

(19)  
(12)

(KR)  
(A)

(51) 。 Int. Cl. <sup>7</sup>  
G02F 1/1337

(11)  
(43)

2001 - 0095170  
2001 11 03

(21) 10 - 2001 - 0016915  
(22) 2001 03 30

(30) 2000 - 098056 2000 03 31 (JP)  
2001 - 019729 2001 01 29 (JP)

(71) 가 가  
가 가 22 22

(72) 5 - 8 - 3 -  
3 - 24

(74)  
:

(54)

(R1) 가 (19, 29) , (32a) 1  
(R2) 가 (32b) 1 2

2

, TFT , , ,

1		1		
2		1		
3				
4	1	2	(R2)	
5	1	2	(R2)	
6	1	2	(R2)	
7		2		
8		2		
9		3		
10		3		
11				
12	11			

< >

10 : TFT

11, 21 :

12 :

14 :

16 : TFT( )

18 : ( )

19, 29 :

20 :

27 :

28 : ( )

30 :



(400) , TFT (10) (20) , (32)  
 (30) . TFT (10) (11) , (12) , (14)  
 (14) TFT(16) (18) . (20) (21) ,  
 (27) (28) . TFT (10) (20) ,  
 (30) (42) . (27)

(400)가 , 12 (18) (12)  
 (E))가 , (12) (32) (A)  
 (B) . 11 12B - 12B' , (14) (14) 가 (32) (14) (18)  
 , (14) 가 (32) .

(12) (14) (32) ,  
 (32) ( ( ) )  
 (32)가 , 4 ,  
 . 4 가 , 4  
 , 4 가 , 4  
 가 (zaratsuki)

( . )  
 가 , (tilt angle) ( . )  
 , 3° .  
 가 , .

( 6 - 301036 , 7 - 230097  
 (IDW '97, p.159, " A Vertically Aligned LCD P  
 ) ,  
 roviding Super - High Image Quality" )  
 가 , .

7 - 64092 , NW TN 가 2 (discli  
 nation line) . 가 .  
 , (zaratsuki)  
 .

가

1 가 , , .  
2 가 , .

1 , 2 . 88° ~ 90°  
0° ~ 87°

2 , 1 . 2 가 5  
0μm

2 , 1 . 2 100  
μm

1 2 가 , 2  
1 2 가 , 2

가 , , , , ,

1 2 가 ,

1 1 2

1 2

1 가 가 ( , " " .) 1

2 ( ) 2  
가 ( 1 ) 2 가 , , 2

가 , 가 .

2 1

. , 1 88° 0° ~ 87° 가 (MURA) 88° ~ 90° , 2  
 가 87° , 가 . , 2  
 2 , 가 . 2  
 1 , 2  
 2 , 1 가 50μm , 2  
 , 2 가 . 2 1  
 , 1 가 . , 1 2 2  
 , 1 , 1 2  
 ( 2 ) , , X ( , ) ,  
 가 . 2 , 가 ,  
 2 .  
 , 가 .  
 1 , 1 (ZARATSUKI) 88° ~ 90° ,  
 가 2  
 .  
 ( )  
 , .  
 ( 1 )



가

(19 29) , (32a) 1 (R1) 90°가

2 (R2) (32b) (HD) 0° ~ 87° (32b) (19(29)) (R2) ( )

2 3 (R2) (100) (19 29) (100)

3 (11(21)) (18)( (28)) ( TFT (10) (20) )(10'(20')) (11(21)) TFT(16) (27) 가

(10'(20')) (19'(29')) (19'(29'))

(10'(20')) (19'(29')) (40) (UV) (40) , (40a) (40b) (40a) 1 2 (29')) 2 (R2) (R2) (40) (19' , 0.1J/cm<sup>2</sup>) 0° ~ 87° 30J/cm<sup>2</sup> 0° ~ 87°

( 가 ) (19'(29'))

1 2 (R2) (19'(29')) 가

(40) 가 , X 가 가

400nm

TFT (10) (20) 2  
 (100)가 .

(19 29) 2 (R2) , 1 (R1)  
 2 (R2) (B1~B6) 50μm( )  
 ( 1 (W4) ) 90μm 2 (R2)  
 가 . , 2 (R2)

2 (R2) , 2 (R2) 가  
 (R1) 2 (R2) 1  
 2 (R2)

, 1 2 (R2) , ( 4 ) ,  
 ( 5 ) ( 6 ) 가 , ,  
 2 (R2) , 2 (R2) 2  
 (R2) 1/2 . 2 (R2) (R  
 2)

2 (R2) 10μm가 1 , (R  
 (12) 2 (R2) (W5) , (14) 2 (R  
 2) (W6), 1 (R1) 2 (R2) (W7) 가 10μm  
 . 2 (R2) 10μm 1 (R1)  
 가 . 2 (R2)

1 (R1) 2 (R2) 가,  
 , 1 (R1) 2 (R2) (R2) 가, 10μm

(40) 가 (40) ,  
 (19'(29')) , , X (R2)  
 ( )

(10 20) 2 (R2) 2  
 (R2) (30) (R2) 1 (R1) (R2) 2  
 2 (R2) . 2 (R2)

(R2) 2 (R2) 2

( 2 )

7 2 (200) (200) 8

100) 가 (200) 7 8A - 8A' 1 (

TFT (200) 2 (R2) 가 (100) (200)

(10) (20) 2 (R2) 가 (R2) (30) (200)

1 가

(200) (19 20) , 2 (R2)

(12) (R2) (32)가 (18)

가 ) 2 (R2) (32)가 ( 7

가

7 2 (R2)

가

1 2 (R2) (R2) 1/2

2 (R2) (R2)

1 가 , 2 (R2) 10μm가 7 (R2)

2 (R2) 10μm 2 (R2)

2 (R2) , 1 가 가

(32b) 0° ~ 87° ( 0.1J/cm<sup>2</sup> 30J/cm<sup>2</sup> (19 29) 가 1 (R1)

(32a) 1 가 90°

(19 29) 2 (R2) , 1 (R1) 2

(R2) 50μm( ) 가 2

(R2) 가

가 1 (R1) 2 (R2) 가, (R1) 2 (R2) 가 10 $\mu$ m, 2 가 (R2) 가 가 1 가

( 3 )

9 3 (300) 10 9 10A - 10A' 10 (300) 1

(100) 가 (300) 2 (R2) 가 (100) (300) TFT (10) (20) 2 (R2) (30) (30) 1 가

1 가 (300)가 (19 29) (30) (32a) 1 (HD)) 2 (R1) (R2) (B1, B2, B3 B4)가, (32b) 1 가 1 (R1) 2 (R2) (B1, B2, B3 B4)가, 1

(300) (19 29) (B2) (B4) 2 (R2) 9 (R2) 1 2 가 (R2) 1 가 (R2) 10 $\mu$ m가

(R2) (B2) (B4) 2 (B1) (B3) (W1) 200 $\mu$ m (B7) (W8) (B3) (B8) (W9) 가 100 $\mu$ m 가 (R2) 가 50 $\mu$ m( ) 가 1 (R1) (R2) 가 1 (R2) 가 1 가 2 가 (R2) 9 (R2) 가 1 가 가 가 1 가

가 , 가가 ,

(57)

1.

, , 가 , ,

1 2 가 , , 1

2.

1 ,

1 , 2 88° ~ 90° 0° ~

87°

3.

1 2 , , 2 가

4.

1 , 2 , 1 2 가 5

0μm

5.

1 , 2 , 1 2 100

μm

6.

1 , 2 가 , 2

1

7.

1 ,  
 , 1 2 가 , 2  
 , 2

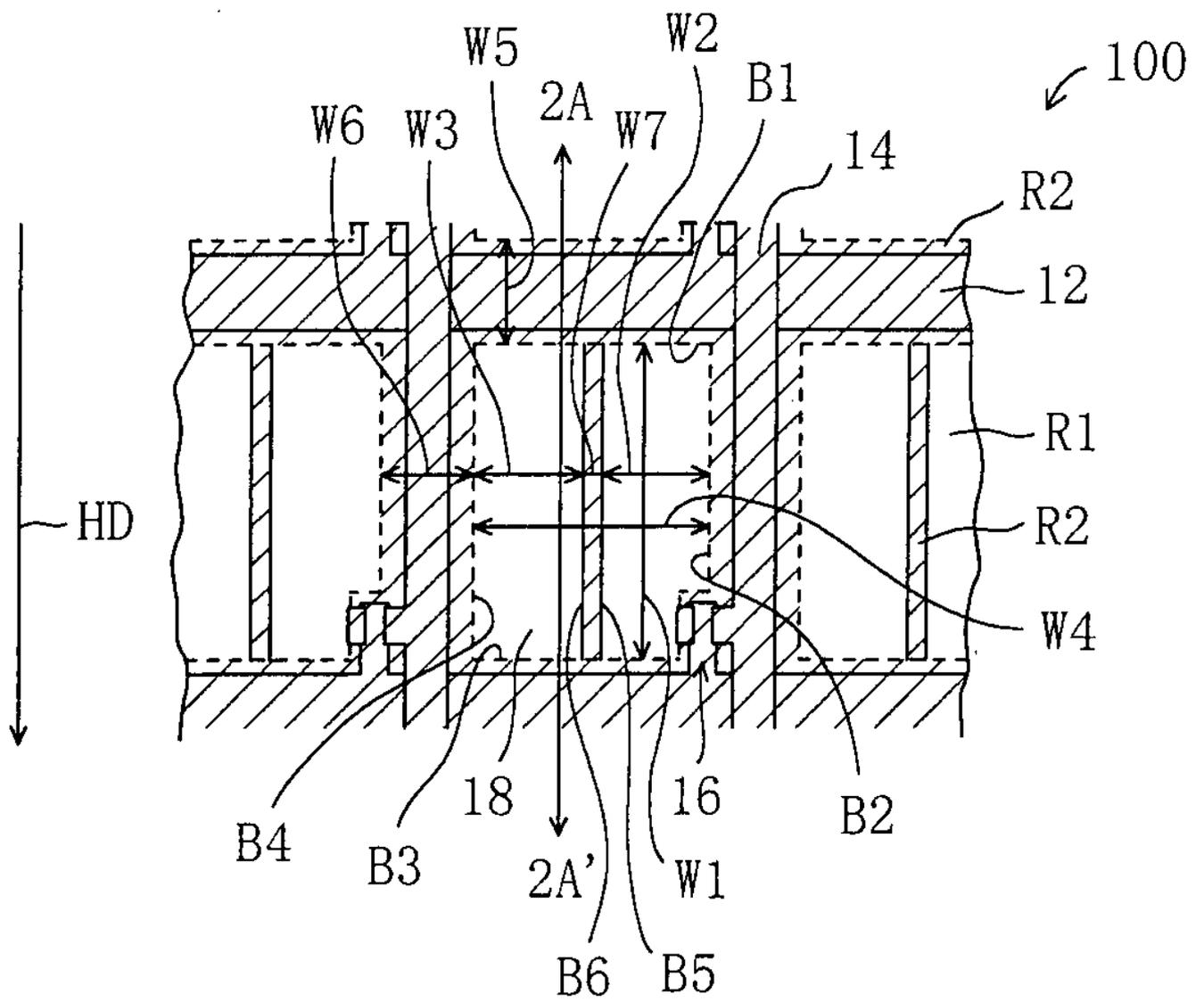
8.

, , 가 ,  
 , ,  
 , 1 가 , , 1  
 2 ,  
 1 2 ,  
 , ,  
 ,

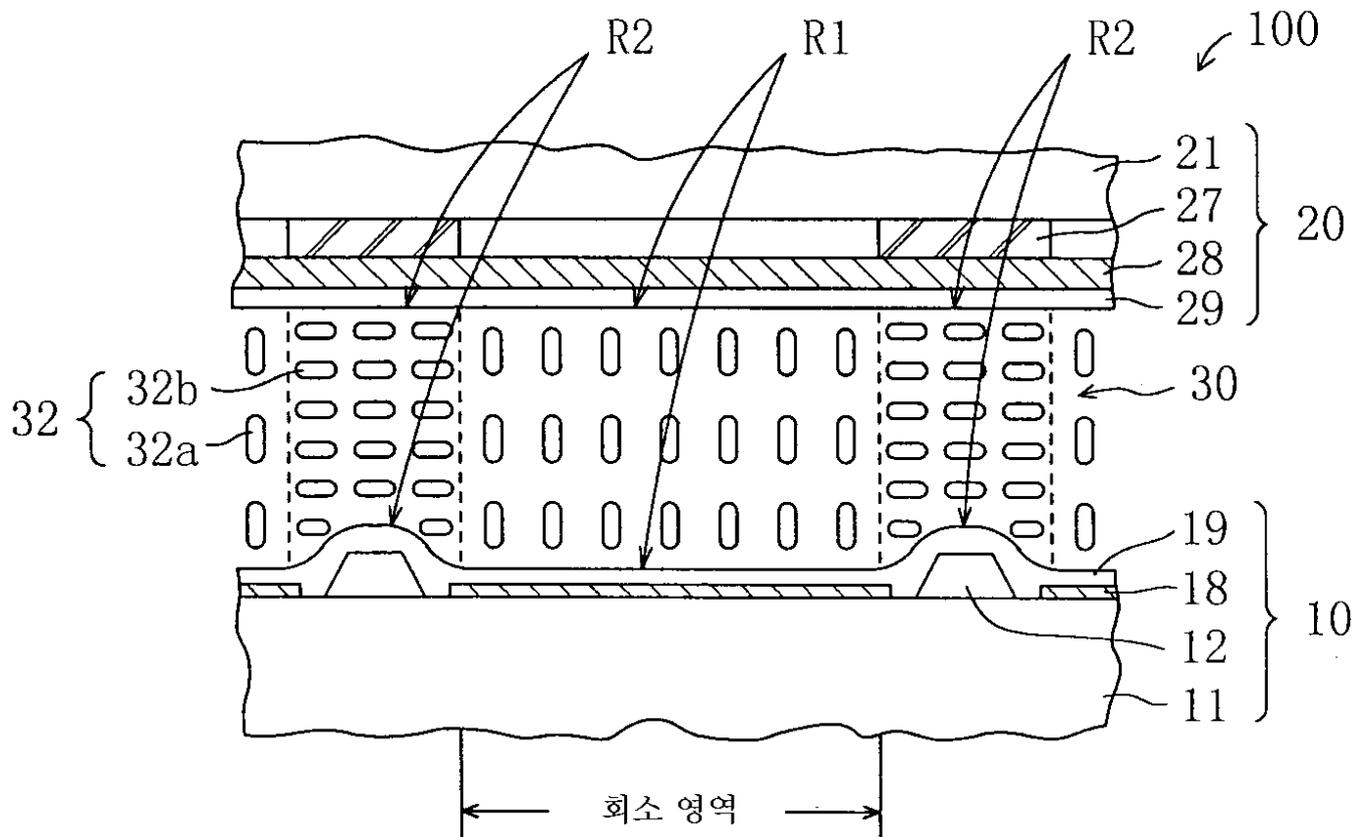
9.

8 ,  
 .

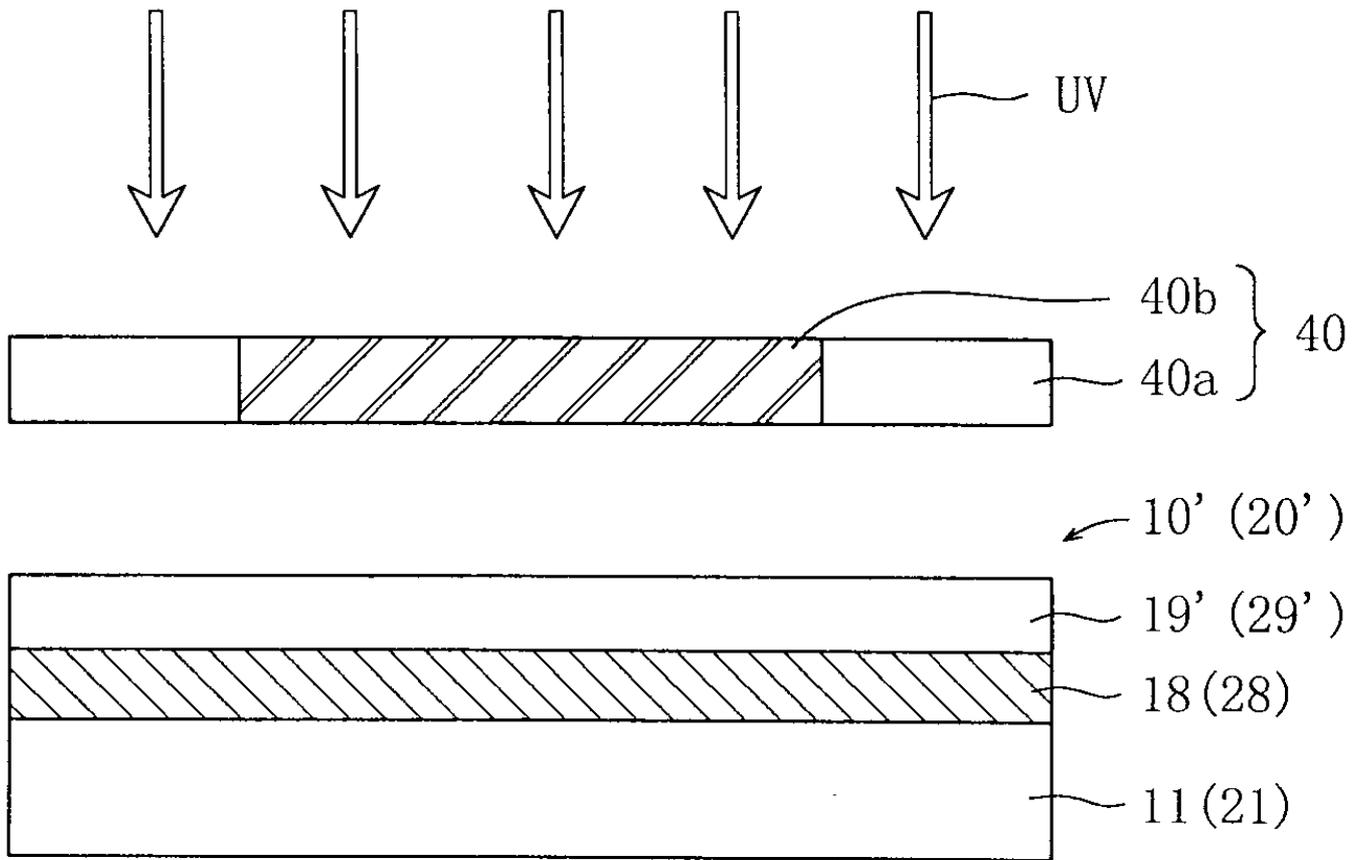
1



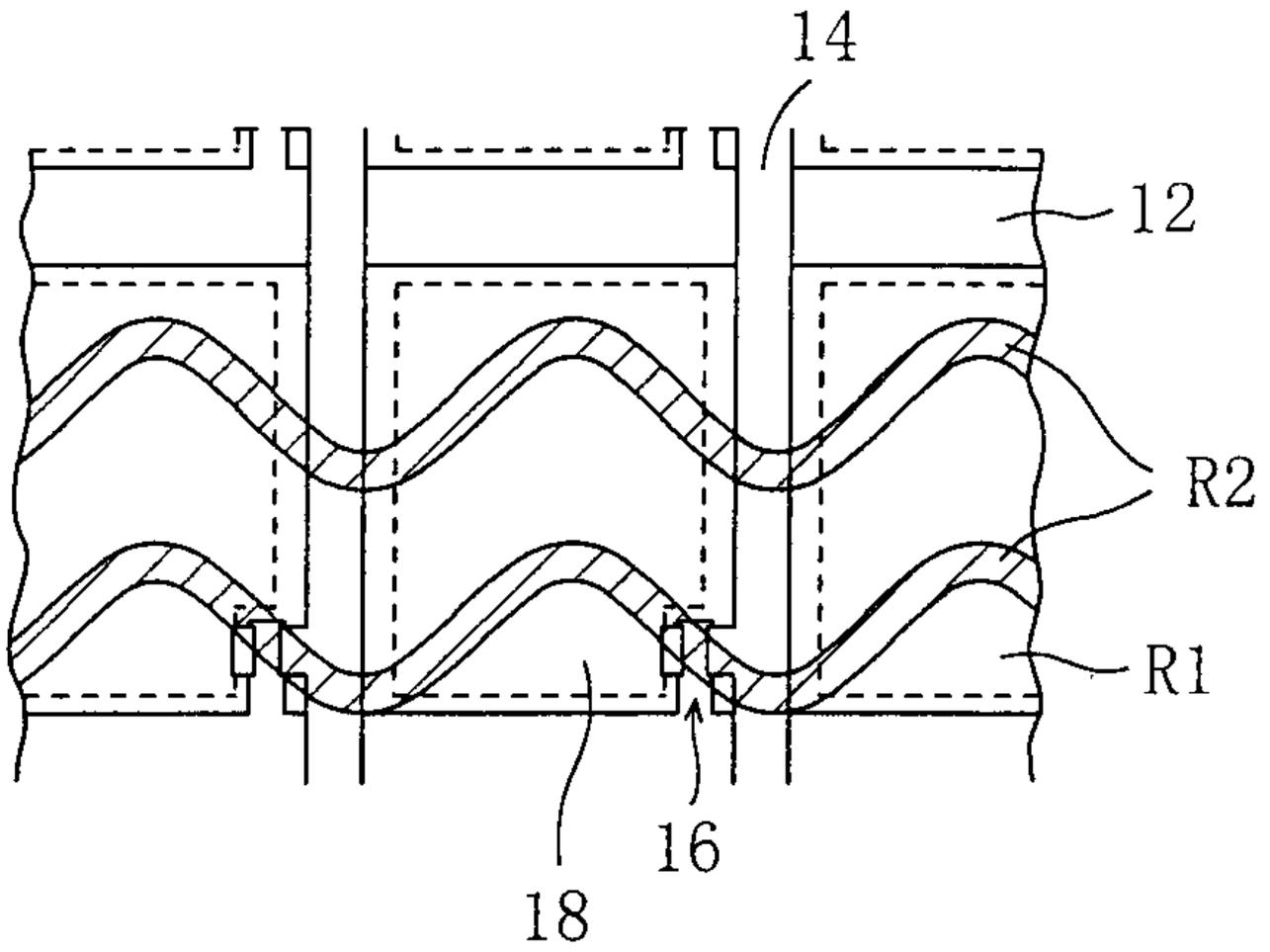
2



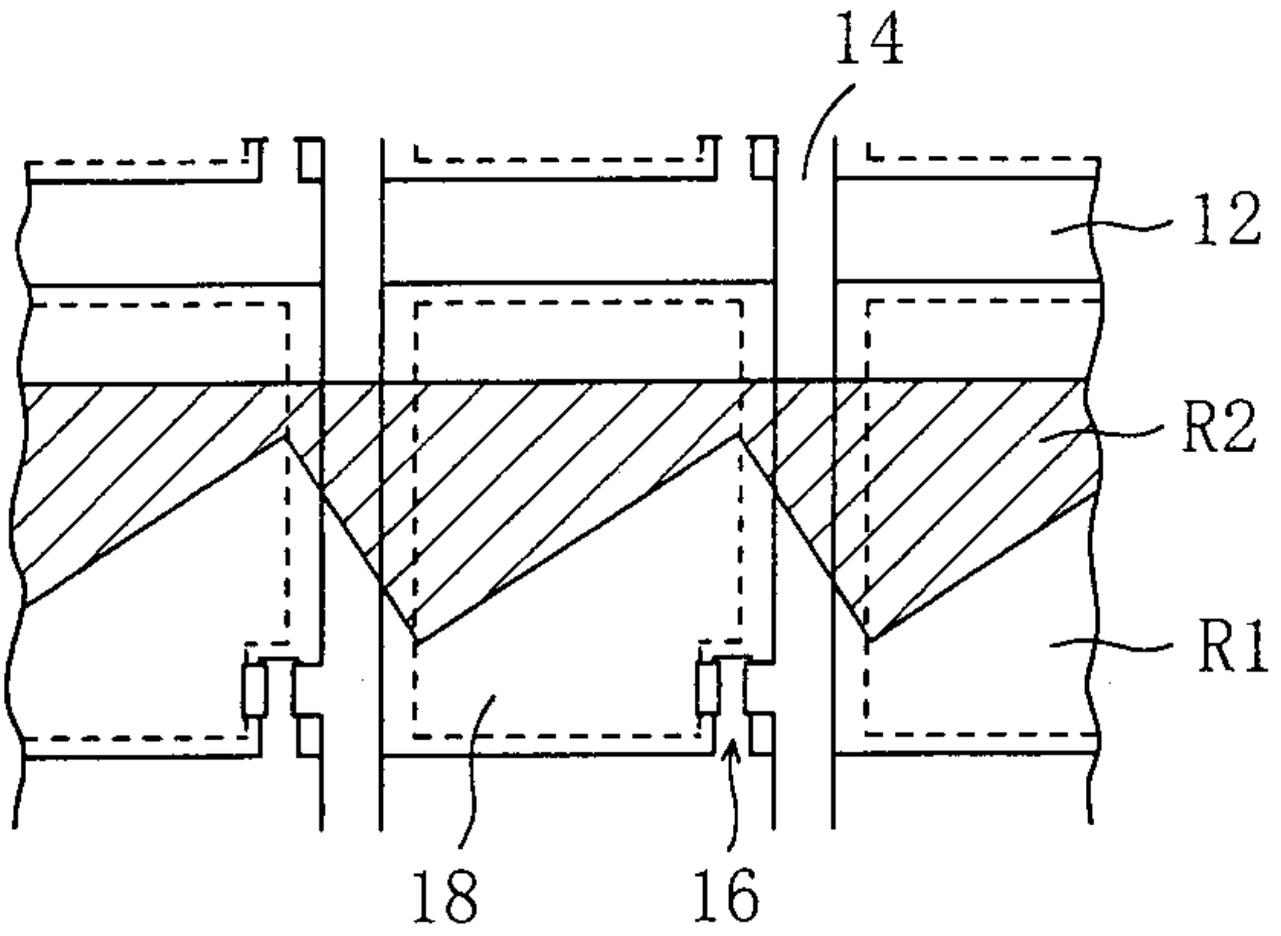
3



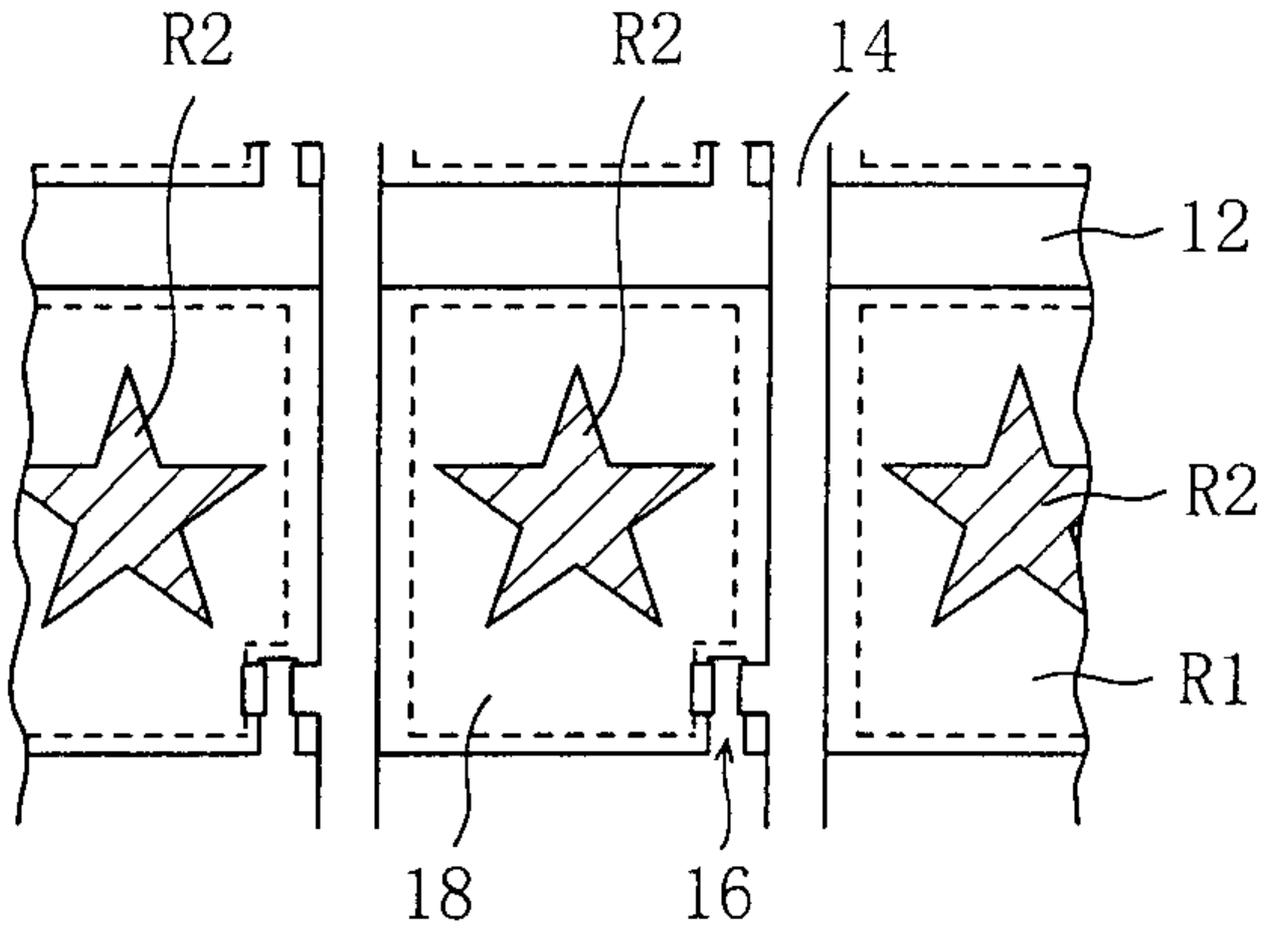
4



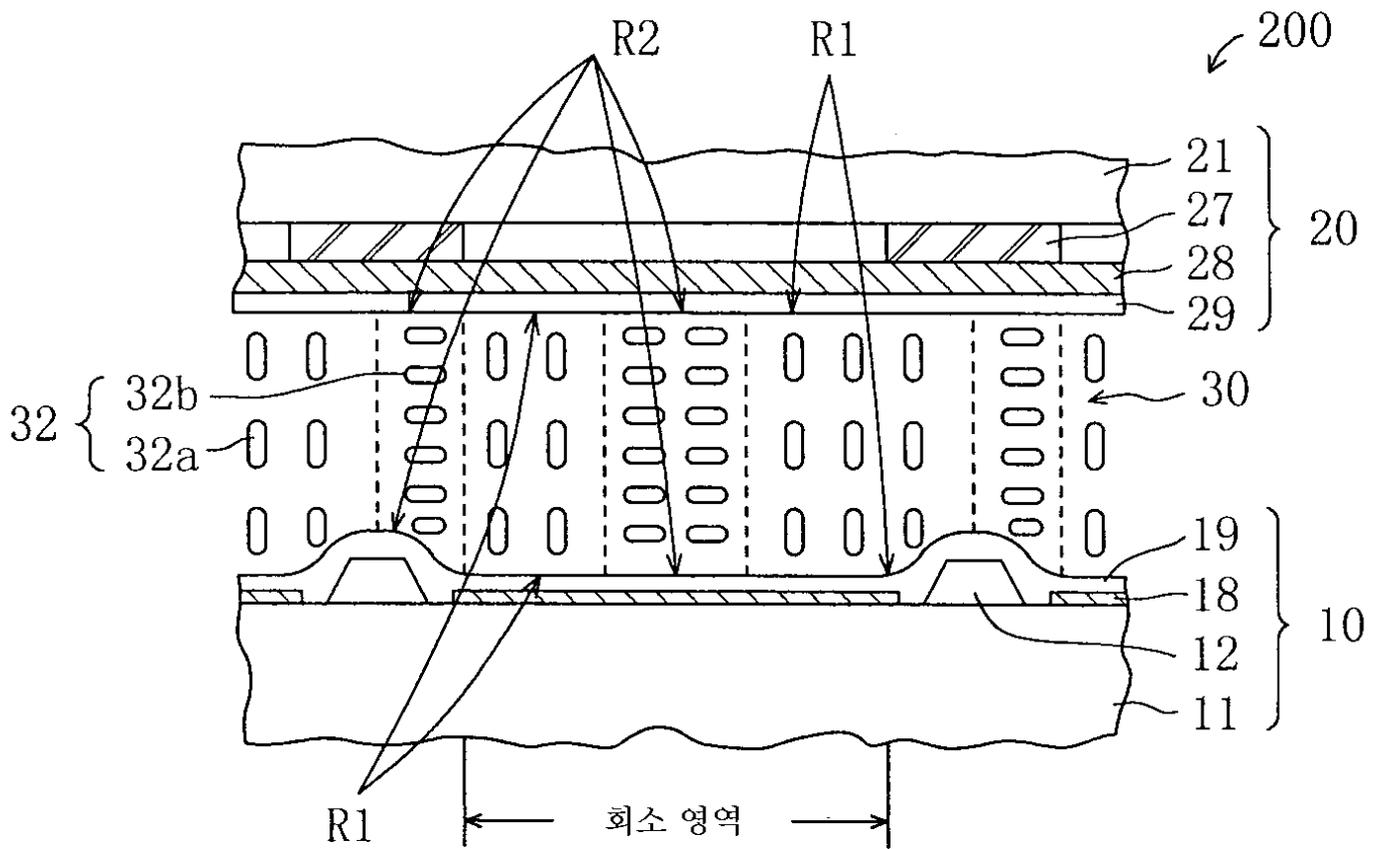
5

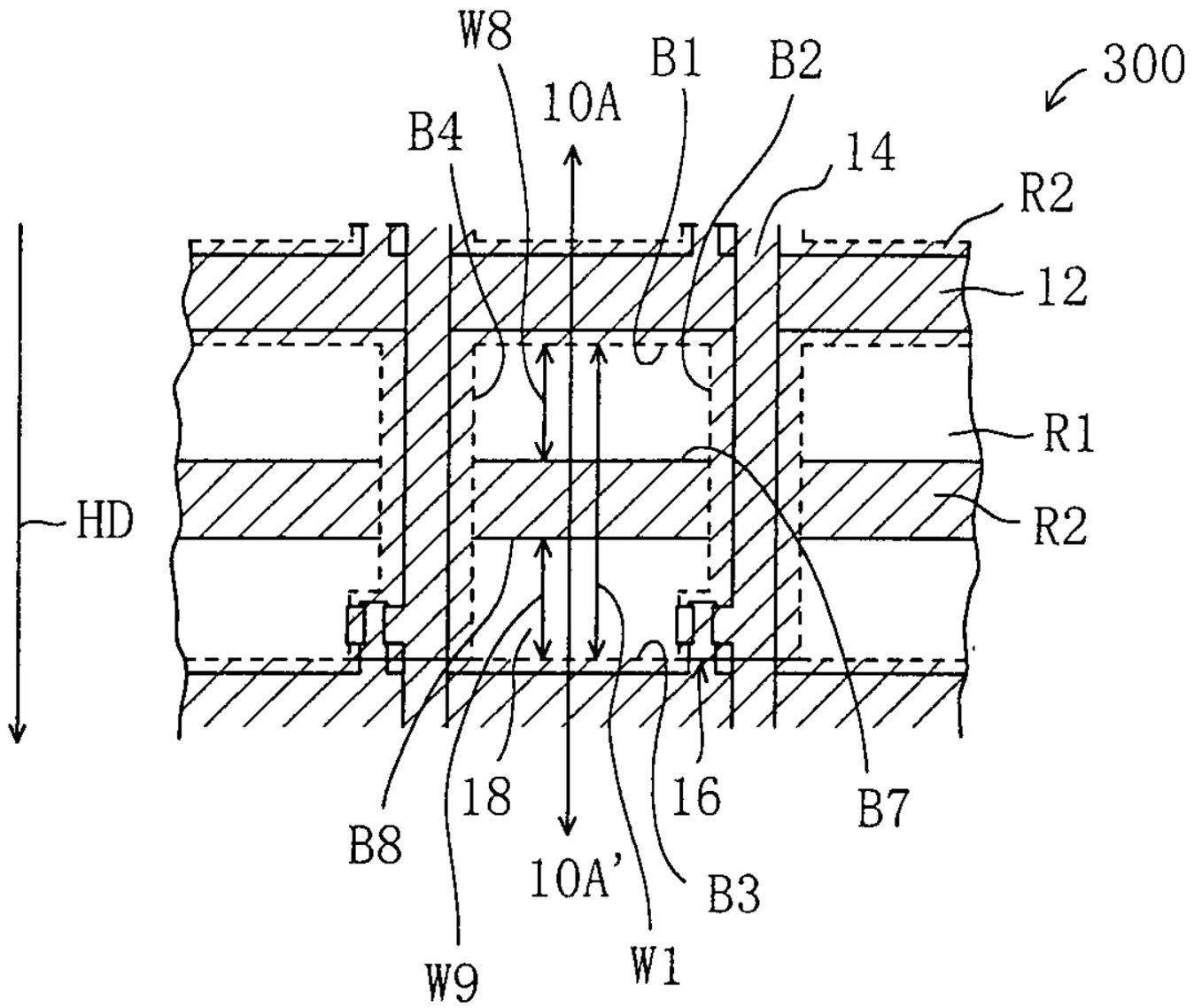


6

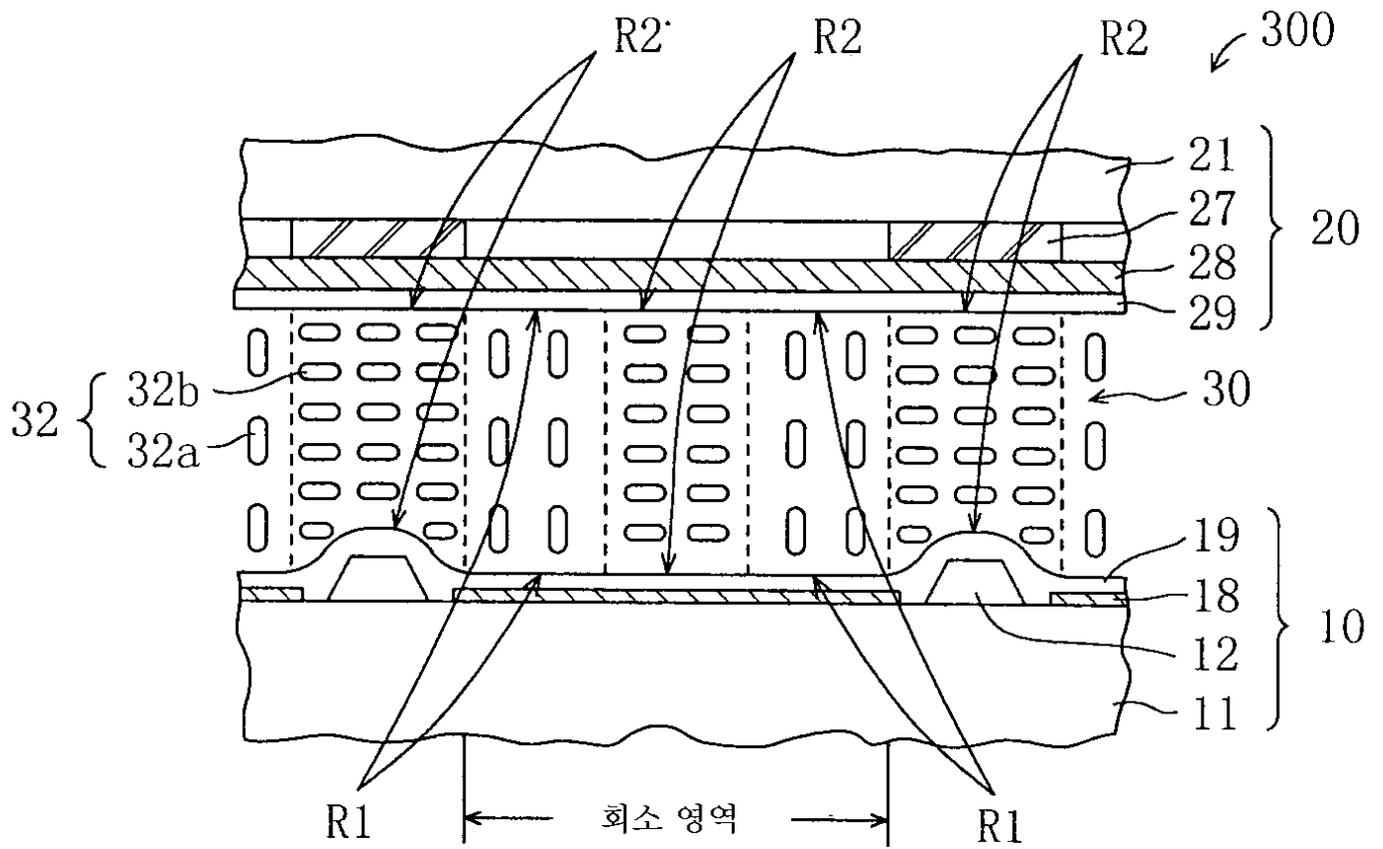




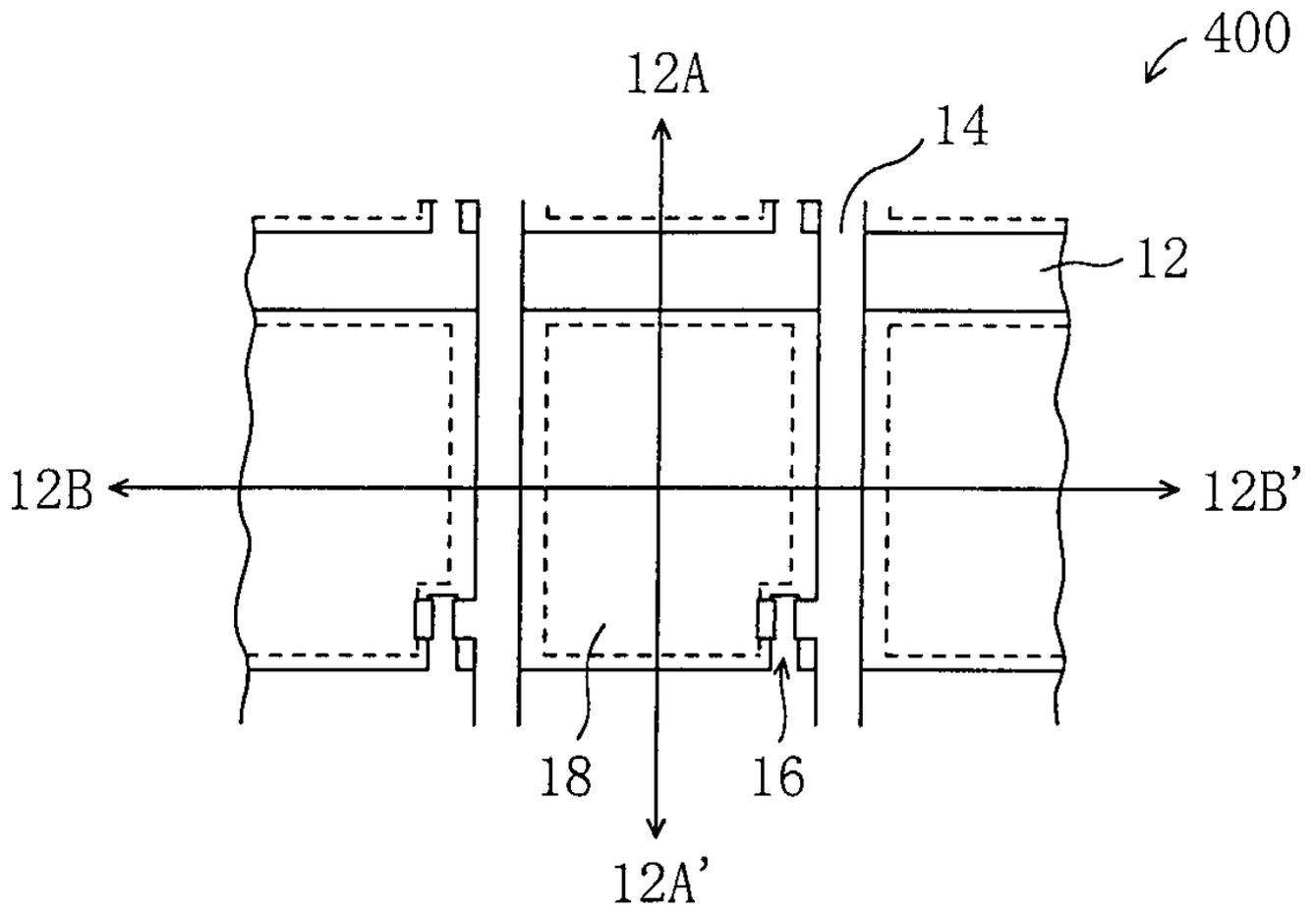


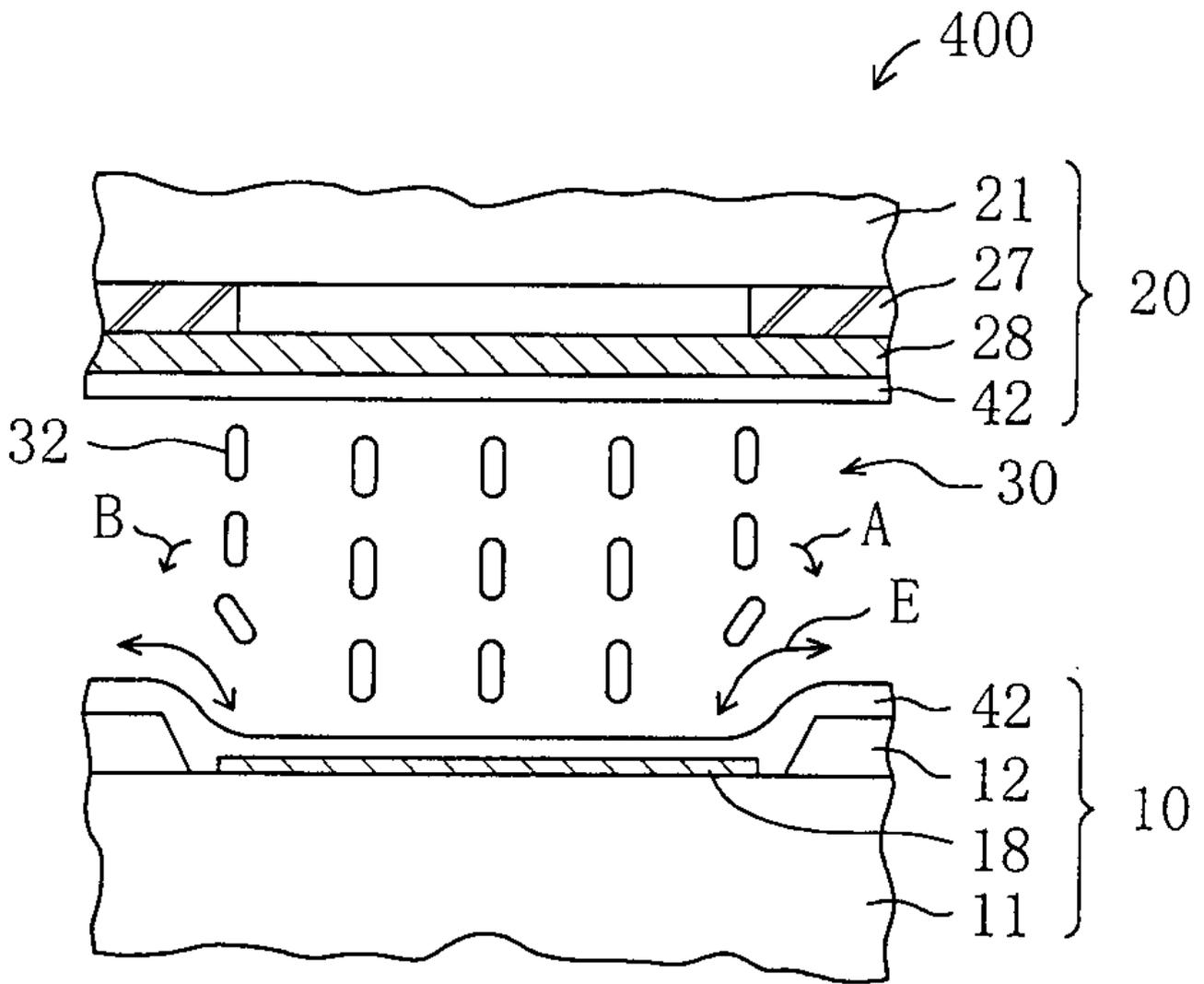


10



11





专利名称(译)	液晶显示装置及其制造方法		
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摘要(译)

本发明的目的在于提供一种垂直取向模式的液晶显示器以及方便的高指示质量的有用制造方法。液晶显示器具有的取向层 ( 19,29 ) 具有第二取向限制区域 ( R2 ) , 该第二取向限制区域 ( R2 ) 使液晶分子 ( 32b ) 在复原区域的外侧与一个方位角方向对齐, 并具有第一取向限制区域 ( R1 ) 它几乎垂直地对齐复苏区域内的液晶分子 ( 32a ) 。液晶显示器, TFT基板, 滤色器层, 复兴电极, 取向调节区域。

