FIG. 1

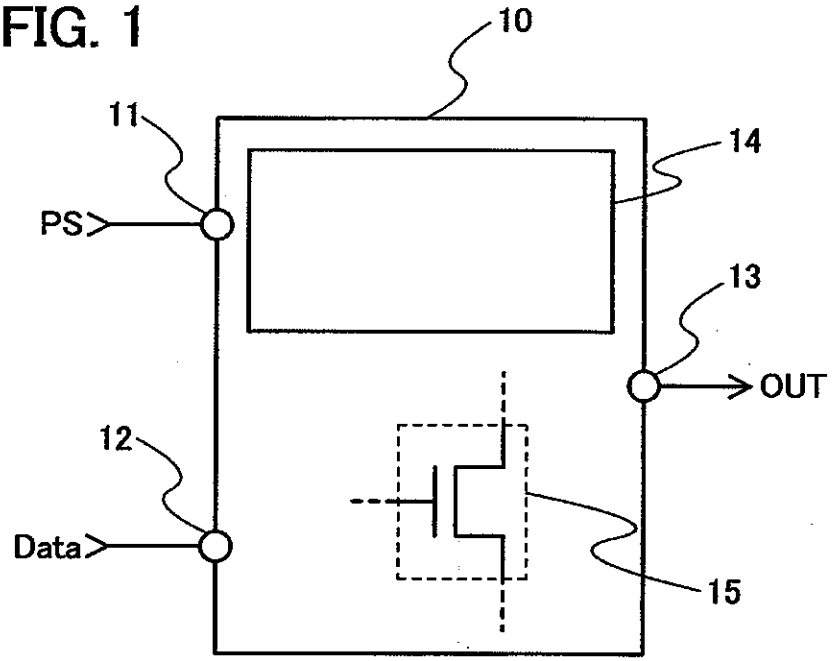


FIG. 2A

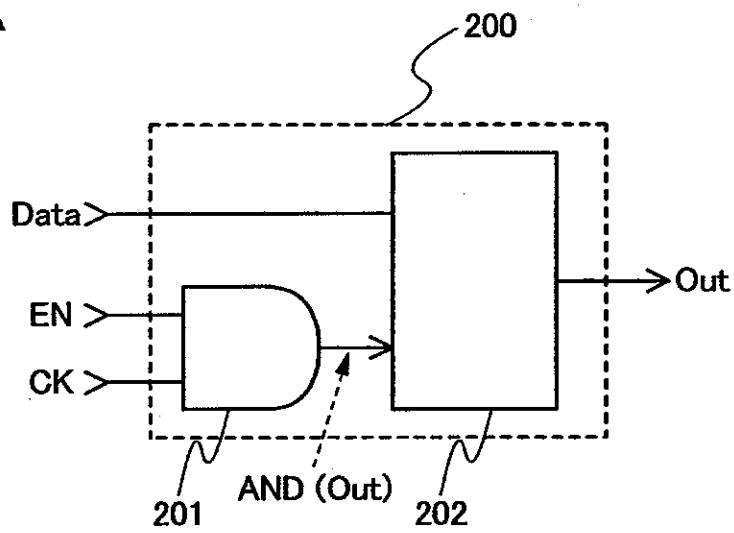

200
Data
EN
CK
Out
201
AND (Out)
202

FIG. 2B

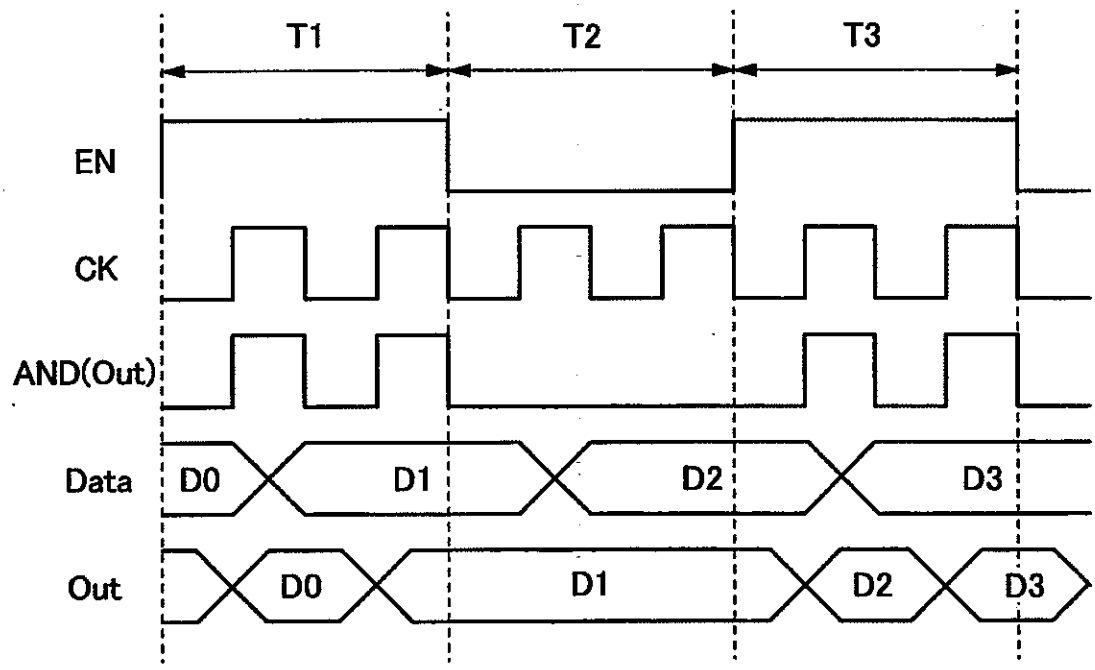

T1
T2
T3
EN
CK
AND(Out)
Data
D0
D1
D2
D3
Out
D0
D1
D2
D3

FIG. 3A

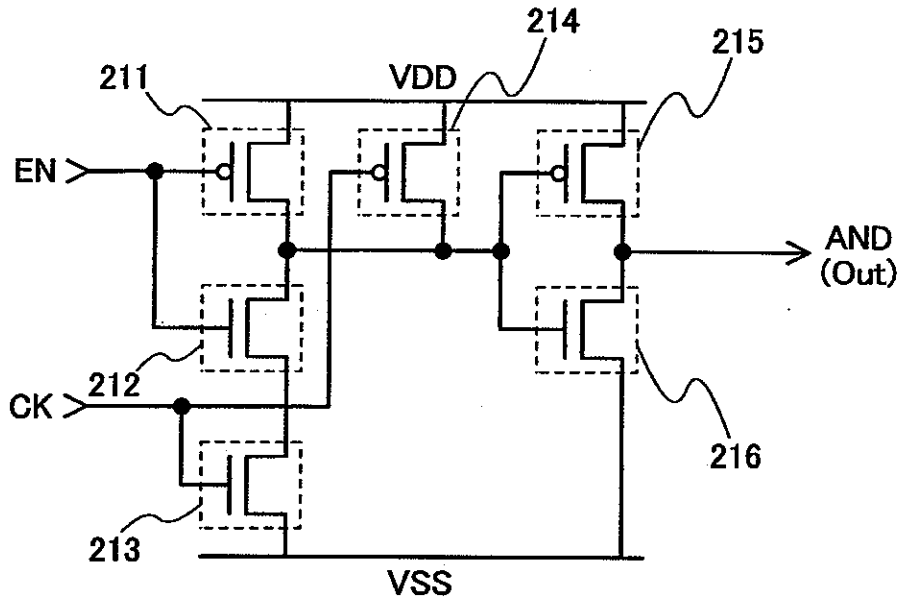

214
215
211
VDD
EN
AND
(Out)
212
CK
216
213
VSS

FIG. 3B

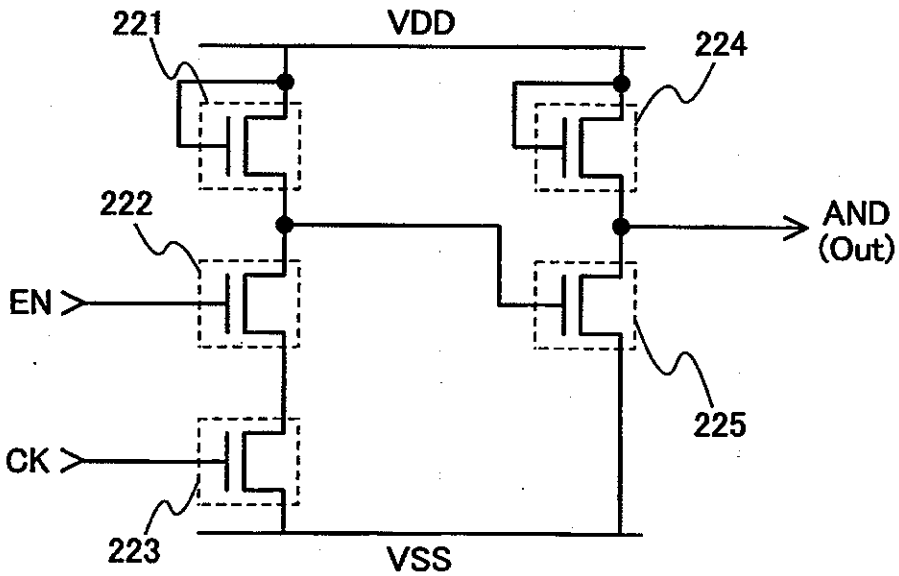

221
VDD
224
222
AND
(Out)
EN
225
CK
223
VSS

FIG. 4A

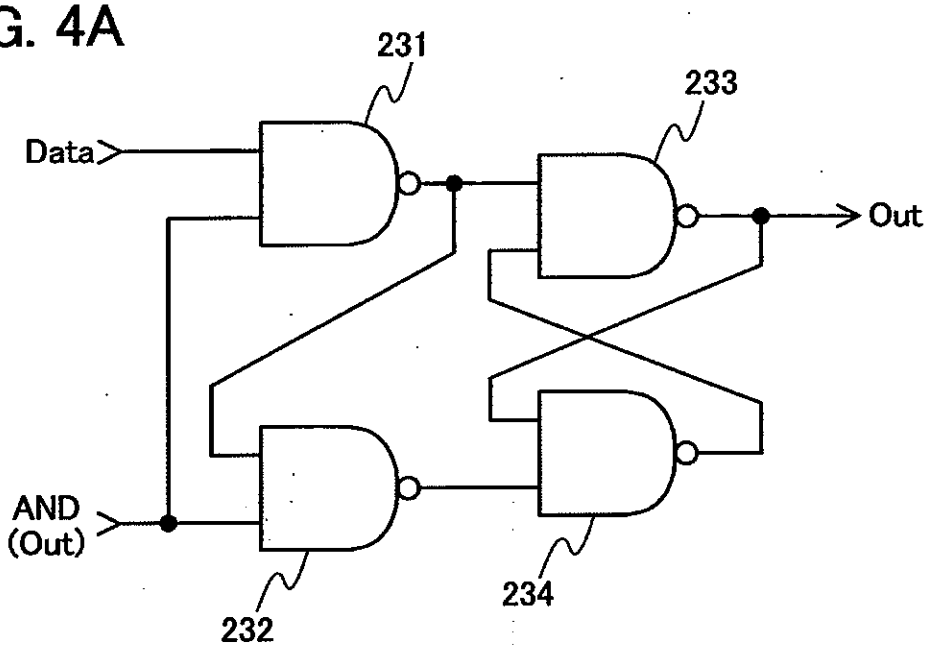


FIG. 4B

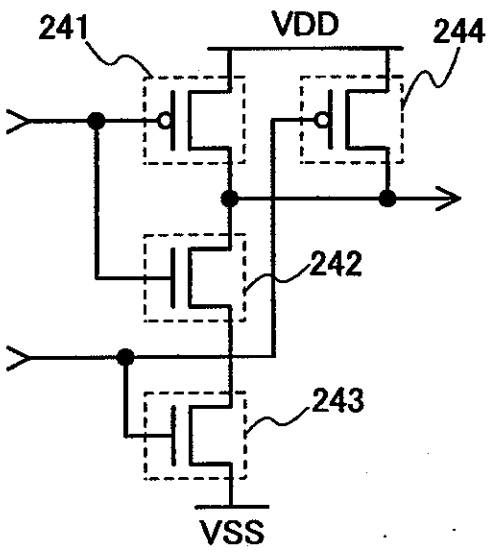


FIG. 4C

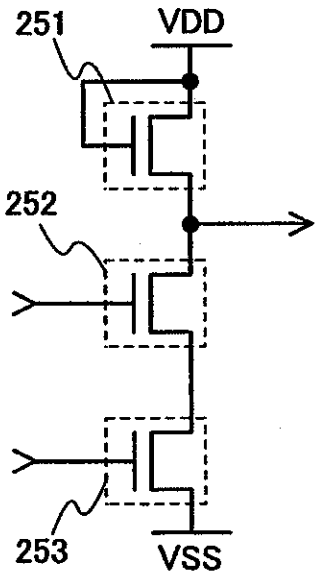


FIG. 5A

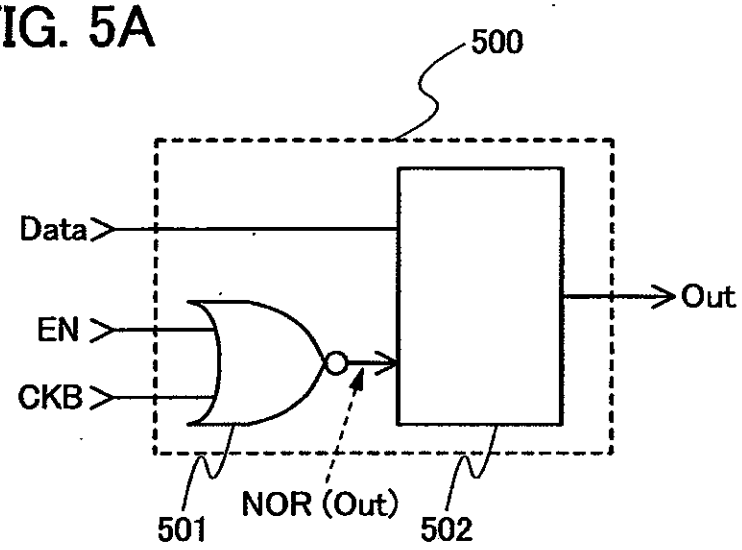

500
Data
EN
CKB
Out
501
NOR (Out)
502

FIG. 5B

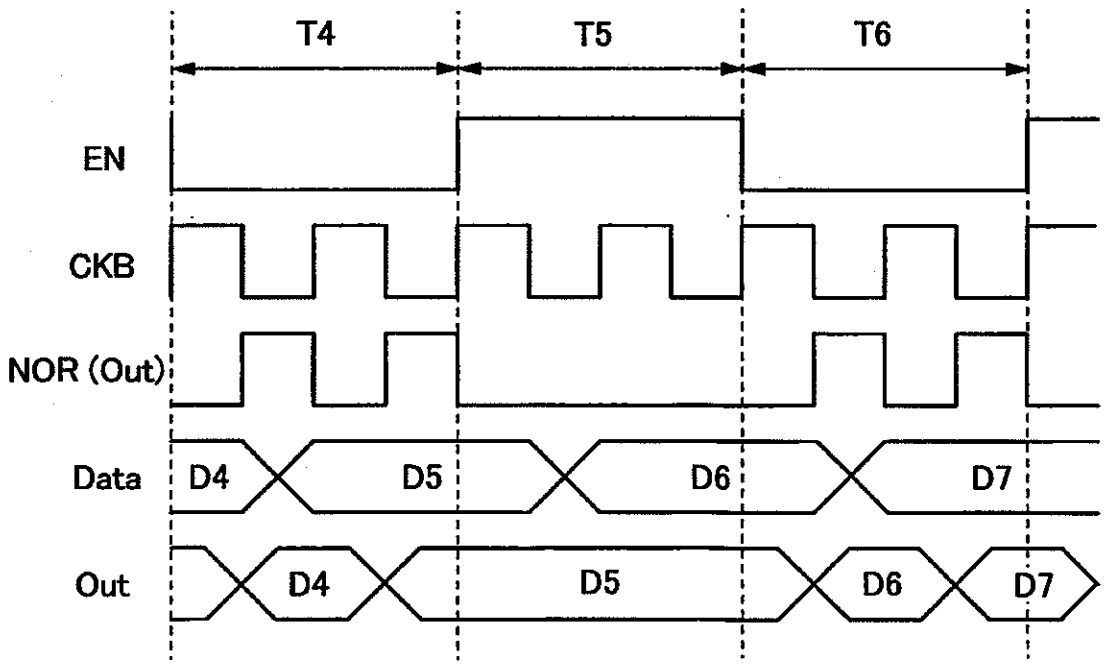

T4
T5
T6
EN
CKB
NOR (Out)
Data
D4
D5
D6
D7
Out
D4
D5
D6
D7

FIG. 6A

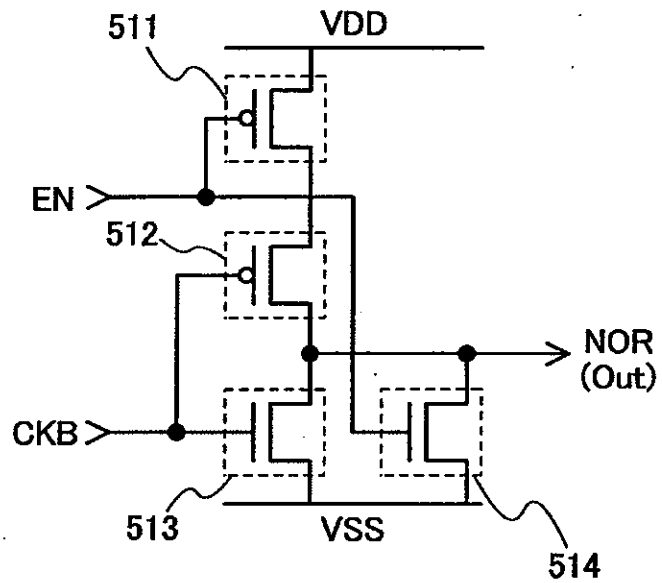

511
VDD
EN
512
NOR
(Out)
CKB
513
VSS
514

FIG. 6B

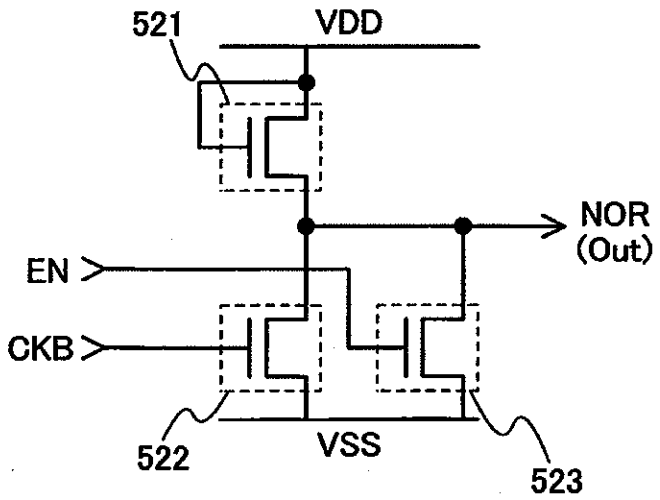

521
VDD
NOR
(Out)
EN
CKB
522
VSS
523

FIG. 7A

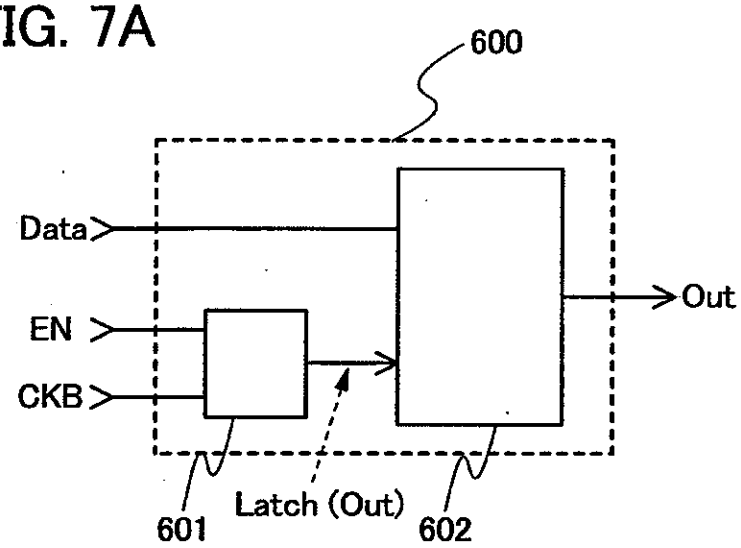

600
Data
EN
CKB
Out
601
Latch (Out)
602

FIG. 7B

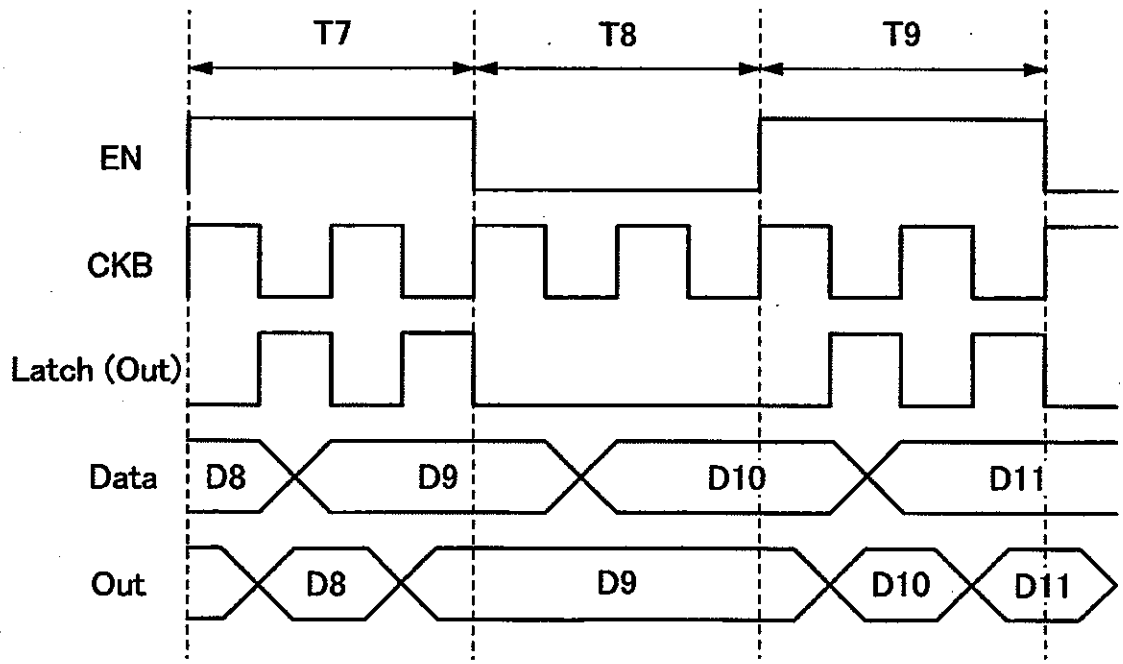

T7
T8
T9
EN
CKB
Latch (Out)
Data
D8
D9
D10
D11
Out
D8
D9
D10
D11

FIG. 8A

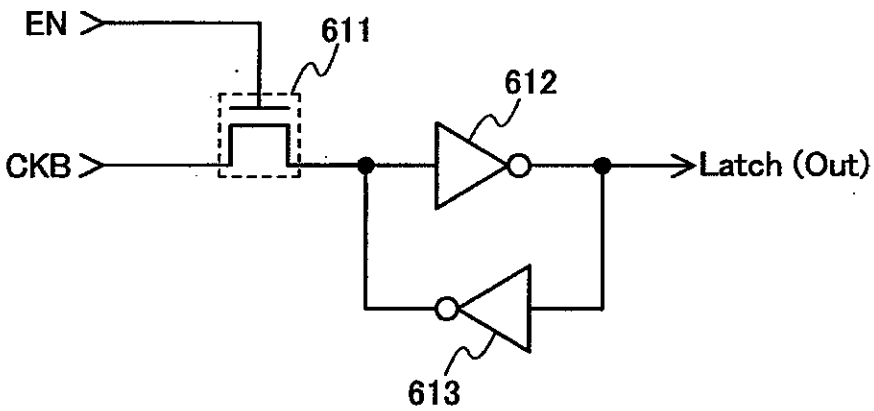


FIG. 8B

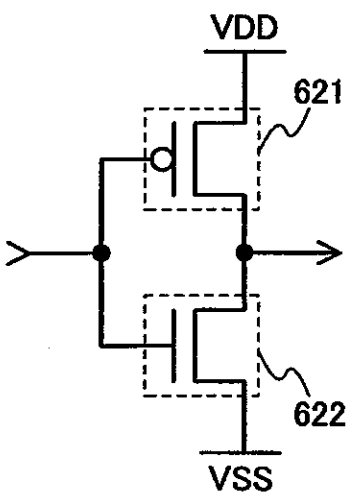


FIG. 8C

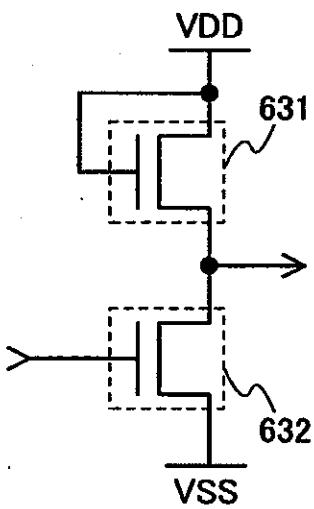


FIG. 9

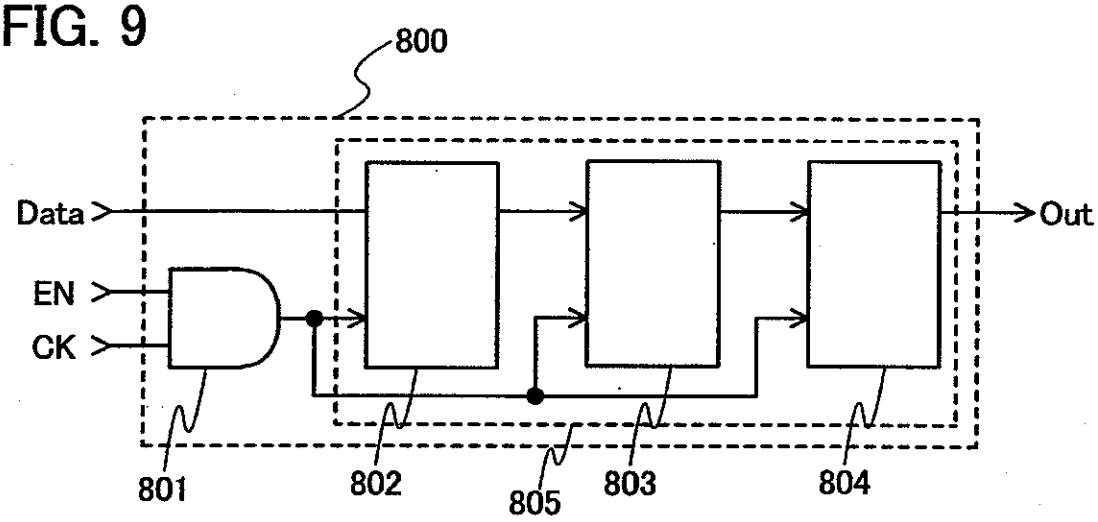


FIG. 10

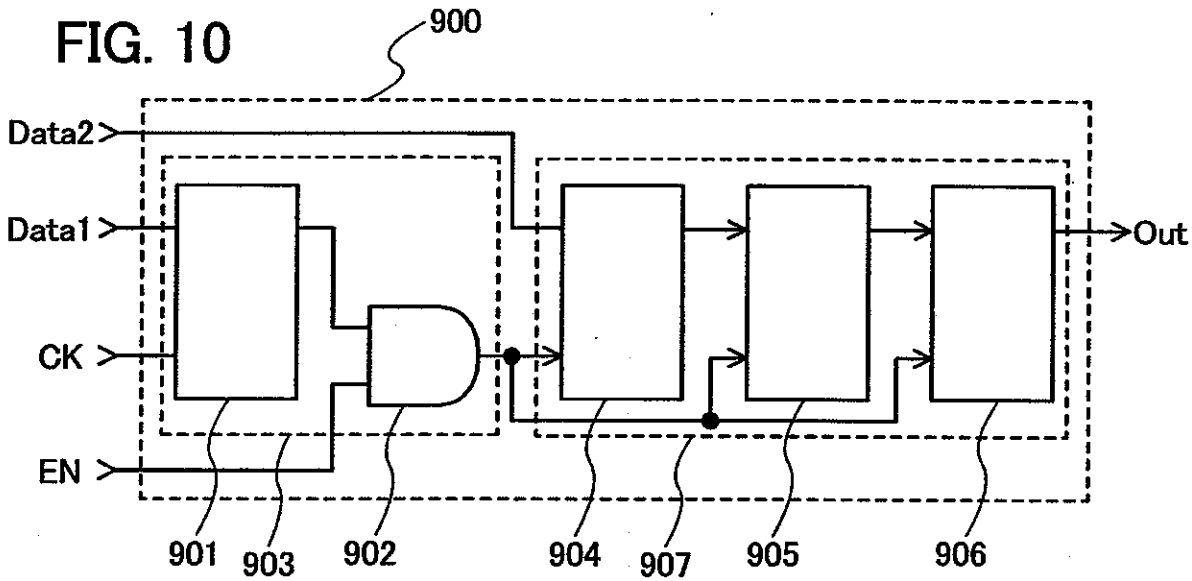


FIG. 11

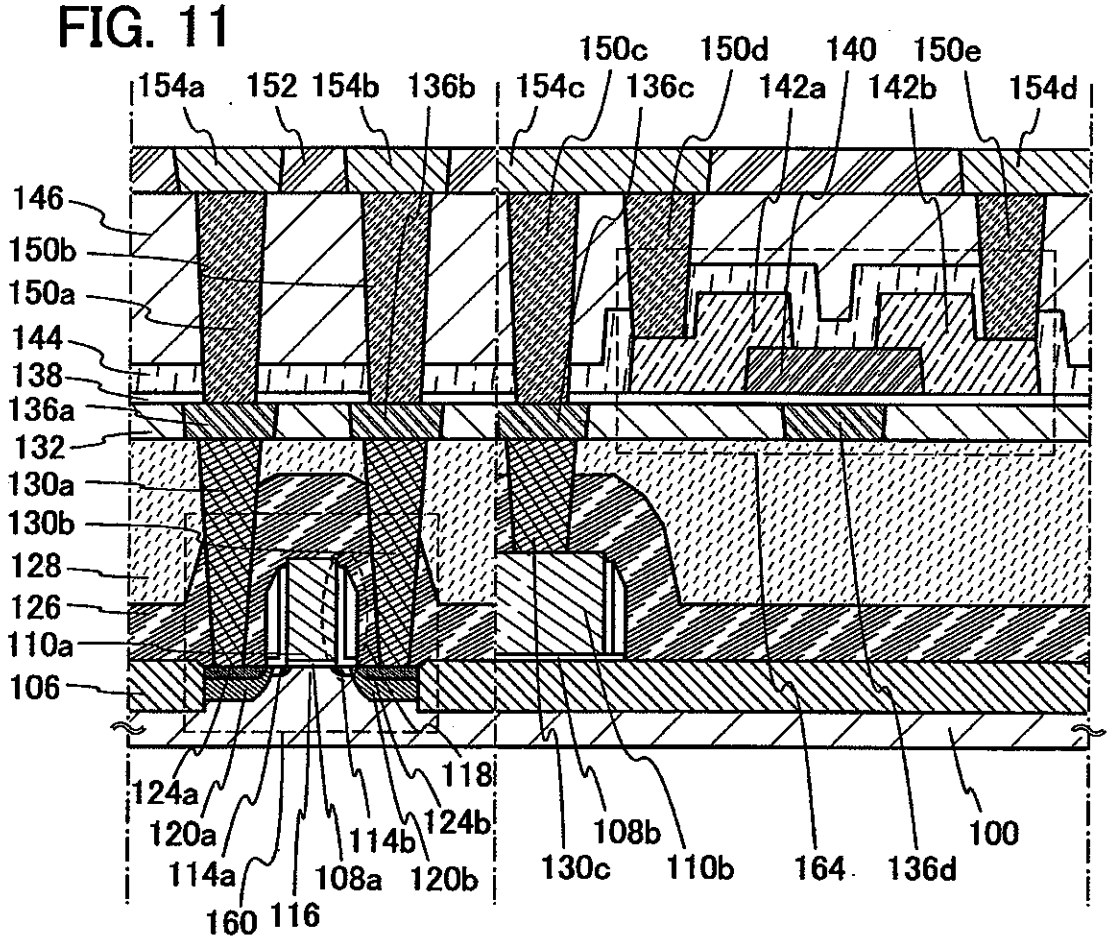

154a
152
154b
136b
154c
150c
136c
150d
142a
140
142b
150e
154d
146
150b
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138
136a
132
130a
130b
128
126
110a
106
118
124a
120a
114a
160
116
108a
114b
124b
120b
130c
108b
110b
164
136d
100

FIG. 12A

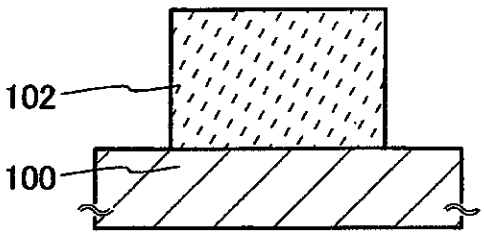


FIG. 12B

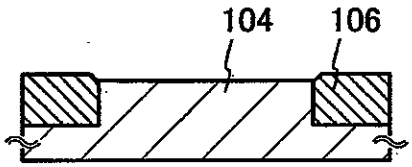


FIG. 12C

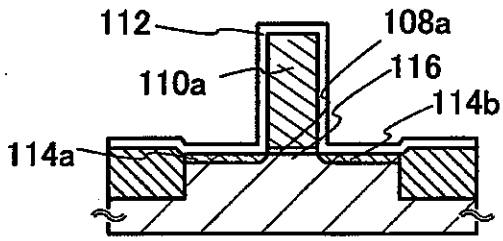


FIG. 12D

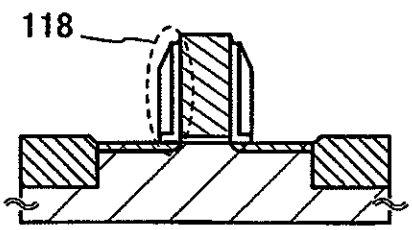


FIG. 12E

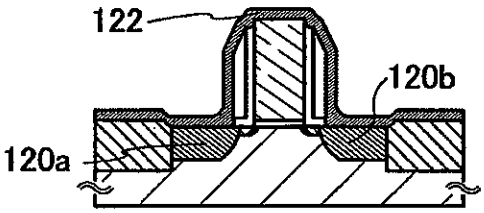


FIG. 12F

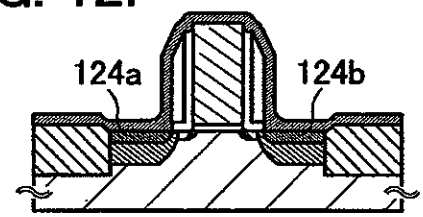


FIG. 12G

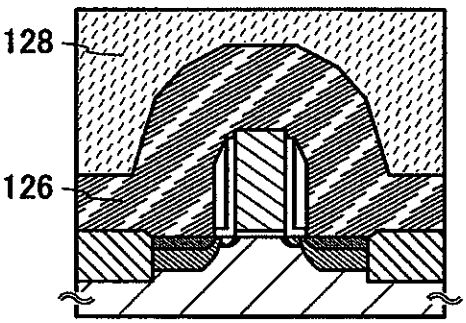


FIG. 12H

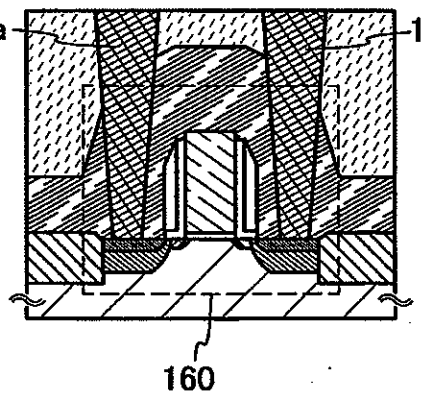


FIG. 13A

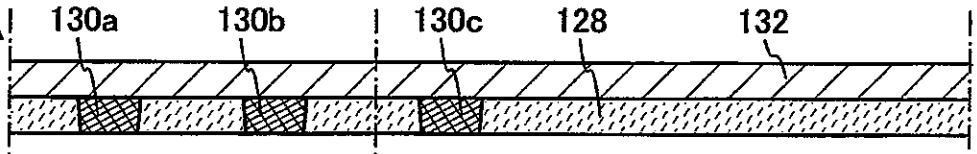


FIG. 13B

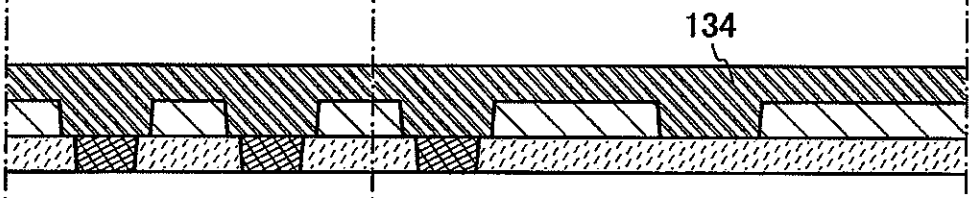


FIG. 13C

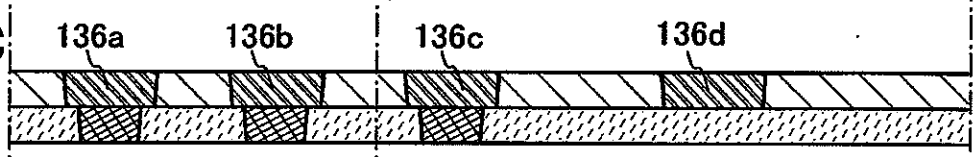


FIG. 13D

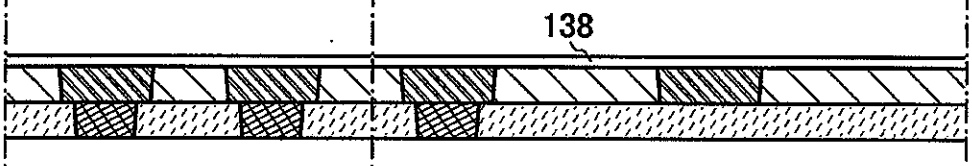


FIG. 13E

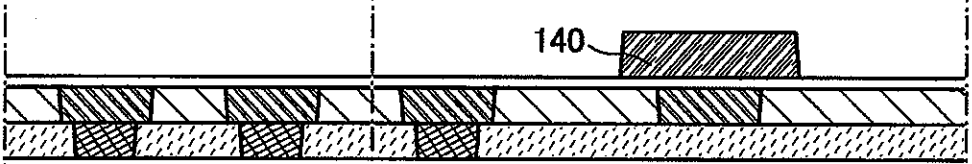


FIG. 13F

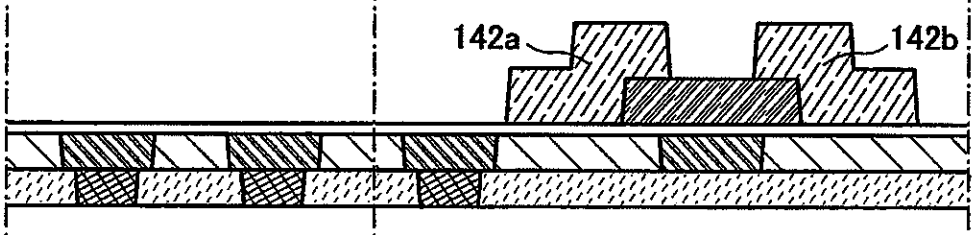


FIG. 13G

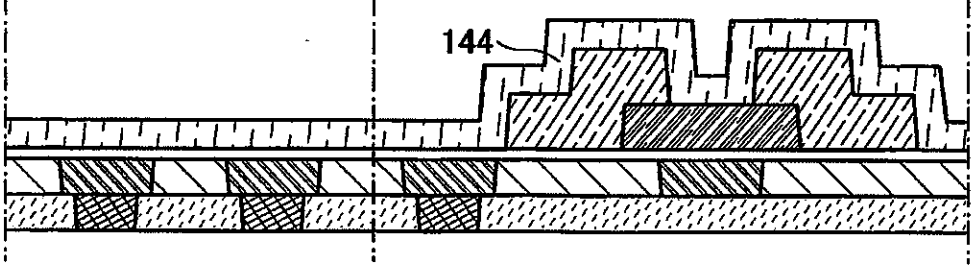


FIG. 14A

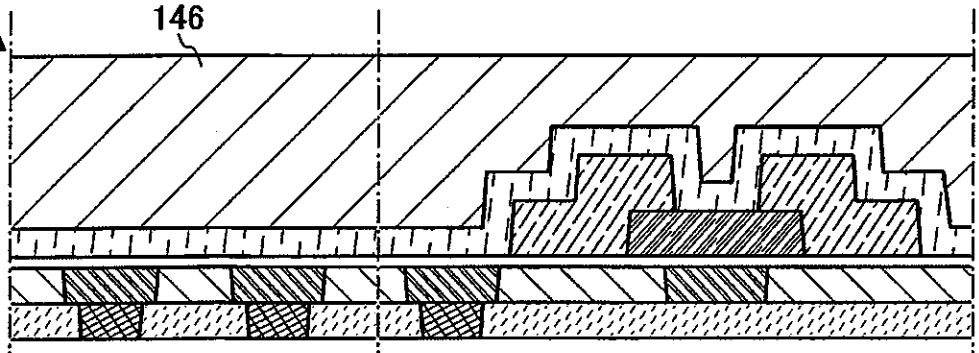


FIG. 14B

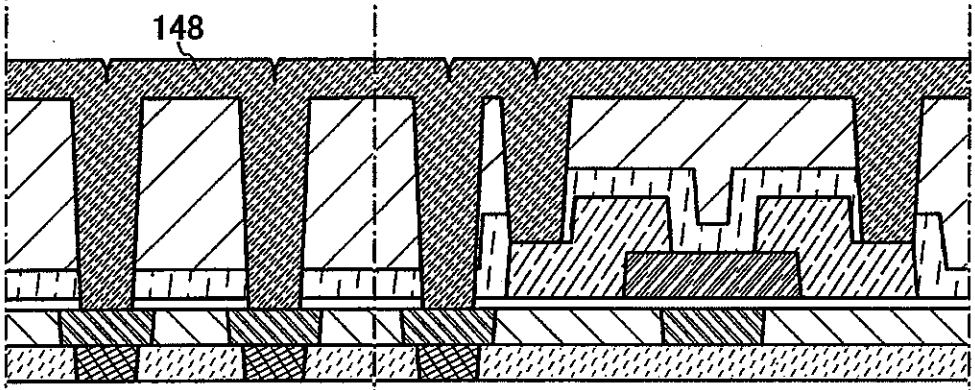


FIG. 14C

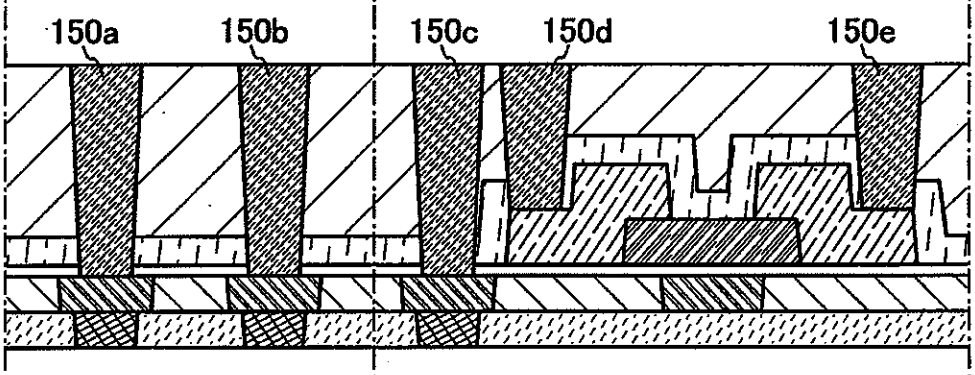


FIG. 14D

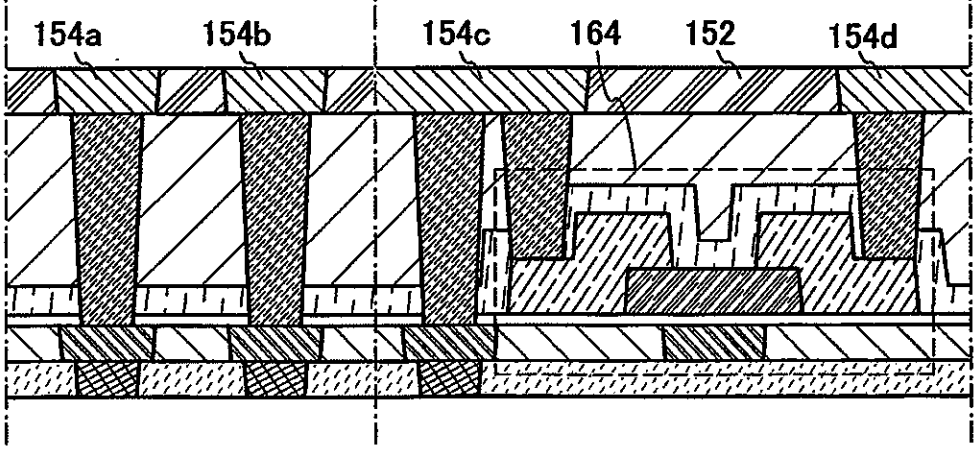


FIG. 15

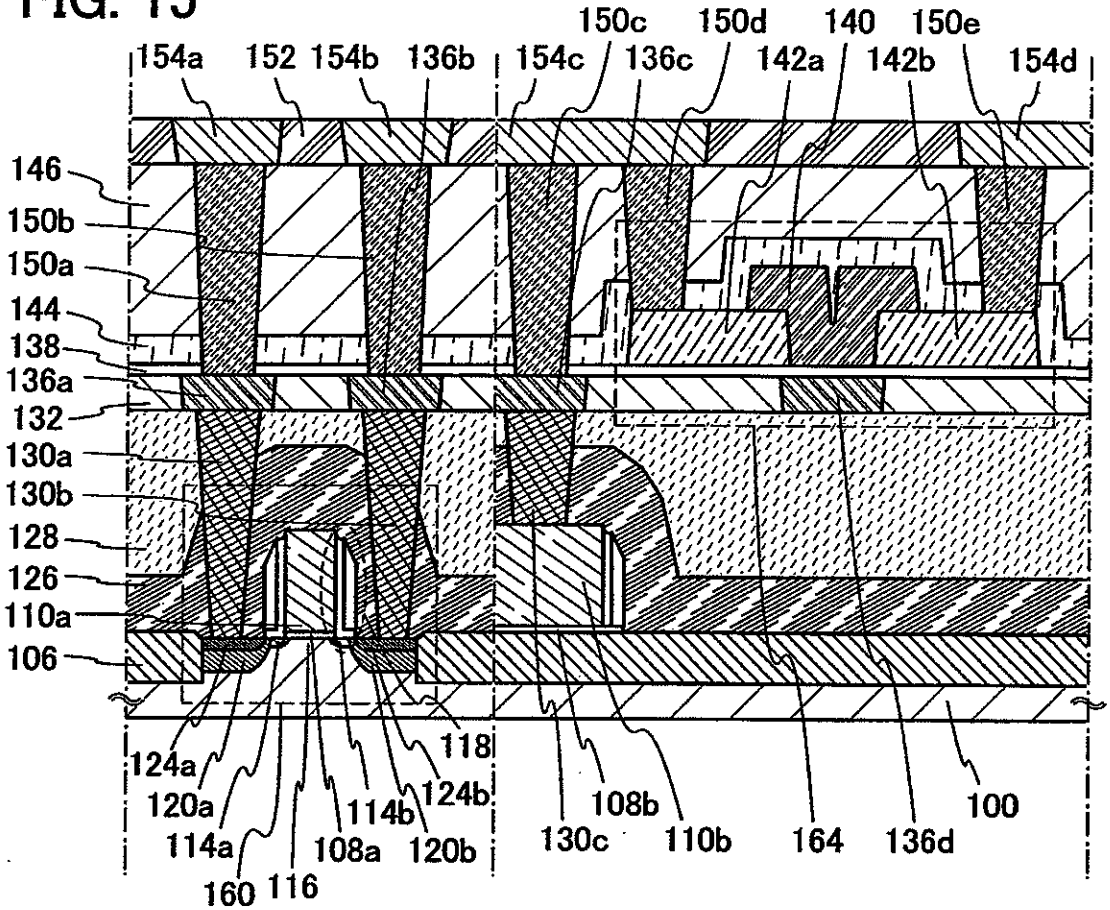

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136d
100

FIG. 16A

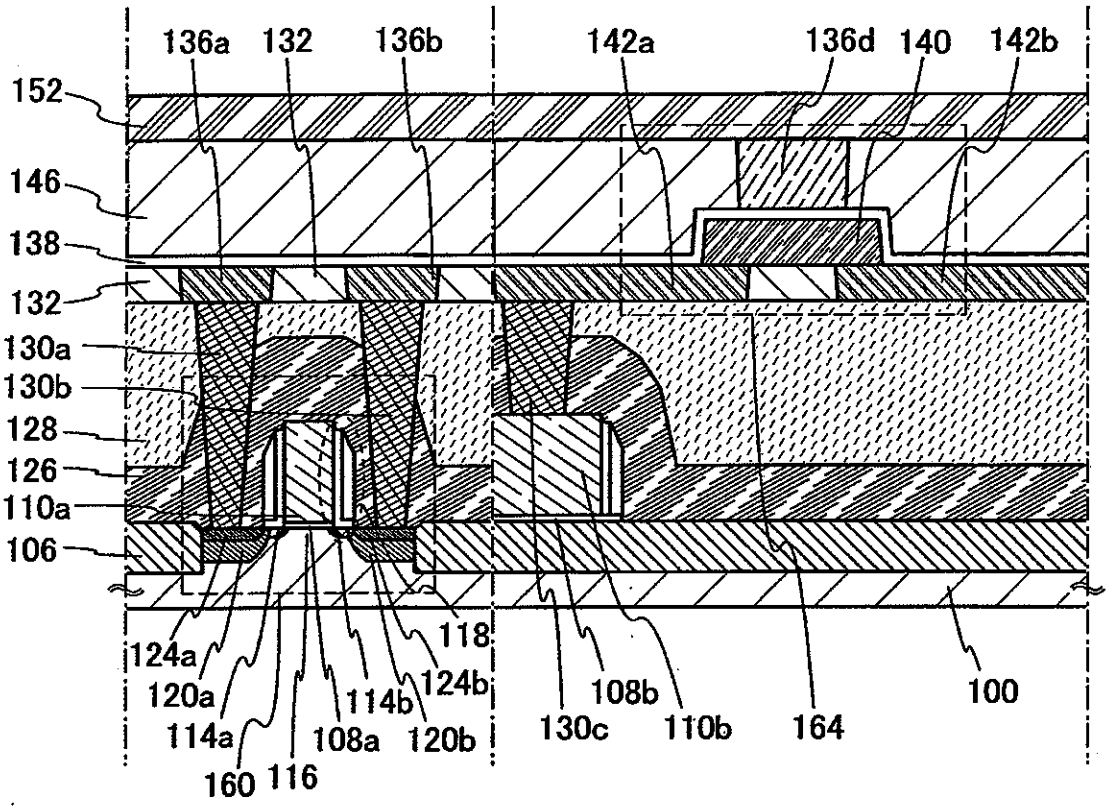


FIG. 16B

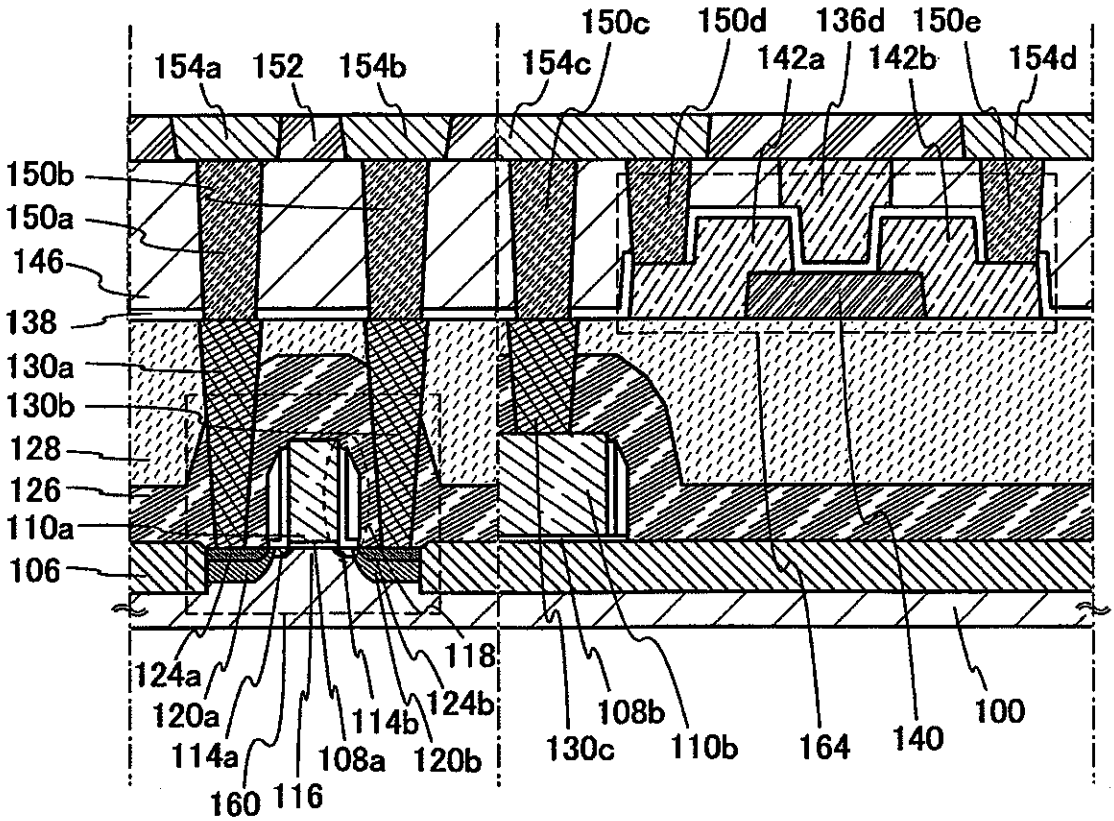


FIG. 17A

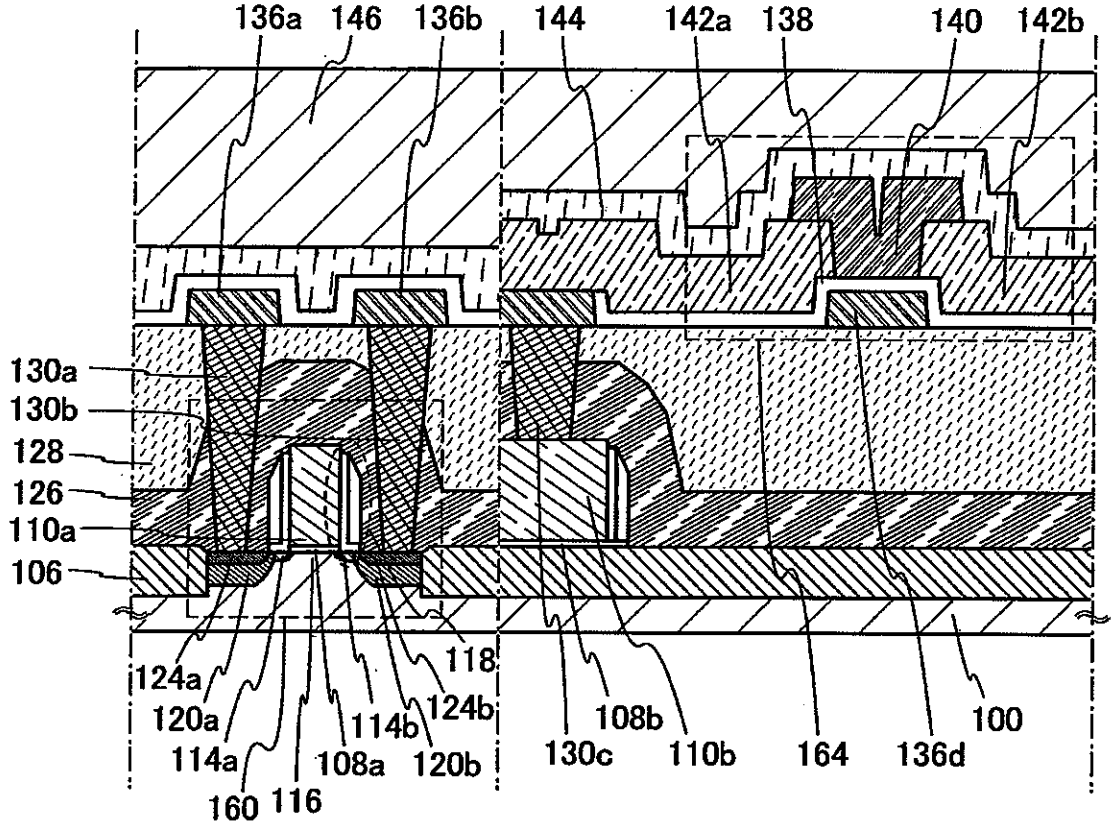


FIG. 17B

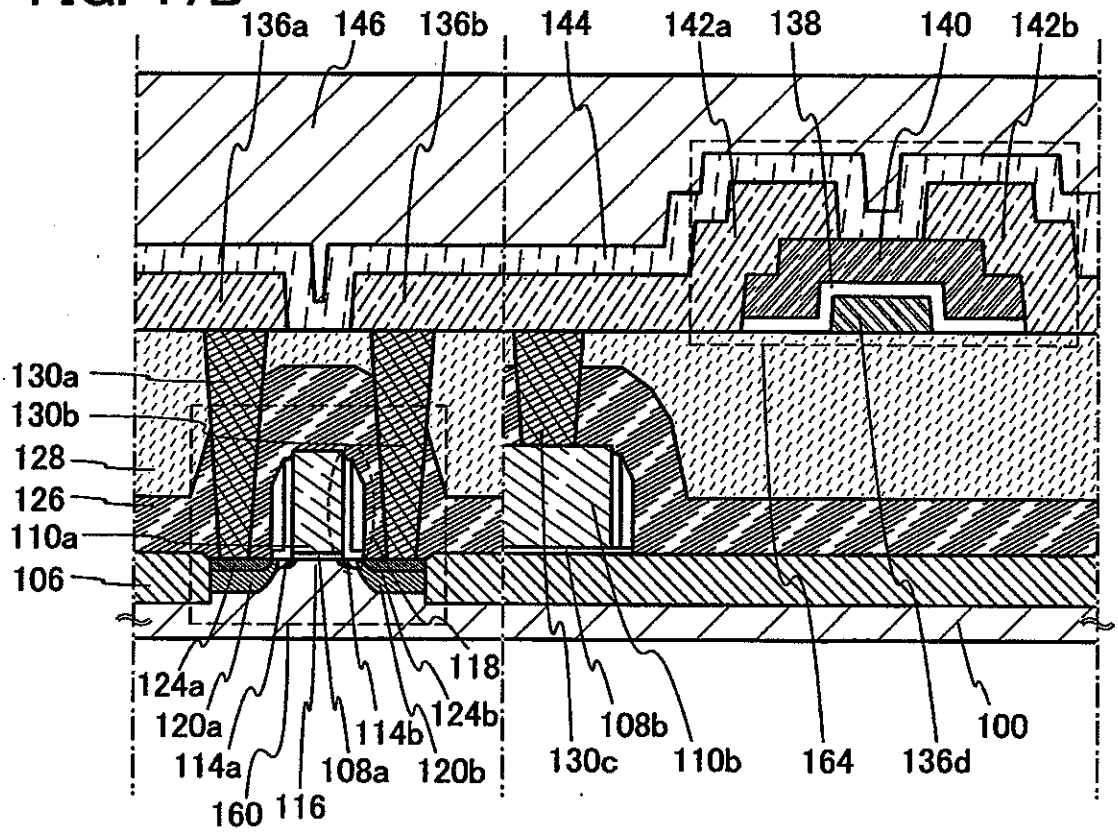


FIG. 18A

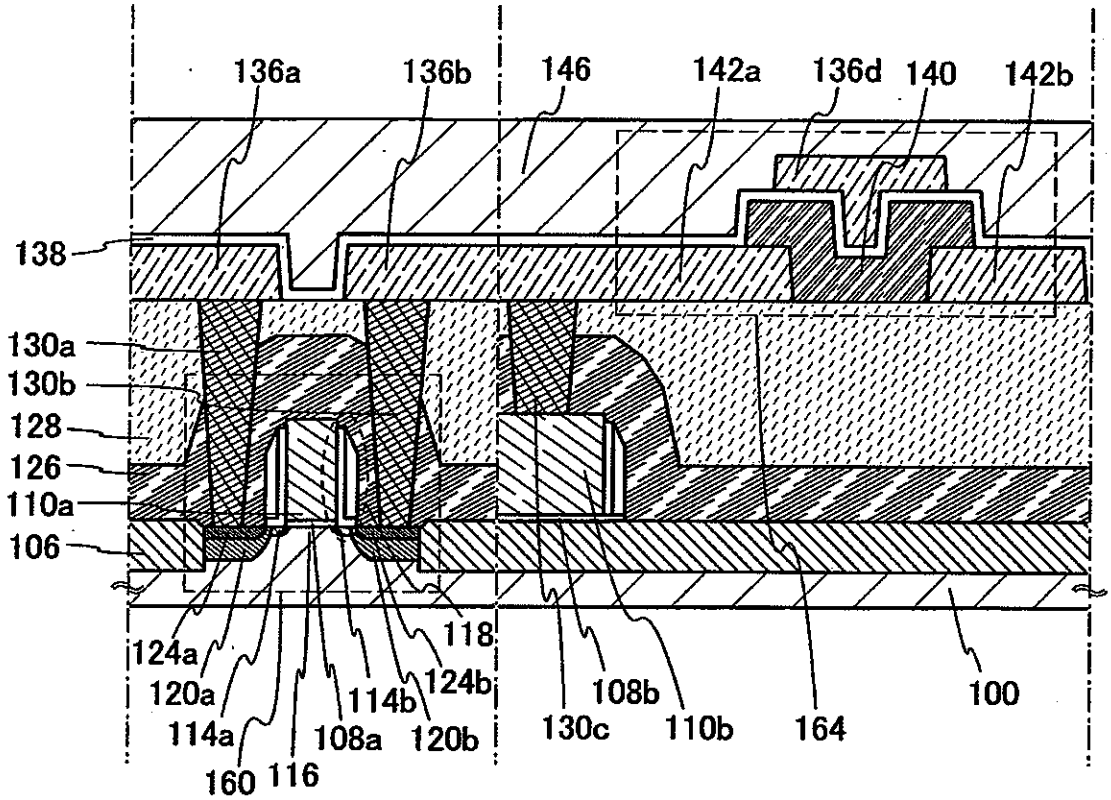


FIG. 18B

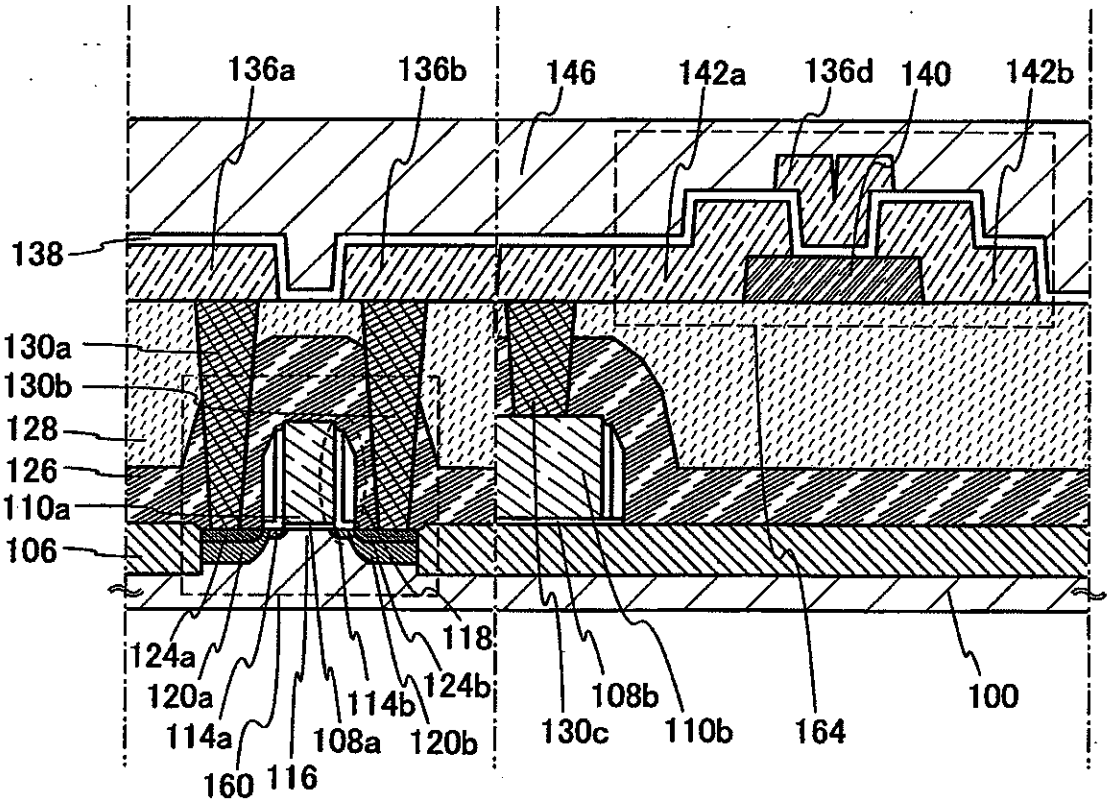


FIG. 19A

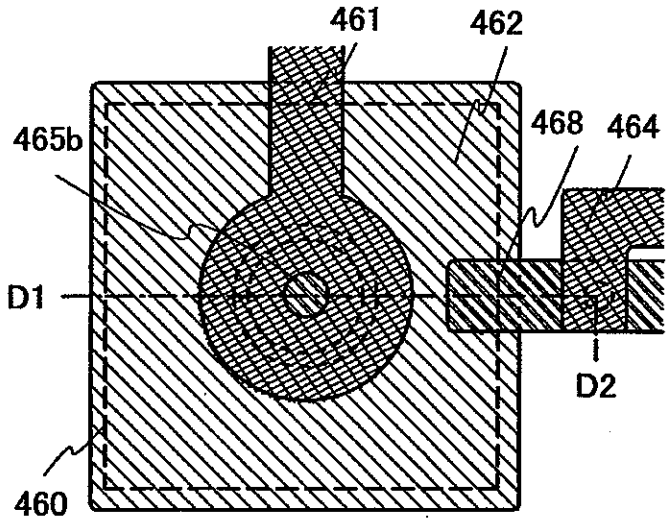


FIG. 19B

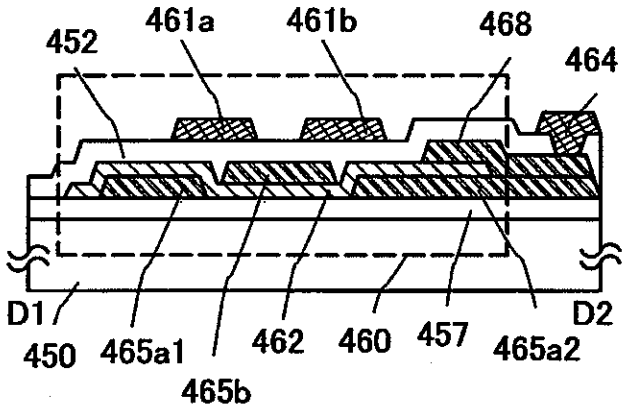


FIG. 20A

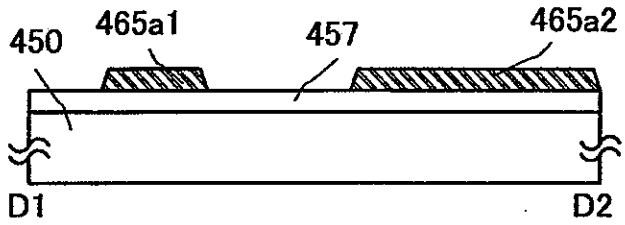


FIG. 20B

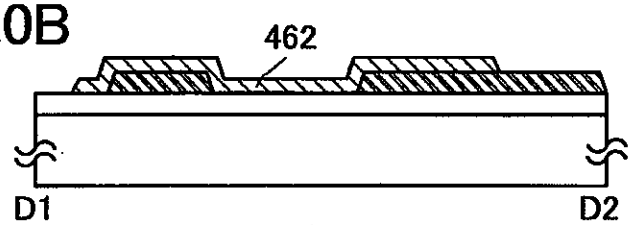


FIG. 20C

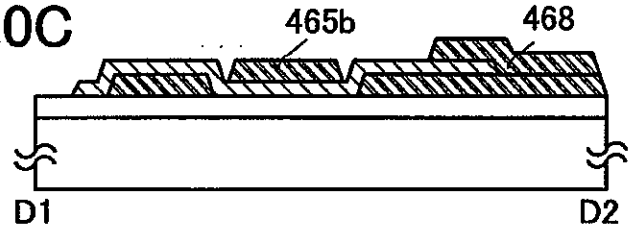


FIG. 20D

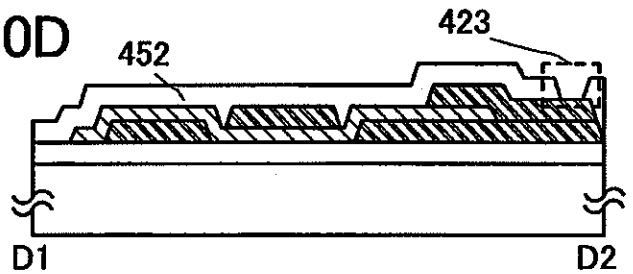


FIG. 20E

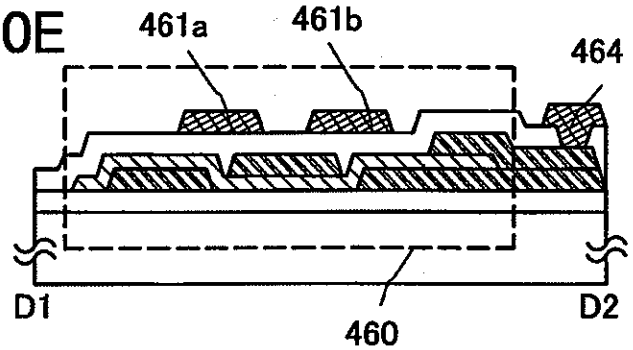


FIG. 21A

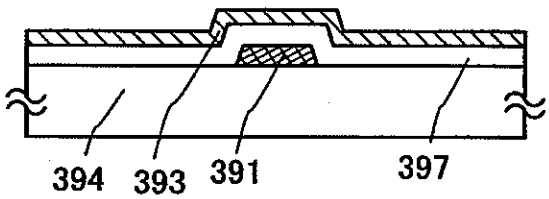


FIG. 21B

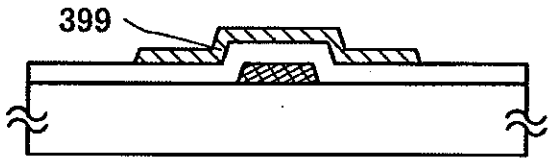


FIG. 21C

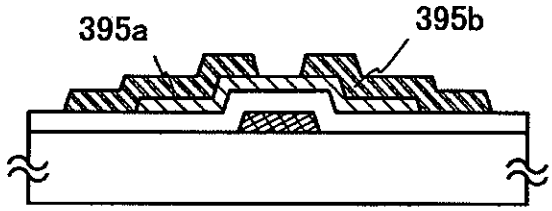


FIG. 21D

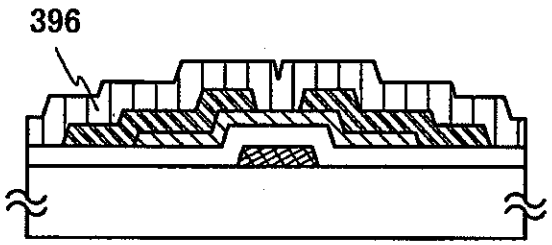


FIG. 21E

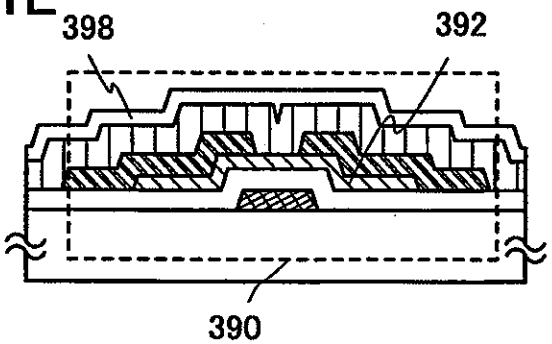


FIG. 22A

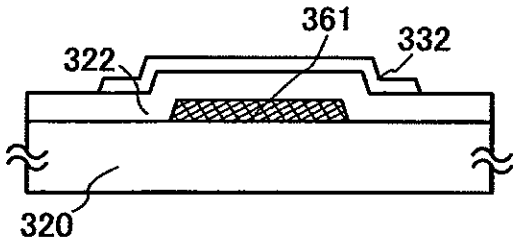


FIG. 22B

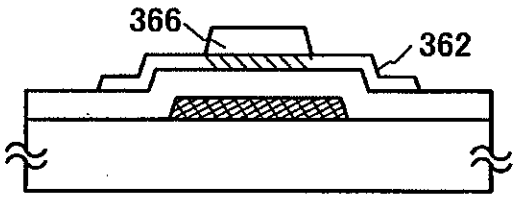


FIG. 22C

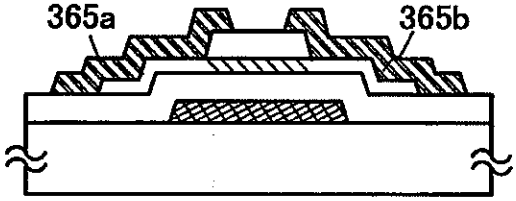


FIG. 22D

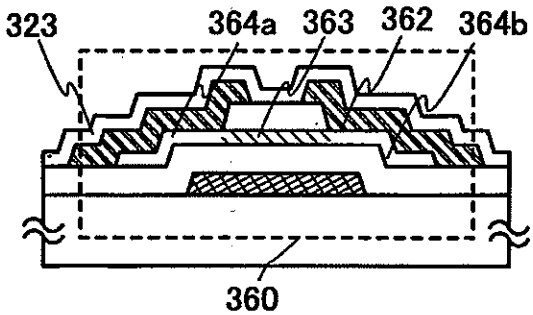


FIG. 23A

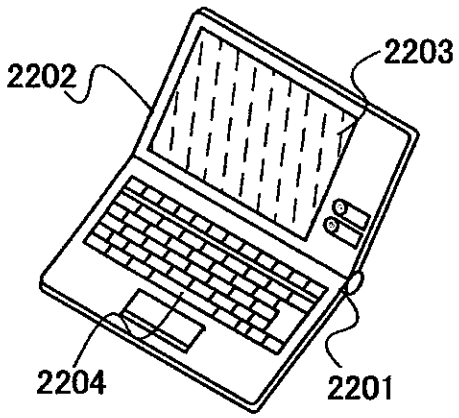


FIG. 23B

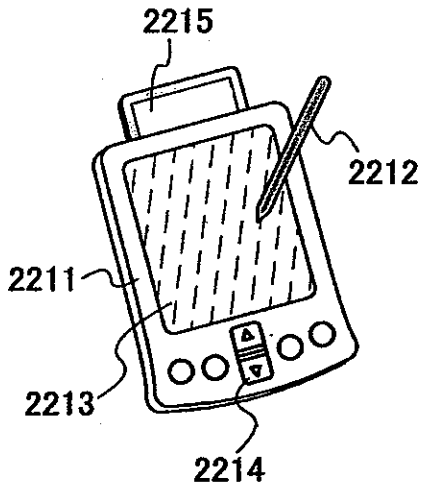


FIG. 23C

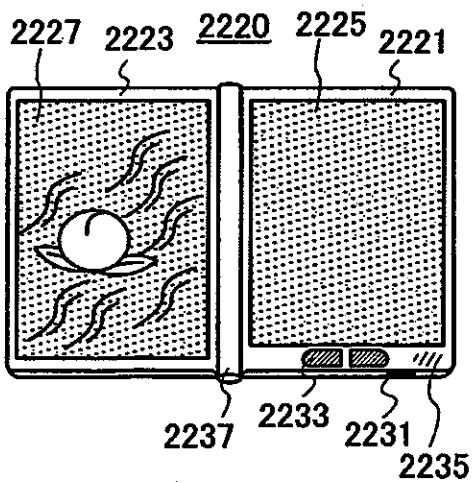


FIG. 23D

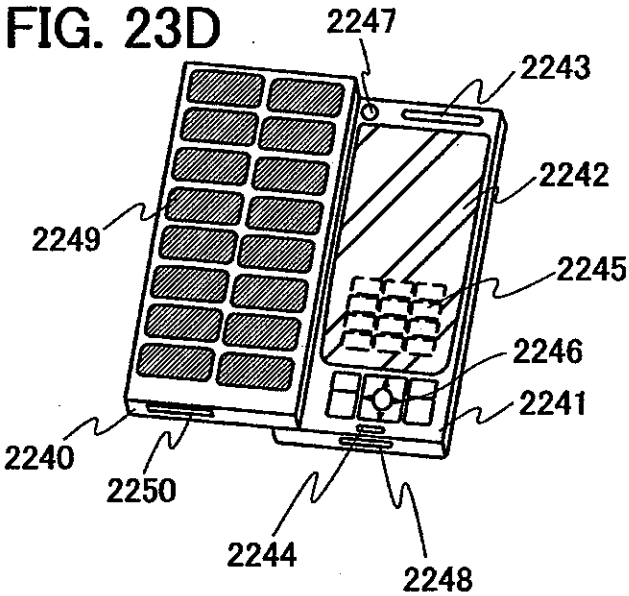


FIG. 23E

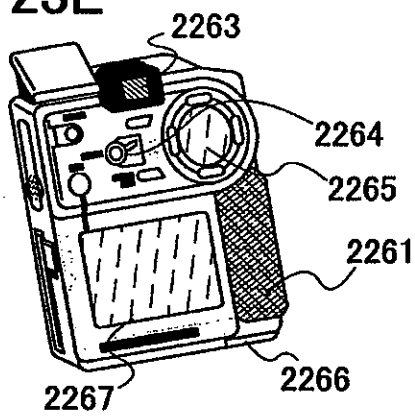


FIG. 23F

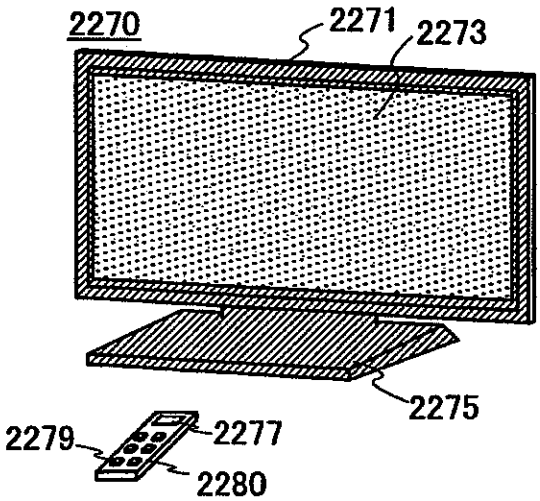


FIG. 24

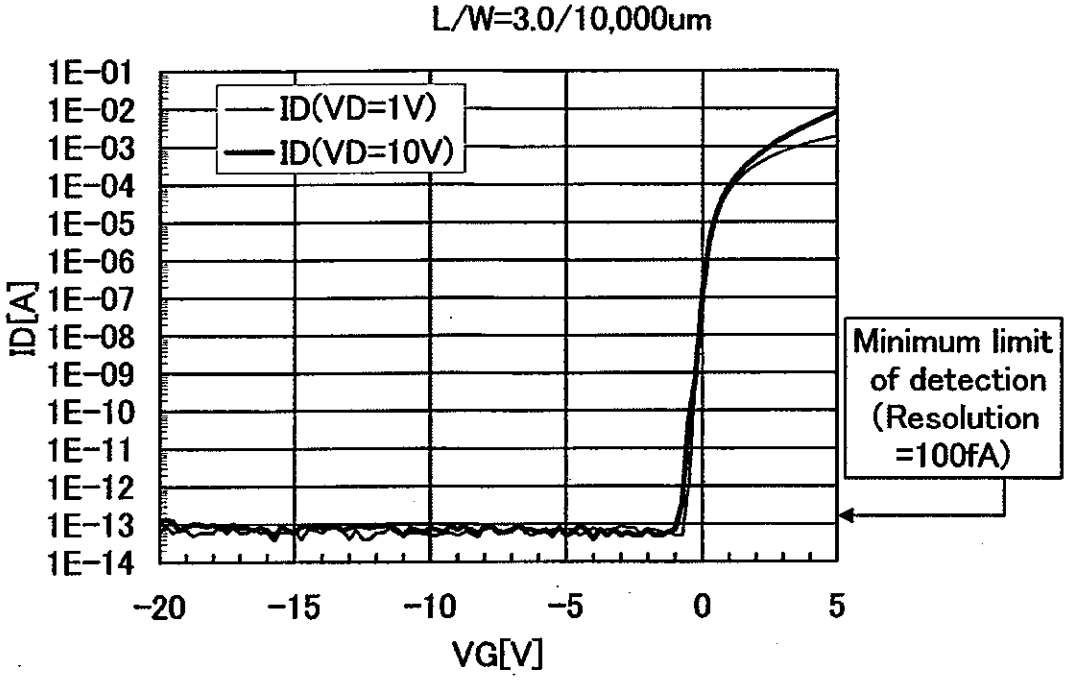

L/W=3.0/10,000um
ID(VD=1V)
ID(VD=10V)
1E-01
1E-02
1E-03
1E-04
1E-05
1E-06
1E-07
1E-08
1E-09
1E-10
1E-11
1E-12
1E-13
1E-14
ID[A]
-20
-15
-10
-5
0
5
VG[V]
Minimum limit of detection (Resolution =100fA)

FIG. 25A

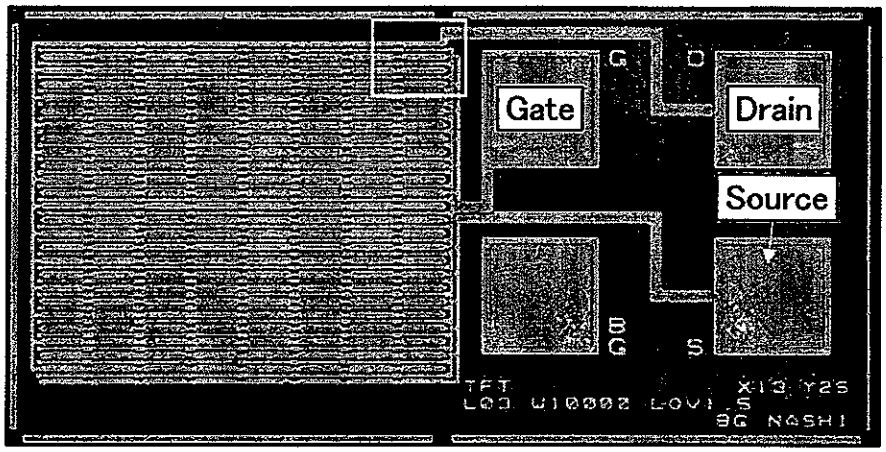


FIG. 25B

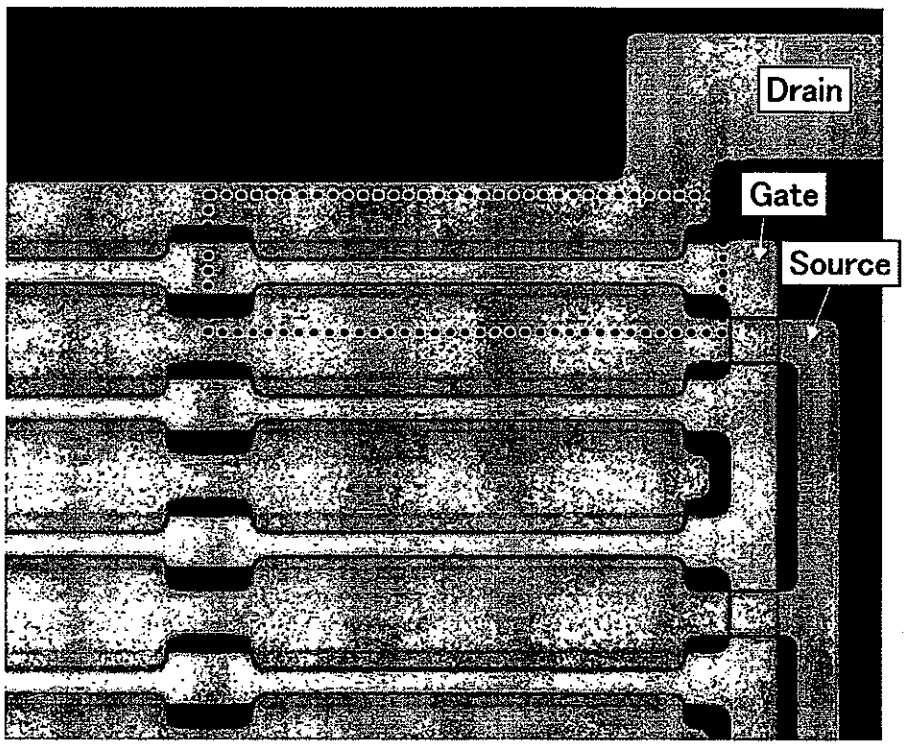


FIG. 26A

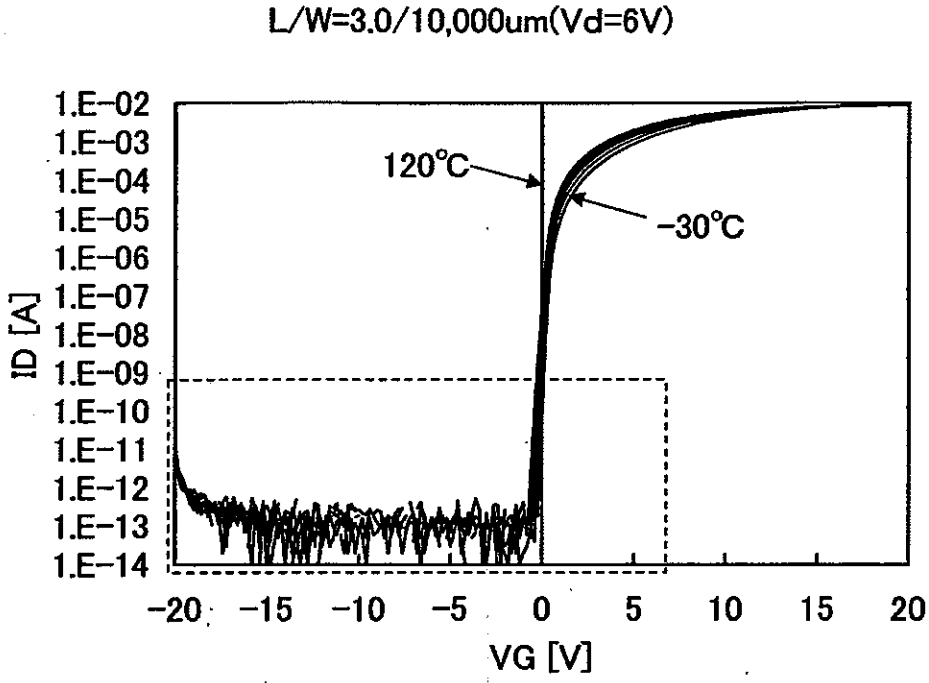


FIG. 26B

