

(19)
(12)(KR)
(A)(51) 。 Int. Cl. ⁷
G03F 7/20(11)
(43)2001 - 0089158
2001 09 29(21) 10 - 2001 - 0005929
(22) 2001 02 07(30) 00200432.3 2000 02 10 EP(EP)
00304336.1 2000 05 23 EP(EP)(71) . .
5503 1110(72) - 5951 186
- 5628 18
- 81369 4
- 5591 39

(74)

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(54)

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1 1 .

2 2 가 .

3 1 .

4 2 .

5 3 .

6 4 .

7 2 가 .

8a 8b .

9a 9b .

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" " 가 ; " " 가
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) 가 ()
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 - 1 가 , ()
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 5,296,891 5,523,193
 - 1 가 LCD .
 5,229,872
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 , 1 2 " " " " " " " " ,
 가 / 가
 5,969,441 1998 2 27 09/180,011(WO98/40791)

(IC) () ()
 (1) () ()
 (wafer stepper)
 (step - and - scan apparatus)
 (" ")
 (magnification factor:M)(< 1) 가 ()
 M 가 6,046,7

92

(-)가
 /

가
 350 W
 0.5 W

가
 가
 가

가 .

가 . Al_2O_3 AIN () ; () .

가 가 가 .

가

가

가 가 가 ,

(priming), (PEB), IC /

()

가 , "

Microchip Fabrication: A Practical Guide to Semiconductor Processing (3 , Peter van Zant , McGraw Hill , 1997, ISBN 0 - 07 - 067250 - 4)" .

가

, , 가

, , " , " " " " 가 " " , " " "

(UV) (, 365, 248, 193, 157 126 nm
EUV , X- ,
, X, Y Z , ,
X Y " " . Z " "

X Y

1

(UV, EUV) (PB) (LA, Ex, IN, CO);

(,)(MA)
1 (PM) 1 (PL)
(MT);

(W)(가) 가 (PL)
2 2 (WT);

(W) (C) (1) (MA) (PL)(""
) (, ,) .
(,) , , .
(LA)(, Hg ,
(undulator),
(Ex),
(IN), (CO)) (IL) (PB)

(MT)
(PB) (W) (C) (MA) (PB) (MA)
(IF) 2 (PL) (C)
(WTa, WTb)
1 (PB) (MA)
(short stroke module)() (long stroke module)(
(MT, WT)

가

(MT) 가 (C)
(, " ") (C) (PB)
(WT) x / y ;

• (C) (, ")
 가 (PB) (MT)
 () (" , Y) 가 (WTa, WTb)
 (V = M) , M (PL)(M = 1/4 1/5)
 (C)

2 , - (100) (3), (1)
 (2a, 2b) (4) (1)
 가

(1) , 1 (2a)
 2 (2b) 가
 (3) 1 (3a)
 1 (2a) , 2 (3b) 2 (2b)
 (3) 1 (3a) 2 (3b)
 가 , 1 (2a) 1 (3a)
 2 (2b) 2 (3b)
 ()

가 (3) (4)

2

(6) (5) 가
 /
 (4) (5) (10) (3)
 (6) (10)

가 (4)
 (6)

가 7
 (41, 43) (4)
 1) (40) (42) (43)
 (40, 42, 44) 가 (42) (44) (10) (4)
 5) (5) (6)

(100) , . 2
 4 mm가 1.5 mm .
 3 1 (4)
 (10) 가 (9) . (3)
 . (9a)
 , 9a
 9b (9a)
 (10) , (9b)
 , (9b) (4) (9)
 가 , (9a) (4) (9)
 가 가

(4) (100) .
 , .
 (4) Al_2O_3 AlN ,
 3 (11) (4) ()
 13 (10) (12) .
 가 .
 가
 가

2

(4) 2 가 4 , (14) ,
 (15) (14) (10b) 가 (15)
 (10a) 가 (10a, 10b) (14, 15)
 (16)
 (10a) 가 (10) , (10a, 10b) (14) (10b) (15)
 가 , 4 (14) (15)
 가

3

5 (17) (가) 3 (18) (가) (10a) (10b) (10) (4) 2 (19)

4

(3) 4 (가) 6 (20), (22), 3 ((21))

(25) (가) (21)

(23)

3 3 4 (가) 4

(10)

(50) (P) (가) (W) (가) (51) (P) 8a

8b (P P'가) (가) 8b (53)

8a (51)

9a 9b (60, 61) (55, 57) (56, 58)

(54) (59)

9a 9b (56) (58)

(가)

(3)

(57)

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가

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1 8 ,

가

10.

1 9 ,

11.

10 ,

12.

11 ,

Al_2O_3 AIN

13.

11 12 ,

14.

11 13 ,

2

15.

11 14 ,

3

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16.

14 15 ,

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17.

14 15 ,

가 ,
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18.

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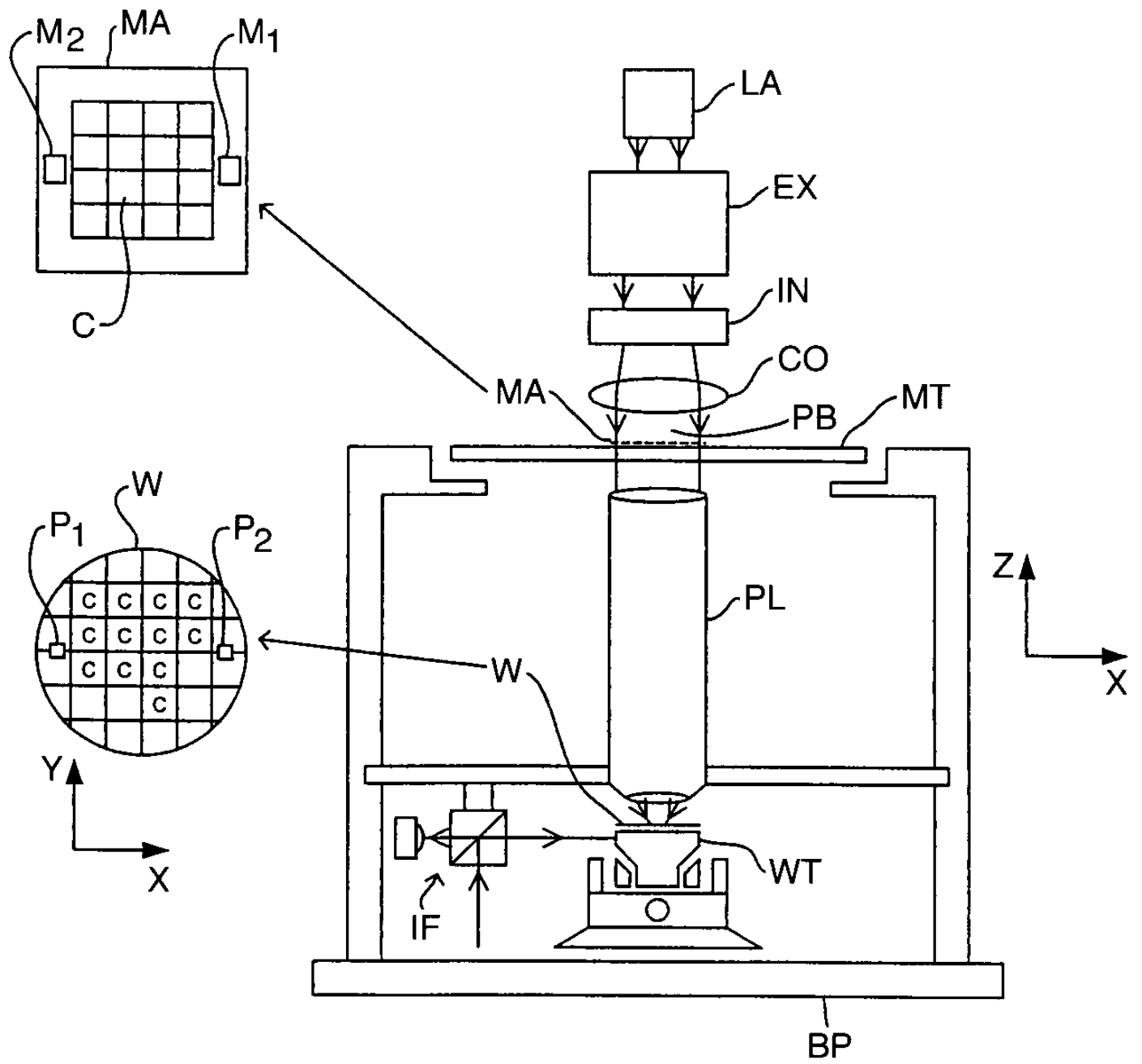
가, 가 ,
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19.

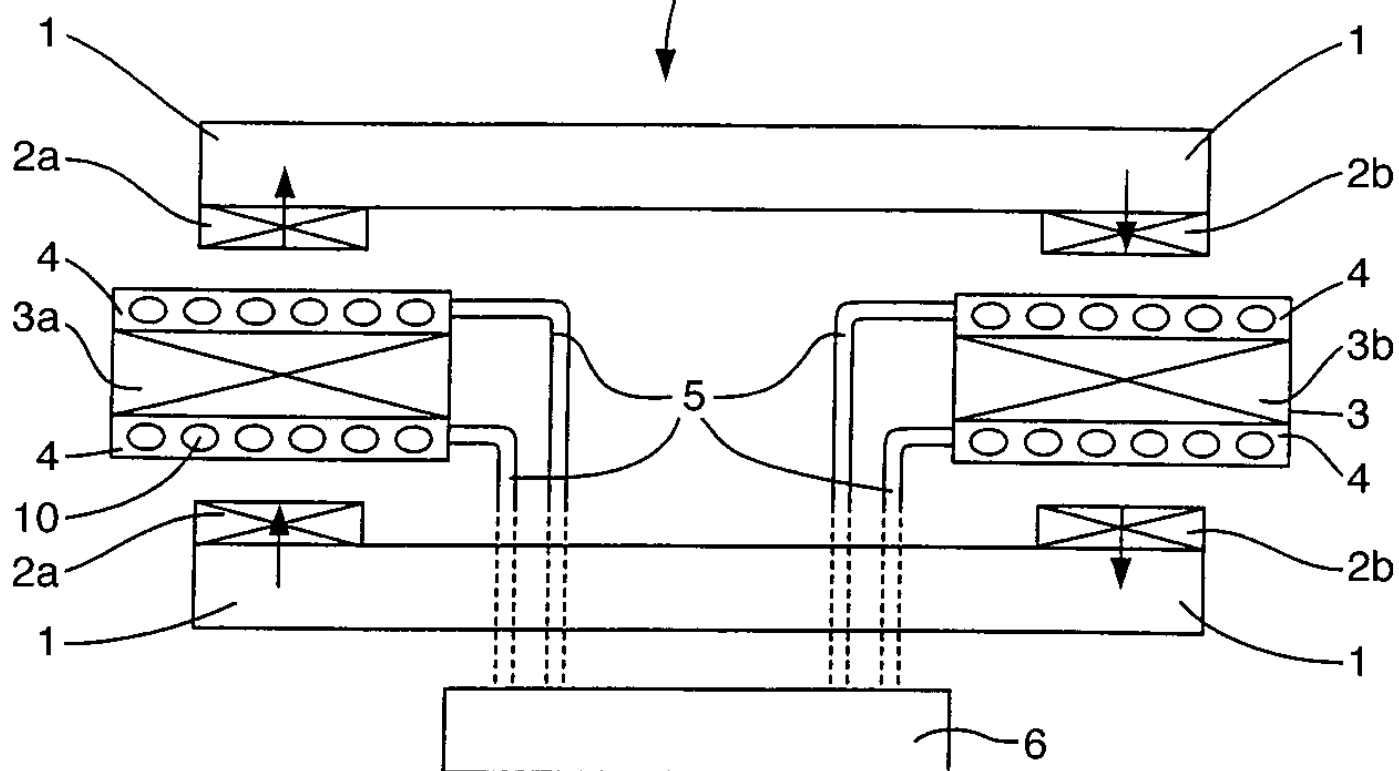
18 .

1



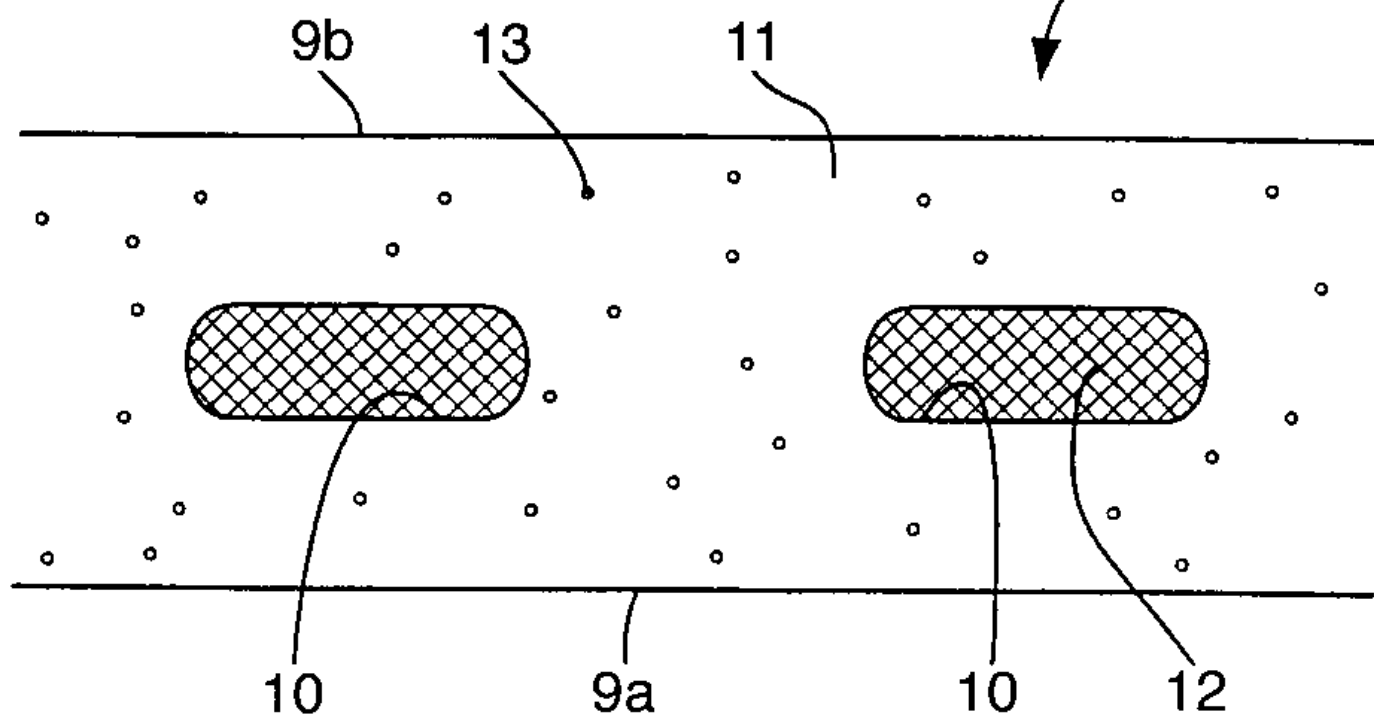
2

100

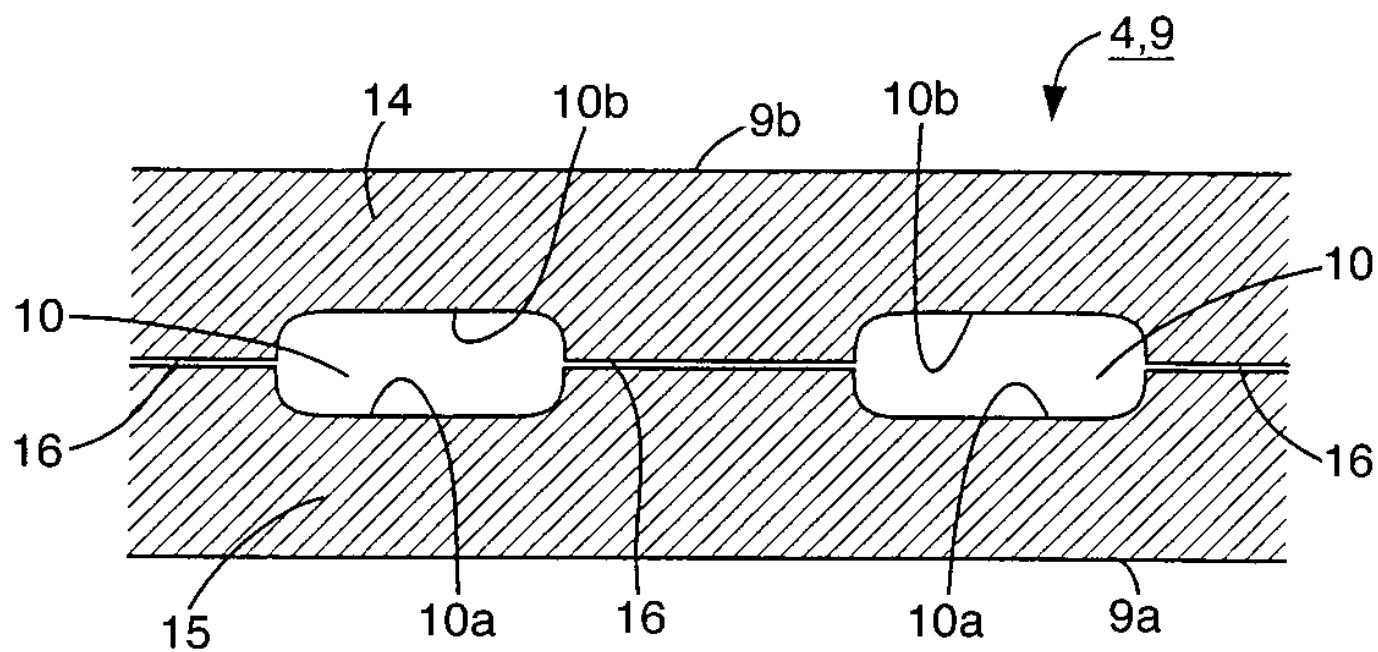


3

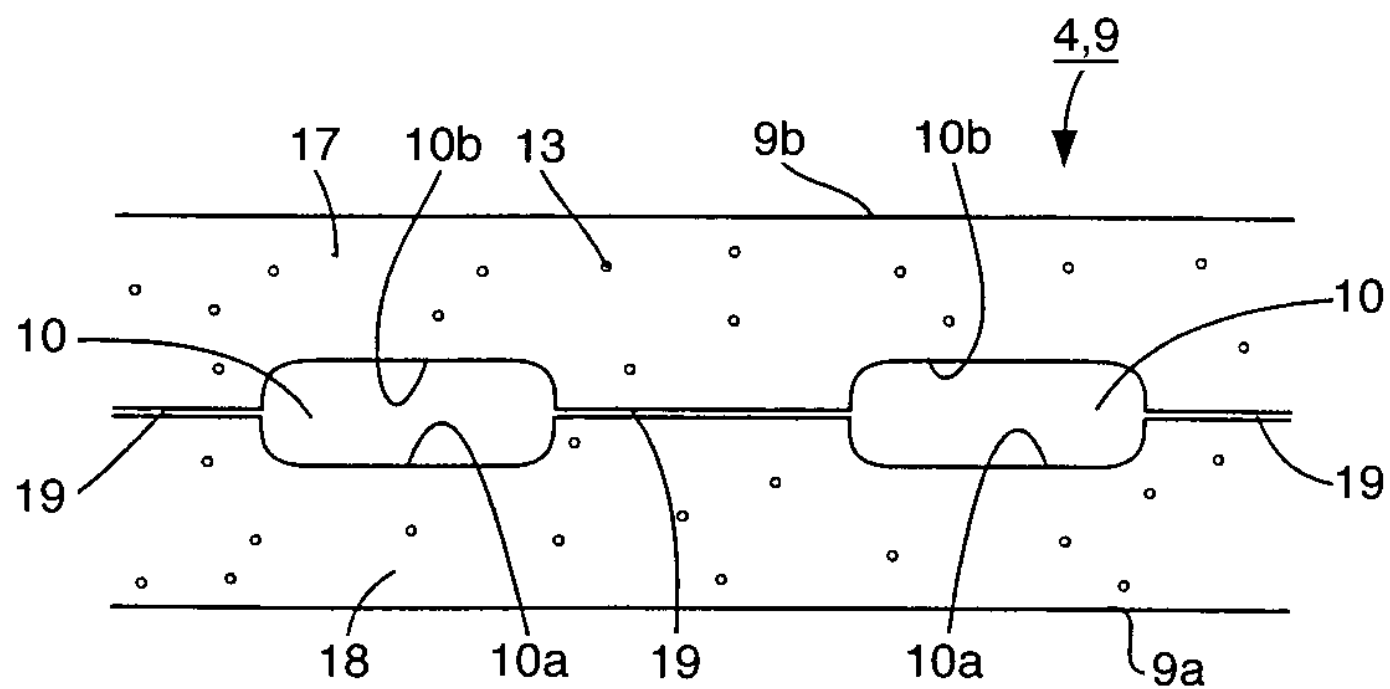
4,9



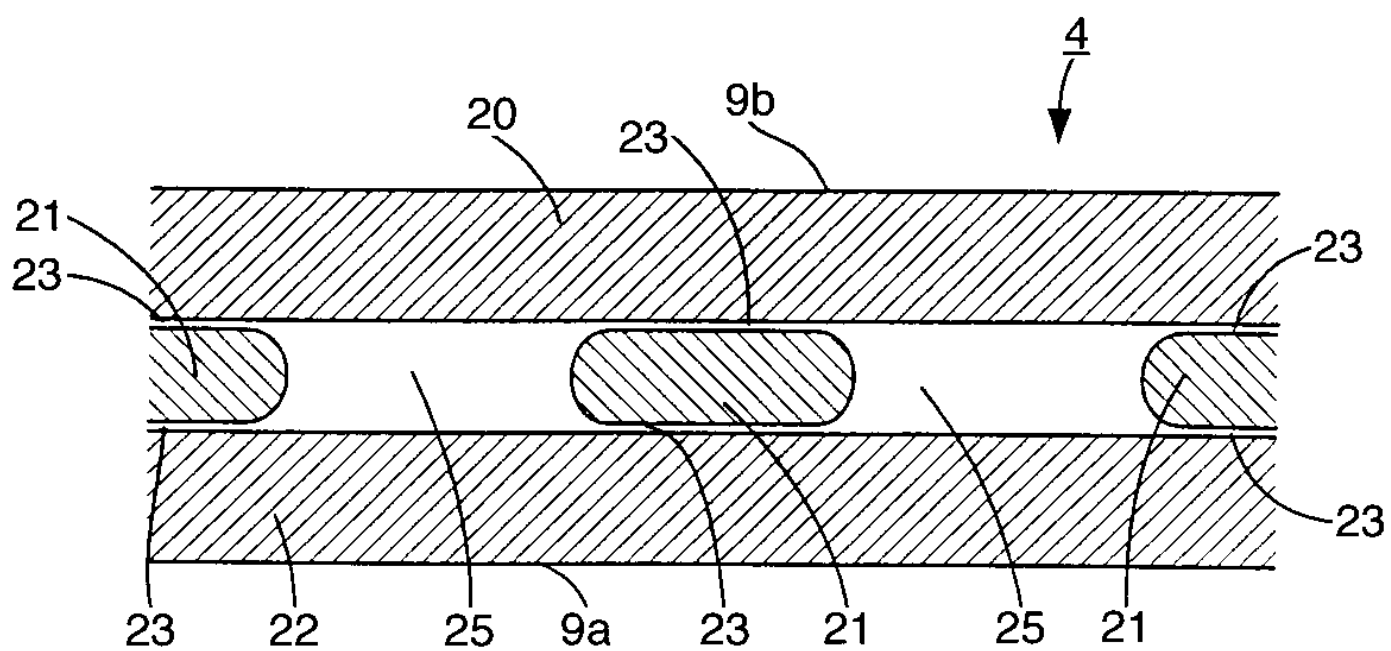
4



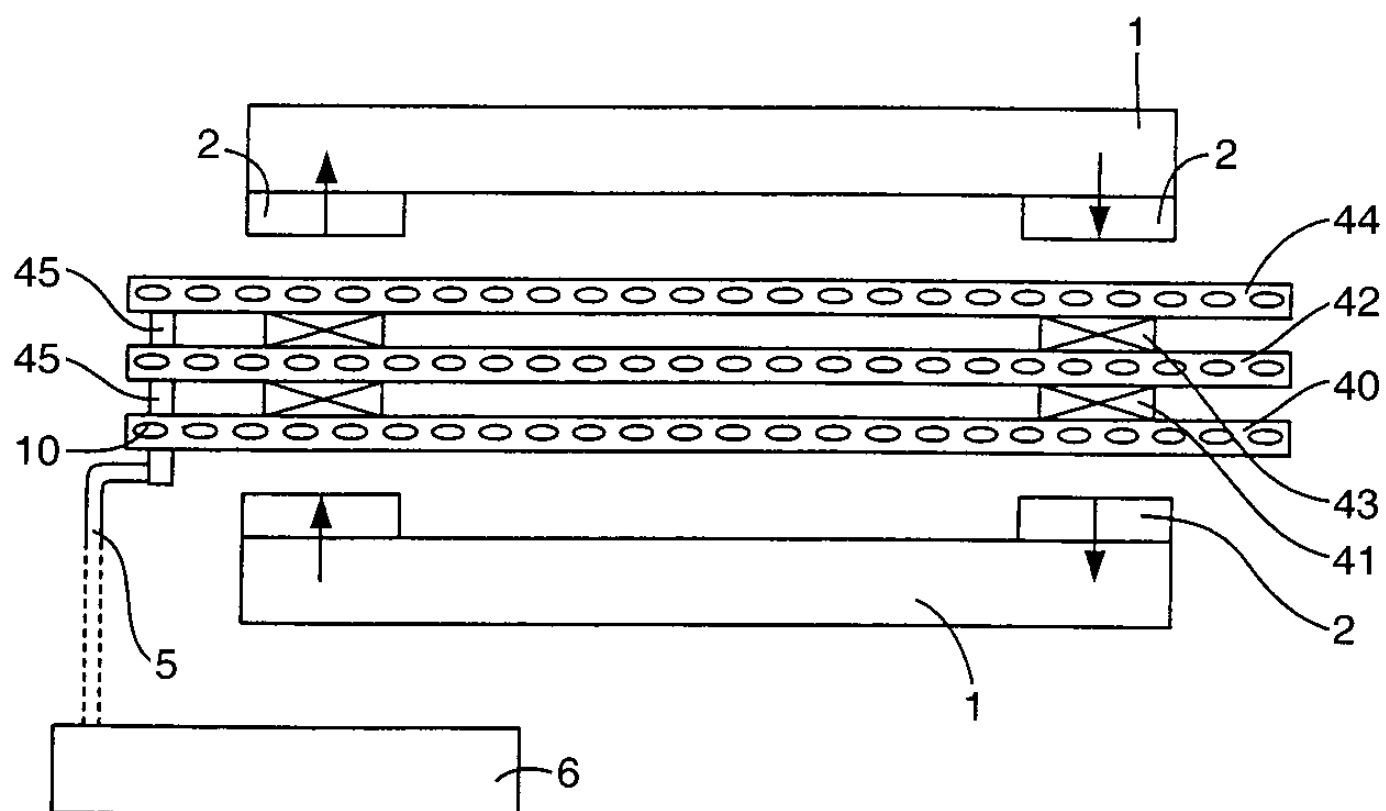
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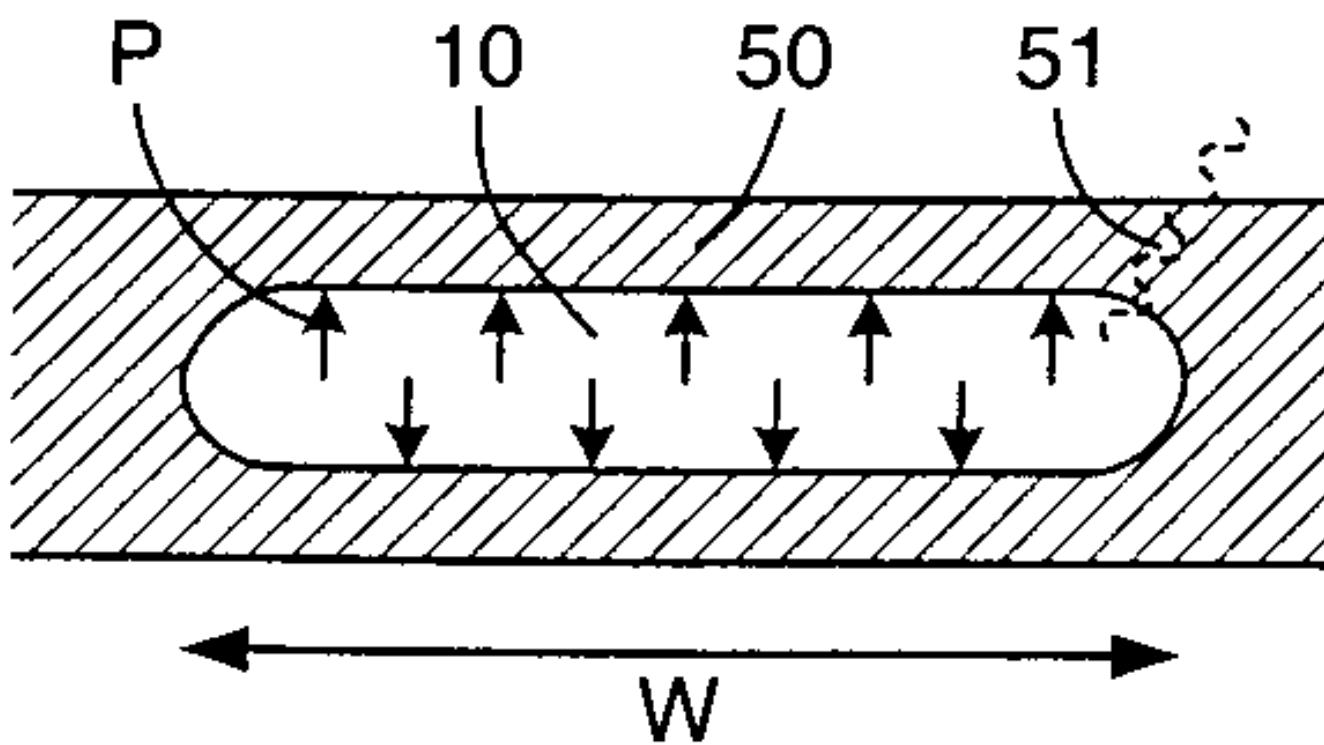
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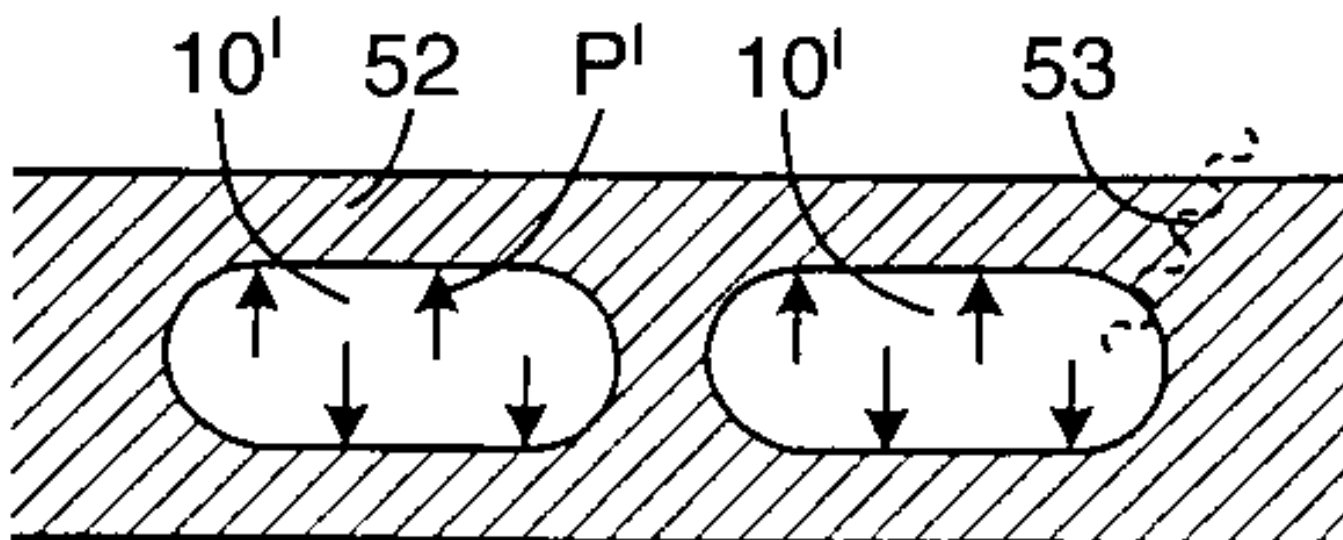
7



8a



8b



9a

