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(12)

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10-2004-0022169
2004 03 11

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(22) 2003 09 04

(30) JP-P-2002-00259602 2002 09 05 (JP)

(71) 가 가
1 1 1

(72) 1 1 1 가 가

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(74)

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(54)

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, , , 2 , 1 2 ,

1

, , , , MOS

| | | | | | | |
|----|----|-----|---|-----|-----|---|
| 1 | | 1 | | MOS | | |
| 2 | 1 | A-a | | C | | |
| 3 | 1 | B-b | | C | | |
| 4a | 4i | | 1 | MOS | | C |
| 5a | 5c | | 1 | | MOS | C |
| 6a | 6h | | 1 | | MOS | C |
| 7a | 7c | | | MOS | | C |
| 8 | | 2 | | MOS | | |
| 9 | | 1 | 2 | MOS | | |
| 10 | | 1 | 2 | MOS | | |
| 11 | | 1 | 2 | MOS | | |
| 12 | | 가 | | | | |
| 13 | | 1 | 2 | MOS | | |
| 14 | | 1 | 2 | MOS | | |
| 15 | | MOS | | | C | |
| 16 | | MOS | | | | |
| 17 | 16 | C-c | | C | | |
| 18 | 16 | D-d | | C | | |

< >

1 :

2 :

8, 9, 10 :

11a, 11b, 11c, 11d :

15, 16 :

21 :

22 :

(crosstalk)

MOS (CMOS)

MOS 15

15 D , MOS C , T1 , T2 , MOS

T3 , T4 , MOS

C가 2

T1 Sm , T2 Sv가

Sr T3 Sh가 T4

(19) , T1, T2, T3, T

4

MOS 16 18

16 MOS 17 16 C-c C

, 18 16 D-d C

16 (1) C가 2

C (11b, 11c) Sr Sh Sm (11d)

C Sv (11a)

C , 17 18 (1) (2)

(4) N (3) D N (4) N

(4) P + NP , P + (5) D가 (6a) (4) N (3)

(7)가 , T1

() T1 P (1) N , N , N

N (가 T1 P (1) T2 N

T3 , T1

(11a) C 2 (16) Sv D

2 (16) ,가 C D

2 D (16) 가 1 (15)

(15, 16)

C 2 3 (3) (5) D N P (1) N (2)

(4) P + NP , P + D가 (6) N (3)

(7)가 T1 (4) N (3)

T1 N P (1) N N , N , N

가 T1 P (1) T2 N T3

T4가 N 가 N , N

(10) 2 3 (10) (12) (12) 3 (10) D

Sr, Sm, (8) Sv Sv (8), 2 (9), 3 (9)

(11b, 11c, 11d)

(10) 1 P (15) 2 (16) , 1 (8), 2 (9) 3

(1) (1) (2) (12) (12)

1 (22) , 2 (15) (9) 2 (16) 1 (8) (21)

(23b) (24b) (23a) (24a) , 3 (10)

(22), (24a, 24b) (30)

4i MOS 4a 4i 4a

4a , P (1) T1 T4

(21) (20)

(8) P (1) 1 (8) , 1
 (35) (21) , ,

, 4b (30) (30) 1 (8) Ti/TiN
 (30) 1 (8) (22)

) (30) (23) 1 (8) (30) ,
 (30) (23) (23)

, 4c (11a) (23) (30) RIE
 (22) (23a)

, 4d (9) (11a) (23a) 1 (8) 2
 (23a) (11a) 2 (9) ()
 35) ()

, 4e (30) 2 (9) (30)
 (30) 2 (9) (24a)

(30) (24a) 2 (9) (30)
 (23) (23) (30)

, 4f (11b, 11c, 11d)() (23) (30) RIE
 (23b)

2 , 4g (9) 3 (10) (11b, 11c, 11d)() (23b)
 3 (10) PEP (11b, 11c, 11d)()
 (20) (23b)

, 4h (30) 3 (10) (30)
 (30) 3 (10) (24b)
 (30) (24b) 3 (10) (30) (30)

, 4i (12) (13) (23) (30) PEP RIE

, 2 (14) , MOS

1 (15) 2 (16) C C 1 C
 (13) D (6a) C 가 (1) , C
 (12) (11a, 11b, 11c, 11d) (13) C
 D (6b)
 MOS D

, 1 2 (15, 16) (20), (21),

(22), (23a, 23b), (24a, 24b), 가
MOS .

(1)

1 (11a), (23a, 23b) (12)
(30) 가 D

가 5a (23
(30) 4c (30) (11a) (11a)

a) 1 (8) RIE 1 (8) (30) (11a)

(23a) 가 (30)

가 4f (23b) 5b 2 (9) (30) (11b, 11c, 11d)(
(11b, 11c, 11d) (23b) RIE (30) 2 (9)

(30) 가 .

가 4i (12) 3 (10)
(30) RIE (30) 가 (12)

(2)

MOS 6a 6h 6a
6h MOS .

6a , P (1) T1 T4 ,
(21)

P (1) 1 (8) 1
(8) (35) (21)

6b (30) 1 (8) Ti/TiN
(30) 1 (8)

(22)

2 (9) (22) 1 (8) 2 (9)
(30) (22) 2 (3)

(9) (11a) 2
(23a)

3 6c (11a) (23a) 2 (9)
(10) (11a) 3 (10) ()
35) (23a) ()

6d , 3 (10) (35)

6e (10) (30) (30) 3 (11b, 11d)() (23b)

6f (26) (11b, 11c, 11d)() (23b) (11b, 11c, 11d)() (23b)

6g (12) (35) 4 (26)

6h (30) (30) (12) 4 (26) (26)

(12) (12) (12)

(14) MOS

(3)

(12) (30) (11a) (23a, 23b)

D 가

(30) 가 7a (23)

a) (11a) 2 (9) (23a) 6b (30) RIE (11a) (30) 가 (23)

가 6e 7b (30) (23b) (23b)

3 (10) 3 (10) (30) RIE 가

가 6h 7c (30) RIE (12) (12)

4 (26) 4 (26) (30) 가

(2)

8 2 MOS 2

1 1

2 가 1 (24a, 24b) 1 3 (21), (22), (23) a, 23b), 8 (40) 2 (15) 2 (41) (16)

41a)가 (40a, 41a) (21), (22), (23a, 23b), (24a, 24b) (40a, 41a)

1

MOS (20) (21), (22), 가 (23a), (24a),

(23b) , (24b) ,
 .
 2 , 1 가 , C
 C , 1 (40) 2 (41) C
 (1) C , C (13) D (6a) 가
 , D (12) (11a, 11b, 11c, 11d)
 , (6b) D .
 , .
 (16, 41) 9 , 1 2 , 1 (15, 40) 2
 (21) , (22)
 , 10 , (21) , (23a, 23b) (24a, 24b)
) , (6a) C D
 , (15, 16, 40, 41) (13) 가 C
 D가 .
 , 11 (23a) , (23a, 23b) 가 , C (13)
 D가 (23b)
 , 12 , 가 , (11a) (23a)
 .
 , 13 14 (11a, 11b, 11c, 11d) (21), (22),
 (23a, 23b) (24a) .
 , 1 2
 , MOS
 ,

(57)

1.

1
 2

1 2 , .

1 2. ,

1 2 가 .

2 3. ,

1 2 , .

3 4. ,

1 2 , .

2 5. ,

1 2 , .

1 6. ,

1 2 .

6 7. ,

1 2 , .

6 8. ,

1 2 , .

1 9. ,

1 2 , , , , .

1 10. ,

1 2 .

11.

1 ,

1 2

, , , , .

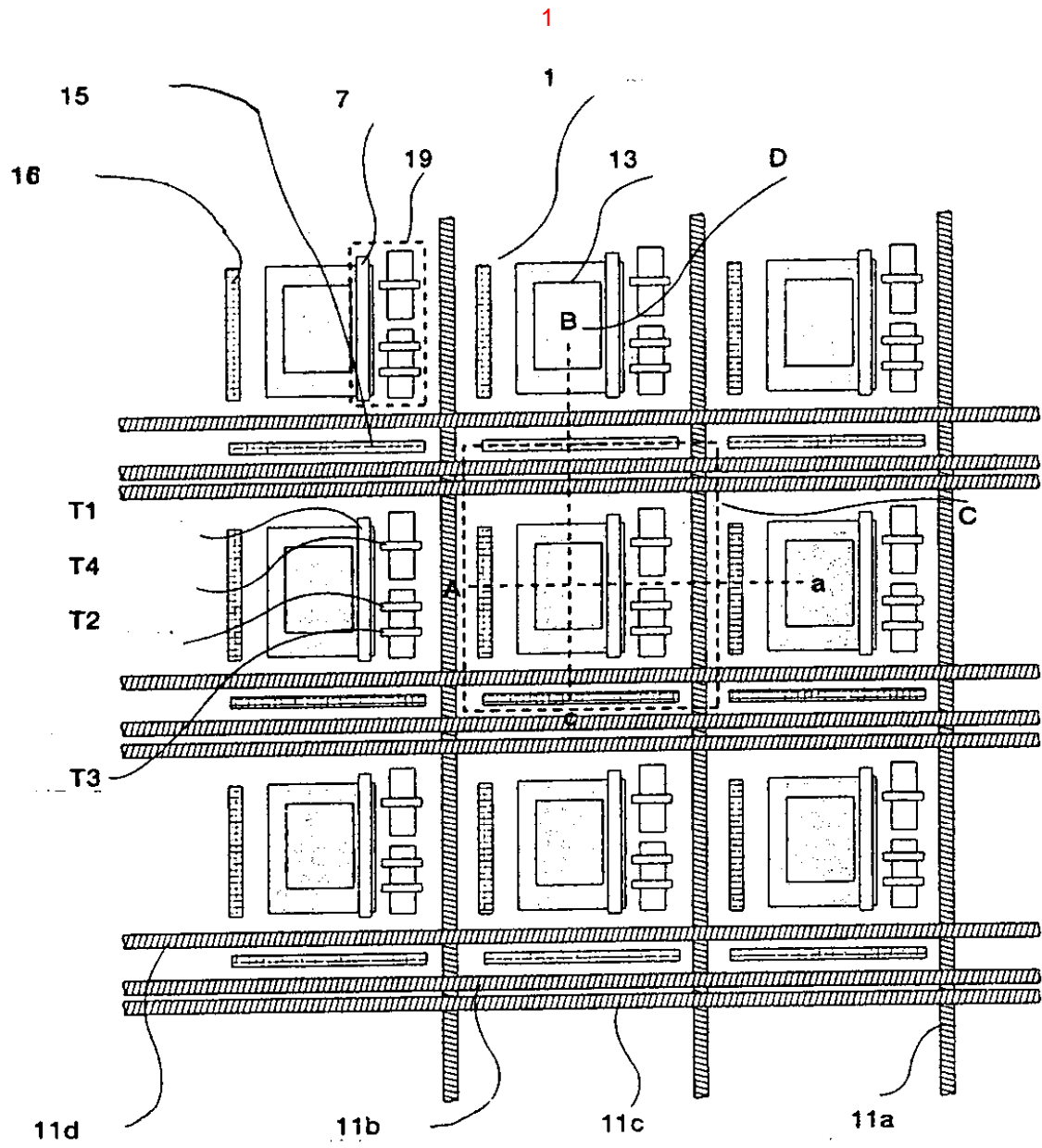
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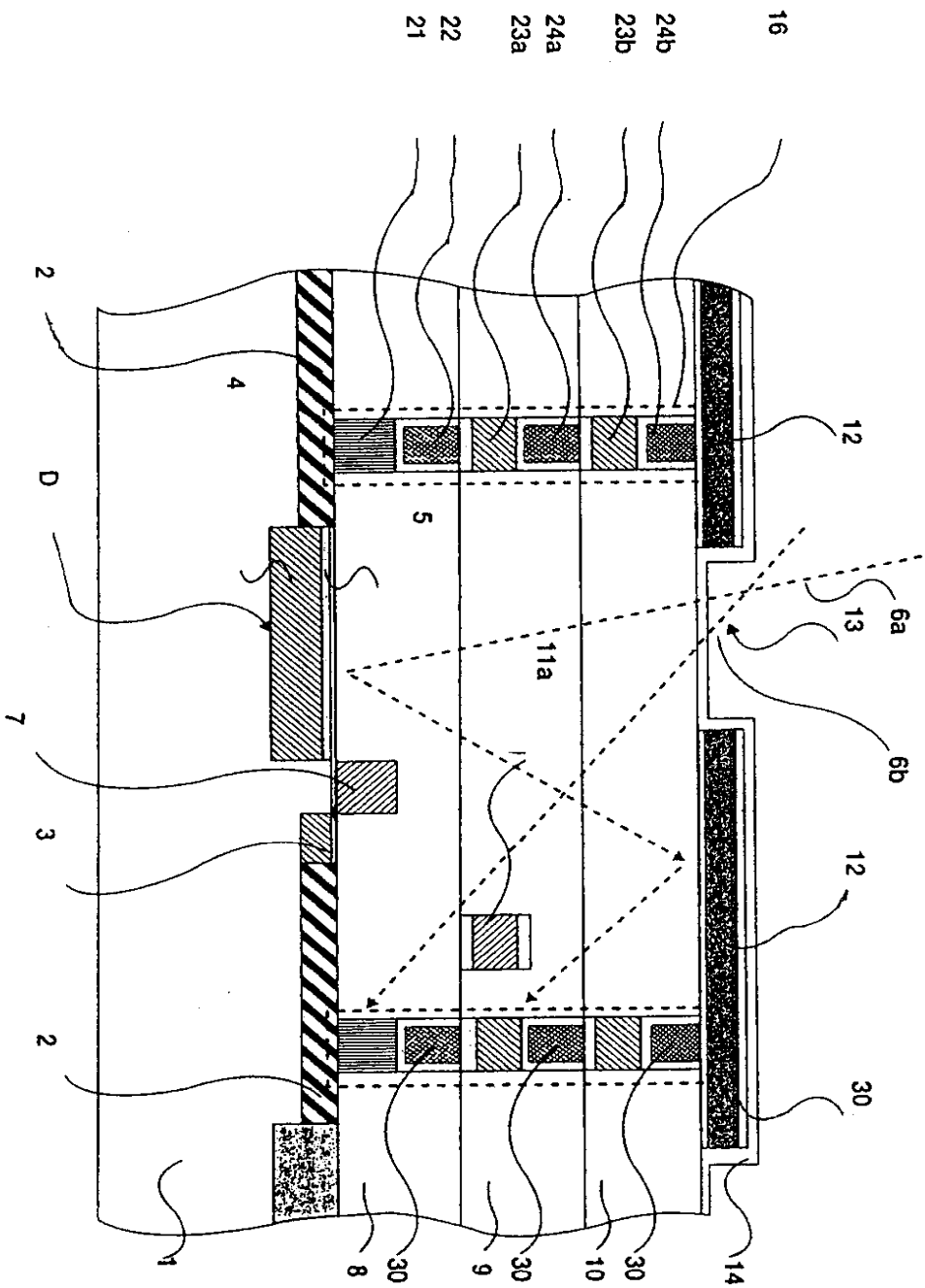
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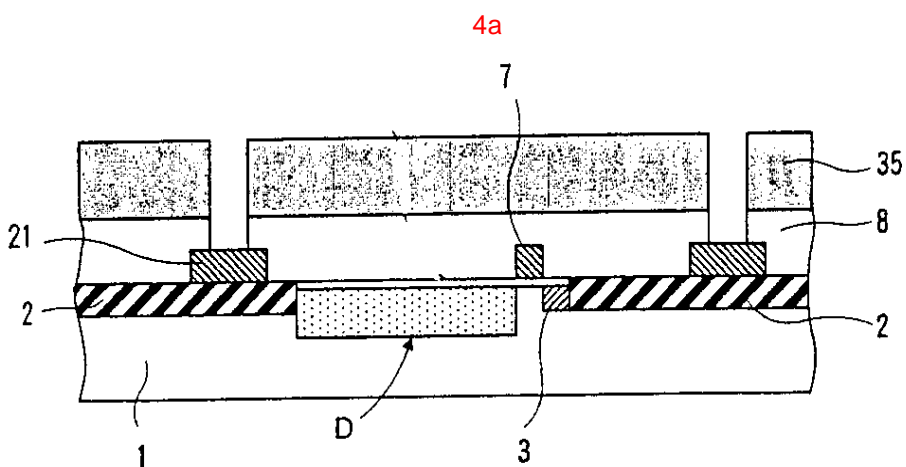
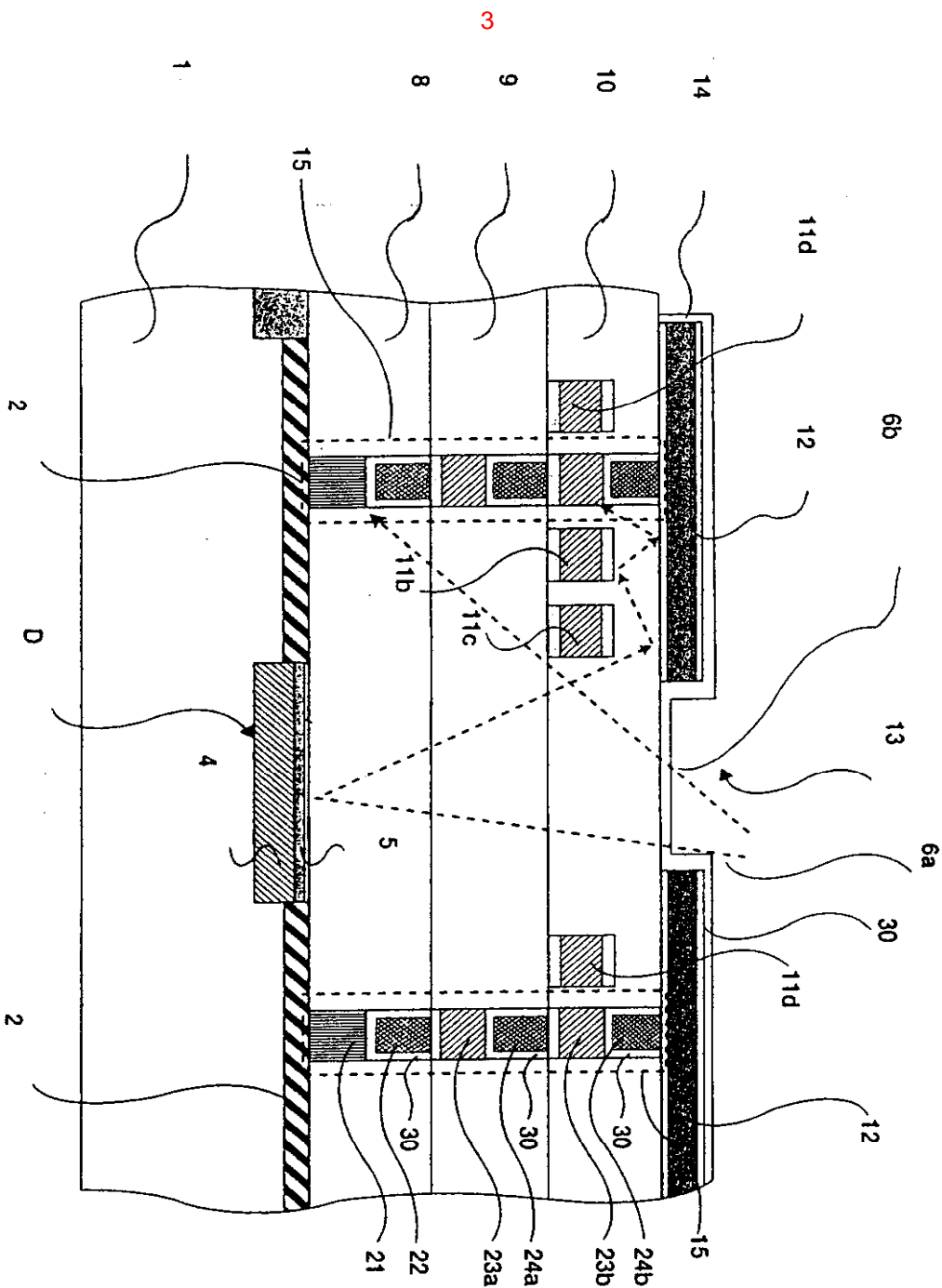
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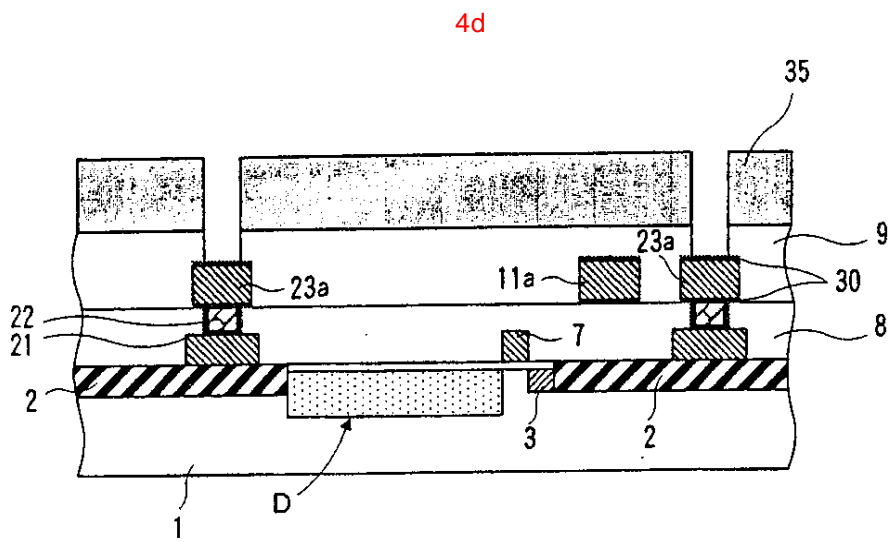
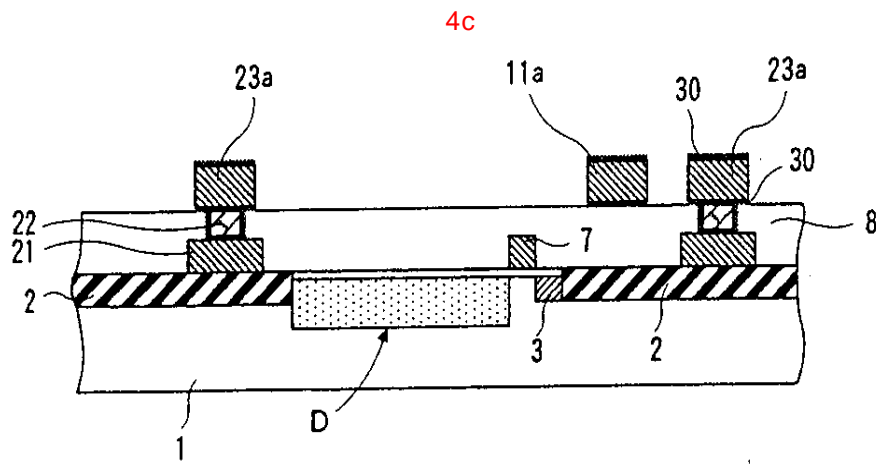
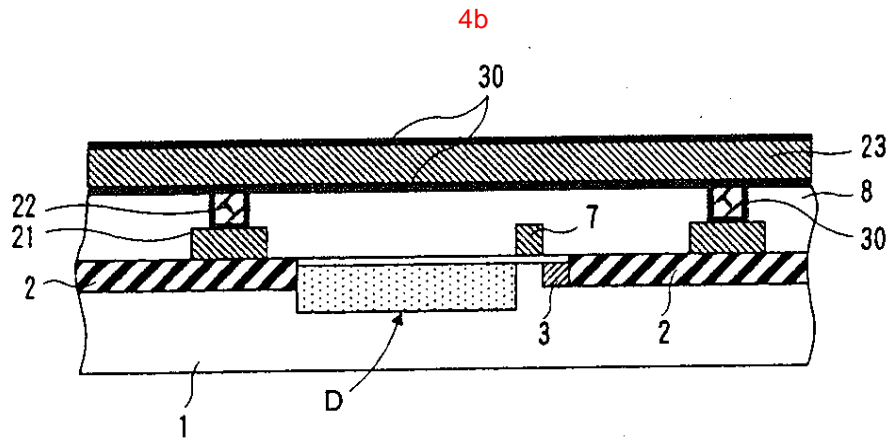


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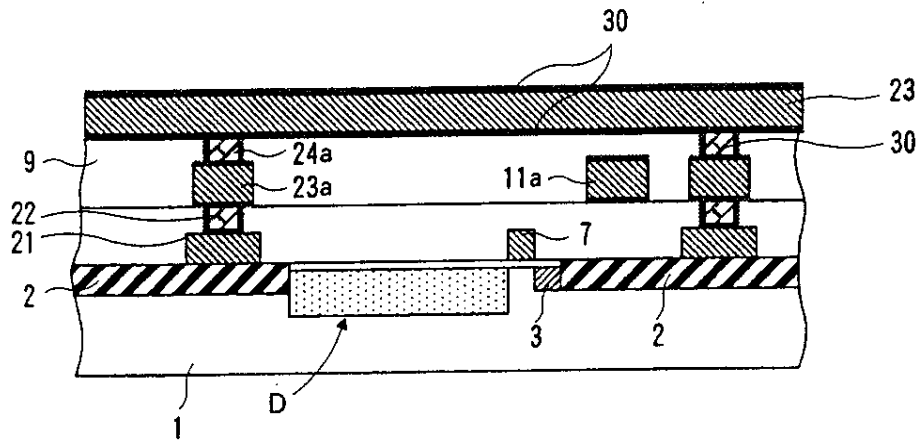


- 24b
- 23b
- 24a
- 23a
- 22
- 21

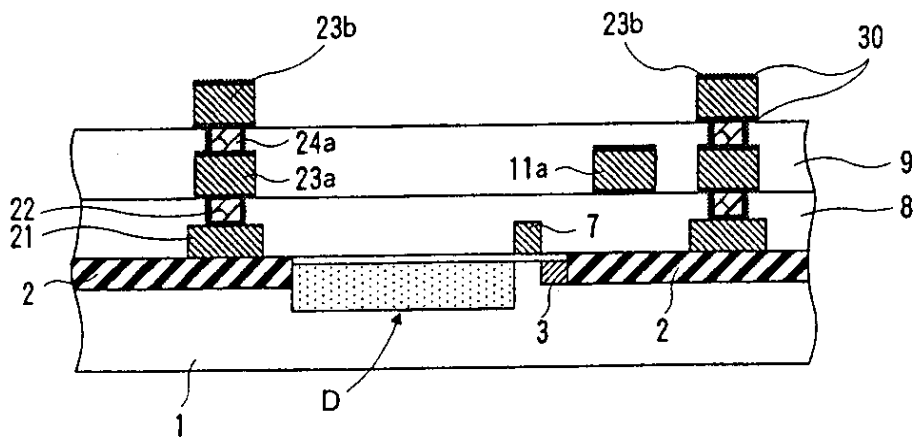




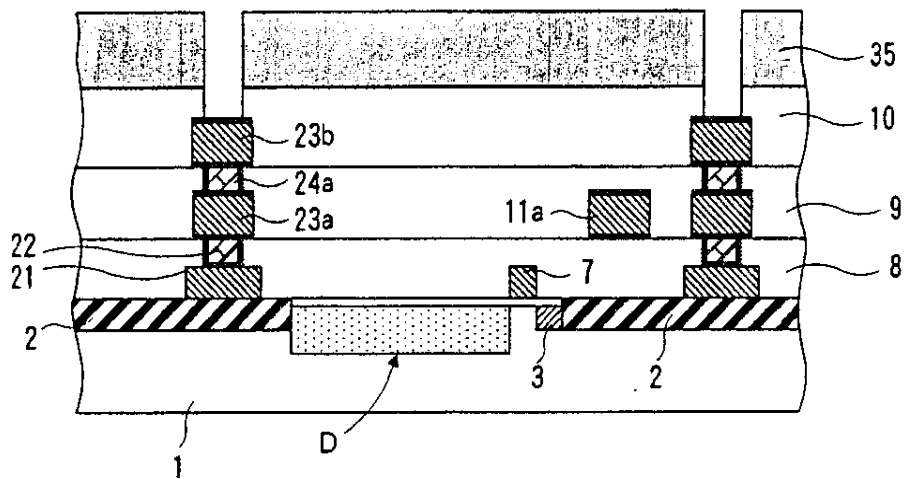
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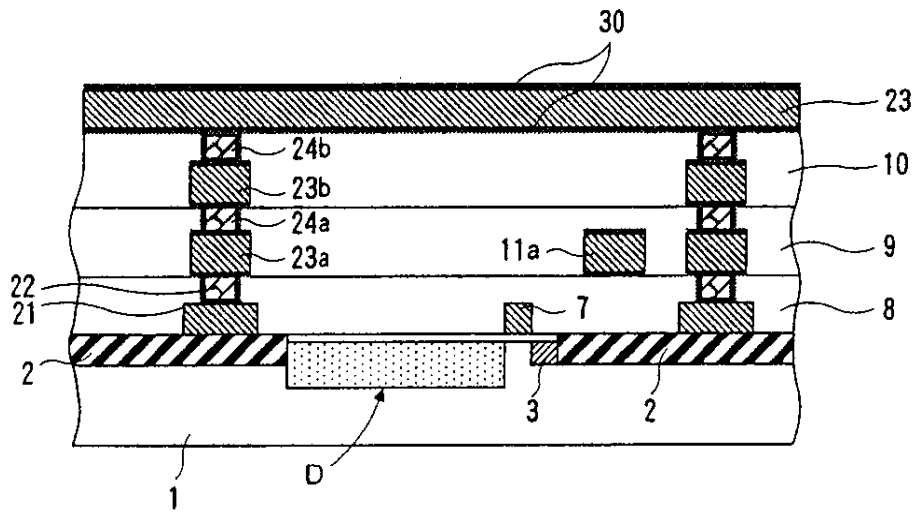
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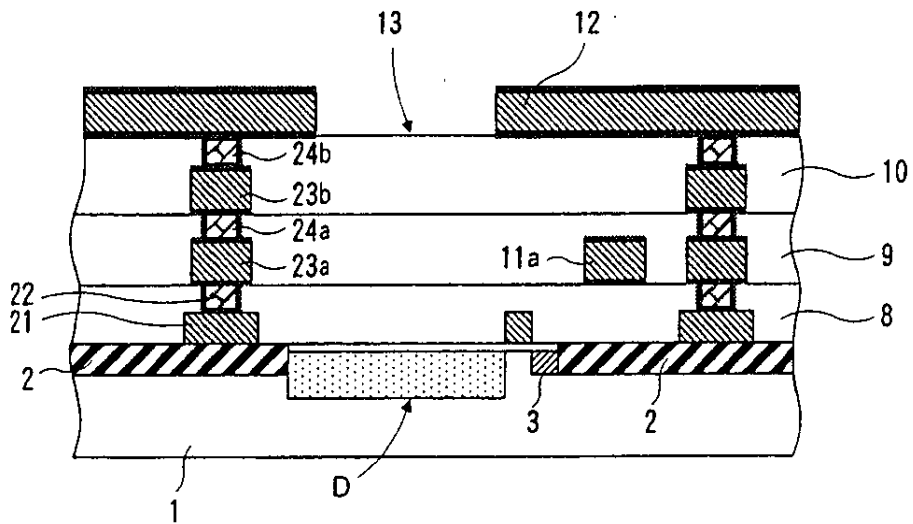
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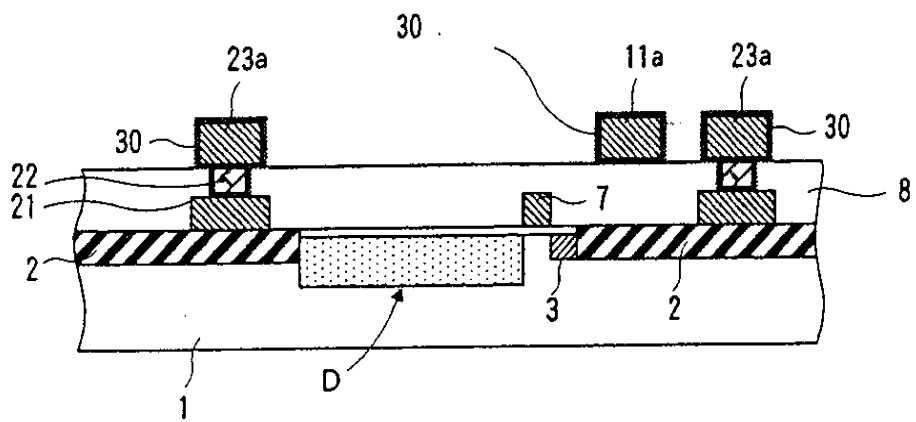
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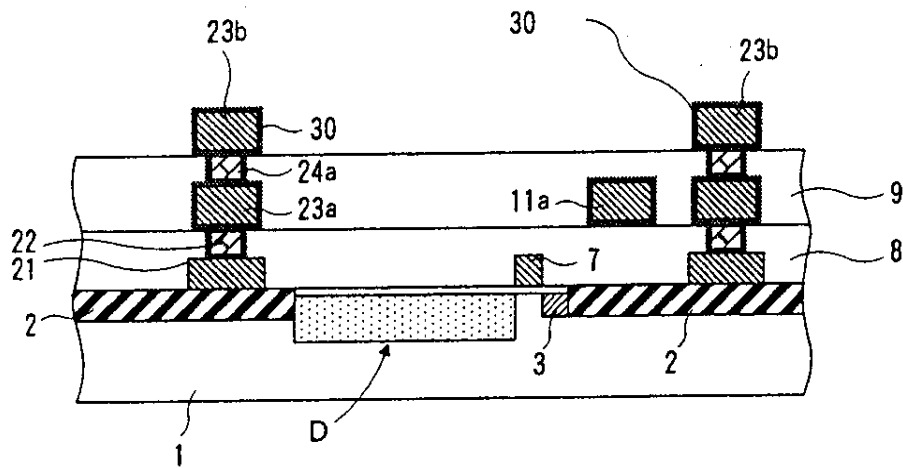
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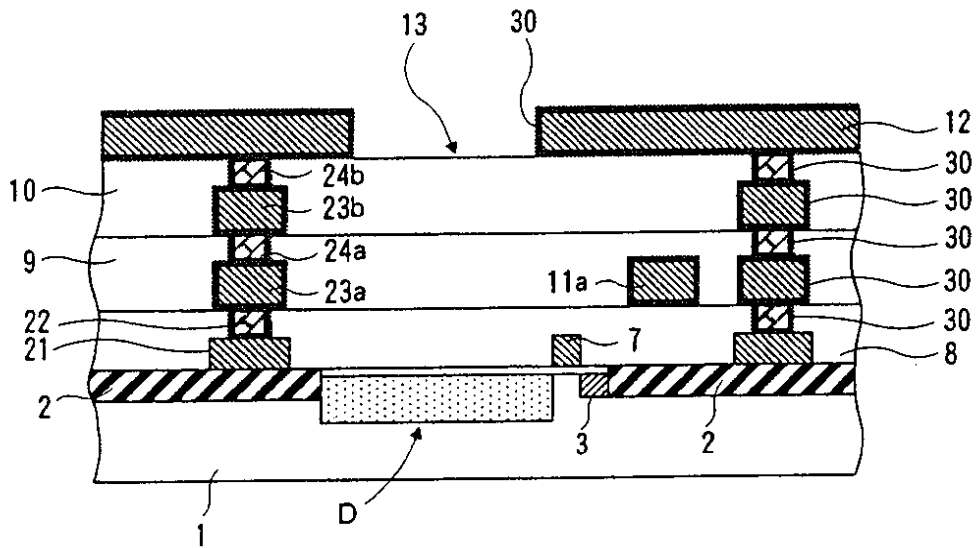
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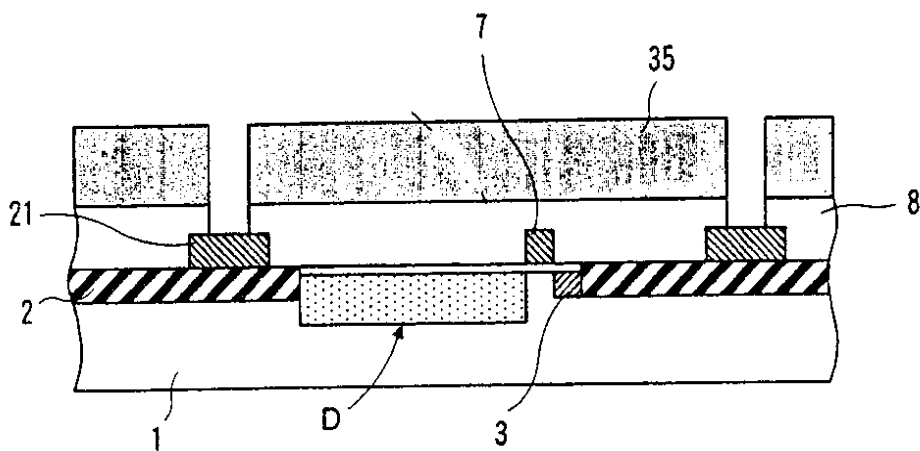
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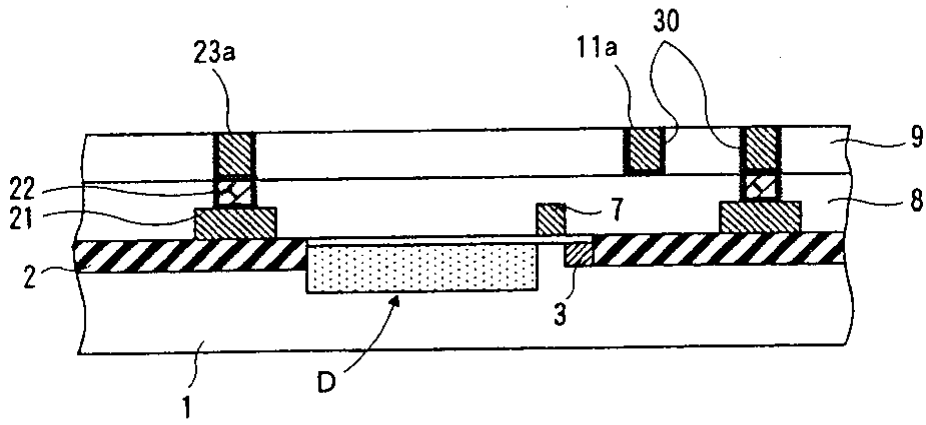
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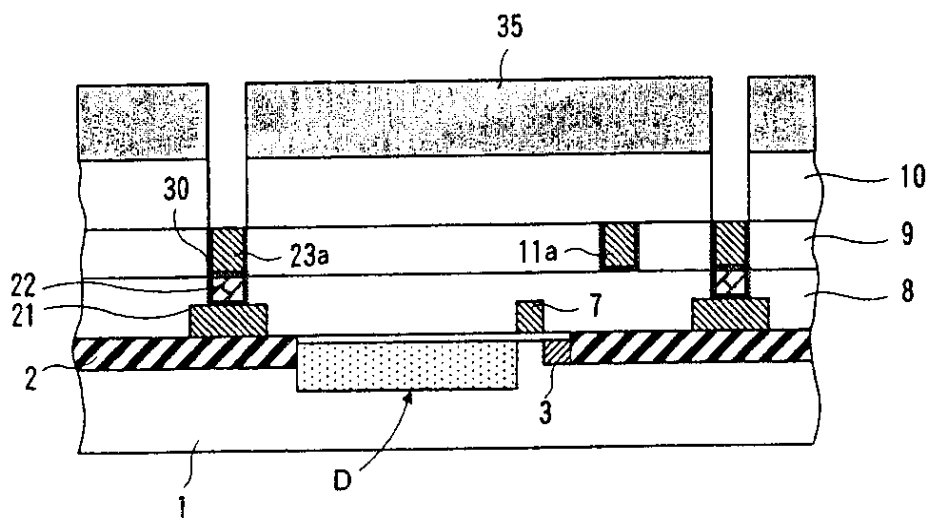
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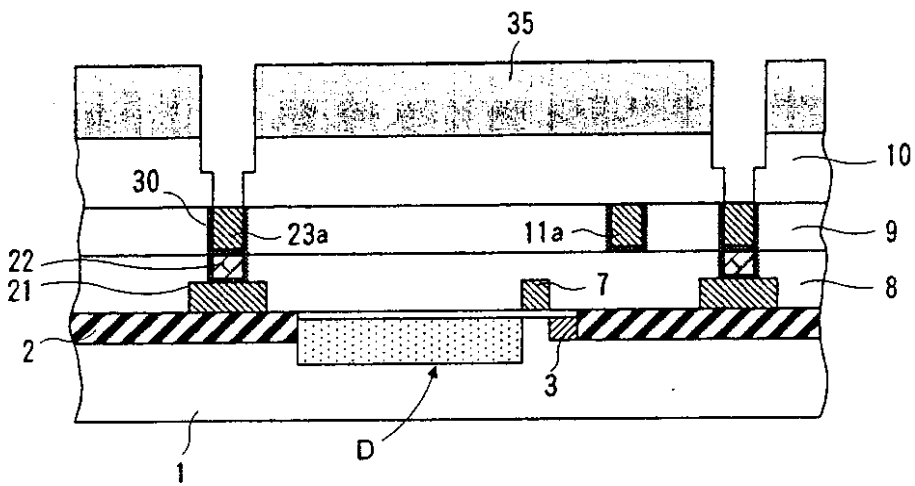
6b



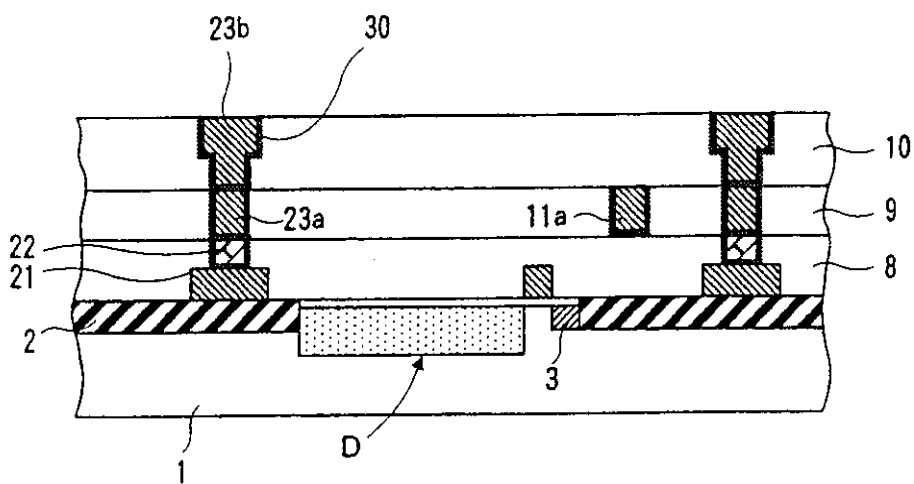
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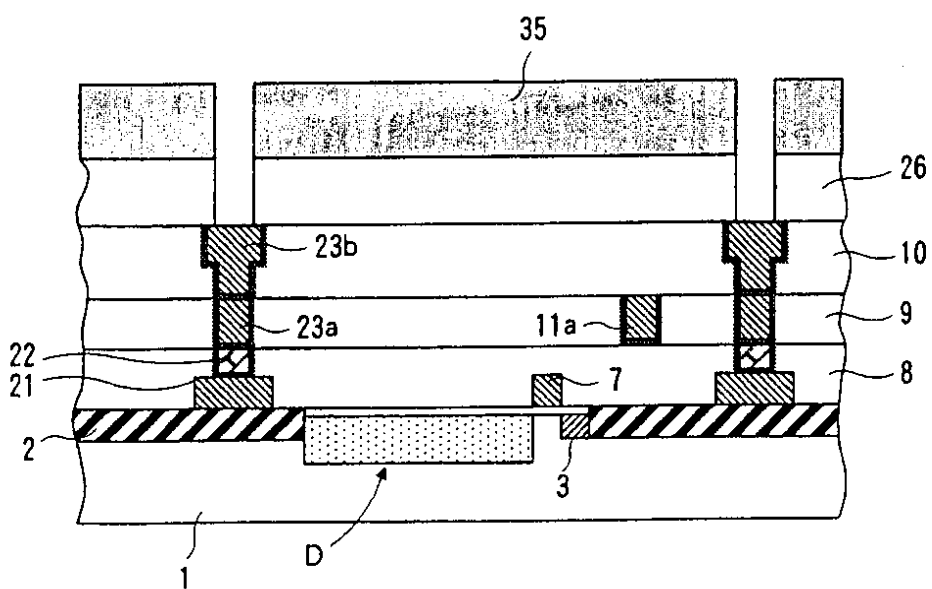
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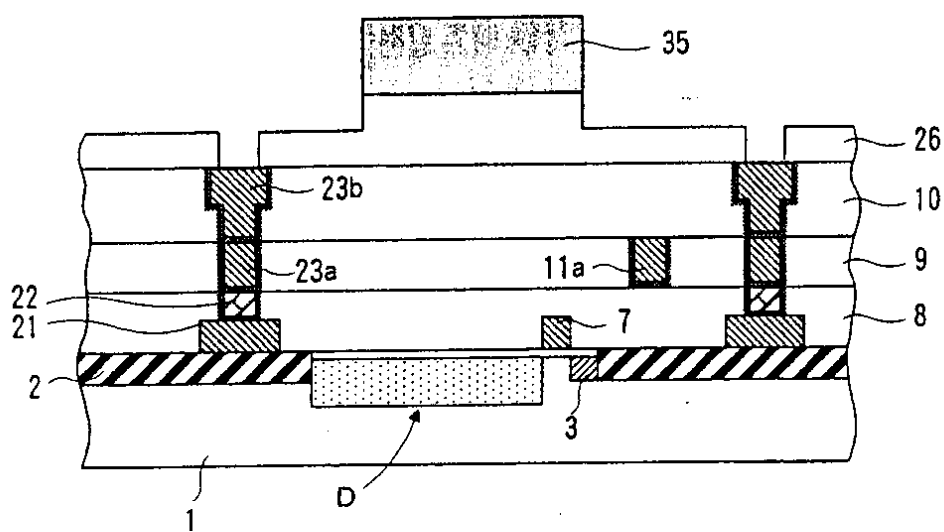
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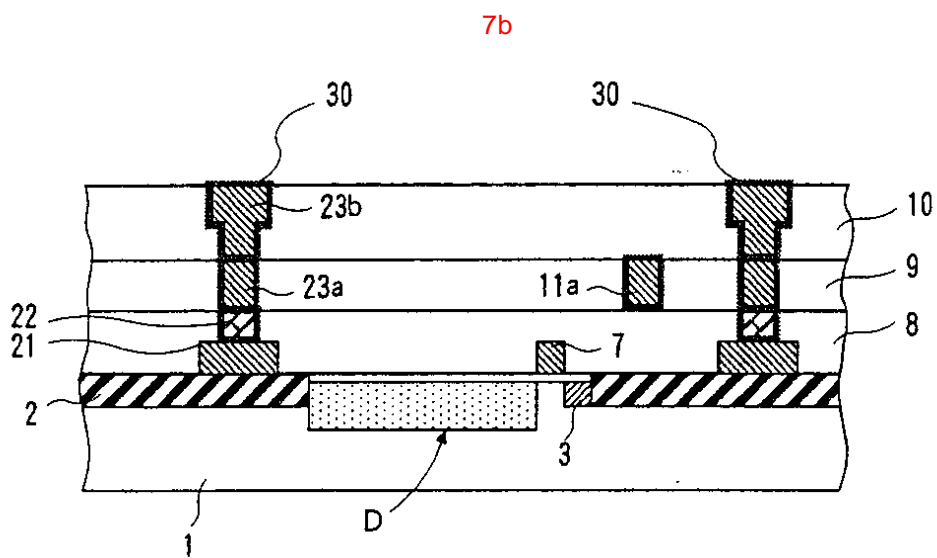
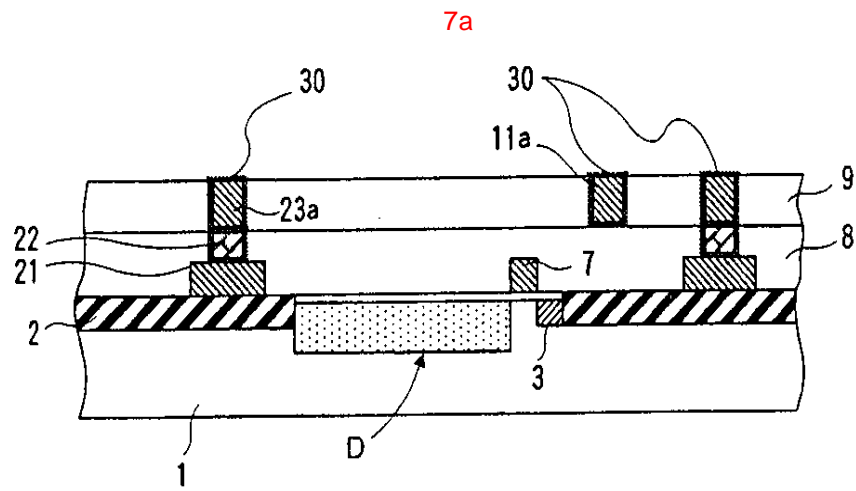
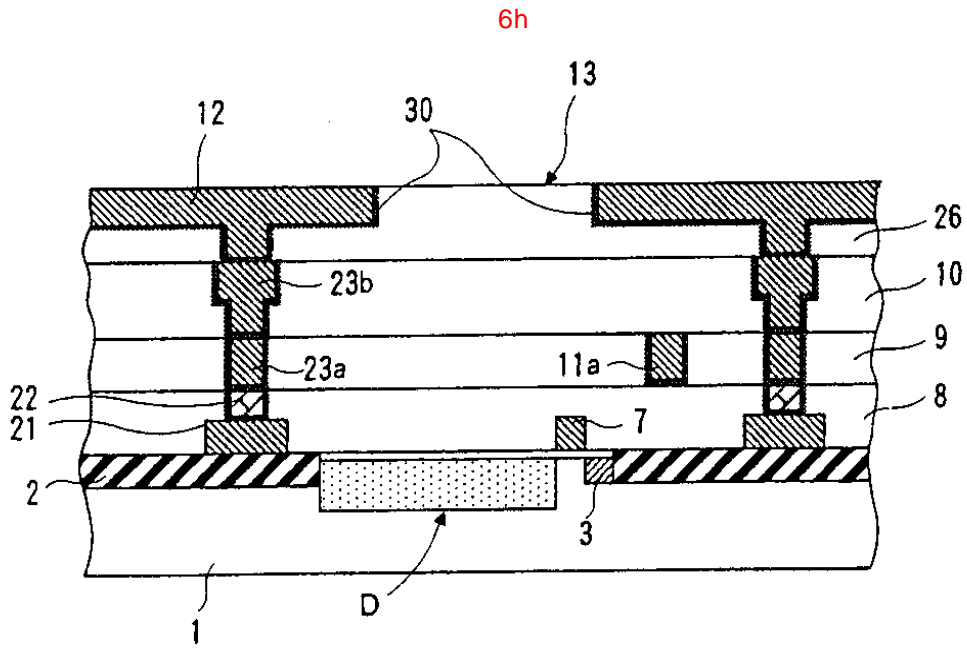


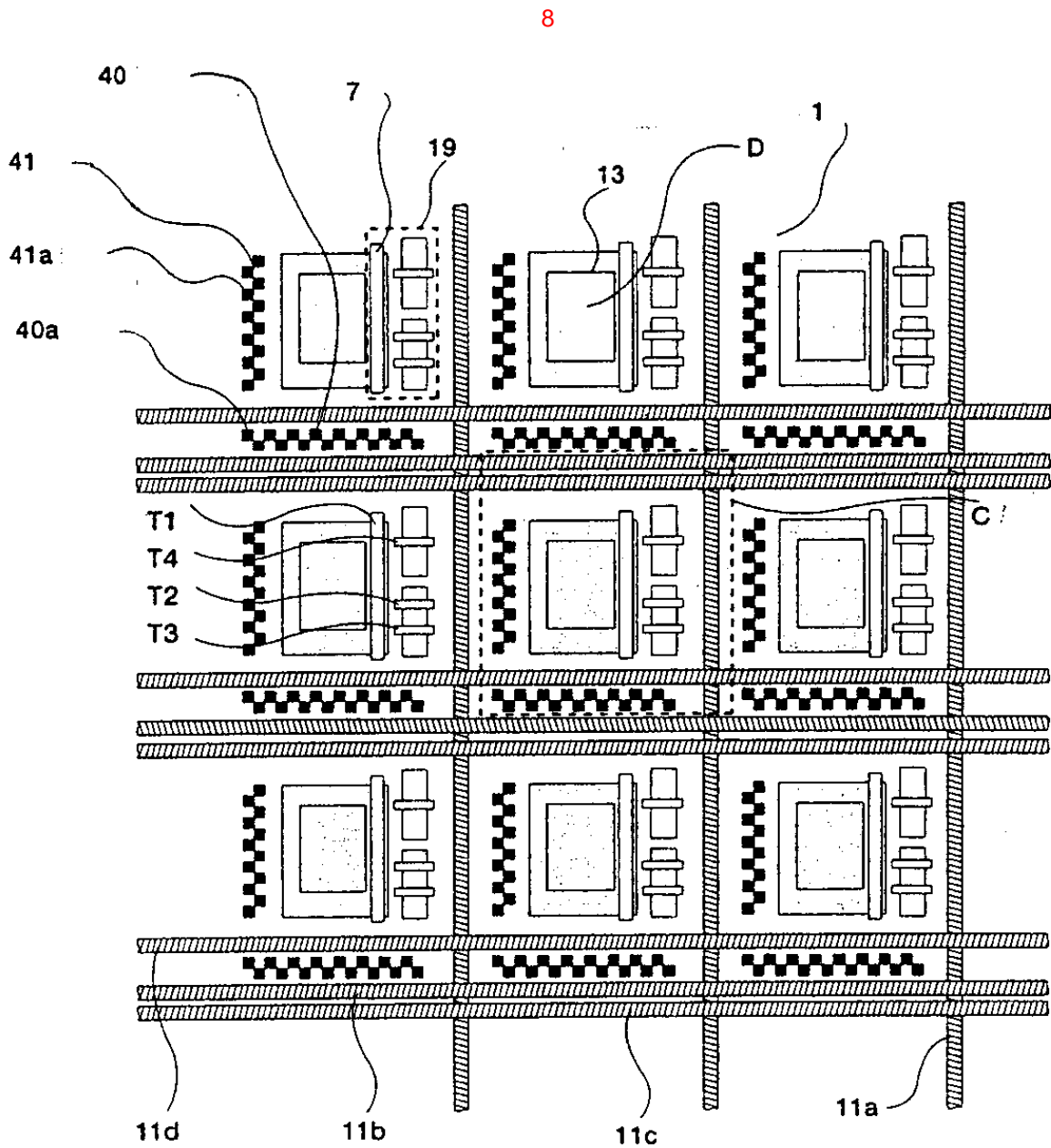
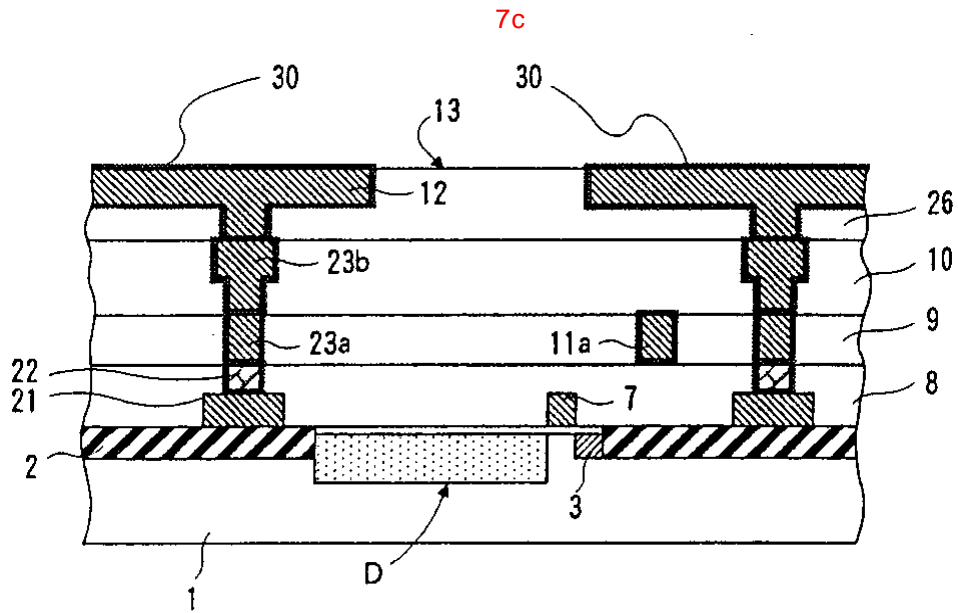
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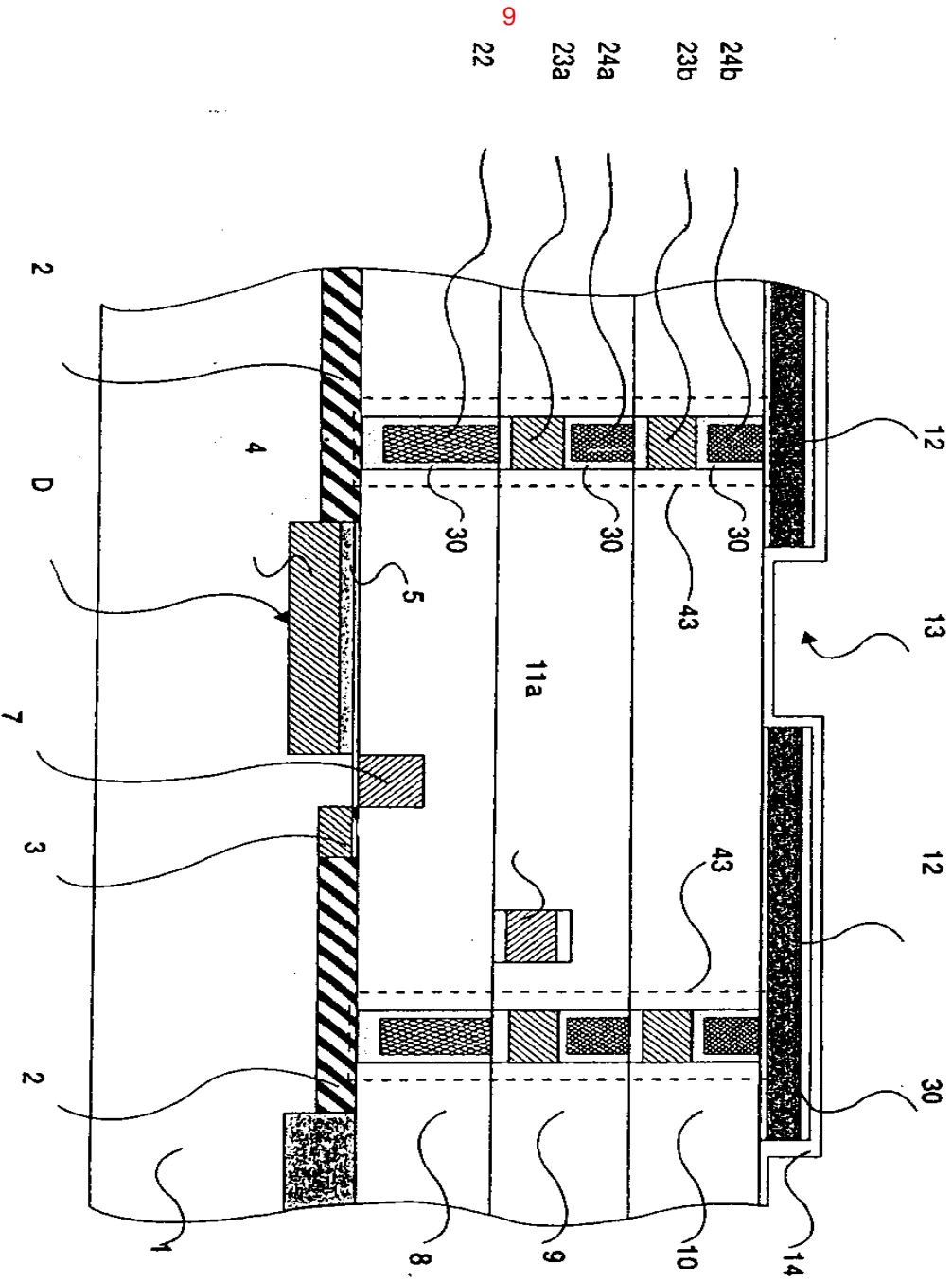


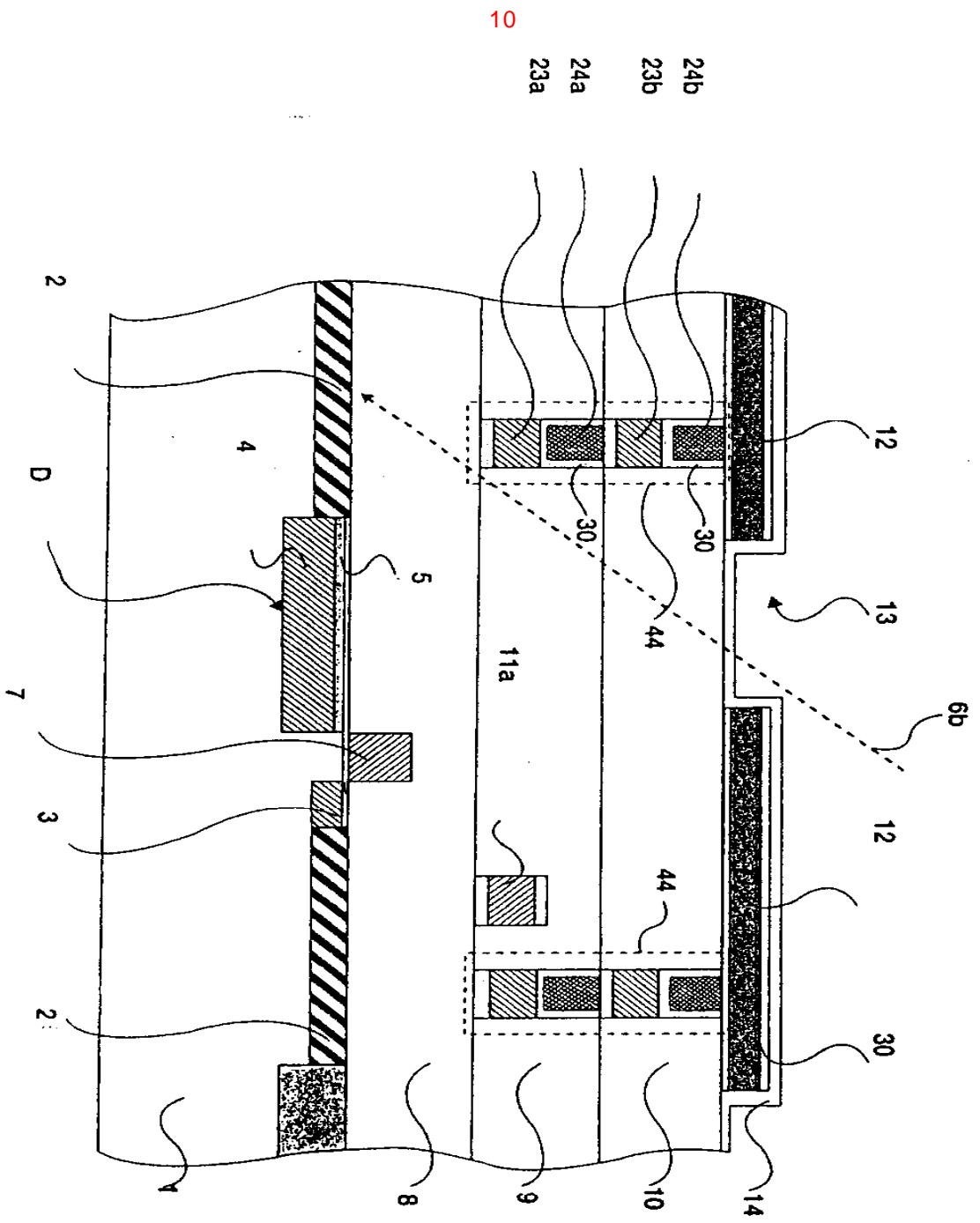
6g





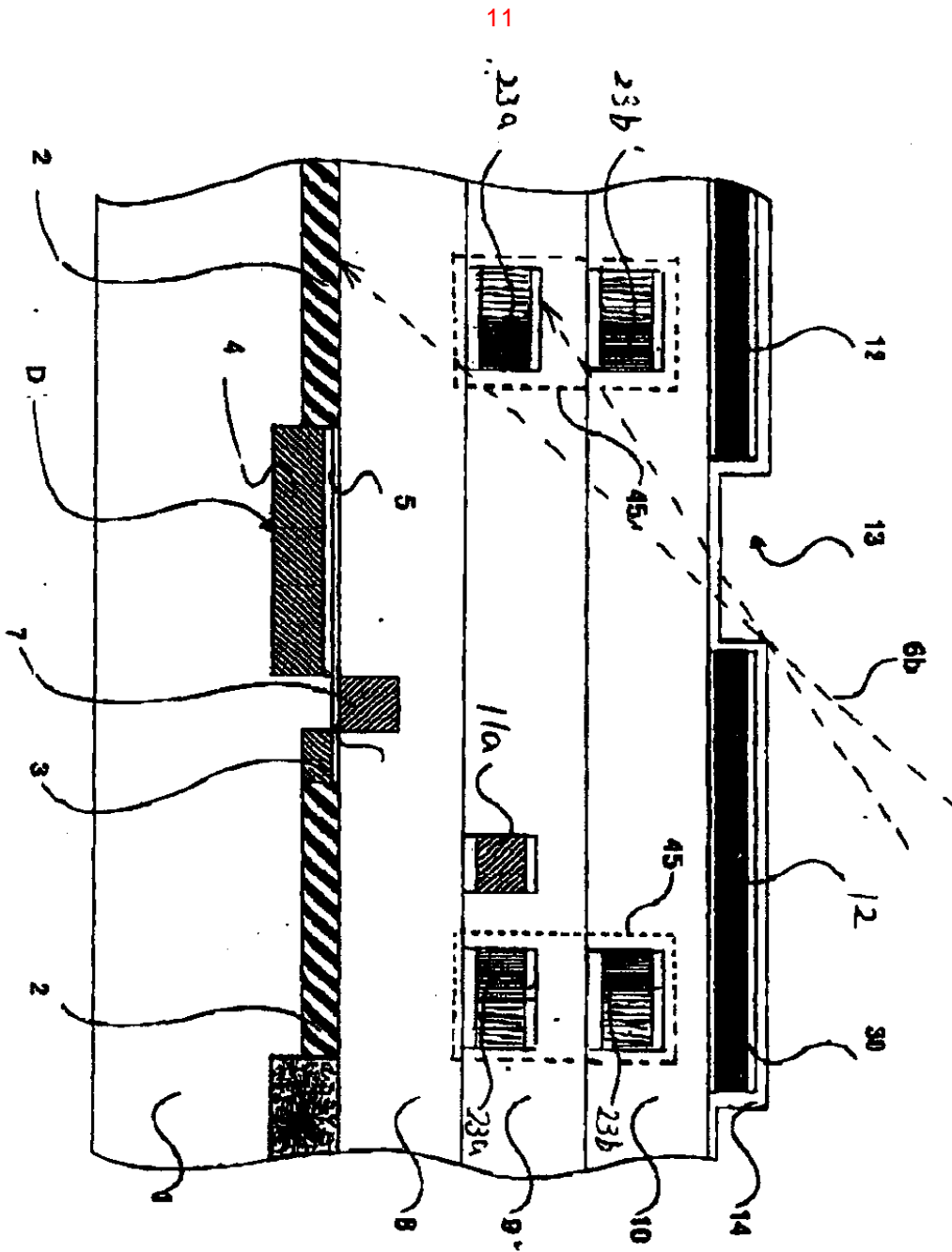


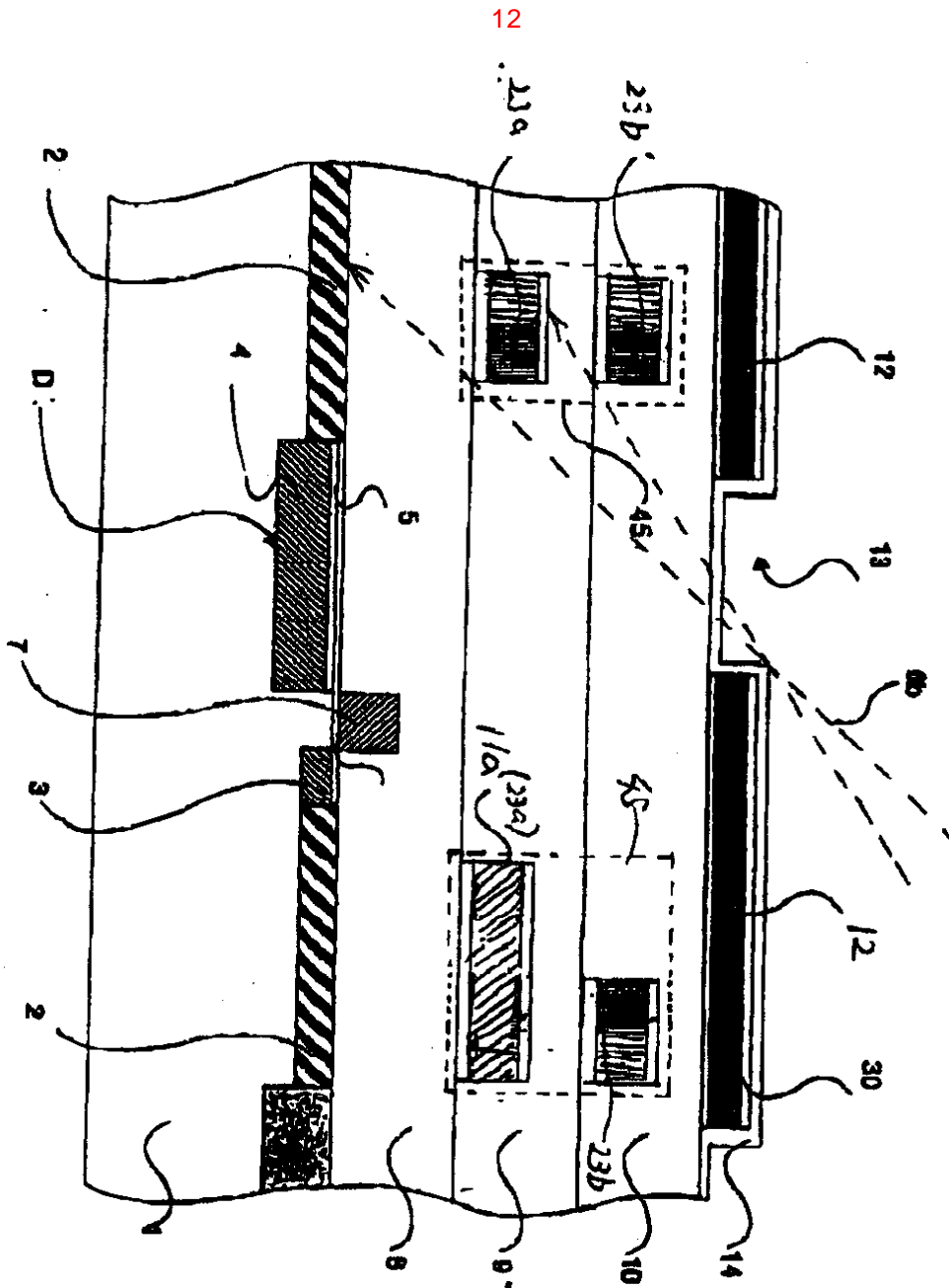


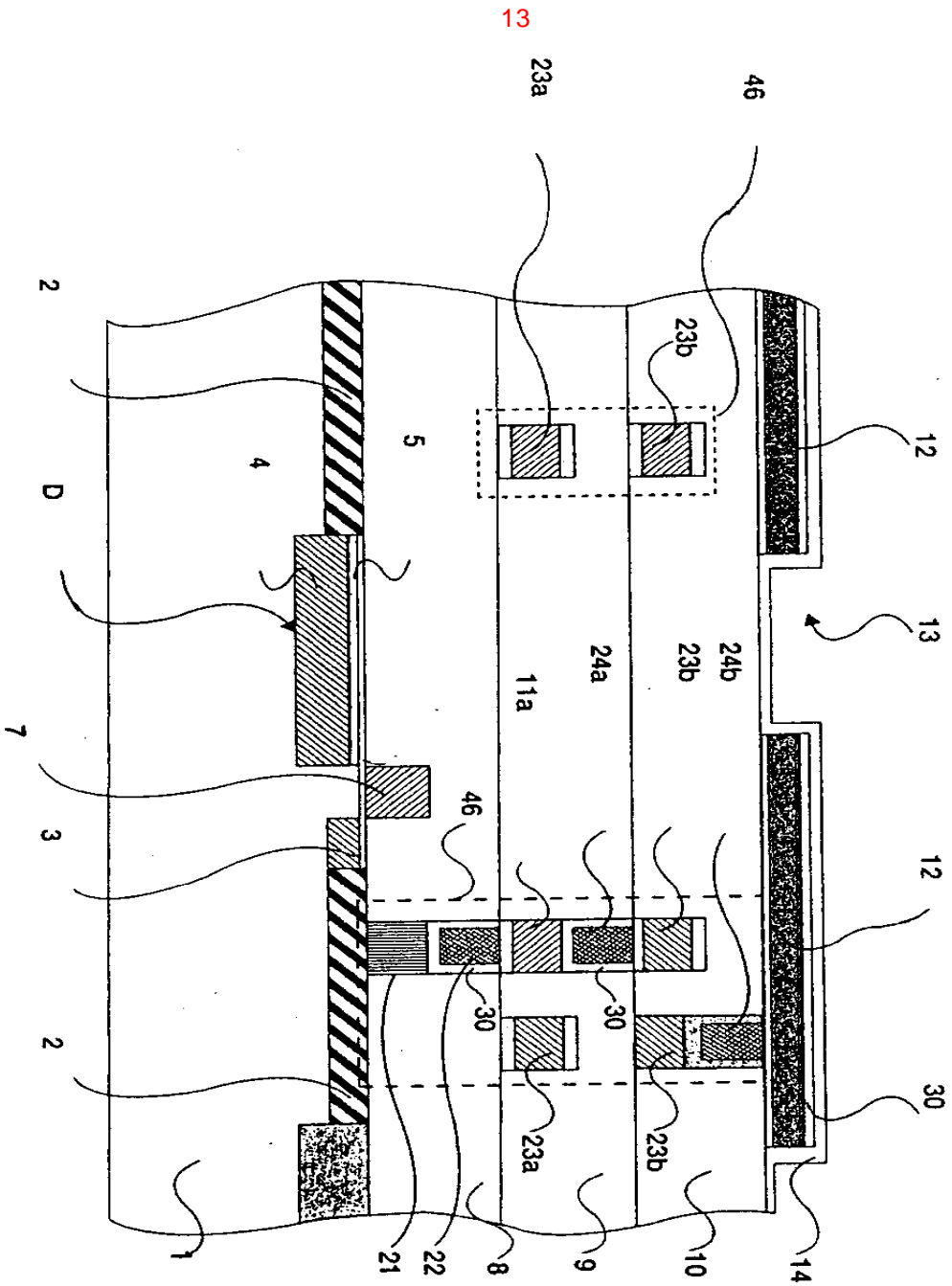


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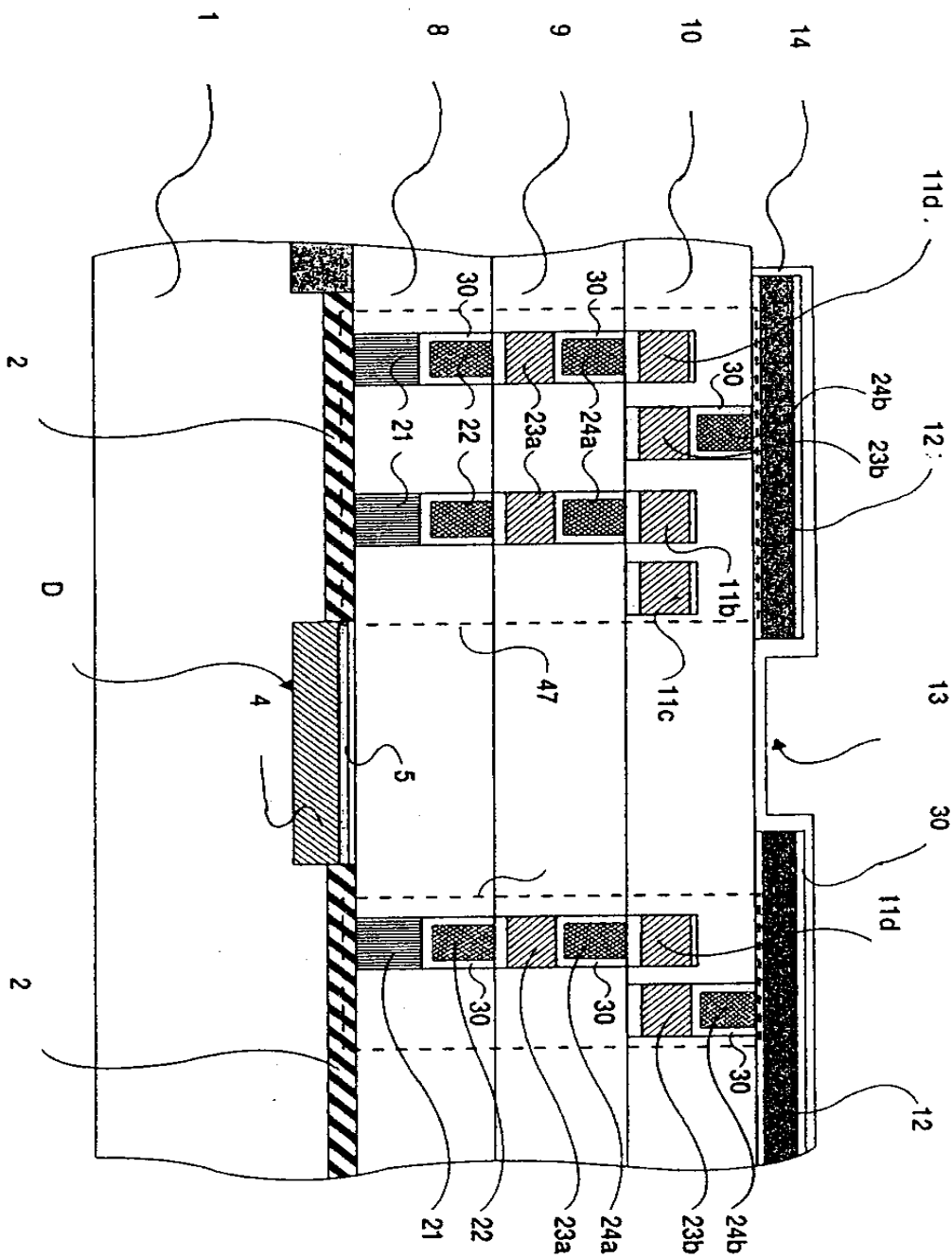
24b
23b
24a
23a



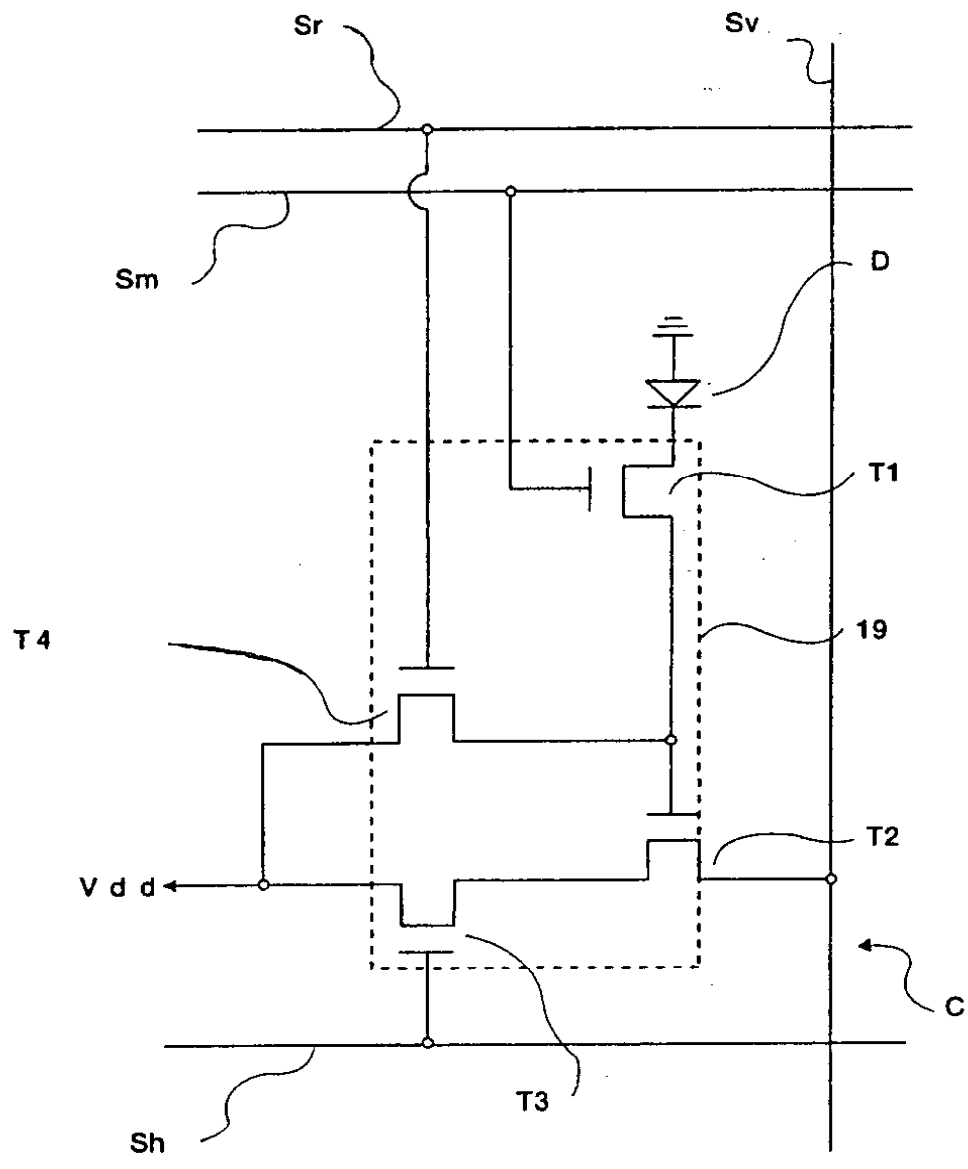


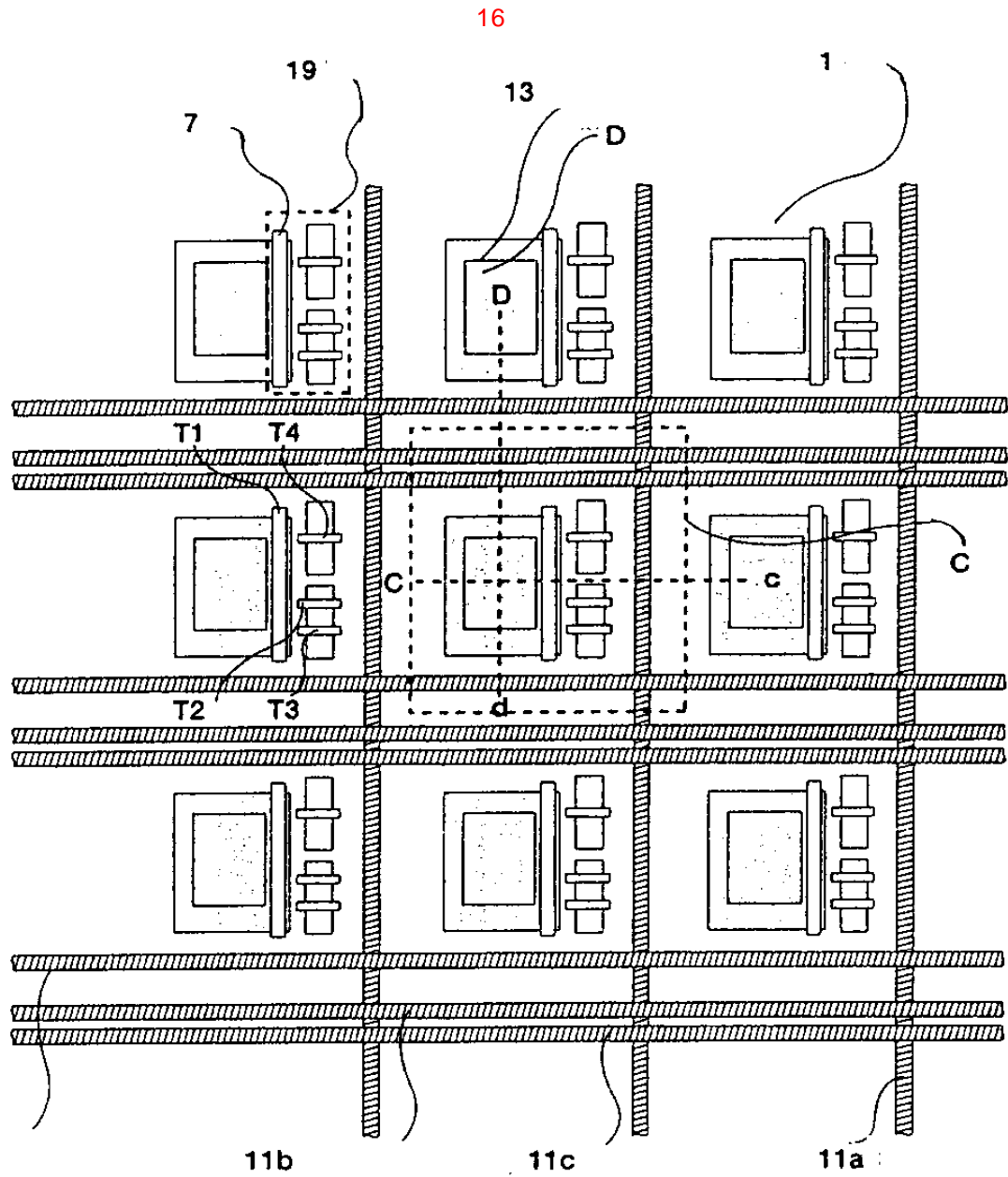


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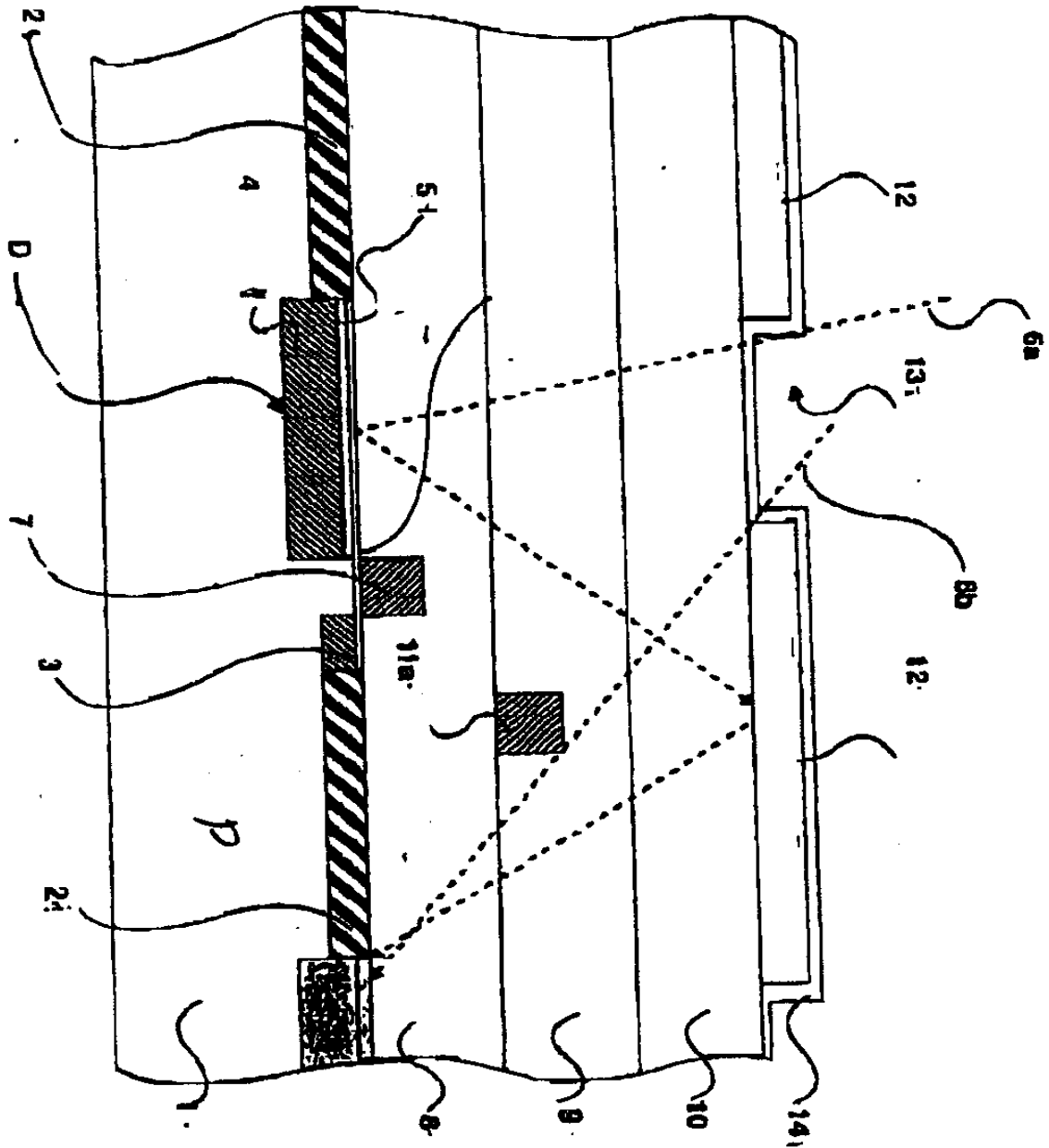
11d

11b

11c

11a

17



18

