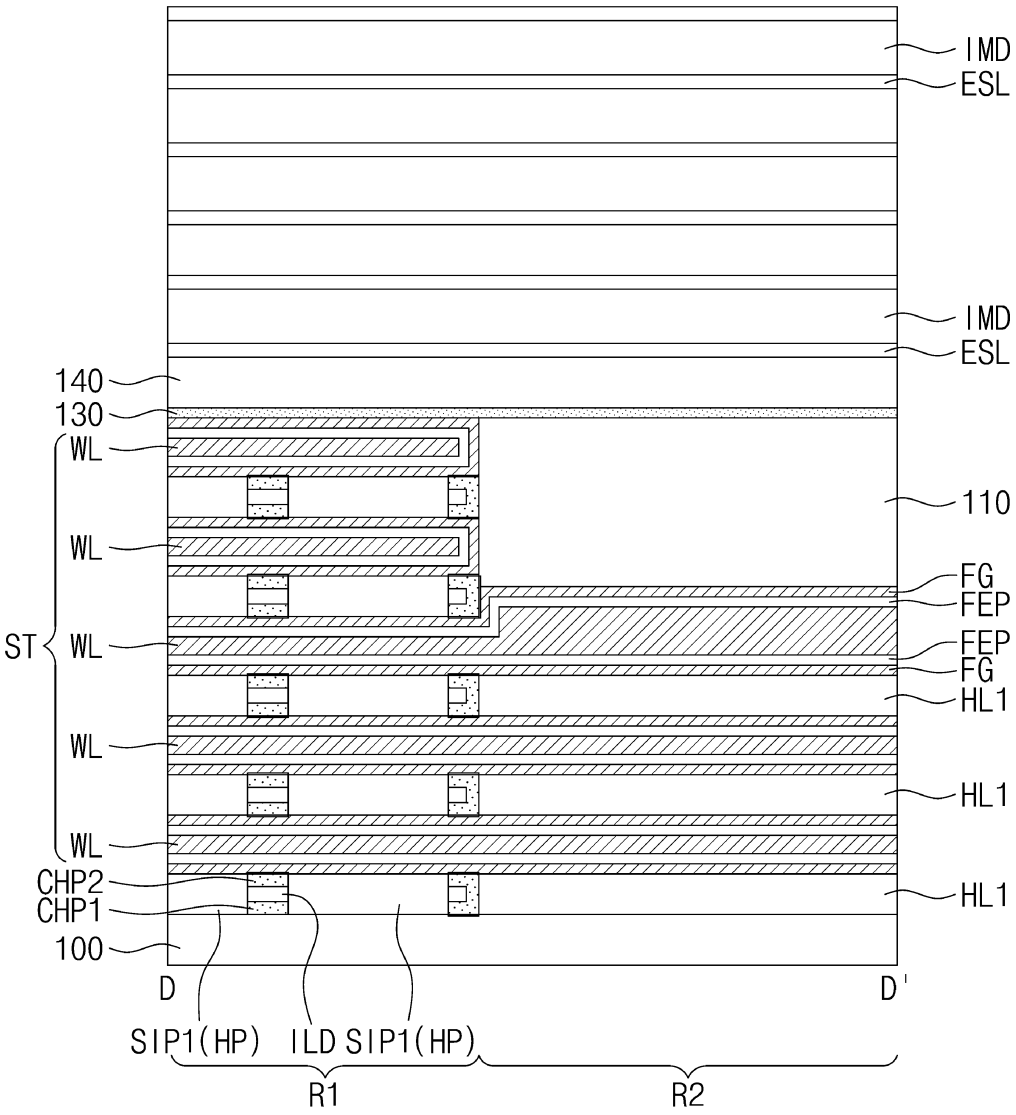

IMD
ESL
IMD
ESL
140
130
WL
110
WL
FG
FEP
ST
WL
FEP
FG
HL1
WL
HL1
WL
CHP2
HL1
CHP1
100
D
D'
SIP1(HP)
ILD
SIP1(HP)
R1
R2

FIG. 7E

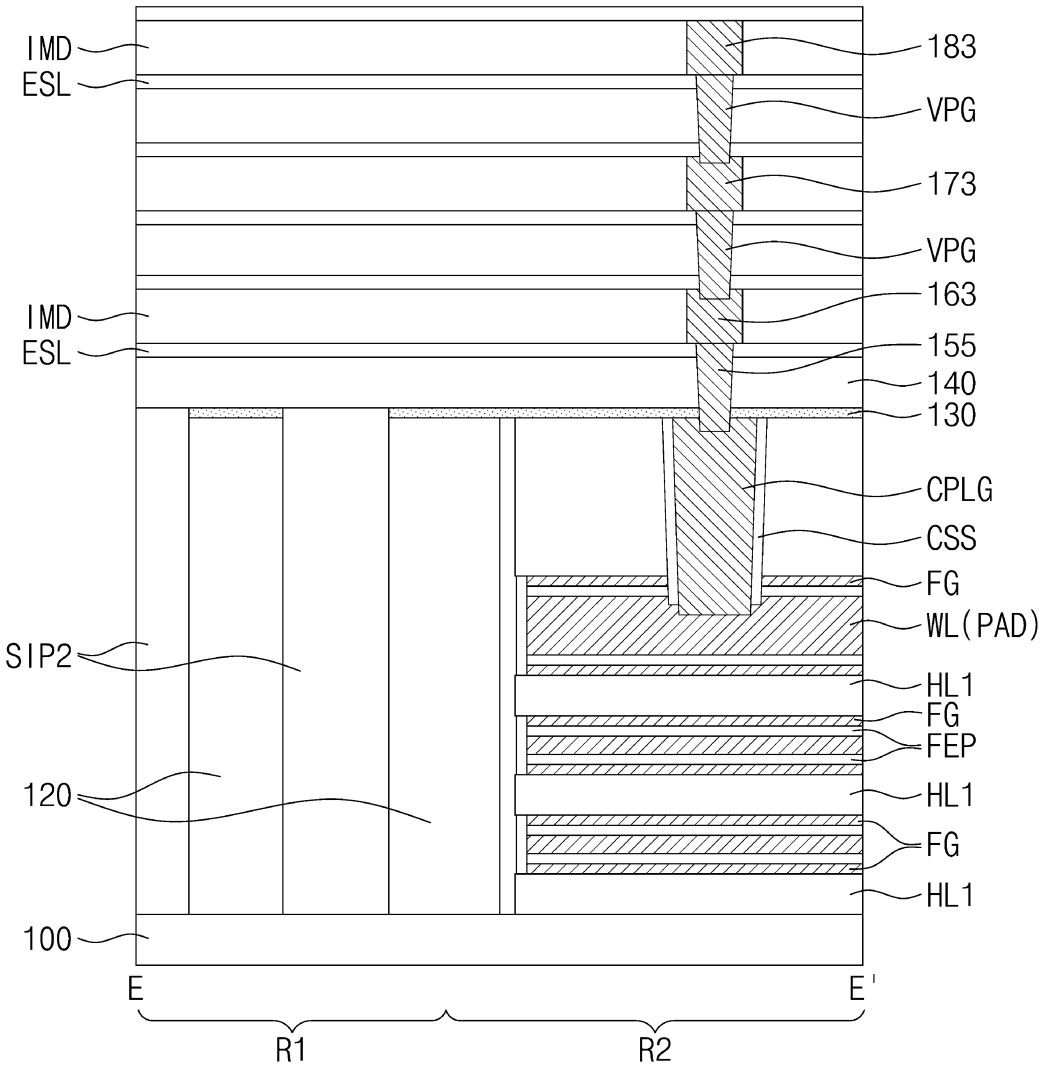

IMD
ESL
183
VPG
173
VPG
IMD
163
ESL
155
140
130
CPLG
CSS
FG
WL(PAD)
SIP2
HL1
FG
FEP
120
HL1
FG
HL1
100
E
E'
R1
R2

FIG. 7F

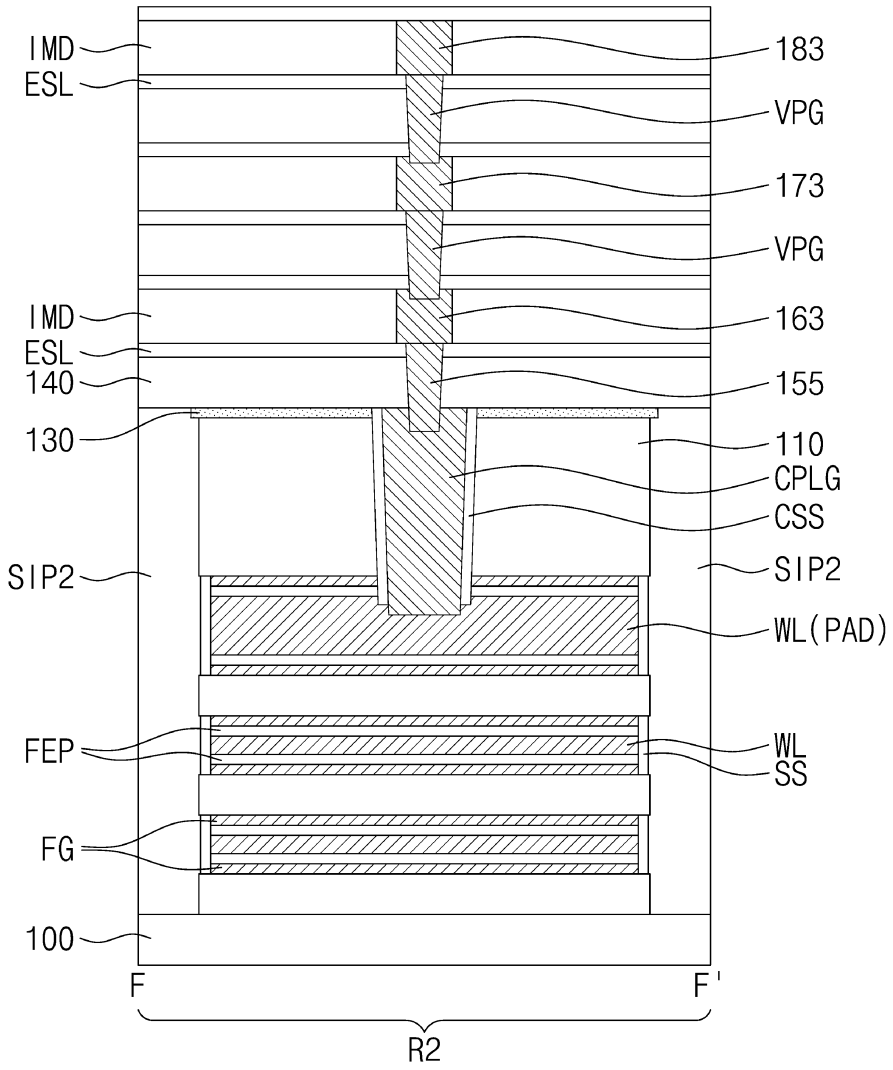

IMD
ESL
183
VPG
173
VPG
IMD
163
ESL
140
155
130
110
CPLG
CSS
SIP2
SIP2
WL(PAD)
FEP
WL
SS
FG
100
F
F'
R2

FIG. 8A

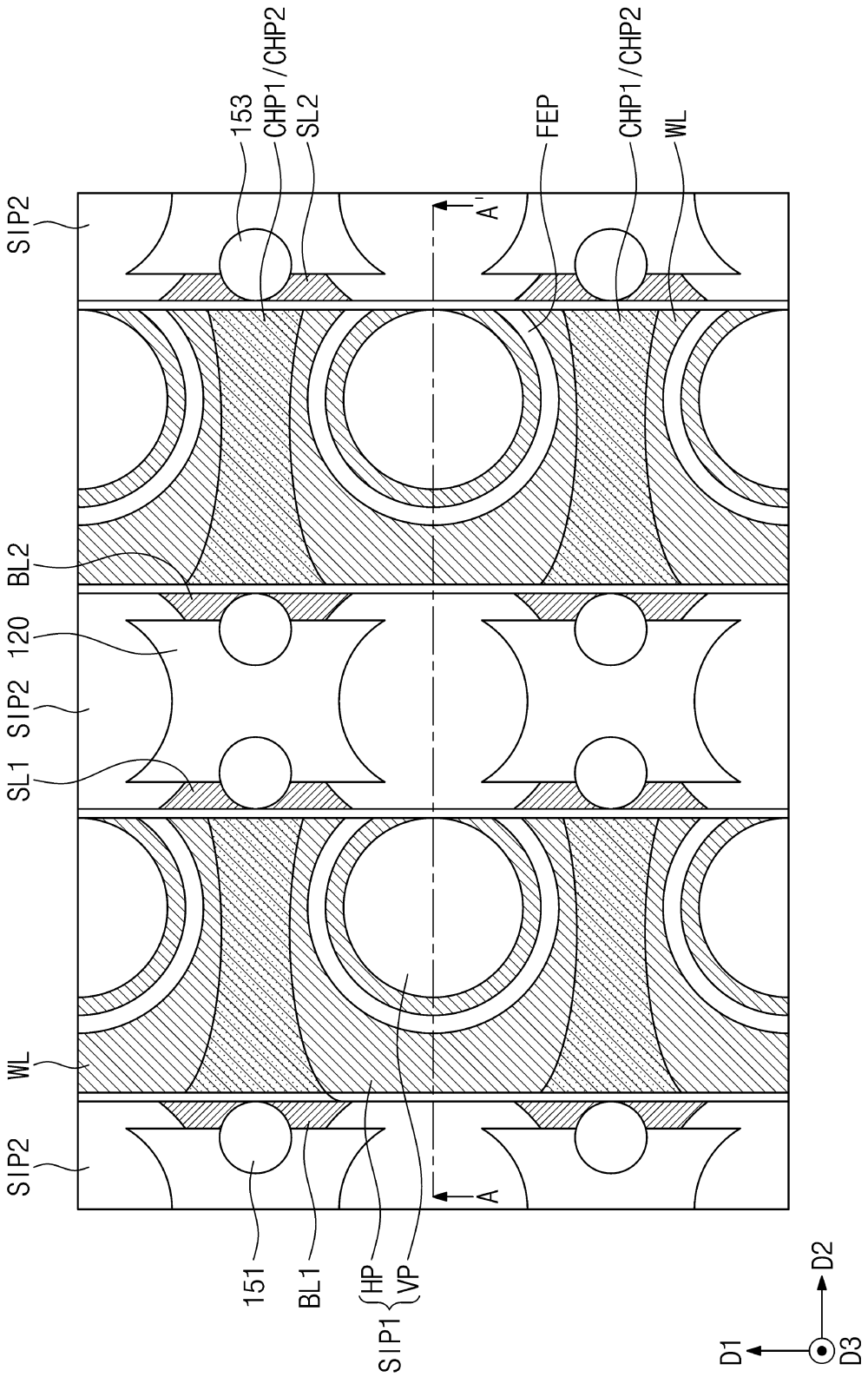

153
CHP1/CHP2
SL2
FEP
CHP1/CHP2
WL
SIP2
A'
BL2
120
SIP2
SL1
WL
SIP2
A
151
BL1
HP
VP
SIP1
D1
D2
D3

FIG. 8B

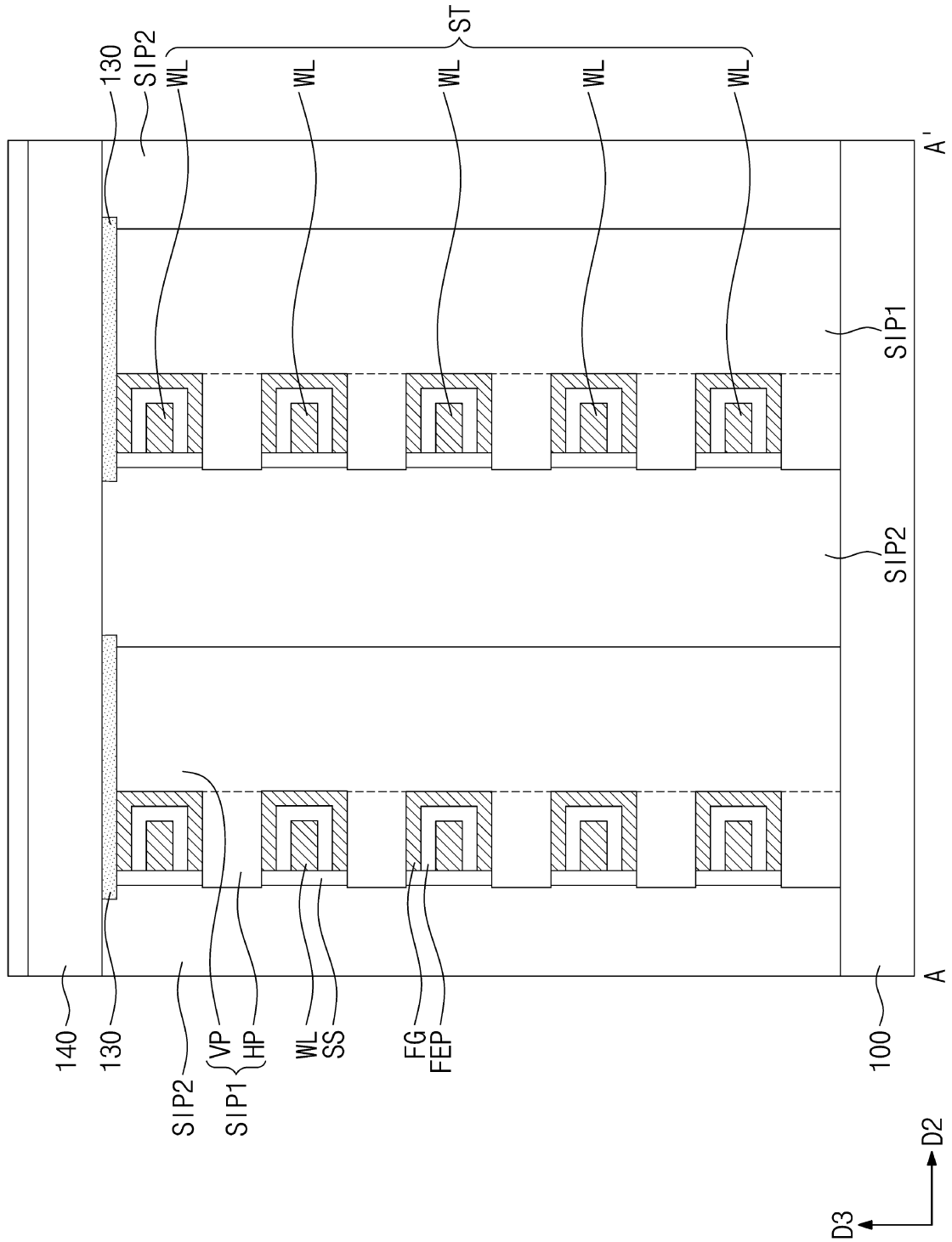

130
SIP2
WL
WL
WL
WL
WL
ST
A'
SIP1
SIP2
140
130
SIP2
VP
SIP1
HP
WL
SS
FG
FEP
100
A
D3
D2

FIG. 9A

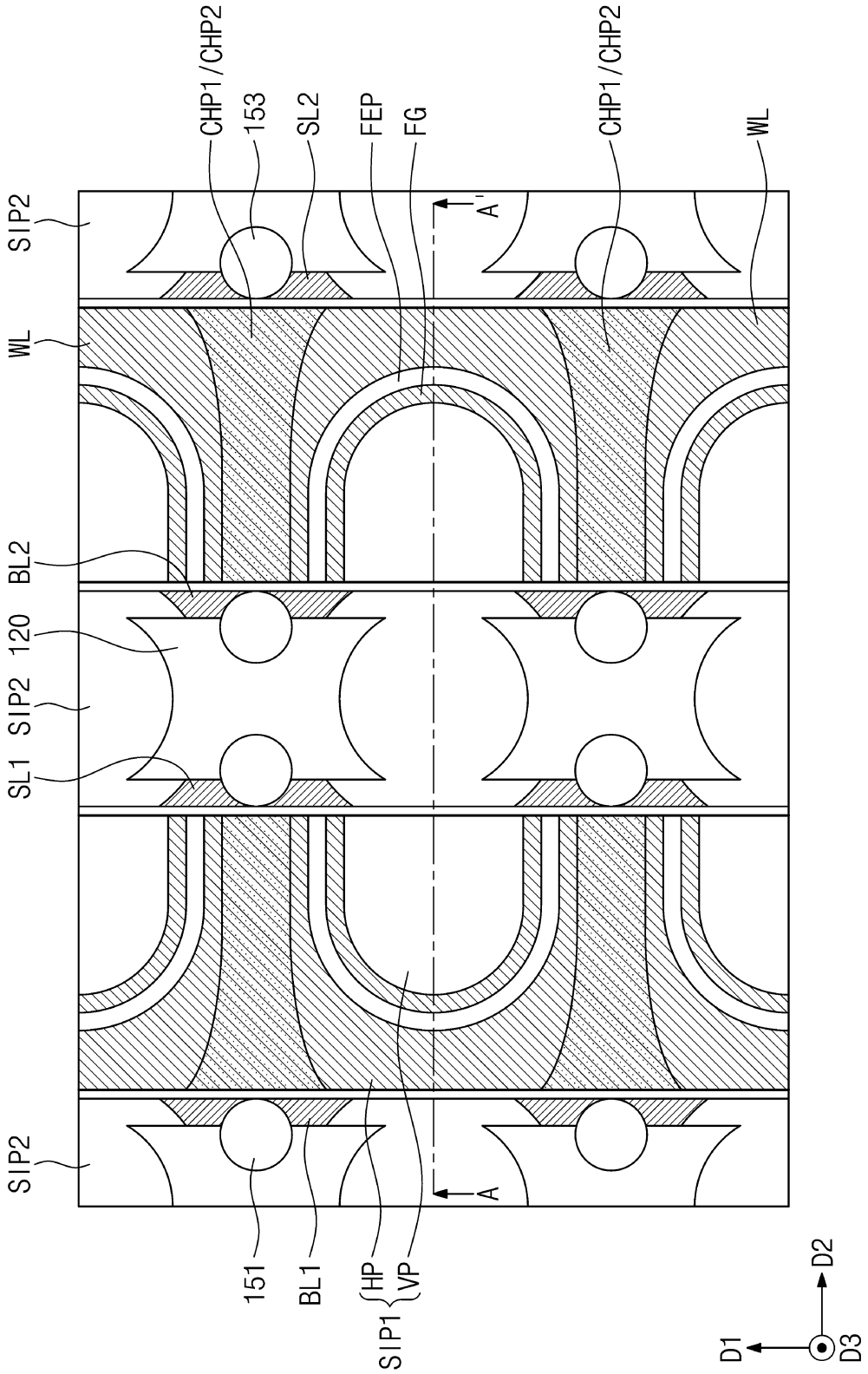

CHP1/CHP2
153
SL2
FEP
FG
CHP1/CHP2
WL
SIP2
A'
WL
BL2
120
SIP2
SL1
SIP2
A
151
BL1
SIP1
HP
VP
D1
D2
D3

FIG. 9B

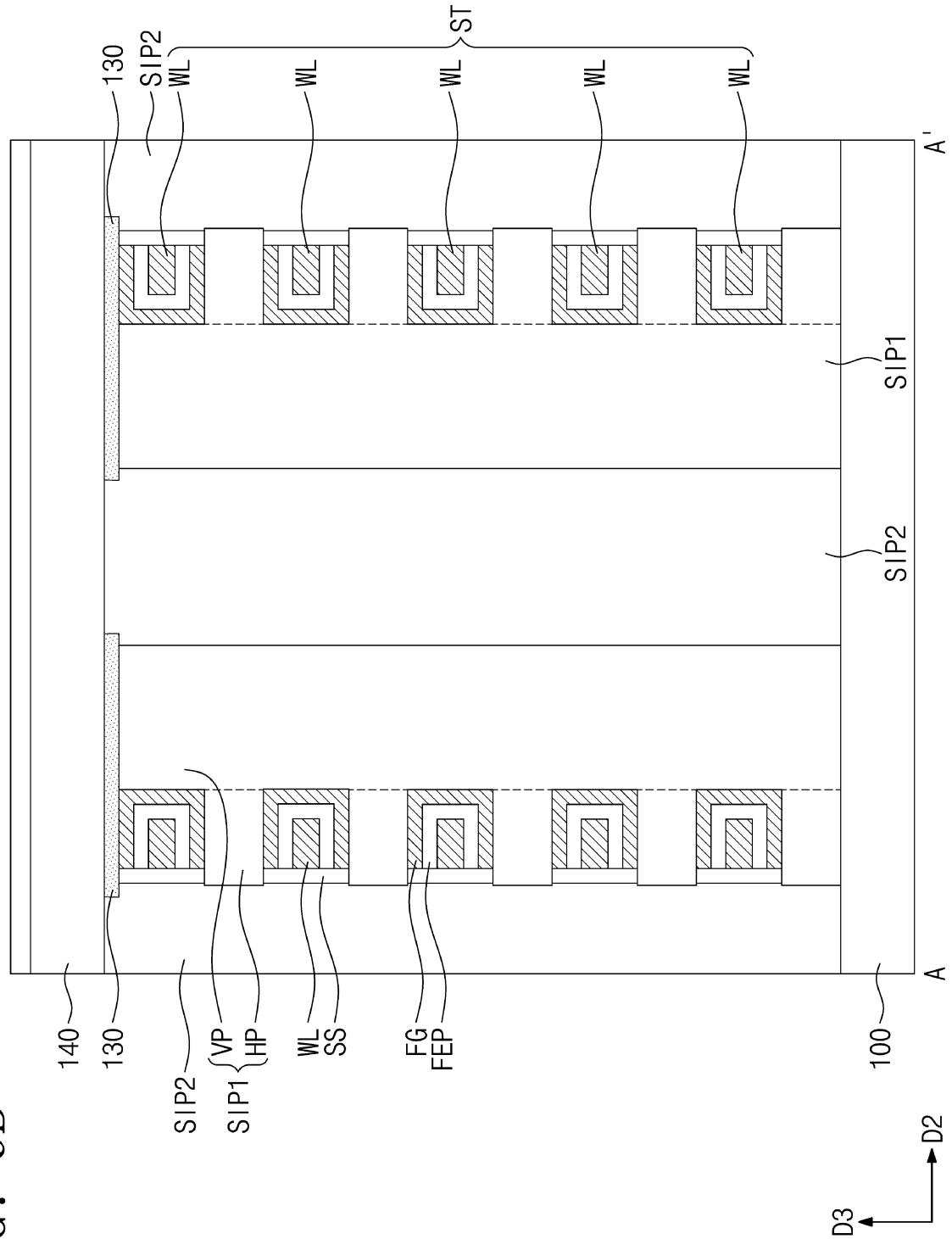

ST
130
SIP2
WL
WL
WL
WL
WL
A'
SIP1
SIP2
A
140
130
SIP2
VP
SIP1
HP
WL
SS
FG
FEP
100
D3
D2

FIG. 10A

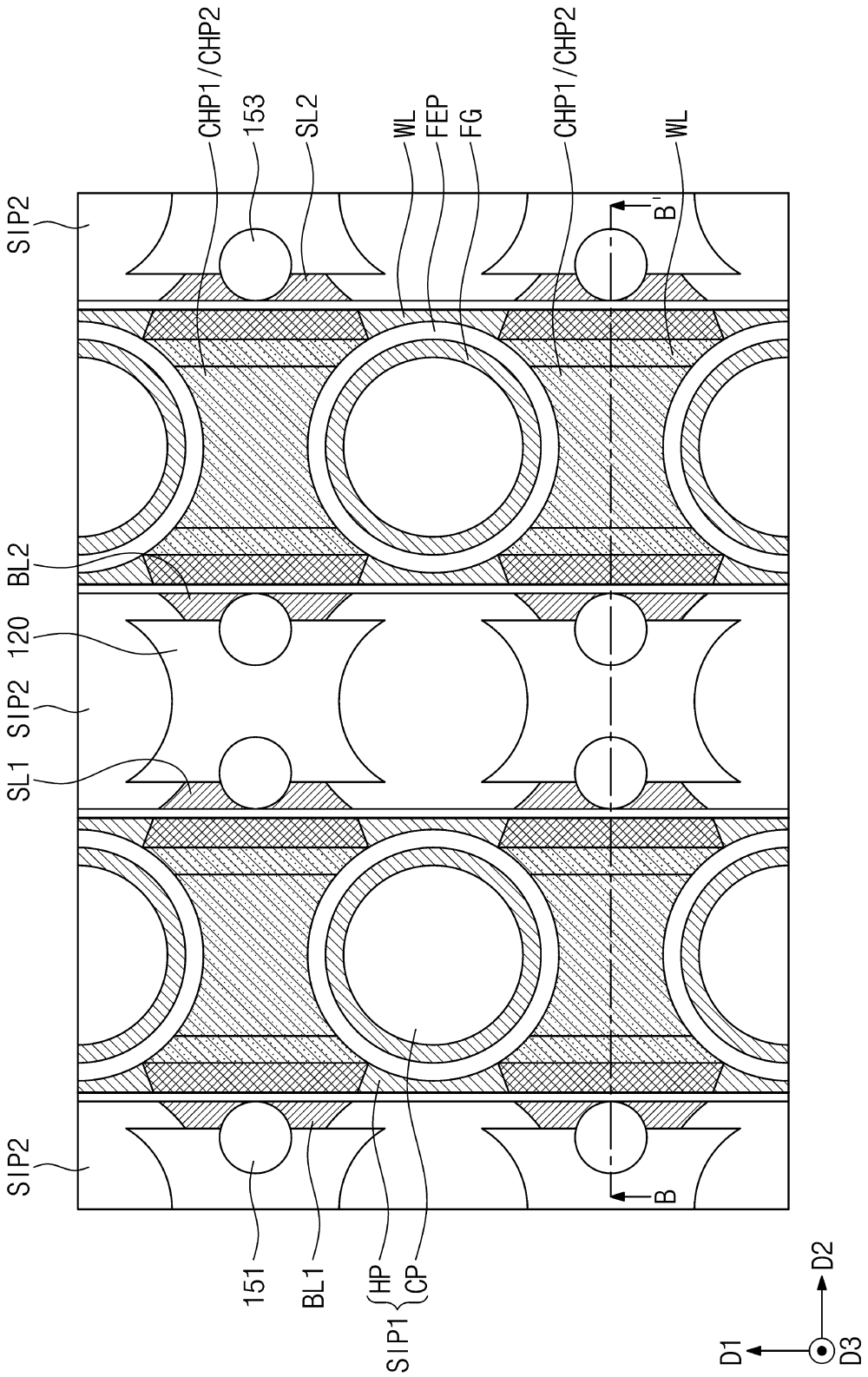

CHP1/CHP2
153
SL2
WL
FEP
FG
CHP1/CHP2
WL
B'
SIP2
BL2
120
SIP2
SL1
SIP2
B
151
BL1
HP
CP
SIP1
D1
D2
D3

FIG. 10B

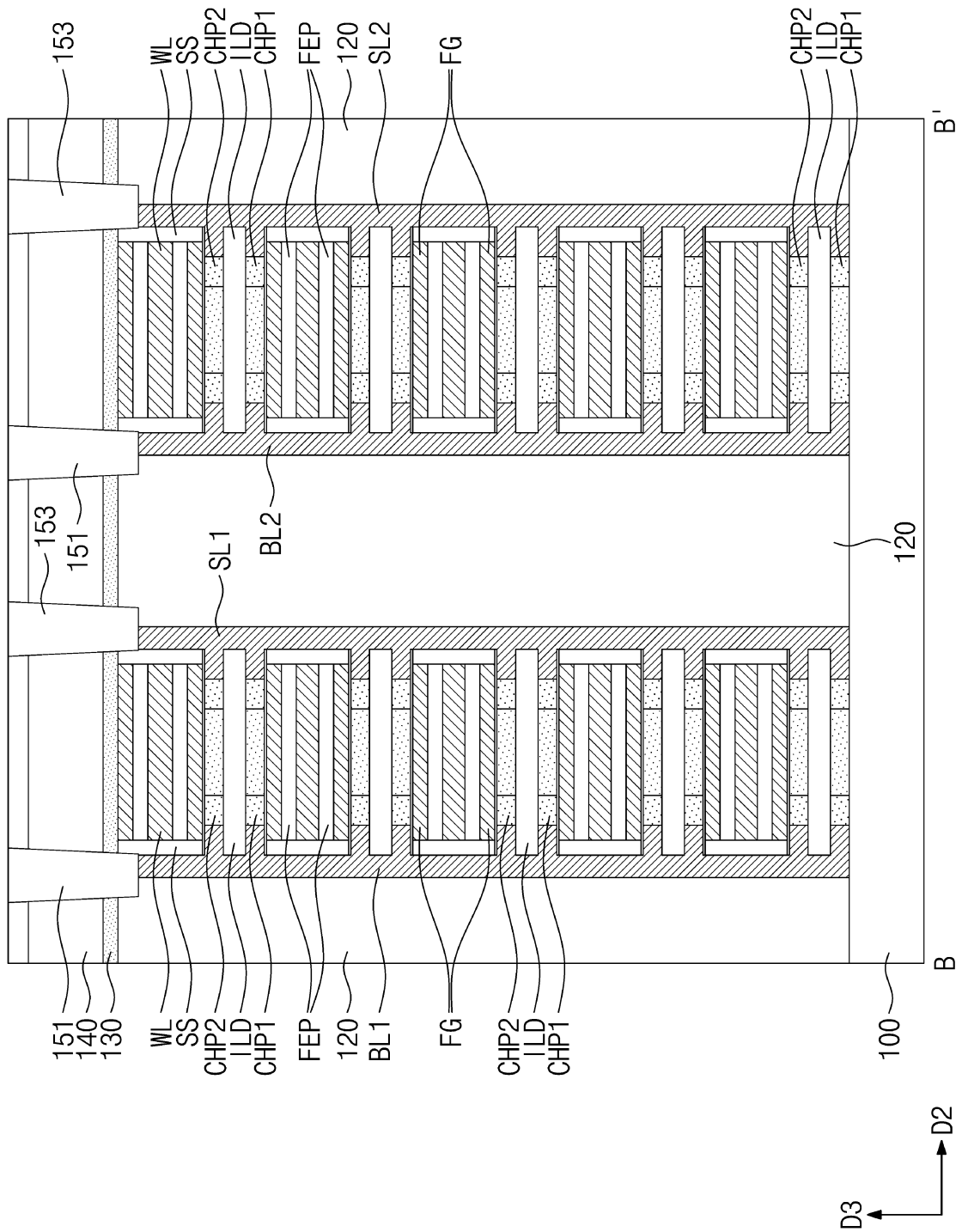

153
WL
SS
CHP2
ILD
CHP1
FEP
120
SL2
FG
CHP2
ILD
CHP1
B'
153
151
SL1
BL2
120
151
140
130
WL
SS
CHP2
ILD
CHP1
FEP
120
BL1
FG
CHP2
ILD
CHP1
100
B
D3
D2

FIG. 11

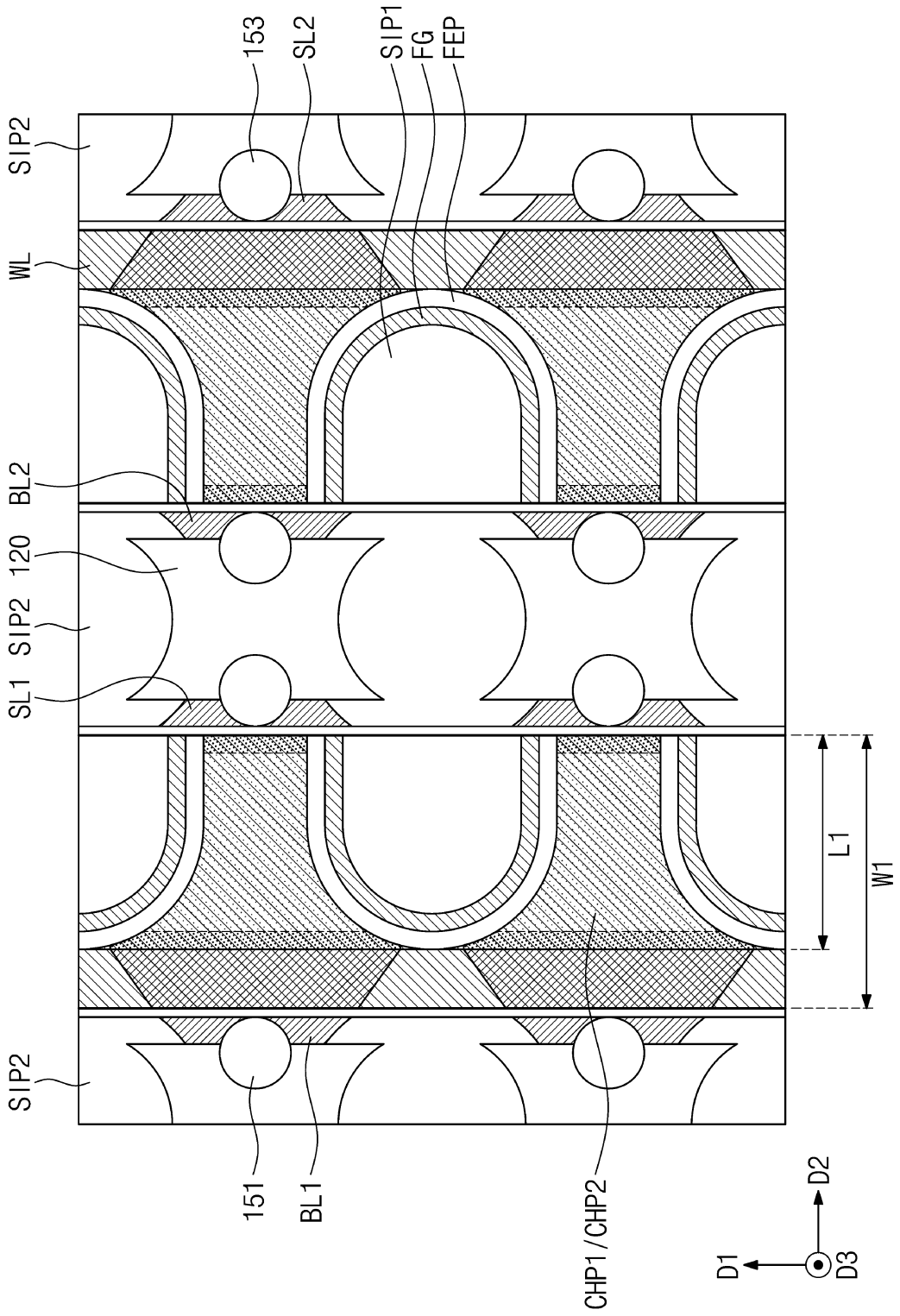

153
SL2
SIP1
FG
FEP
SIP2
WL
BL2
120
SIP2
SL1
SIP2
L1
W1
151
BL1
CHP1/CHP2
D1
D2
D3

FIG. 12A

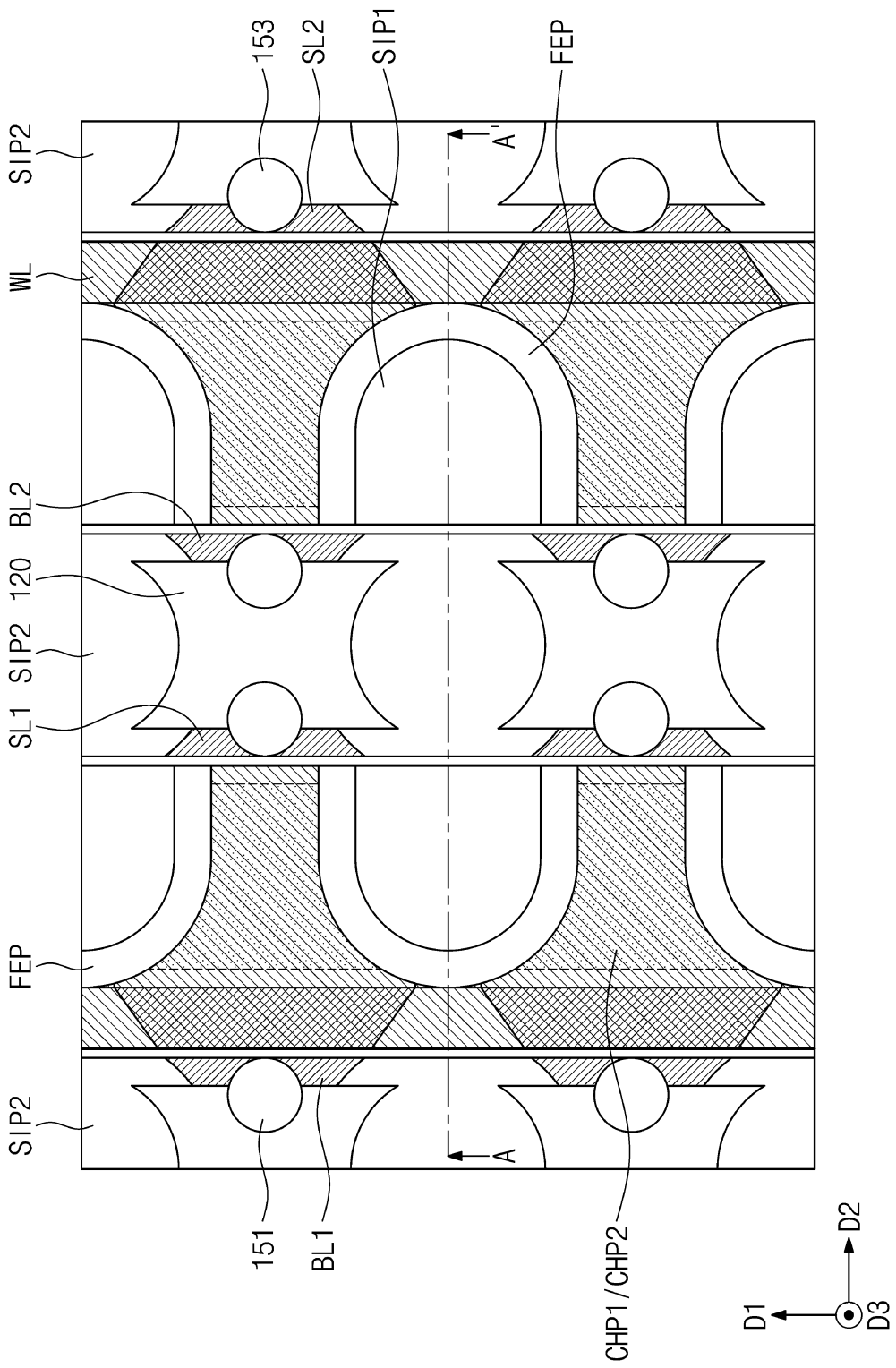

153
SL2
SIP1
FEP
A'
SIP2
WL
BL2
120
SIP2
SL1
FEP
SIP2
151
BL1
A
CHP1/CHP2
D1
D2
D3

FIG. 12B

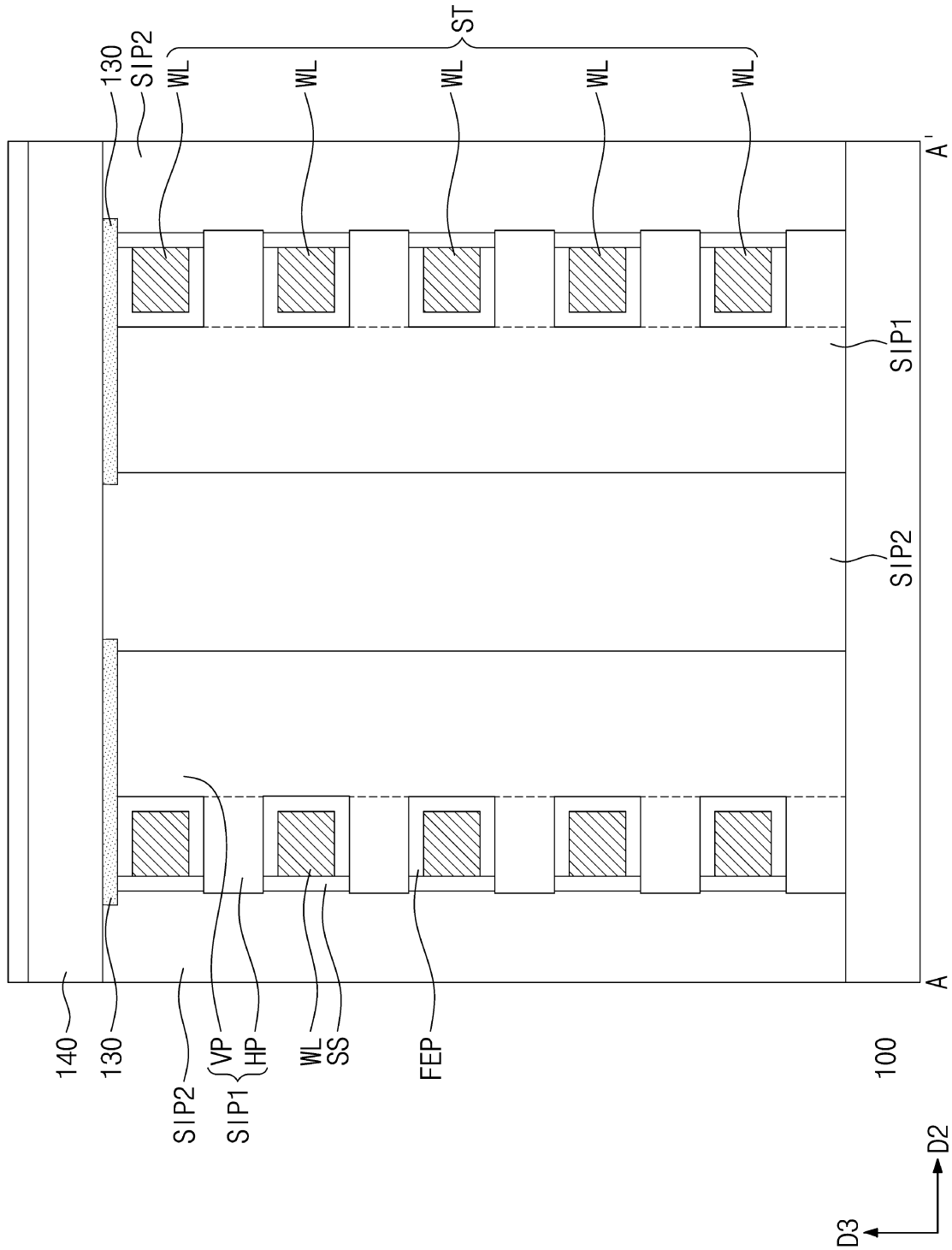

ST
130
SIP2
WL
WL
WL
WL
WL
A'
SIP1
SIP2
A
140
130
SIP2
VP
SIP1
HP
WL
SS
FEP
100
D2
D3

FIG. 13A

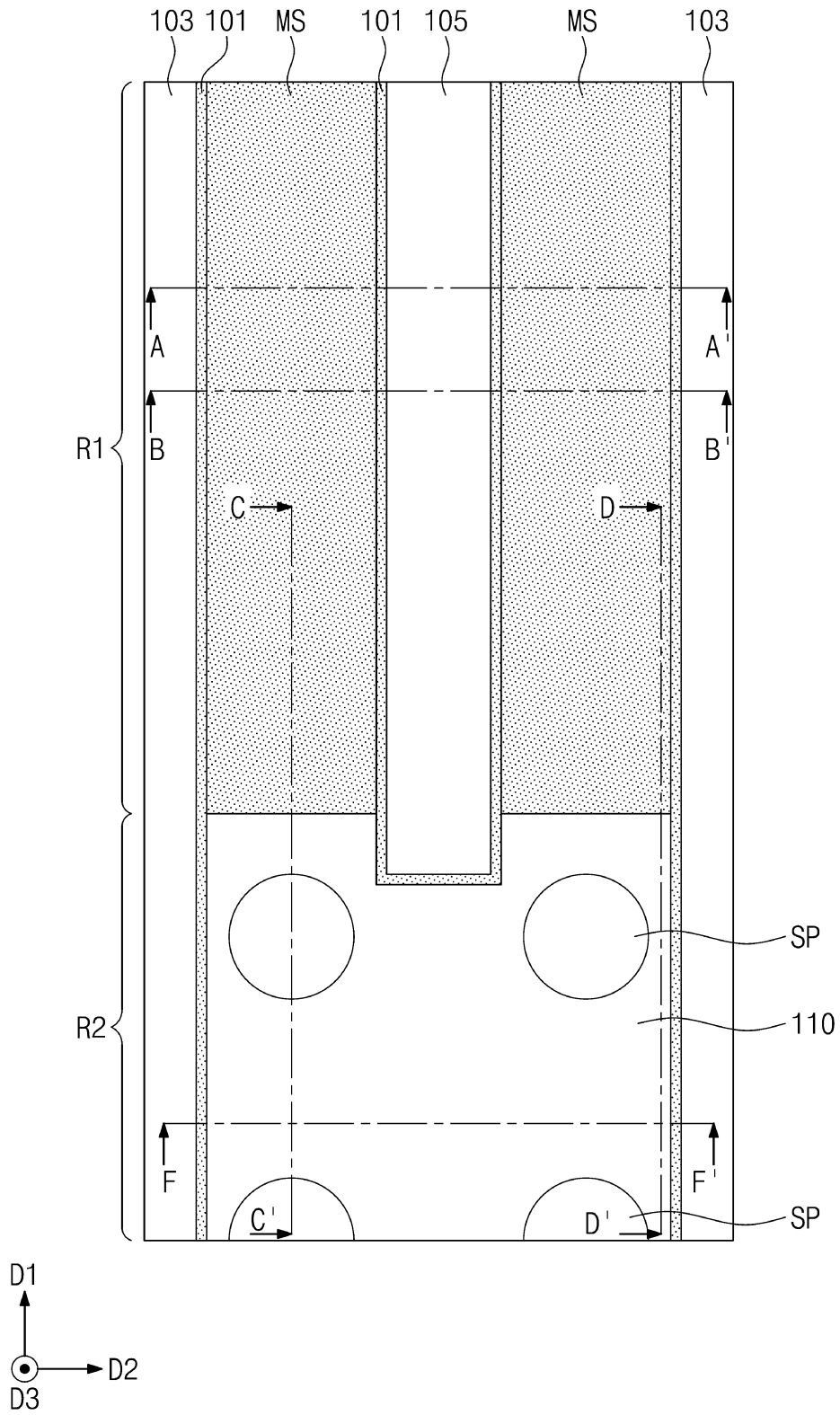


FIG. 13B

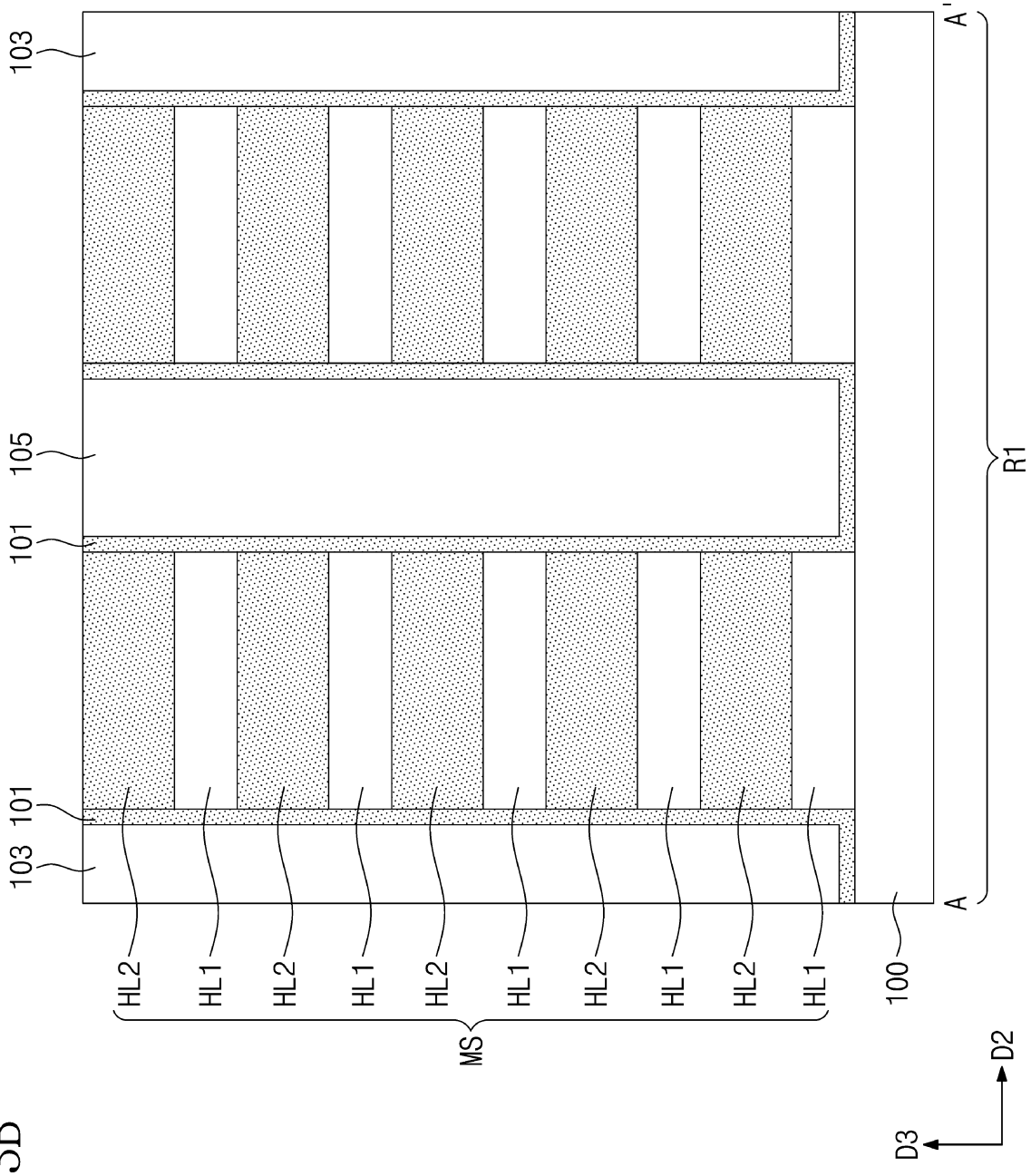

103
101
105
101
103
A'
A
R1
HL2
HL1
HL2
HL1
HL2
HL1
HL2
HL1
HL2
HL1
MS
100
D3
D2

FIG. 13C

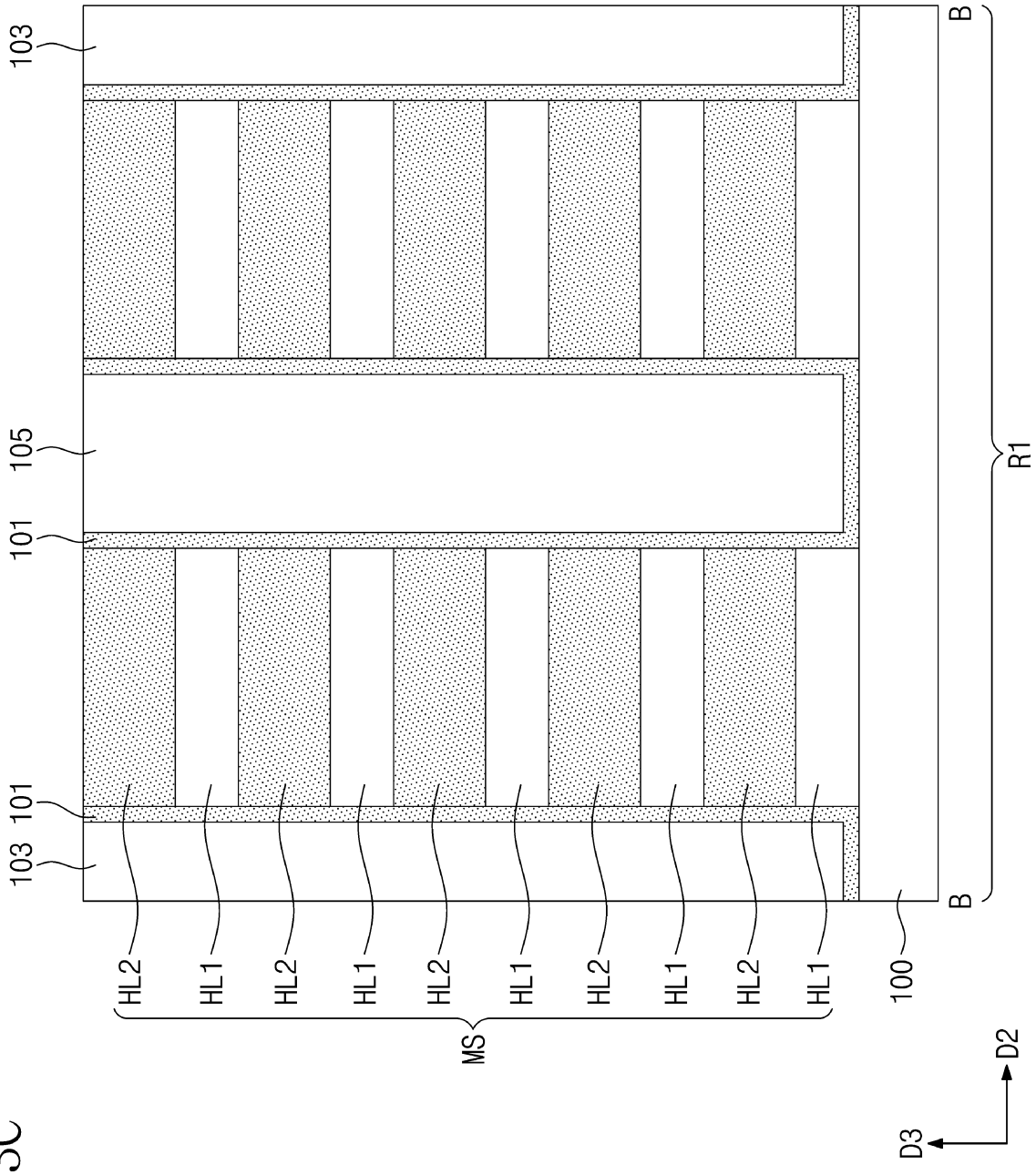

103
101
105
101
103
B'
B
R1
HL2
HL1
HL2
HL1
HL2
HL1
HL2
HL1
HL2
HL1
MS
100
D2
D3

FIG. 13D

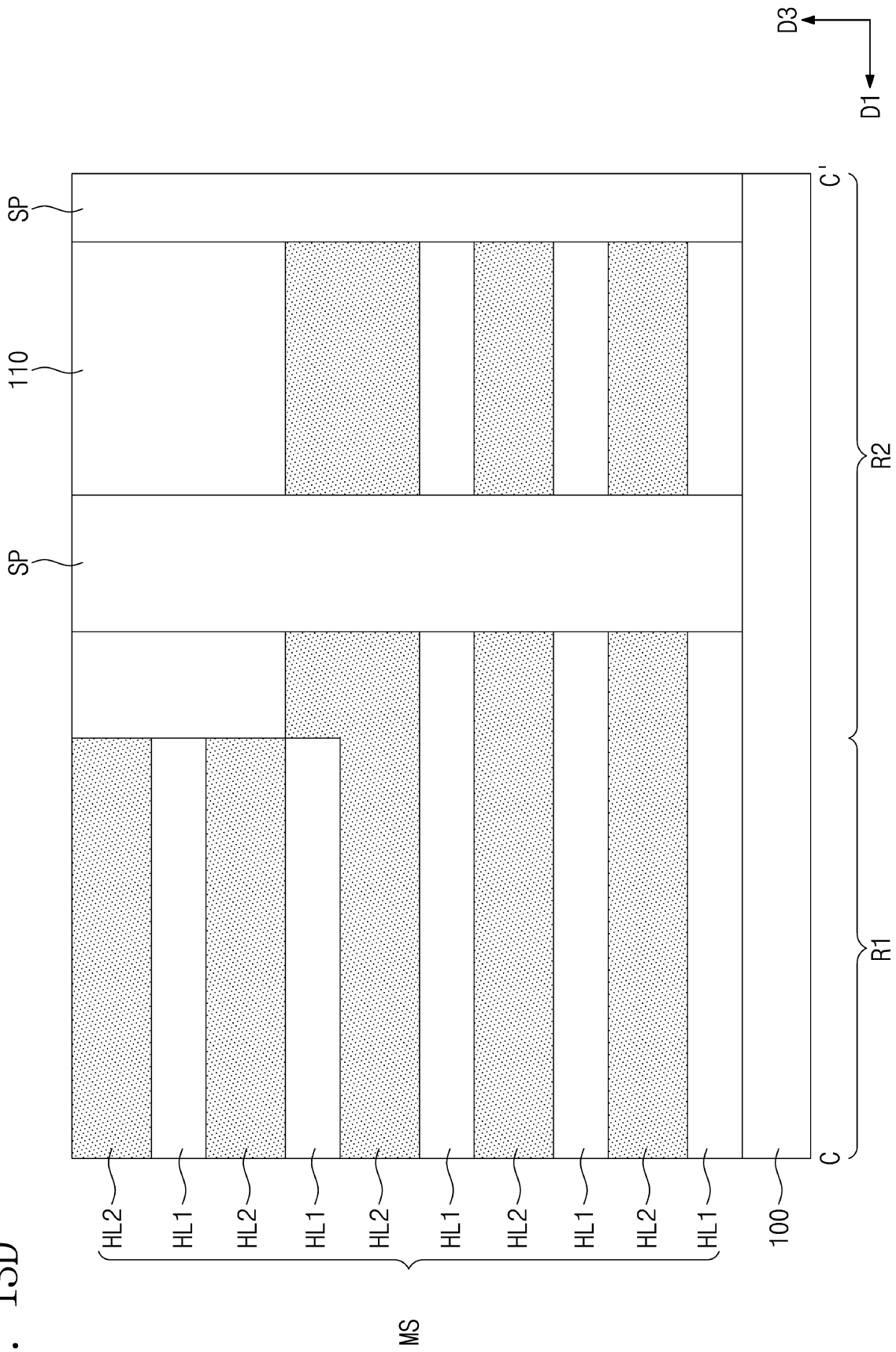

D3
D1
SP
110
SP
C'
C
R2
R1
HL2
HL1
HL2
HL1
HL2
HL1
HL2
HL1
HL2
HL1
100
MS

FIG. 13E

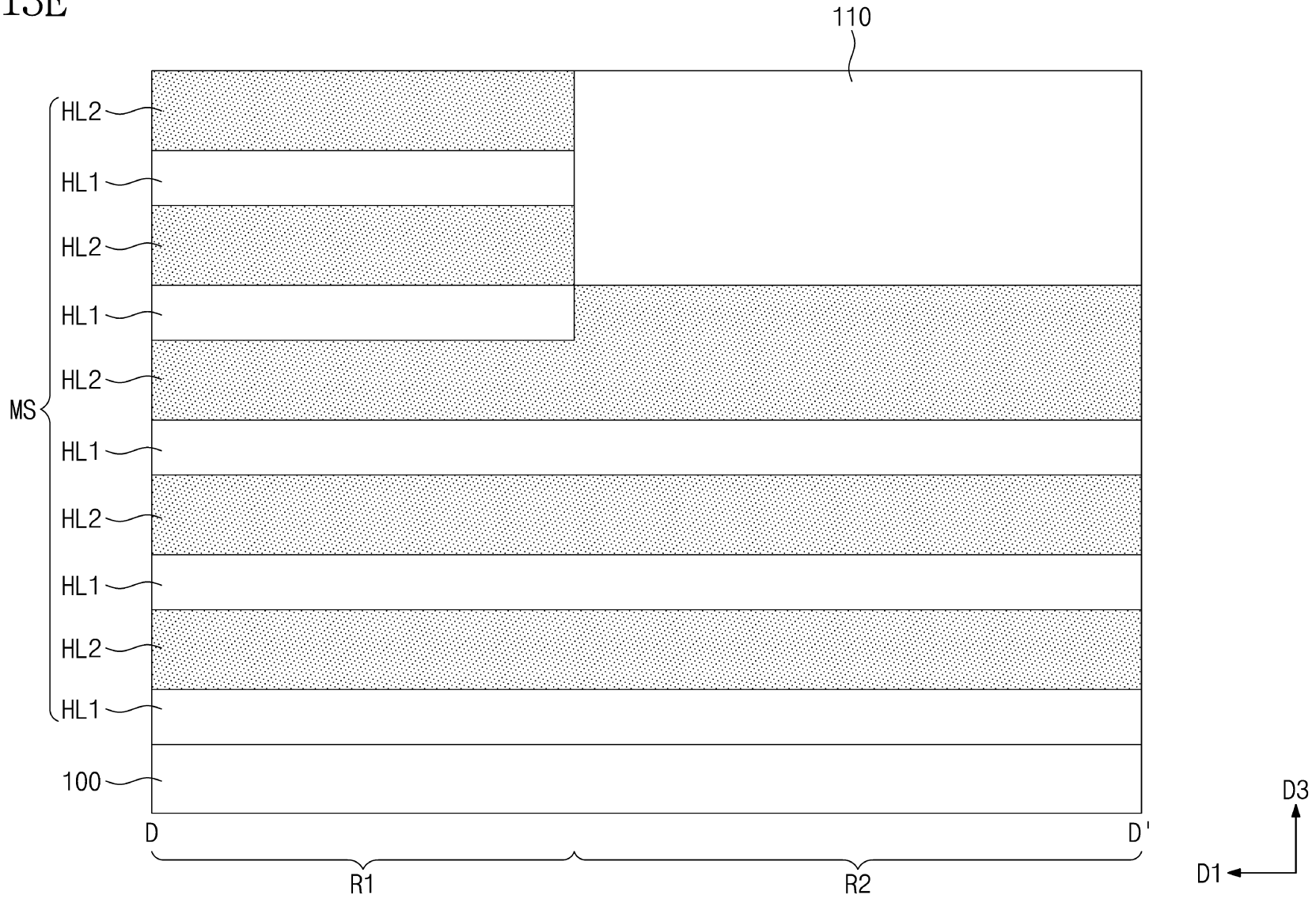


FIG. 13F

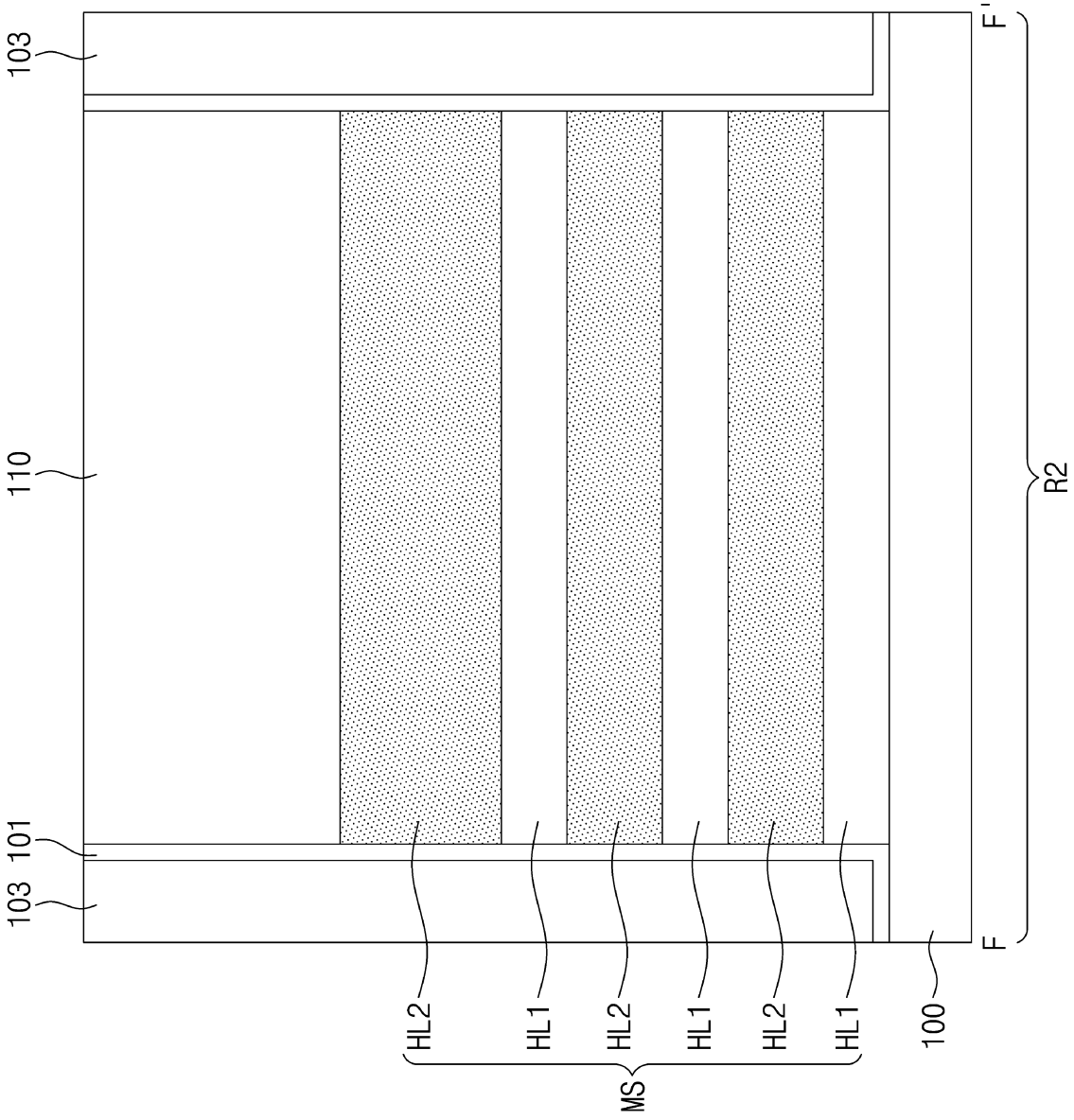


FIG. 14A

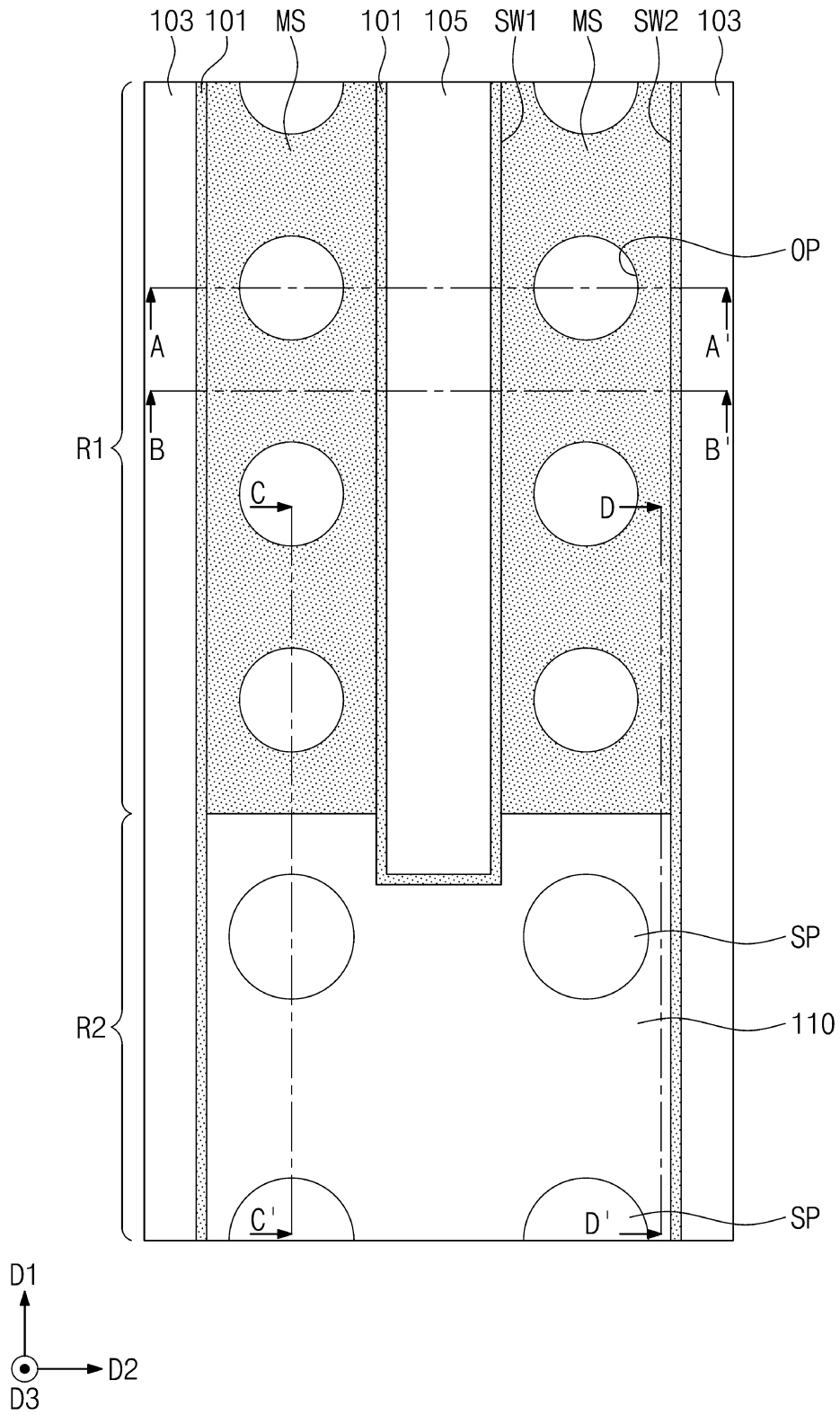

103
101
MS
101
105
SW1
MS
SW2
103
OP
A
A'
B
B'
R1
C
D
SP
R2
110
C'
D'
SP
D1
D2
D3

FIG. 14B

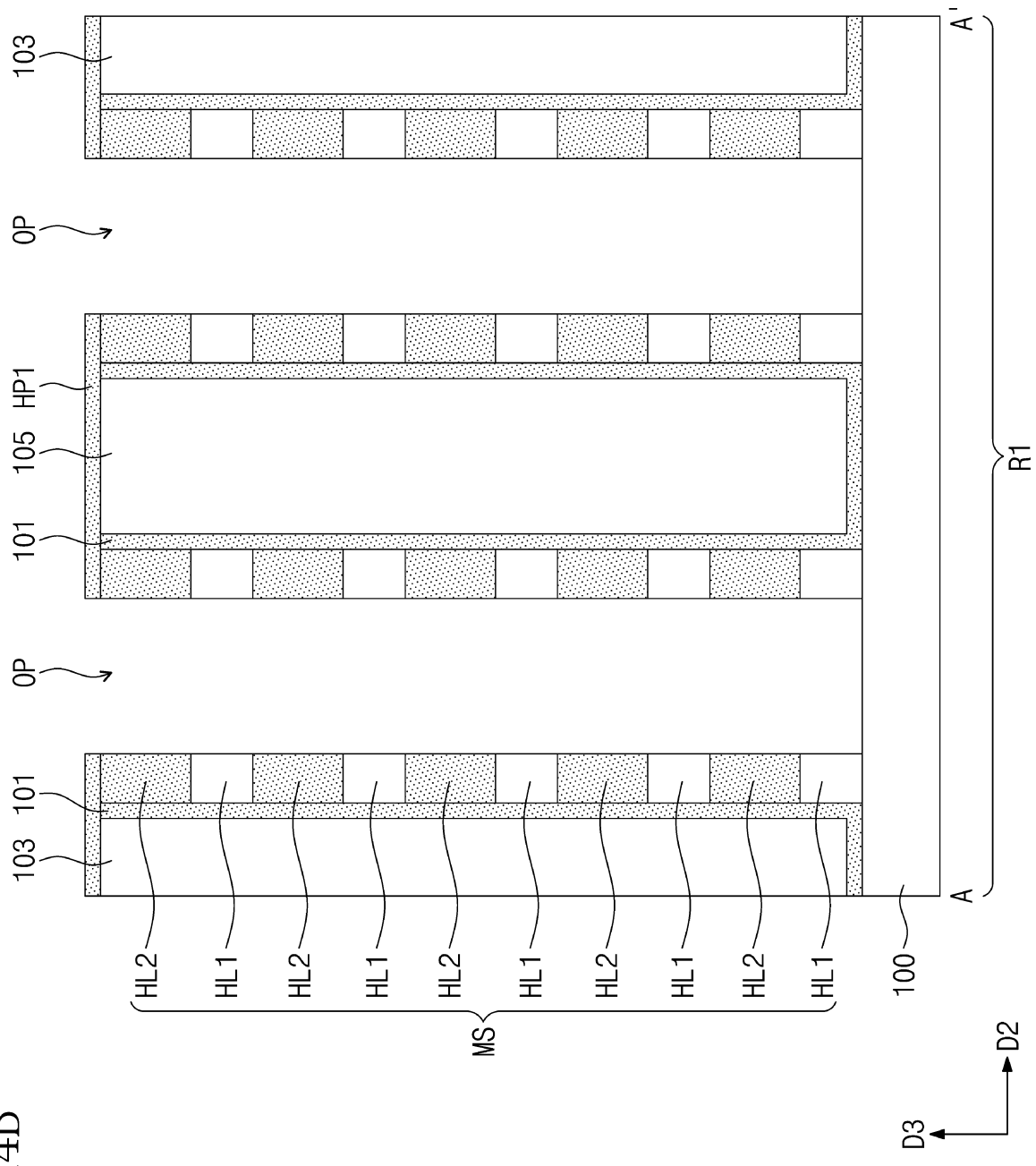

103
OP
HP1
105
101
OP
101
103
A'
A
R1
HL2
HL1
HL2
HL1
HL2
HL1
HL2
HL1
HL2
HL1
MS
100
D2
D3

FIG. 14C

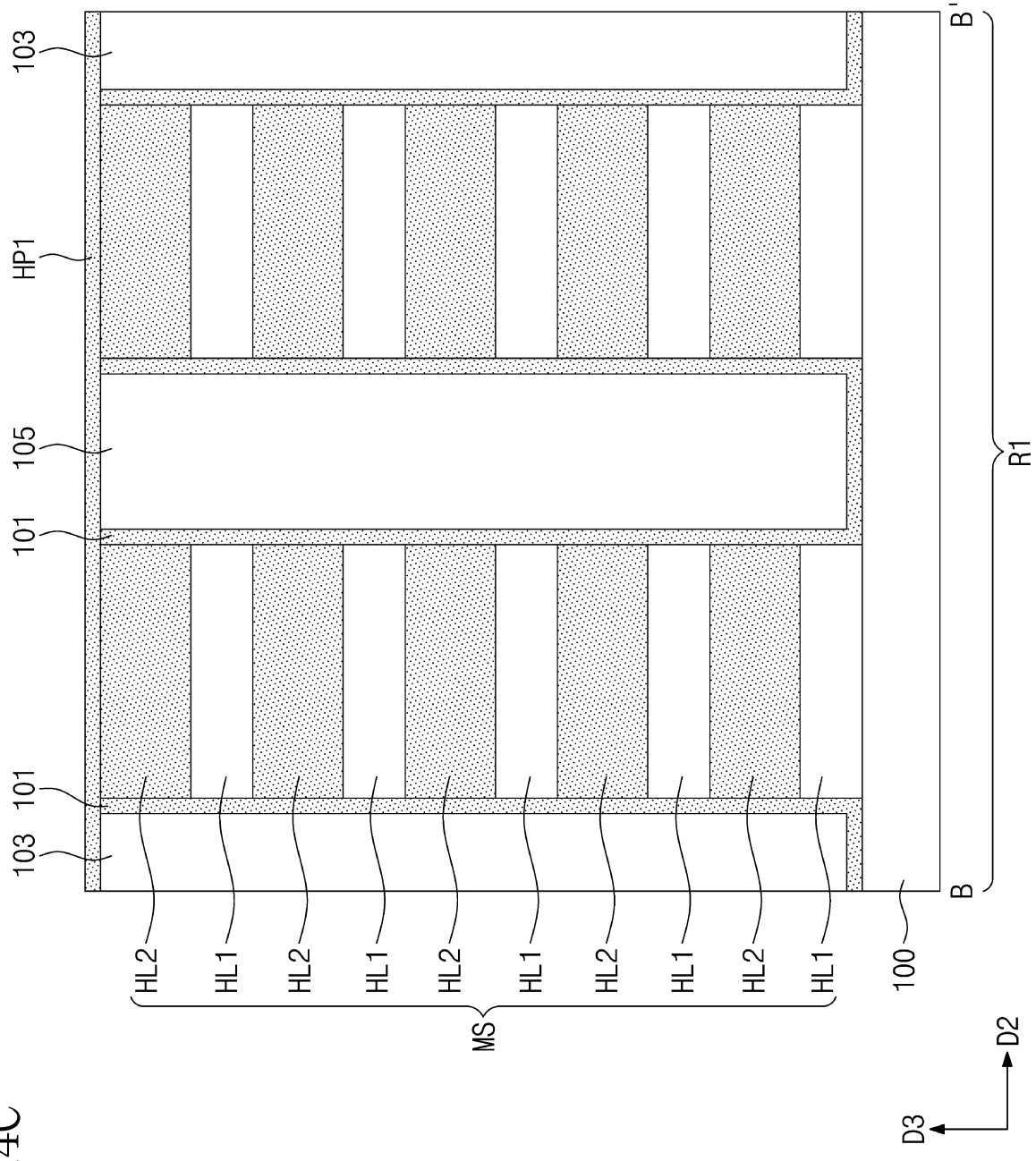

103
HP1
105
101
101
103
B'
B
R1
HL2
HL1
HL2
HL1
HL2
HL1
HL2
HL1
HL2
HL1
MS
100
D3
D2

FIG. 14D

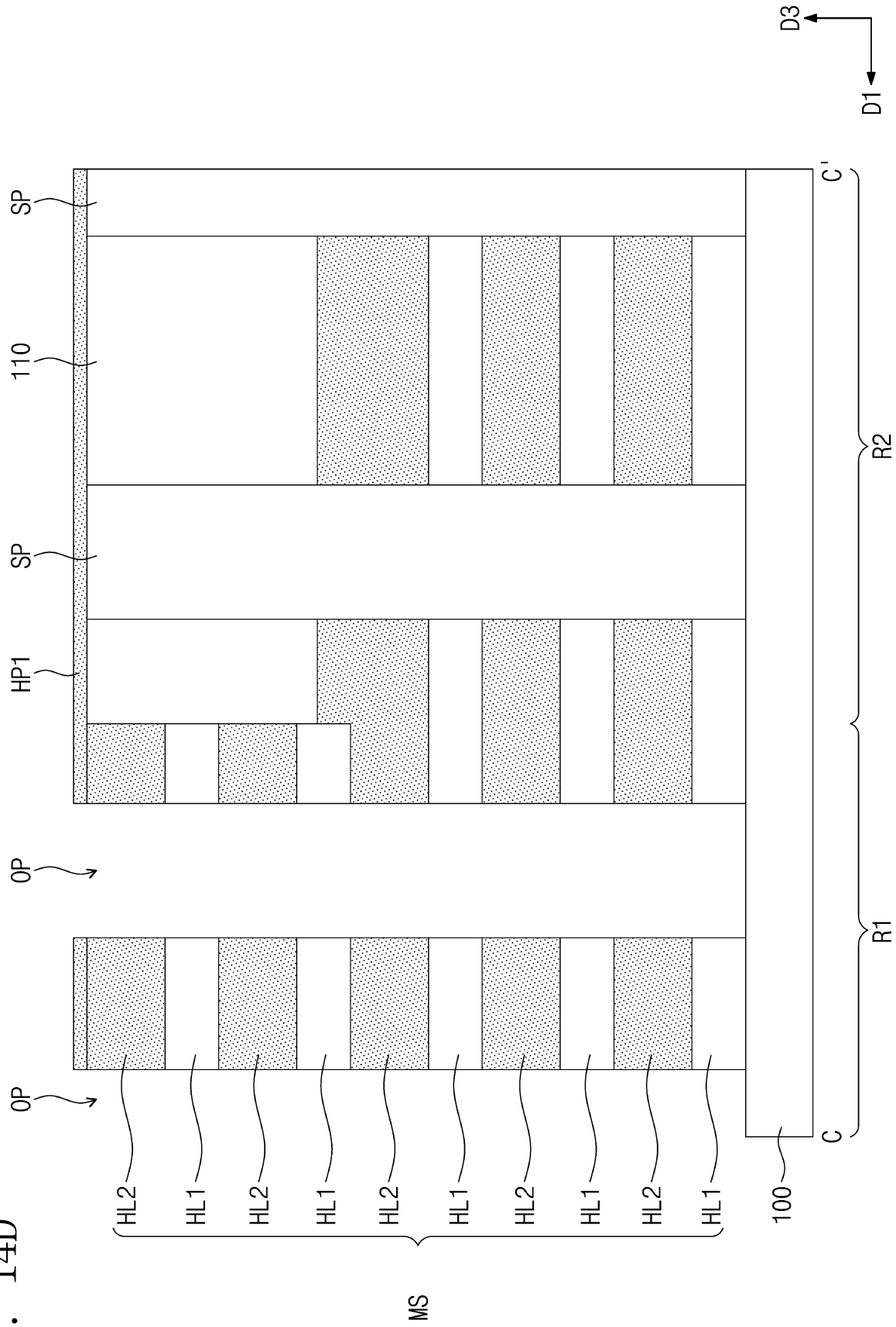

D3
D1
SP
110
SP
HP1
OP
OP
C'
C
R2
R1
HL2
HL1
HL2
HL1
HL2
HL1
HL2
HL1
HL2
HL1
100
MS

FIG. 14E

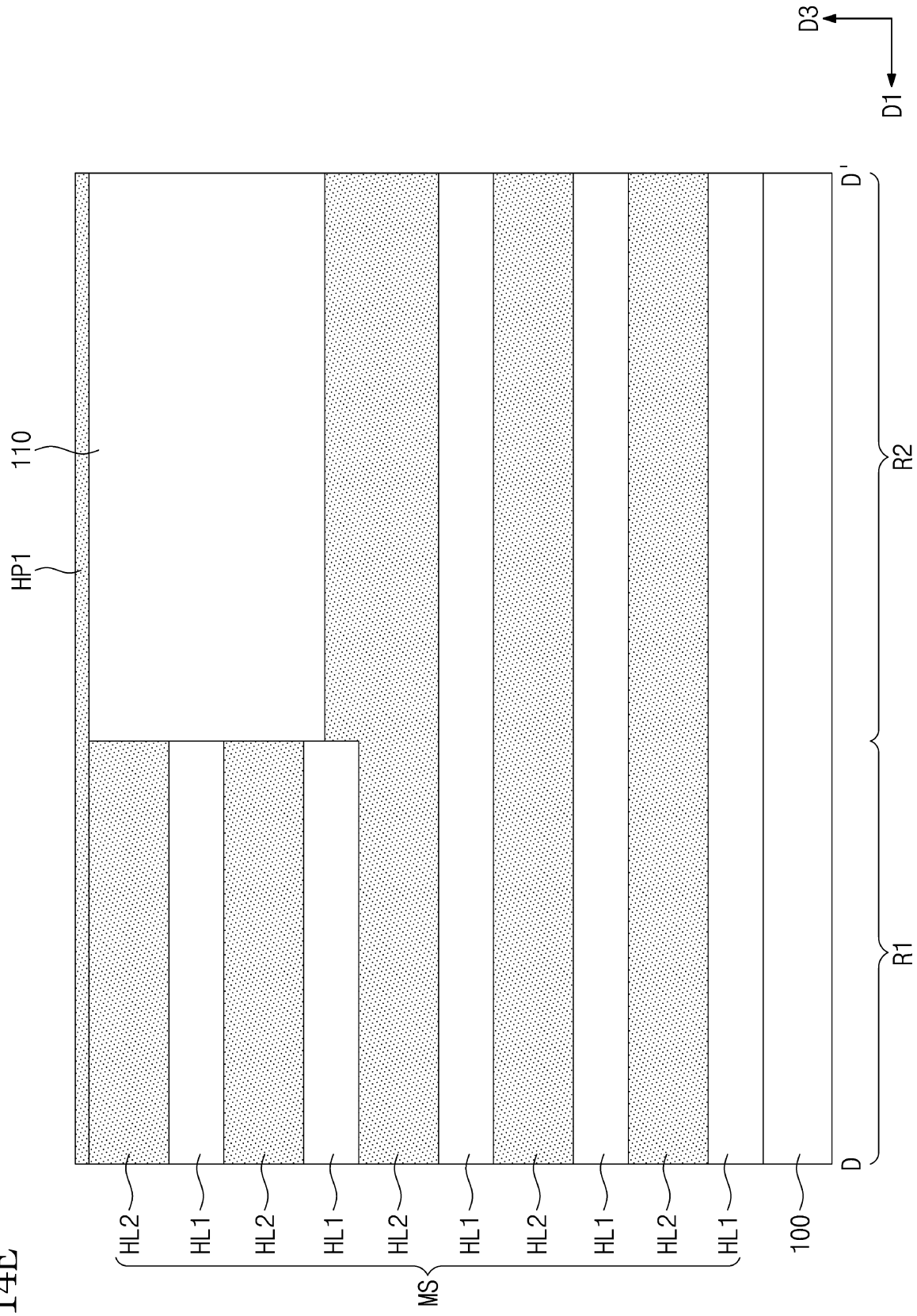

D3
D1
D'
D
R2
R1
110
HP1
HL2
HL1
HL2
HL1
HL2
HL1
HL2
HL1
HL2
HL1
100
MS

FIG. 15A

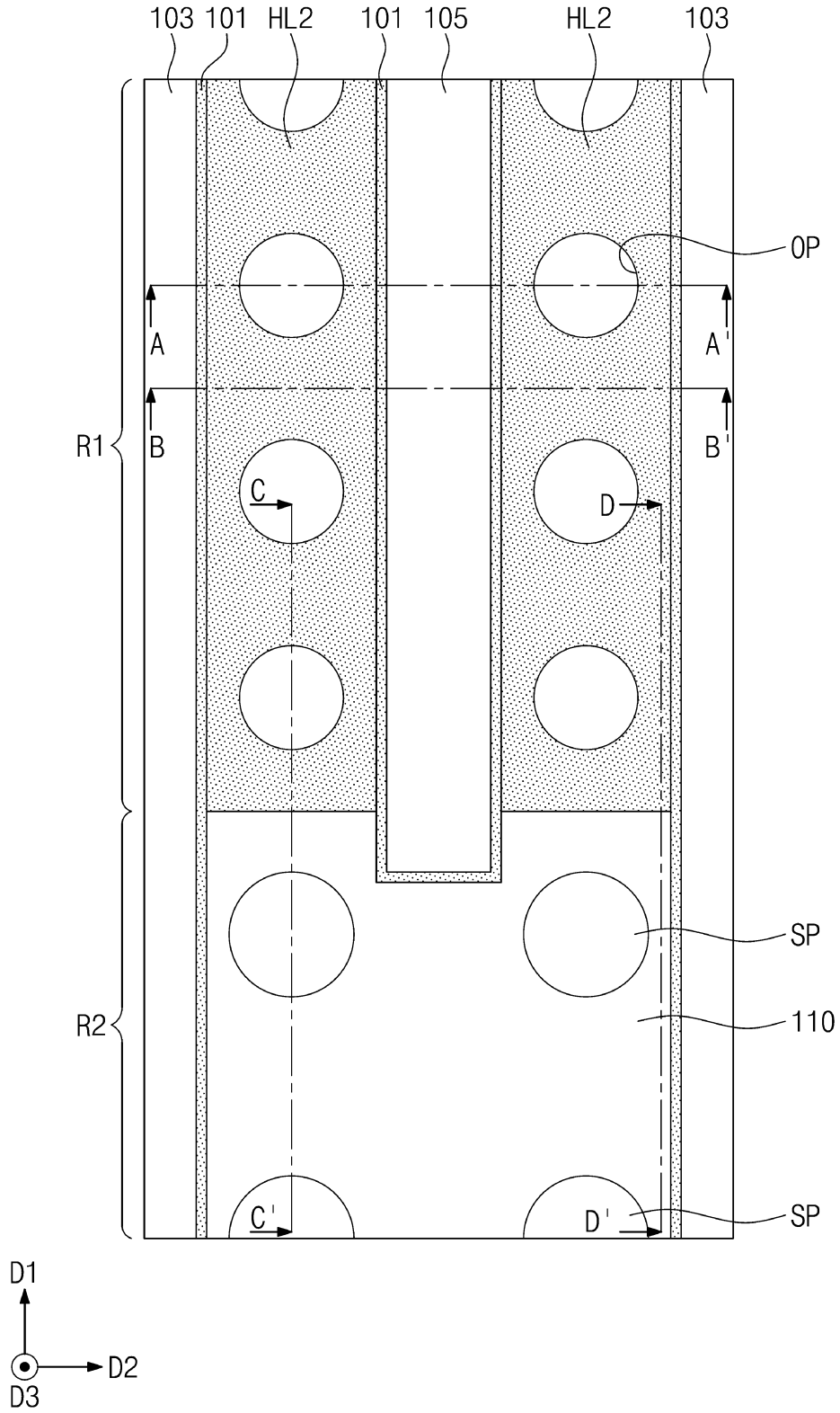


FIG. 15B

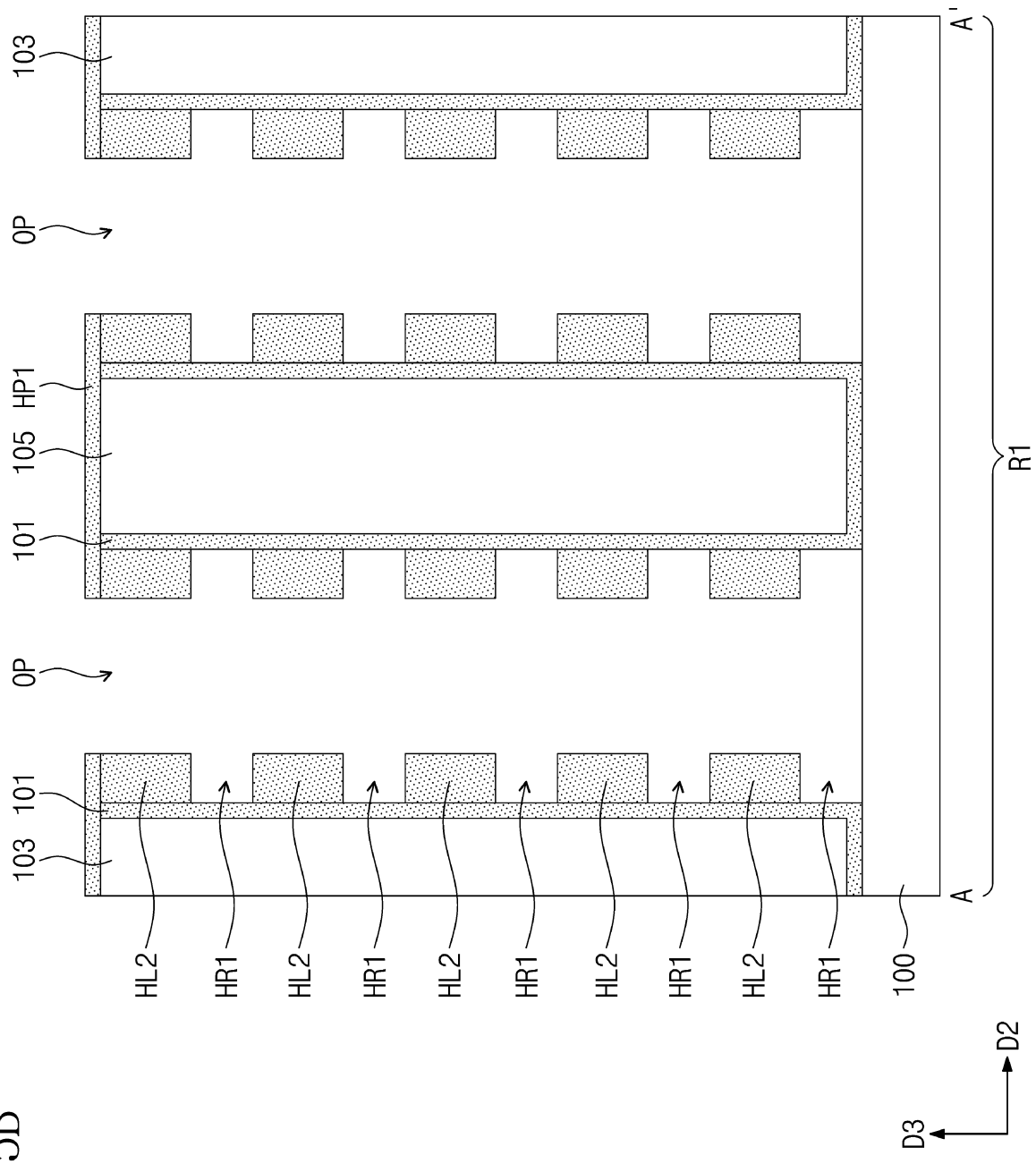

103
OP
HP1
105
101
OP
101
103
A'
A
R1
HL2
HR1
HL2
HR1
HL2
HR1
HL2
HR1
HL2
HR1
100
D3
D2

FIG. 15C

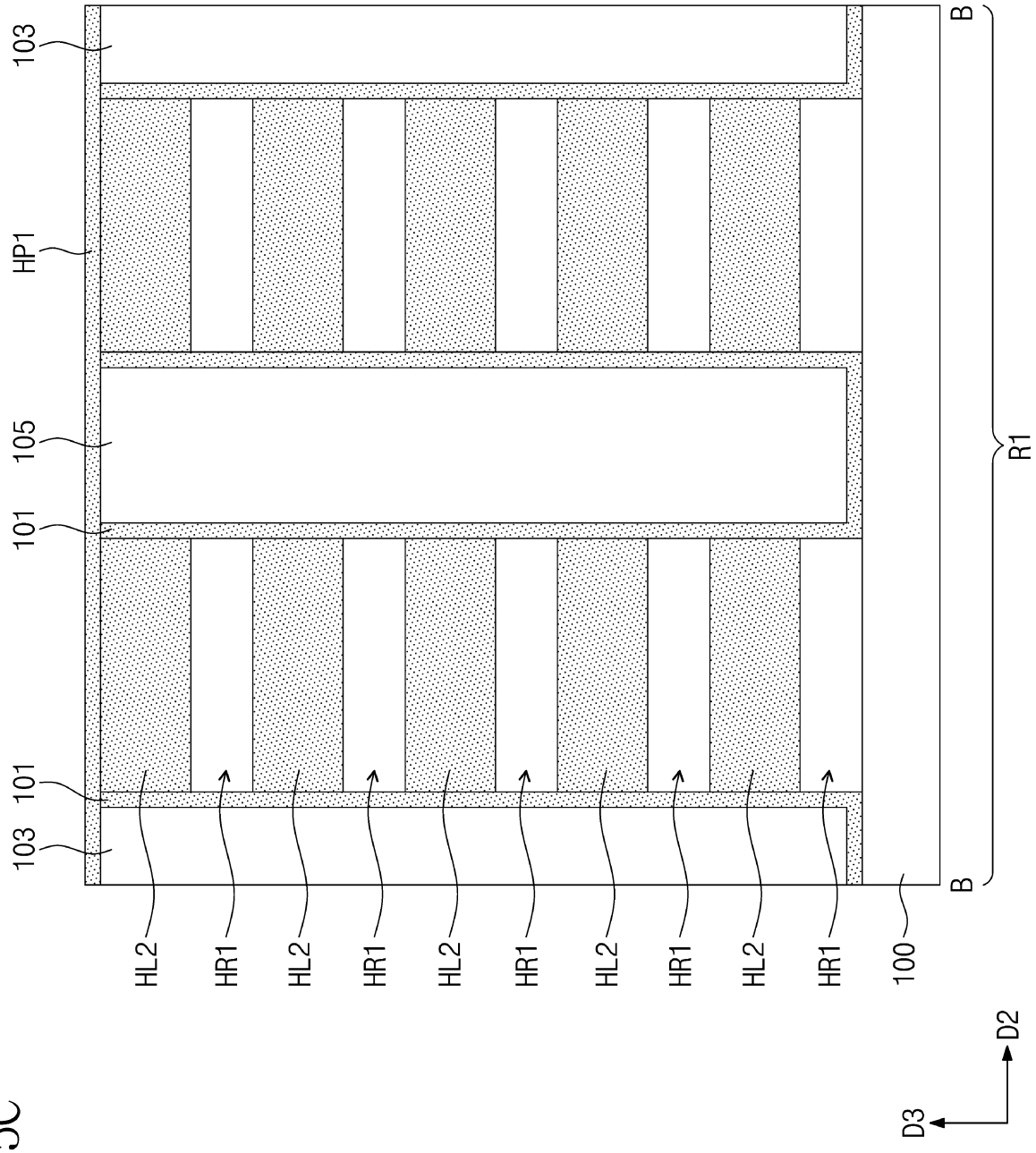

103
HP1
105
101
101
103
B'
B
R1
HL2
HR1
HL2
HR1
HL2
HR1
HL2
HR1
HL2
HR1
100
D2
D3

FIG. 15D

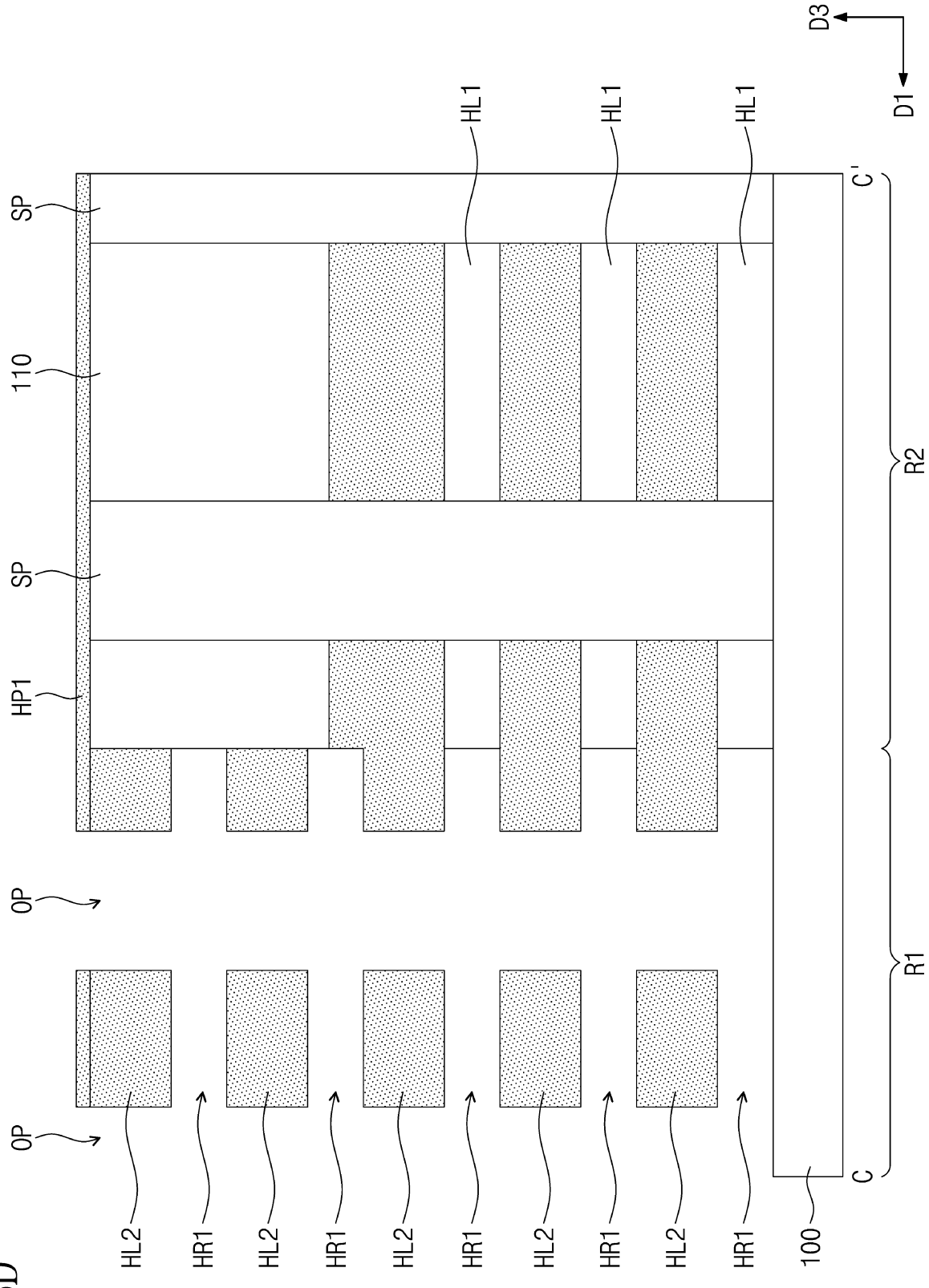

D3
D1
HL1
HL1
HL1
C'
SP
110
SP
HP1
R2
R1
OP
OP
C
HL2
HR1
HL2
HR1
HL2
HR1
HL2
HR1
HL2
HR1
100

FIG. 15E

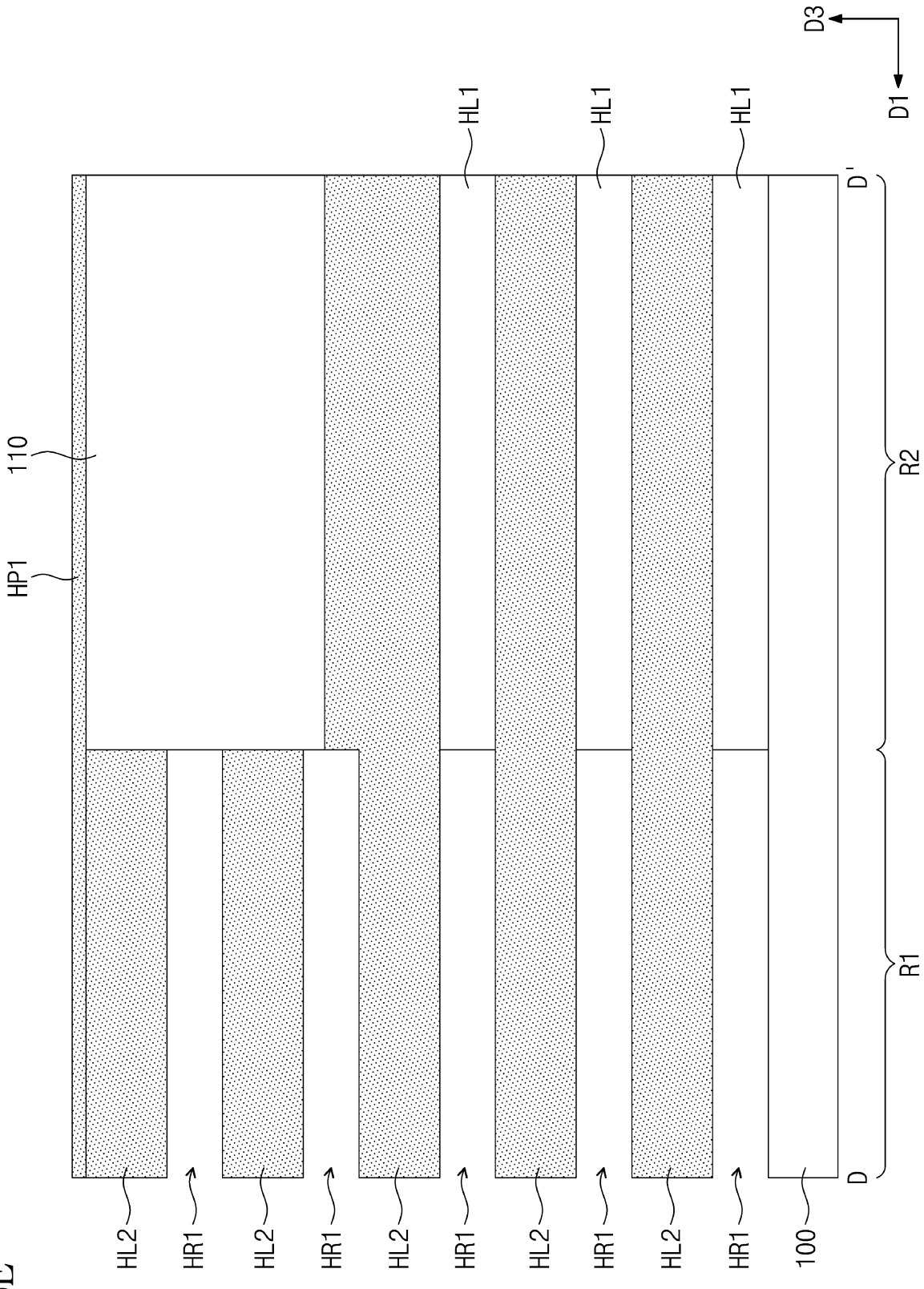

D3
D1
HL1
HL1
HL1
D'
D
110
HP1
R2
R1
HL2
HR1
HL2
HR1
HL2
HR1
HL2
HR1
HL2
HR1
100

FIG. 16A

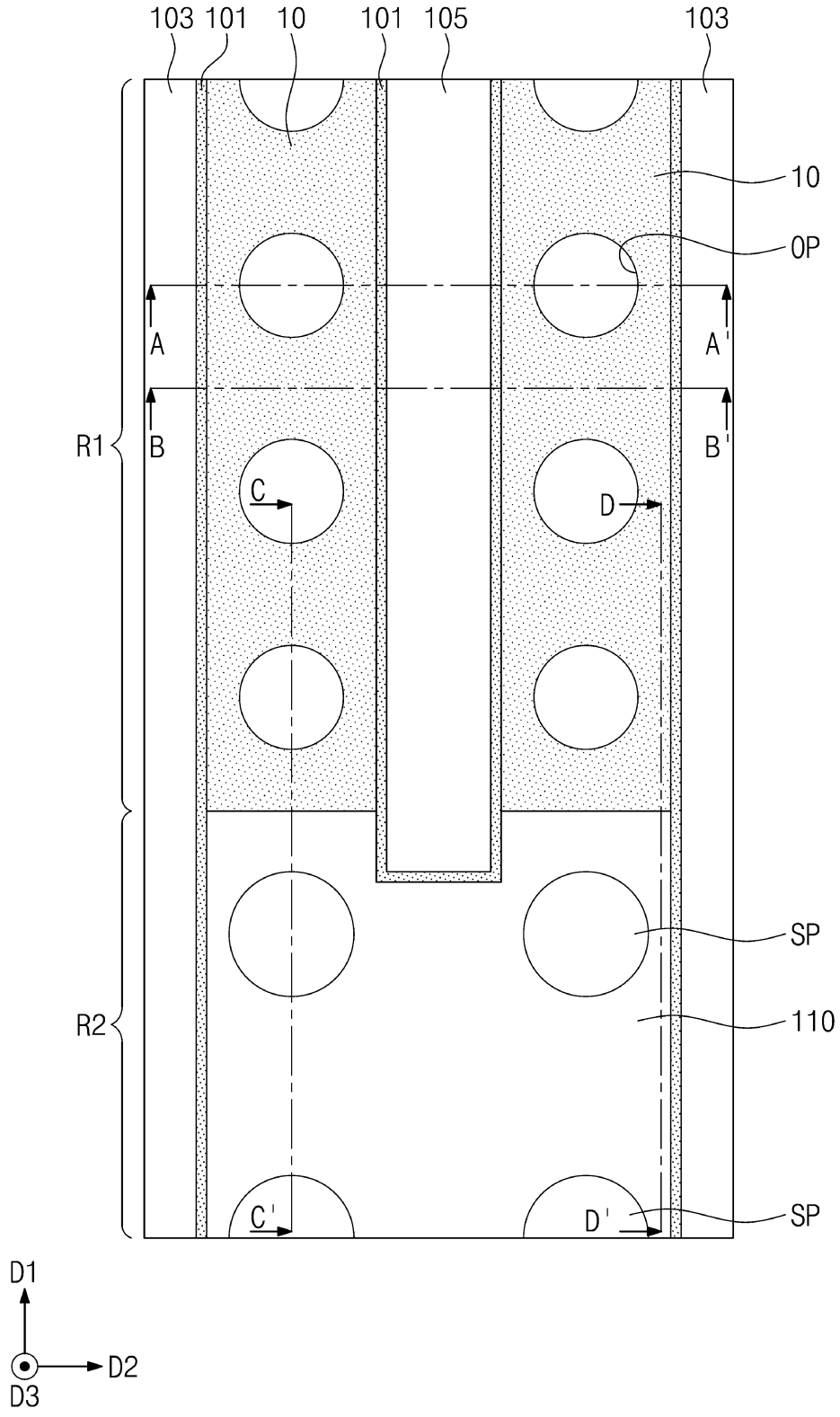


FIG. 16B

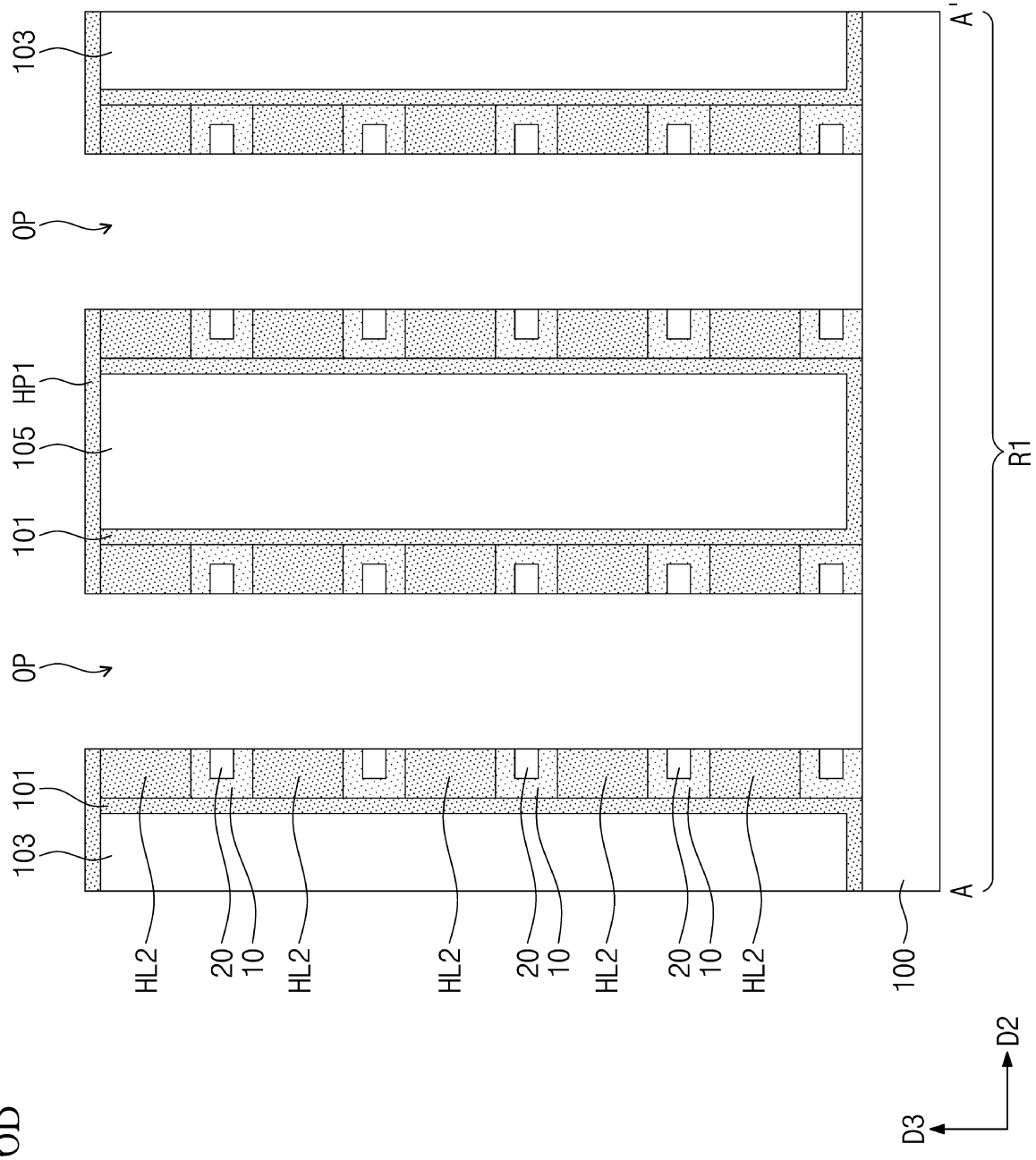

103
OP
HP1
105
101
OP
101
103
HL2
20
10
HL2
HL2
20
10
HL2
20
10
HL2
100
A
A'
R1
D3
D2

FIG. 16C

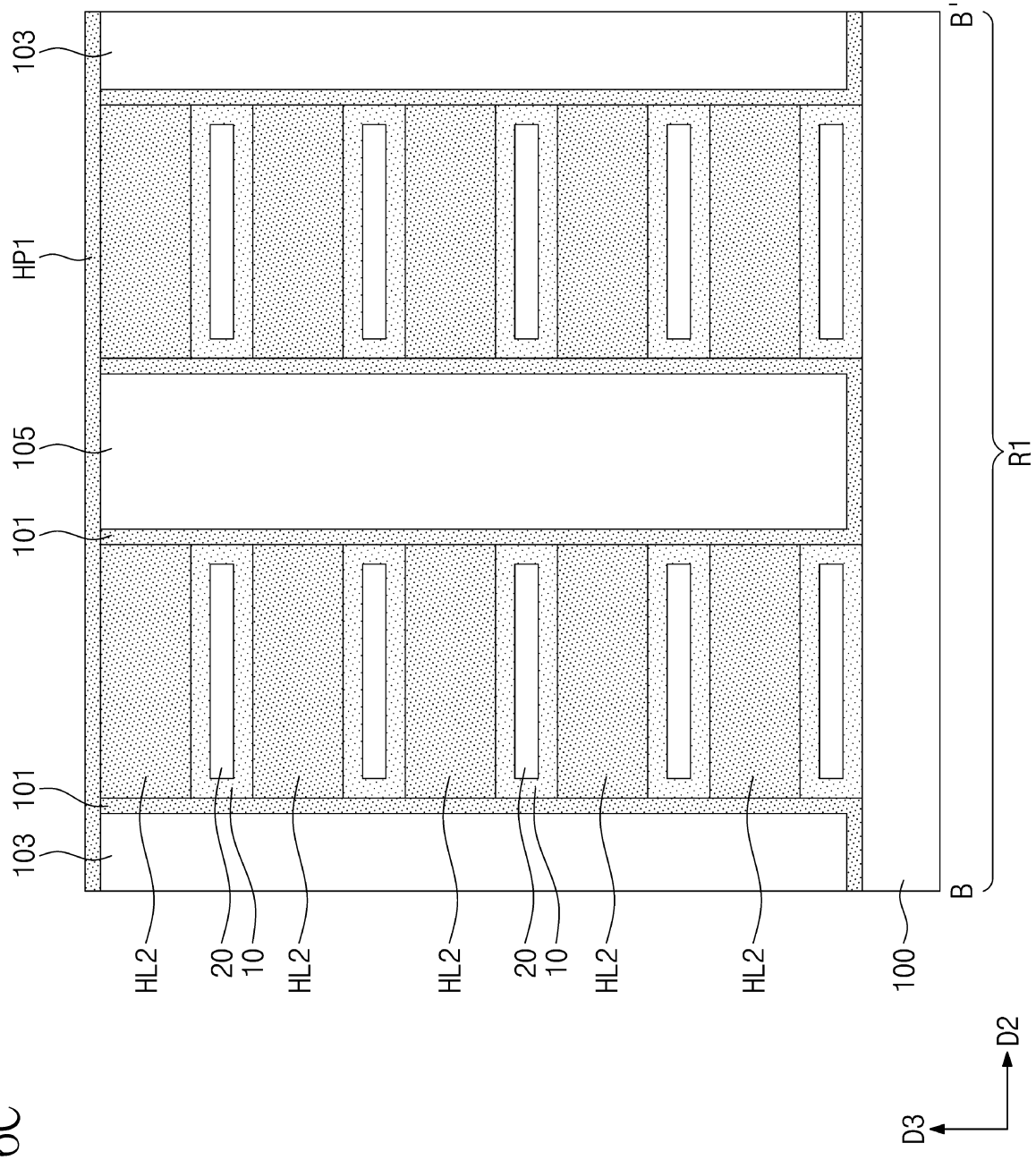

103
HP1
105
101
101
103
HL2
20
10
HL2
HL2
20
10
HL2
HL2
100
B
B'
R1
D3
D2

FIG. 16D

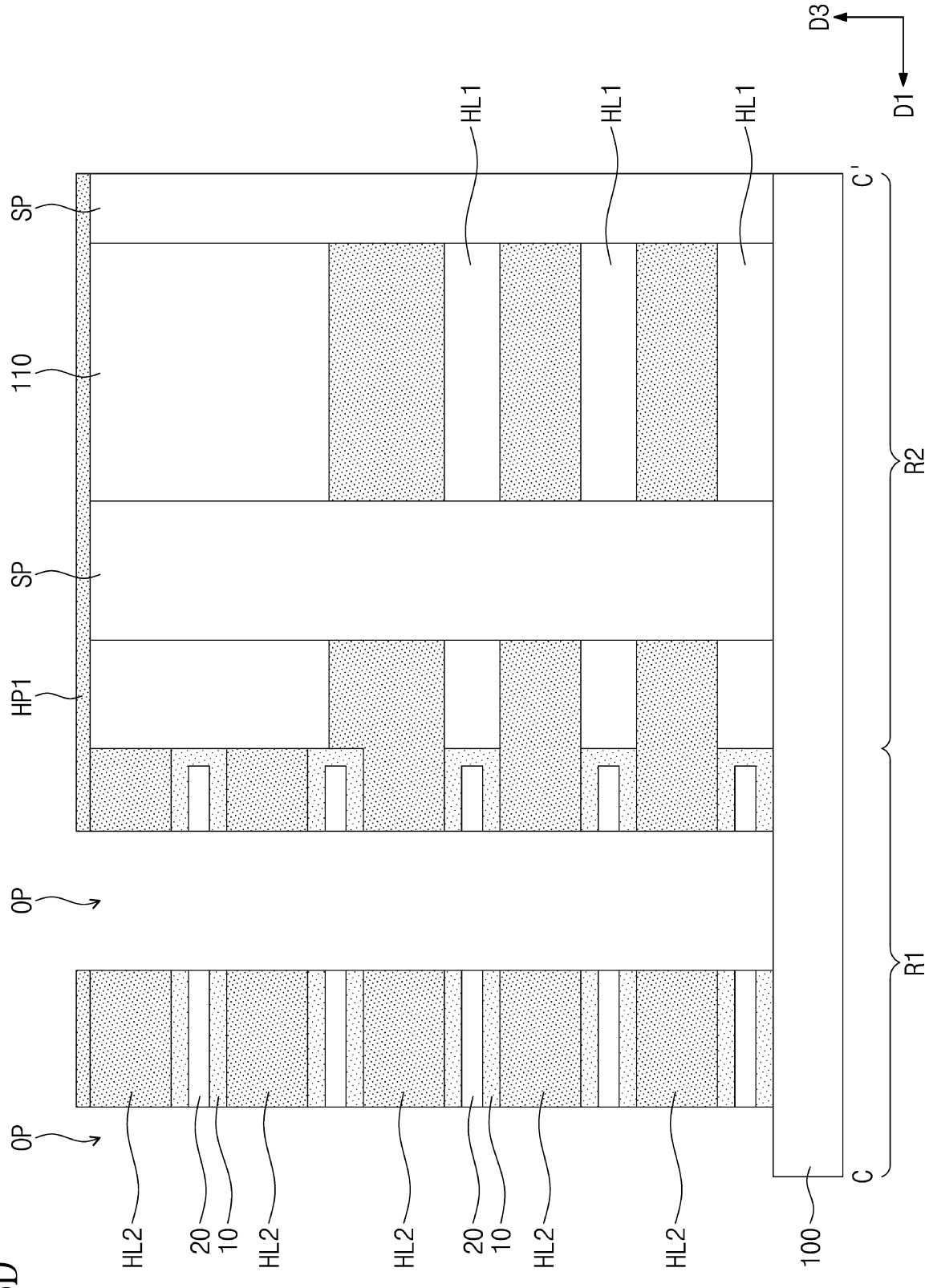

D3
D1
HL1
HL1
HL1
C'
SP
110
SP
HP1
R2
OP
R1
OP
C
HL2
20
10
HL2
HL2
20
10
HL2
HL2
100

FIG. 16E

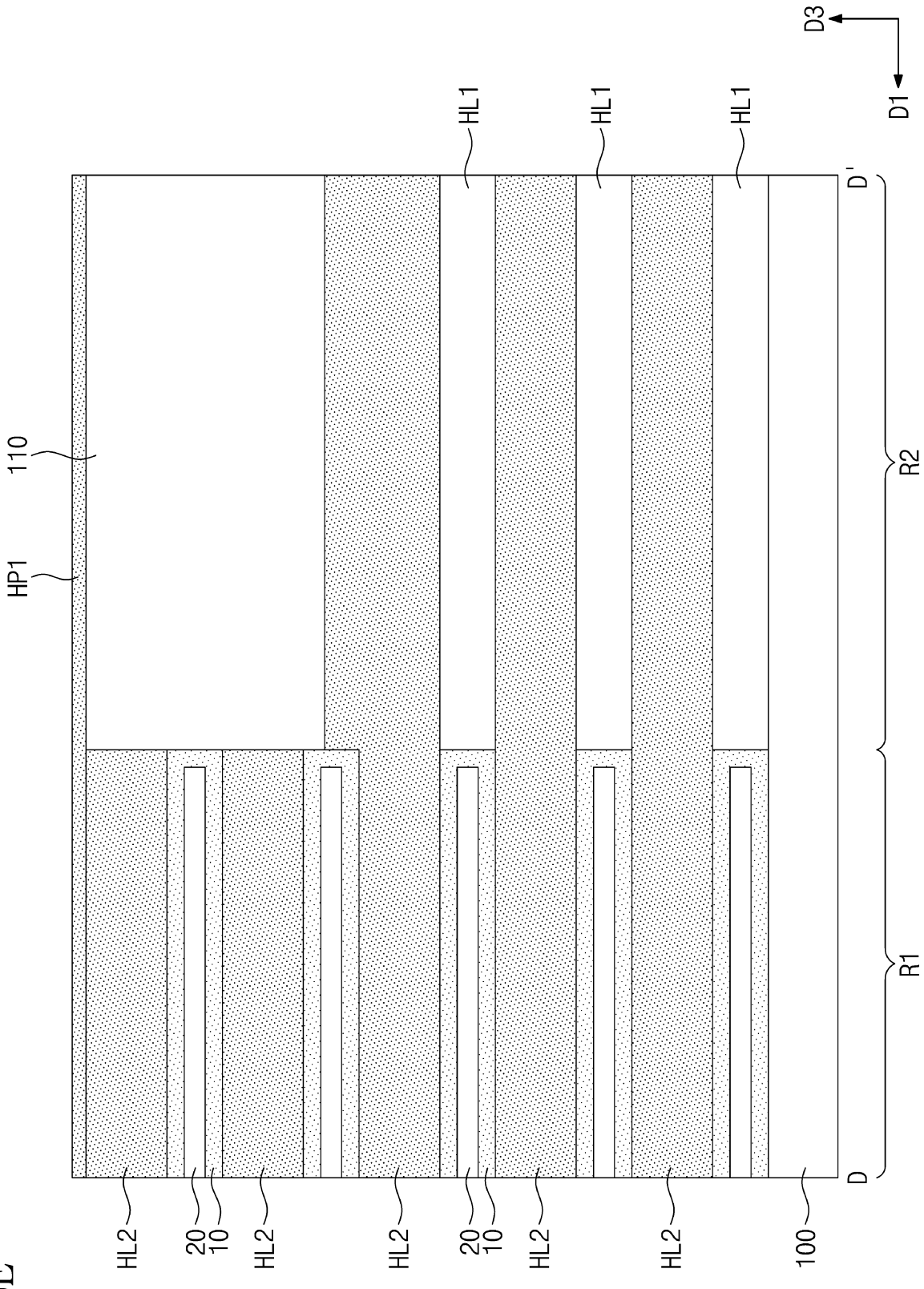

D3
D1
HL1
HL1
HL1
D'
D
R2
R1
110
HP1
HL2
20
10
HL2
HL2
20
10
HL2
HL2
100

FIG. 17A

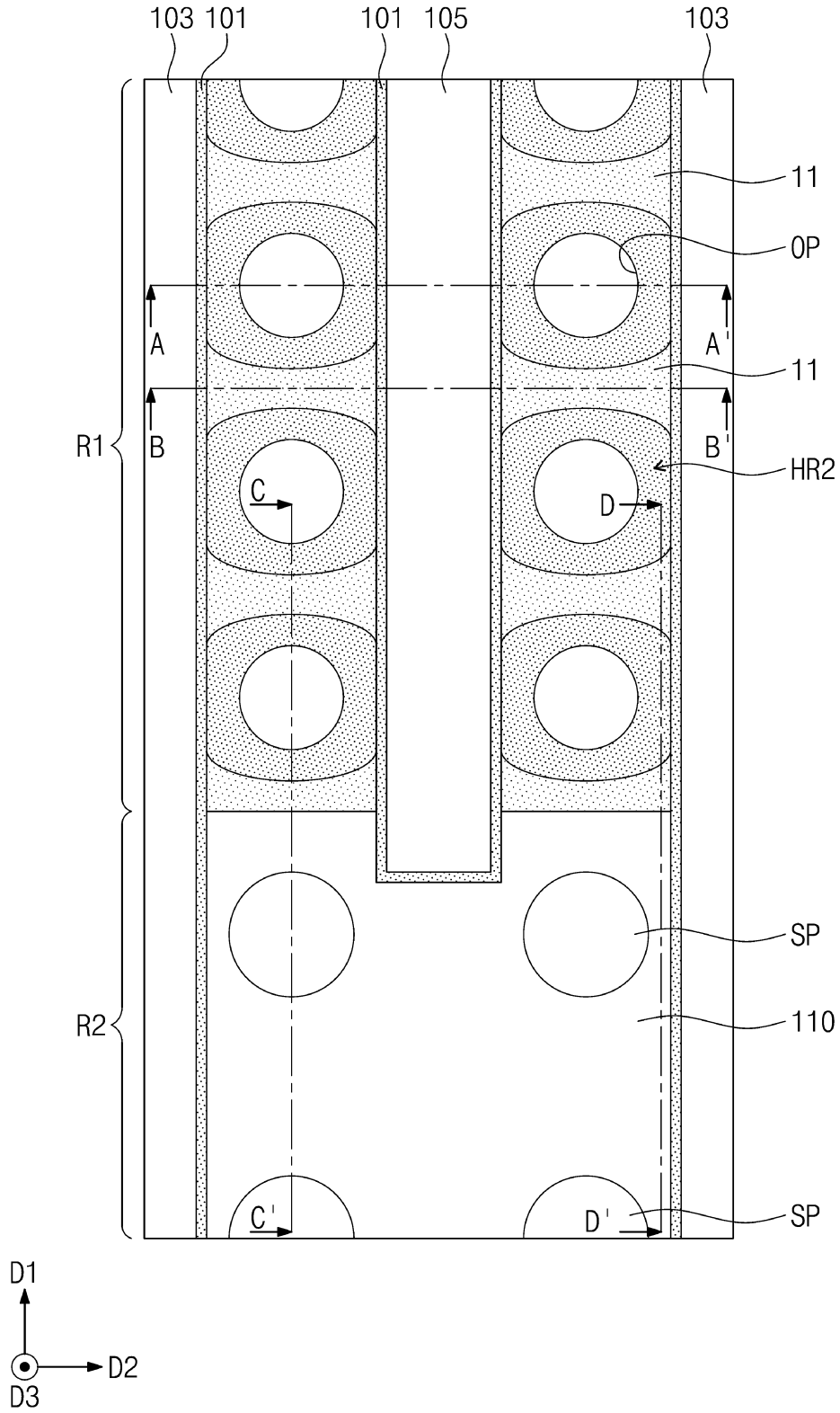


FIG. 17B

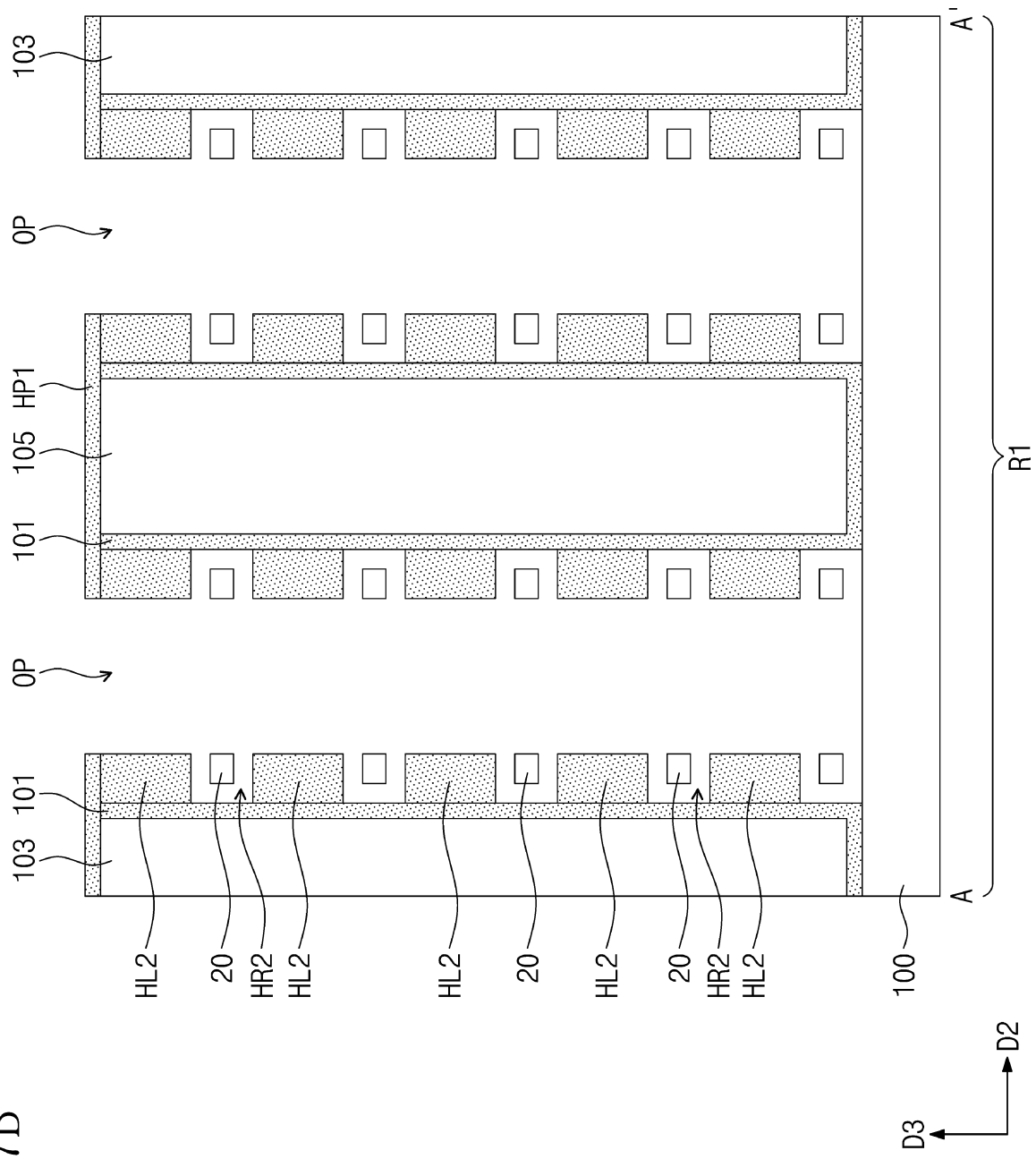

103
OP
HP1
105
101
OP
101
103
A'
A
R1
HL2
20
HR2
HL2
HL2
20
HL2
20
HR2
HL2
100
D3
D2

FIG. 17C

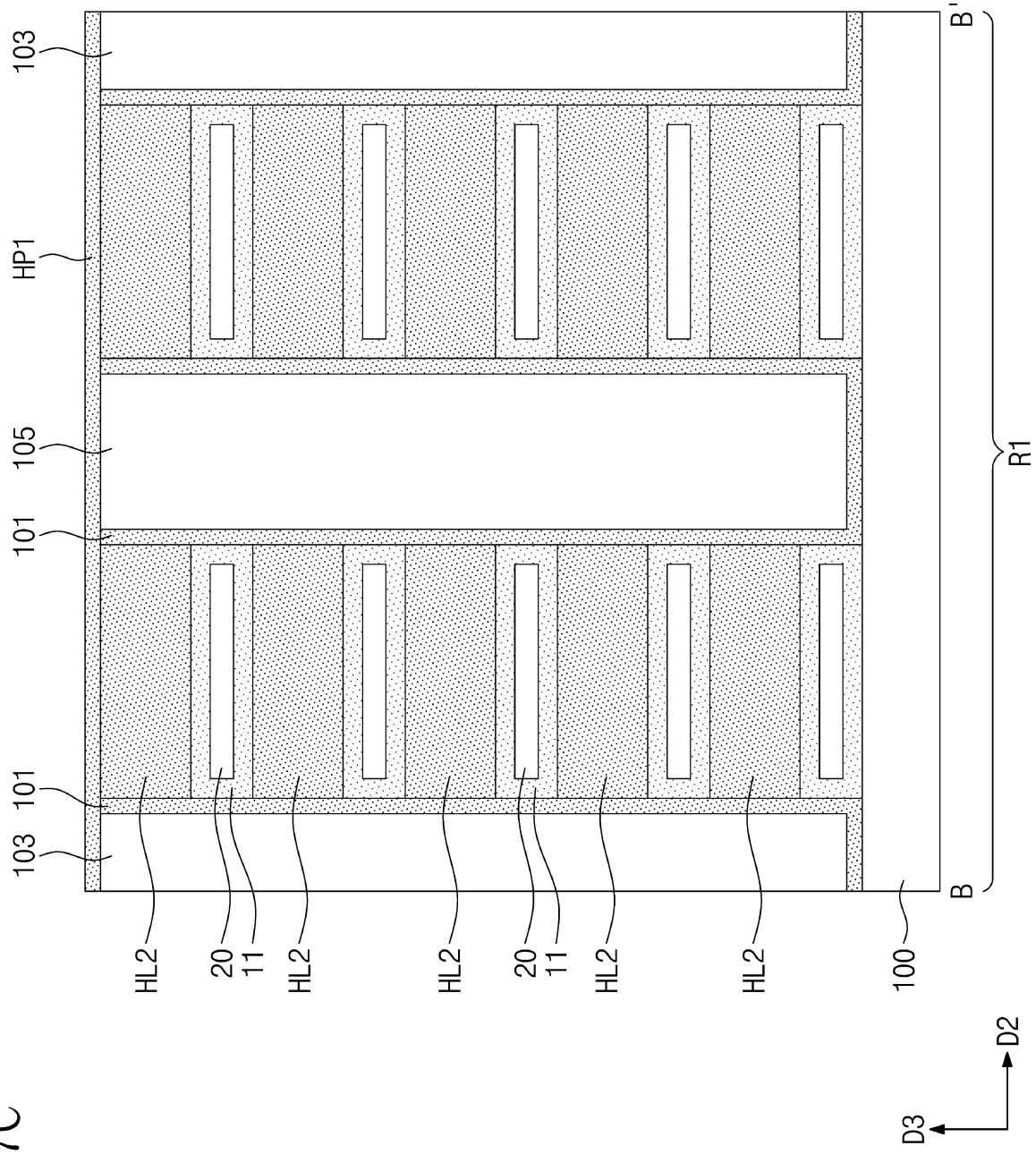

103
HP1
105
101
101
103
HL2
20
11
HL2
HL2
20
11
HL2
HL2
100
B
B'
R1
D3
D2

FIG. 17D

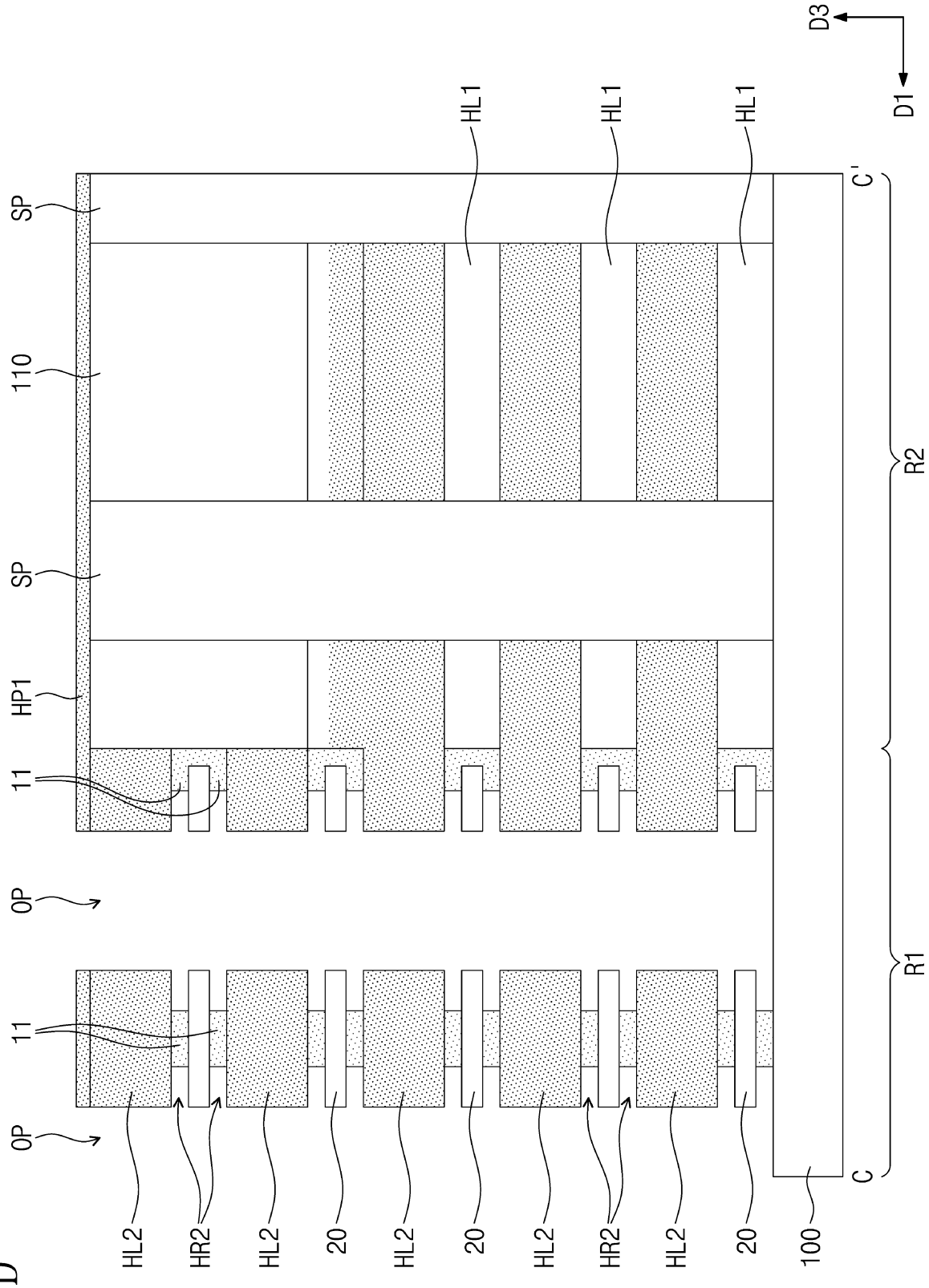

D3
D1
HL1
HL1
HL1
SP
110
SP
HP1
11
OP
11
OP
C'
C
R2
R1
HL2
HR2
HL2
20
HL2
20
HL2
HR2
HL2
20
100

FIG. 17E

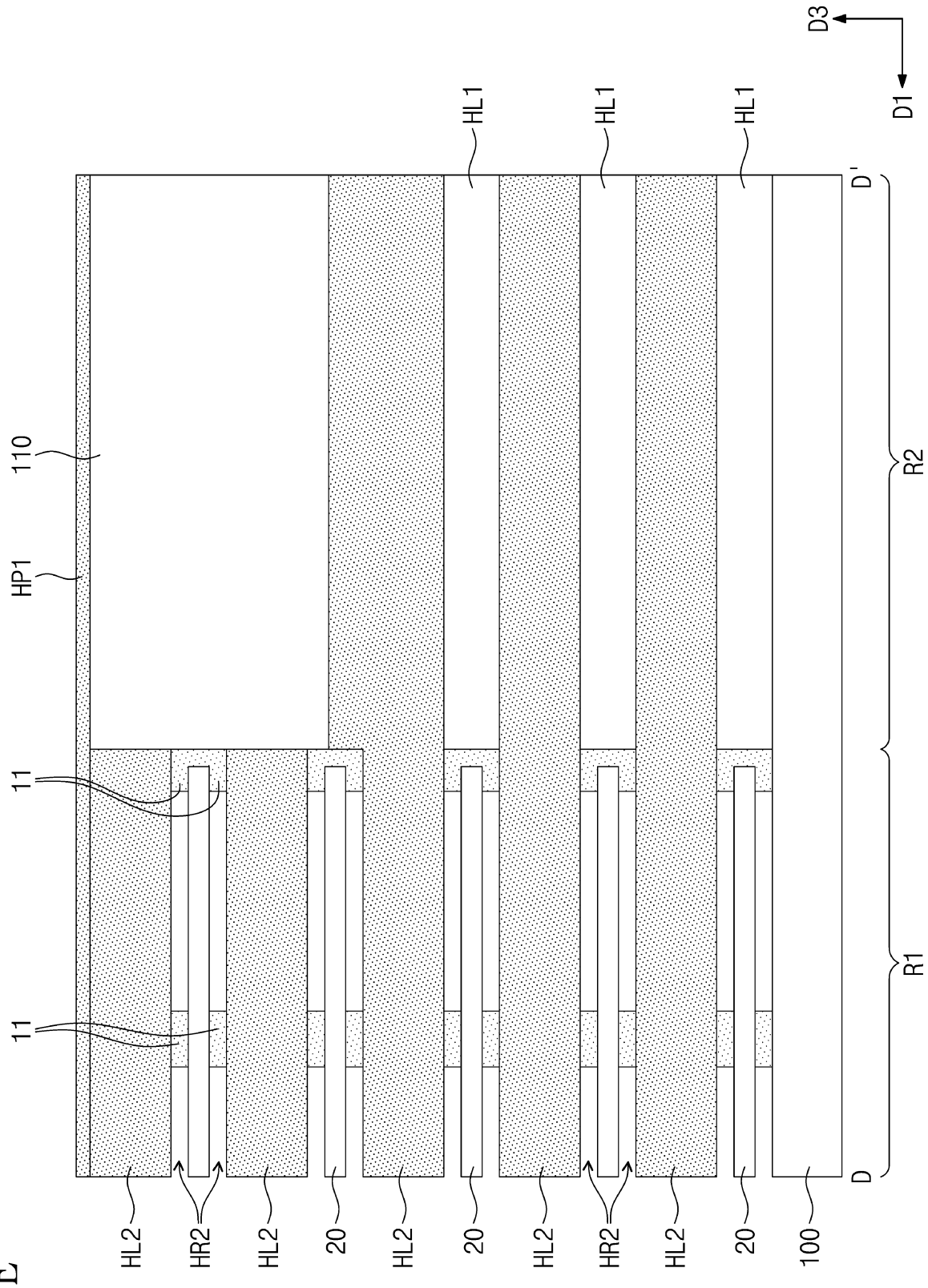

D3
D1
HL1
HL1
HL1
D'
D
R2
R1
110
HP1
11
11
HL2
HR2
HL2
20
HL2
20
HL2
HR2
HL2
20
100

FIG. 18A

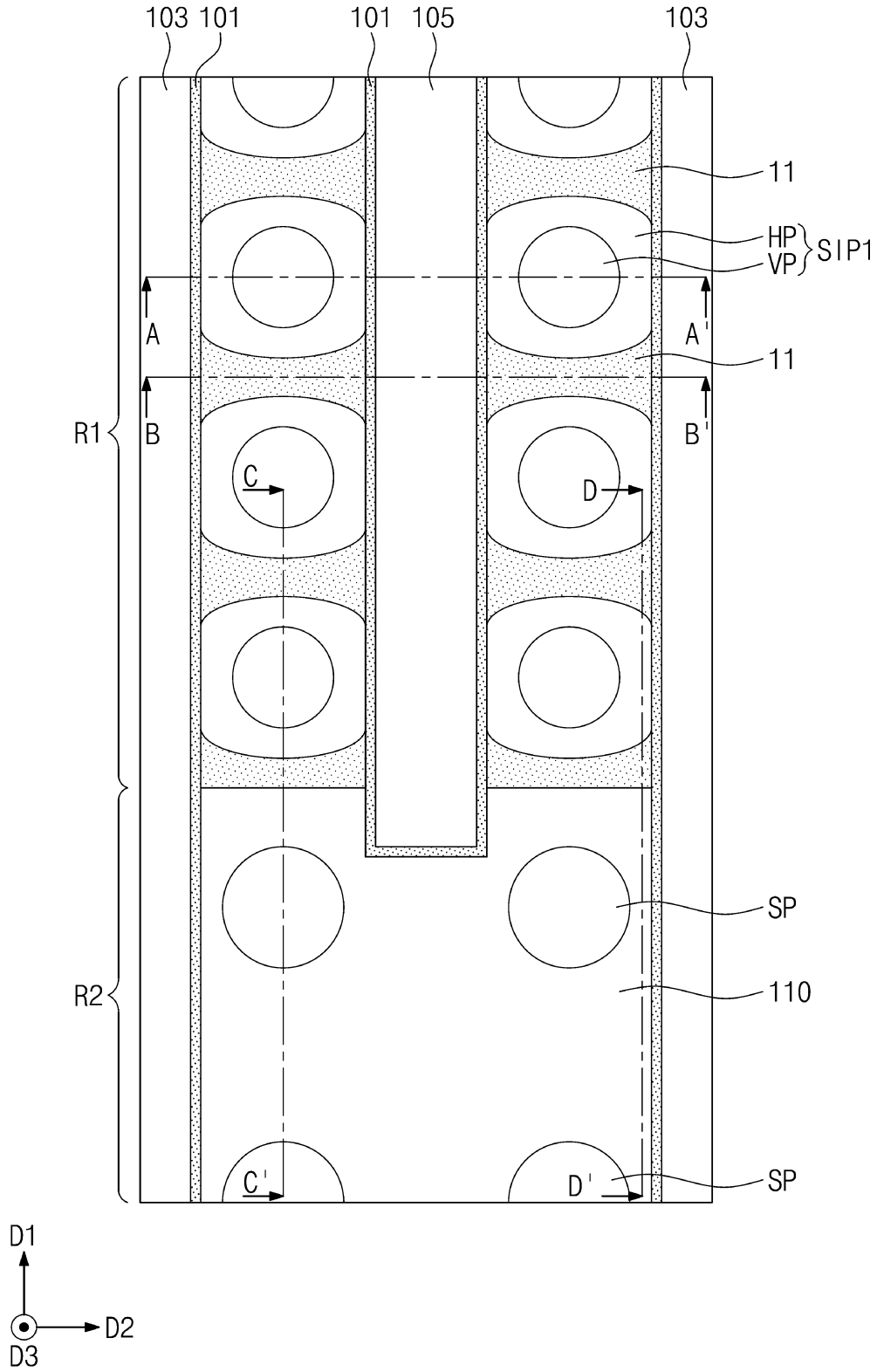

103
101
101
105
103
11
HP
VP
SIP1
A
A'
11
B
B'
R1
C
D
SP
R2
110
C'
D'
SP
D1
D2
D3

FIG. 18B

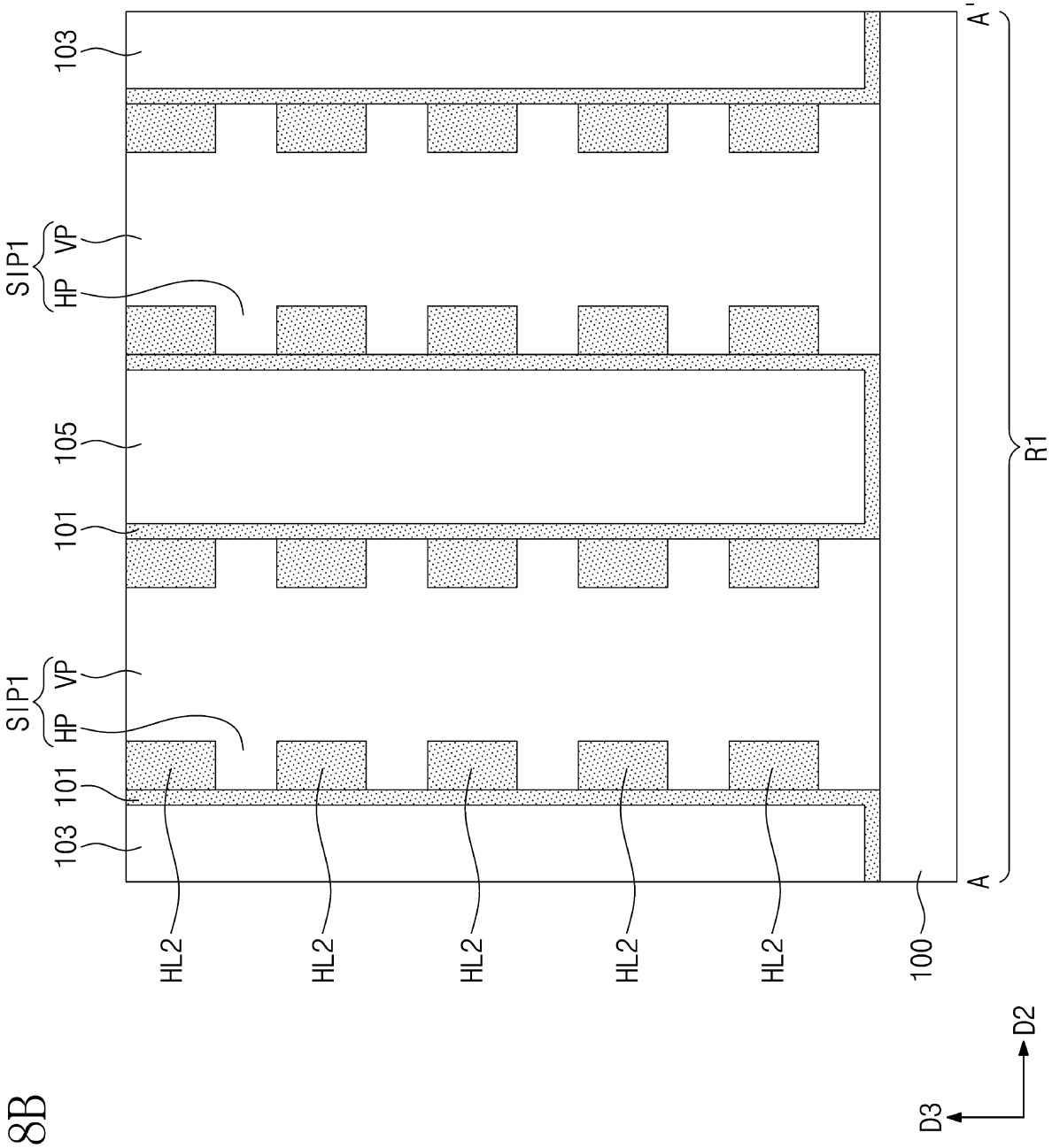

103
SIP1
VP
HP
105
101
SIP1
VP
HP
101
103
HL2
HL2
HL2
HL2
HL2
100
A
A'
R1
D3
D2

FIG. 18C

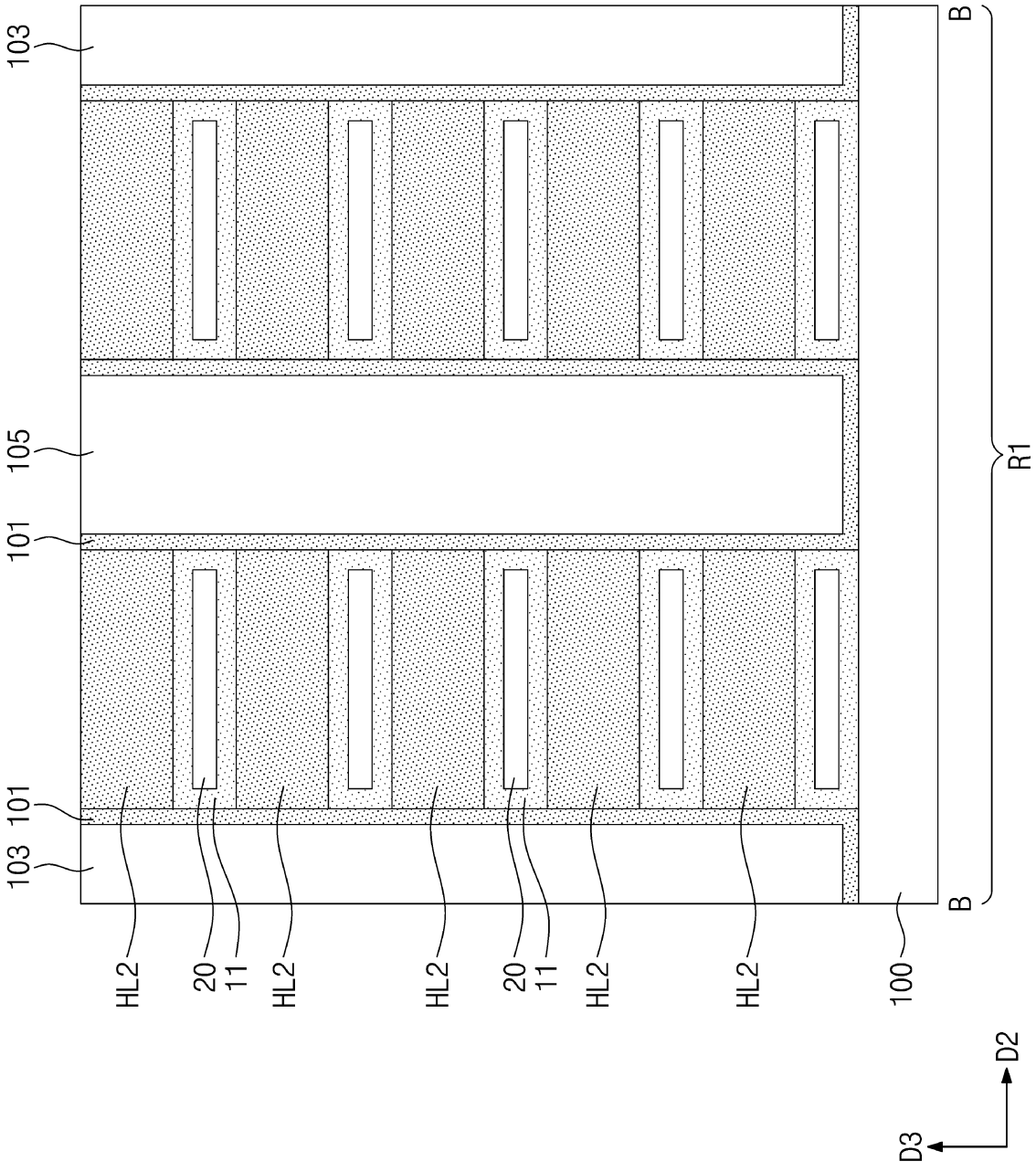


FIG. 18D

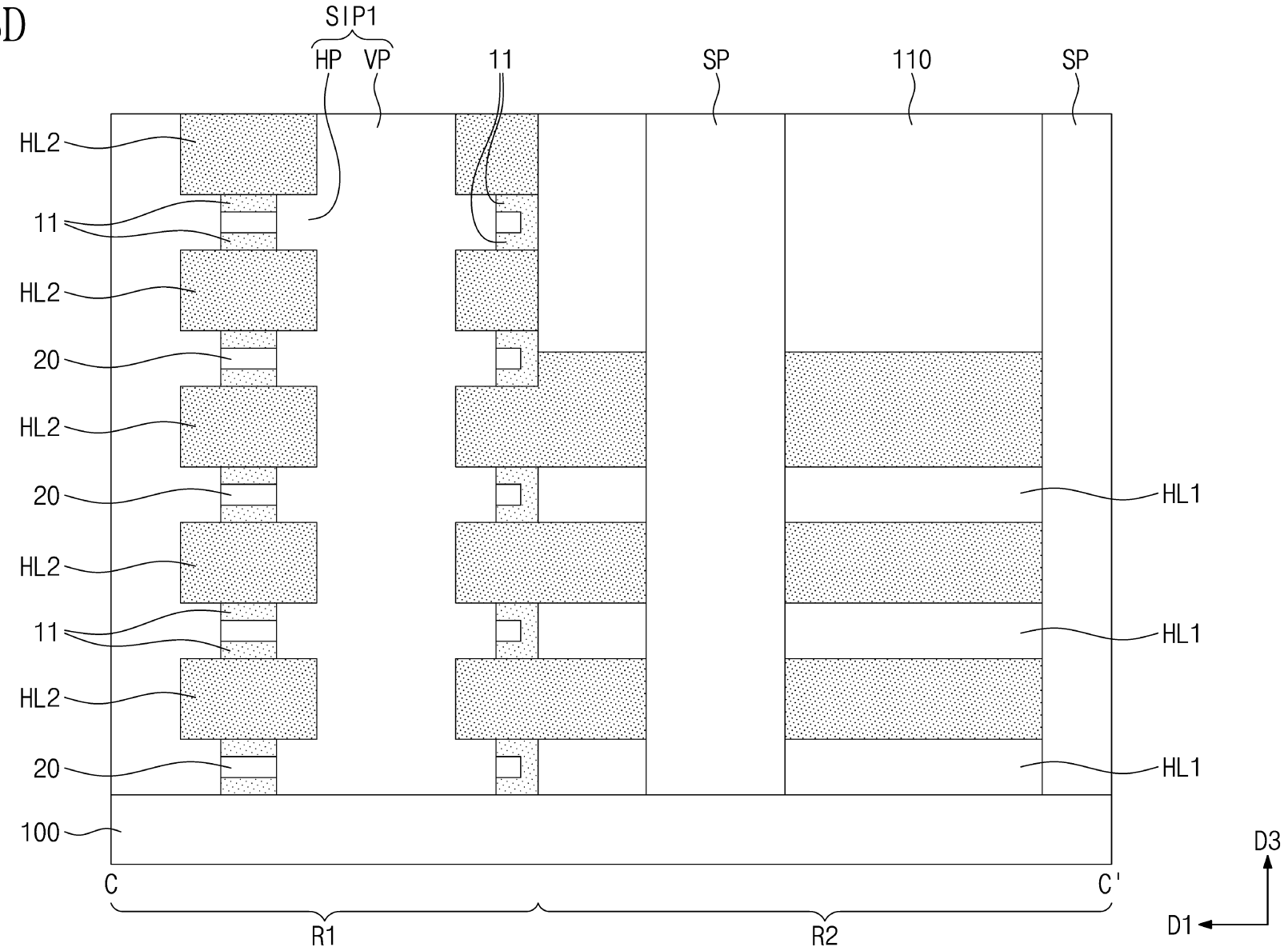

SIP1
HP
VP
11
SP
110
SP
HL2
11
HL2
20
HL2
20
HL2
11
HL2
20
100
HL1
HL1
HL1
C
C'
R1
R2
D3
D1

FIG. 18E

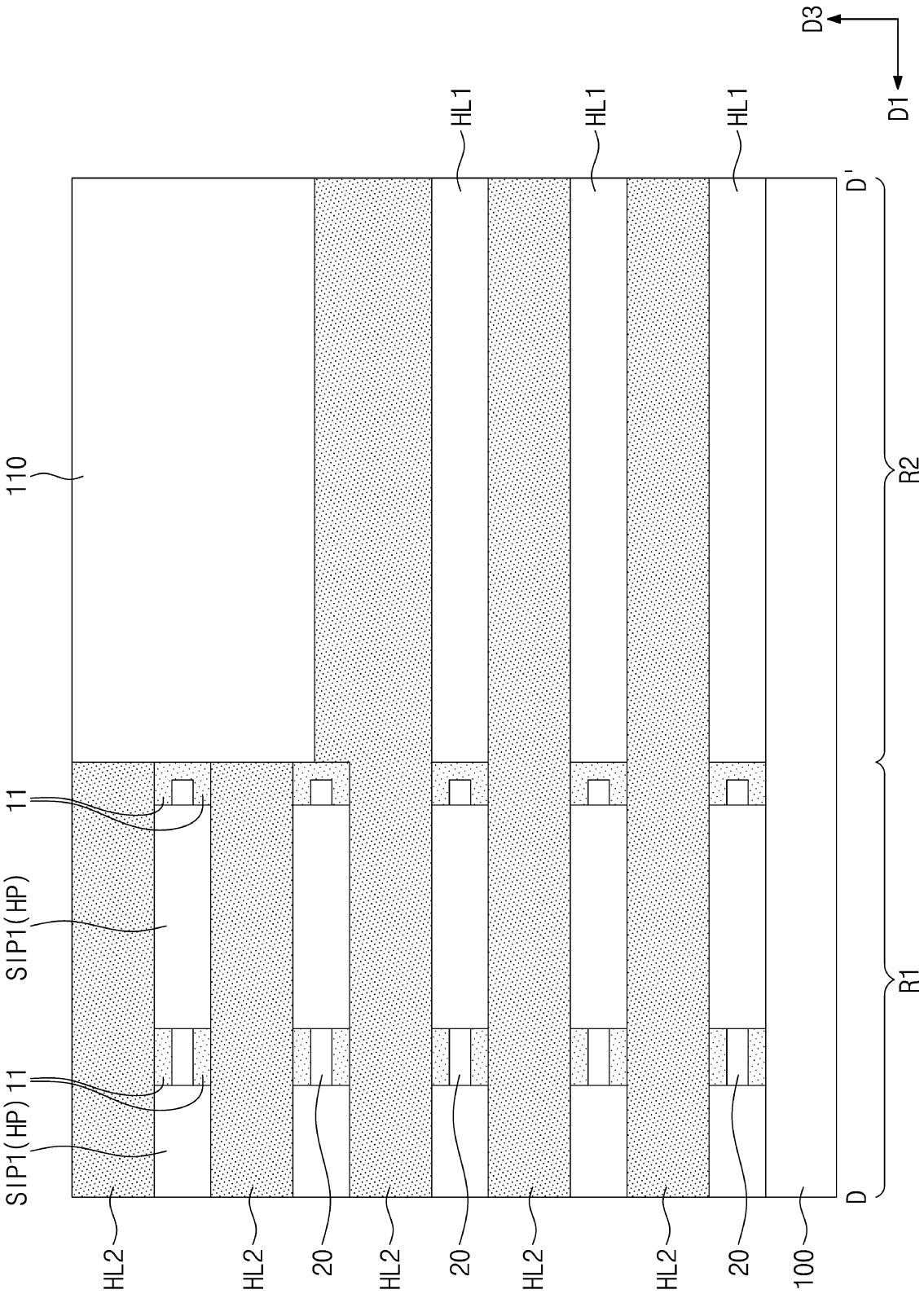

D3
D1
HL1
HL1
HL1
D'
110
R2
11
SIP1(HP)
11
SIP1(HP)
R1
D
HL2
HL2
20
HL2
20
HL2
HL2
20
100

FIG. 19A

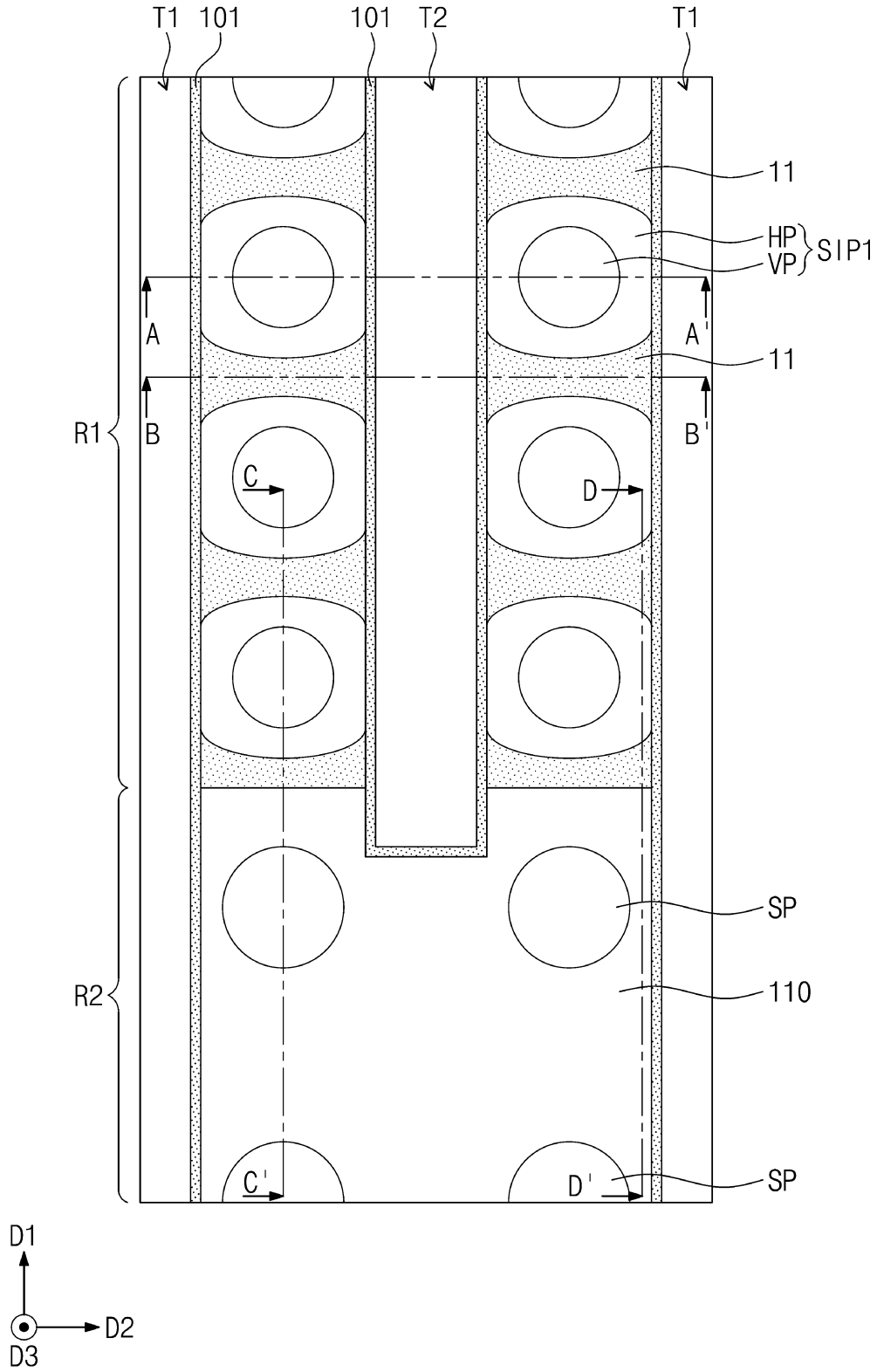


FIG. 19B

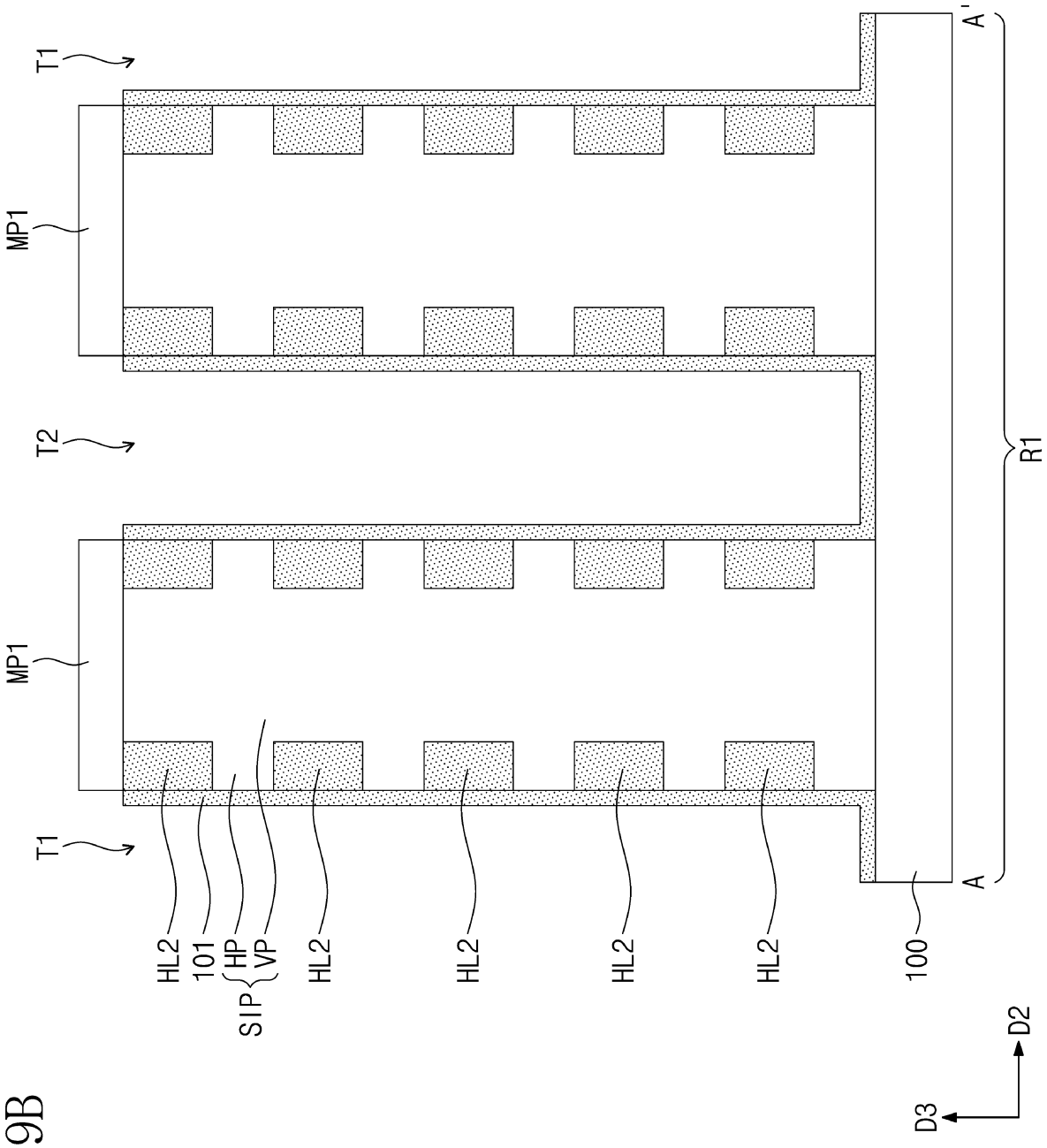


FIG. 19C

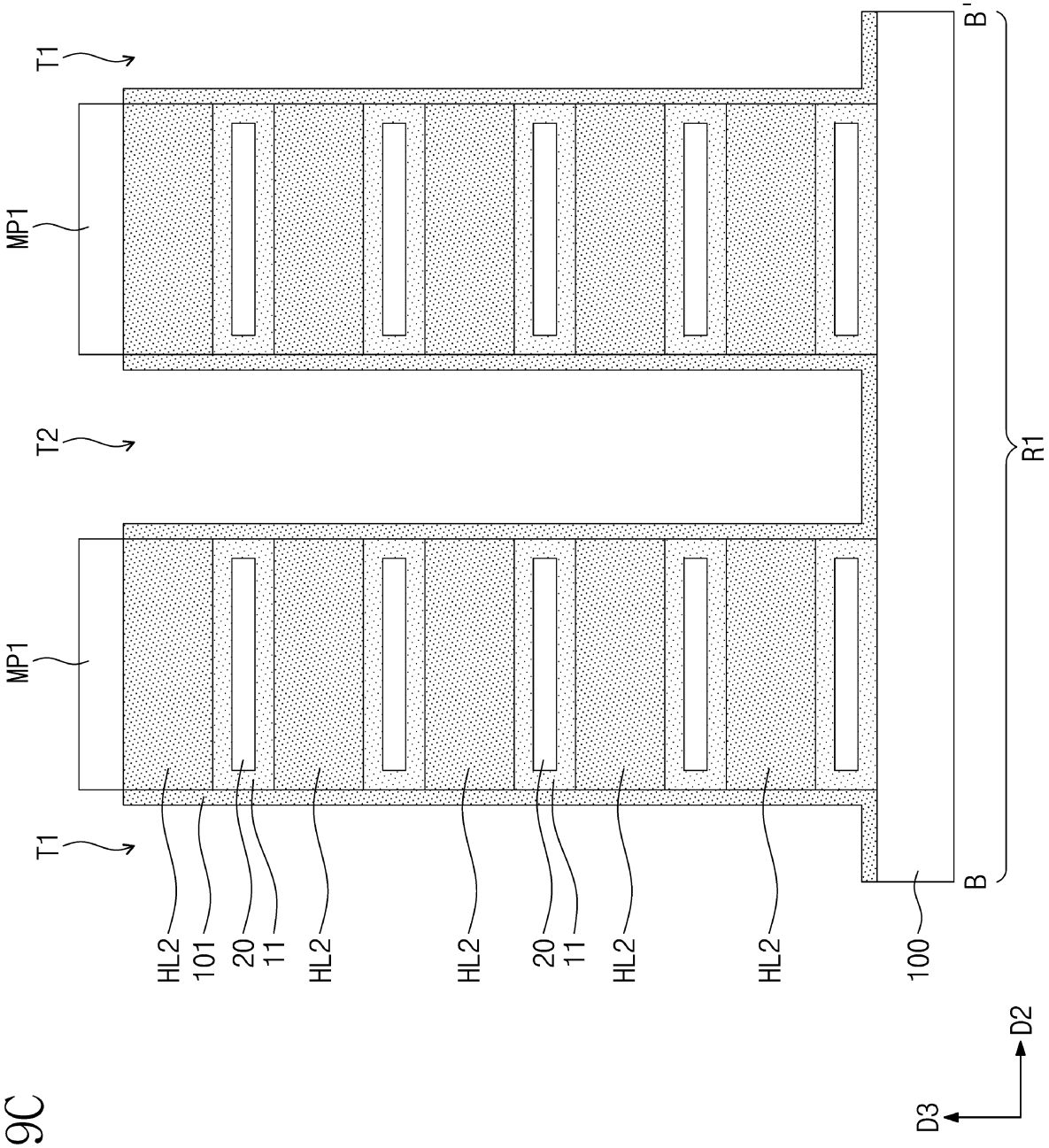


FIG. 19D

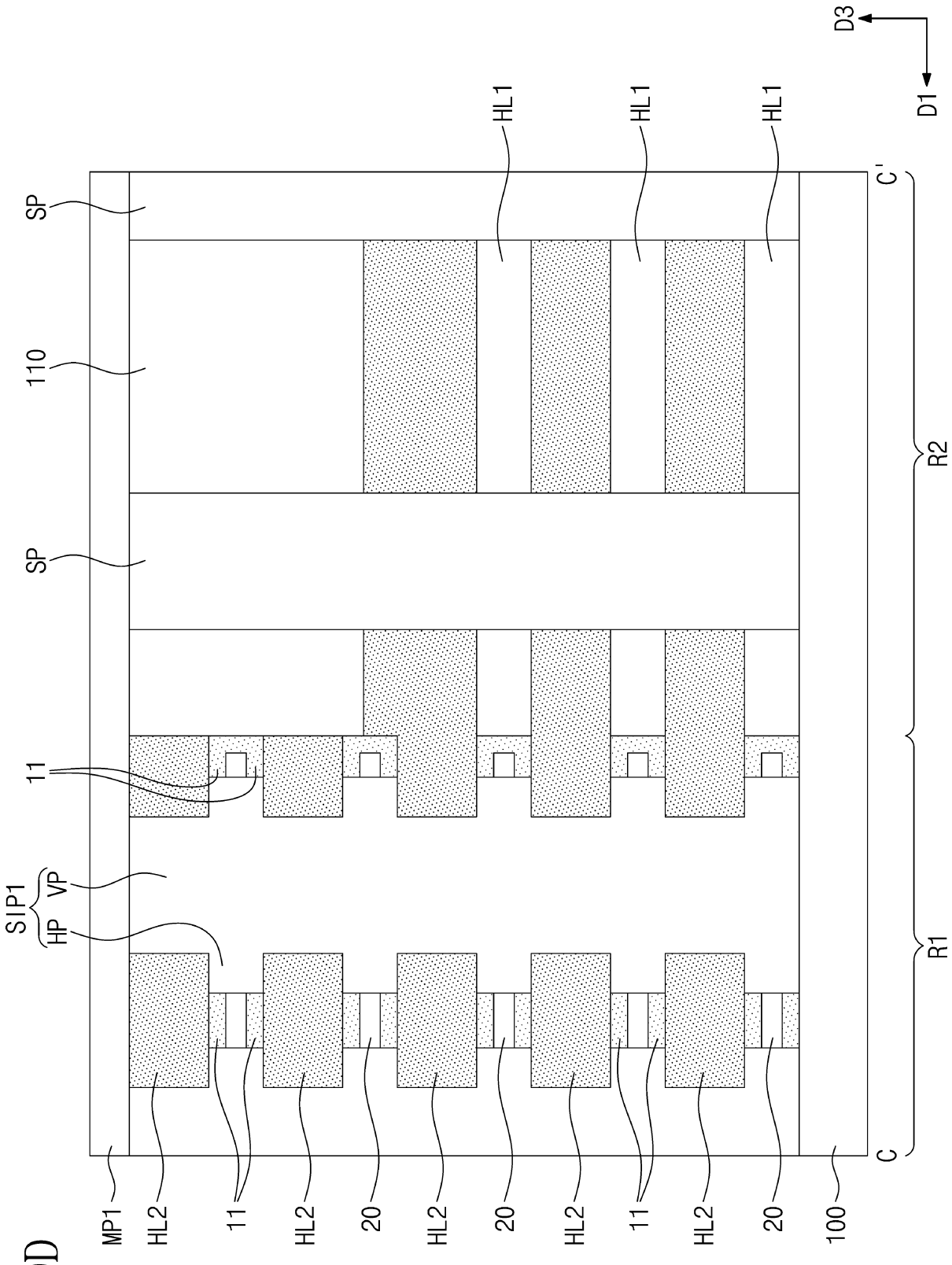

D3
D1
HL1
HL1
HL1
SP
110
SP
11
SIP1
VP
HP
C'
C
R2
R1
MP1
HL2
11
HL2
20
HL2
20
HL2
11
HL2
20
100

FIG. 19E

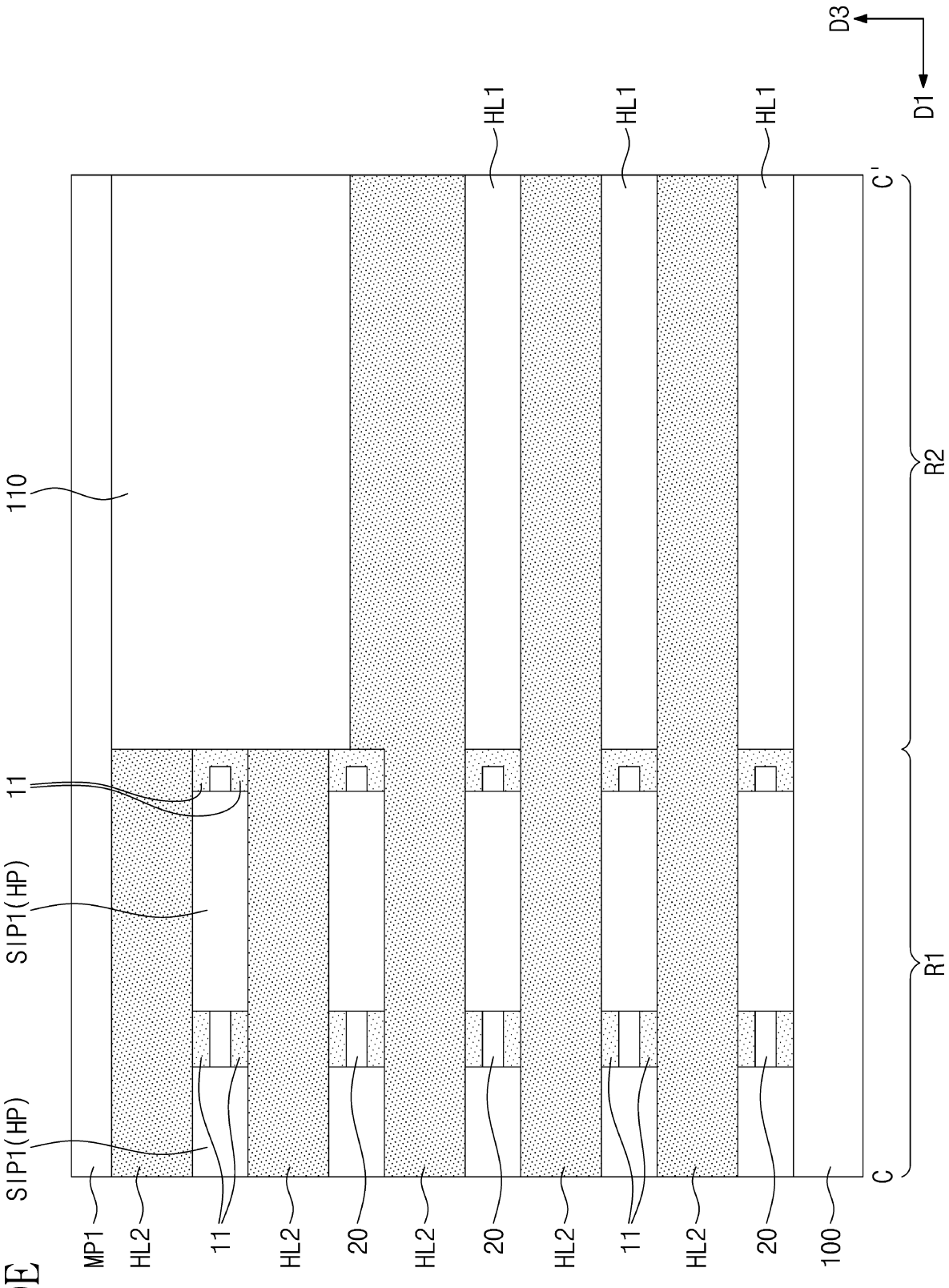

D3
D1
C'
C
R2
R1
HL1
HL1
HL1
110
11
SIP1(HP)
SIP1(HP)
MP1
HL2
11
HL2
20
HL2
20
HL2
11
HL2
20
100

FIG. 20A

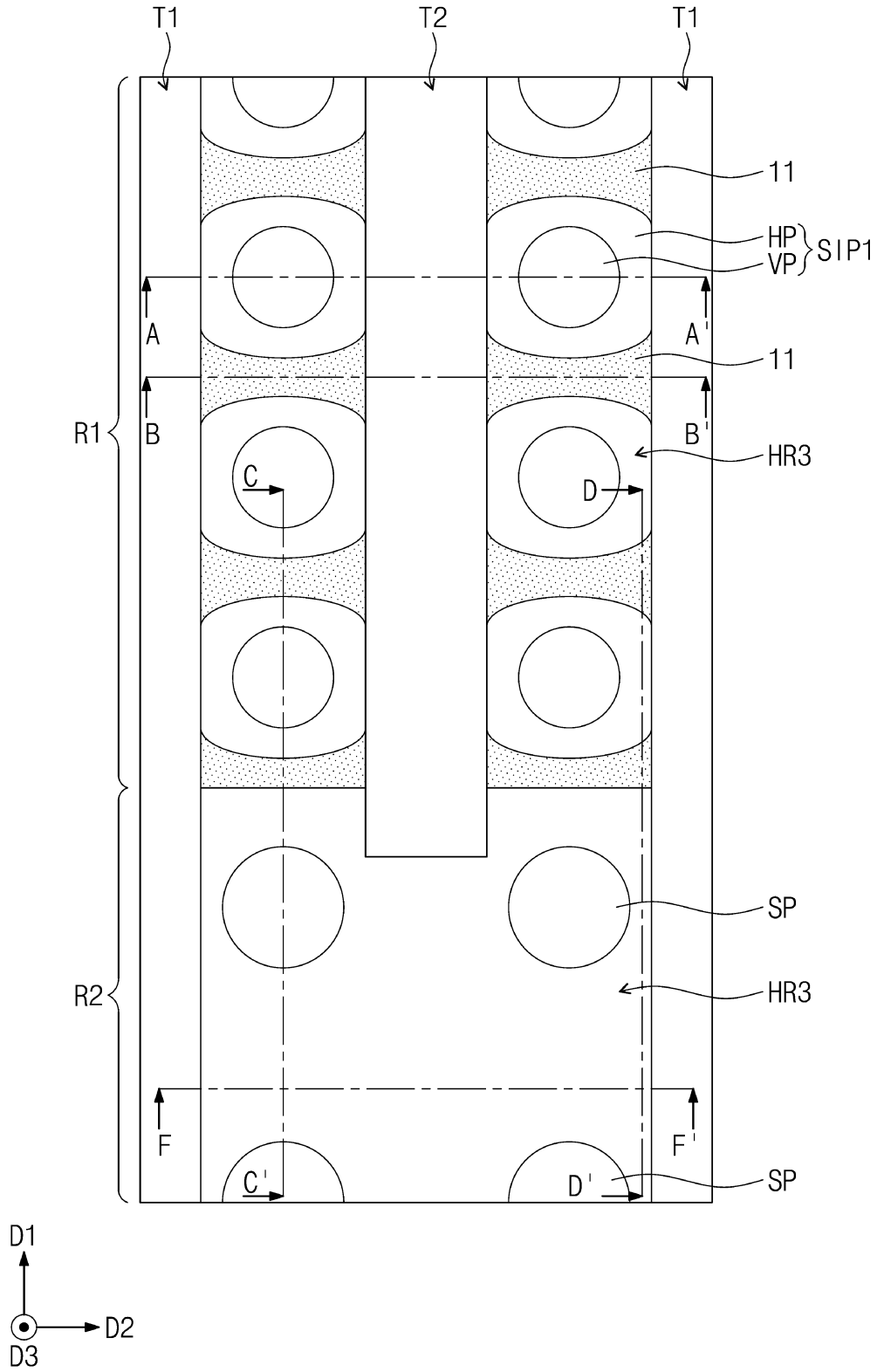


FIG. 20B

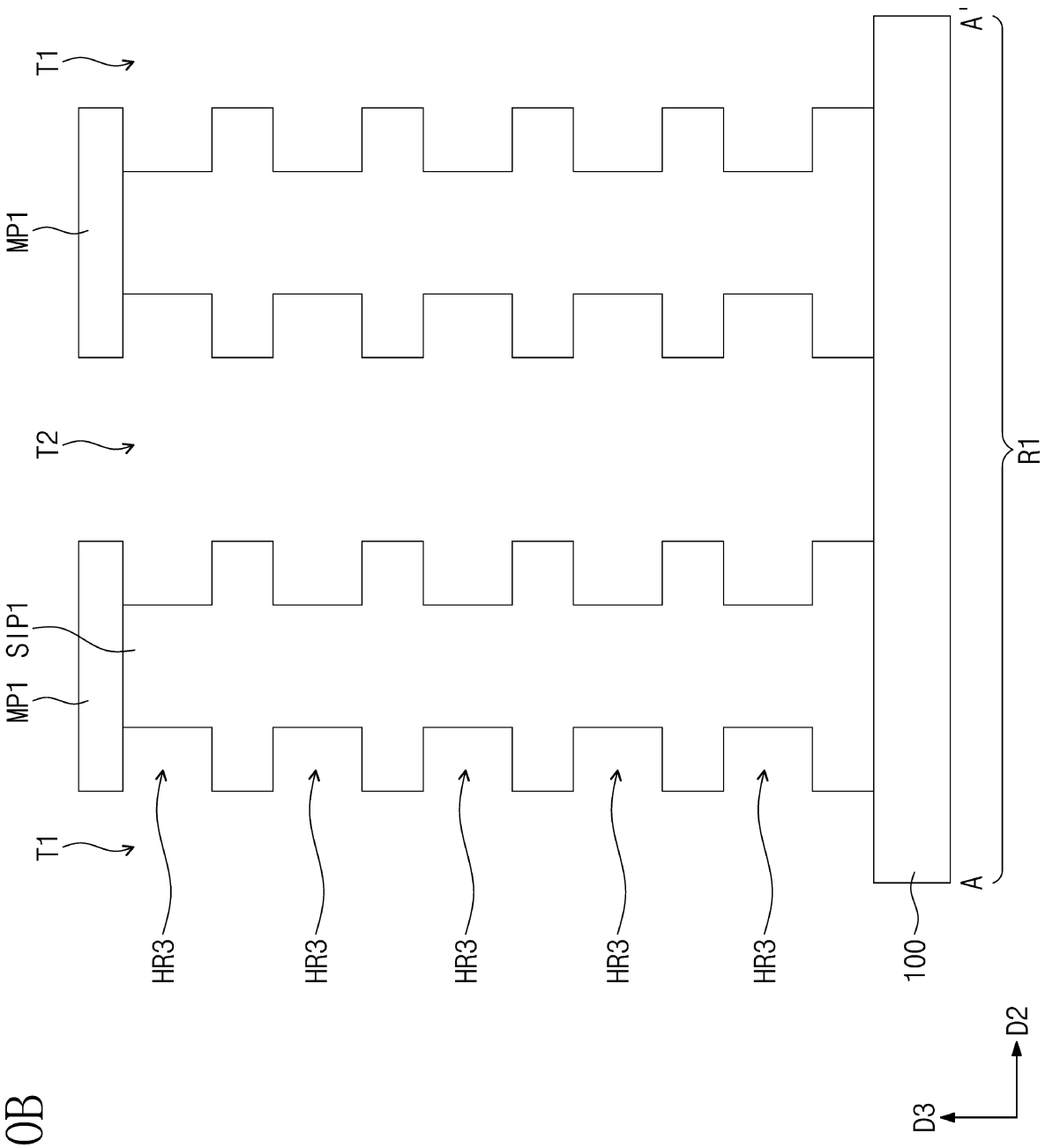


FIG. 20C

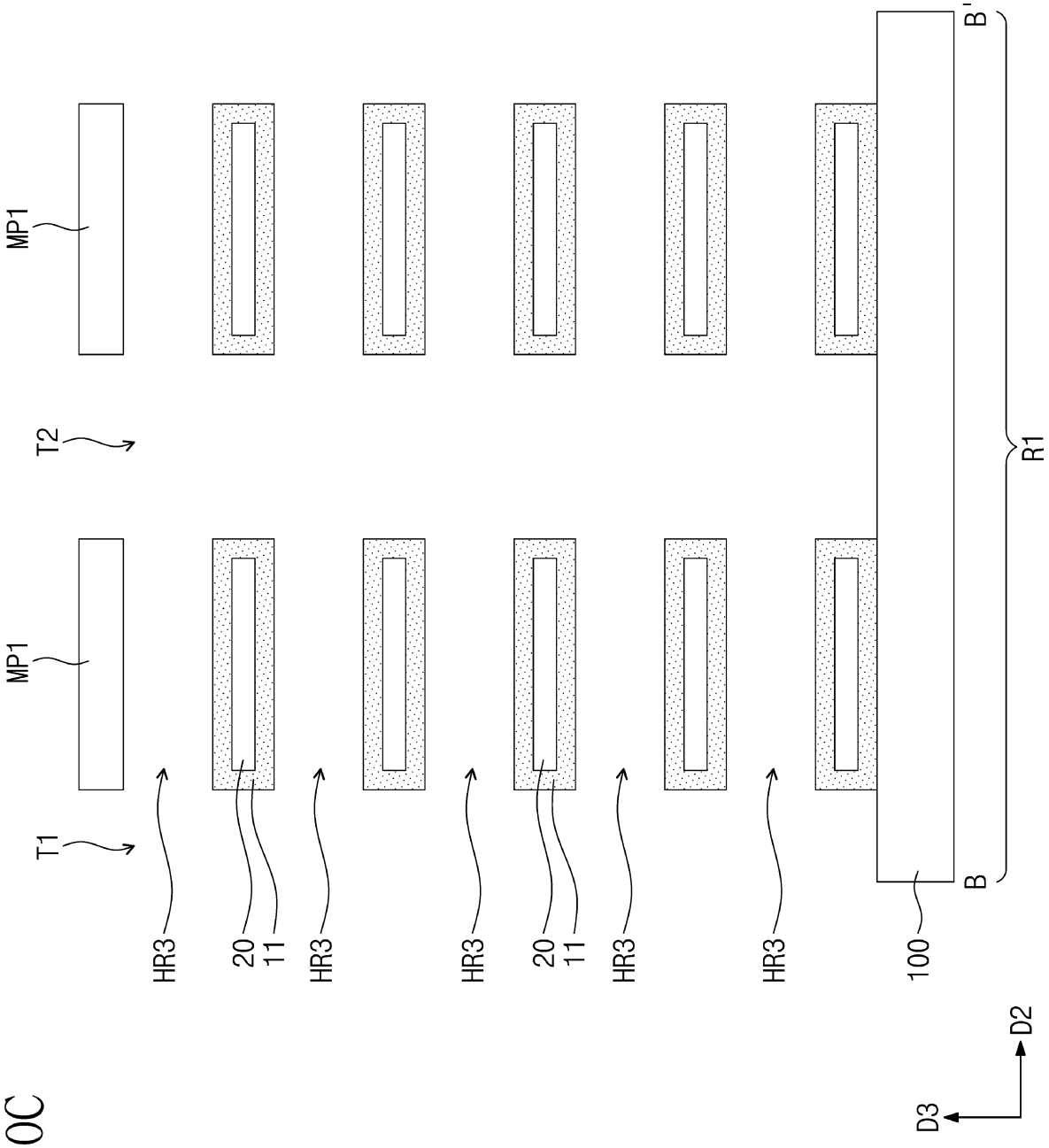


FIG. 20D

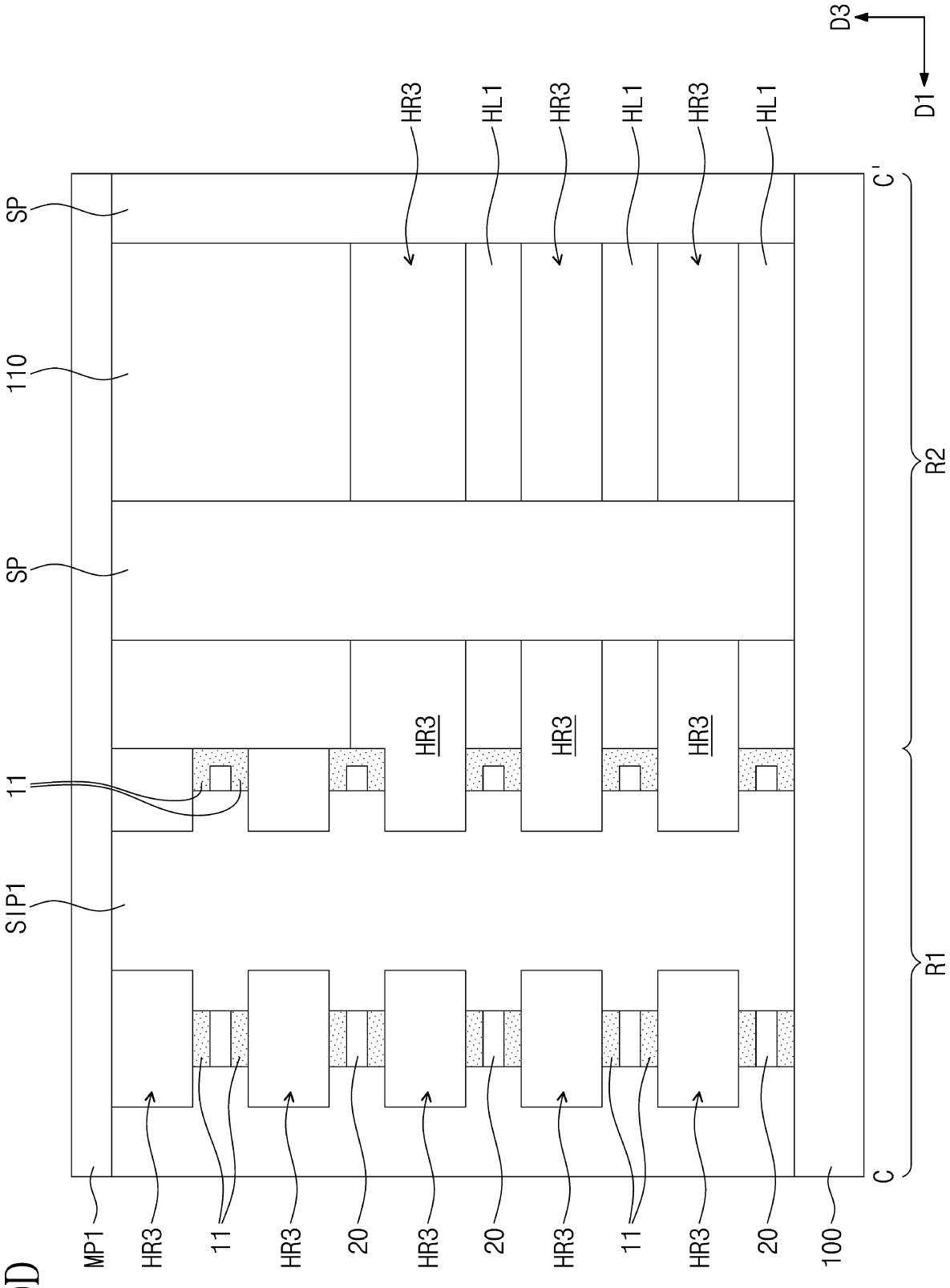

D3
D1
HR3
HL1
HR3
HL1
HR3
HL1
C'
SP
110
SP
11
SIP1
HR3
HR3
HR3
R2
R1
C
MP1
HR3
11
HR3
20
HR3
20
HR3
11
HR3
20
100

FIG. 20E

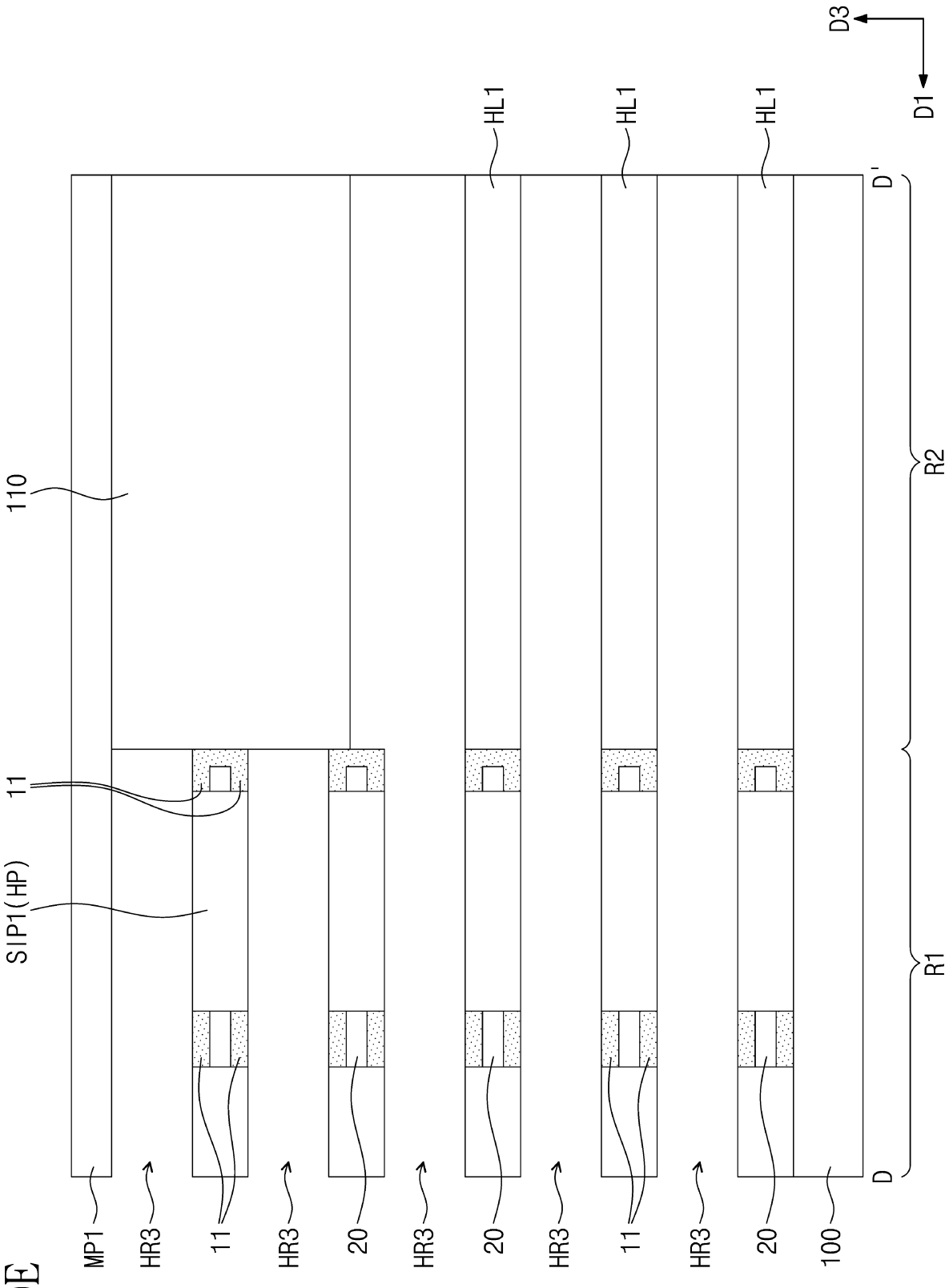

D3
D1
HL1
HL1
HL1
D'
D
R2
R1
110
11
SIP1(HP)
MP1
HR3
11
HR3
20
HR3
20
HR3
11
HR3
20
100

FIG. 20F

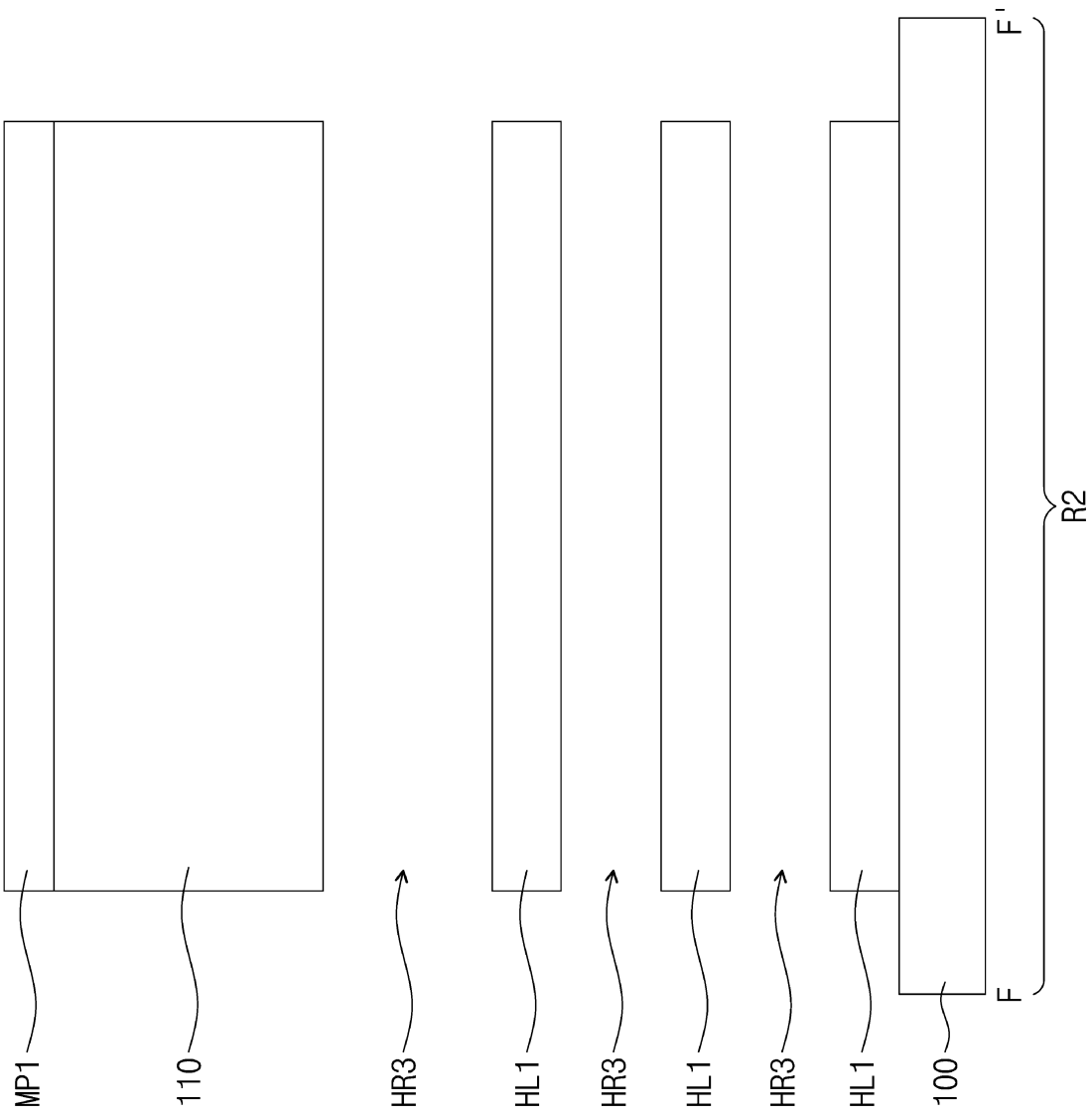


FIG. 21A

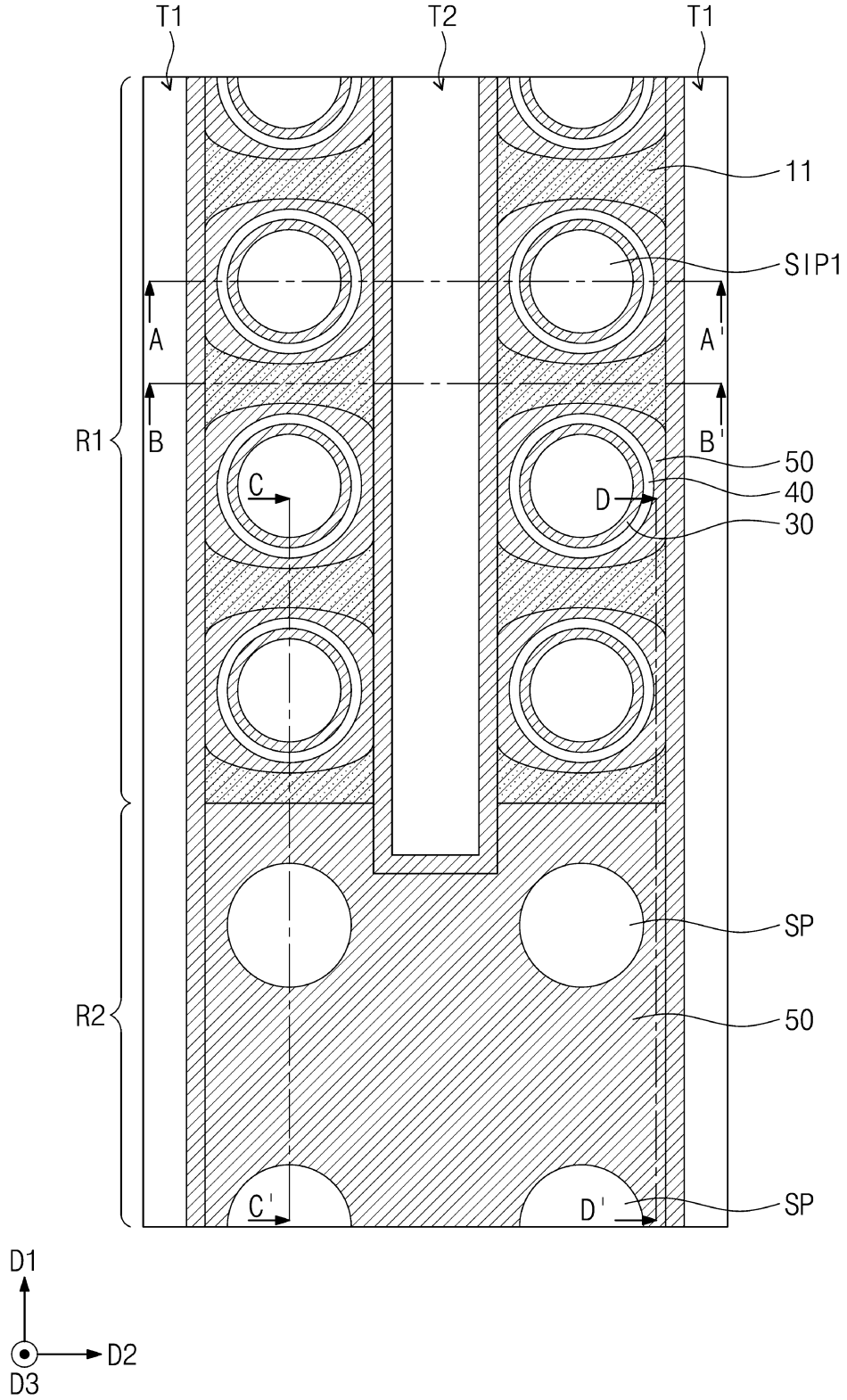


FIG. 21B

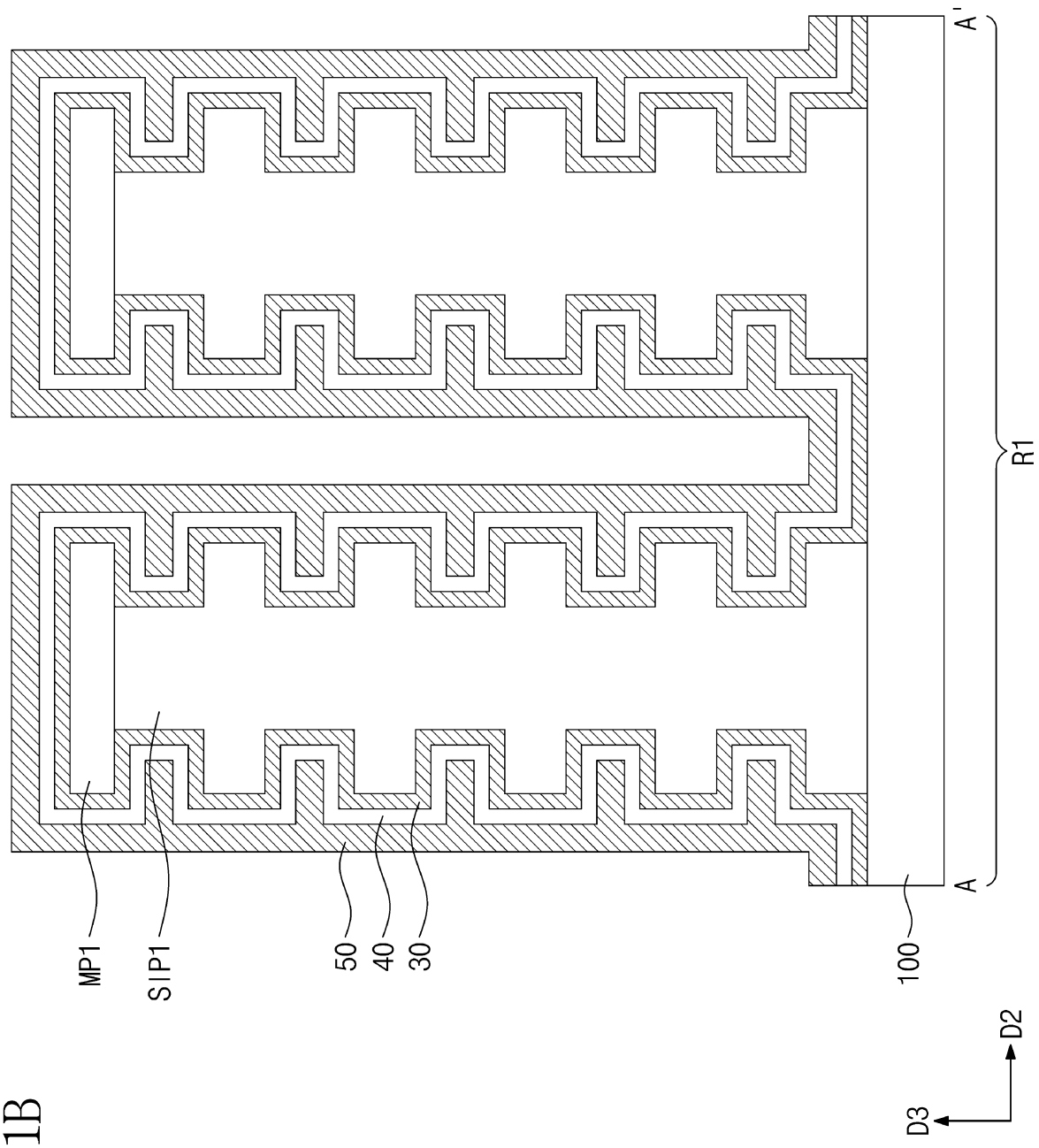


FIG. 21C

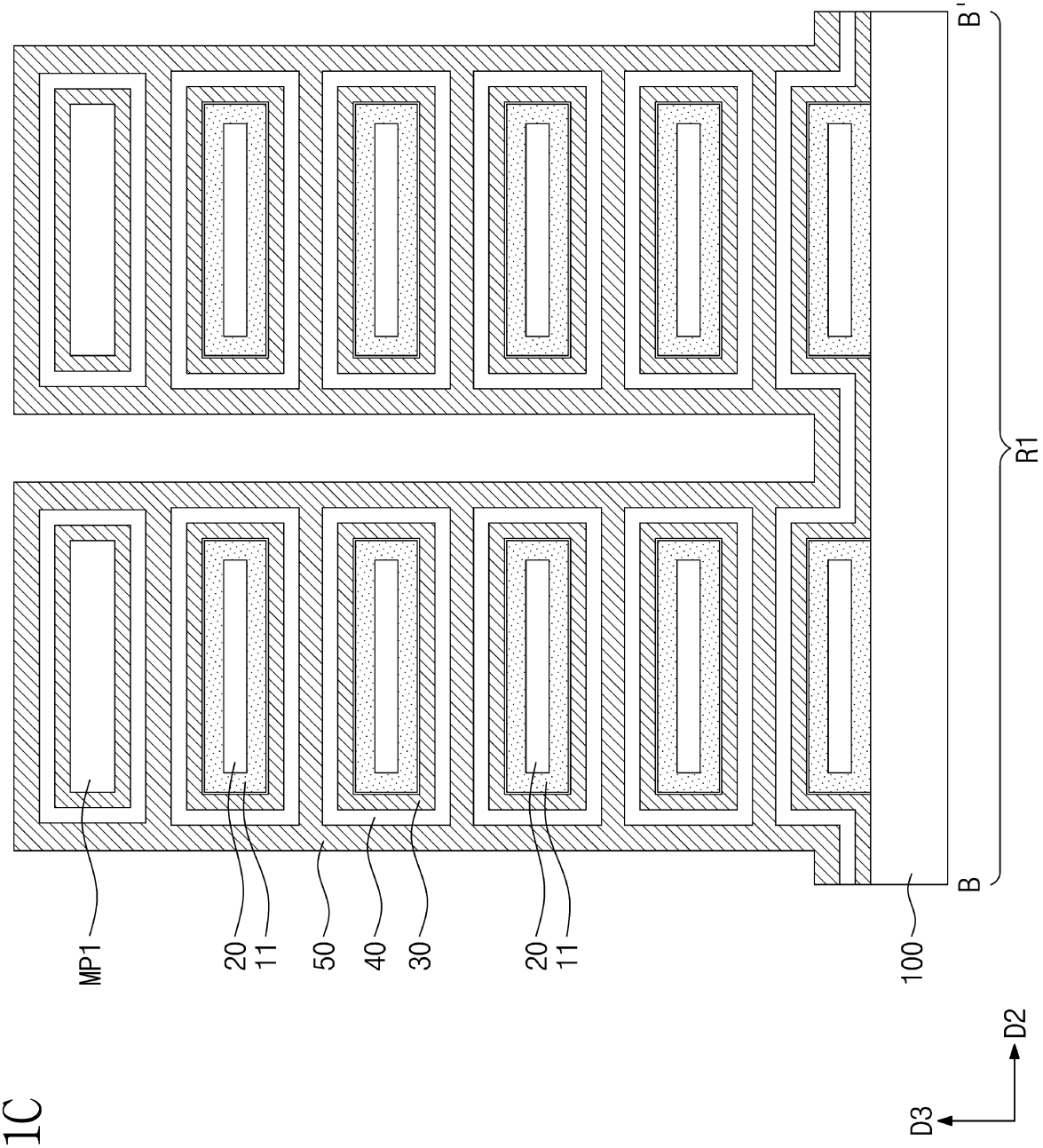


FIG. 21D

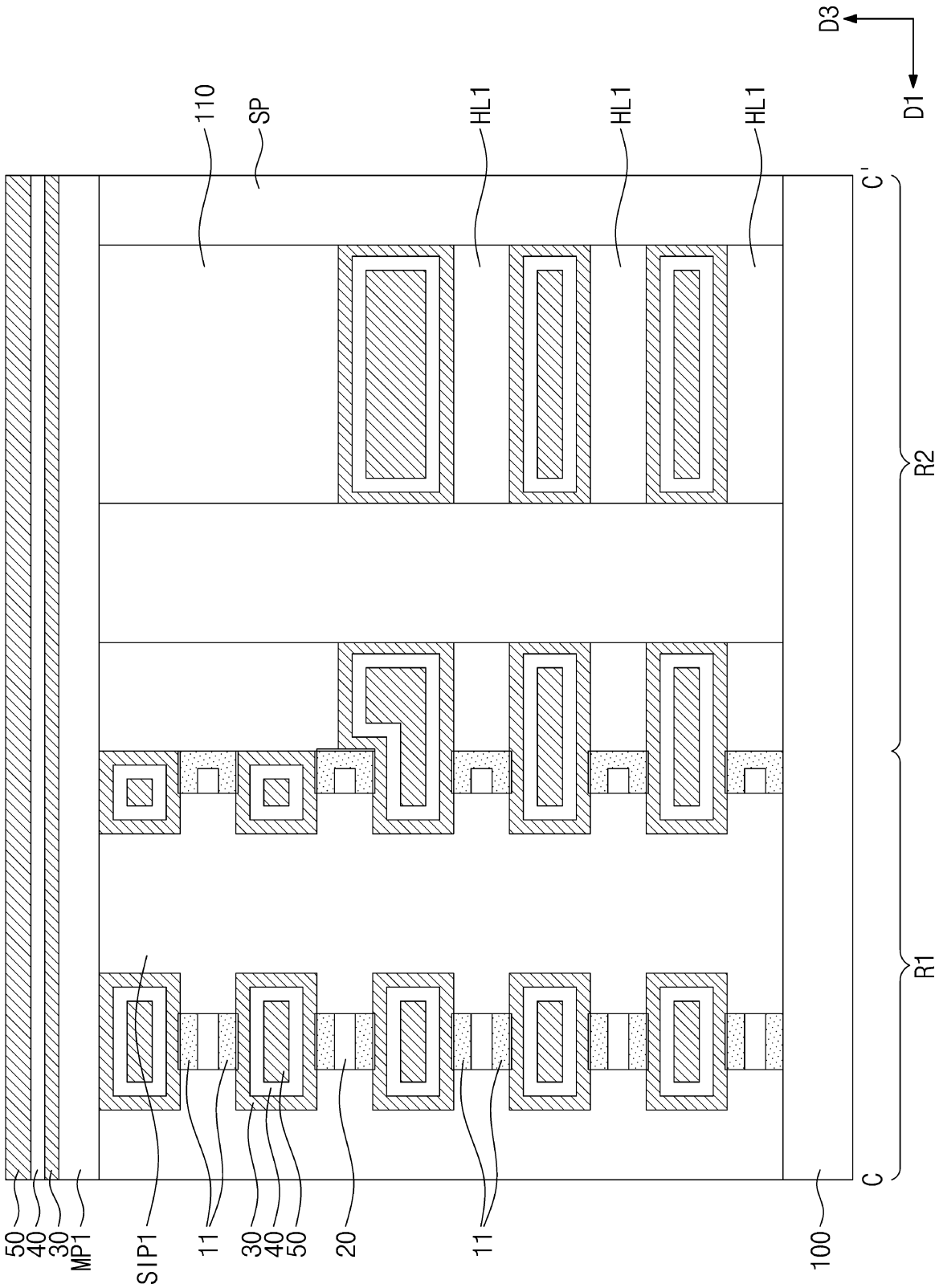

D3
D1
110
SP
HL1
HL1
HL1
C'
C
R2
R1
50
40
30
MP1
SIP1
11
30
40
50
20
11
100

FIG. 21E

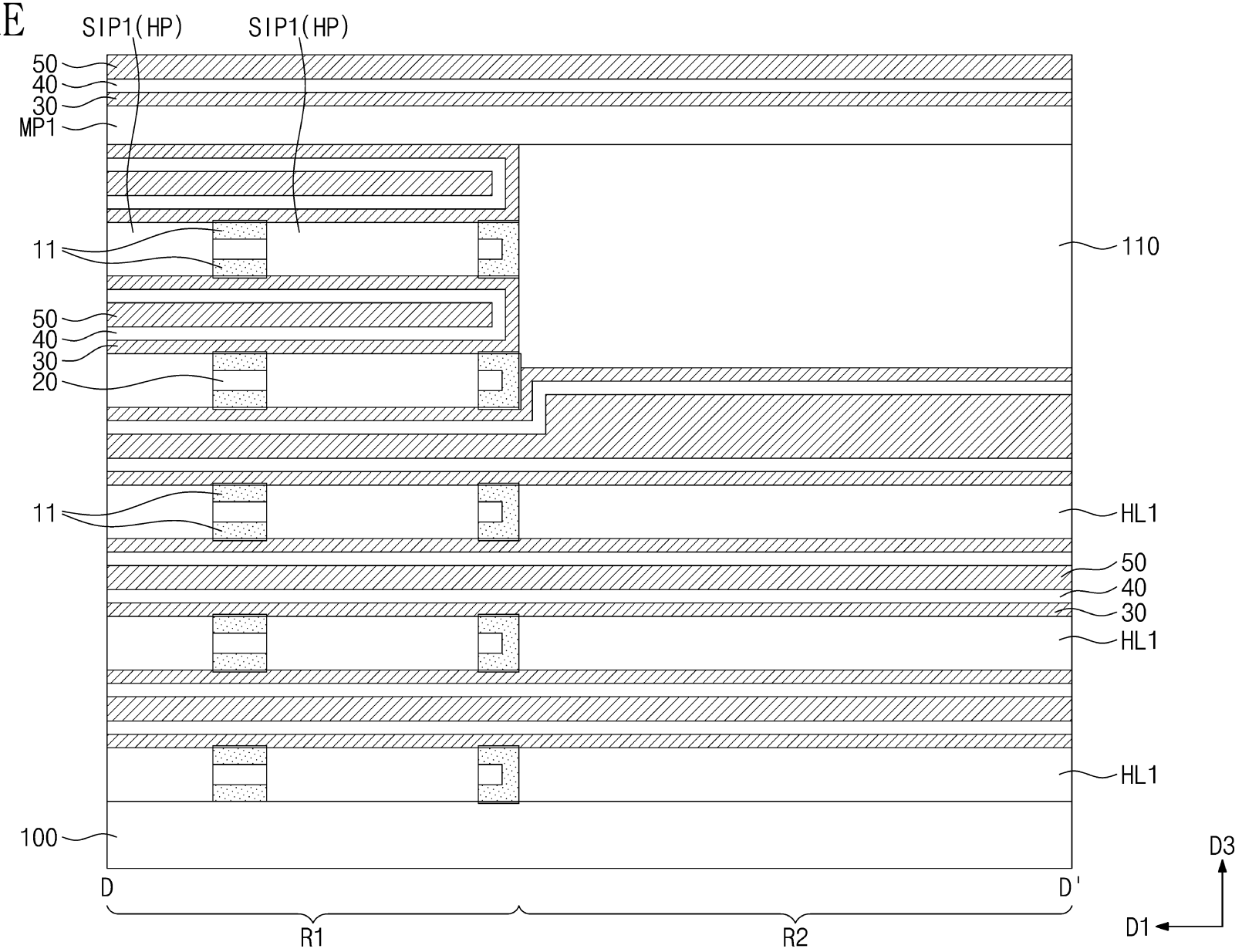

SIP1(HP)
SIP1(HP)
50
40
30
MP1
11
110
50
40
30
20
11
HL1
50
40
30
HL1
HL1
100
D
D'
R1
R2
D3
D1

FIG. 22A

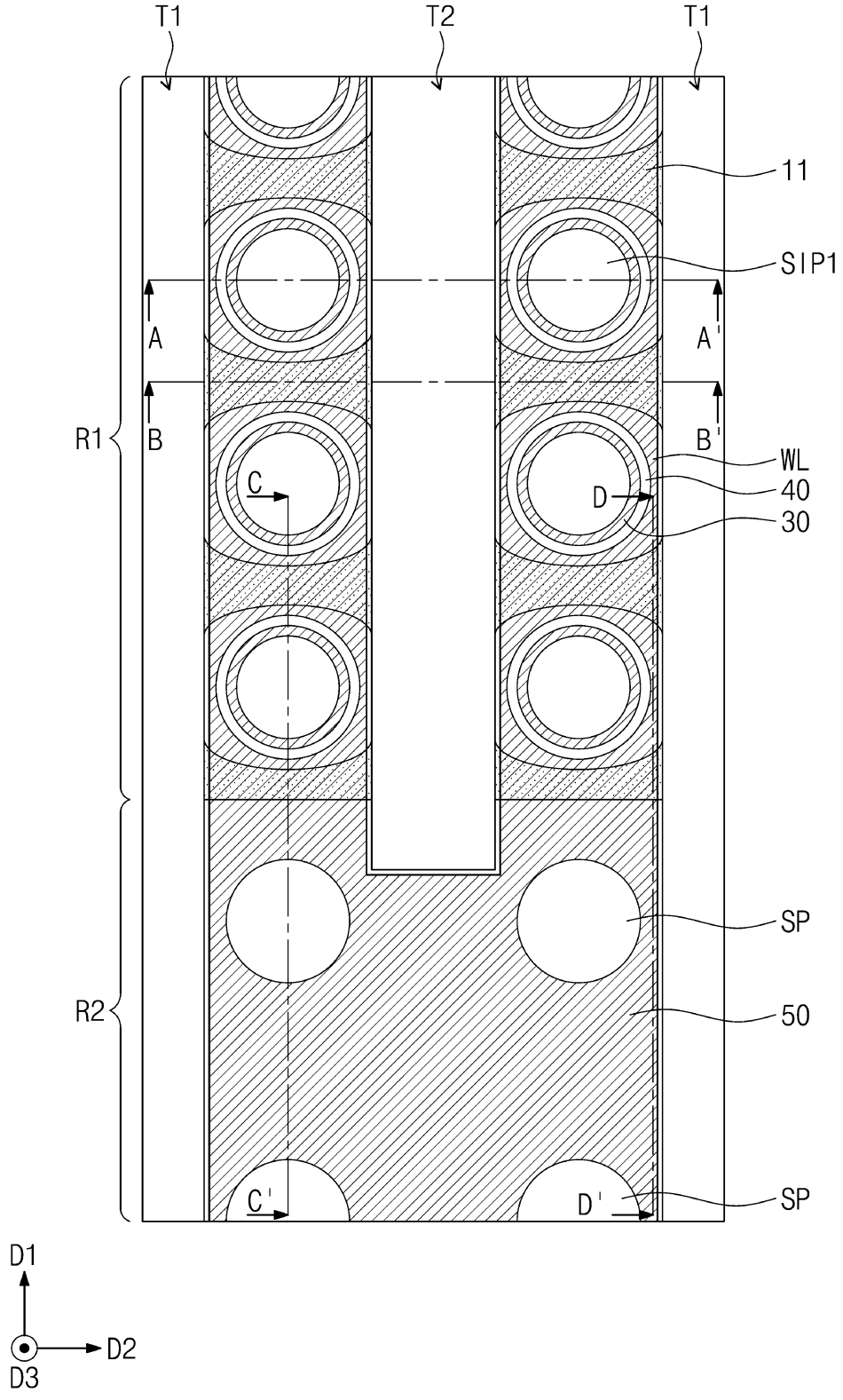


FIG. 22B

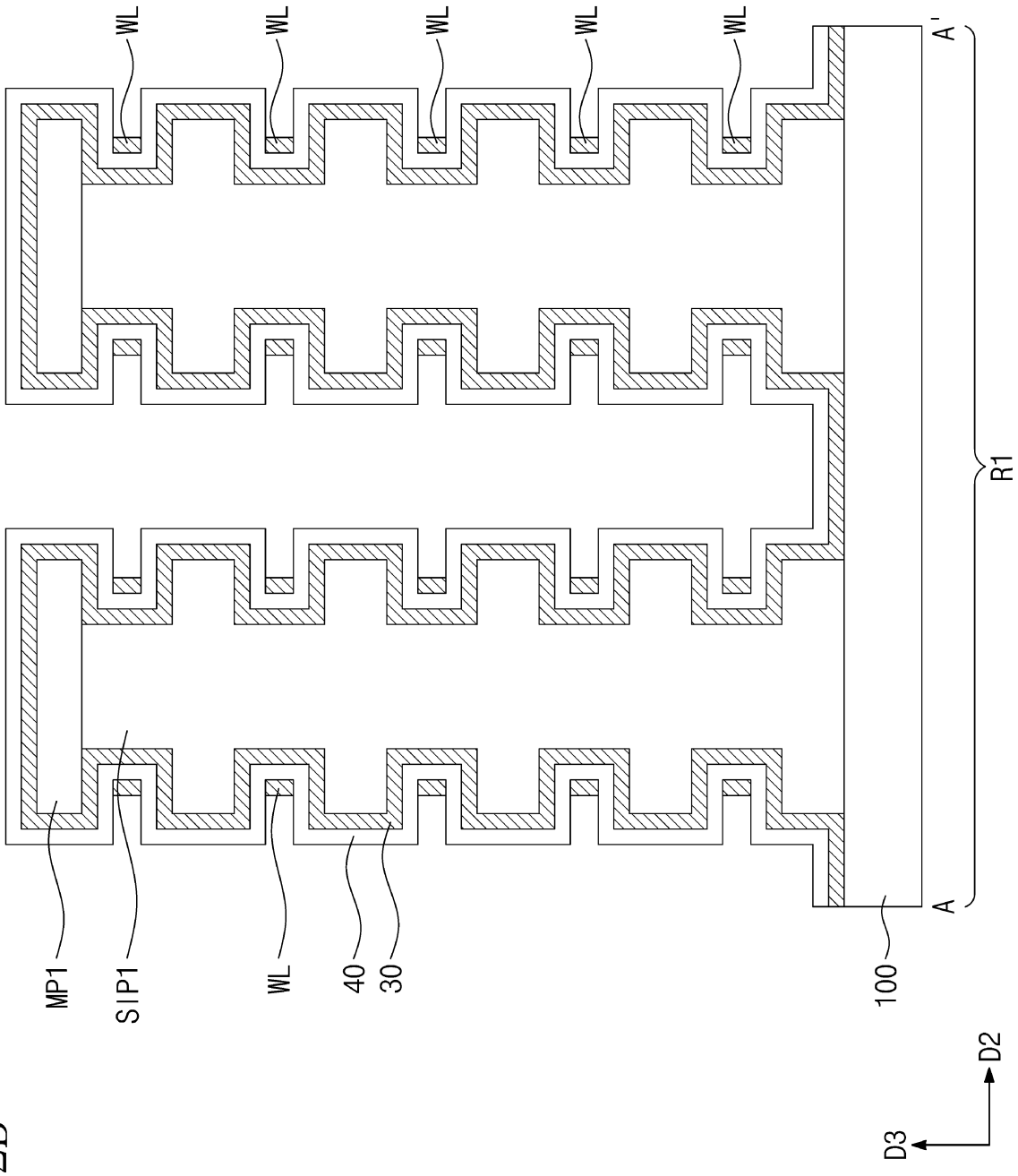


FIG. 22C

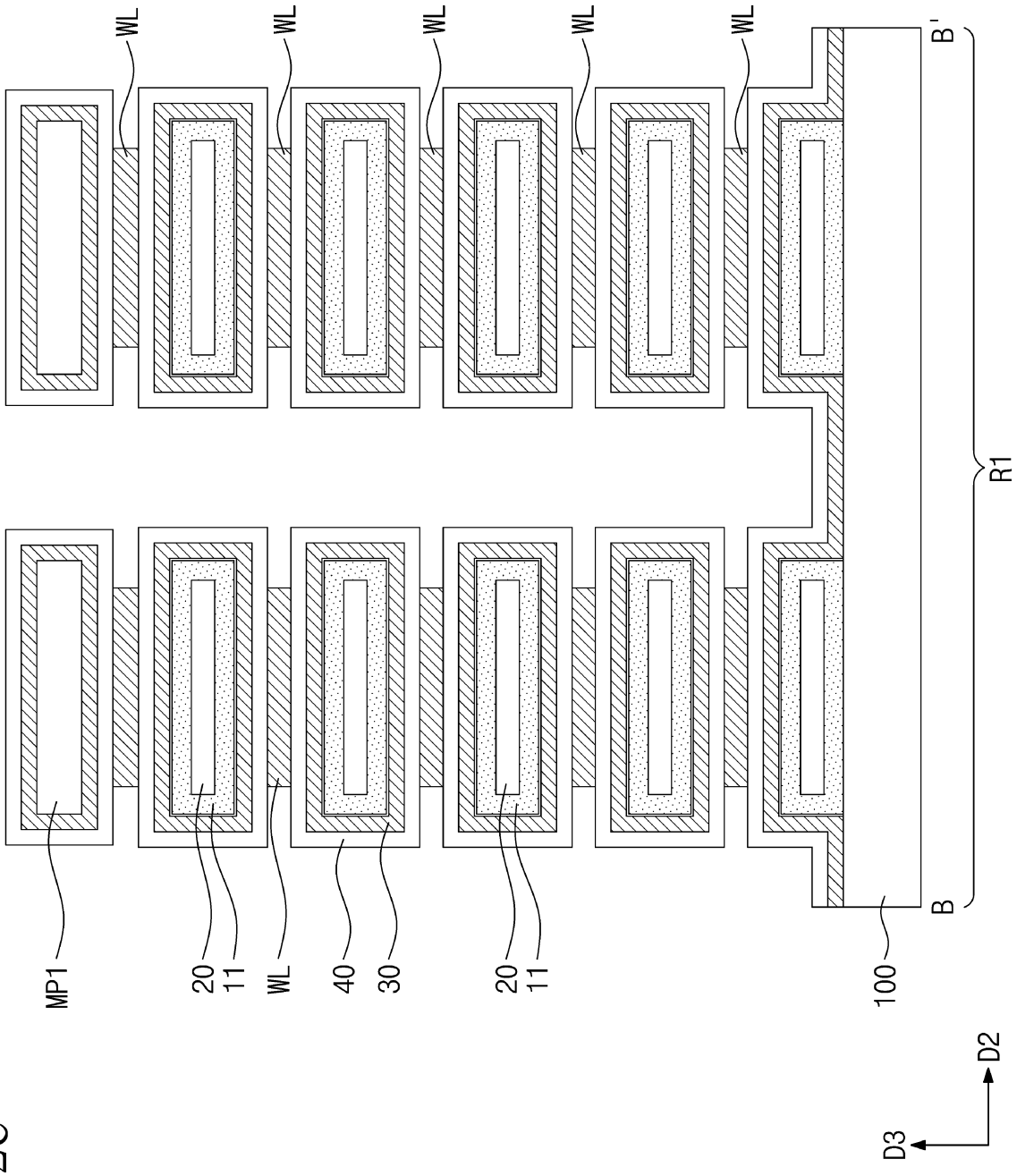


FIG. 22D

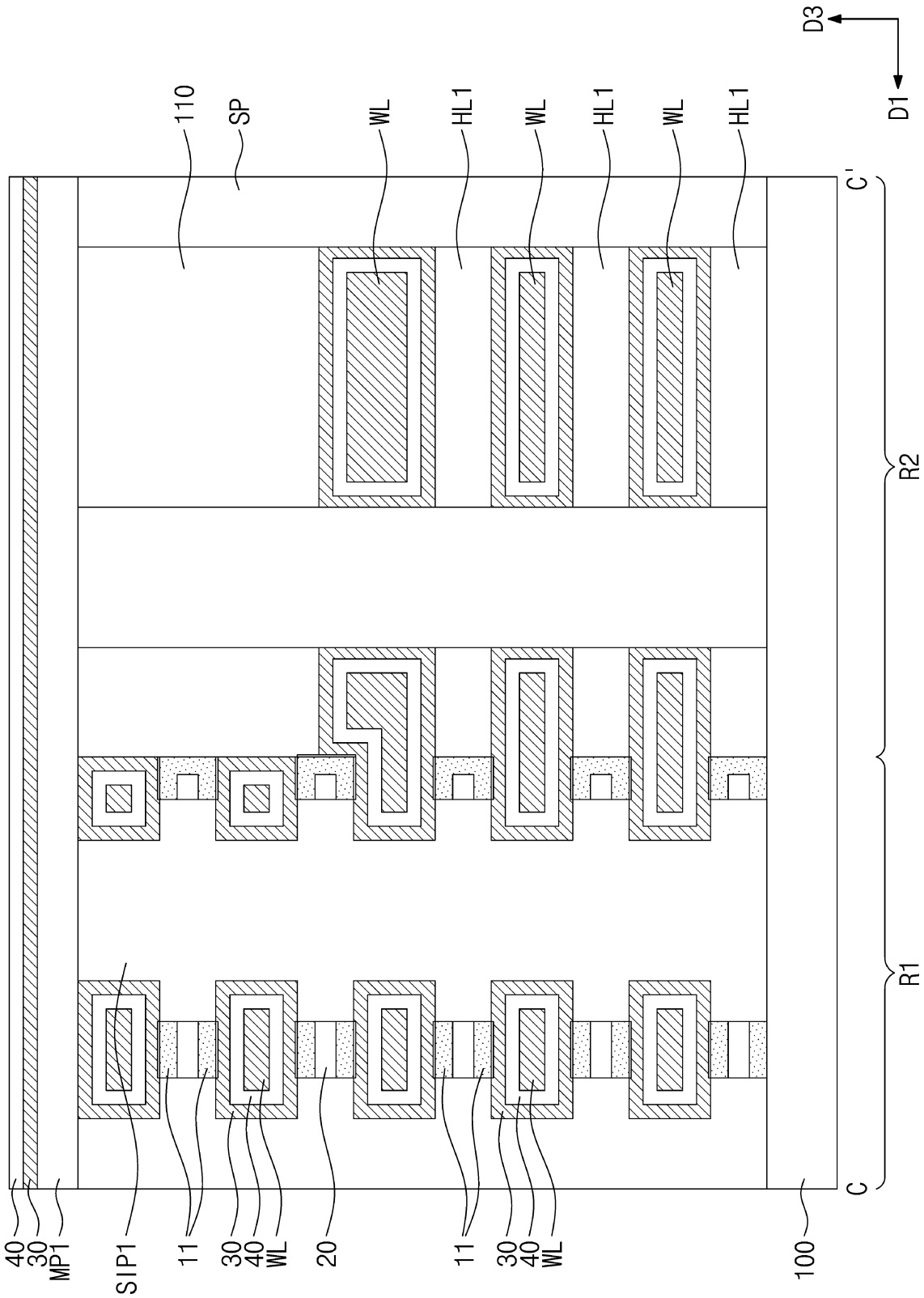

D3
D1
110
SP
WL
HL1
WL
HL1
WL
HL1
C'
C
R2
R1
40
30
MP1
SIP1
11
30
40
WL
20
11
30
40
WL
100

FIG. 22E

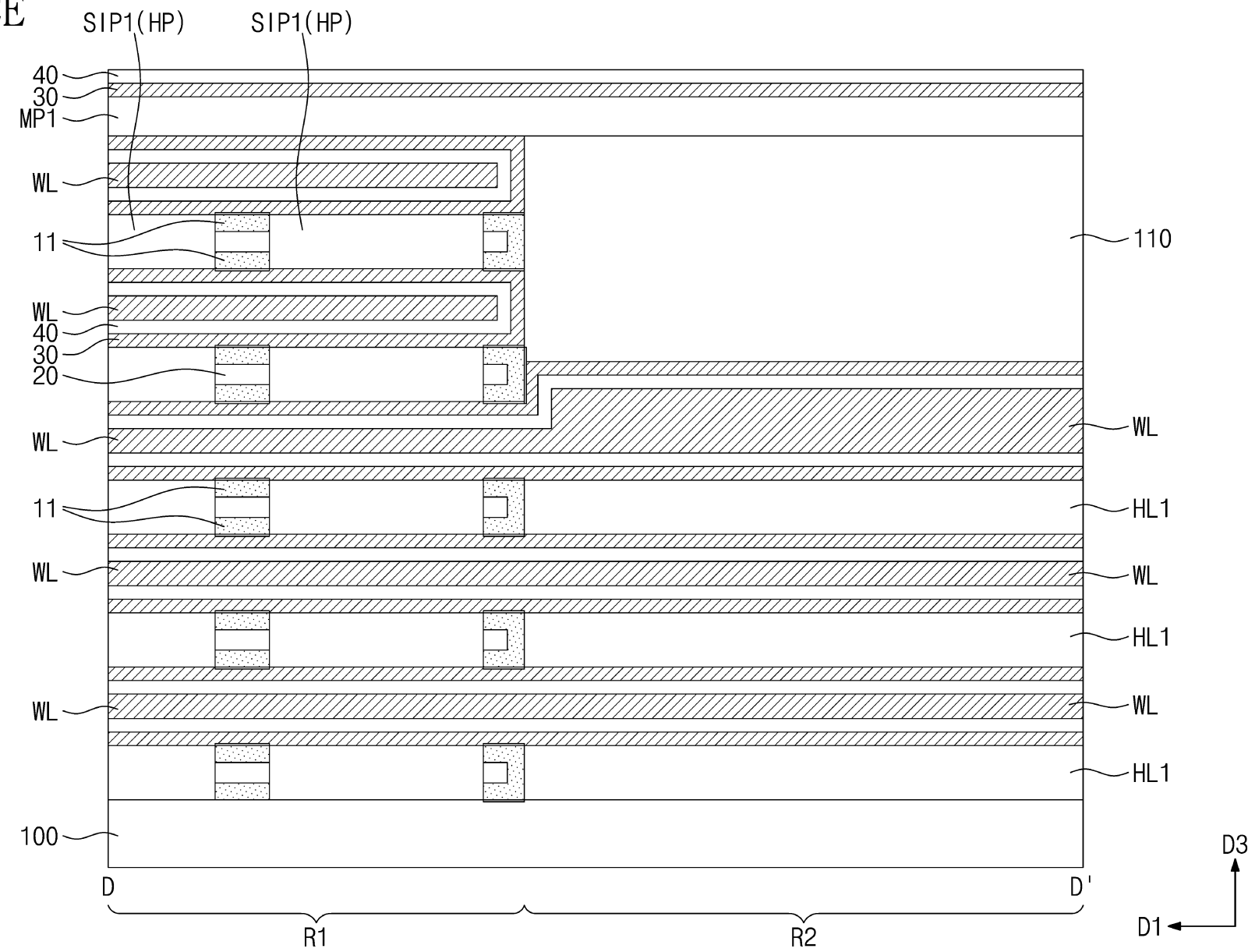

SIP1(HP)
SIP1(HP)
40
30
MP1
WL
11
110
WL
40
30
20
WL
WL
11
HL1
WL
WL
HL1
WL
WL
HL1
100
D
D'
R1
R2
D3
D1

FIG. 23A

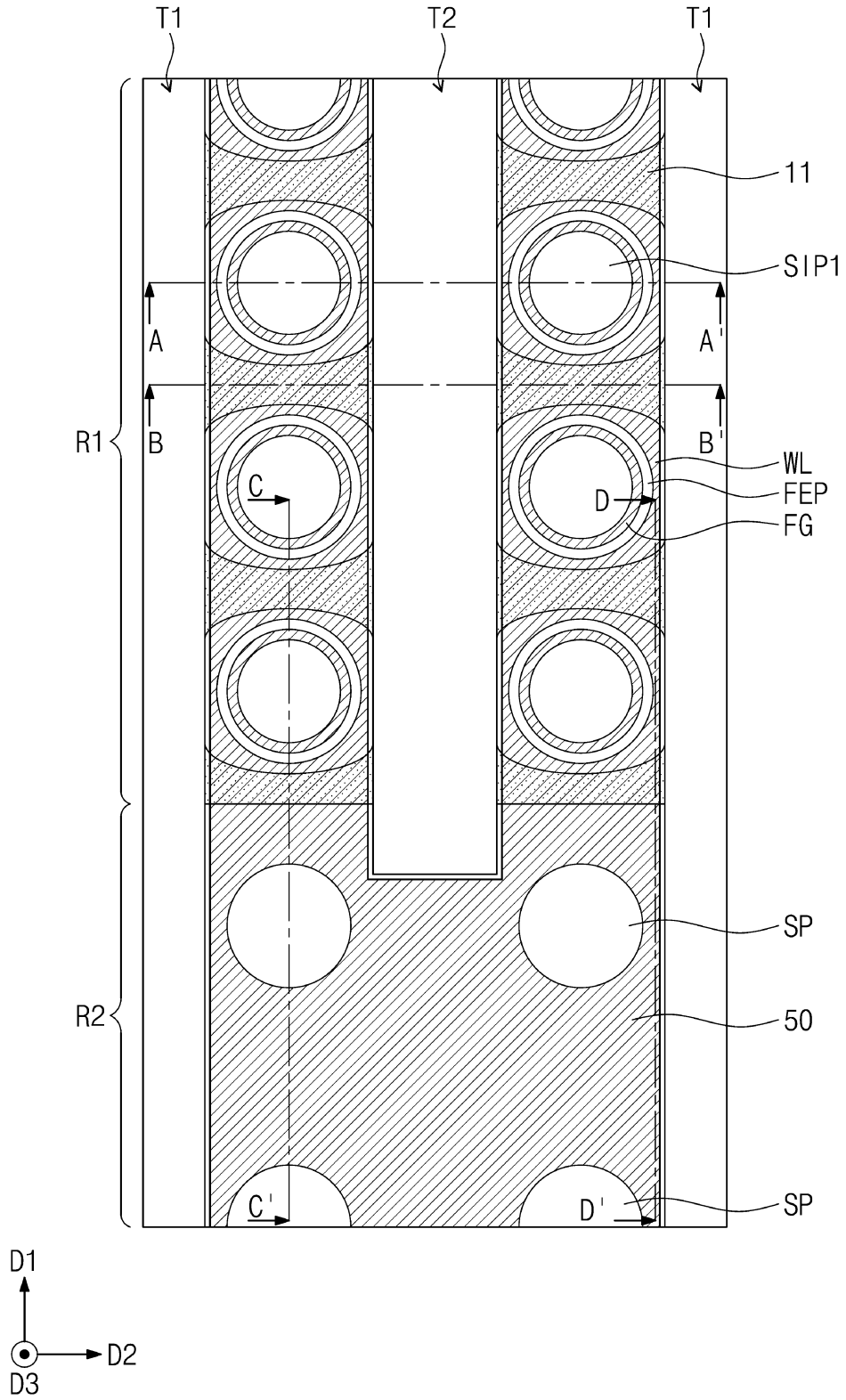


FIG. 23B

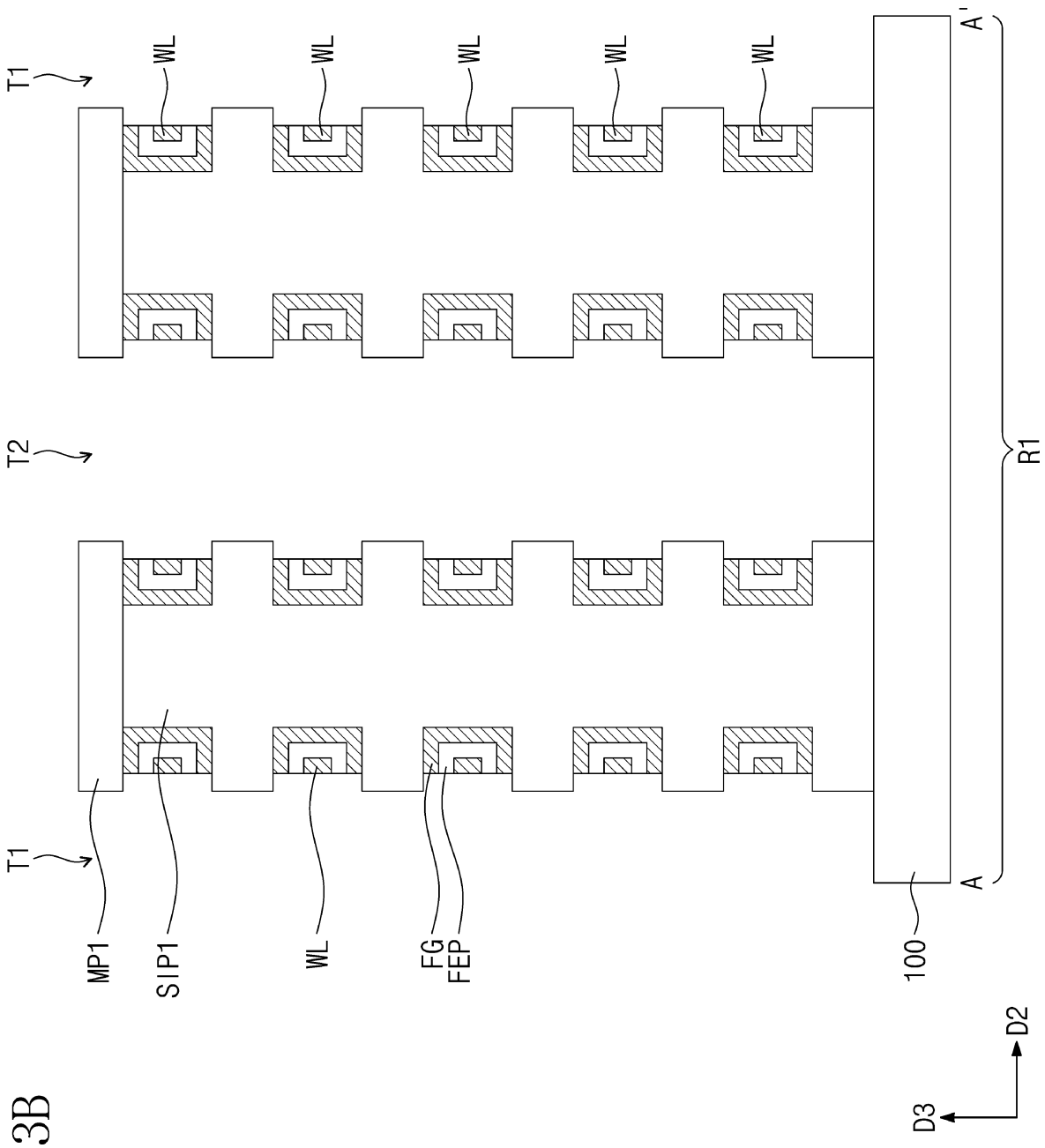


FIG. 23C

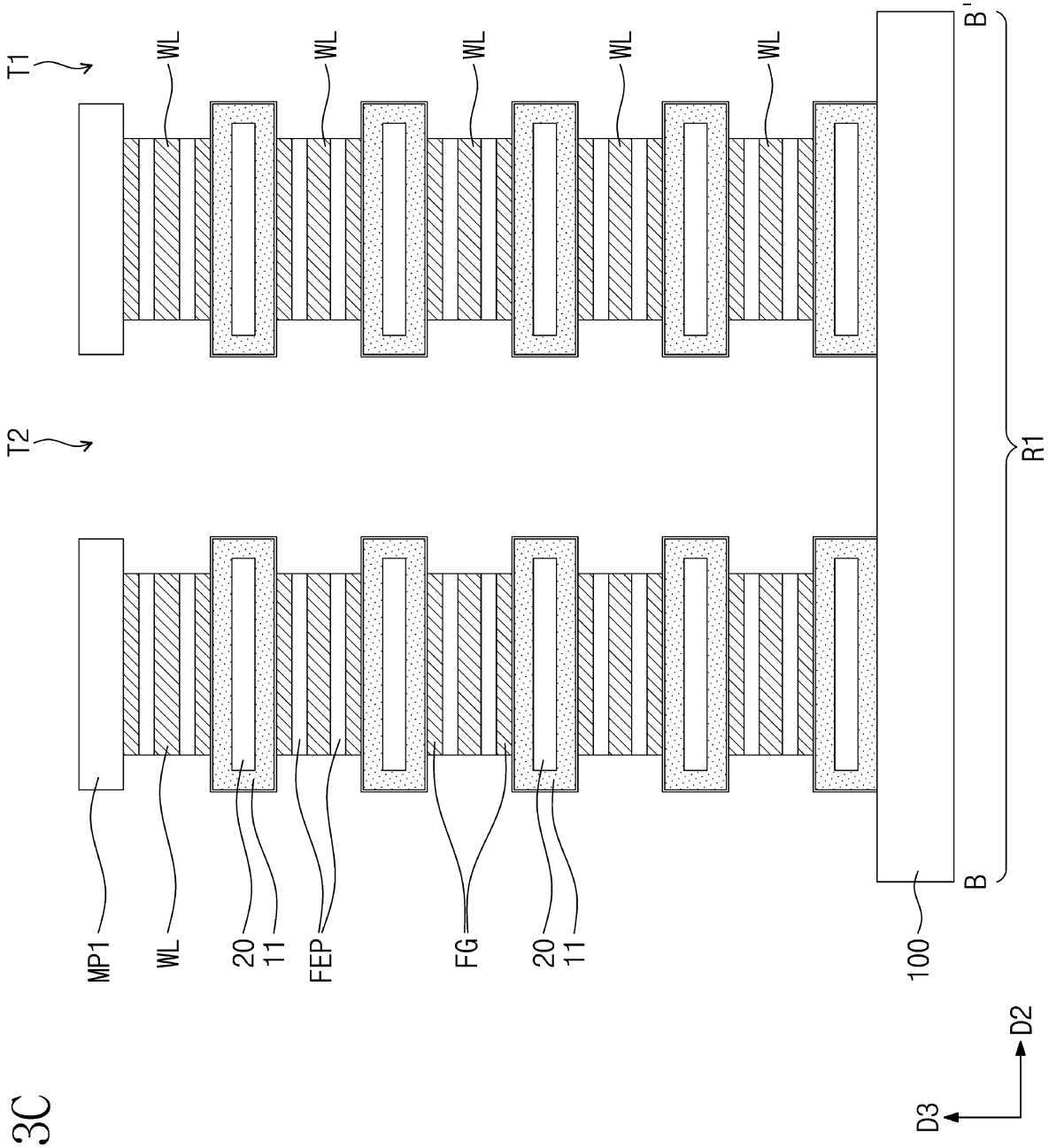


FIG. 23D

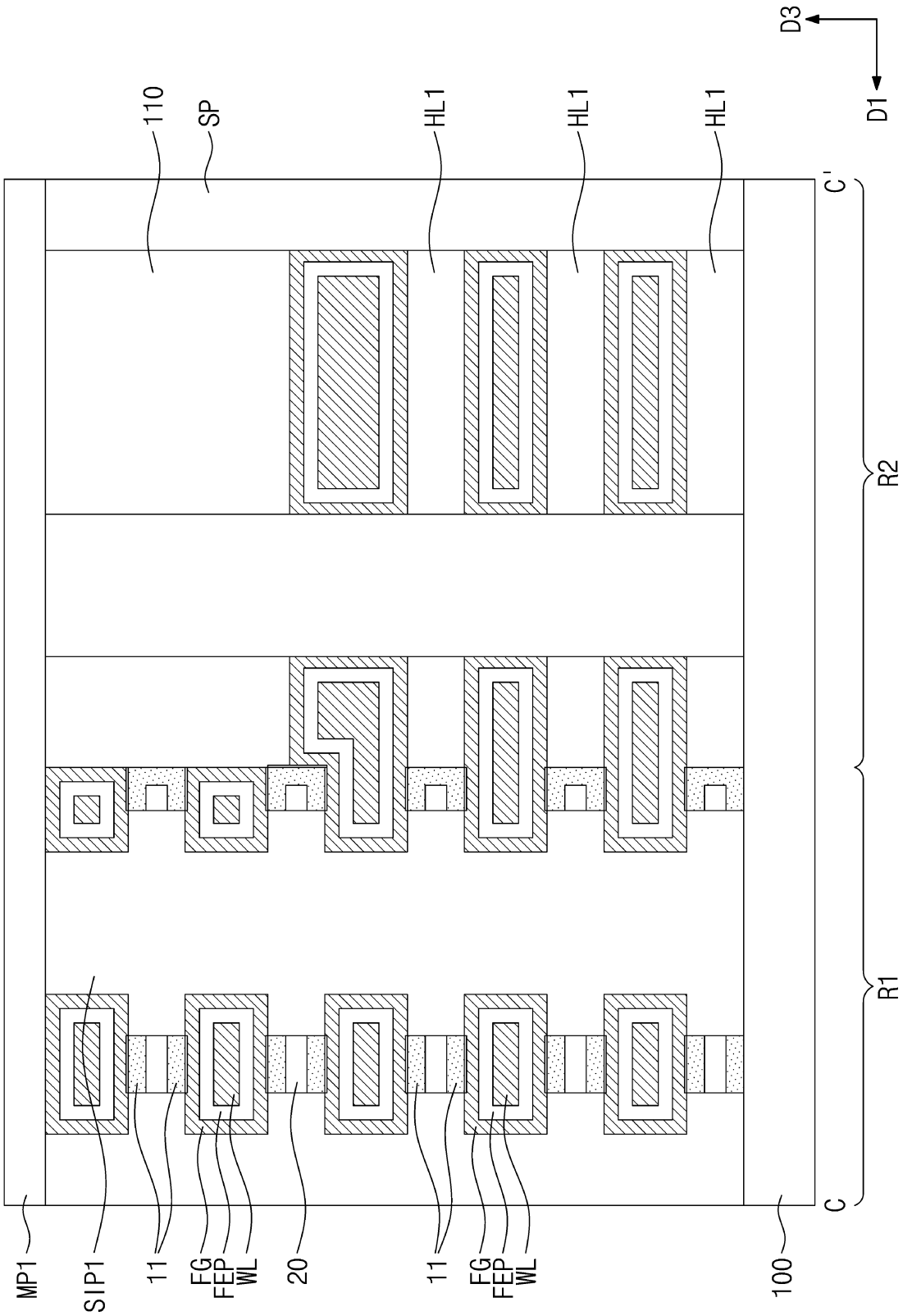

D3
D1
110
SP
HL1
HL1
HL1
C'
C
R2
R1
MP1
SIP1
11
FG
FEP
WL
20
11
FG
FEP
WL
100

FIG. 23E

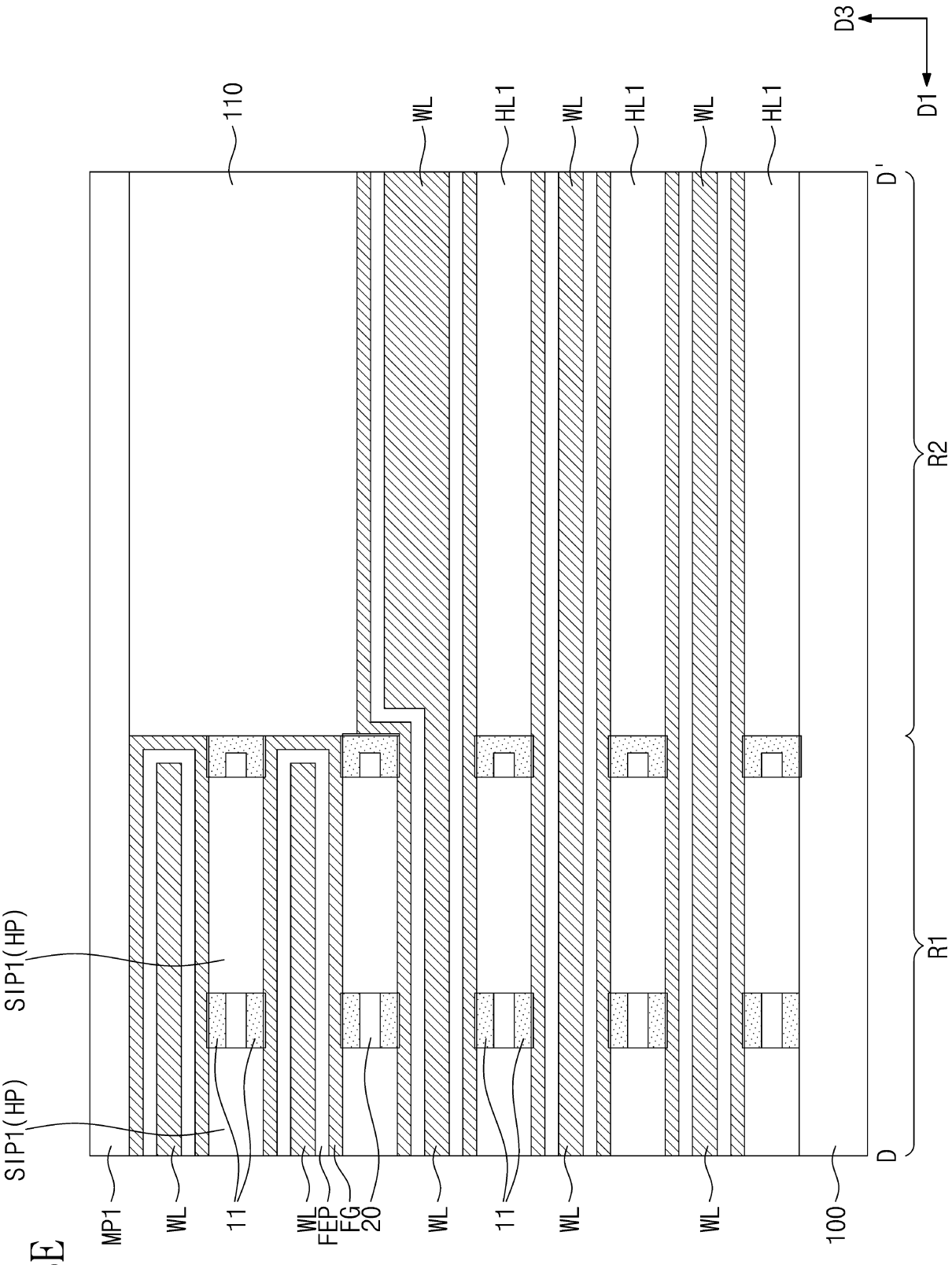

SIP1(HP)
SIP1(HP)
MP1
WL
11
WL
FEP
FG
20
WL
11
WL
WL
100
110
WL
HL1
WL
HL1
WL
HL1
D
D'
R1
R2
D3
D1

FIG. 24A

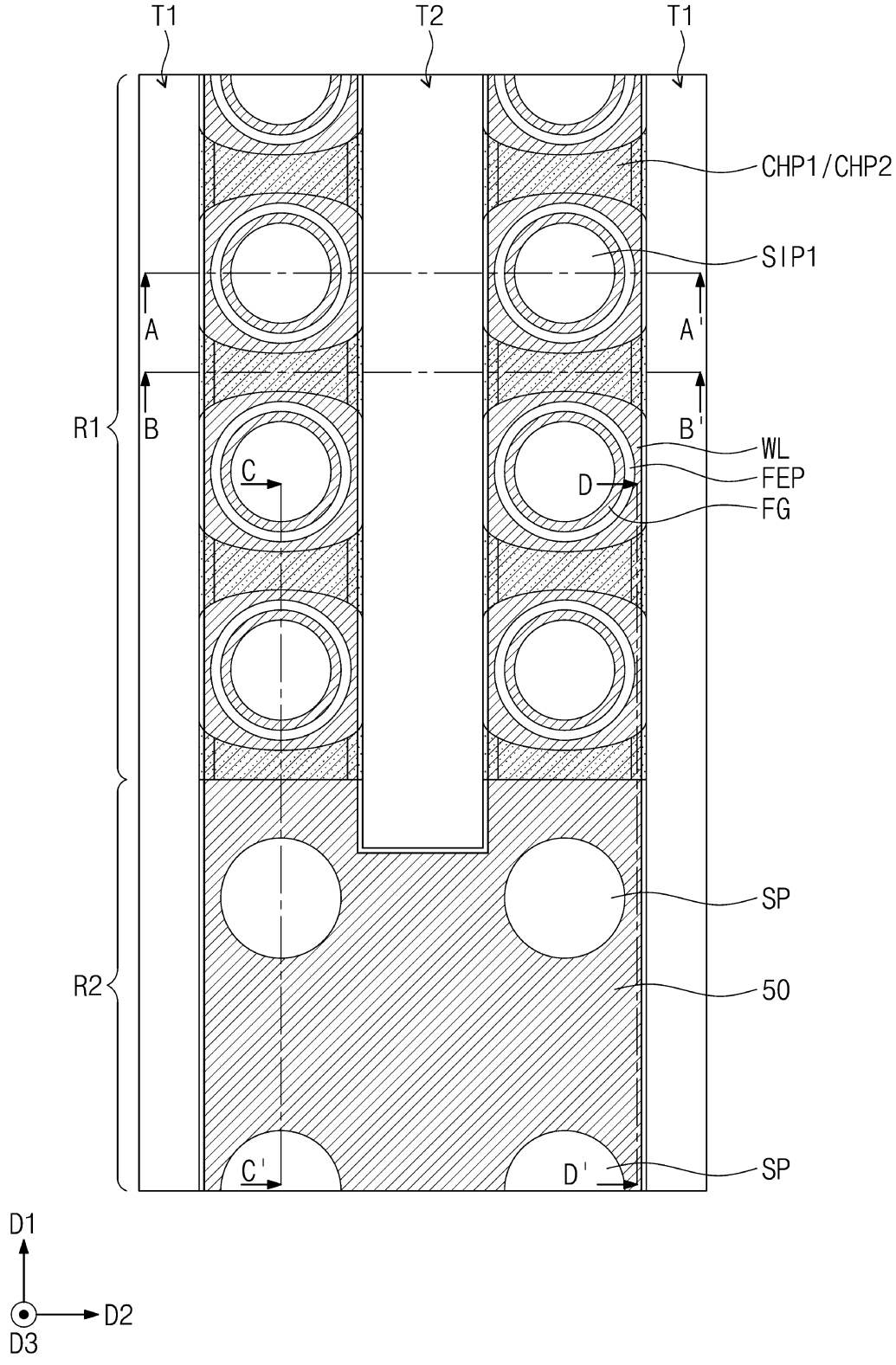


FIG. 24B

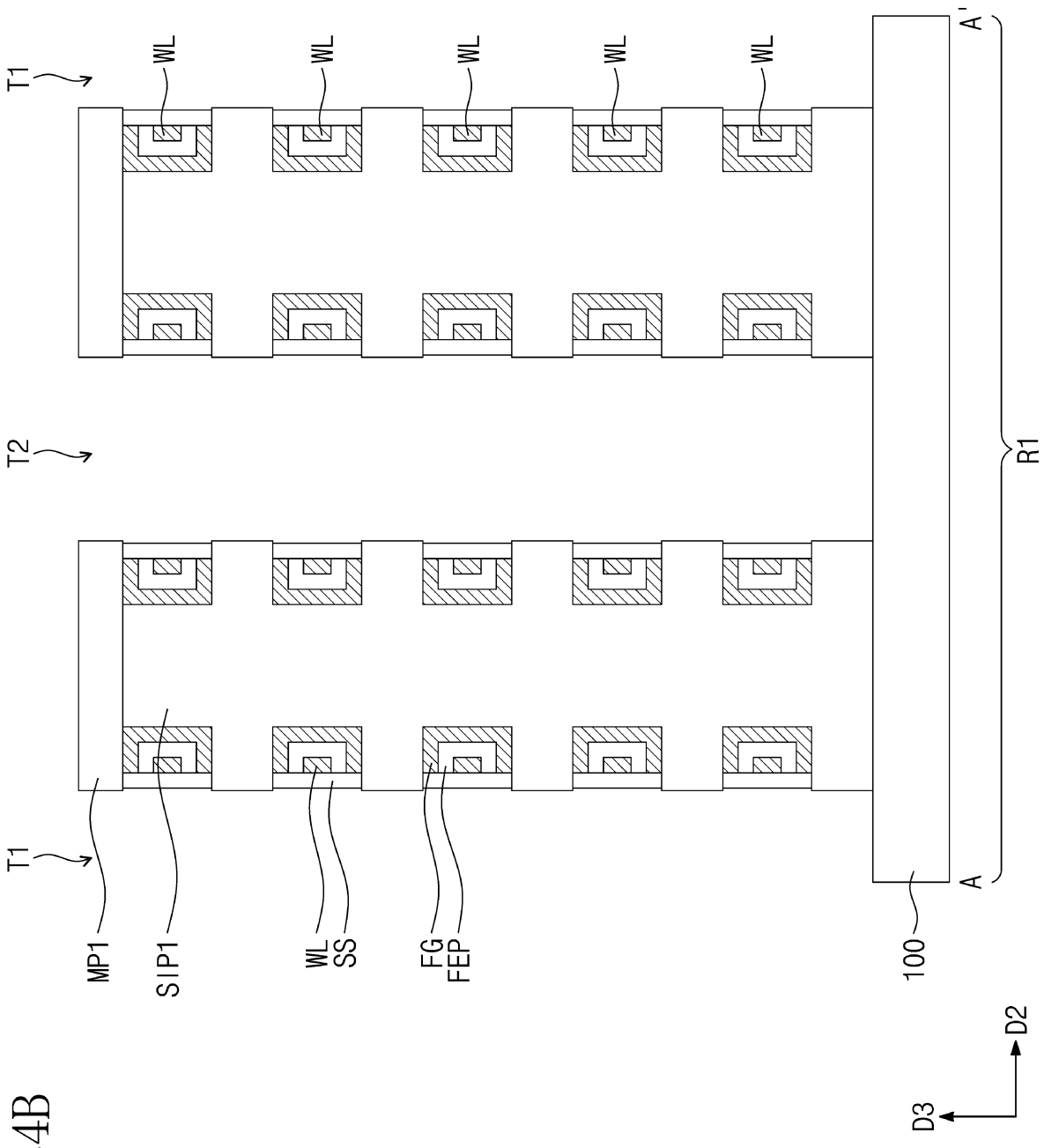


FIG. 24C

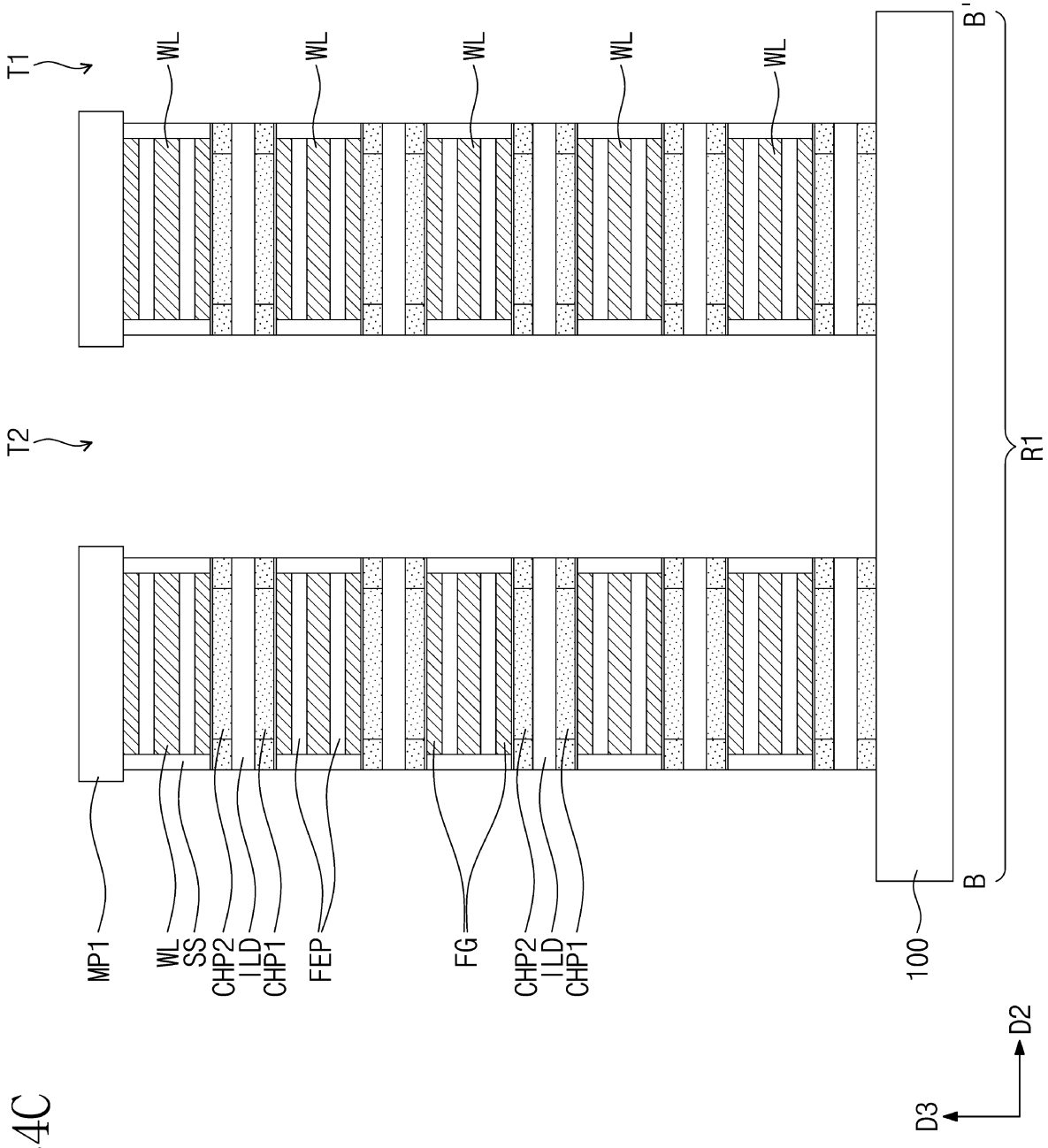

T1
T2
WL
WL
WL
WL
WL
B'
B
R1
MP1
WL
SS
CHP2
ILD
CHP1
FEP
FG
CHP2
ILD
CHP1
100
D3
D2

FIG. 24D

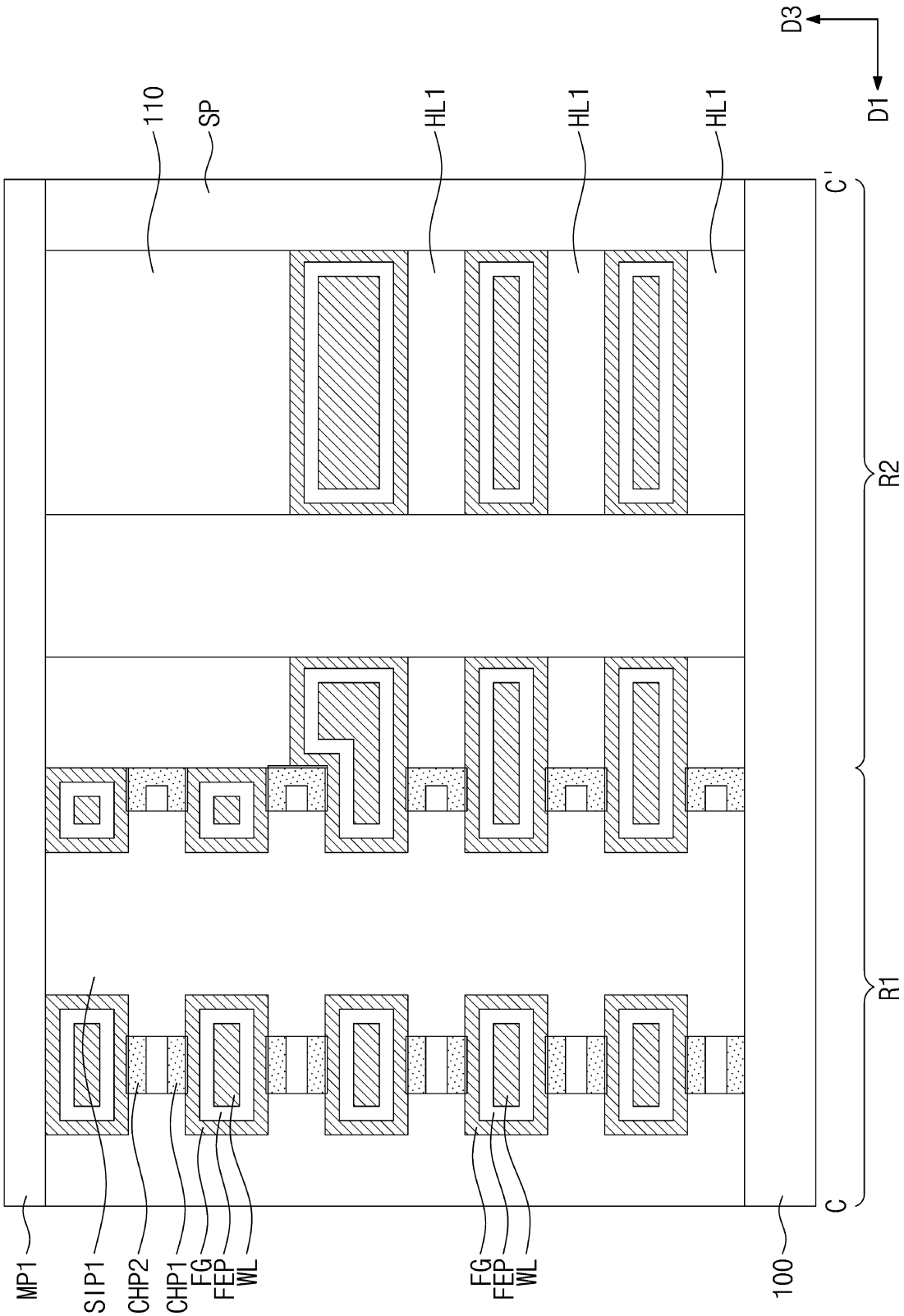

D3
D1
110
SP
HL1
HL1
HL1
C'
C
R2
R1
MP1
SIP1
CHP2
CHP1
FG
FEP
WL
FG
FEP
WL
100

FIG. 24E

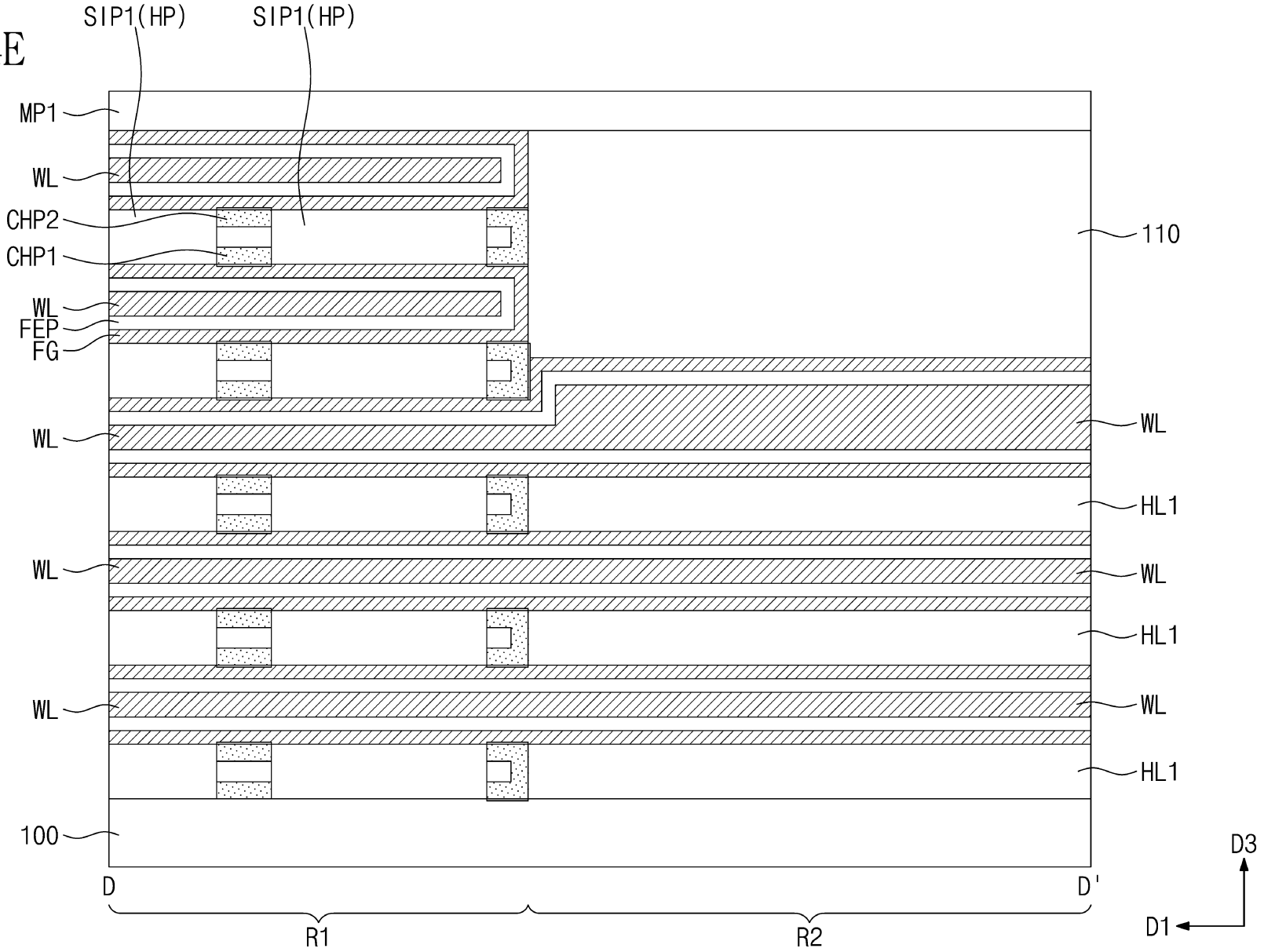

SIP1(HP)
SIP1(HP)
MP1
WL
CHP2
CHP1
WL
FEP
FG
WL
WL
WL
WL
100
110
WL
HL1
WL
HL1
WL
HL1
D
D'
R1
R2
D3
D1

FIG. 25A

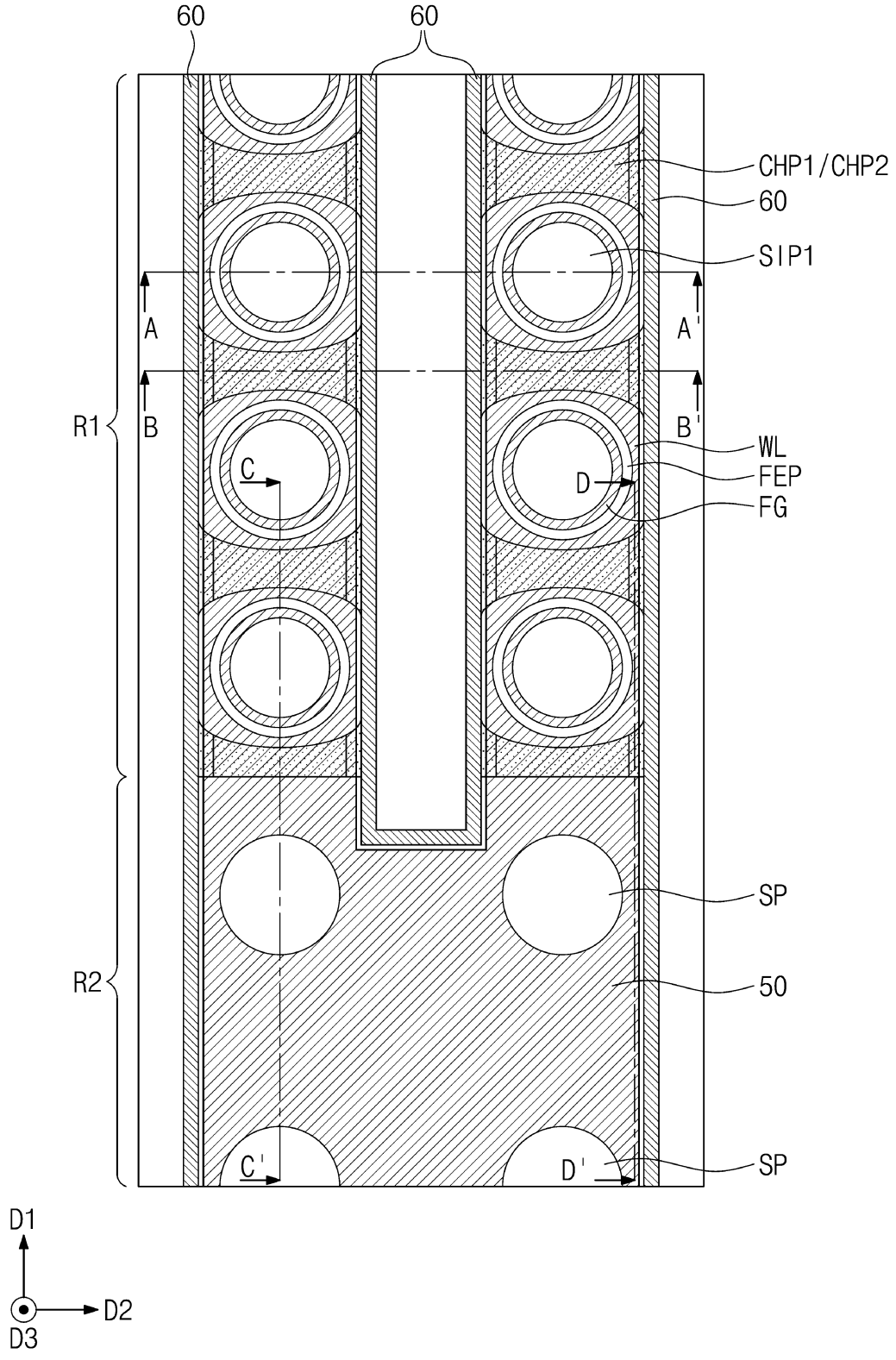


FIG. 25B

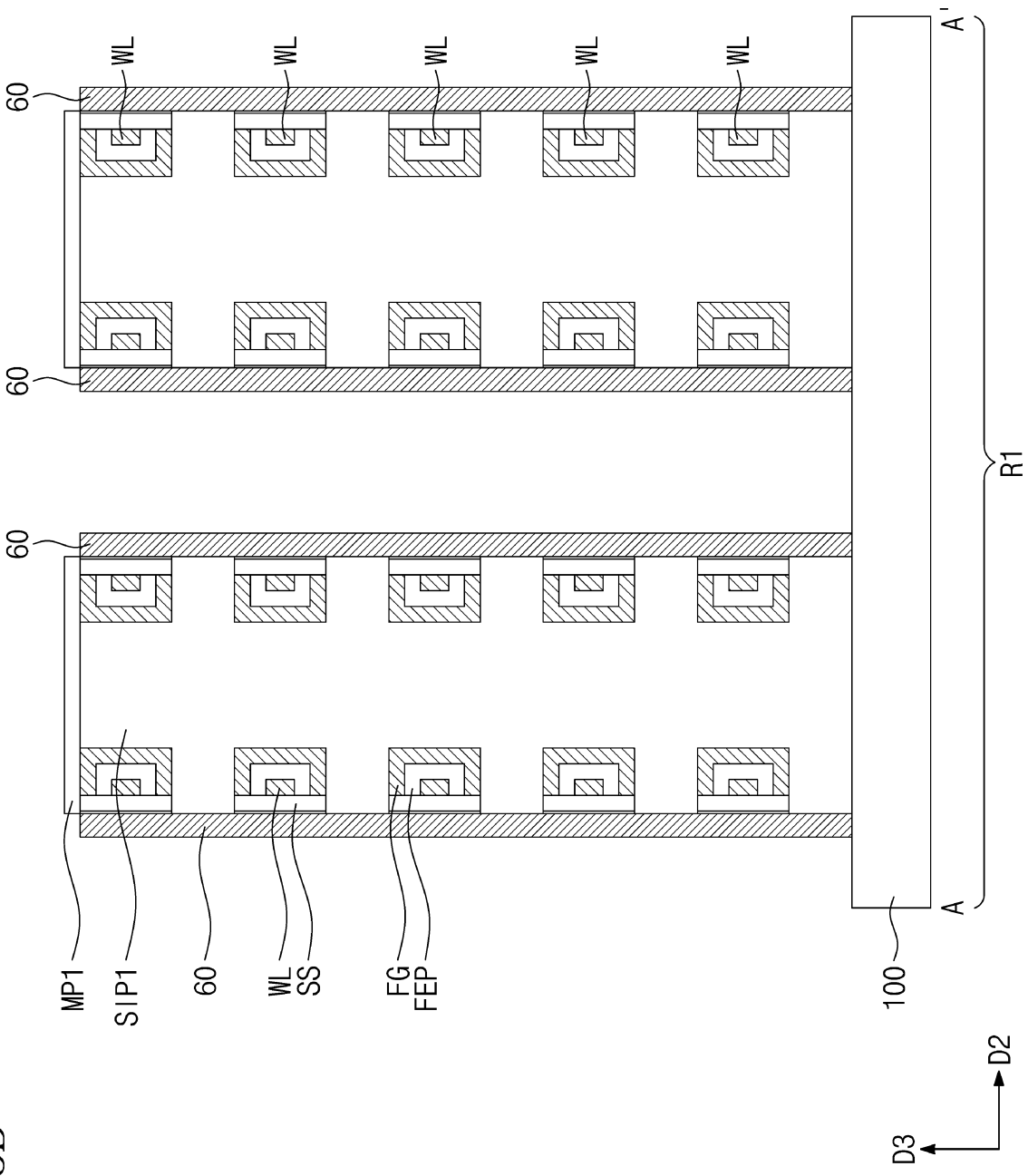


FIG. 25C

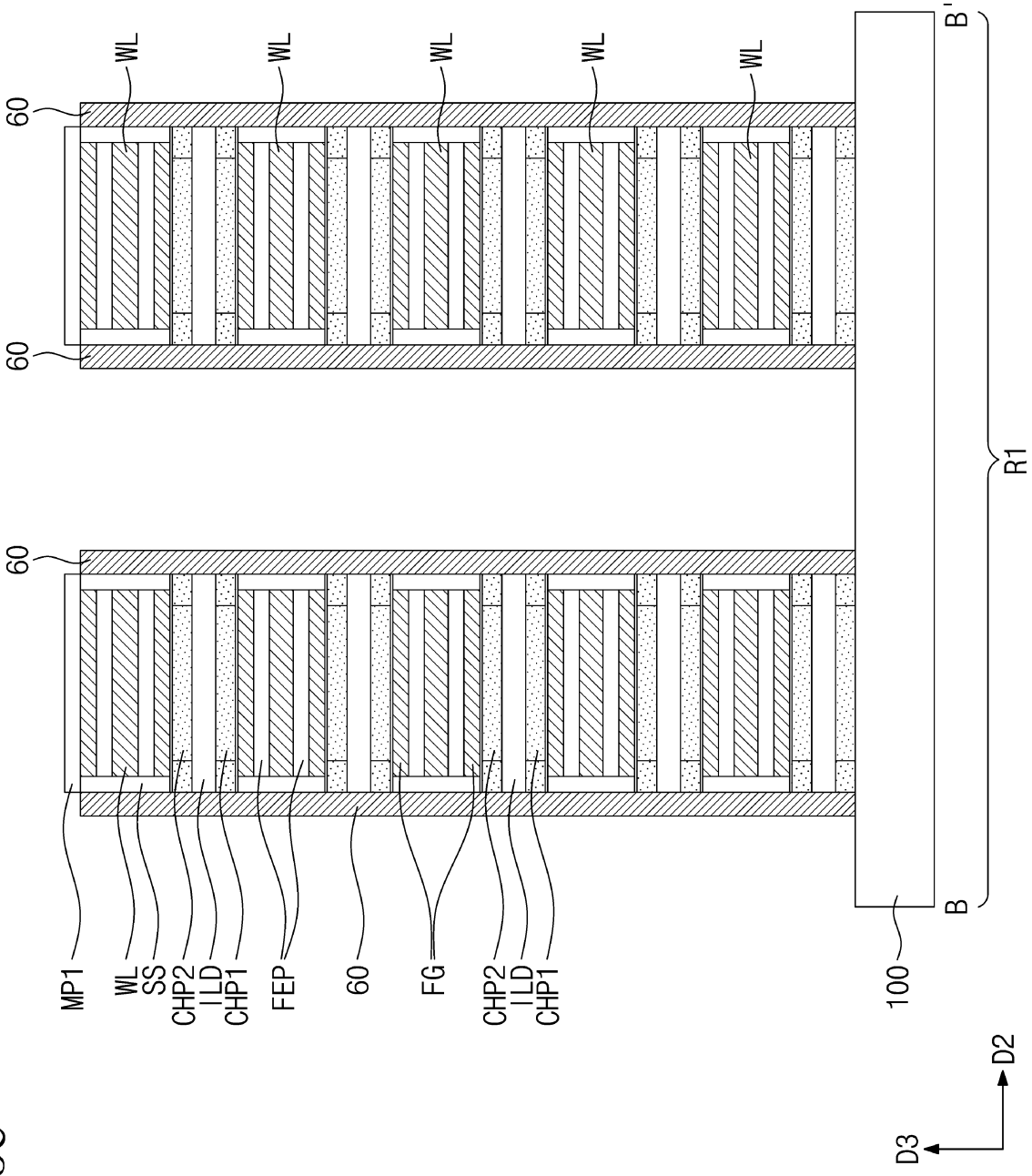

WL
WL
WL
WL
WL
60
60
60
B'
B
R1
MP1
WL
SS
CHP2
ILD
CHP1
FEP
60
FG
CHP2
ILD
CHP1
100
D3
D2

FIG. 26A

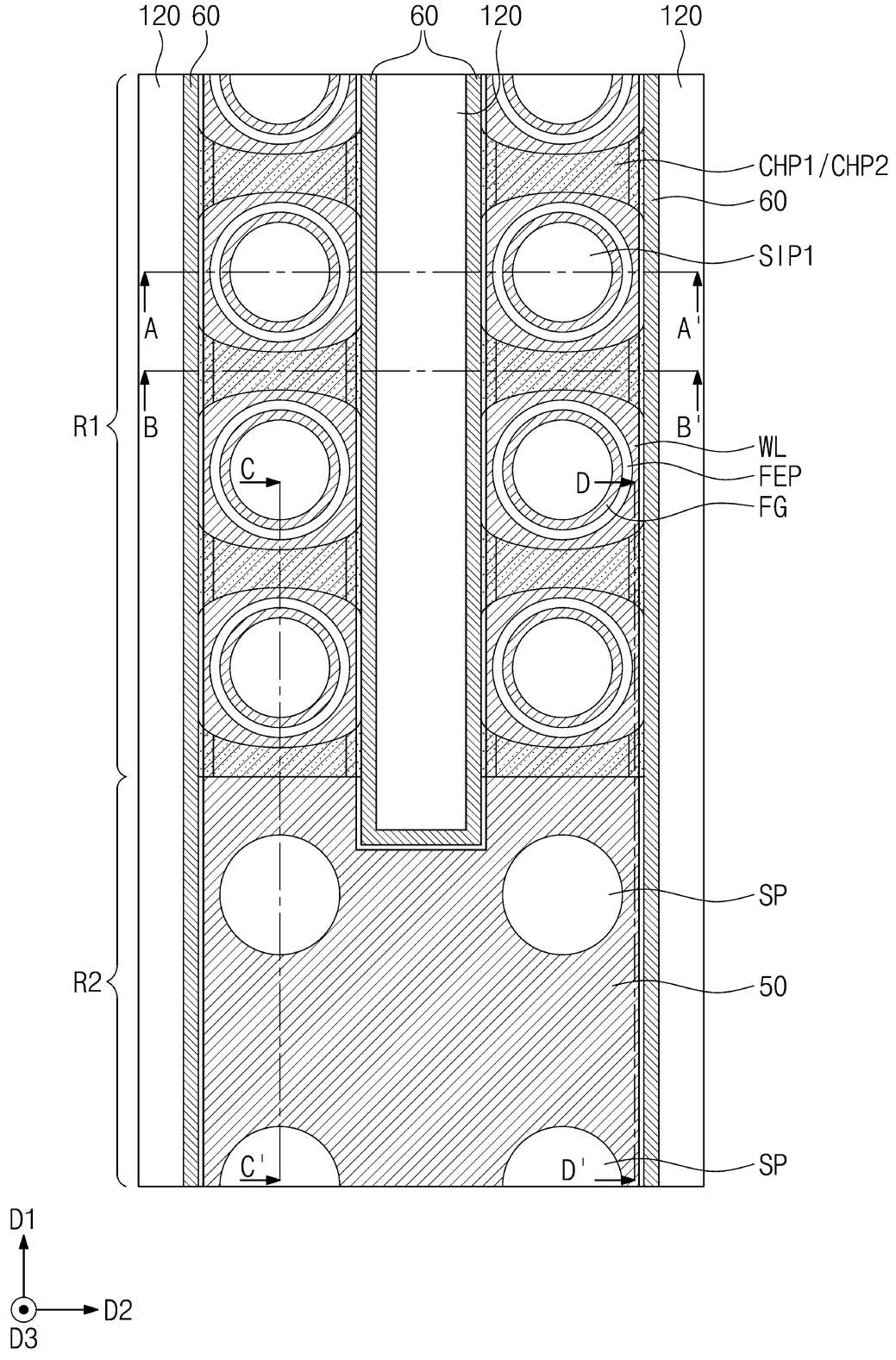

120
60
60
120
120
CHP1/CHP2
60
SIP1
A
A'
B
B'
R1
C
D
WL
FEP
FG
SP
R2
50
C'
D'
SP
D1
D2
D3

FIG. 26B

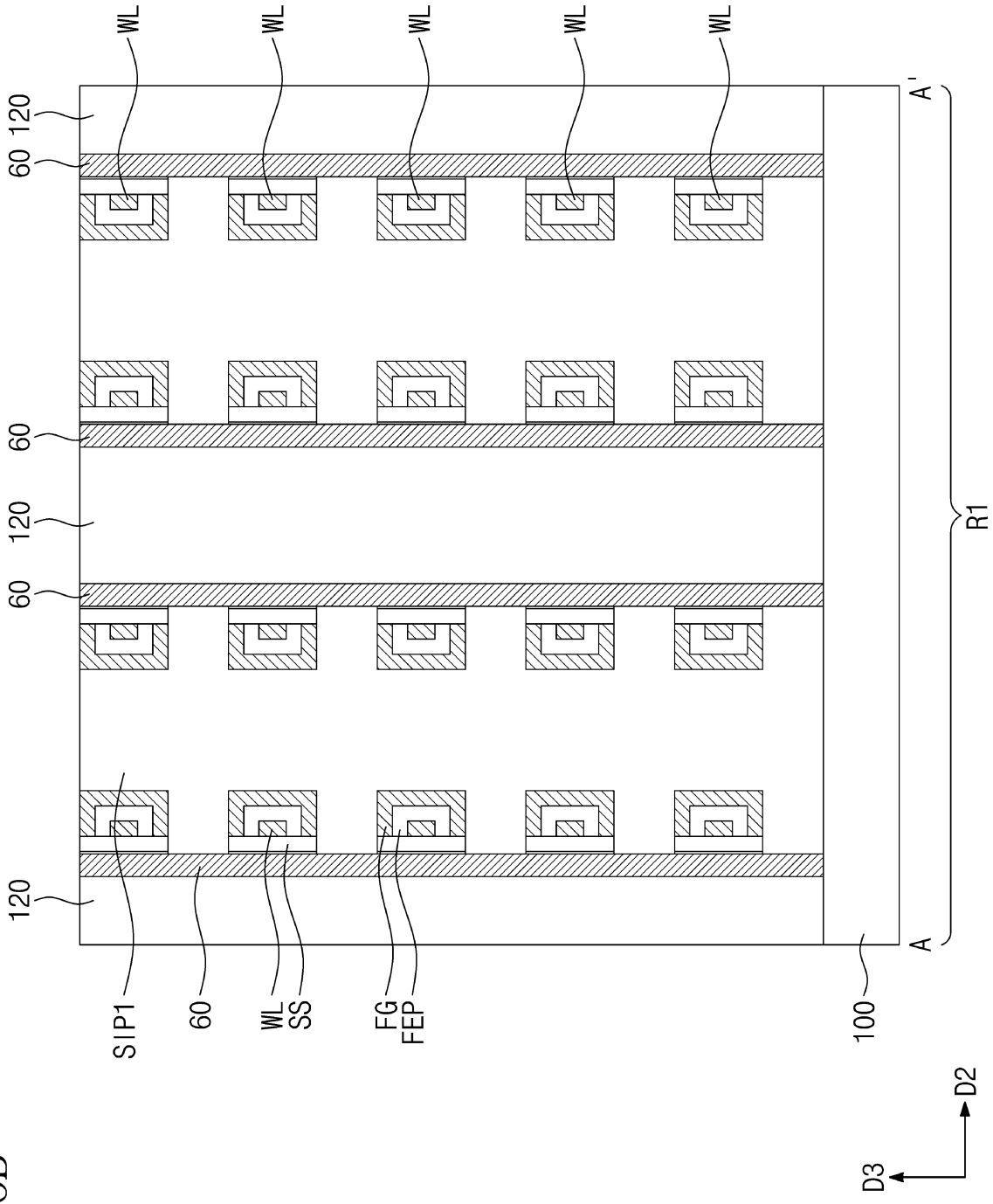

WL
WL
WL
WL
WL
120
60
60
120
60
120
A'
A
R1
SIP1
60
WL
SS
FG
FEP
100
D2
D3

FIG. 26C

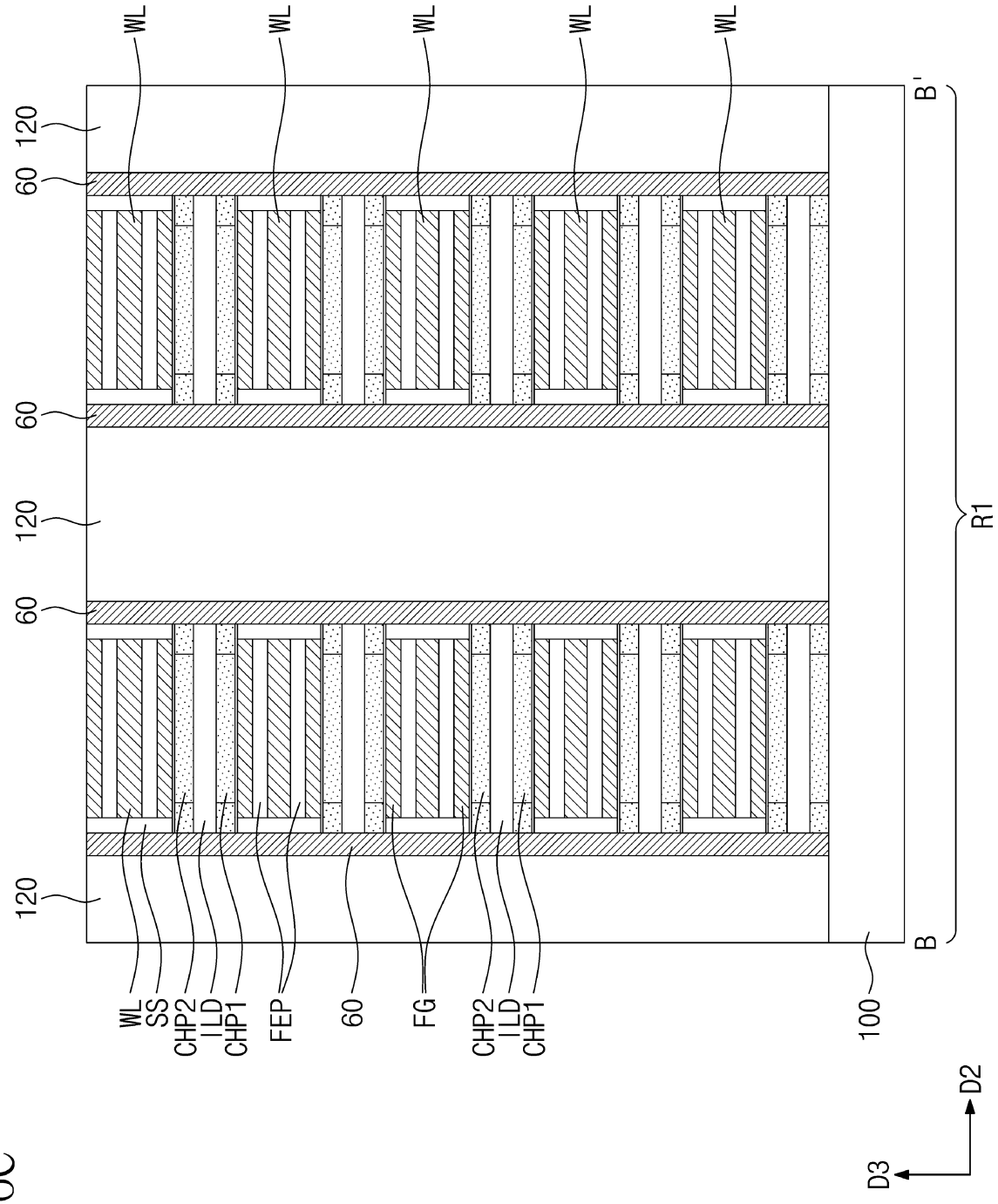

WL
WL
WL
WL
WL
120
60
60
120
60
120
B'
B
R1
WL
SS
CHP2
ILD
CHP1
FEP
60
FG
CHP2
ILD
CHP1
100
D3
D2

FIG. 27A

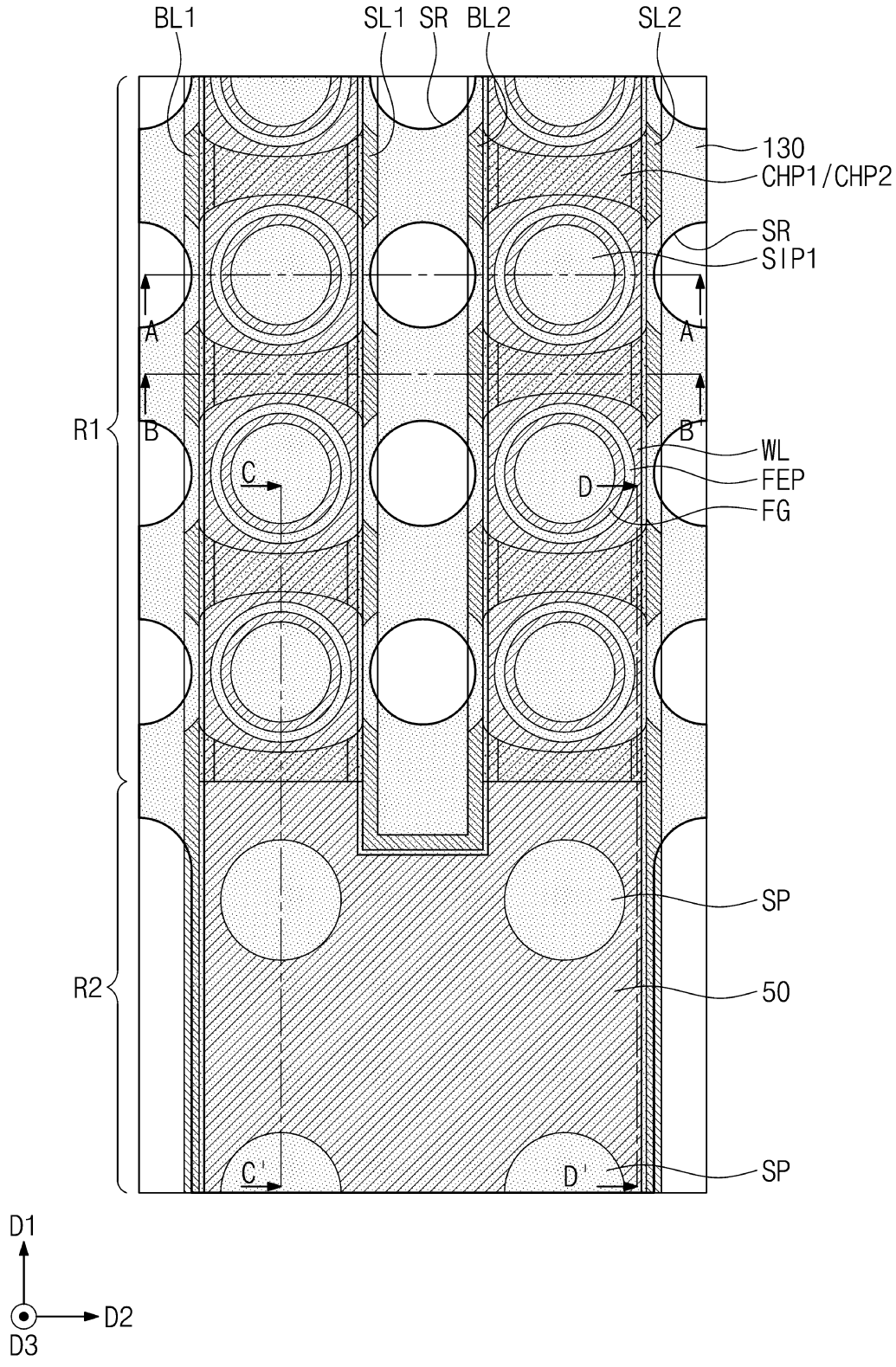

BL1
SL1
SR
BL2
SL2
130
CHP1/CHP2
SR
SIP1
A
A'
B
B'
R1
C
D
WL
FEP
FG
SP
R2
50
C'
D'
SP
D1
D2
D3

FIG. 27B

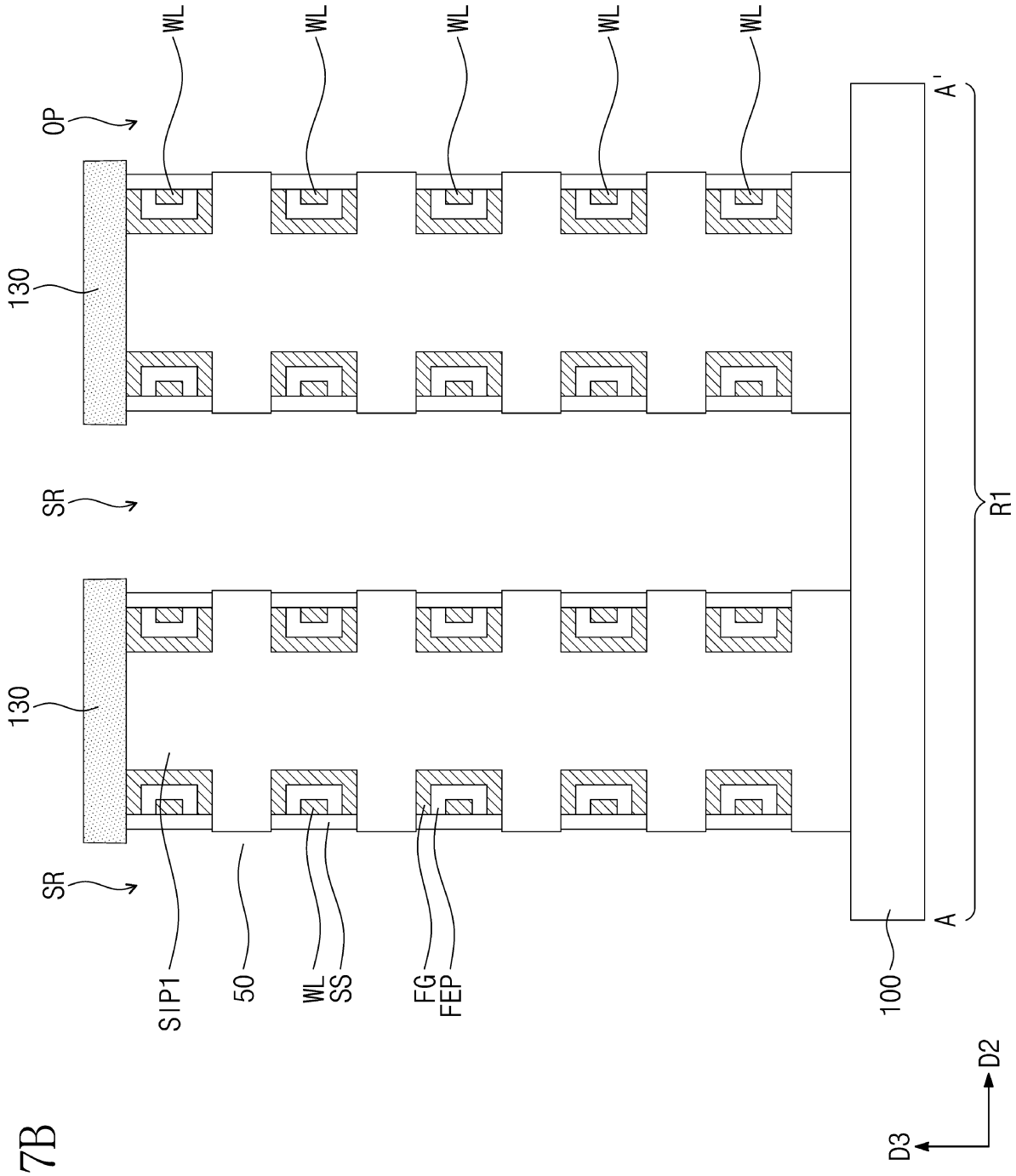
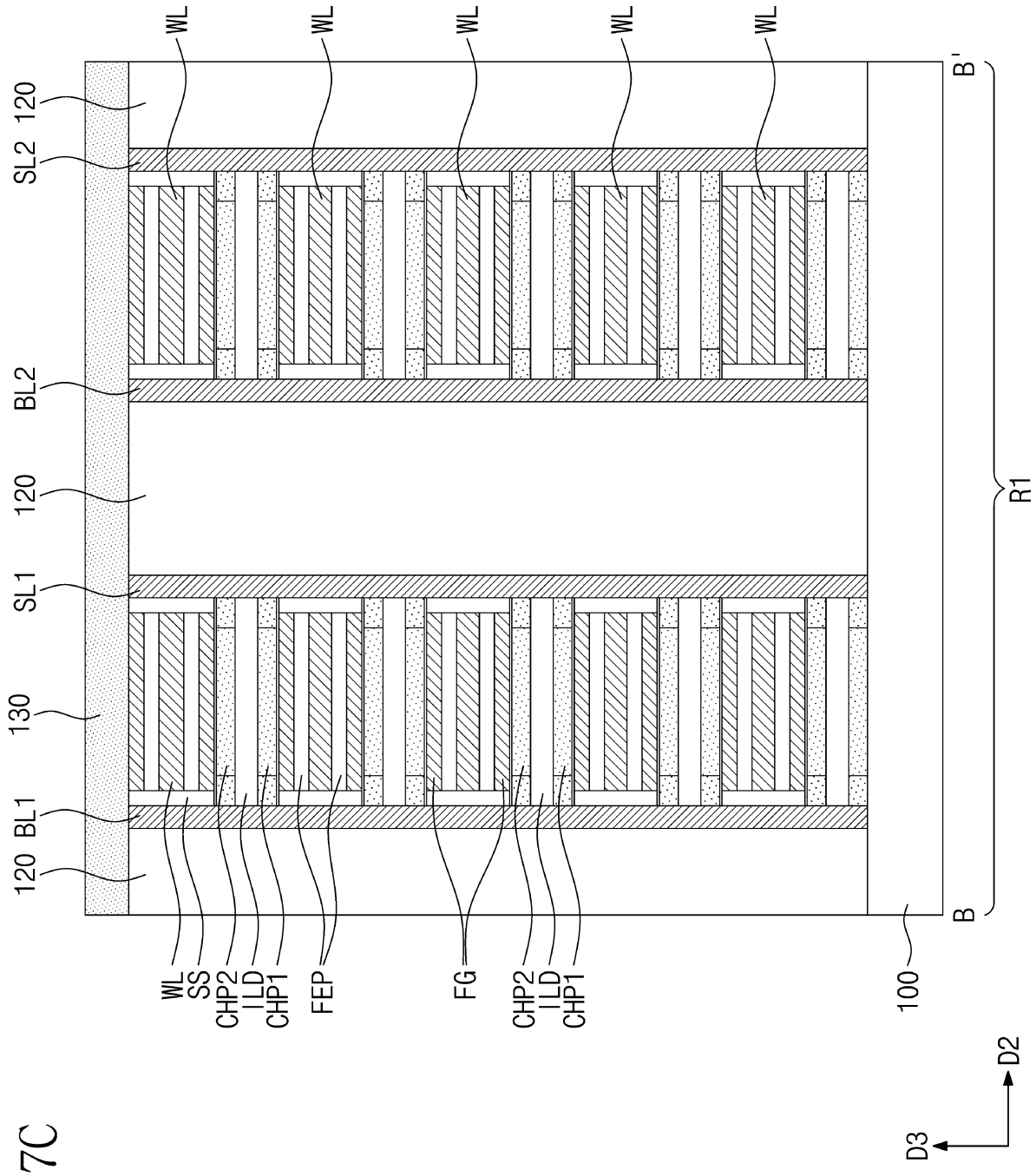


FIG. 27C


WL
WL
WL
WL
WL
B'
SL2
120
BL2
120
SL1
130
BL1
120
B
R1
WL
SS
CHP2
ILD
CHP1
FEP
FG
CHP2
ILD
CHP1
100
D3
D2