

(19)  
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(A)(51) 。 Int. Cl. <sup>7</sup>  
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(71) 2 95 202

(72) 2 95 202

2 750 - 379/3

(74)

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(54)

；  
； 1 2 가  
2

2

1a

1b

2(a)		1		.
2(b)	2(a)	-	'	.
2(c)	2(a)	-	'	.
3		2		.
4		3		.
5(a)		1	3	.
5(b)	5(a)	-	'	.
6(a)		1	3	.
6(b)	6(a)	-	'	.
7(a)	7(b)		1 3	.

Diagram illustrating the deposition of Cesium (Cs) on a substrate using three different methods:

- Physical Vapor Deposition (PVD):** Cs is evaporated from a source and deposits on the substrate.
- Chemical Vapor Deposition (CVD):** Cs is deposited on the substrate through a chemical reaction.
- Ion Gun Sputtering Deposition (IGSD):** Cs is sputtered from a target by an ion gun and deposits on the substrate.

, IGSD , 가  
 가 IGSD  
 ( , ' ) . , IGSD  
 .

1a , IGSD (10)  $\text{Cs}_2\text{O} \cdot \text{Al}_2\text{O}_3 \cdot 10\text{SiO}_2$  (30;  
 Cs (20); (20) (porous) (40;  
 ); (20) 가 가 (30) (40) 가  
 .  $\text{Cs}^+$  (20) ( ) (20) 1000 가 , (30)  
 (20) Cs<sup>+</sup> (30)  
 , 가  
 가  
 .

(10) , 가 (20) Cs Cs<sup>+</sup>  
 ;  
 (10) 가 . ,  
 (10)가 IGSD , 가  
 가 ,  
 .

1b , 1a (10)가 가 IGS  
 D (50) , (60; foil)  
 (50) IGSD , (60) 1000 가 29  
 Cs 가 Cs<sup>+</sup> (60)  
 Cs<sup>+</sup> 1000 가 Cs<sup>+</sup> (60) , 가  
 , (50)가  
 (60) (50) 1a (10)  
 Cs<sup>+</sup> (50)가 IG  
 SD (60) (50)  
 가 .

IGSD IGSD  
 IGSD  
 .

IGSD , 1 2 ;  
 1 2 1 2  
 가 .  
 .

U  
 , U  
 2 U 가 1 2  
 U , U  
 .

가 1 2

1 2

2 U 가 1

2 U 1 2 가 1 2

2 U

2

IGSD

가 가 가

2(a) 1 (A) , 2(b) 2(a) - '

, 2(c) 2(a) - '

2(a), 2(b) 2(c) , 1 (A) (80) (80) 1 2

(90 100) 1 2 (90 100) . (80) 1 2 (90 100)

100) , (80) 1 2 (80) 1

2 (90 100)가 ,

가 가

1 2 (90 100) (H<sub>1</sub>) (H<sub>1</sub>)

(L) , (H<sub>2</sub>)

1 2 (90 100) U 1, 2 3 (110, 120 130)가 .

1, 2 3 (110, 120 130) (L) (H<sub>2</sub>) 1 (90) 2

(100) 2 (100)

1, 2 3 (110, 120 130) 1 2 (140 150)

1 (140) 1 (110) 2 (120)

, 2 (150) 2 (120) 3 (130)

1, 2 3 (110, 120 130) 1000 가  
 . , 1, 2 3 (110, 120 130) .

3 2 (B) . 2 (B) ,  
 (80) 1 2 (90 100) 1 6 (160~  
 210;10 가, )가 1

3 , 2 (B) , (80)  
 1 2 (90 100) 1 6 (160~210) . 1 6  
 (160~210) , 1 2 (90 100) (H<sub>1</sub>) (L) (H<sub>2</sub>)  
 1 2 (90 100) 가 , 1 6 (160~210)  
 1 (90) 2 (100) .

1 6 (160~210) 1 5 (220~260;10 가, )  
 . 1 2 (160 170) 1 (220) , 2  
 3 (170 180) 2 (230) , 3 4 (180  
 190) 3 (240) , 4 5 (190 200)  
 4 (250) , 5 6 (200 210) 5  
 (260) .

4 3 (C) . 3 (C) ,  
 (80) 1 2 (90 100) 1 4 (1  
 (270~300;10 가, ) U (310)가 1 (A)

4 3 (C) , (80)  
 1 2 (90 100) 1 4 (270~300) U (310)

1 4 (270~300) , 1 2 (90 100) (H<sub>1</sub>) (L)  
 (H<sub>2</sub>) 1 2 (90 100) 가 , 1 4 (270~3  
 00) 1 (90) 2 (100) .

U (310) , 1 2 (90 100) (H<sub>2</sub>) (L) (H<sub>2</sub>)  
 1 2 (90 100) 가 , U (310) 2  
 (100) .

1 4 (270~300) U (310) 1 4 (320~350;10 가,  
 ) . 1 2 (270 280) 1 (320)  
 , 2 (280) U (310) 2 (330)  
 , U (310) 3 (290) 3 (340)  
 , 3 4 (290 300) 4 (350)

5(a) 5(a) - ' 5(b) 1 3 (A~C)

5(a) 5(b) , (360) (H<sub>3</sub>)  
 (370) ; (370) (H<sub>4</sub>) (380)  
 (370) , (390)가 (380) .

6(a) 6(a) - ' 6(b) 1 3 (A~C)

6(a) 6(b) , (400) (410)  
 (420) (430) ; (420) (430) (440)  
 (420) (430) ,

7(a) 7(b) 1 3 (A~C)

7(a) 7(b) , 1 3 U  
 7(a) 2 7(b) 3

가 , 가  
 가 , 가

Cs 가 가 IGSD , 1 2  
 Cs 가

가 IGSD , 가 /  
 U Cs<sup>+</sup>

가 Cs<sup>+</sup> 2 Cs

SD , 가 / U IG  
 가

(57)

1.

;

1 2

;

1 2 , 1 2  
가  
.

2.

1 ,

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3.

2 ,

U

,

U  
2

가

1

2

U

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U

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4.

2 ,

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가

1

2

1

2

,

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5.

2 ,

2

U

,

가

1

2

1

2

,

U

가

1

2

2

U

,

U

.

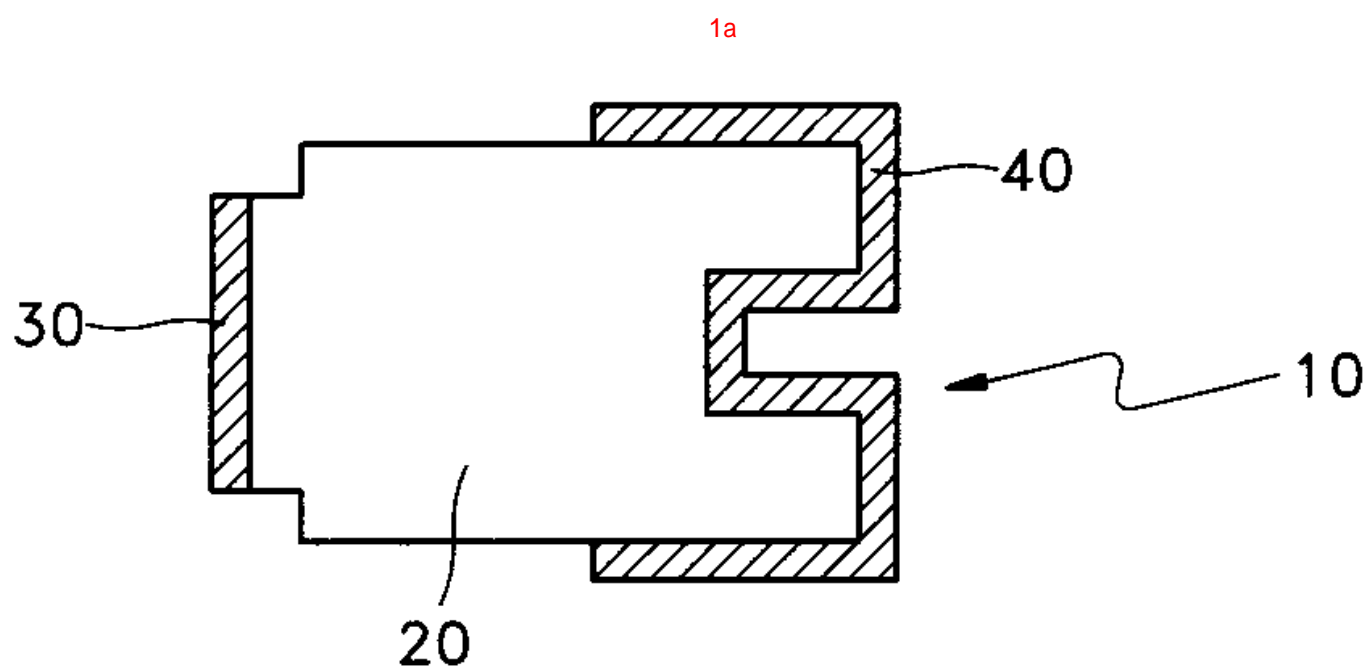
6.

1 ,

7.

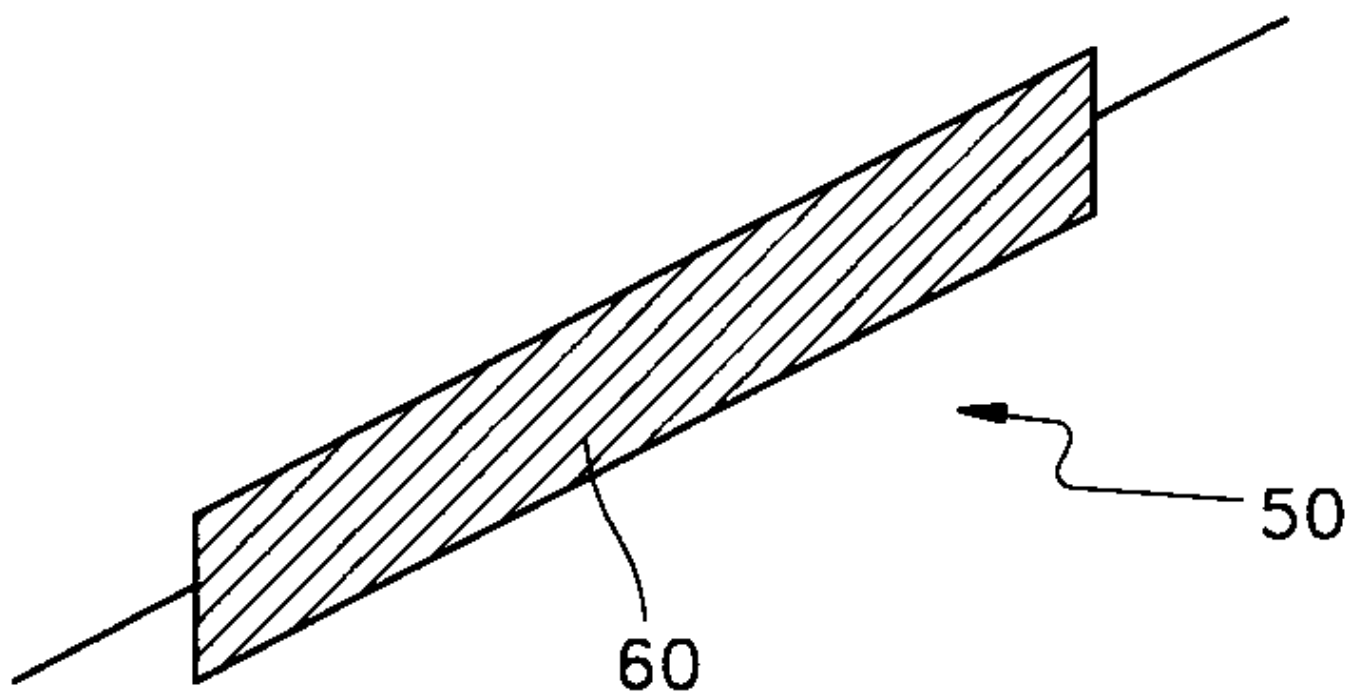
1 ,

2



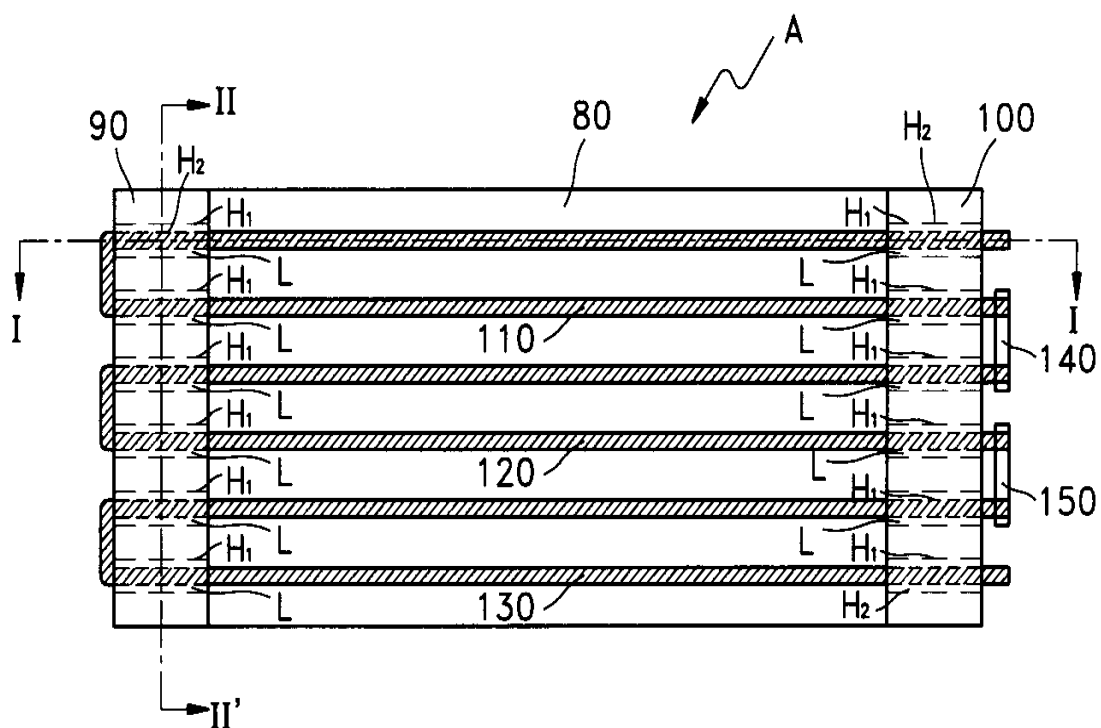


1b

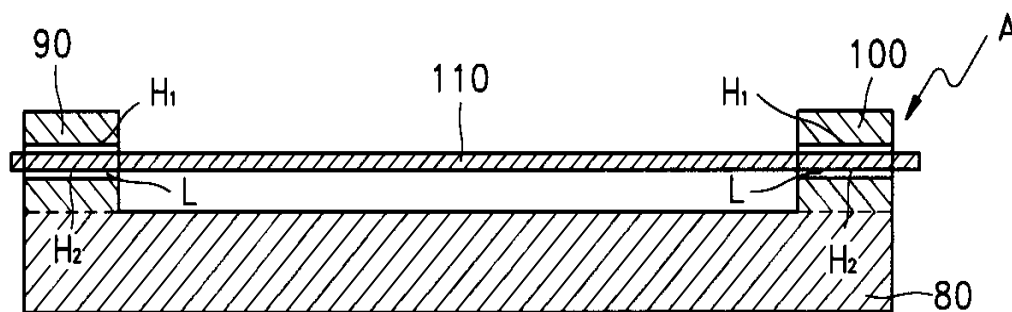


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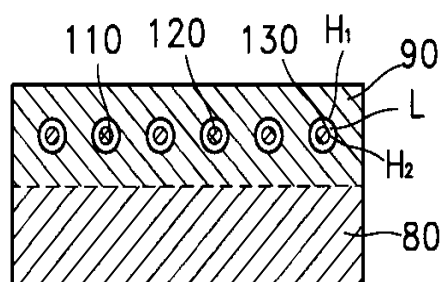
(a)



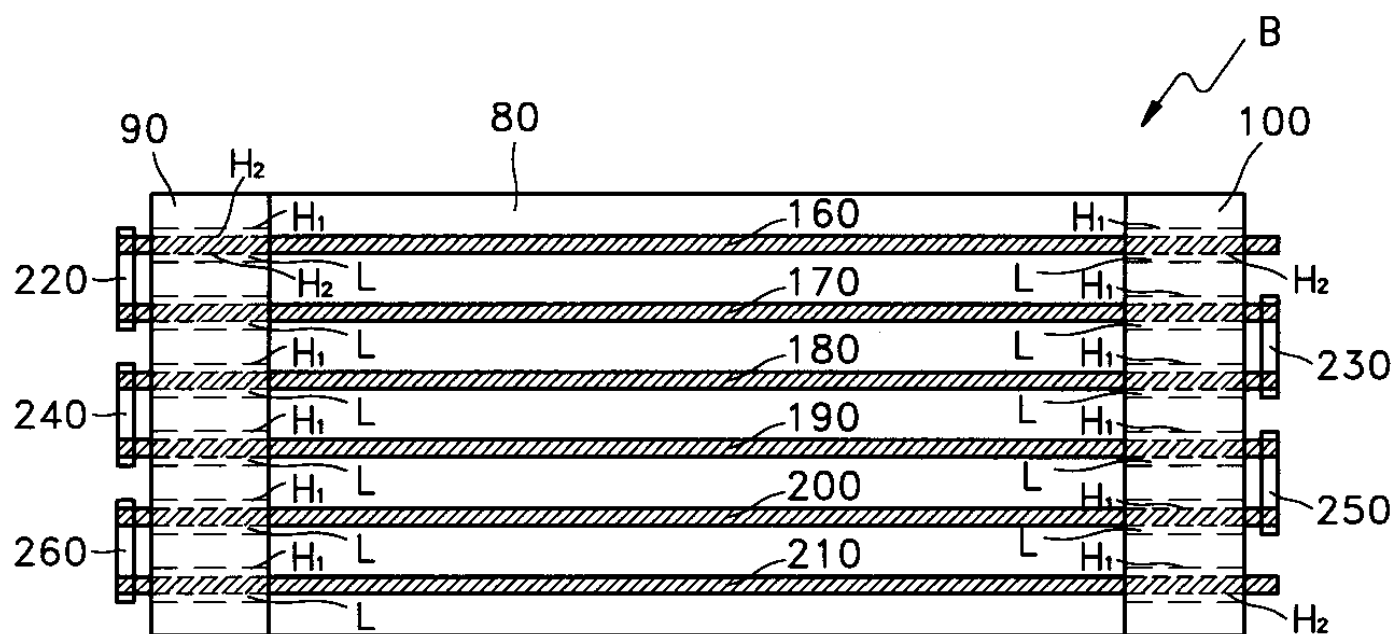
(b)



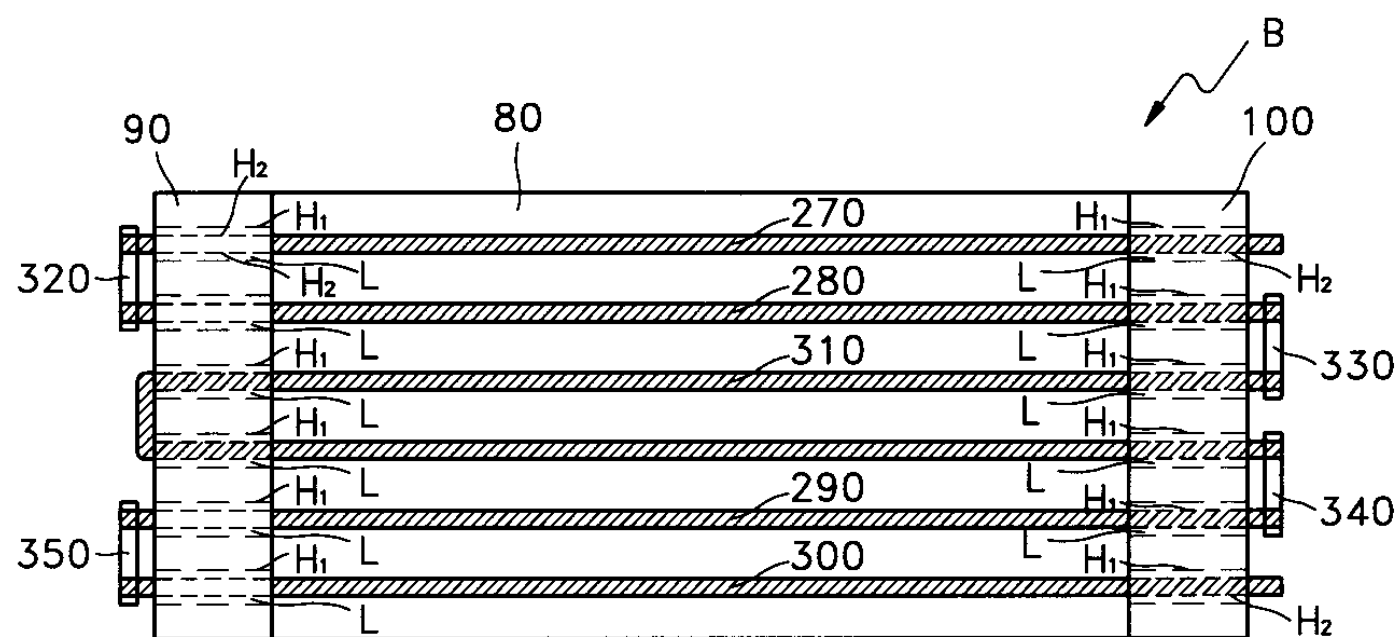
(c)



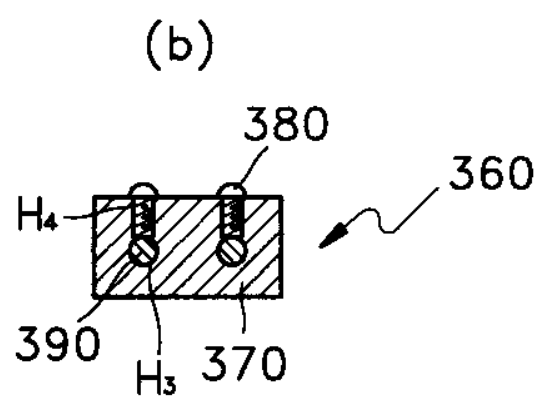
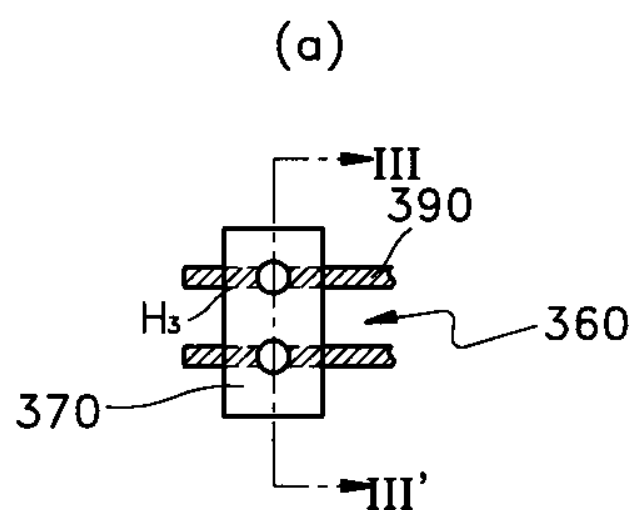
3



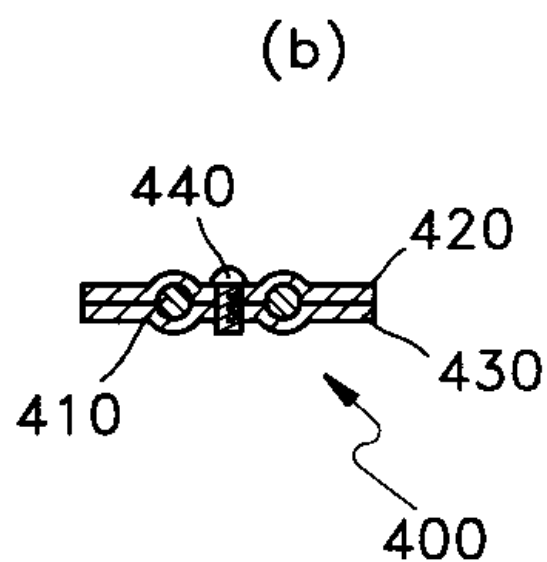
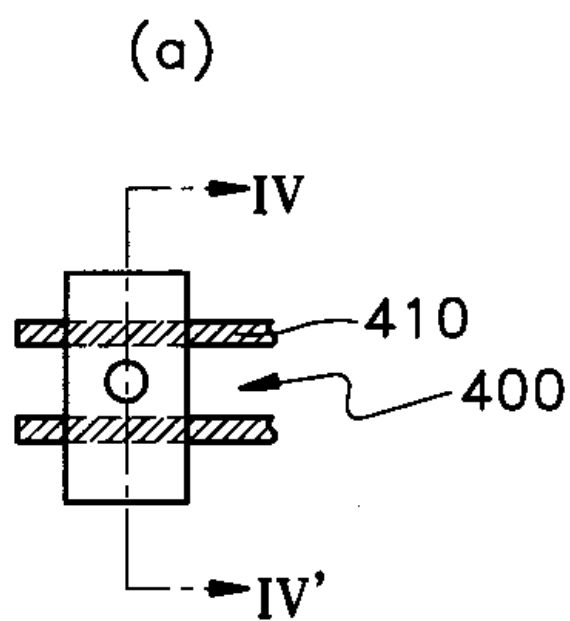
4



5



6



7

