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(43)2001 - 0062148
2001 07 07(21) 10 - 2000 - 0073598
(22) 2000 12 06

(30) 99 - 359670 1999 12 17 (JP)

(71)

10504

(72) - 가 - 가 6-8-8

(74)

:

(54)

(LCD) , 가 가 .

1 , 1 2 2 1 , 2 1 2 1

, 1 2 2 , 1 2 1 2 1

2 , 2 2 , 1 2

, . 2 , 2

.

1 . LCD .

2 (8) .

3 . LCD .

4 .

5 1 ITO 2 .

6 .

7 LCD .

8 . LCD .

9 1 ITO 1 2 .

1 : LCD 2 :

3 : 4, 6 : ITO

5 : 7 :

8, 81, 82 : 10 :

11 : 2 13 :

15, 16 : 18 : .

23 : .

(LCD) (明暗比) , 가 가 .

(backlight) LCD , PDA(Personal Digital Assistants
) LCD 2 (停電力消費型
) LCD (Power load)가 LCD .

2 LCD 가 LCD (Guest) 가
(吸光度) , (Host) . 2 ,
 , 2 가 (正)
, 가 (Turn off) 2
, 가 가
, , 가 가 , 2
,

1 LCD 4 LCD 2 LCD

(White - Taylor Mode) 2 LCD

2 200 °

LCD 가

1 2 LCD

2 . LCD 3 . LCD 2
2 (separator) ()
, ,
() ,
() 가 2
,
,
2 , 3 LCD
, 가 , 가
, 가

4 . LCD , 1/4 ($\lambda / 4$) ITO
 , 2 ITO가 . 2 .
 $\lambda / 4$, 90 ° , 90 °
 가 . 4 , 450 nm 700 nm 가 , $\lambda / 4$
 , 가 .

, 가 가 .

(LCD)

.

, 1 2 2 1 , 2 1 2 1
 , 1 2 2 1 2 2 1
 2 , 1 2
 , .
 , .

2 1 2 ,
 1 ,
 , 1 45 ° , 2 45 ° , 3 3
 87 ° 90 ° .

2 1.3

.

2 . (rubbing)

.

1 1 .

1 .

1 , 1 2 LCD 1 , 1 2 1 2
 , 1 2 1 2
 1 2 , 1 2
 2 , 2 2 2

2 1 2 ,
 1 ,
 , 1 45 ° , 2 45 ° , 3 3
 87 ° 90 ° , 2 3
 3 .

2 μm 10 μm (gap)

5 μm 8 μm .

2 , 가

2 1 2 , 3
1 , 2 2 , 3
1 1 45 ° , 2 45 ° , 3
87 ° 90 ° , 2 3
3

1 (A) LCD (1) , 1 (2), (3), ITO(Indium Tin
Oxide) , 1 (4), (5), ITO , 2
(6) , 2 (7) (2) 가 (7)
가 (5) (10)
2 (11) (正)
(A) , 가 가 (10) 2 (11) , 1
(8) 1.3 (7) (8) (8) ITO(6)
(7) (8)

(7) (8) (12) 1 (8) ((8)
8) , 1 (B) 2 1 (B) (8)
, ITO (4, 6) 1 (B) ITO (4, 6) (rubbing)
, 3 2
2 (11) (13) 2 (8)
(8) (8) (a) (12)
, ITO(6) , 2 (8A
) , (b) 2 1 (8B) , (c)
2 (8C) , (d) 3 (8D)

(8A) 2 (801, 802) (803) . (801, 802) " a " , (803)

1

= " $\sqrt{2}$ " a

1 (8B) (804) (801) , 2 (8C) (807) (802) . 1
(8B) (806) 2 (8C) (809) . 3 (8D) (810) (803) ,
(811) (805) , (812) (808) . (811, 812)

²

$$= \sqrt{3} a/2$$

1 (B) (8B) 45° 87° 90° (8A) 2 (8A) 87° 90° (8C) 3 (8D) 45° (8A) 3 1 (8D)

1 3 LCD (8) Z (13) Y (13) (2) X (11) 2 Z (14) (2)

ITO(4) ITO(6) X (10) 2 (11) (2) (11) (13) (15) (13) (16) Z (8) 1 (8B) (8) 1.0 (8) 1.3 (8) (16) 1 (8B) (2) X (8) (2) Y 2 (11) Z (15) 2 (11) (13) 90° 90° (15) 2 (11) 90° (16) 90° (11) 2 (11) 90°

3 (8D) (2) 3 (8C) 2 (8C) (8D) 2 (8B) (2) X (11) Z (15) 2 (11) (13) 90° 90° (15) 2 (11) 90° (16) 90° (11) 2 (11) 90°

3(B) (16) 1 (8B), 3 (8D) 2 (8C) 3(C) (16) 2 (8C) (16) 2 (8C), 3 (8D) 1 (8B)

(PEL) ITO(4) ITO(6) 가 가 Z (10) 2 (11)가 (Z) 3 (8B, 8C, 8D) (5), ITO(4), (3) (2)

4a 4b (3) 4a (3) (17) 4a (3) n₁ 1 (41) n₂ 2 (41) 1 (41) 2 (42) 가 n₄ (44) 4b (3) n₃ 41 44 (43)가

LCD 1 (正方形) . 5a
 2 (81, 82) (81) 3 (8D) (82) 3
 (8D) . 5a , ITO(4) 2 (81, 82) 1 .
 , (8A) (2) 3 (8D) (2) 90 ° .
 5a (2), (3), . (5) ITO(6) . 2
 (81, 82) 1(B), 2 3 . B - B 2
 (81, 82) 5b . 5b , 2 (81, 82) ,
 (8) ITO(6) (7)
 (12)(1(A)) 2 (8) . (81) (20)
 (82) (21) G .
 (G) 2 μm 10 μm , 5 μm 8 μm .

5a ITO(4) TFT . TFT ITO

6 1 2 (81, 82) , (8A)(
 2) 3 (8D)(2) 87 ° . (81) (20)
 (82) (21) (G) . (G)
) 2 μm 10 μm , 5 μm 8 μm .

7a 1 (A) LCD (1) (19) . (18)
 . 7b 4 . 1 2 (81
 , 82) . 1 L₁ . , L₁ 100 μm .

8(A) . LCD (22) ,
 (23) . LCD (3) ITO(4) .
 8b 3 1 . 2 (81,
 82) . 1 L₁ L₂ . L₁
 100 μm , L₂ 300 μm .

9 5 . 9 5 1 ITO(4) 2 ITO(
 41, 42) . ITO(41, 42) 1 , , 9 1 5
 . 1 ITO(41) (81) , ITO(42)
 (82) .

가 가 .

(57)

1.

1 ,

1 ,

1 2 2 ,
 2 1 2 ,
 1 2 1 2
 1 1 2 2 , . , 2
 1 2 2 ,
 2
 .

2.

1 , 2 1 2 , ,
 3 1 , 1 2 , 2
 45 ° , 3 1 87 ° 45 ° 90 ° , 2
 .

3.

1 ,
 1 1 ,
 1 2 2 ,
 2 1 2 ,
 1 2 1 2
 1 1 2 2 , . , 2
 1 2 2 ,
 2
 .

4.

3 , 2 1 2 , ,
 3 1 , 1 2 , 2
 45 ° , 3 1 87 ° 45 ° 90 ° , 2
 2 , 3
 .

5.

4, $2 \mu\text{m}$ $10 \mu\text{m}$

6.

4, 5 μm 8 μm

7.

2 5 , 2 1.3

8.

$$7 \quad , \quad 2 \quad .$$

9.

8, 1 1

10.

9, 1.

11.

12.

11, 2, 1, 2, ,
3, 1, , 2, ,
45°, , 1, 2
2, 3, 87°, 90°, ,
2, 3

13.

12 , 2 μm 10 μm

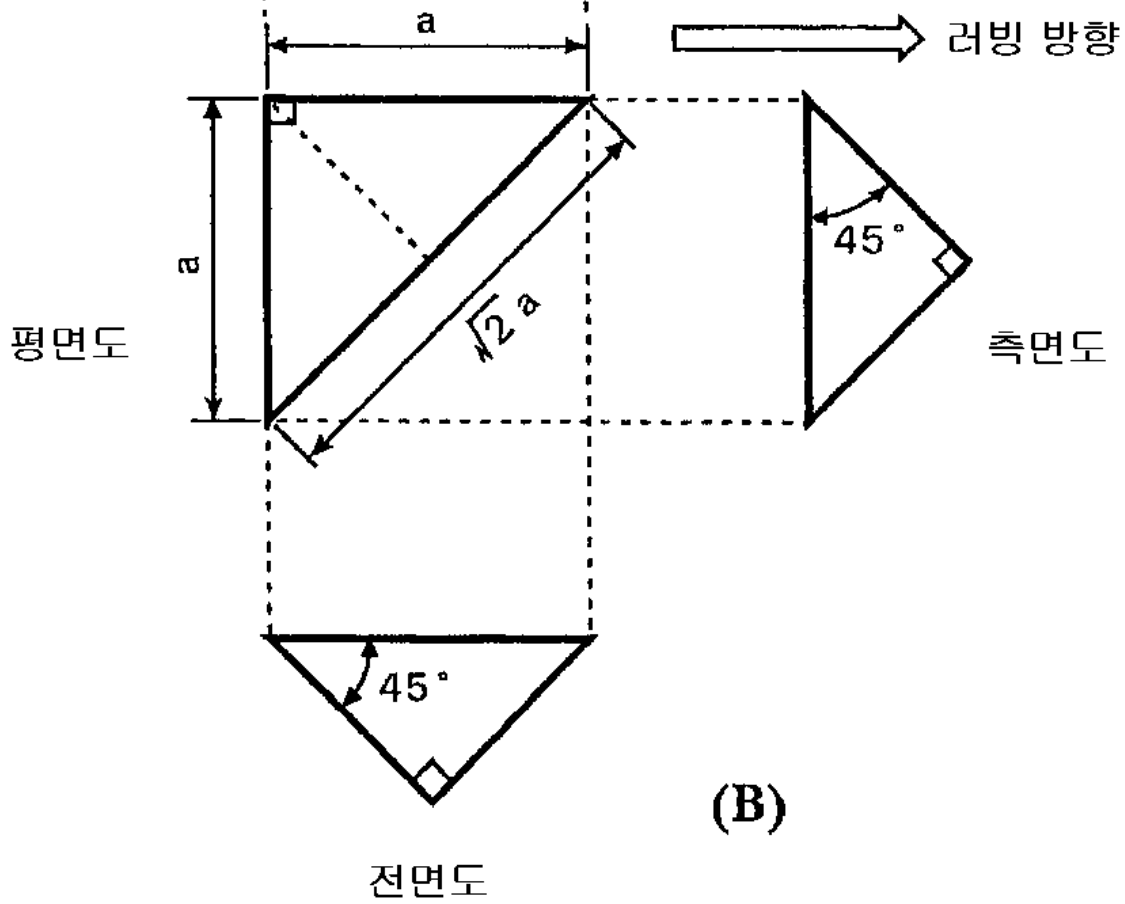
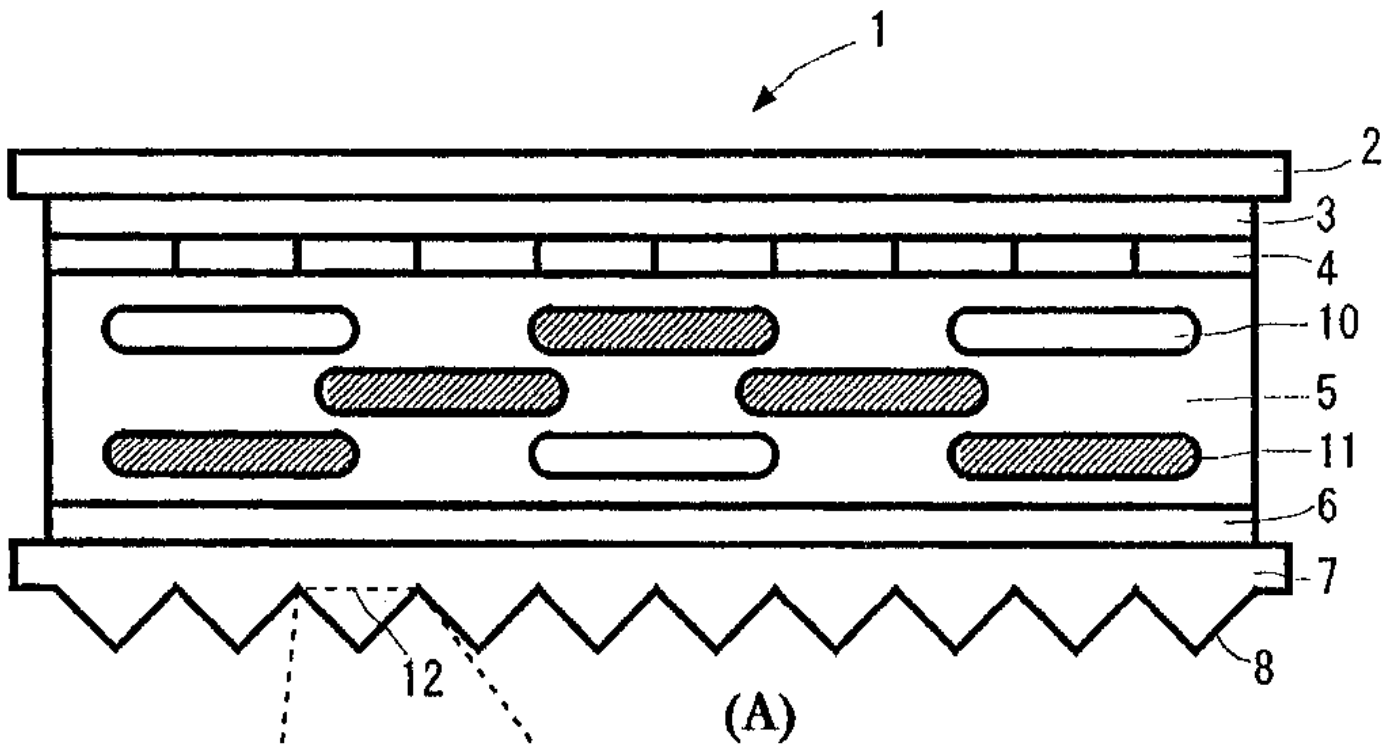
14.

12 , 5 μm 8 μm

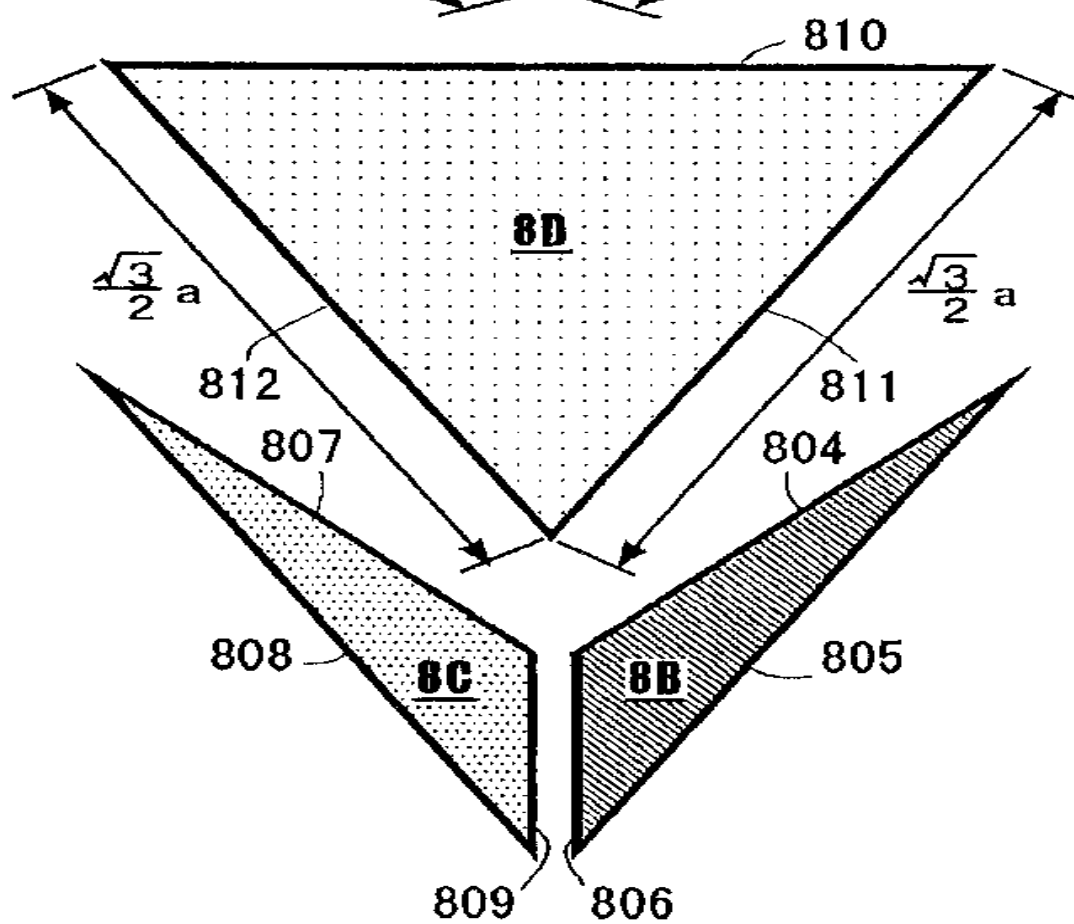
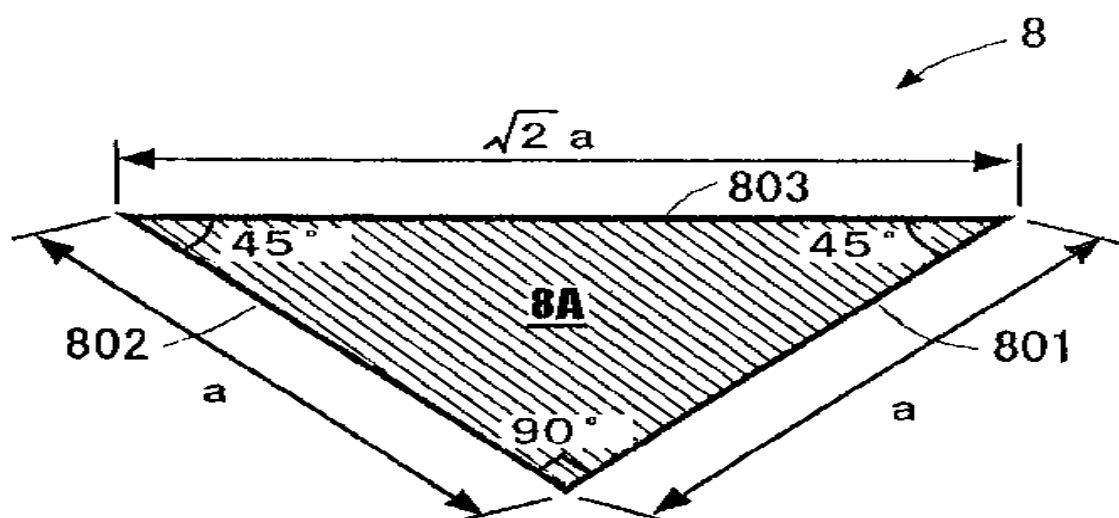
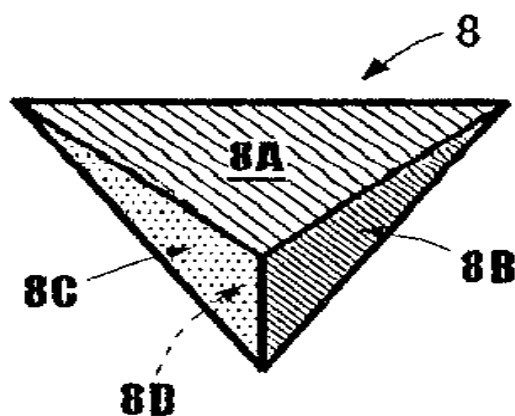
15.

13 , 1.3

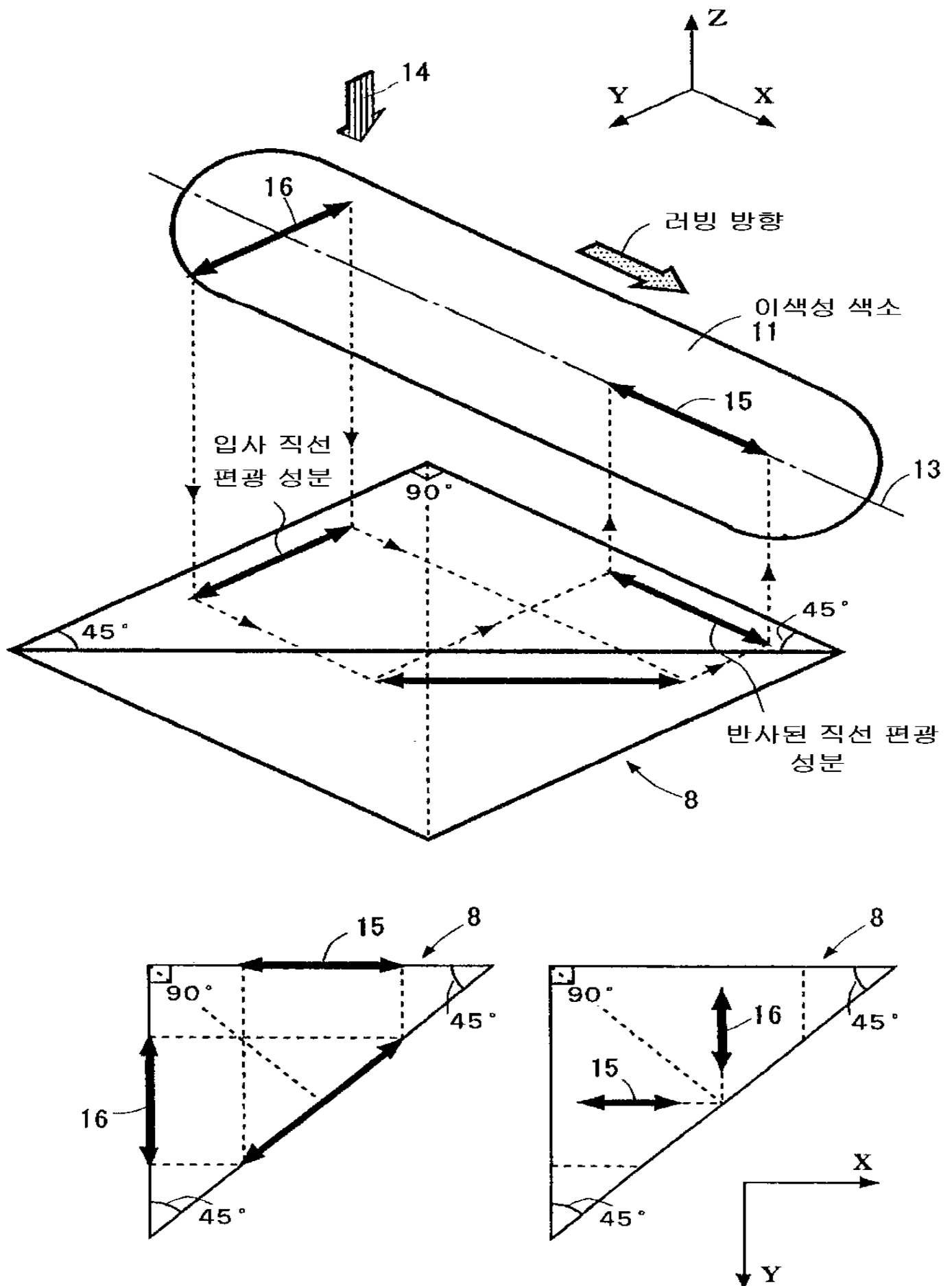
1

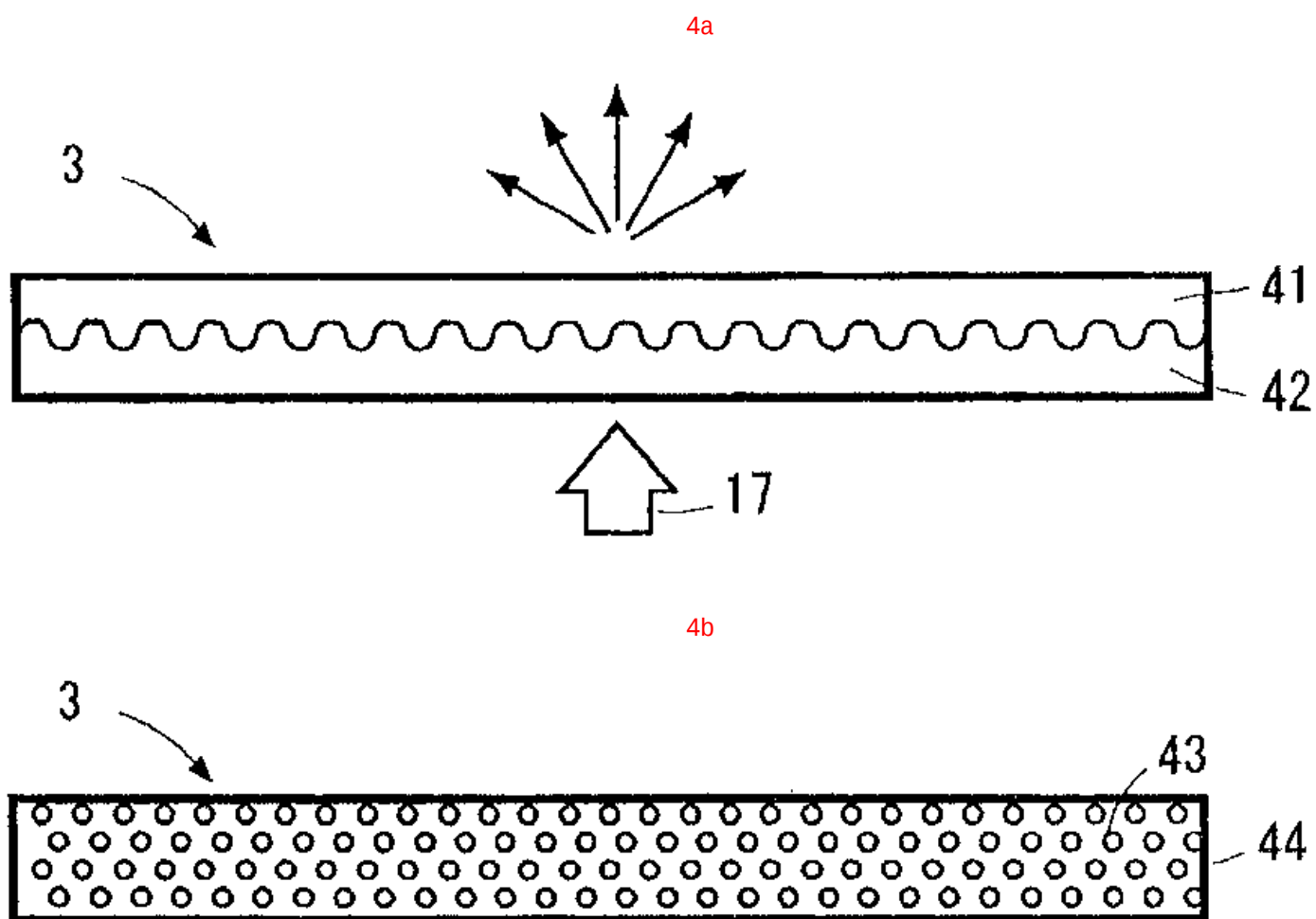


2

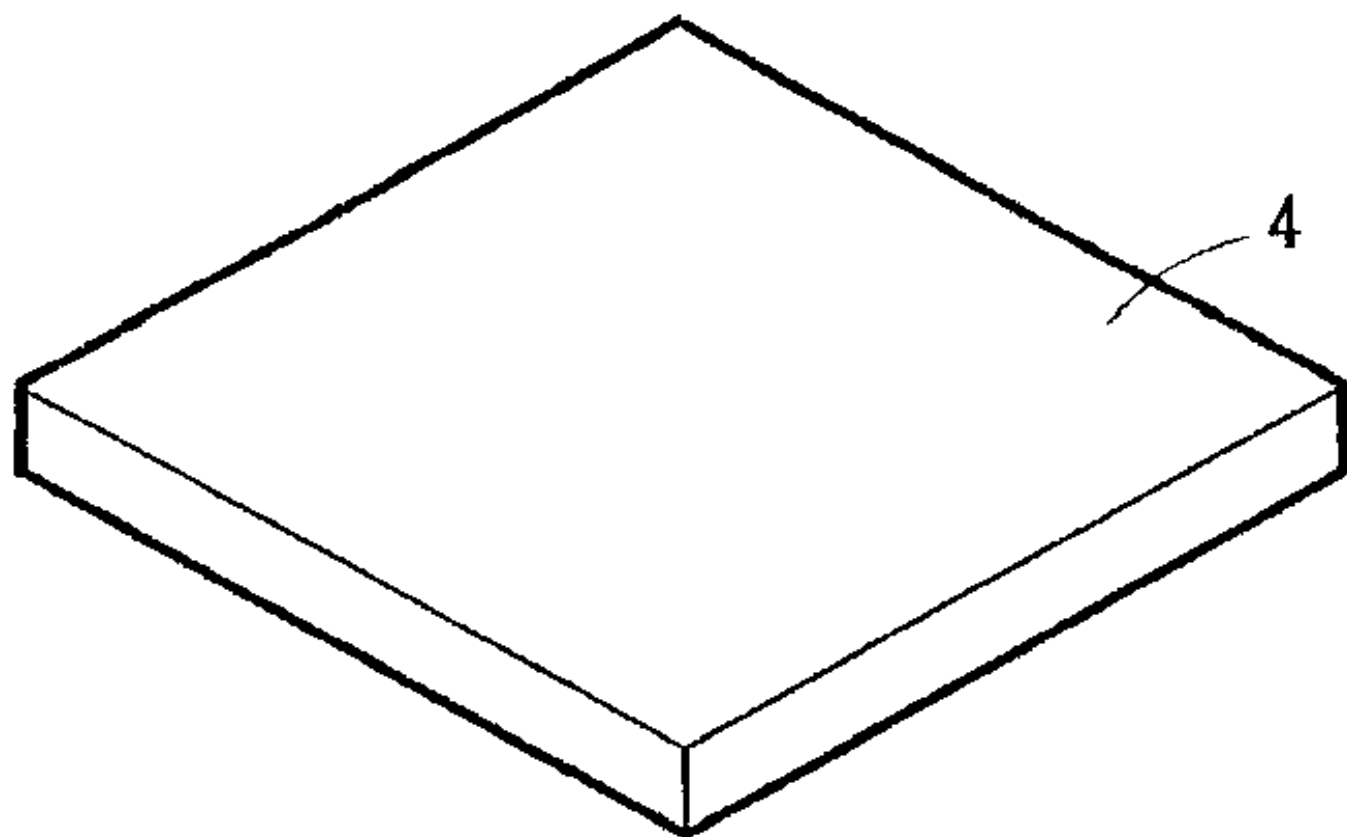


3

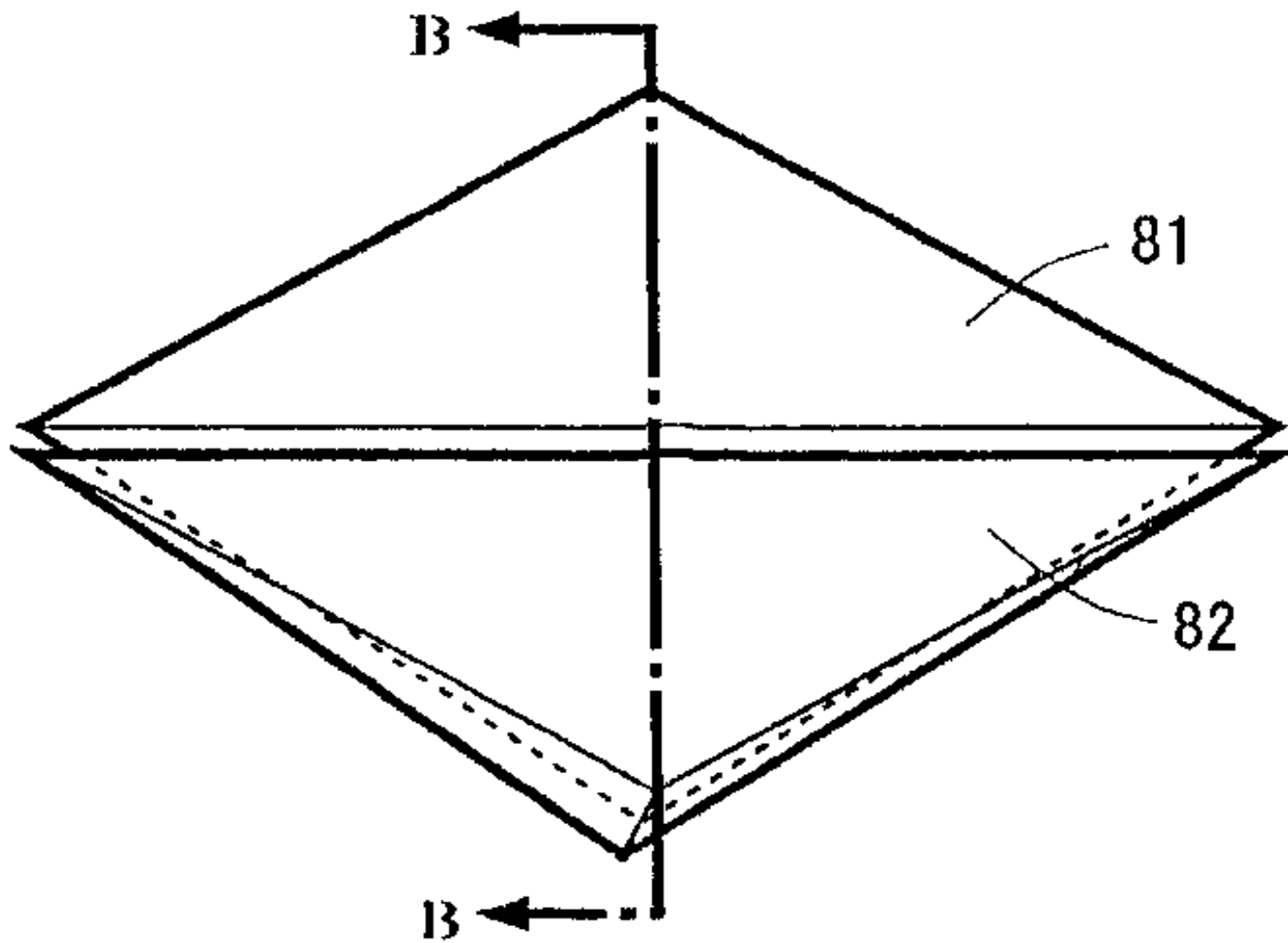




5a

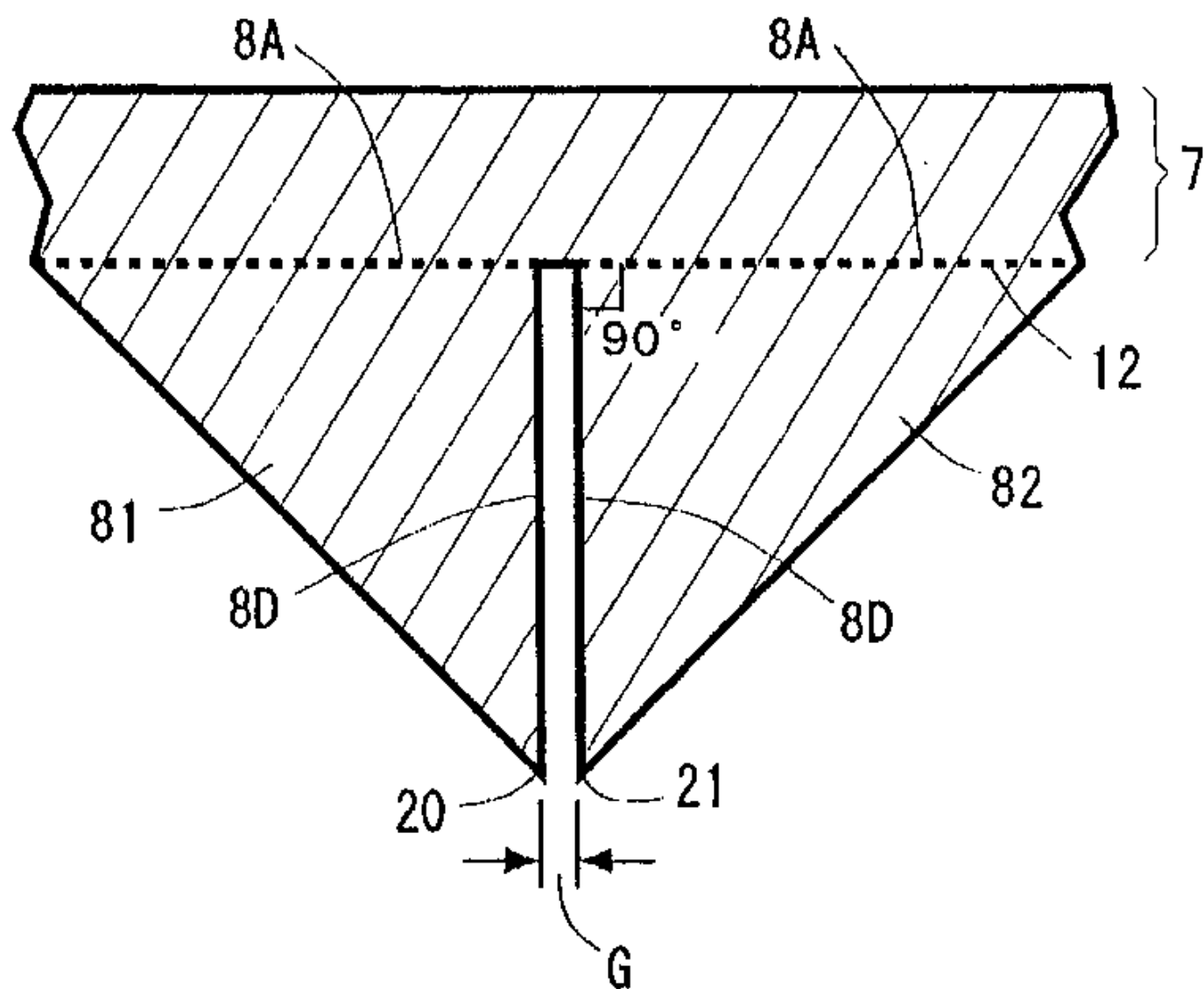


B

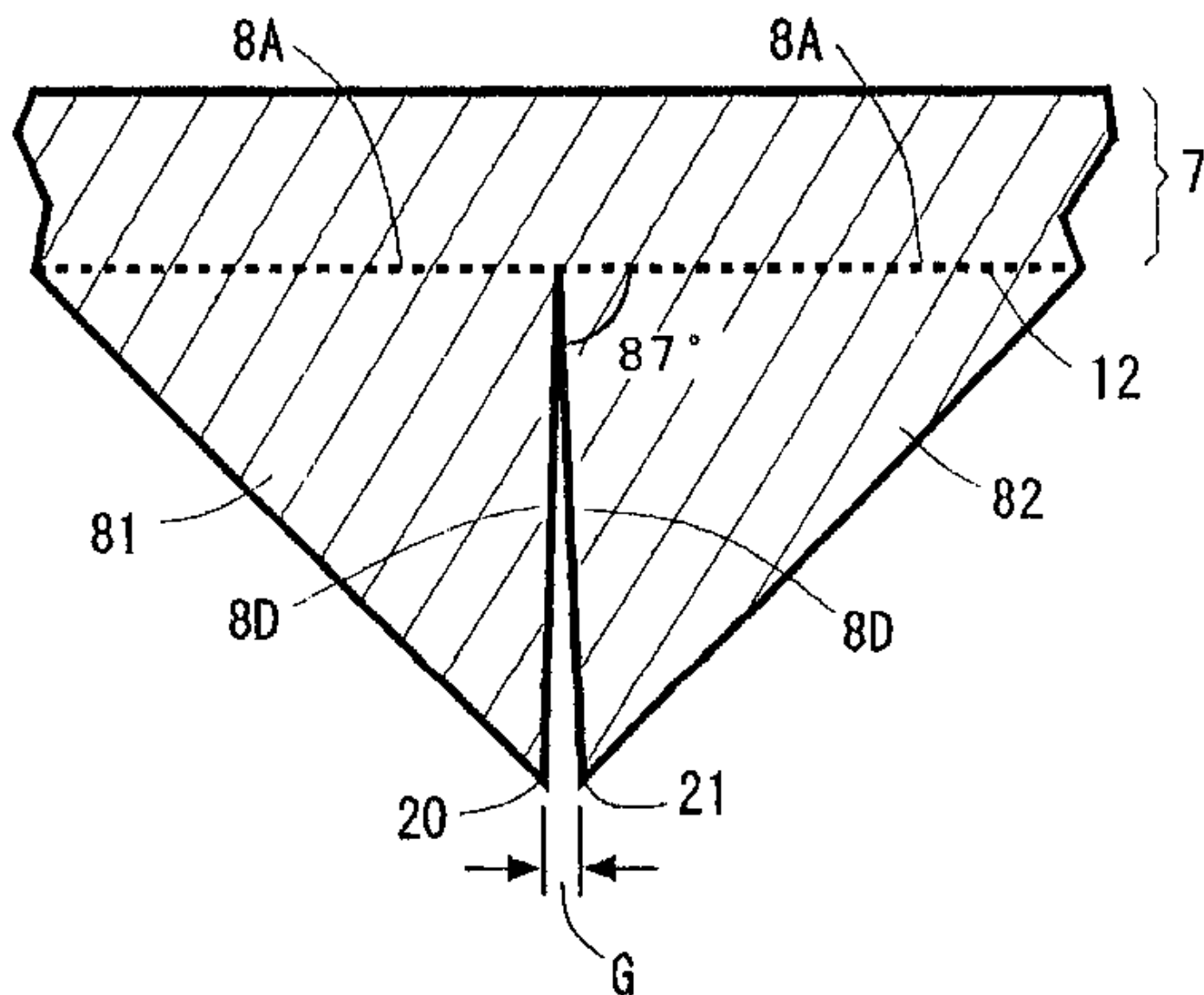


B

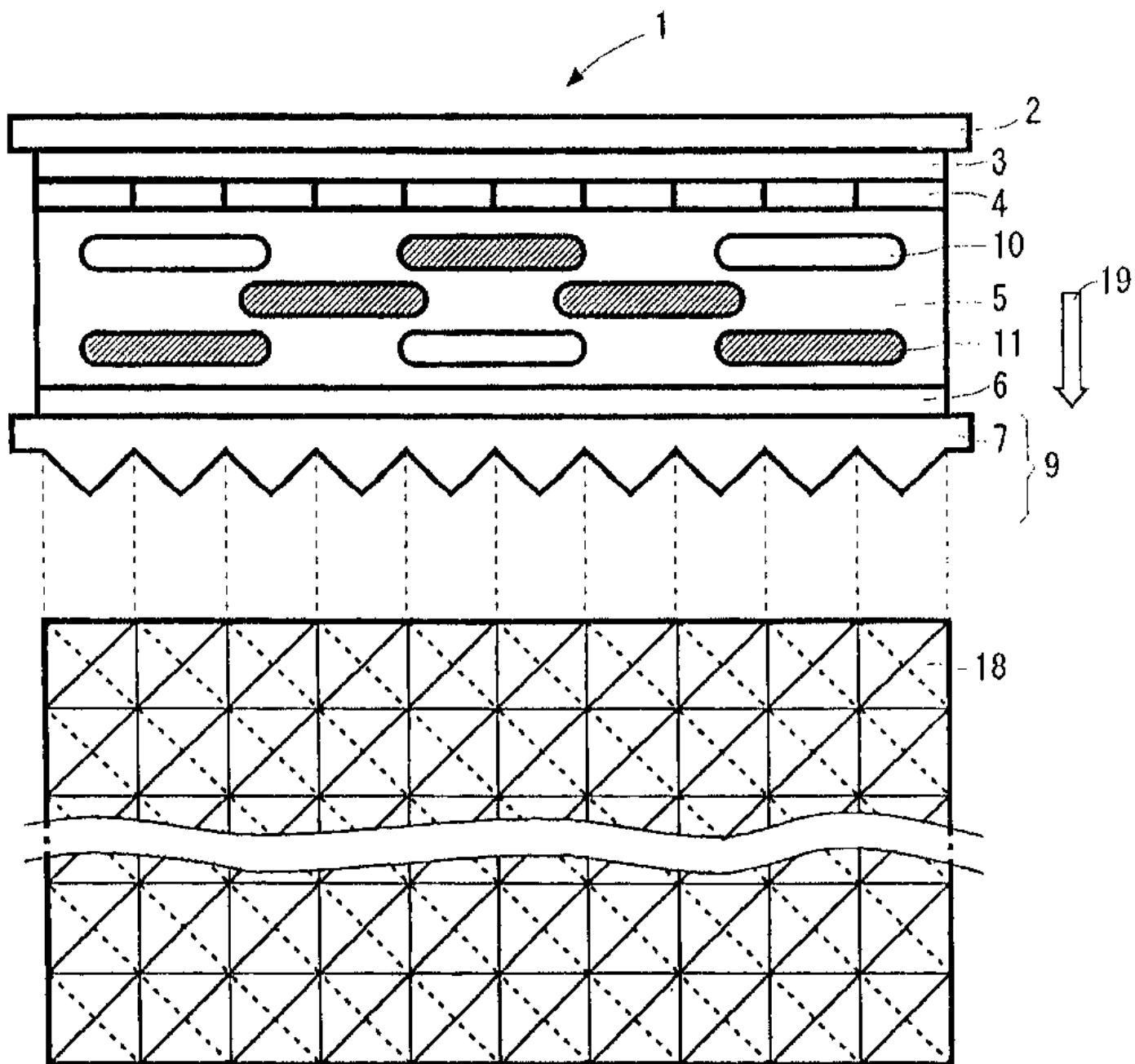
5b



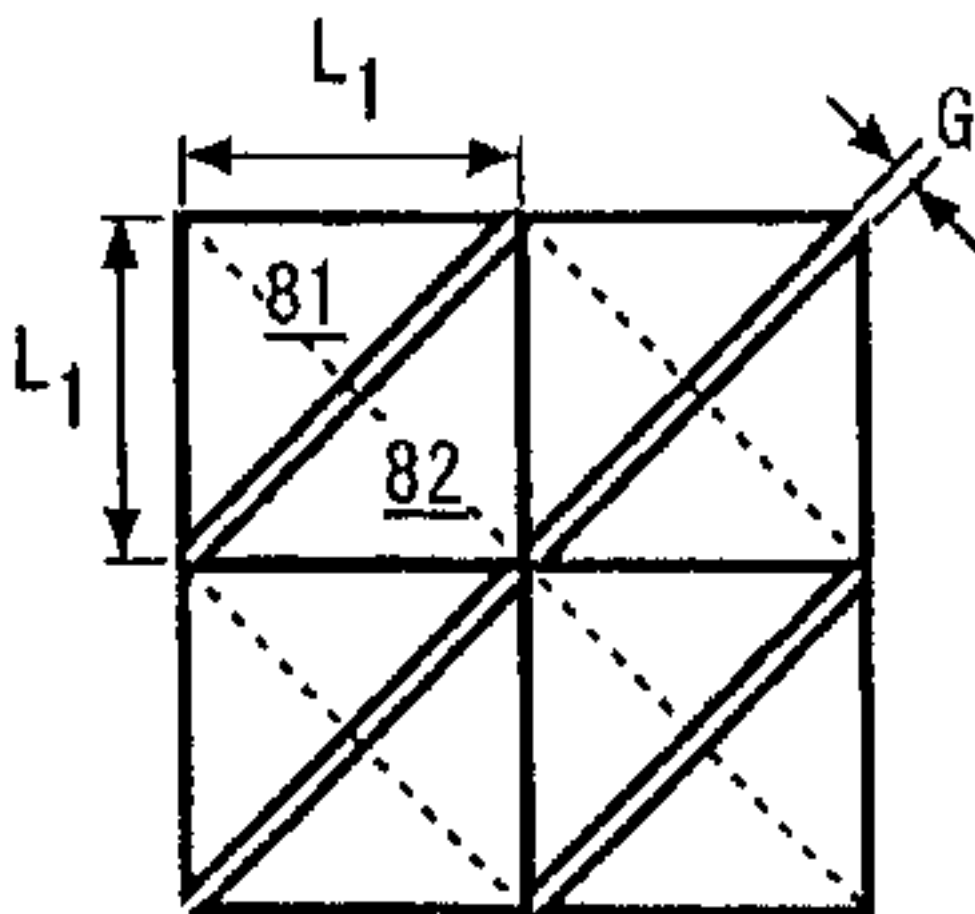
6



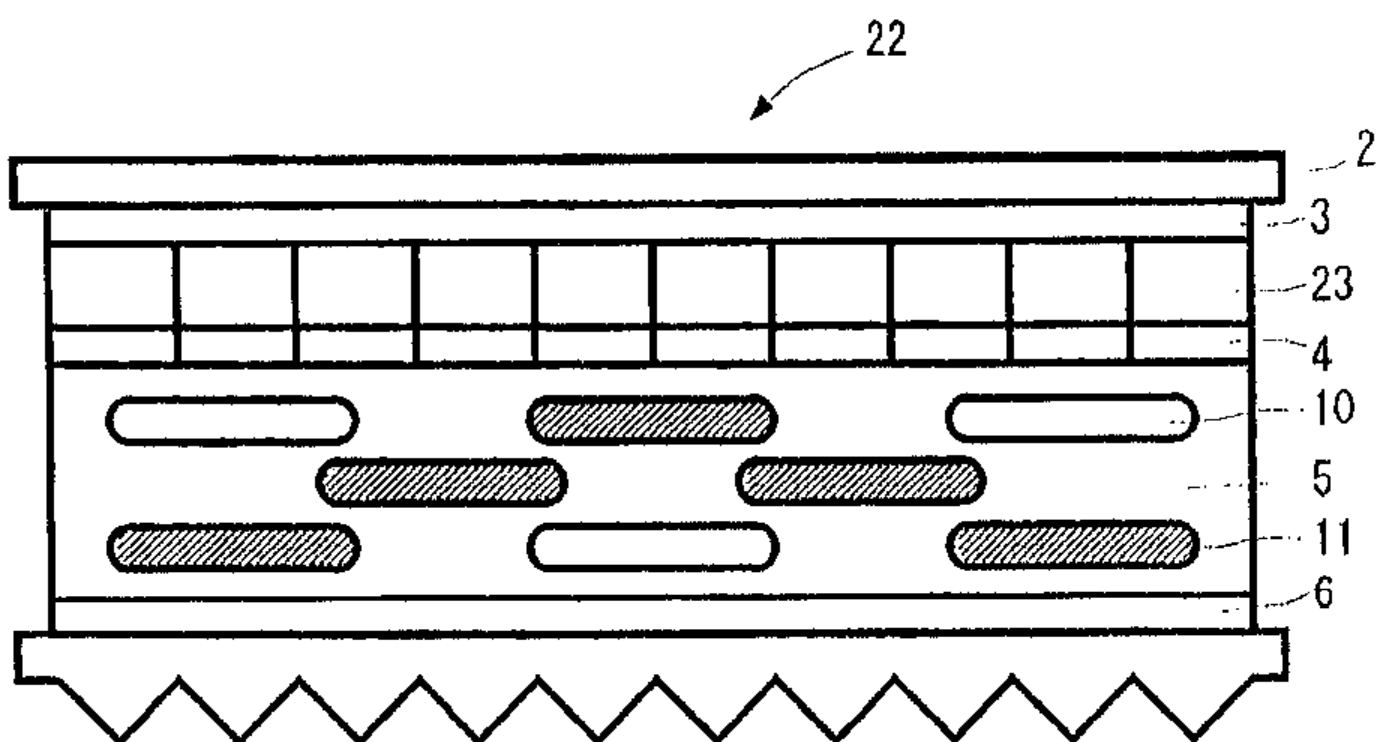
7a



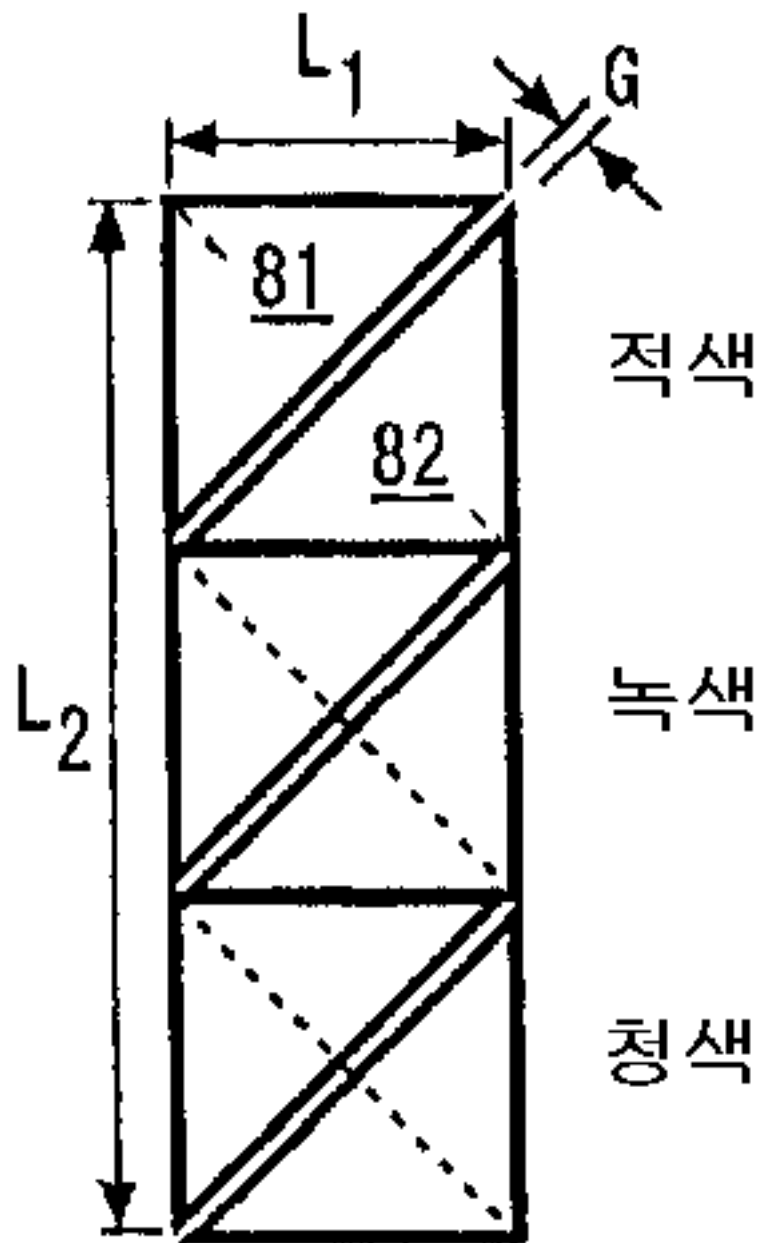
7b



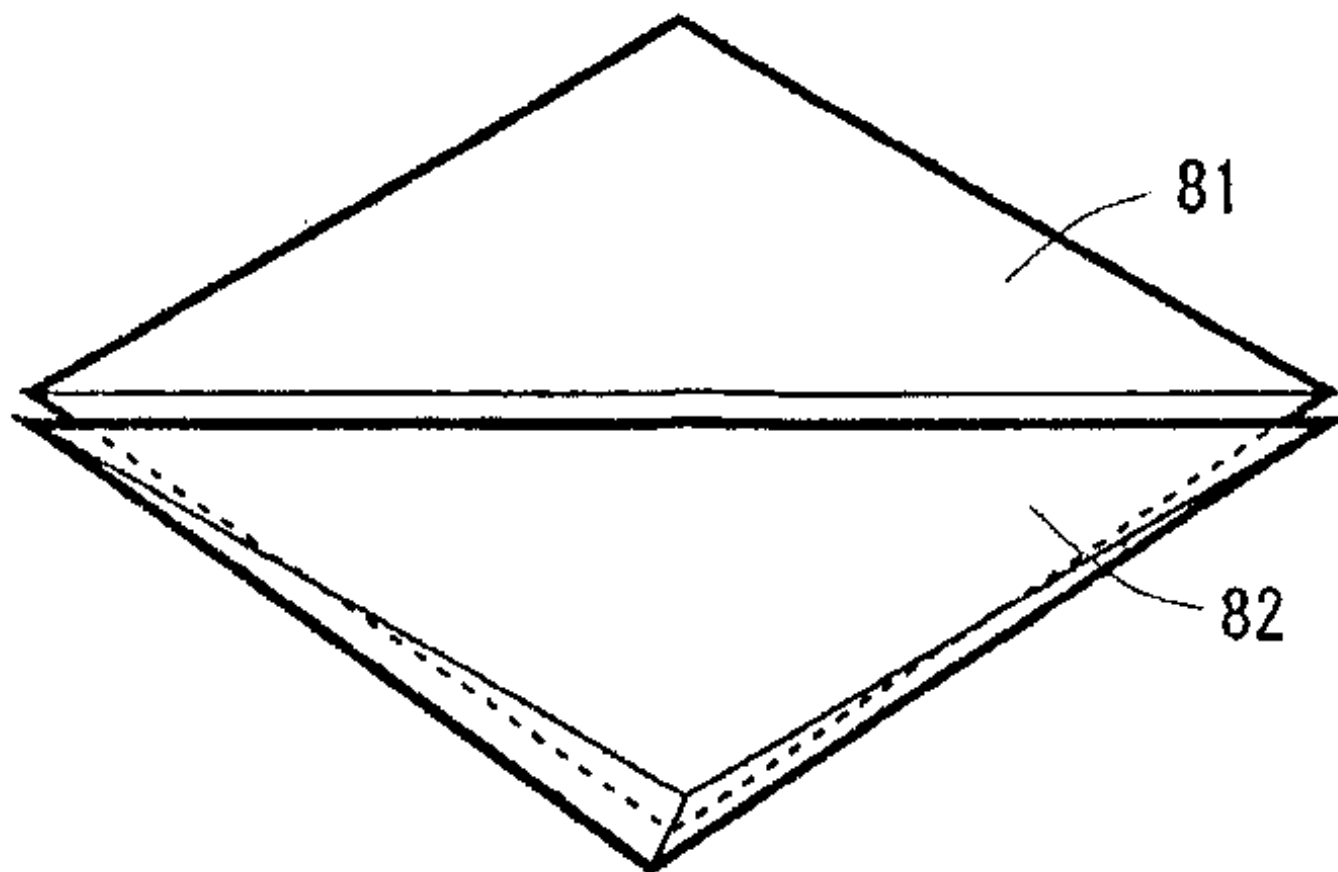
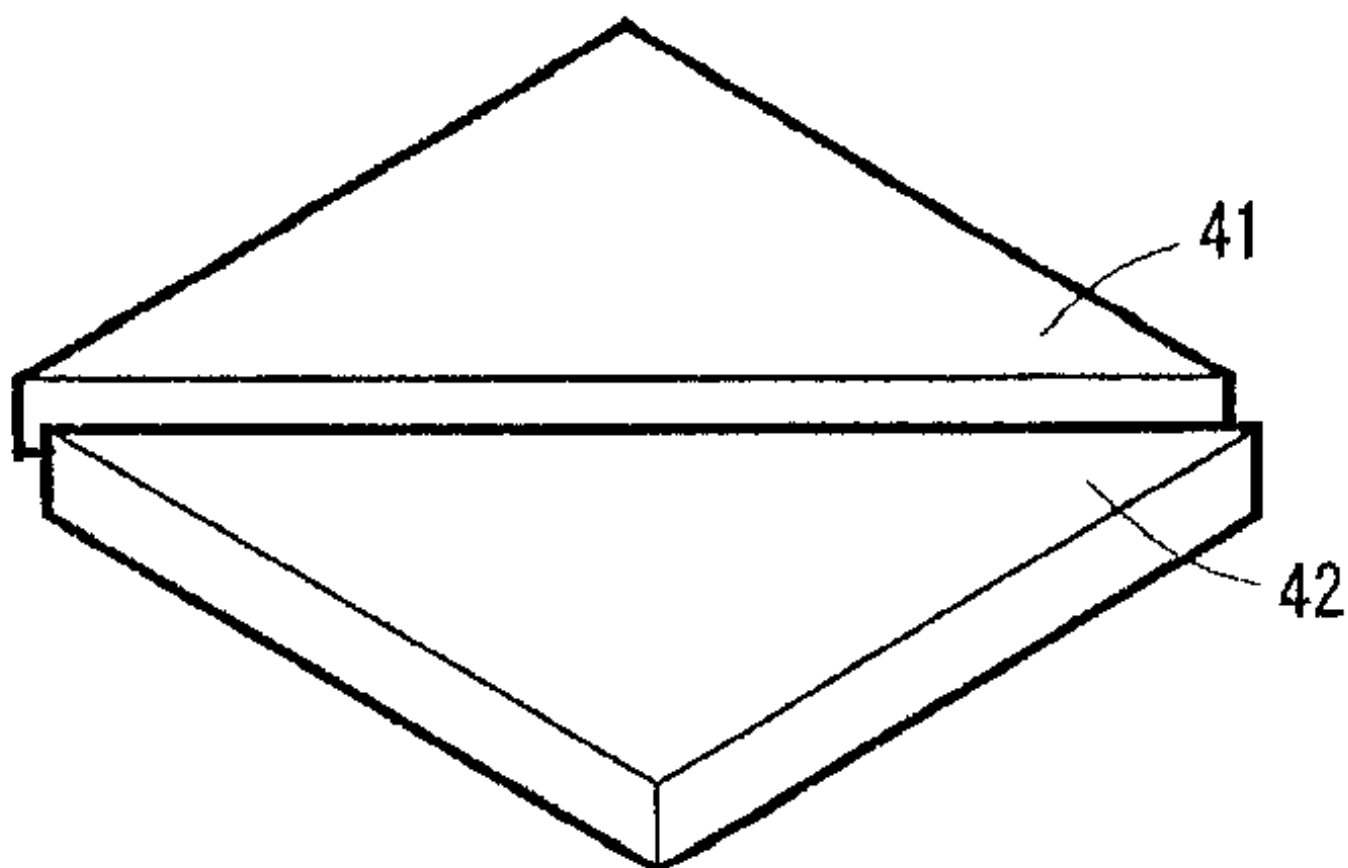
8a



8b



9



专利名称(译)	反光液晶显示器		
公开(公告)号	KR1020010062148A	公开(公告)日	2001-07-07
申请号	KR1020000073598	申请日	2000-12-06
[标]申请(专利权)人(译)	国际商业机器公司		
申请(专利权)人(译)	国际商业机器公司		
当前申请(专利权)人(译)	国际商业机器公司		
[标]发明人	TAIRA YOICHI		
发明人	TAIRA, YOICHI		
IPC分类号	G02F1/13 G02F1/136 G02F1/139 G02F1/1335 G02F1/137 G02F		
CPC分类号	G02F1/13725 G02F1/133553		
代理人(译)	Park Kyung-joo KIM, SEONG 台技 HEO, JEONG HUN 安诚德		
优先权	1999359670 1999-12-17 JP		
其他公开文献	KR100427840B1		
外部链接	Espacenet		

摘要(译)

虽然本发明的目的是实现高对比度和高反射率的低价格，但该结构提供了简单的反射客体·主液晶显示 (LCD) 装置。根据本发明的反射型液晶显示器包括第一透明基板，设置在第一透明基板的一个表面上的第一电极装置，配备有第一表面和第二表面的第二透明基板，以及布置的第二电极装置在该第二透明基板的第一表面上。第一透明基板和第二透明基板被布置成使得第一电极装置和第二电极装置面对并且在第一电极装置和第二电极装置之间形成空间。并且客体·主体液晶层布置在空间中。并且第一电极装置和第二电极装置规定多个像素位置。分别配置有三角锥形状的反射单元。

