

(19) (KR)  
(12) (B1)

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(30) 92 - 294168 1992 11 02 (JP)  
92 - 294927 1992 11 04 (JP)  
92 - 295585 1992 11 05 (JP)

(73) 가 가  
가  
103 2 2 1

(72) 가 650 - 22  
가 2 2 - 26

(74)

:

(54)

1 2 가  
,  
,  
.  
1 2 (1,2) (1d,2d) 1 . (1d,2d)  
1 2 (1,2) (1d,2d)  
, (1d,2d)  
가 (R<sub>T</sub>) .

[ ]

[ ]

1 1 1 .

2 1 .

3 1 .

4 .

5 4

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7 .

8 7 , 2 .

9 ,

10 9 , 2 .

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12 , .

13 1 2 .

14 13 .

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가

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\*

1, 11, 21 : 1      2, 12, 22 : 2

1d, 2d, 11e, 12e, 21d, 22d :            11d, 12d :

21g, 22g : 가 Rr :

[ ]

(interlace)

가 (加撚) ( )

가		3,115,691
61 - 194243	59 - 66532	.

$$\begin{array}{ccccccc} & , & , & 3,115,691 & & & \\ & 36 & & & 2 & (B_1, B_2) \text{가} & (B_1) , \\ (B_2) & & & (P_1, P_2) & & , & 37 \\ & (B_1) & (B_2) & & (P_1, P_2) & & \end{array}$$
$$\begin{array}{ccccc} & & (B_1, B_2) & & (P_1, P_2) \\ (B_2) & & & & \end{array}$$

가 2,985,995 3 , 38 2

3,115,691 11 12  
가 2 가

(單絲) 가 (pre - oriented yarn)

(staple) (tow) 가



가

가 , 가 , , 가 . , , 가 .

1. 2. , .



가

가 가

50% , 100% .

1 2 .

1 2  
1 .

[ ]

1 1 1 12 .

1 3 , 1 (1) 2 (2)가 (3)  
(4),(4) .

1 (1) 2 (2) 2 , (1a, 2a)  
, 0 (5,6) (1b, 2b)가 (4,7) (4,8)  
, (1a,2a) (1c,2c) , (1b, 2b) (1d,2d)

(1d,2d) 4 , (1b, 2b) (1e,2e) , (1e,2e)  
(1d,2d) ( $A_{L1}, A_{L2}$ ) ( $R_T$ ) (1d,2d)  
( $A_{L1}, A_{L2}$ ) (E) (2) , ( $R_T$ )

(1d,2d) 4 .

(1d) , 4 4 ( $R_T$ )  
(p) (1b, 2b) (1e,2e) ( $L_A$ ) (1d)  
( $A_{L1}$ ) (1b, 2b) (1e,2e) , ( $L_A$ )  $L_1$   $L_2$

( $L_1, L_2$ )가  $L_1 > L_2$  가 (1d) , (1d)  
가 ( $R_T$ ) .

$L_1 > L_2$  (2d) , , 1  
2 2 .

(1d,2d) 2 , (1b, 2b) , ( $R_T$ )( 4 )  
가 ( $A_{L1}, A_{L2}$ ) ( )가 90 .

( $R_T$ )  
2 , (弦) , 2  
가 (2d) 2 , (1d)  
(1d) ( $R_T$ )  
, 가 (2d) .

$(1d)$   $(A_L)$   
 $(1d)$   $(R_T)$   
 $(2d)$   $(A_{L2})$   $(R_T)$   
 $(R_T)$   $(1d)$   $(2d)$   
 $(1d,2d)$   $(R_T)$   
 $(1d,2d)$   
 $(1d,2d)$   $(A_{L1}, A_{L2})$   $(L_A)$   $(R_T)$   
 $(L_1, L_2)$ 가  $L_1 > L_2$  가  
 $(2)$   $(2a)$   $(2b)$   $(4)$   $(2f)$   
 $(E)(2)$   $(1d,2d)$   $(A_{L1}, A_{L2})$   
 $(1,2)$   $(1d,2d)$  가  
 $(1,2)$   $(1d,2d)$  가  
 $(1e,2e)$   $(1d,2d)$  가  $(1b, 2b)$   $(1e,2e)$  가  
 $(1d,2d)$  가  
 $(1d,2d)$   $(1,2)$   $(1d,2d)$  가  
 $(1d,2d)$  가  
 $(1,2)$   $(G)(2)$   $(3)$   
 $(1d,2d)$   $(1,2)$   $1$   $(1d,2d)$   $(E)$   $1$   
 $(1,2)$   $(C)$  가  
 $(1d,2d)$



(1b,2b) (1d,2d) (1e,2e) 가 (R<sub>T</sub>) (1b,2b)  
 (1e,2e) 가 (1d,2d) 가  
 , 1 2 (1,2) (1b,2b) (1d,2d) 6  
 7 (1d,2d) 가 가 (2b) 8  
 (1d,2d) 2 , 6 7 6  
 7 (1d,2d) 9 , 16 19 , 21 , 28 32 , 34  
 (1d,2d) 가 (1d,2d) (R<sub>T</sub>)  
 가 (1d,2d) 가  
 , 9 10 (1d,2d) , (1d) (2d)  
 1 2 (1,2) (1e,2e) (1b,2b) 11  
 (1b,2b) (R<sub>T</sub>) (1g,2g)  
 (1g,2g) , (R<sub>T</sub>) (1b,2b) (1d,2d)  
 , (1d,2d) 가  
 , 12 (1b,2b) (9a,9a) (9b)  
 (9) (9a,9a)  
 (9b)

[ 1 ]

(1b,2b) (1d,2d) 1 3  
 , (1d,2d) 1.6mm, (1d,2d) (A<sub>L1</sub> , A<sub>L2</sub>) (E) 5mm,  
 (1b,2b) (G) 2mm, (1d,2d) (1b,2b) ( ) 60  
 420 , 72 1000m/ (1d,2d)  
 4kg/cm<sup>2</sup>G 가 20gf  
 50gf

, 1m 28

[ 2]

(1b,2b) (1d,2d) 1 3 ,  
 (1d,2d) 1.0mm, (1d,2d) (A<sub>L1</sub>, A<sub>L2</sub>) (E) 7.4mm,  
 (1b,2b) (G) 2mm, (1d,2d) (1b,2b) ( ) 30  
 , 75 36 5gf 1000m/ ,  
 (1d,2d) 6kg/cm<sup>2</sup>G 가  
 , 36 75 36  
 ,  
 , 1m 16.3 , 36  
 1m 12.0 .  
 , 1 2 13  
 22 .  
 (10) 13 15 , 1 (11) 2 (12) (13)  
 (14,14) .  
 1 (11) 2 (12) 14 (11  
 a,11a) , , 0 (15,16) (11b,12b)가 (14,17) (14,  
 18) . (11a,11a) (11c,12c) (11b,12b)  
 (11f,12f) , (11d) (11e) (12d)  
 (12e) .  
 (11d,12d) 14 , (11b,12b)  
 .  
 (11e,12e) 14 , (A<sub>L11</sub>, A<sub>L12</sub>) (11b,12b) (11f,12f)  
 (R<sub>T</sub>) (R<sub>T</sub>) (11e,12e) .  
 , (11d,12d) (11e,12e) 14 , (11b,12b)  
 (R<sub>T</sub>) (11f,12f) (A<sub>L11</sub>, A<sub>L12</sub>) ( )가 90 가 .  
 (10) , (11b,12b)  
 , 가 , 가 (11c,12c) 가  
 . , 가 (11d,12d) (11e,12e) (11  
 b,12b) 가 .  
 , 2 (11d,12d) (11e,12e)  
 가 (R<sub>T</sub>) . (11d,12d) (11e,  
 12e) (11b,12b) , 가 가  
 . , 가 가 .

, 2 가 14 (R<sub>T</sub>)  
 (11e,12e) 가 (R<sub>T</sub>)  
 (11e,12e) .  
 (11,12) (G)( 14 ) (13) ,  
 가 .  
 , (11d,12d) (11b,12b) 1 .  
 , (11e,12e) (11b,12b) 1 1 2  
 (11,12) (G) 가 .  
 (11d,12d) (11e,12e) , , ,  
 , .  
 (11b,12b) (11f,12f) (R<sub>T</sub>)  
 (11b,12b) (11f,12f) (11d,12d) 가 ,  
 , 가 (11d,12d) 가 ,  
 , 가 .  
 , (11d) (11e) (12d) (12e) (e<sub>1</sub>,e<sub>2</sub>)( 14  
 ) (11d,12d) d<sub>0</sub> 1.5 6 , 2 , 4  
 .  
 12e) , 16 1 2 (11,12) (11b,12b) (11d,12d) (11e,  
 , 17 18 , ,  
 .  
 , (11d,12d) (11e,12e)  
 , 19 , (11d,12d) (11e,12e) 가 가  
 , (12d) 가 가 .  
 , (12b) (11e,12e) 20 , (11d,12d)  
 (11e) , (12e) 가  
 (11e)  
 , (11d) (11e) , 가 가 20 2  
 , 8 , 10 22 .  
 , (11d,12d) (11e) 가 가 , 가 가  
 가 가 가 .  
 , 21 22 , (11d) (11e,12e) 가 가  
 , (12d) 가 가  
 , (12b) (12d,12e) 2  
 2 가 , (11d,12d) (11e) , (12e) ,  
 가 (11e)

[ 3]

(11b, 12b) (11d, 12d) (11e, 12e) 13 ~  
 15 (11d, 11e) (12d, 12e) (11d, 12d) (11e, 12e) 1.6mm, (11b, 12b)  
 (G) 2mm, (11d, 12d) (11e, 12e) 1.5mm, (11b, 12b)  
 ( ) 60 , 420 , 72 1000m/  
 (11d, 12d) (11e, 12e) 4kg/cm<sup>2</sup>G 가  
 , , , 1m 27~34  
 , 가 (11e, 12e)  
 e) 가

[ 4]

13 15 (11d, 12d) (11e, 12e) 1.0mm,  
 (11d, 11e) (12d, 12e) (e<sub>1</sub>, e<sub>2</sub>) 1.5mm, (11b, 12b)  
 (G) 2mm, (11d, 12d) (11e, 12e) (11b, 12b) ( ) 60  
 , 300 , 96 60gf 1000m/  
 (11d, 12d) (11e, 12e) 2.8kg/cm<sup>2</sup>G 가  
 , 36 , 300 , 96 가 6kg/cm<sup>2</sup>G

, 1m 27.0 , 36  
 1m 13.5  
 2 23 35  
 (20) , 23 25 , 1 (21) 2 (22) (23)  
 (24, 24)  
 1 (21) 2 (22) , 24 (22a, 22a) , 0 (25, 26) (21b, 22b)가 (24, 27) (24, 28) , (22a, 22a) (21c, 22c) , (21b, 22b) (21d, 22d)  
 (21d, 22d) 24 , (21b, 22b) (21f, 22f) , (21d, 22d) ,  
 (L<sub>A</sub>) ,  
 , 27 (T) , (21d<sub>2</sub> 21d<sub>6</sub>, 22d<sub>1</sub> 22d<sub>5</sub>) , (22b) ( ) (21d<sub>2</sub> 21d<sub>6</sub>, 22d<sub>1</sub> 22d<sub>5</sub>) , 가

, 27 (T) 가 (21d<sub>2</sub>,22d<sub>2</sub>) (21d<sub>3</sub>,22d<sub>3</sub>)  
 (T) 가 (21d<sub>2</sub>,22d<sub>2</sub>)  
 (21d<sub>2</sub>,22d<sub>2</sub>) (21d<sub>2</sub>)  
 ( ) 가 .  
 (單絲) , 27 .  
 2d) (L<sub>A21</sub>,L<sub>A22</sub>) (20) (21b,22b) (21d,22d) (21d,2  
 (21b,22b)  
 .  
 , 2 (22) (22a) (22B) (24)가 (22e)  
 . (20) (21d,22d)  
 .  
 (20) , 1 2 (21,21)  
 , 가 (21c,22c) 가  
 , 가 (21d,22d) .  
 , (21d,22d) 가 가 .  
 , (21,22) (G)( 24 ) (23) 가  
 .  
 , (21d,22d) (21b,22b) 2 가 ,  
 (L<sub>A</sub>,L<sub>A</sub>) 1 2  
 가 .  
 , , , , , , ,  
 .  
 , ,  
 .  
 , 26 (21b) (21d) (L<sub>A21</sub>) ,  
 (22b) (22d) (L<sub>A22</sub>) (e) ,  
 (e)  
 50% , 100% 가 .  
 , 1 2 (21,22) (21d,22d) (21b,22b) (2  
 1f,22f) .  
 , 1 2 (21b,22b) (T) 28  
 , (21d,22d) (T)  
 , 29 (T) .  
 , 30 31 (21d,22d) , (T)  
 , 32 (21d,22d) (21d,22d)

22d) , 1 2 33 (21b,22b) (21d, (21g,22g) 1 .  
 , 가 (21g,22g) 1 2 (21,22) (21,22) 가 (21,22) .  
 , 1 2 (21,22) , 34 , (21b,22b) 가 (21h, 22h) .  
 , 35 , (21b, 22b) , C (30) , (30) .

[ 5]

(21d,22d) (21f,22f) 23 25 (20) ,  
 (21d,22d) 1.6mm, , (21d) (22d) 5mm,  
 (21b,22b) (G) 100mm, (21d,22d) (e) 0, 0.8mm,  
 2.5mm , 64,000 , 64,000 4m/ ,  
 (21d,22d) 2kg/cm<sup>2</sup>G 가 .  
 , , 가 ,  
 , 가 ,  
 , (21d,22d) (e) 0 0.8mm( 50 100%)  
 , , (e) 2.5mm( 0%)  
 , , .

(57)

1.

, 1 2 가  
 ,  
 1 2 (1,2) 1 (1d,2d) , (1d,2d)  
 (1d,2d) 1 2 (1,2) (R<sub>T</sub>) , (1d,2d)  
 가 (R<sub>T</sub>)  
 .

2.

1 , 1 2 (1,2) , (R<sub>T</sub>) 가

3.

- 1 , (1d,2d) , .
- 4.
- 1 , (1d,2d) , .
- 5.
- 1 , 1 2 (1,2) , ( (1g,2g) (R<sub>T</sub>) .
- 6.
- 1 , 1 2 (11,12) , ( (R<sub>T</sub>) (11e,12e) 1 (11e,12e) , .
- 7.
- 6 , 1 2 (11,12) , (R<sub>T</sub>) 가 .
- 8.
- 6 , (11e,12e) (11d,12d) .
- 9.
- 6 , (11e,12e) (11d,12d) , .
- 10.
- , 1 2 가 , 1 , 2 (21,22) (21d,22d) , , (21d,22d) .
- 11.
- 10 , (21d,22d) .

12.

11 , (21d,22d) 50% , 100%

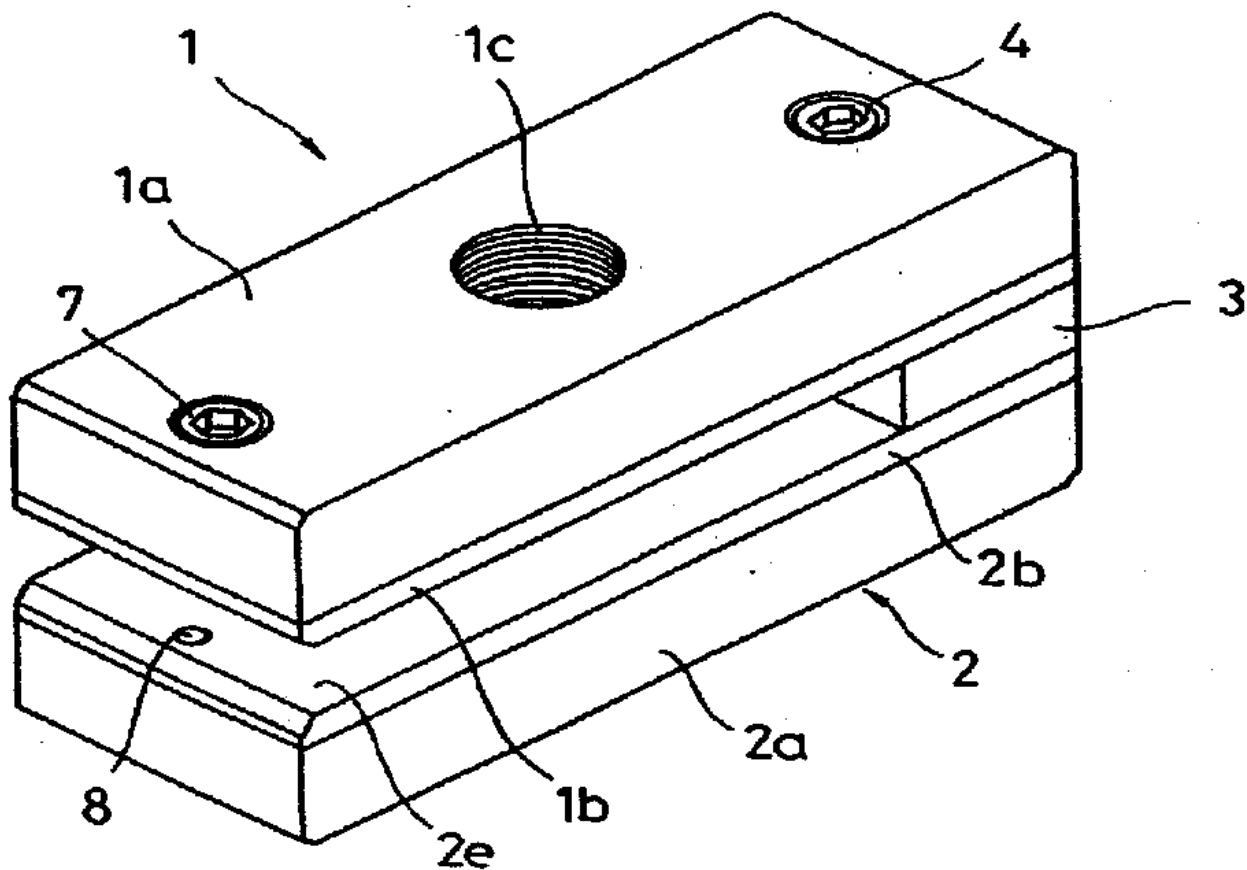
13.

10 , 1 2 (21,22) (21d,22d)

14.

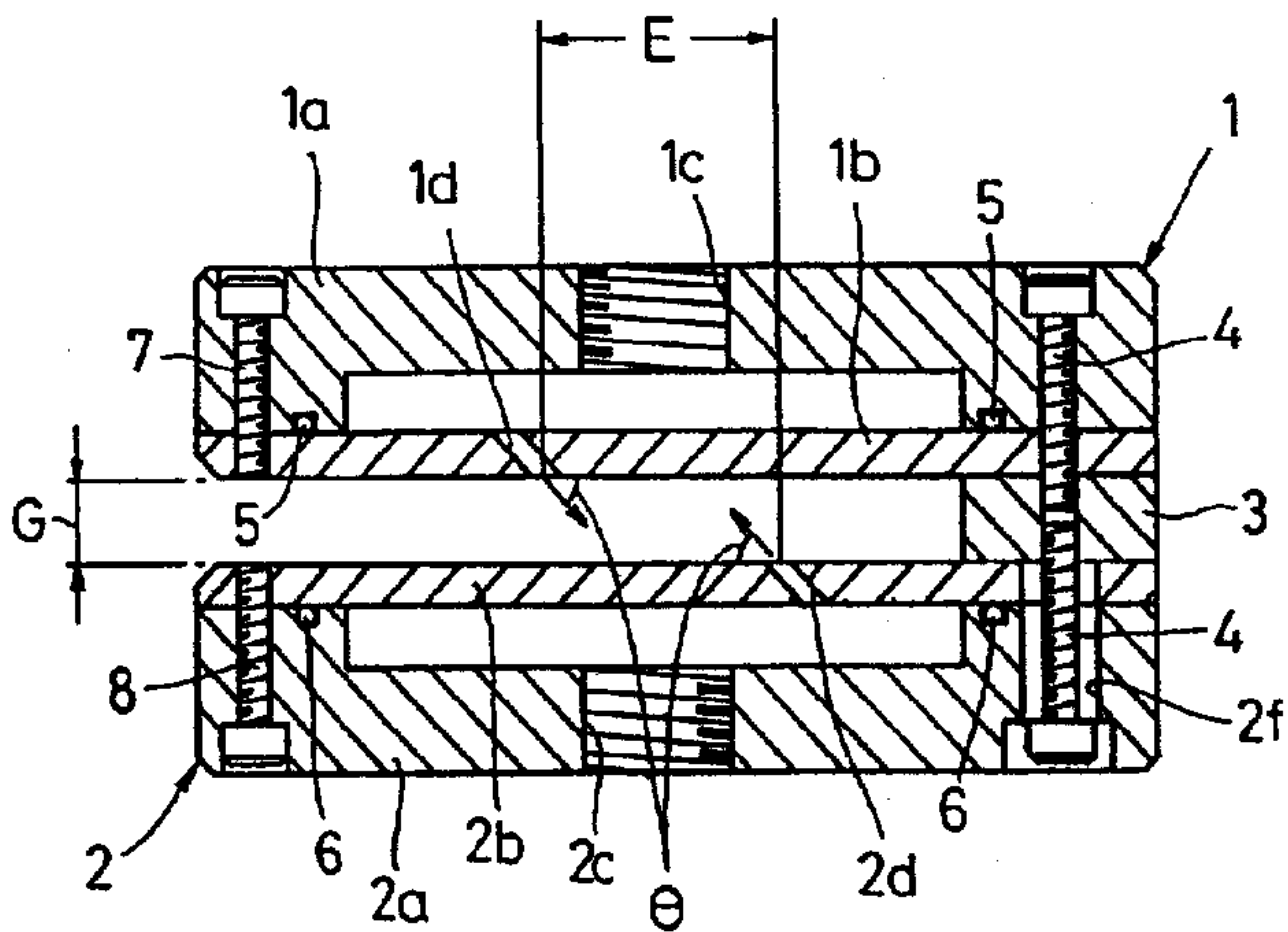
10 , 1 2 (21,22) , (21d,22d)  
가 (21g,22g) 1

1

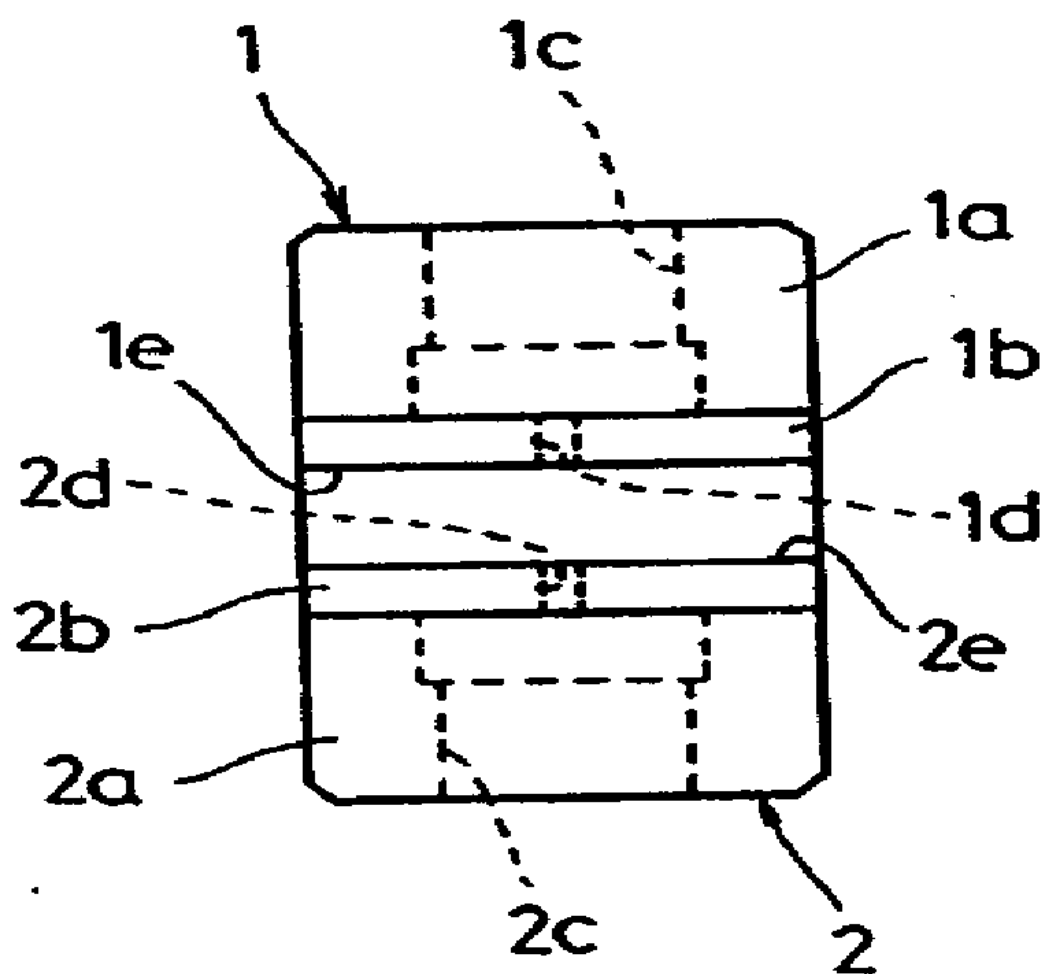


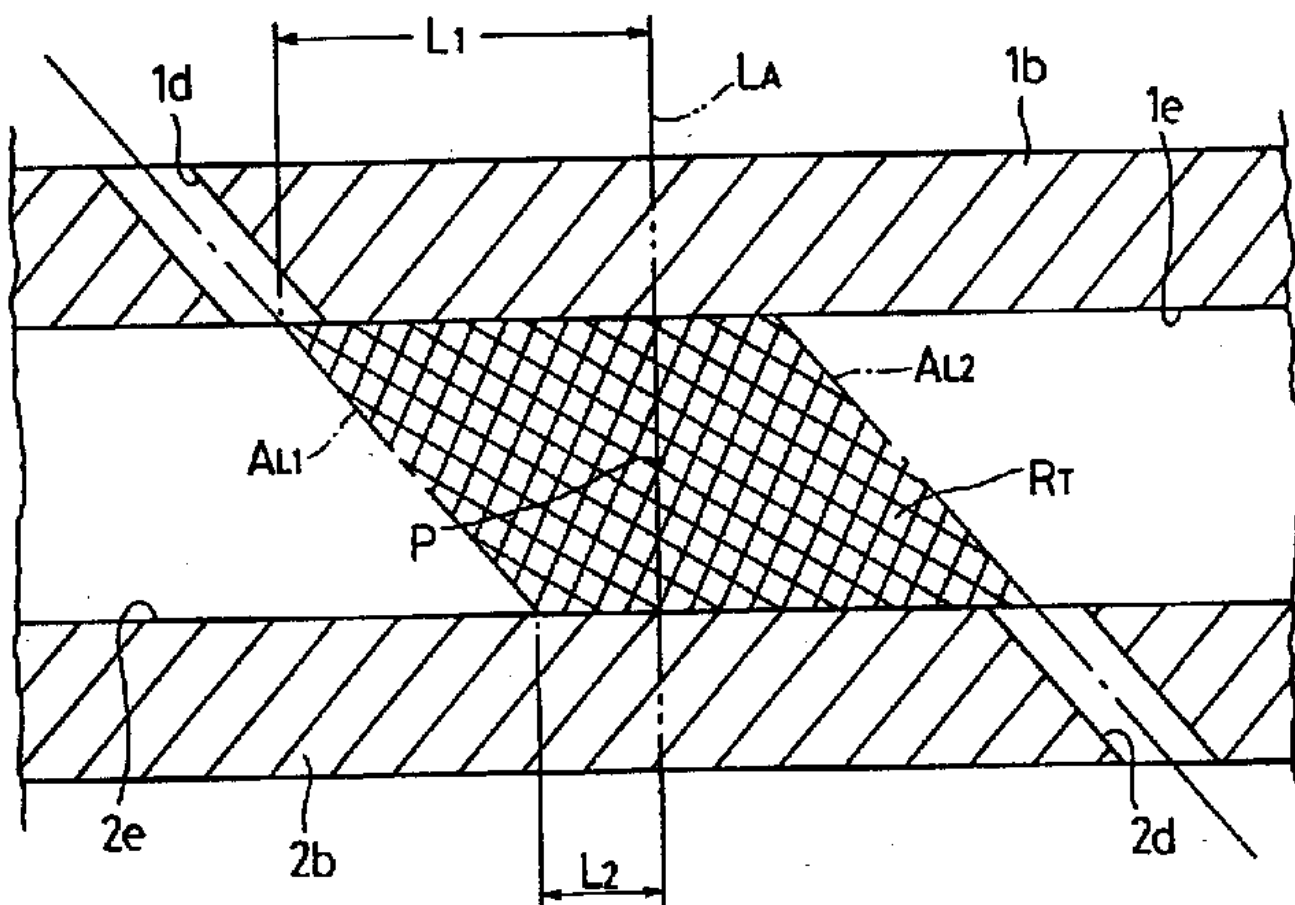


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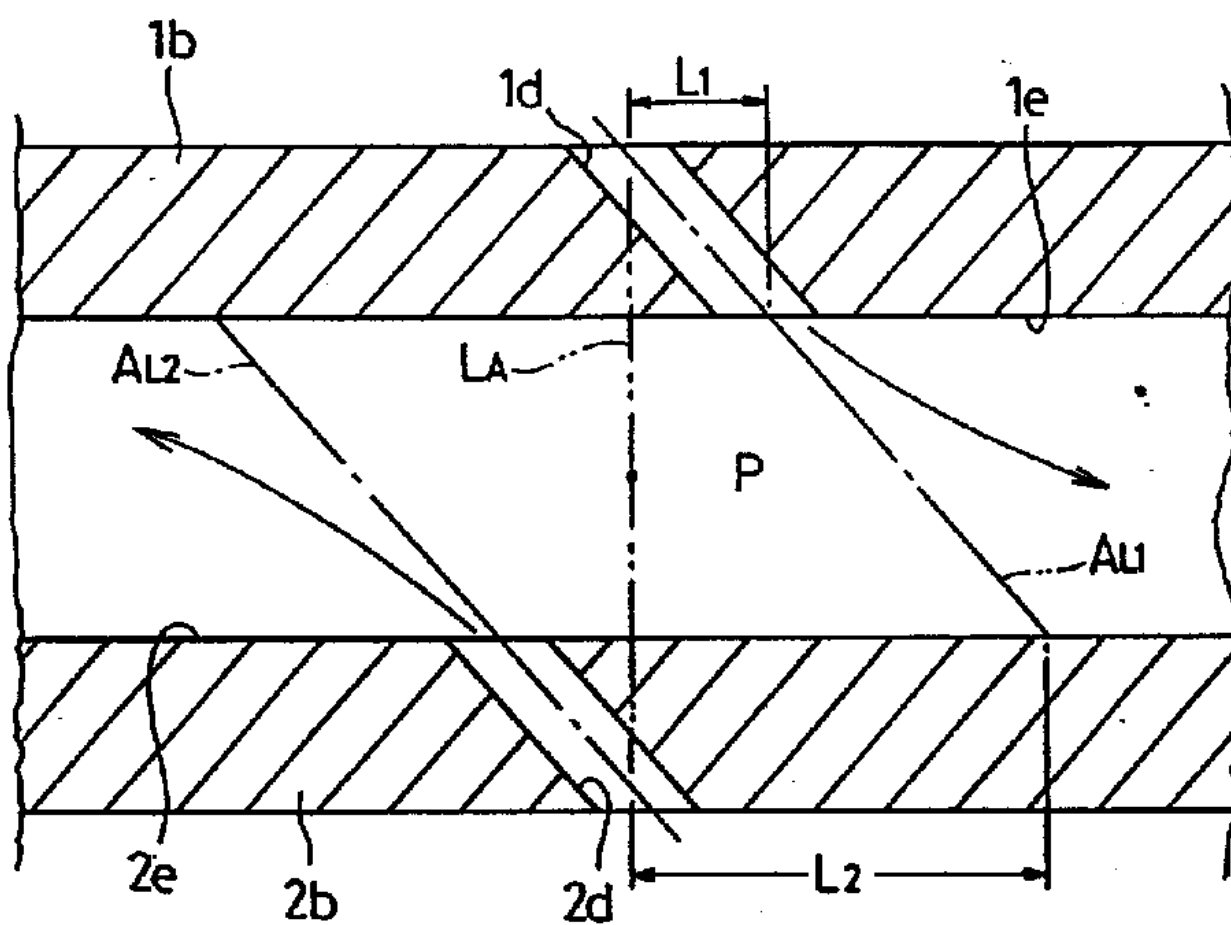


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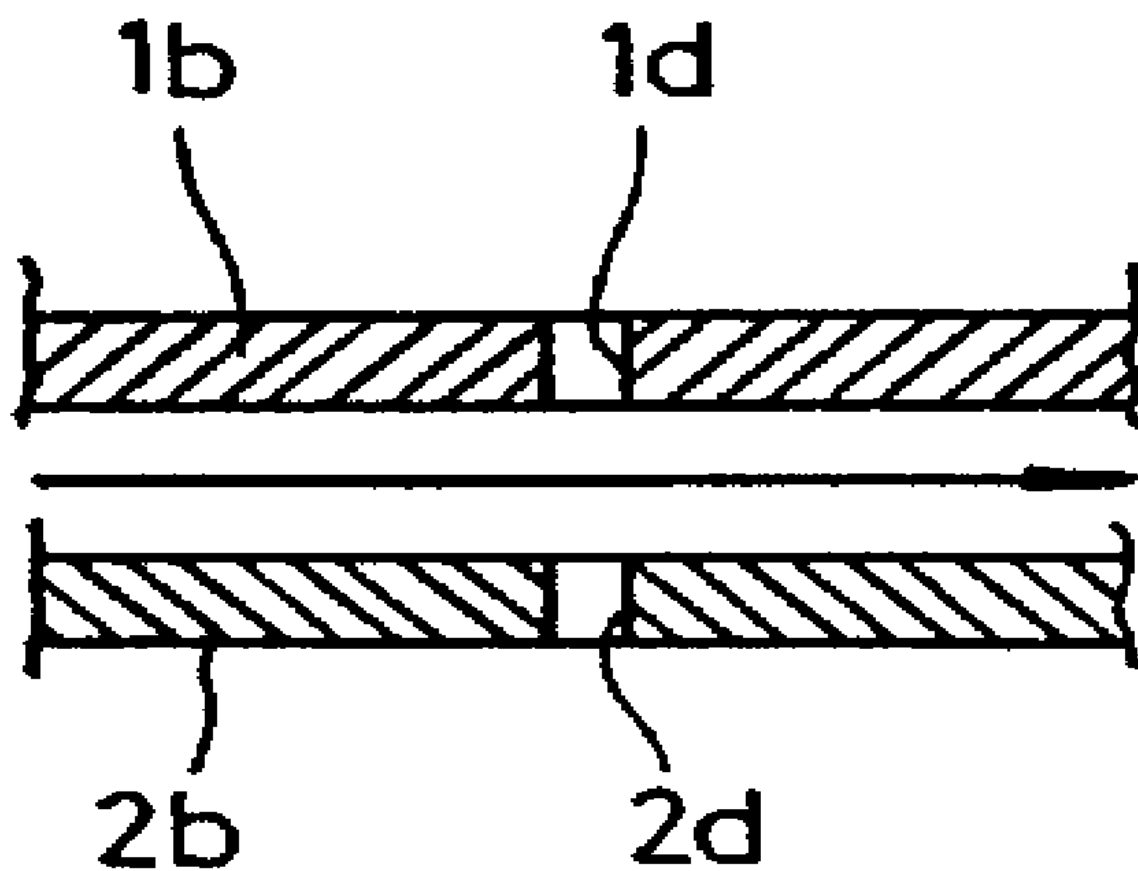




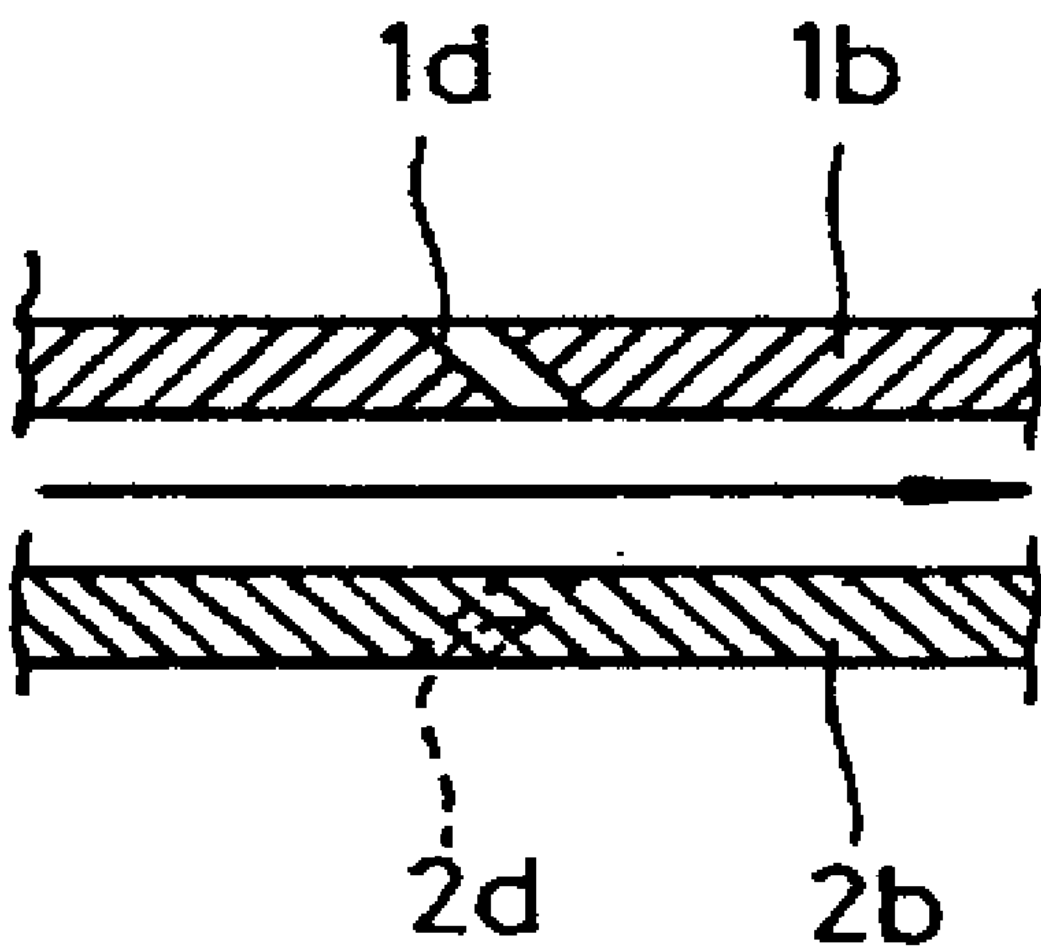
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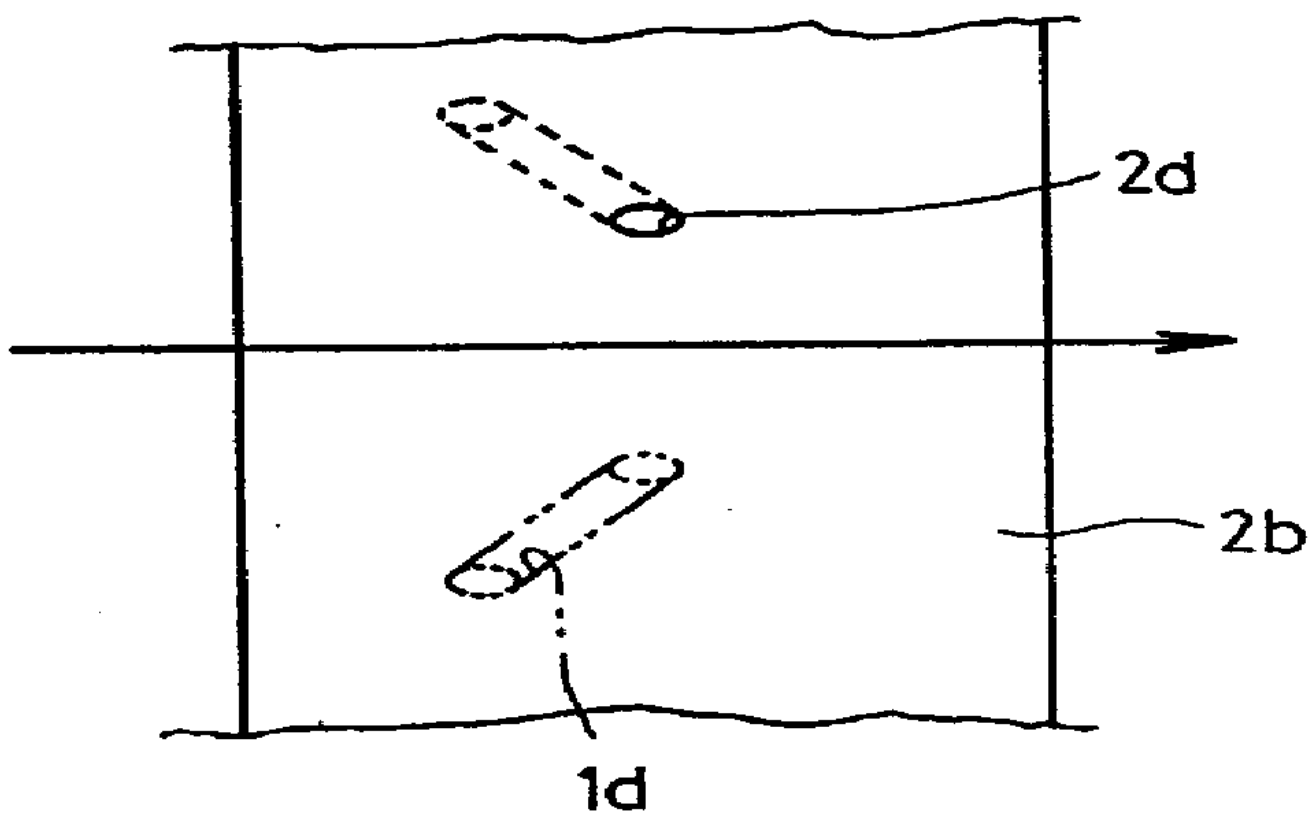


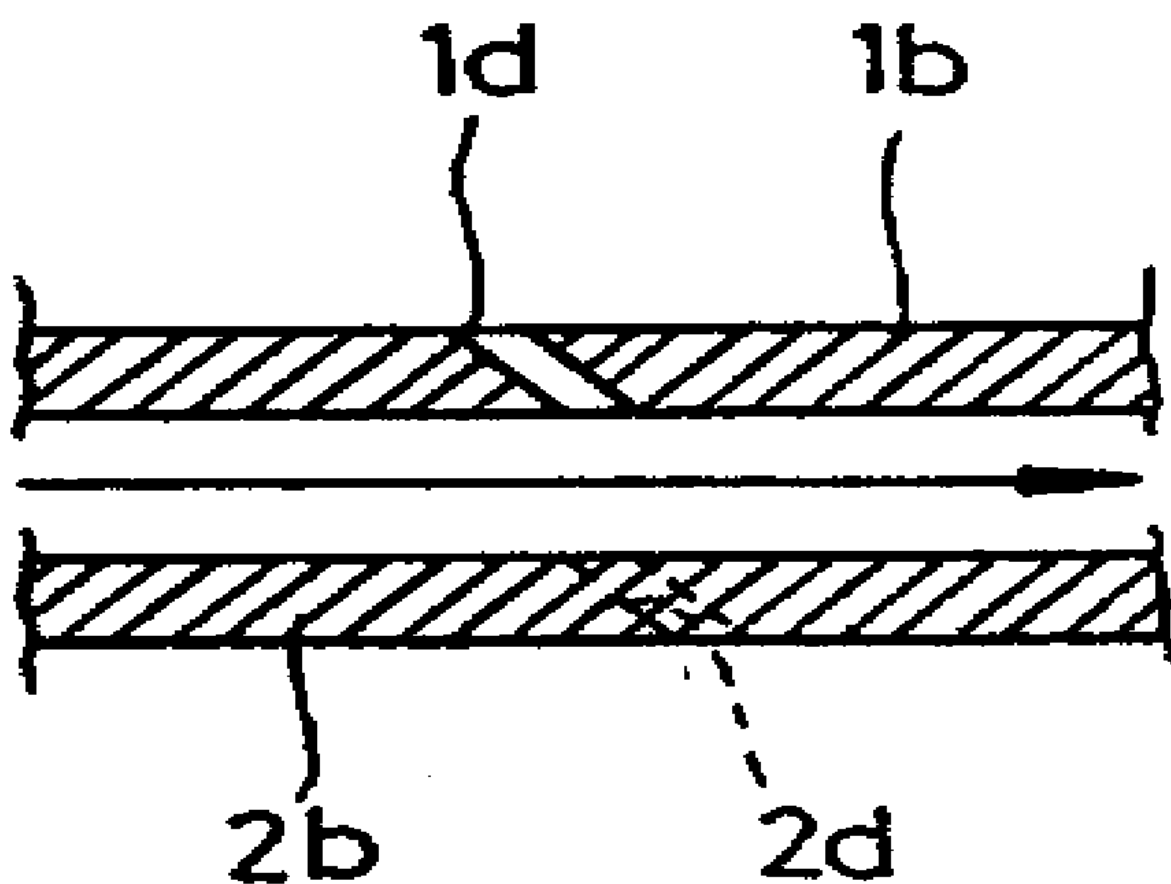
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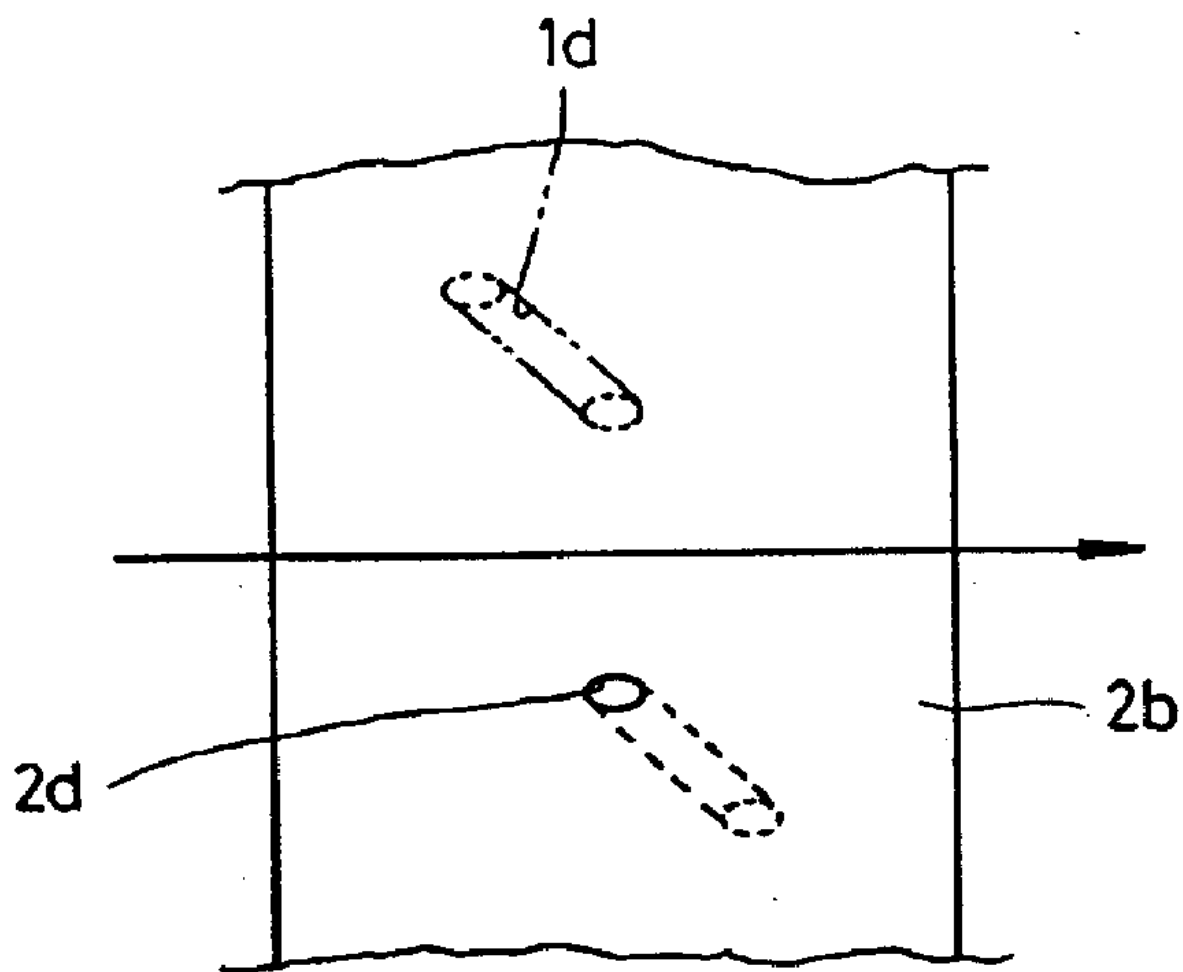


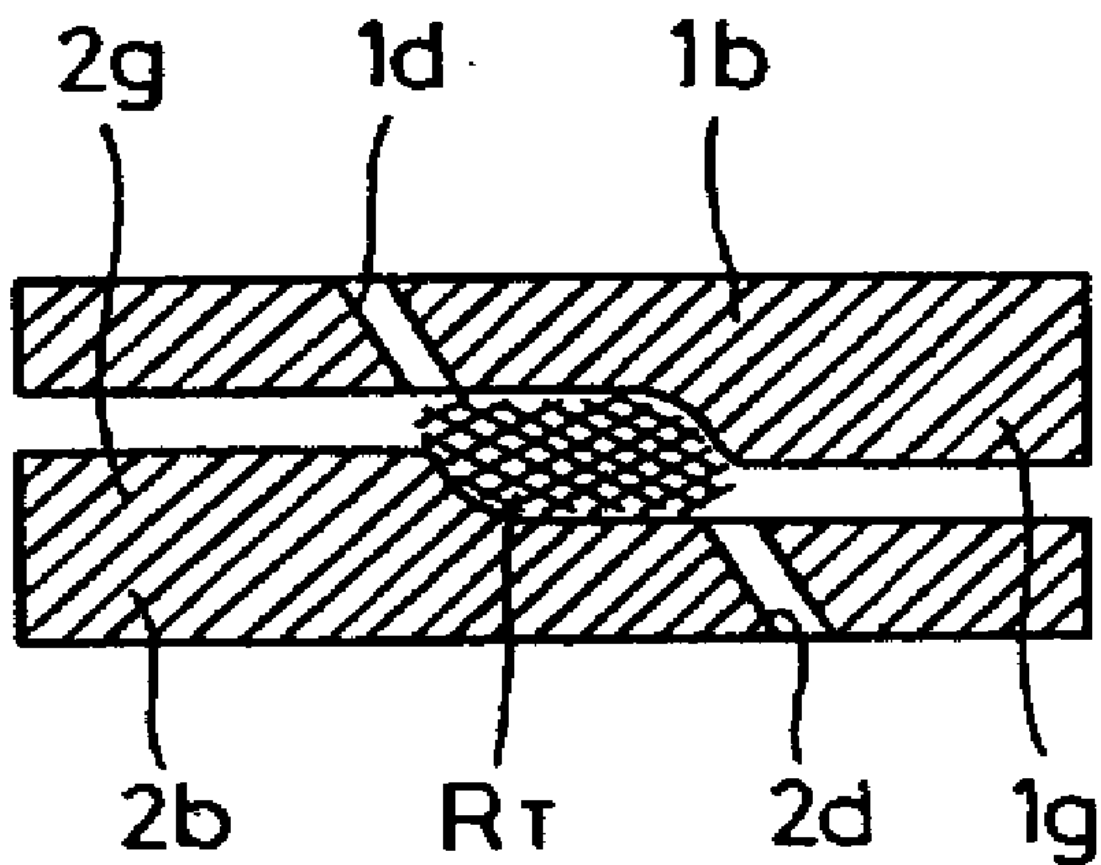




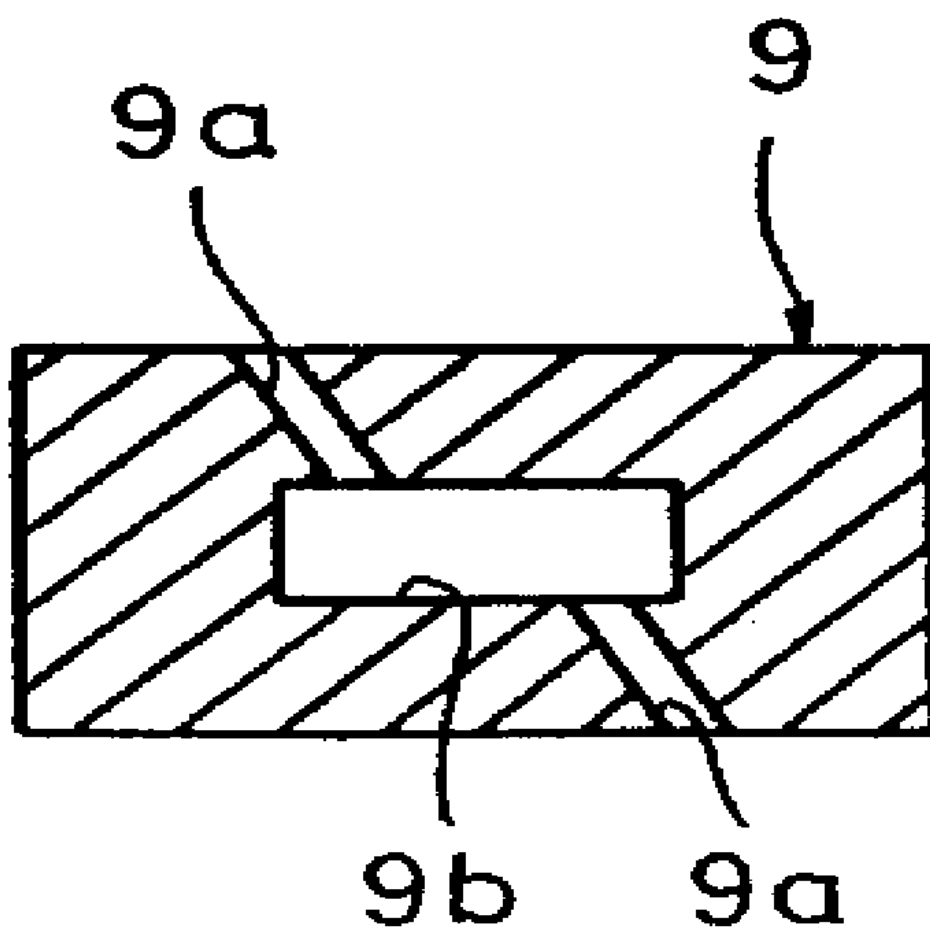


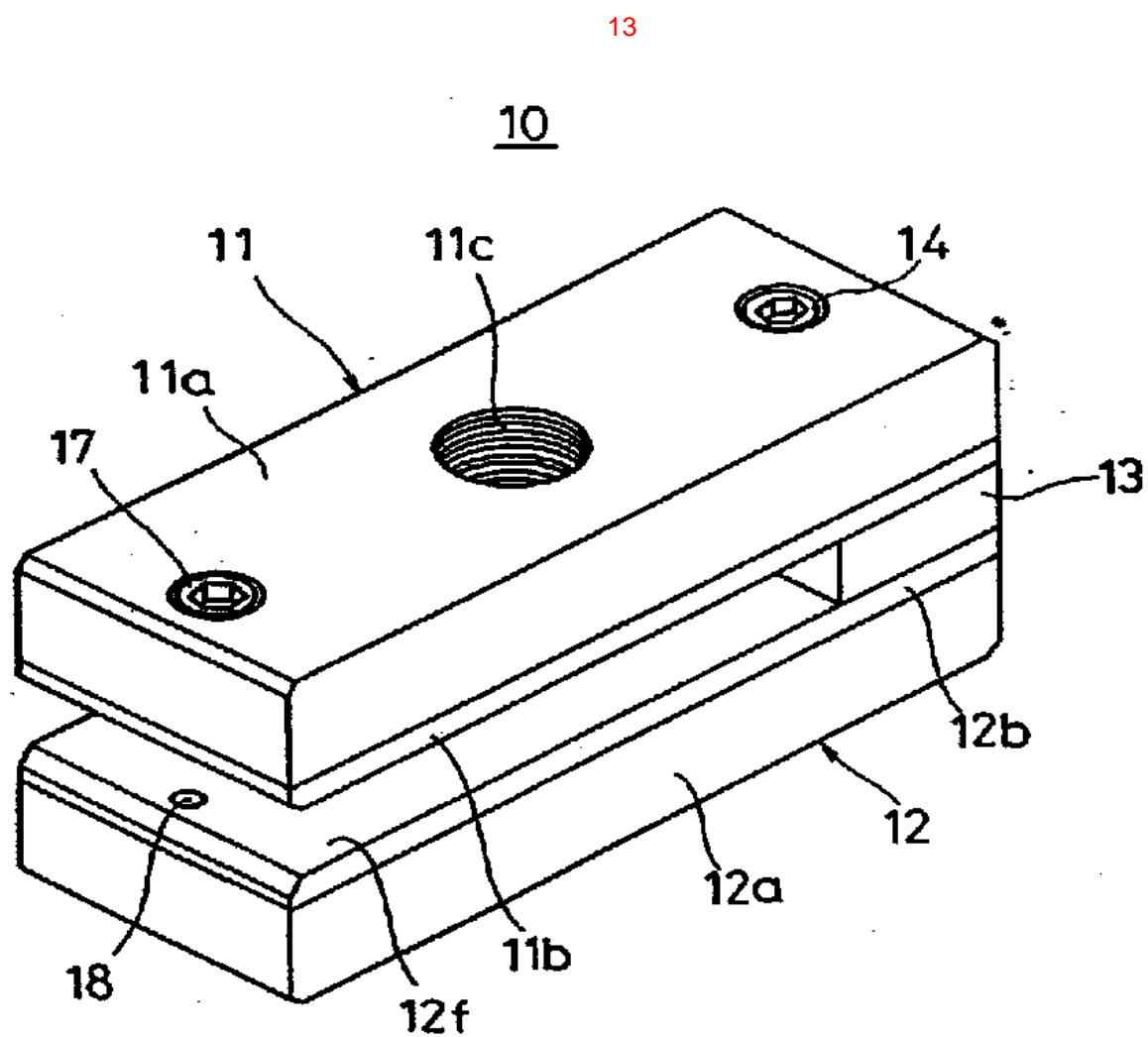
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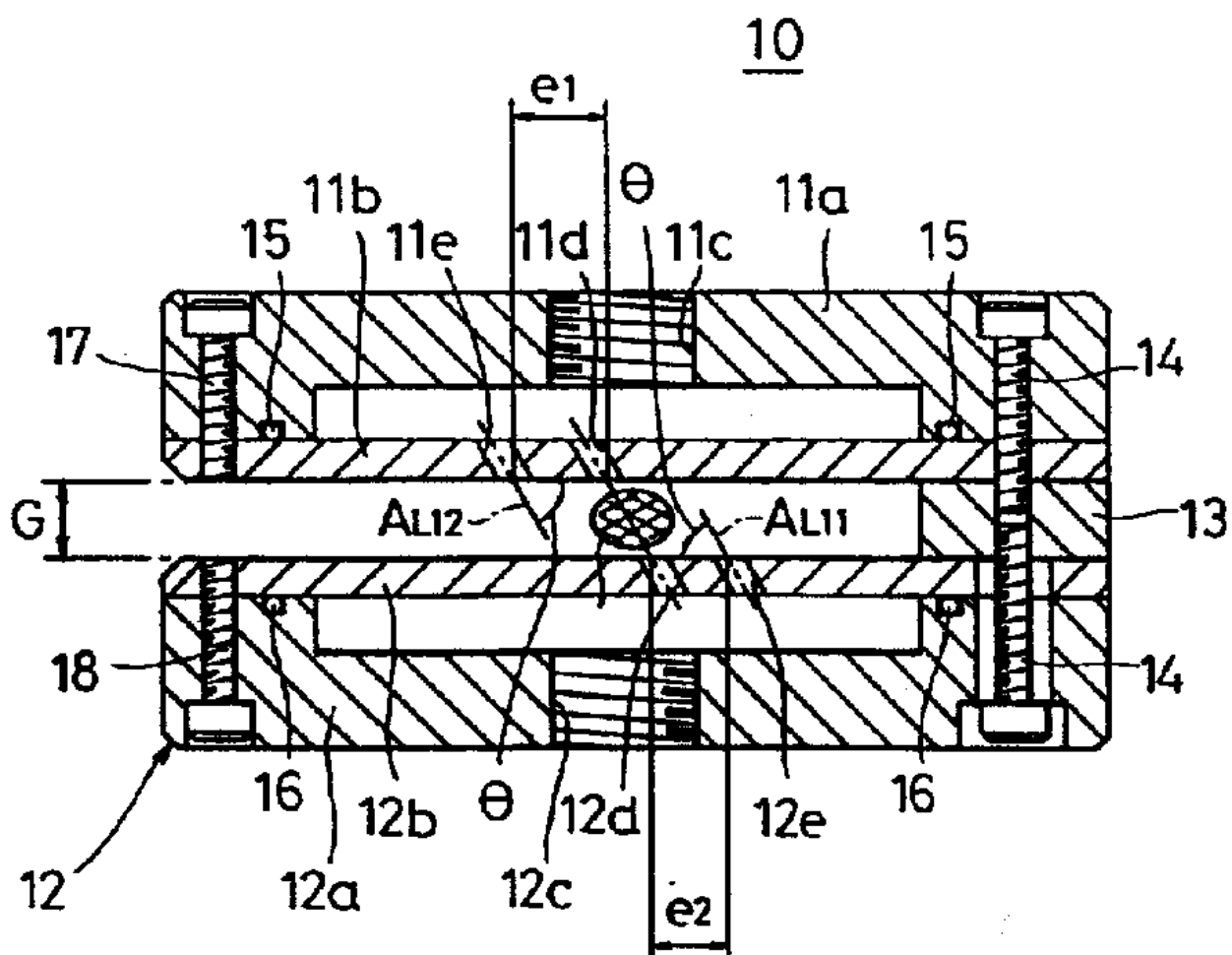


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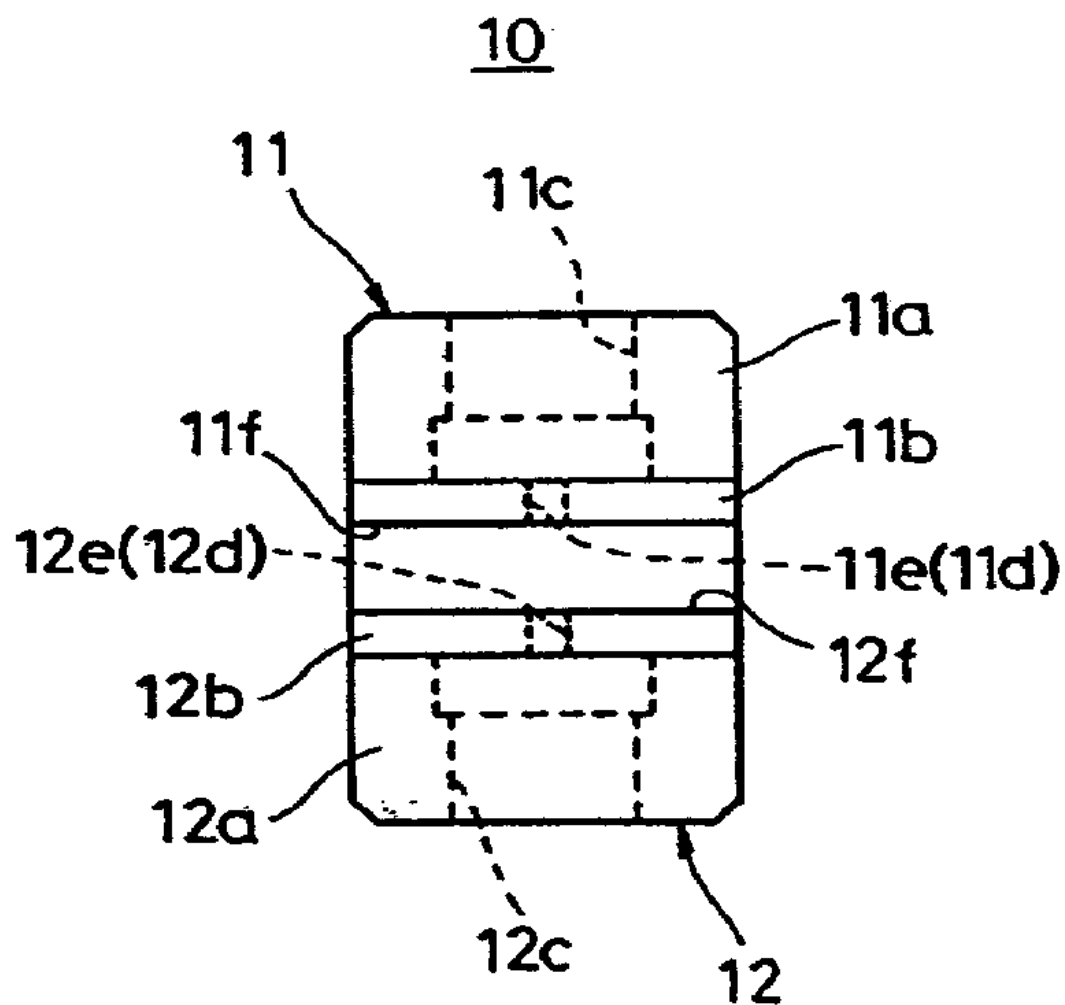


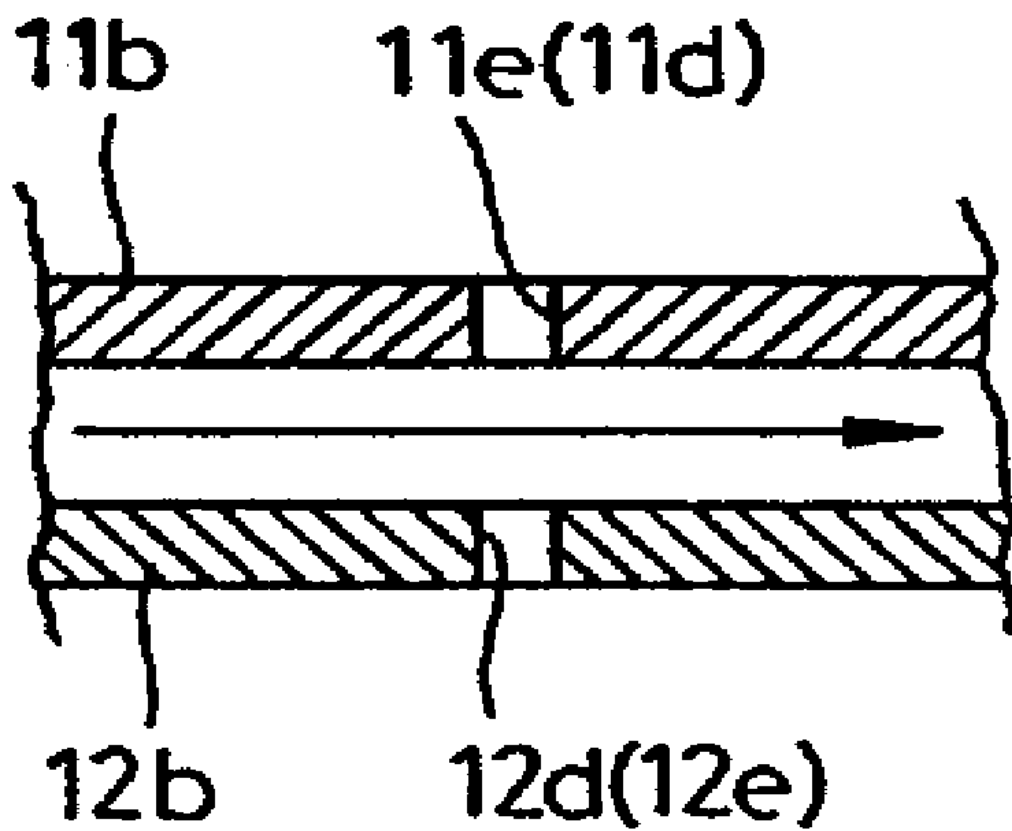


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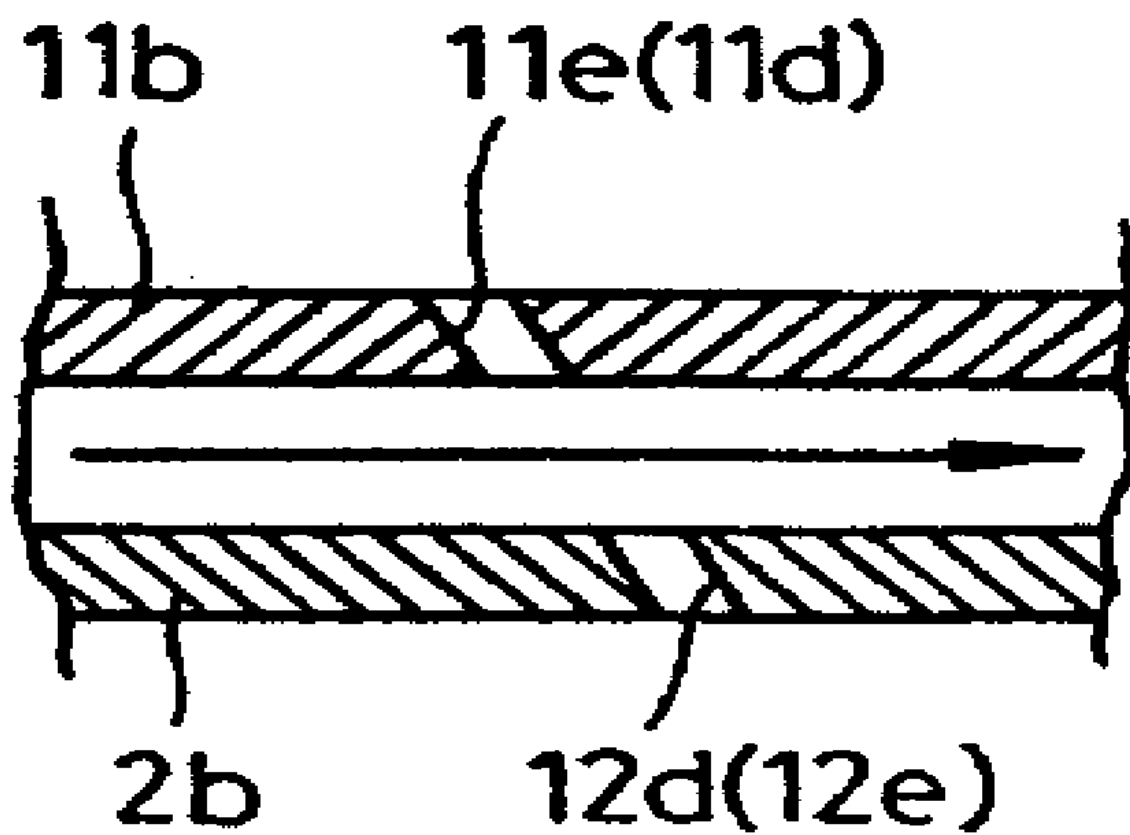


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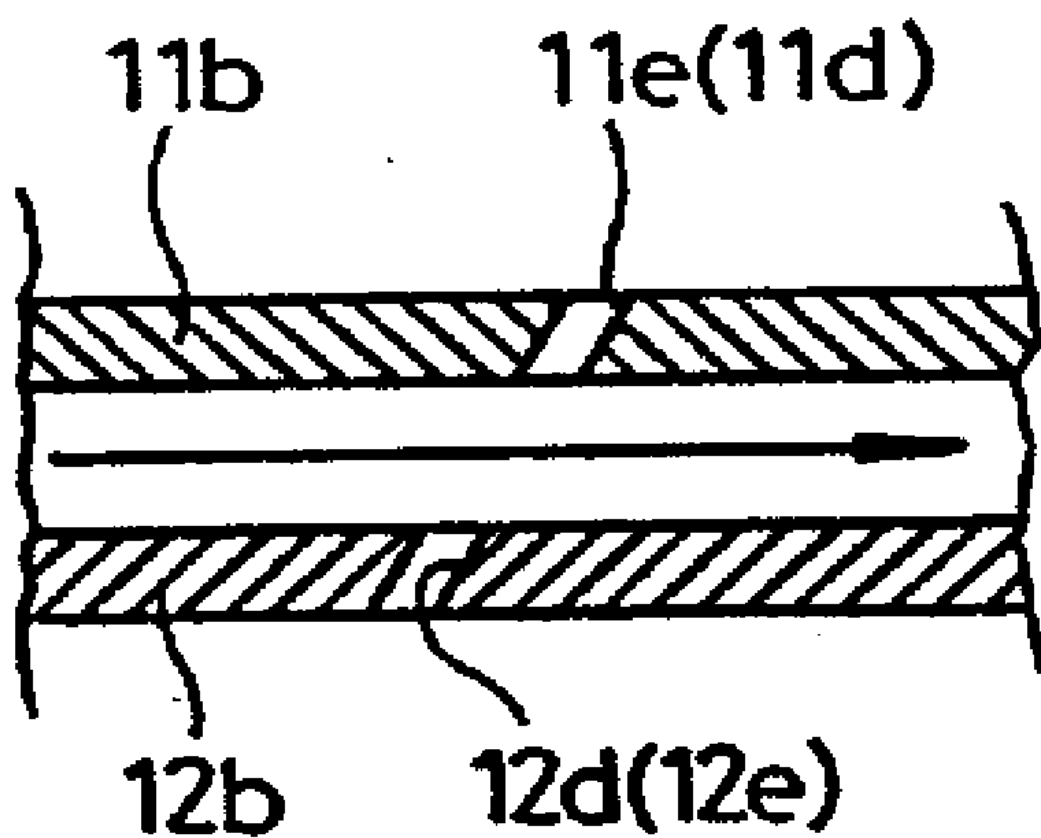


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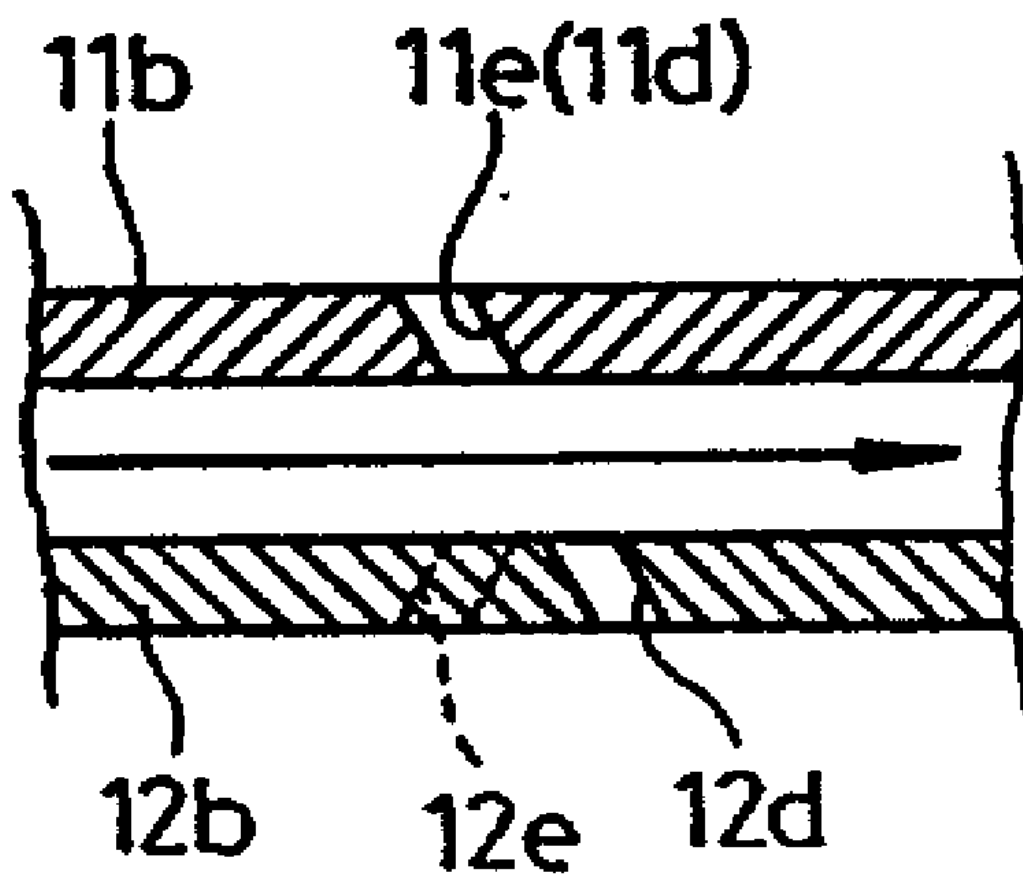


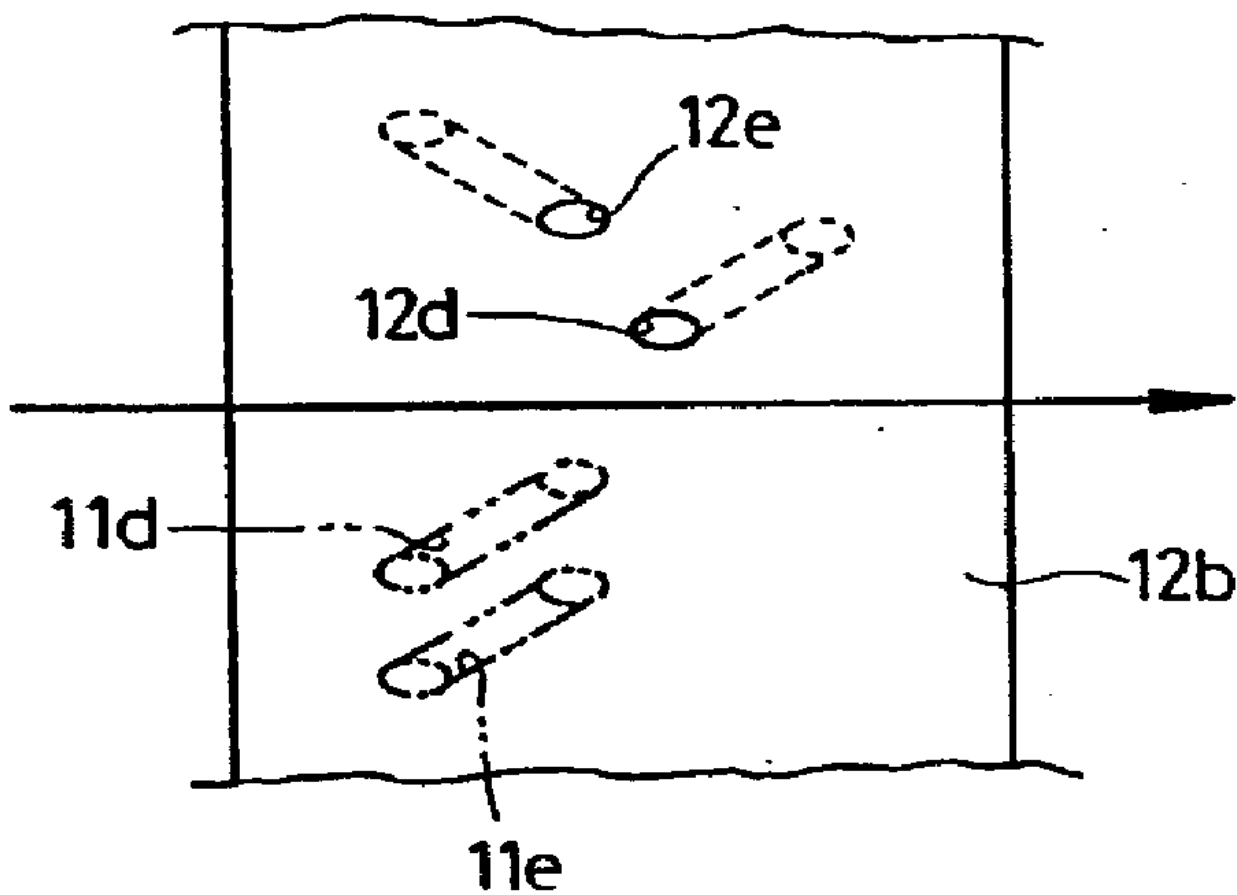


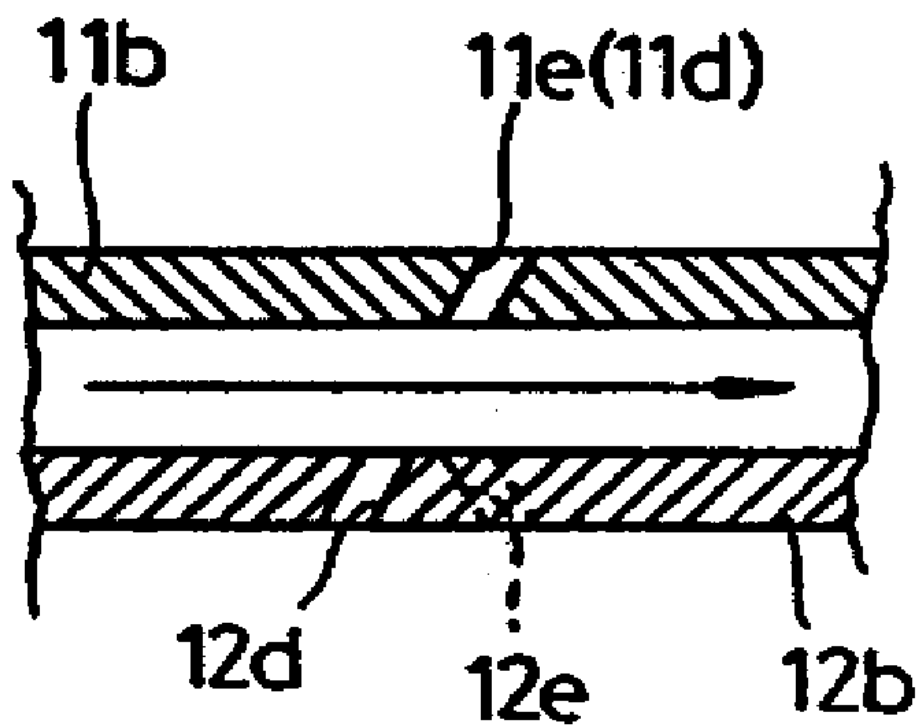
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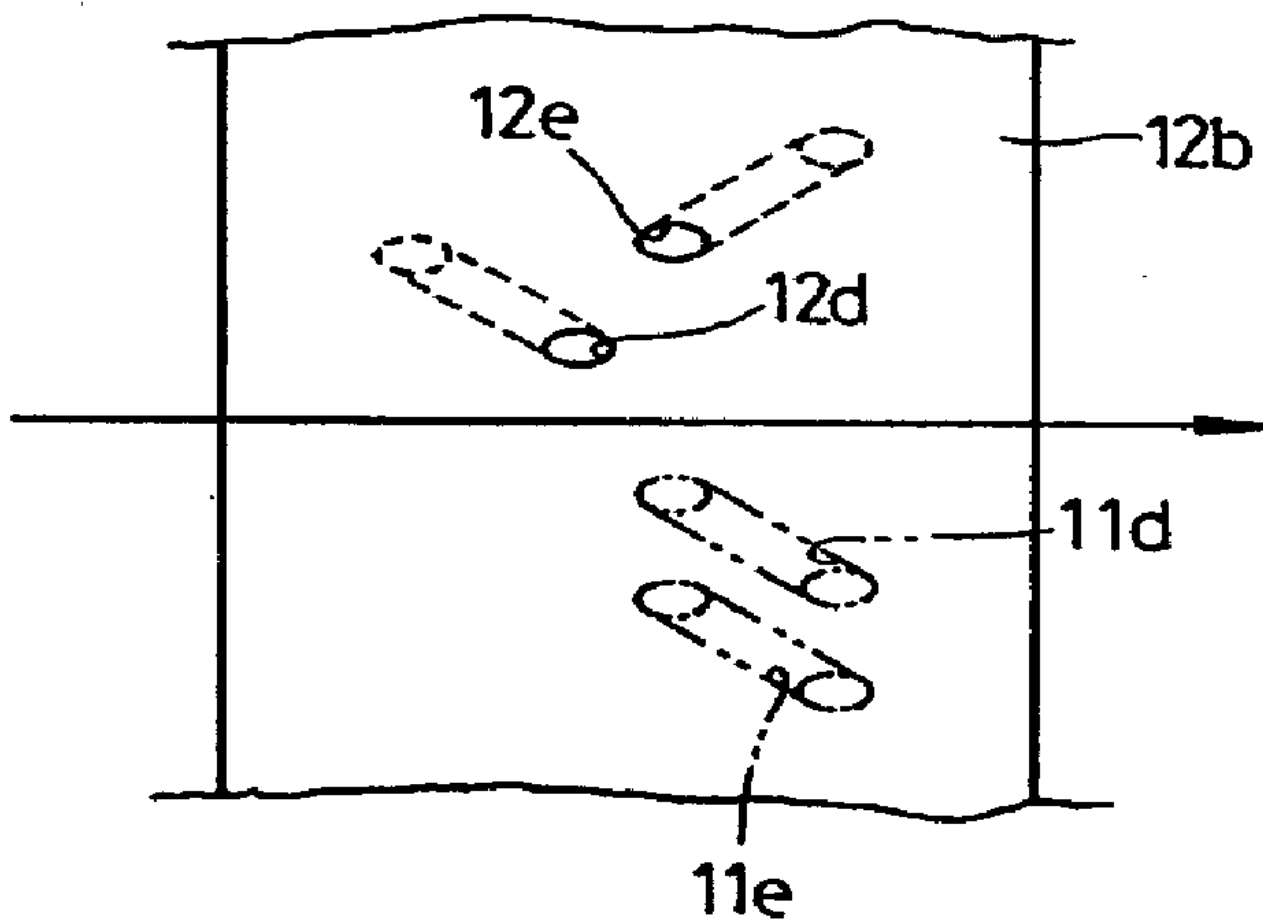
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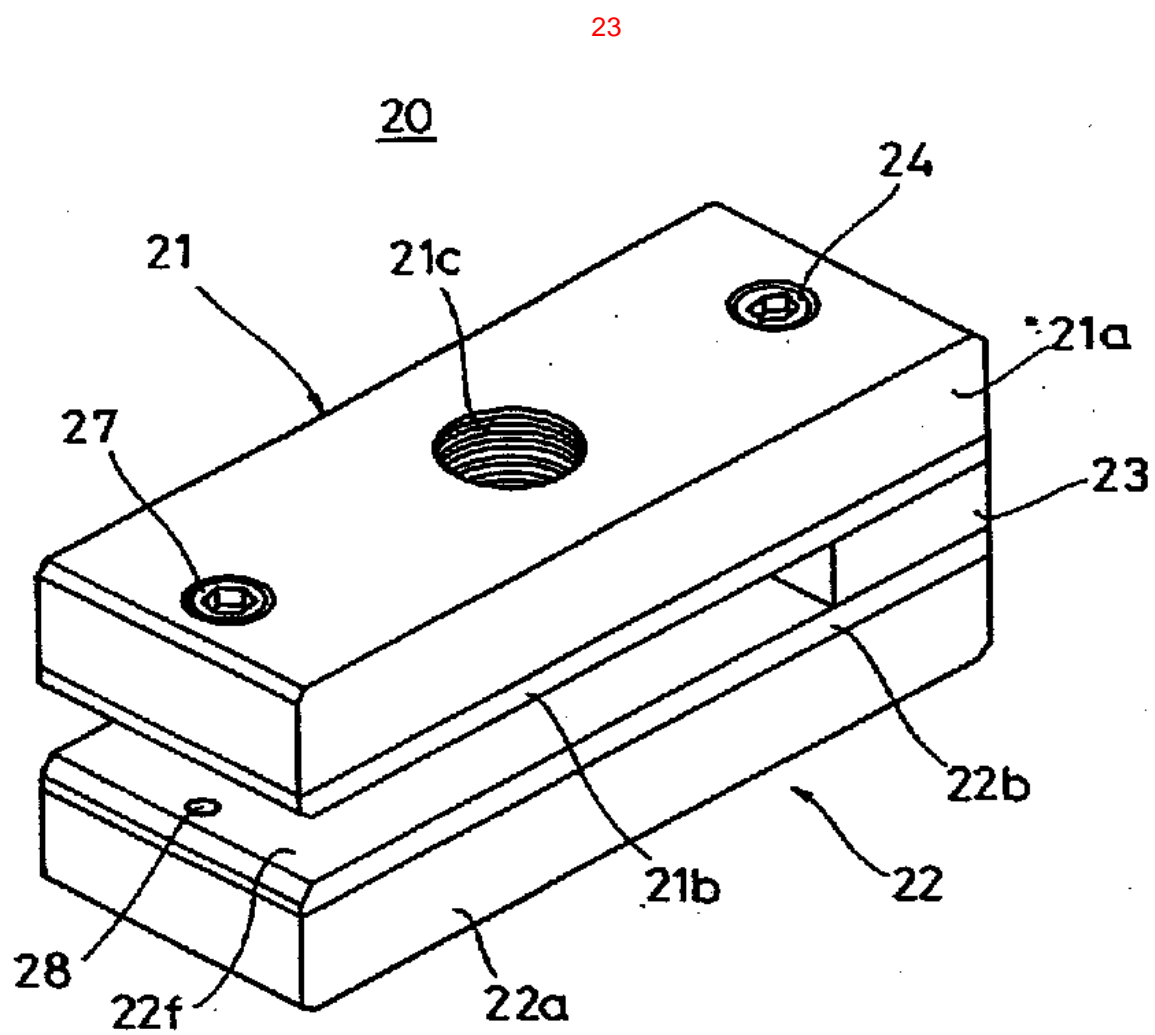




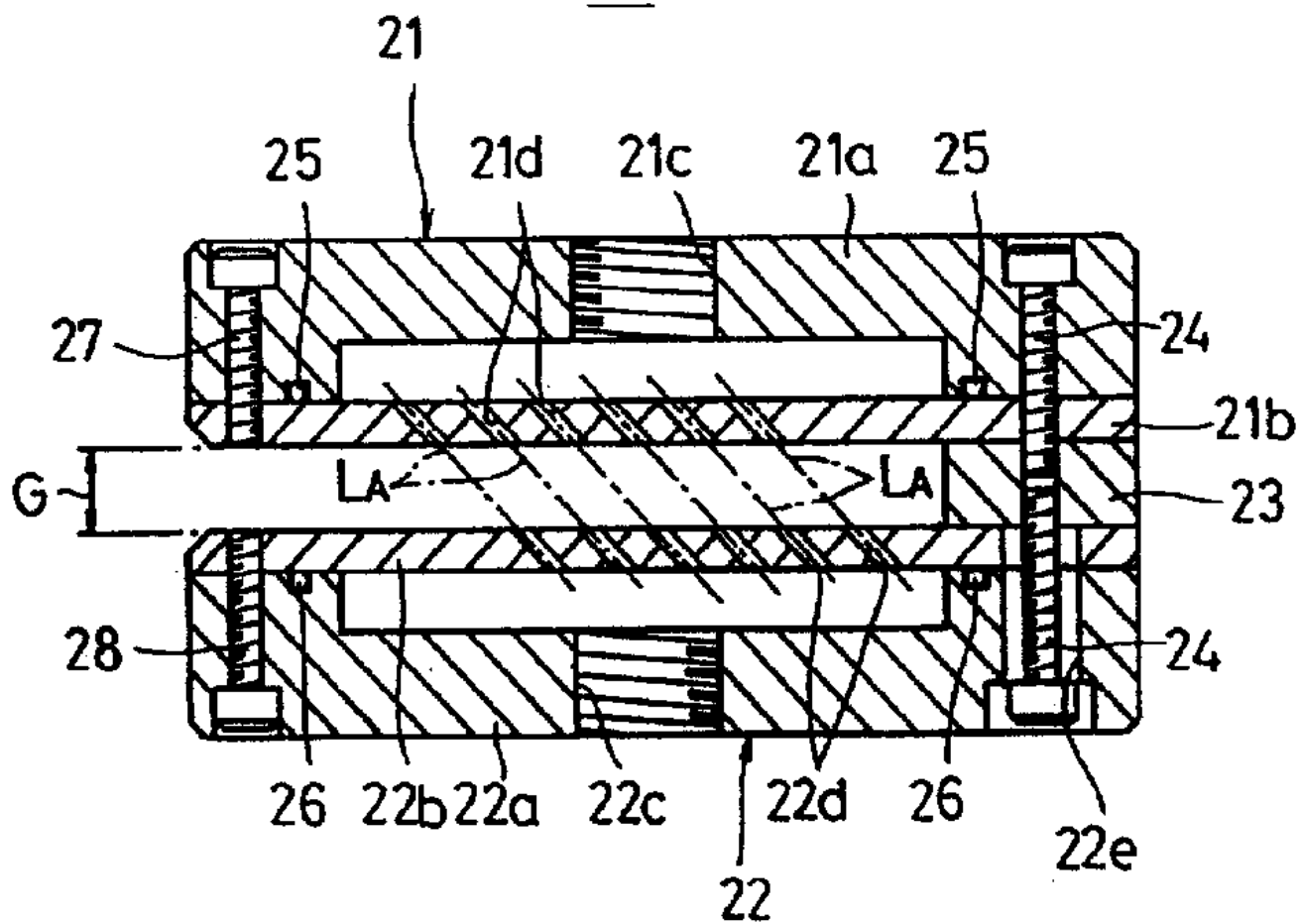


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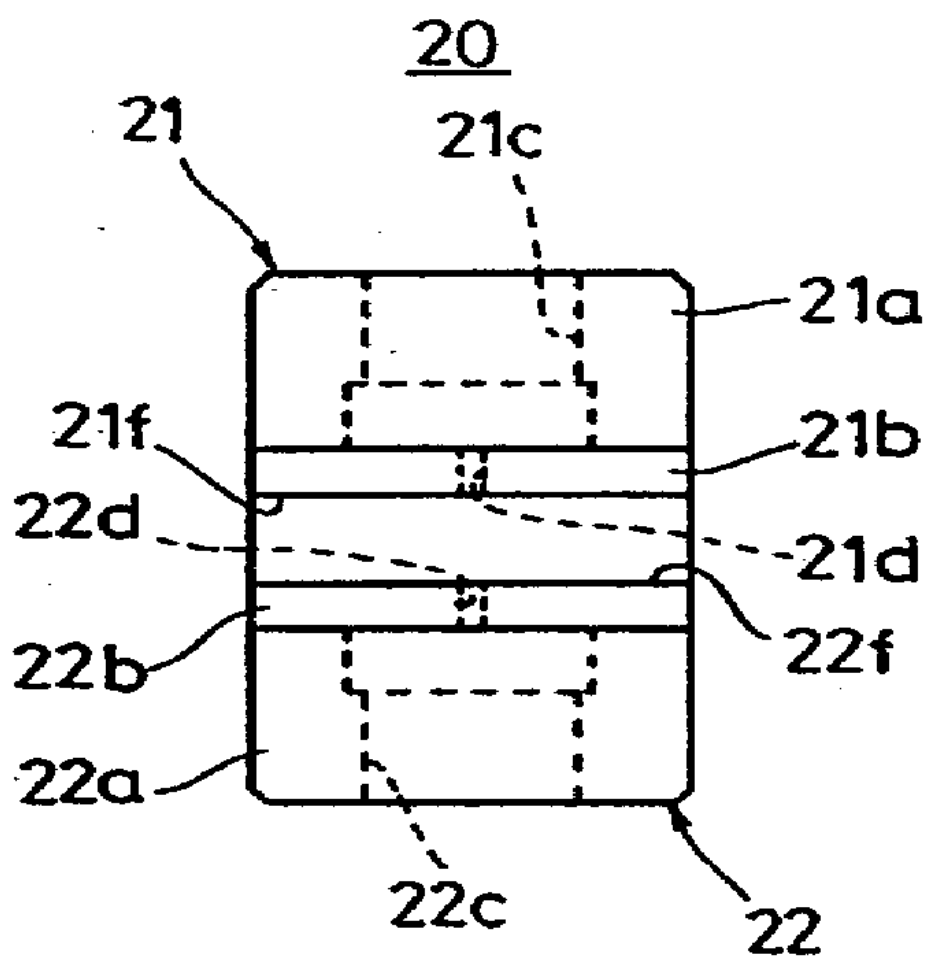




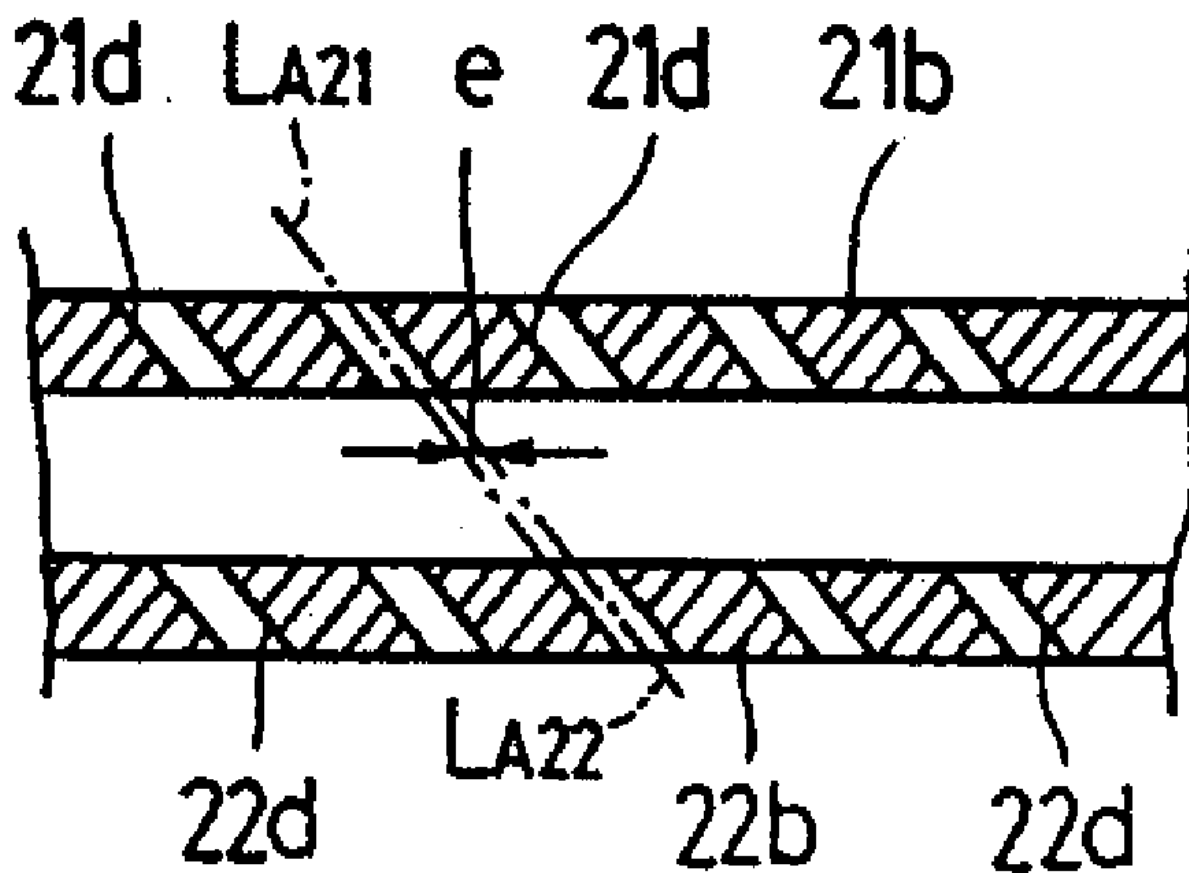
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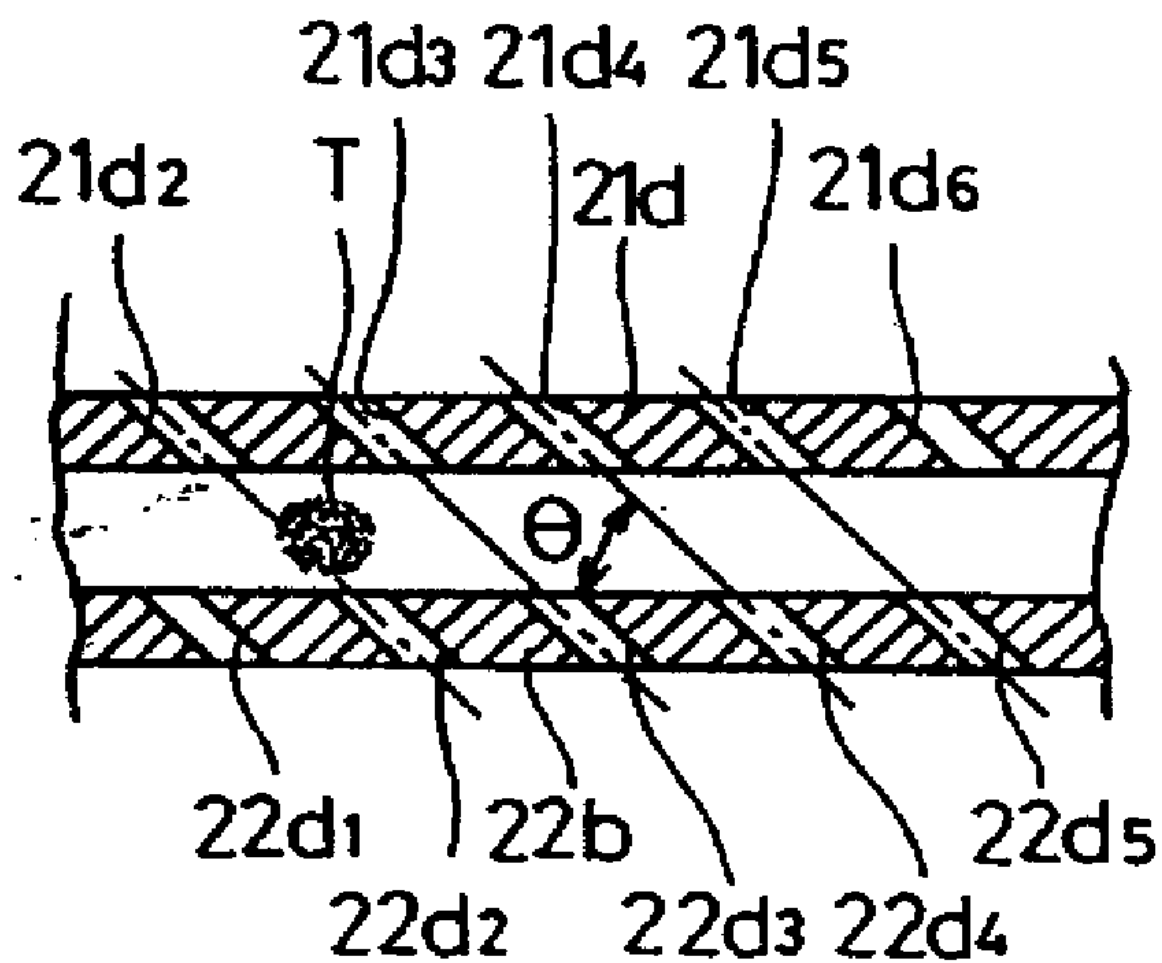
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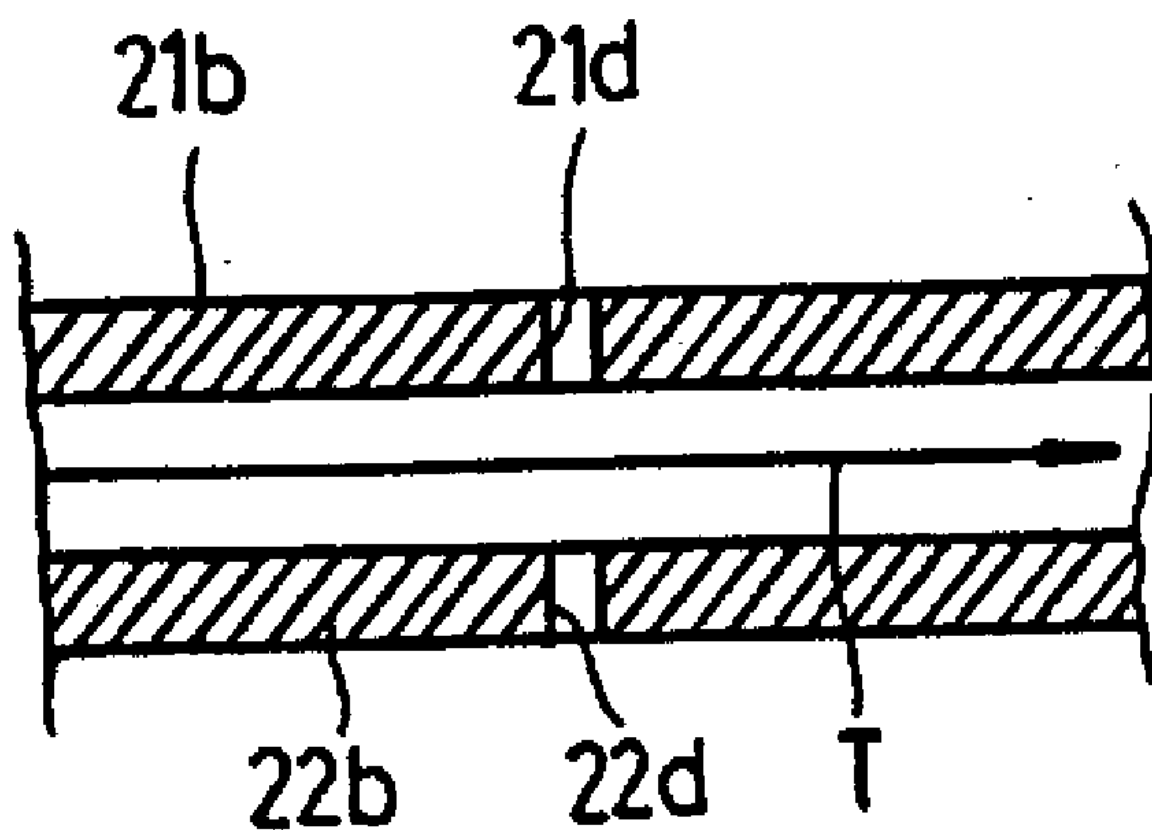




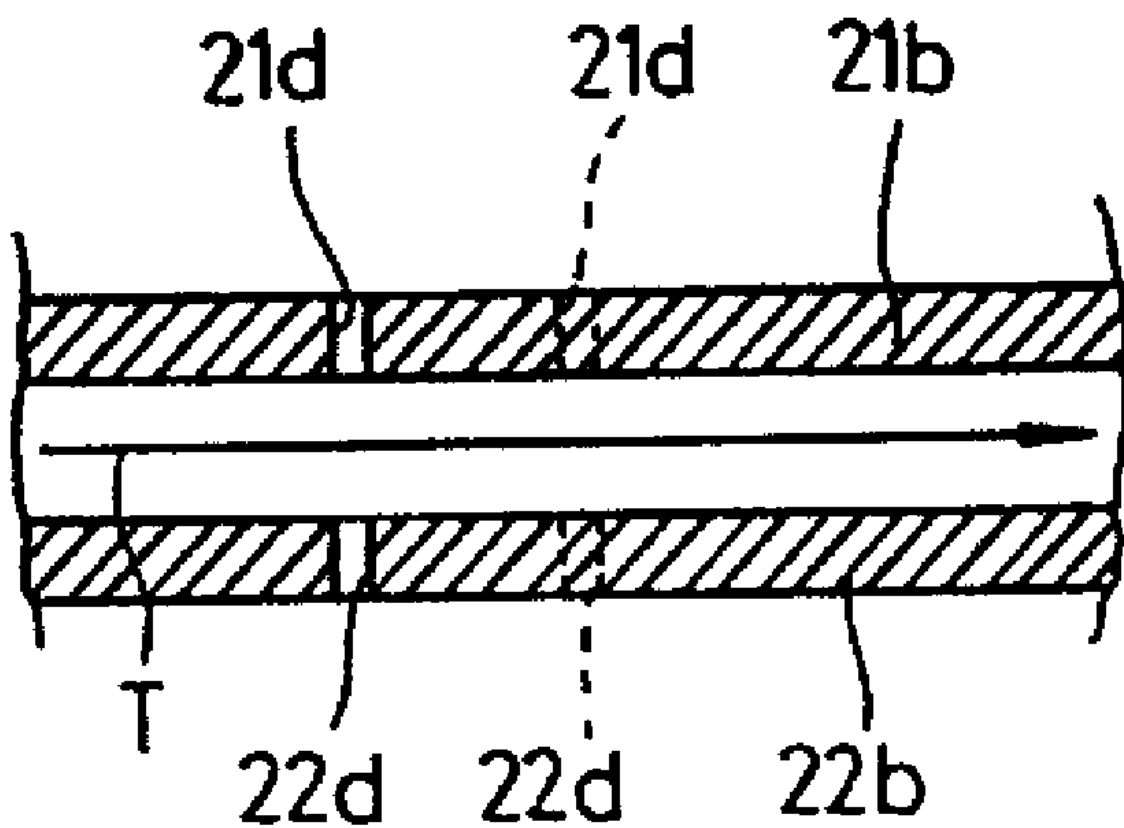
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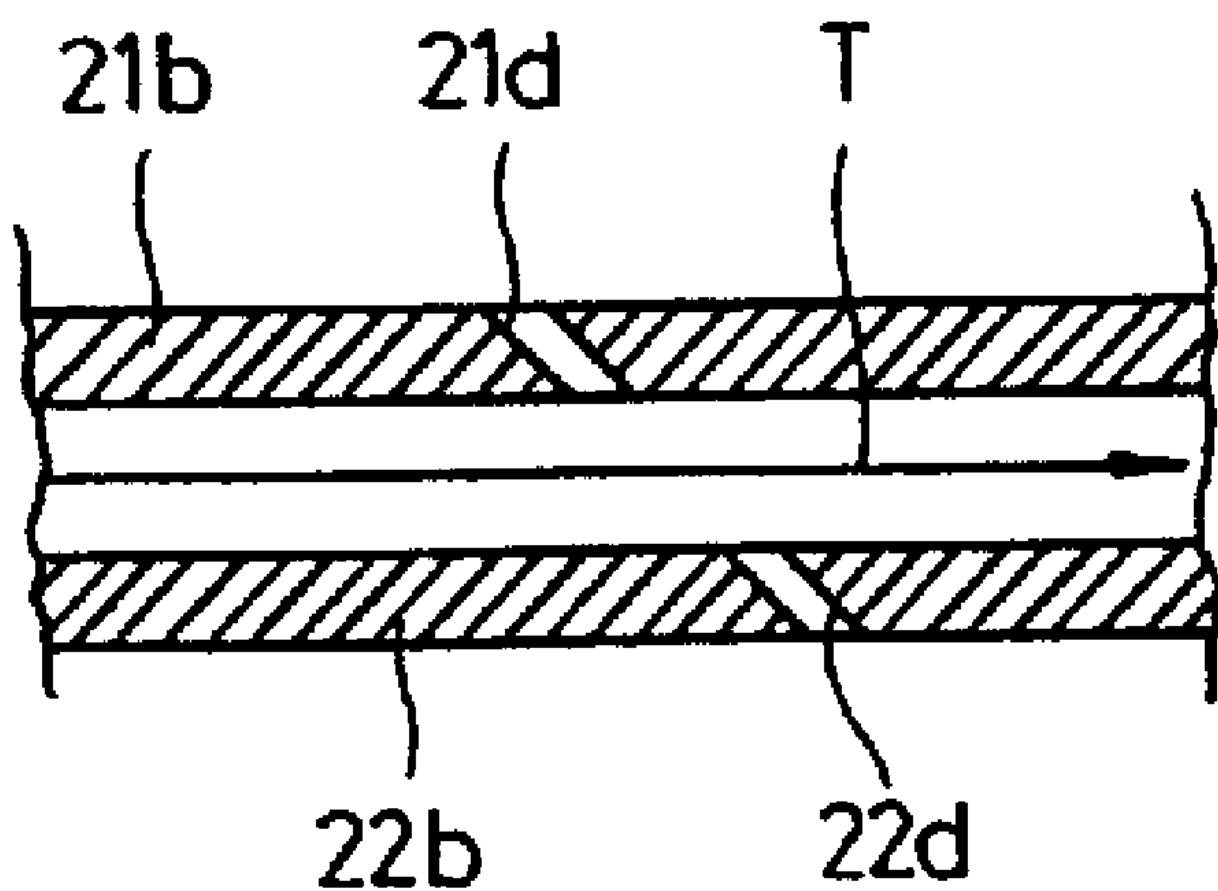
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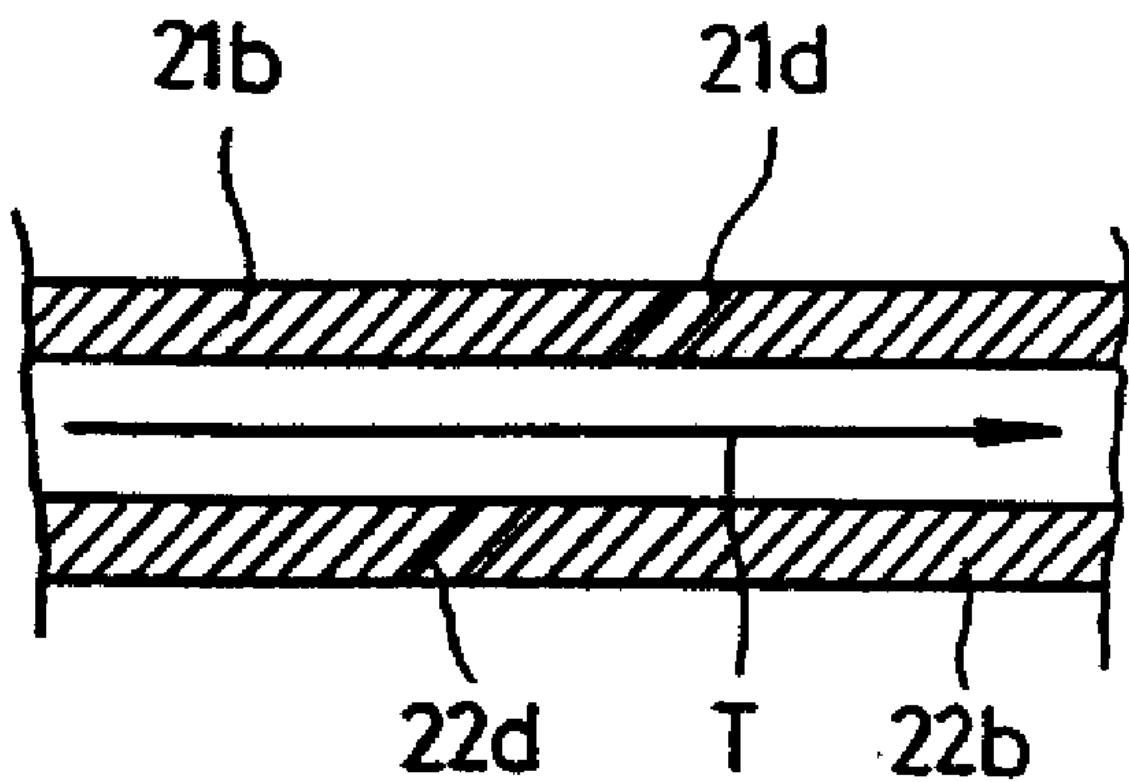
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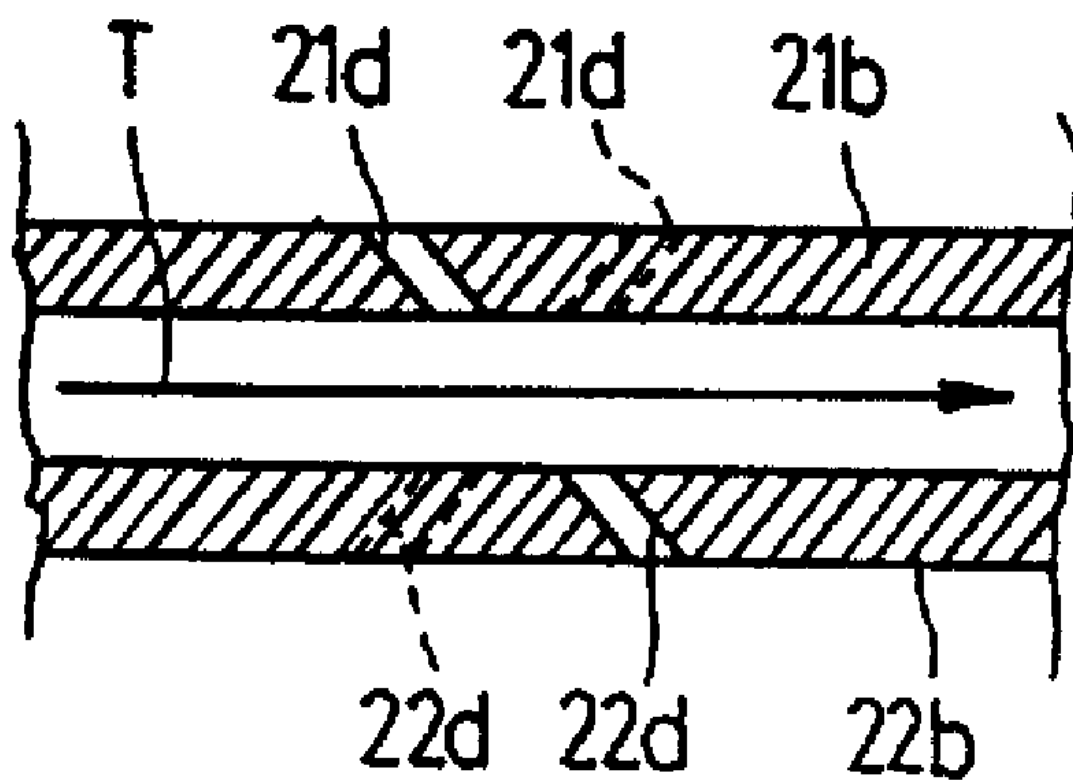
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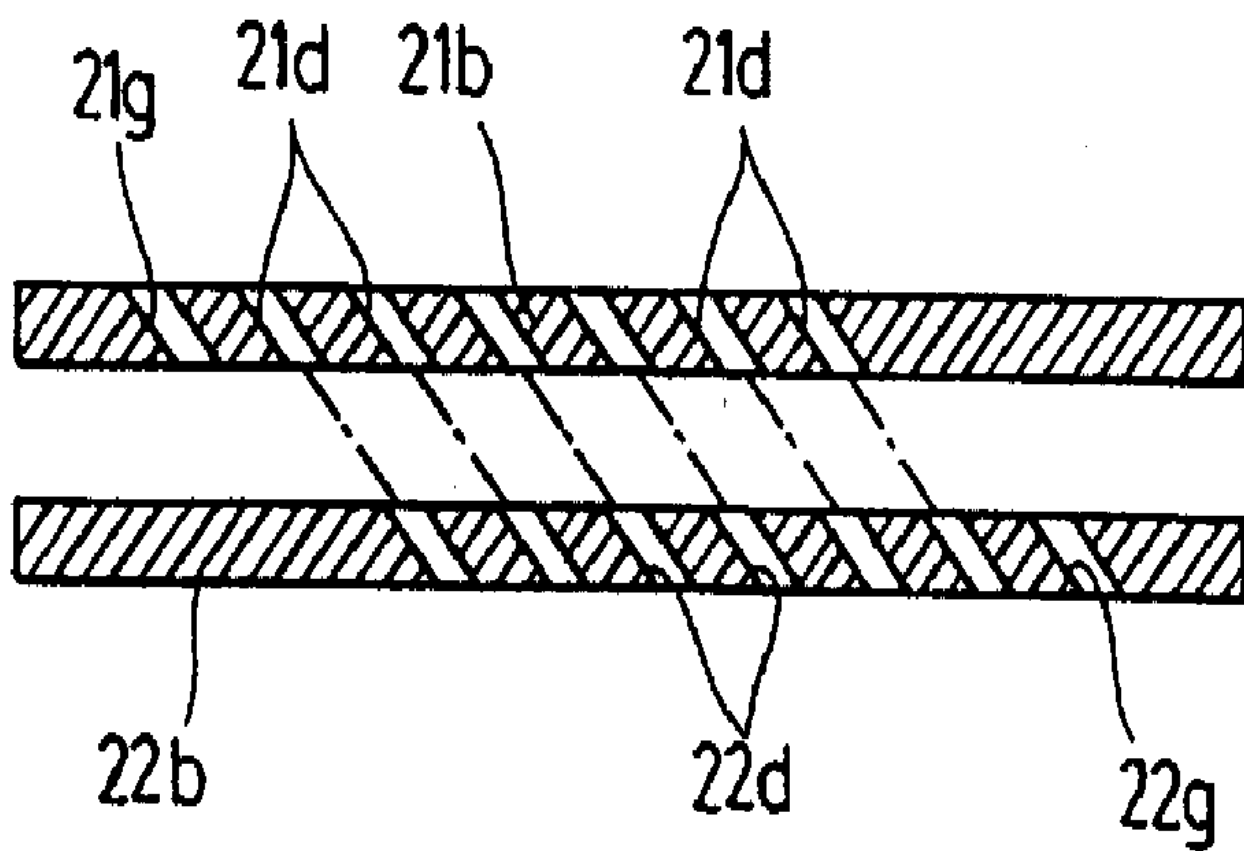
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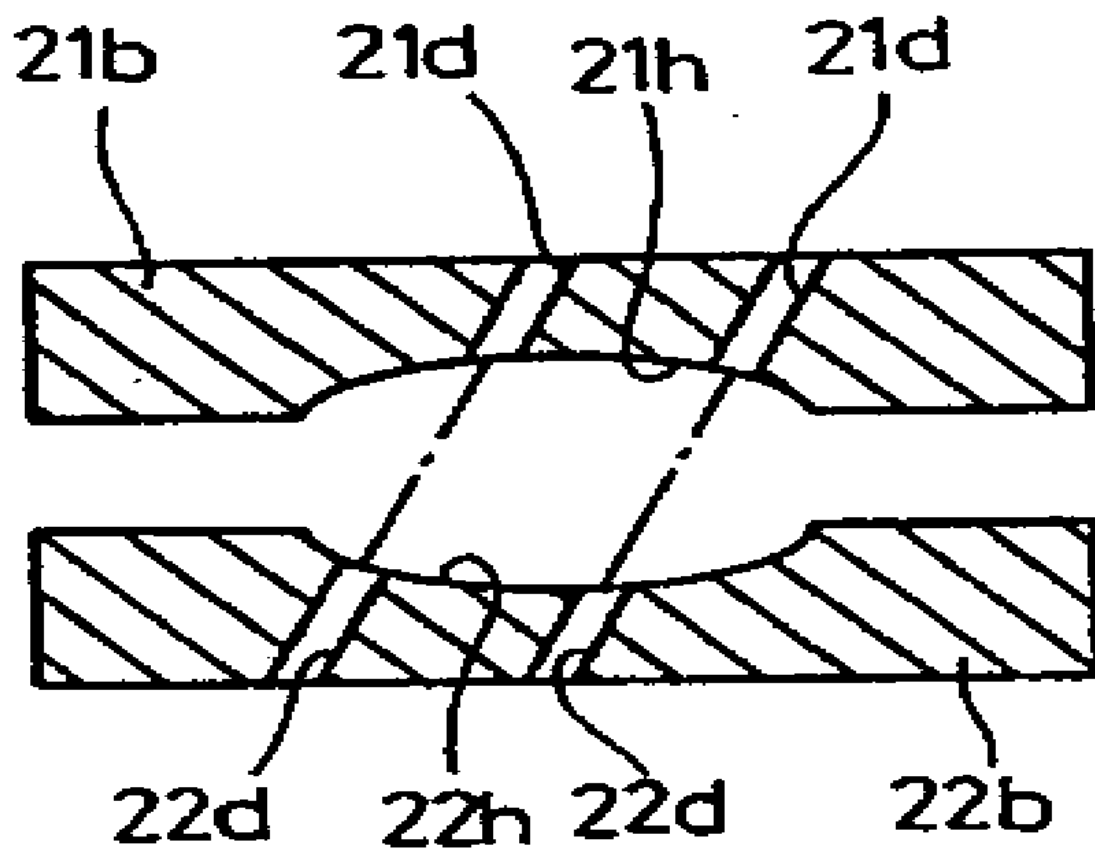
32



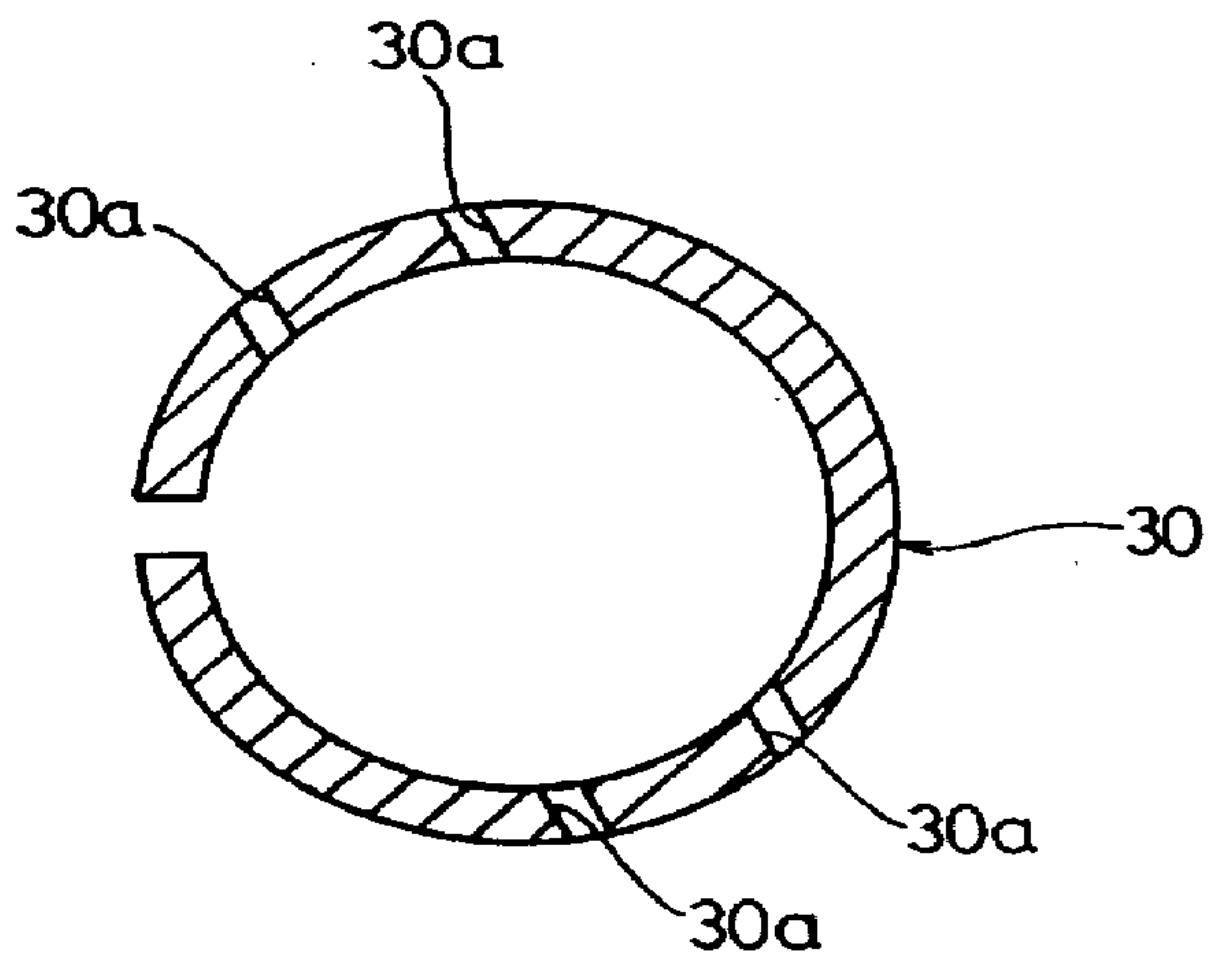
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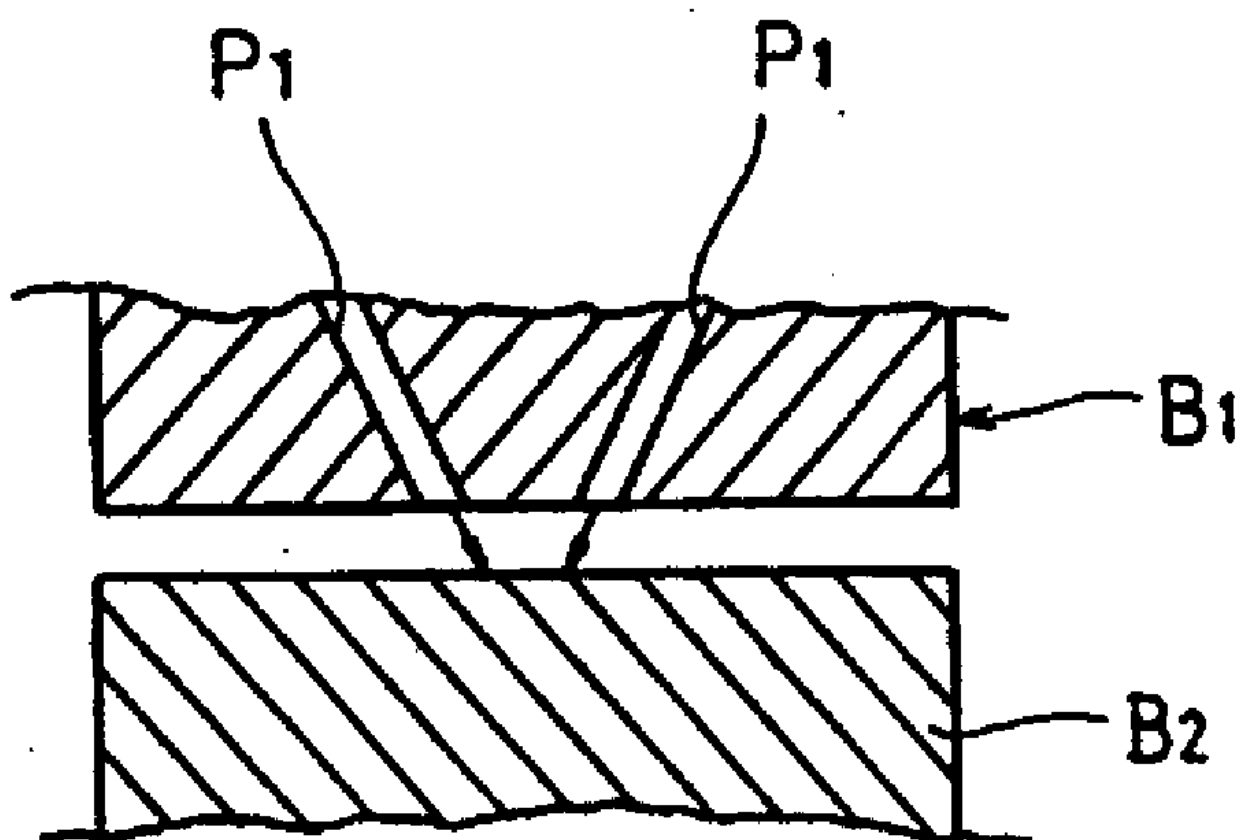






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