

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

(21) 10 - 1993 - 0018764 (65) 1994 - 0007808
(22) 1993 09 17 (43) 1994 04 28

(30) 07/947,248 1992 09 18 (US)

(73)

75265 13500

(72) .
75074 2005

(74)

(54)

[]

1

2 1

3 1 2

4 5 1 2 (micro-mirror
spatial light modulator)

6

7 가

*

10 : 120 :

130 : DMD 140 :

150 : 160 :

170 :

[]

, 2가

, 1 -

가

,

,

, 가

,

,

가 " "

가

가

가

가

가

가

가

(image capture)

가

1000 × 1000

가

x - y

1	2	(118)	(10)	(10)	(110)
(110a)	(120)	가	(110a)	(110b)	(140)
(110b)	(140)			(DMD, 130)	
(170)		(150)		(160)	

(160)	DMD(130)	(160)	(160)	(10)
		DMD(130)	DMD(130)	

		가	(140)	(140)
			DMD	
DMD(130)				

(140)	DMD	"	"	(120)	DMD(1
, DMD(130)					
30)	(150)	(160)	(140)	DMD(130)	, DMD(
130)					

(160) (170) , . . . , DMD(130)

(160) (unique) , " "

$$3, x - y \quad x \quad y \quad (110)$$

$$2 \quad , \quad . \quad , \quad (160) \quad (160)$$

(120) 1 . 1 2 가 (120)
, (120) . ,

$$(120) \quad , \quad (110) \quad , \quad (120) \quad (110) \quad , \quad (112)$$

, (120) , (120) (160)
, DMD(130) (120)
(140) (120)
" (instrumentation lamp)"

(120) . (123) (122) , (123) , (123) , (123) DMD
(130) . (123) . (110) (123) (123) (123) (123)
, DMD(130) . (122 123)

DMD(130) (118), DMD(130),
 2, D

DMD(130) 4 DMD(130) 2 (41)
 (41) (42), (41) (41)
 . , (41) , /
 . (41) ,
 7

5 (41) . (51) 가 (flexible hinge, 52) 가
4 5 , (51) (52) (44)

, (41) (42) . (41) , (51)
 가 (42) (41) " " " " . (cantilever type
 mirror element) . , (41) (140) , (160) .
 DMD(130) (140) , (160) .
 (41) , (41)

DMD(130) 가 DMD
 4,566,935 , 4,596,992 , 4,615,595 , 4,662,746 , 4,710,732

DMD(130) 1024 × 1024 (41) (41) 0.8m
 - inch × 0.8m - inch , DMD(130) 0.8inch × 0.8inch ()
 10) 가 DMD(130) 5 (160) 5.25 inch ×
 5.25 inch 가 , (5.25/0.16) ² 1000 (160)

1 2 , (135) DMD(130) (140)
 (135) , (140) , , (135)
 . DMD(130) (160) " (light
 trap)" (baffle)

(140) (135) 2 DMD(130) , (140)
 (150) (160) , DMD(130) (160)
 , (140) (160)

(110a) " Printing System Exposure Module Alignment Method and
 Apparatus of Manufacture" 5,105,369

DMD

, 1 (110b) , (150) (140) (160)
 . (135) (152) (stray light) (160)
 . (160) ,
 . , (160) ,

, (160) , , , (160)
 . , , , (110)
 , (110) DMD , DMD(130) (110)
 . (120) (Sampsell) 4,954,
 789 , , ,

(170) (160) , , (120) (41) DMD(130)
 . DMD(130) , DMD(130) (160) ,
 . (170) (170) (CCD) ,

2 (170) (41) (170) (DRAM) 2 , , , DMD(130)

$$(110) \quad \quad \quad (110) \quad \quad \quad (170) \quad \quad \quad (170) \quad \quad \quad (110)$$

6 . , 5 , (140) 가 (405) . . (410)
(150) , (420) (405) 가 . 4 (10)
가 . (150) , (160)
(110) . , (110) (160)
가 .

, " x" . , (160) (150) (150) , (160) . (160) (110) (150)

7 DMD(130) (310) (160) (150) 2
MD(130) , A B DMD(130) A (150) (150)
, (405) 가 (150) , (405)

7 , (405) (420) , (150)
" " . " (intelligent)" (420) (410) . (420) , (410 420) 27

7 , (430) (150) (170)
(175) (110) 가 . (150) (170) (175)
, (150) (160) , (170) (160)

[]

가 , 가 ,

[]

, **1000 × 1000**

(57)

1.

r)

(optical recorde

(micro - mirror spatial light modulator)

1 1

2

2.

1 , , ,
1 2

(housing)

3.

1 , 가 (holder) , 1 2

4.

1 , 가 ,
(actuator) , 가 , 가

5.

4 , 가

6.

4
가

7.

1

8.

1

9.

- (micro - mechanical mirror elements)

(micro - mirror spatial light modulator)

10.

9

11.

9

12.

9

13.

12

14.

12

가

15.

9

16.

/ / ,

(digital micro - mirror device)

- (micro - mechanical mirror elements) - ,
- (micro - mirror spatial light modula
tor) - ,

,
,

(image capture device),

1 1 ,
1 2
2

17.

16 , , , (housing) , 1
2

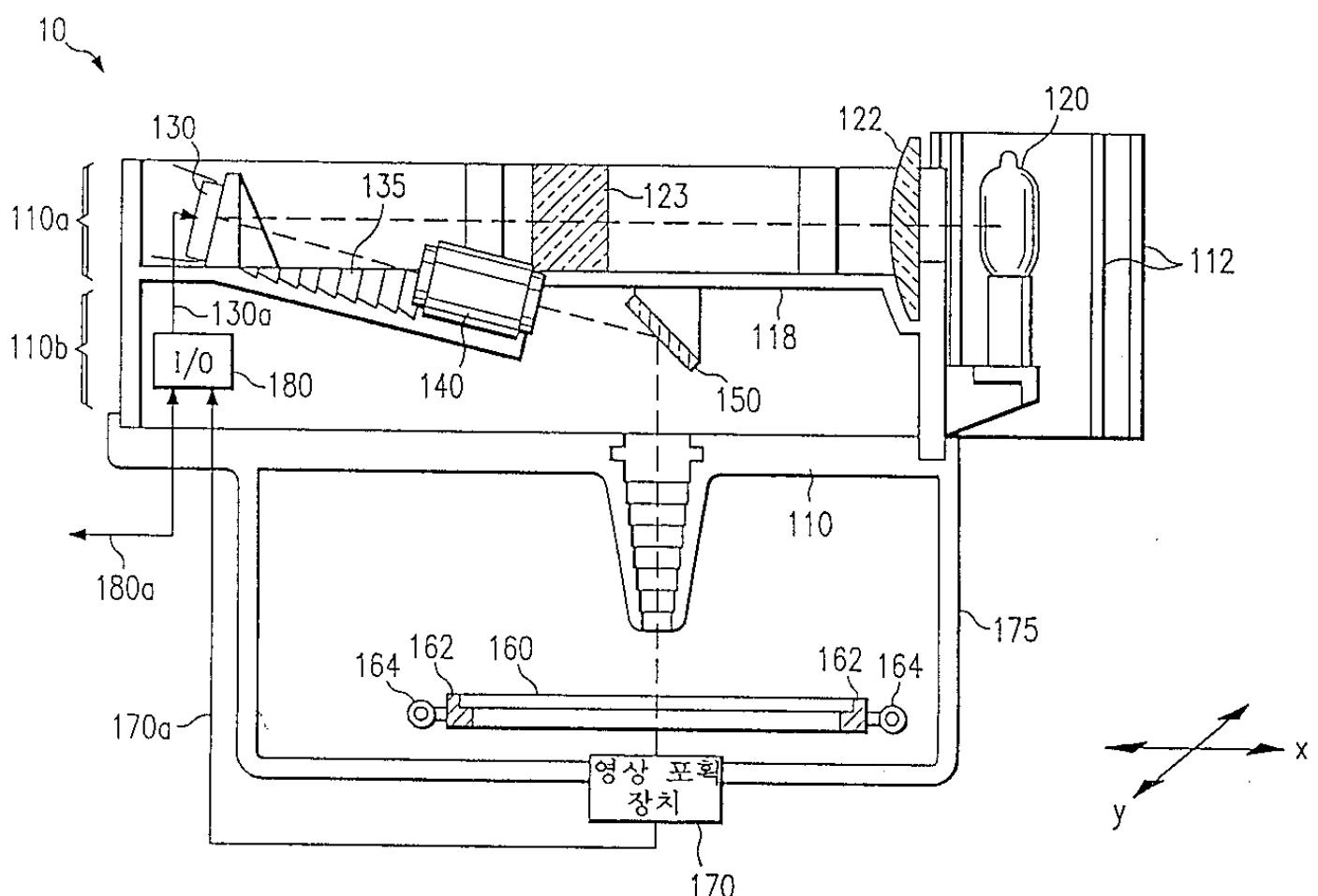
18.

16 , 가 (holder) , 1 2

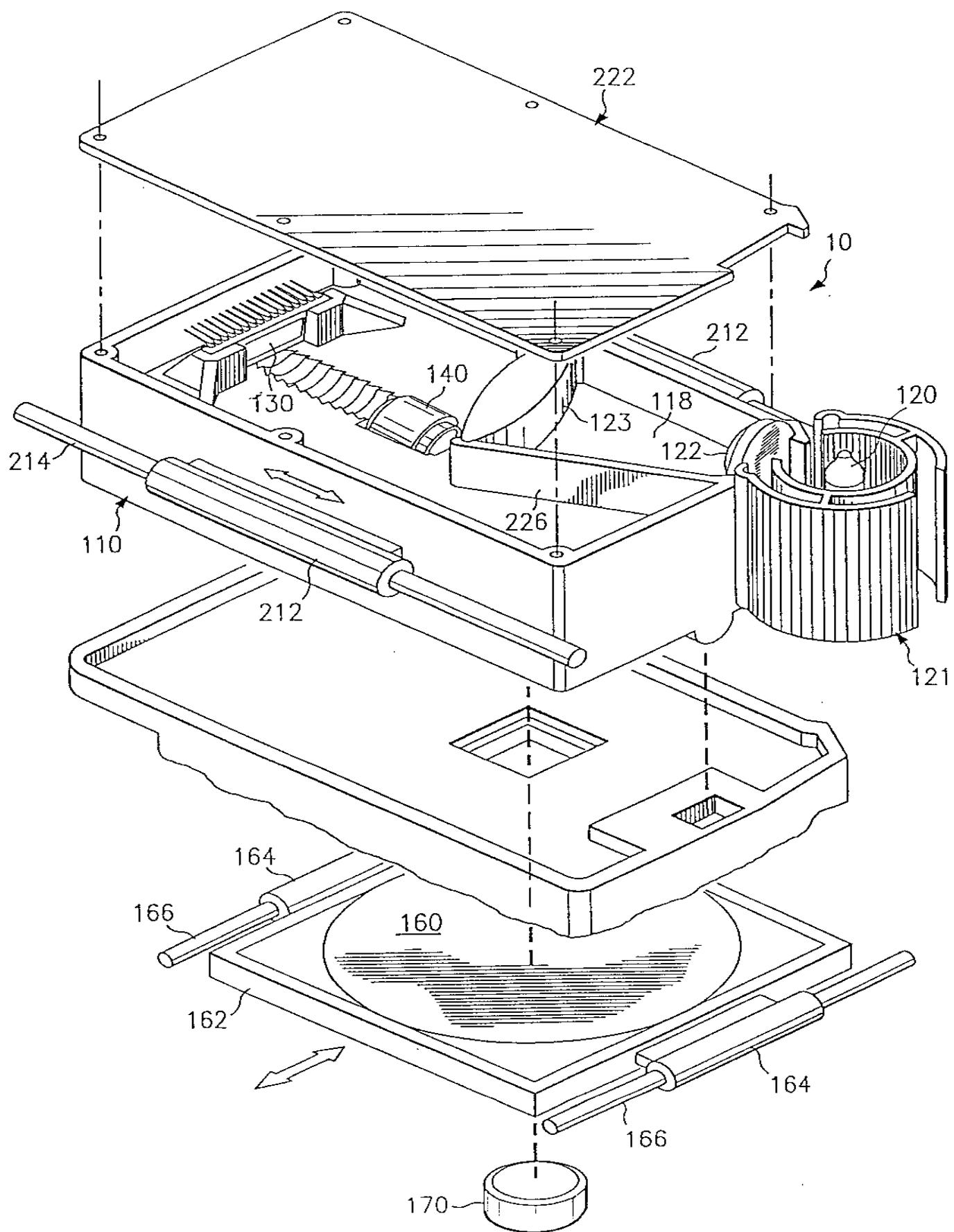
19.

16 , , 가 , 가

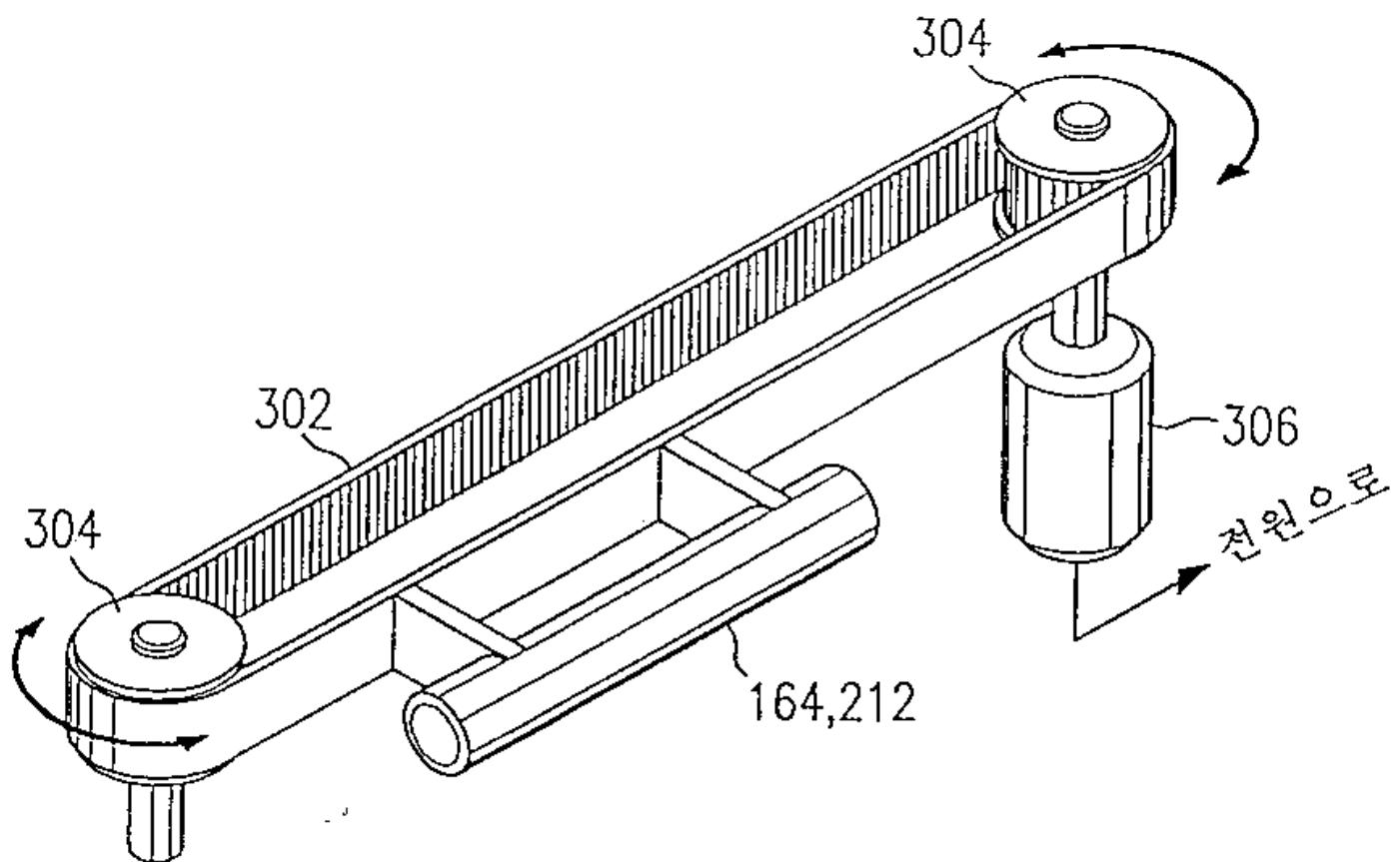
1



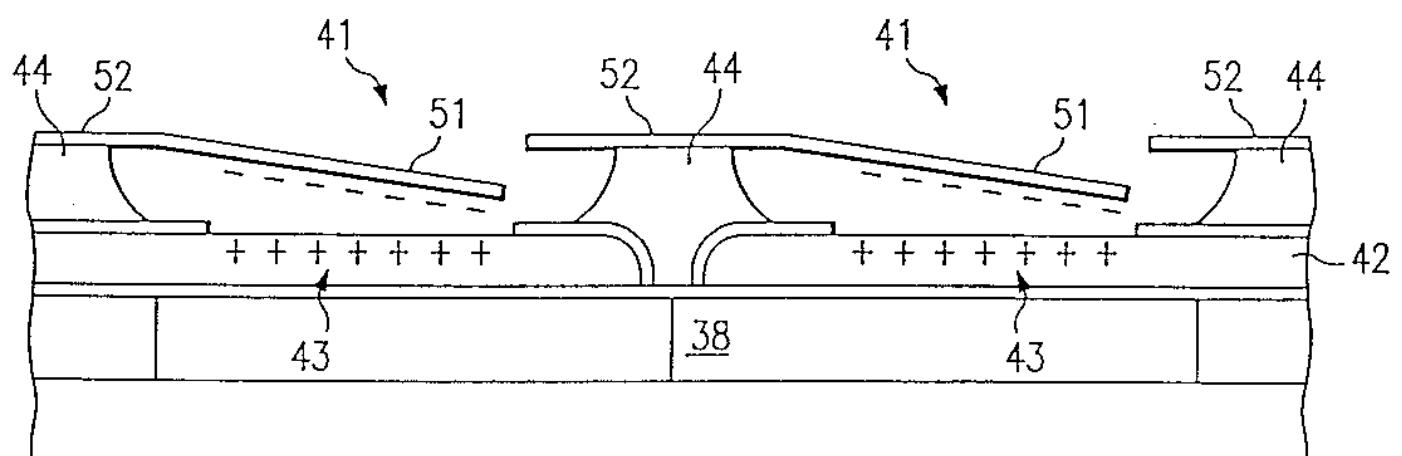
2



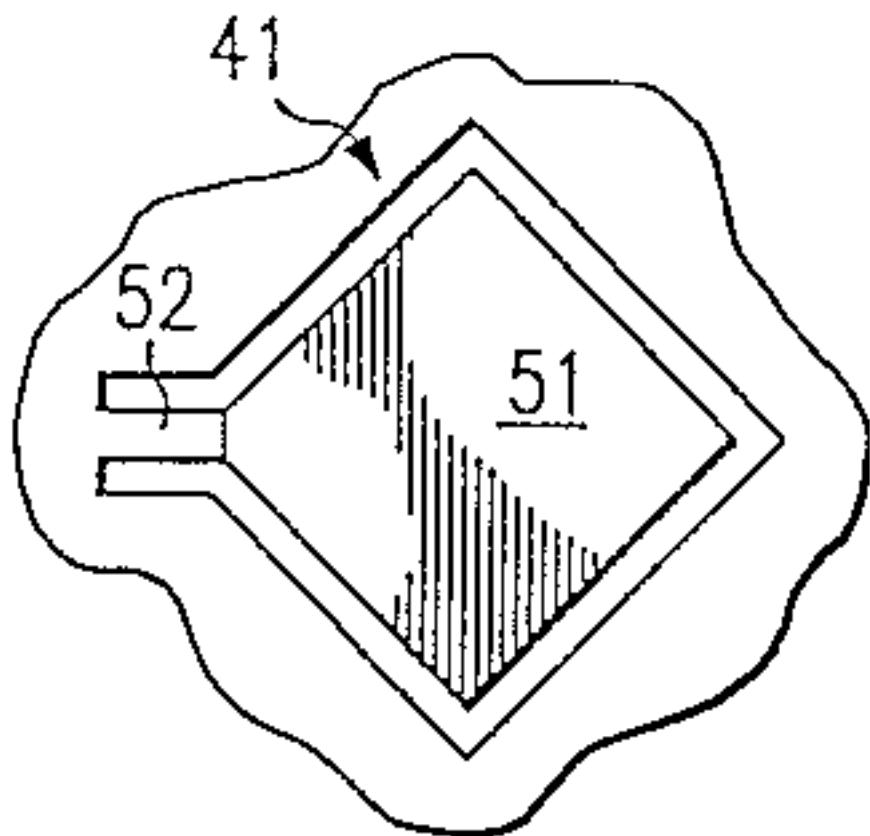
3



4



5



6

