

(19)
(12)

(KR)
(A)

(51) 。 Int. Cl. 7
G02F 1/1335

(11)
(43)

2001 - 0074545
2001 08 04

(21) 10 - 2001 - 0003627
(22) 2001 01 22

(30) 2000 - 013216 2000 01 21 (JP)

(71) 가 가
가
5 7 1

(72) 가
5 7 1 가 가
5 7 1 가 가
5 7 1 가 가
5 7 1 가 가

(74)

:

(54)

, 2 가 , , 가
1 가 2 . 가
, , .

1 1 .

2 , 2 (A) 1 1 , 2 (B) 1 2

3 2 , 3 (B) 2 2 , 3 (A) 2 1

4 (A) 3 .

4 (B) 4 .

5 5 , 5 (B) 5 1 , 5 (C) 5 5 (A) 2

6 6 .

7 1 , 7 (AB)

7 (G) .

8 1 , 8 (H) 8 (L) .

9 1 , 9 (AB) 9 (H)

10 1 , 10 (I)

10 (LM) .

11 1 (protrusion pattern) .

12 1 .

13 2 , 13 (AB) 13 (G)

14 2 , 14 (H)

14 (KL) .

15 3 , 15 (AB) 15 (G)

16 3
16 (L)

, 16 (H)

17 5

18 5

19

20a 20f
0 (F)

, 20 (A) 2

21

, 21 (G) 21 (J)

22

< >

1 :

7 :

44 :

45, 49 :

47 :

50 :

60 ;

61 :

581, 582 :

2000 1 21

2000 - 013216

가

가 (back - light)

isted Nematic) , GH(guest host) , PDLC(Polymer Dispersion) , TN(Twisted Nematic) , STN(Super Tw (cholesteric) TFT(TFT) / / (MIM)

19

(1) (2), (3), (4), (5), (6) TFT(9), (7) (8), (18) (10), (10) 2 (11), TFT(9) 1 (12) (13)

(1) (7) (14)

(16) (16) , (15) (2), (3), (4), (5), (6) (14) (13)

(15)

(11)

(13)

(13)

20 (A) 21 (J)

TFT (21) (20) (20 (A)). (22), (23), (24) (20 (B)). (23) (24) (25)가 (20 (C)), (26) (27) (20 (D)). (34)

(20 (F)) 가 (28) (20 (E)). (29)가 (30) (21 (G)). (30) (31) (32) (21 (H)). TFT (33)가 (21 (I)), (34) (21 (J)).

61 - 6390 SID (Tohru Koizumi and Tatsuo Uchida, Vol. 29, p. 157, 1988)

22 20f (29) , 22 (F)

(29) (29) , 1 20μm, 가 0.5 5.0μm (29)가 가 ,가 (29)

2 (A) 1 (471) (461)가
(461) 2 (B) 2 (462)
(462)가 (472)

1 (471 472) 가

2

3 (A) 3 (B) 2

2 GGB 3 4 - RGB R
65) 5 (

3 (A) 1 3
(B) 2 2 가
,가 3 (B) 가 , 1 2 가

3

4 (A) 3

3 가 가 (66)
(51) 3 가
(66) 가

4

4 (B) 4

1 (45) 2 (49) TFT(40), (67), (53), (54)
(52) TFT(40) (51) 2 (49)
, 1 (45) 2 (49) TFT(40) , TFT(40)
, 1 (45) 2 (49) TFT(40) TFT

(SiN)

(SiO)

가

5

5 (A)

5 (C)

5

5 (A)

(51)

(67)

5 9B)

5

1

(45)

2

(49)

(67)(

)

1

(45) /

2

(49)

(51)

(67)

(67)

1 5μm

5 (C)

(67)

(51)

가

1

(45)

2

(49)

, TFT

가

6

6

6

2 (81)

2

(81)

(51)

(80)

, TFT(40)

, TFT(40)

(light - OFF leakage)

2

(81)

TFT(40)

가

6

(51)

" , " CFPR" , " BK - 748S" , " BK - 430S"

가

7

7

8

7

7

TFT가

7 TFT

A , (7 (AB));

B , (90) (7 (AB));

C , (91), (92), (93) (7 (C));

D , (94) (7 (D));

E , (7 (EF));

F , (95) (96) (7 (EF));

G , 1 (97) (7 (G));

H , (98) (8 (H));

I , (8 (I));

J , 2 (99) (8 (JK));

K , (100) (8 (JK));

L , (101) (8 (L))

가, H 1 (97)

(1) ;

(2) ;

(3) (80) ;

(4)

(98) G 1 (97) , 0.4 - 5.
 () ,
 0 μm .

I , (98) 150 - 300

(101) Al 가 , TFT, MIM
 TFT 7

8

8

8 1 2 7 (AB) 8 (L)
7

8 1 (97) (9
8) 가 , 가, 8
2 (99) (100)
, 8 7 (AB) 8 (L) 7 ,

1

9 (AB) 10 (LM) 1

1 - TFT 1

A , Cr 50nm (9 (AB));

B , () (200) (201) (9 (AB));

C , CVD() (202) 100nm , (203) 100nm ,
(204) 50nm (9 (C));

D , () (9 (DE));

E , CVD (204) 350nm (9 (DE));

F , Cr 50nm (9 (FG));

G , (207) (9 (FG));

H , 1 (208) 3 μ m (9 (H));

I , () (209) (10 (I));

J , 2 (210) 1 μ m (10 (JK));

K , () (211) (10 (JK));

L , 300nm (10 (LM));

M , () , (212) (10 (LM))

C , 1 (204) , (203) , (202)
 N , 가 가 가 CVD , 가 (/) 0.1 0.5 , 200
 300 , 133Pa , 200W , 가 가 가
 가 , 가 (/) 0.1 0.8 , 250 , 133Pa ,
 /) 0.25 2.0 , 200 250 , 가 가 가 , 가 (/)
 200 250 , 133Pa , 50W , 1 2 , 50W . N

D , (207)
 G , Cr , 0.
 665 39.9Pa , 100 300W , 가 4 가 , 0.
 , 0.665 39.9Pa , 50 200W 가
 가 ,

1 , Cr , Cr ,
 , Ti, W, Mo, Ta, Cu, Al, Ag, ITO, ZnO, SnO

1 , I J ,
 H 1 (208) , 2 μ m , (208)
 , (209) , 11 ,
 11 , (215) (216)가 ,

1 H 1 (208) (" RN - 812" Nissan Chemical
 Industry Co., Ltd.) , 1200rpm , 90 , 10 ,
 250 , 90 , 1 , , 1000rpm ,
 , 90 , 5 , 30
 , 90 , 4 가 , 0.665 39.9Pa , 100 300W

(211) K , (211)
 , 2 (210) (204)

가 1 (208) 2 (210) , 가
 , 1 (208) 2 (210)

12) , 1 , TFT (2
 , 60 가 , ,

(212) - () 1μm , TFT
 ITO , TFT

(212) (209) (flake - off)
 , (212) , RGB 가

, 1 - (peak - bottom) ((209))
 가 , 가
 , 1 1 (208)
 , 12

2

, 13 (AB) 14 (KL) 2
 2 TFT

2

A , (230) 50nm Cr (13 (AB));

B , () (231) (13 (AB));

C , CVD 400nm (232), 100nm (233), 100nm
 (234) (13 (C));

D , () (235) (13 (D));

E , 50nm Cr ITO (13 (EF));

F , () (236) (237) (13 (EF));

G , 3μm 1 (238) (13 (G));

H , () (239) (14 (H));

I , 1μm 2 (240) (14 (IJ));

J , () (241) (14 (IJ));

K , 300nm (14 (KL));

L , () (243) (14 (KL));

M , ()

.

2 (239) H 가 , 1 가 가 . 2

2 , (243) 86% , TFT ITO

, TFT , - 가

.

1 , 2 , 2 - ,

.

3

3 , 15 (AB) 16 (L)

.

1 가 . 3 1

, 1 2 H 가 가

2 가 가 .

3 260 60 80 10 40 . ,

(250) . 3 ,

8 .

, 1 2 1μm

. 가 가 , ,

, (easy - to - see) , ,

가 , 가 . , .

, .

3 , , .

4

4 가 (4)가 4

H I, 2 G I 1 2 . , 4 1

가 , 1, 2 3

4 ,가 To

kyo Applied Chemistry Industry Co., Ltd " OFPR800" , Shipley Corporation " LC100" , Japan Synthetic Rubber Co., Ltd " Optomer Series" , Nissan Chemistry Industry Co., Ltd " Photosensitive Polyimide" 가

5

5 TFT . 5 가 1 15

(AB) 2 16 (L) . 5

A , (230) 50nm Cr () (15 (AB))

B , (231) (15 (AB)),

C , CVD 400nm (232), 100nm (233), 10 Onm (234) (15 (C)),

D , (235) (15 (D)),

E , 50nm Cr ITO () (15 (EF)),

F , (236), (237), (1 5 (EF)),

G , 3 μ m (15 (G)),

H , (16 (H)),

I , - (16 (I))

J , (16 (JK))

K , - (241) (16 (JK)),

L , 300nm (16 (L)),

M ,

N ,

.

,

가

17 H (239) 1 2

17

18

가

가

17 18 (260),

(215),

(216),

(262)가

(239)가

(239) 가 (239) (flake - off)

, 1 (239) (239)가

가
가

(57)

1.

1 ;

1 ;

2 ;

2 가 ;

;

1 2

,

가 1 1

2

2.

1 ,

3.

1 , 1

4.

1 ,

5.

1 ,

가 2 ;

6.

5 , 1 2

7.

1 , 1 2

8.

1 ,

가 2 ;

9.

1 , 1
.

10.

1 , 2
.

11.

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

1 ;

, 1 ;

1 ;

1 ;

1 ;

1 2

12.

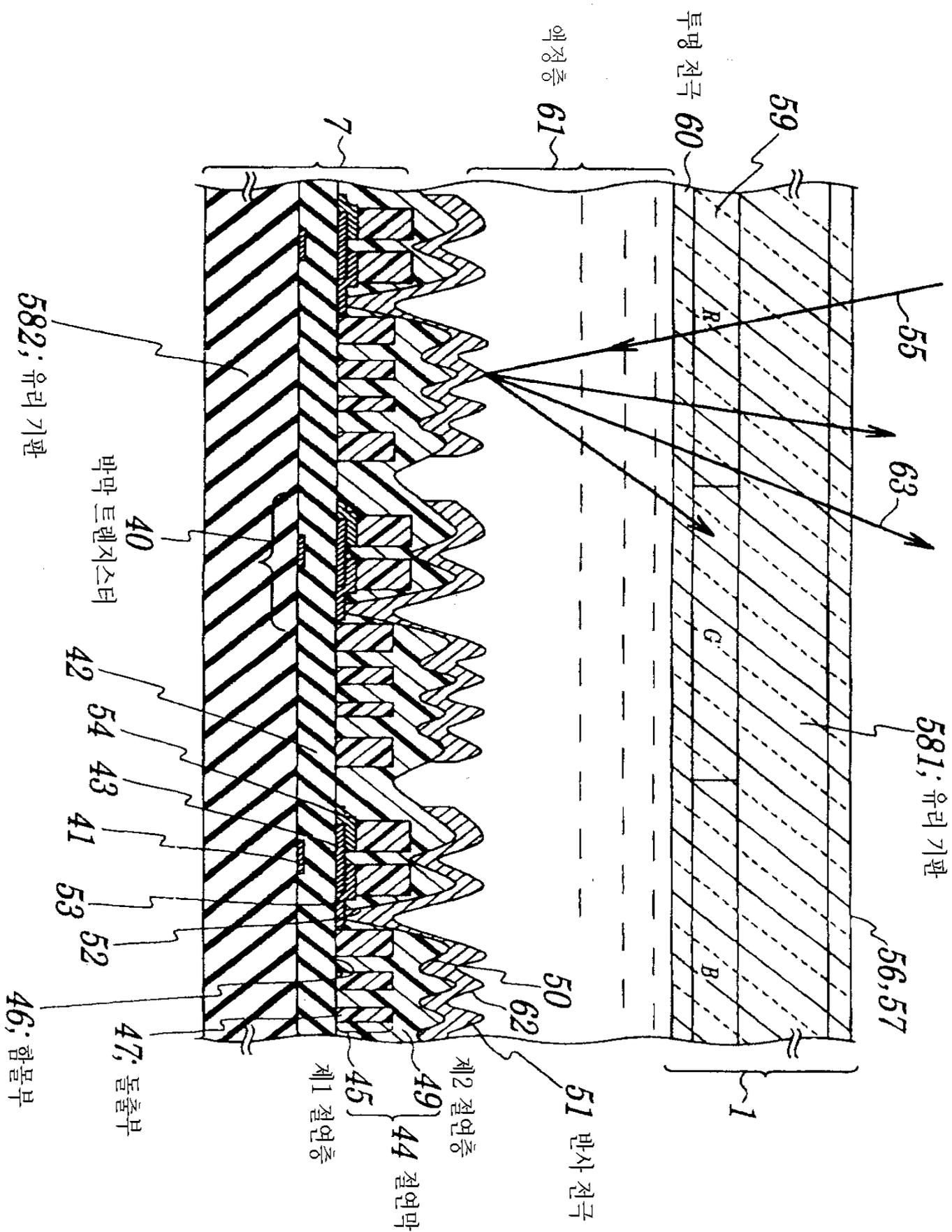
1 , 1 , 2 , 2 , 1
가 , 2 , 1
, 2 가 1 1
2 ,

1 ;

1 ;
 1 ;
 1 ;
 1 2

13.

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



2

A

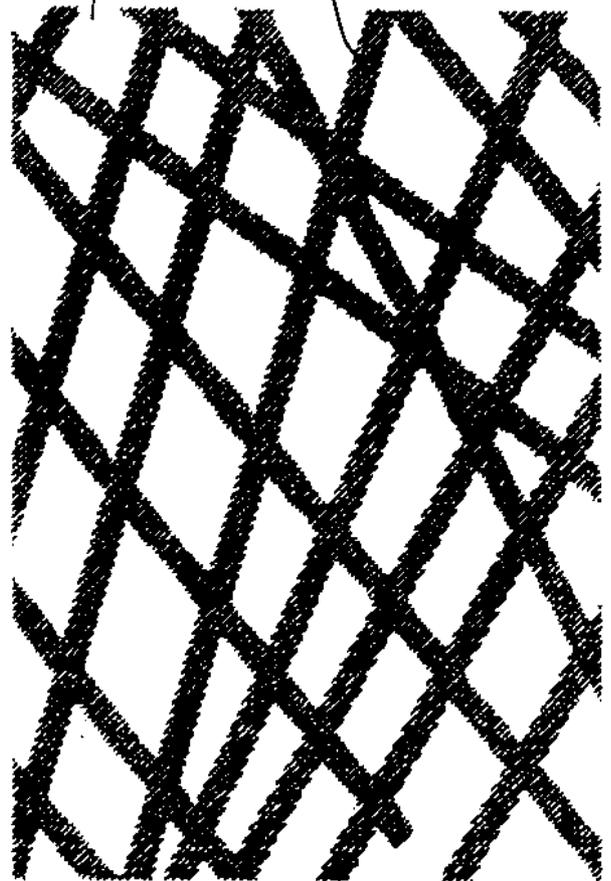
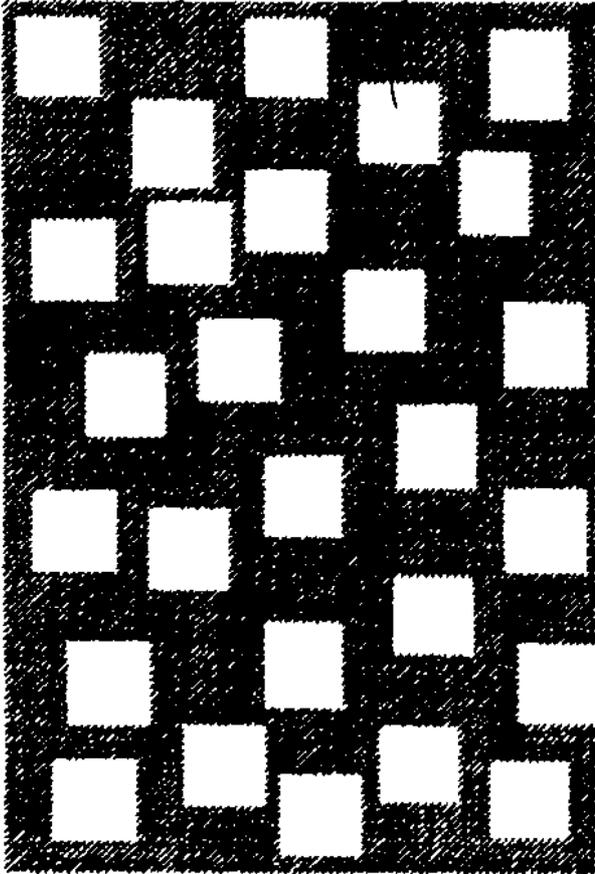
B

471

461

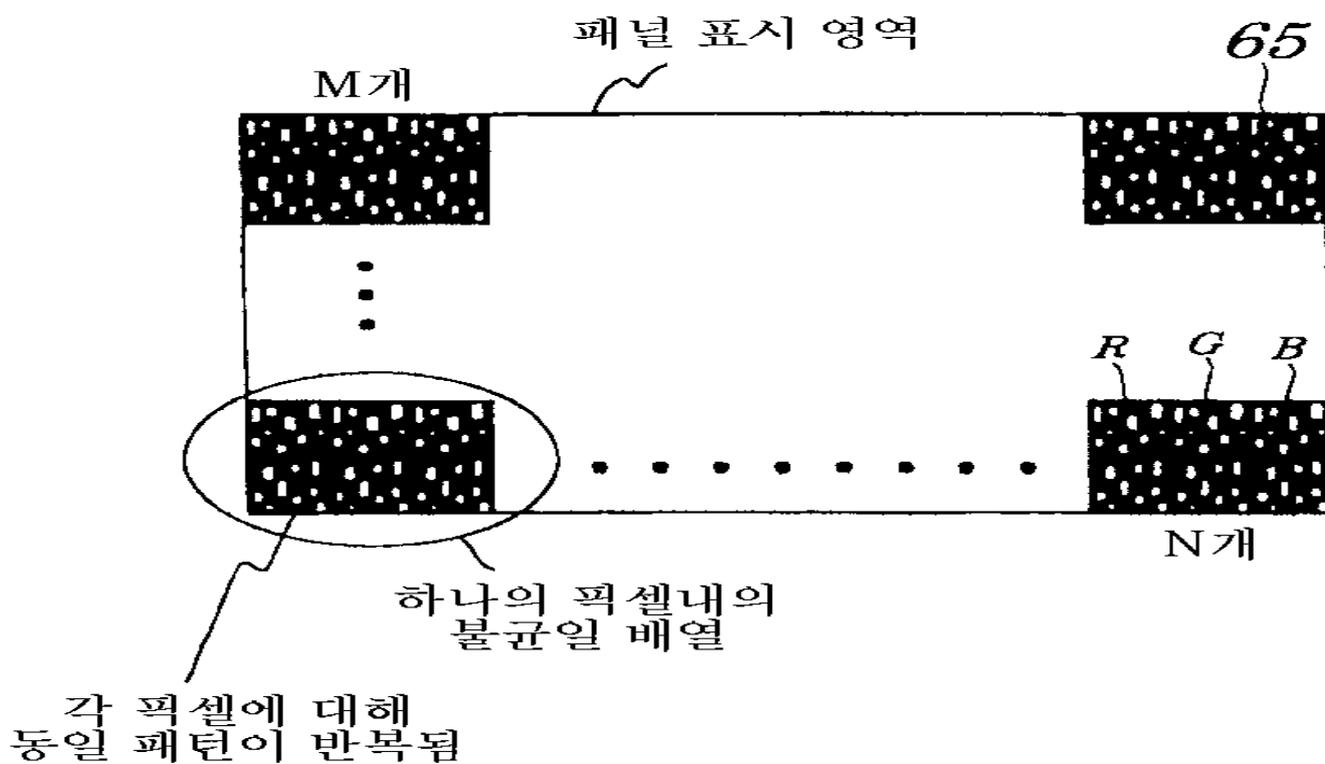
462

472

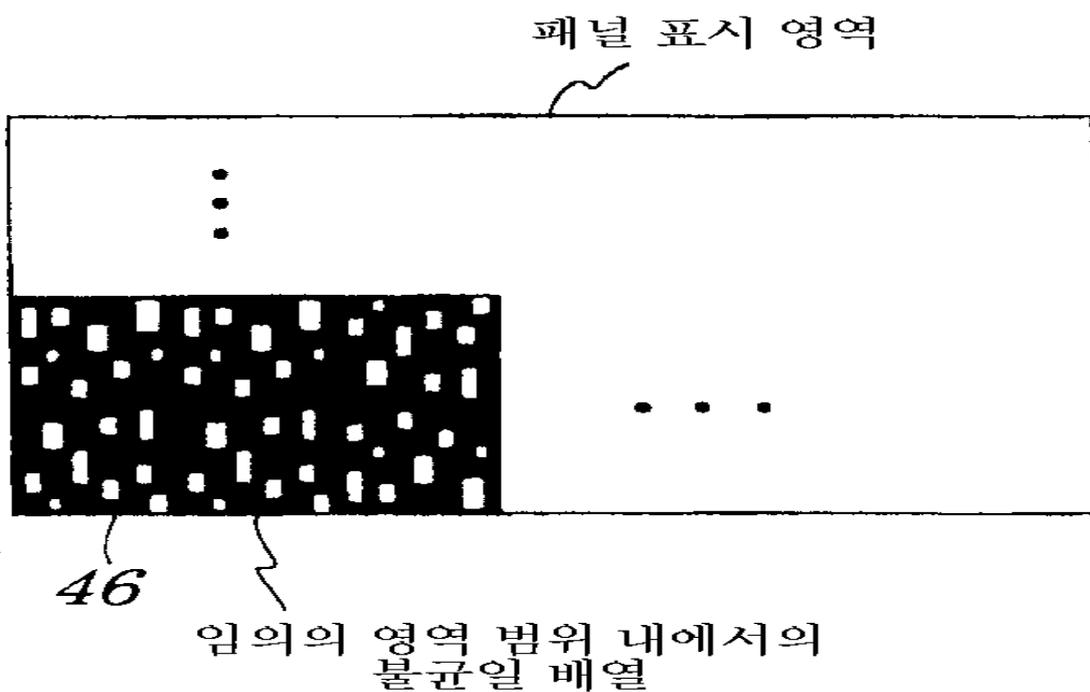


3

A

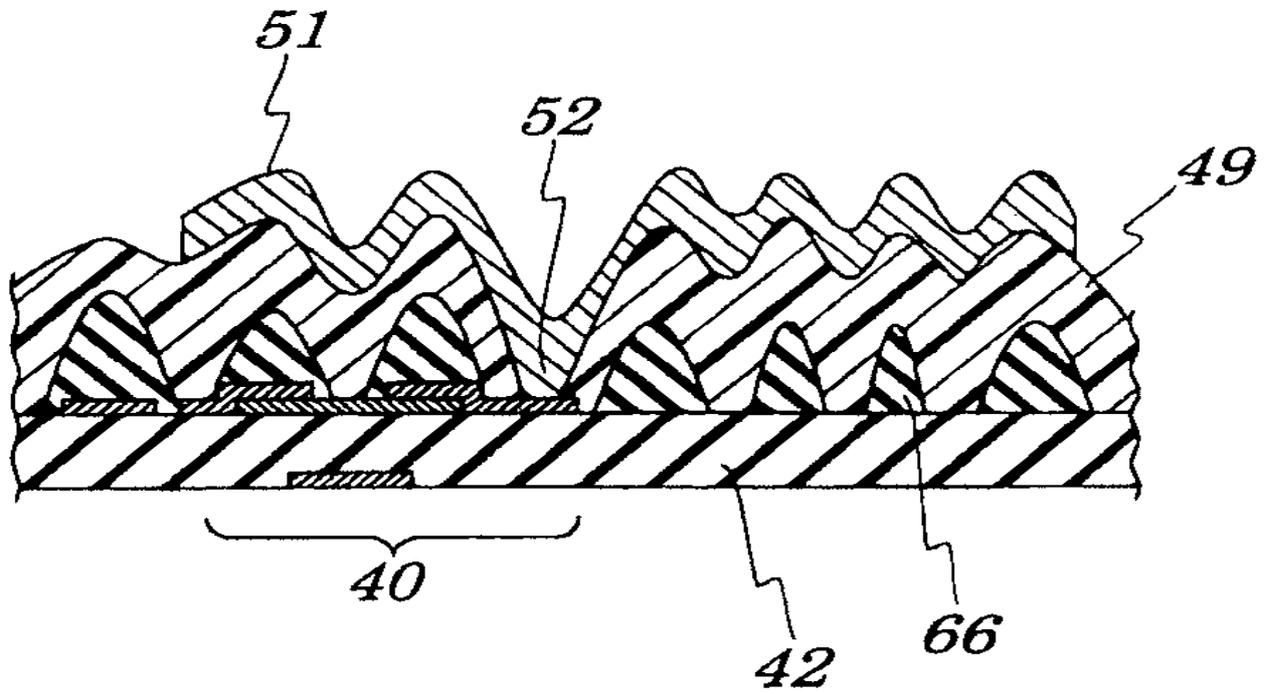


B

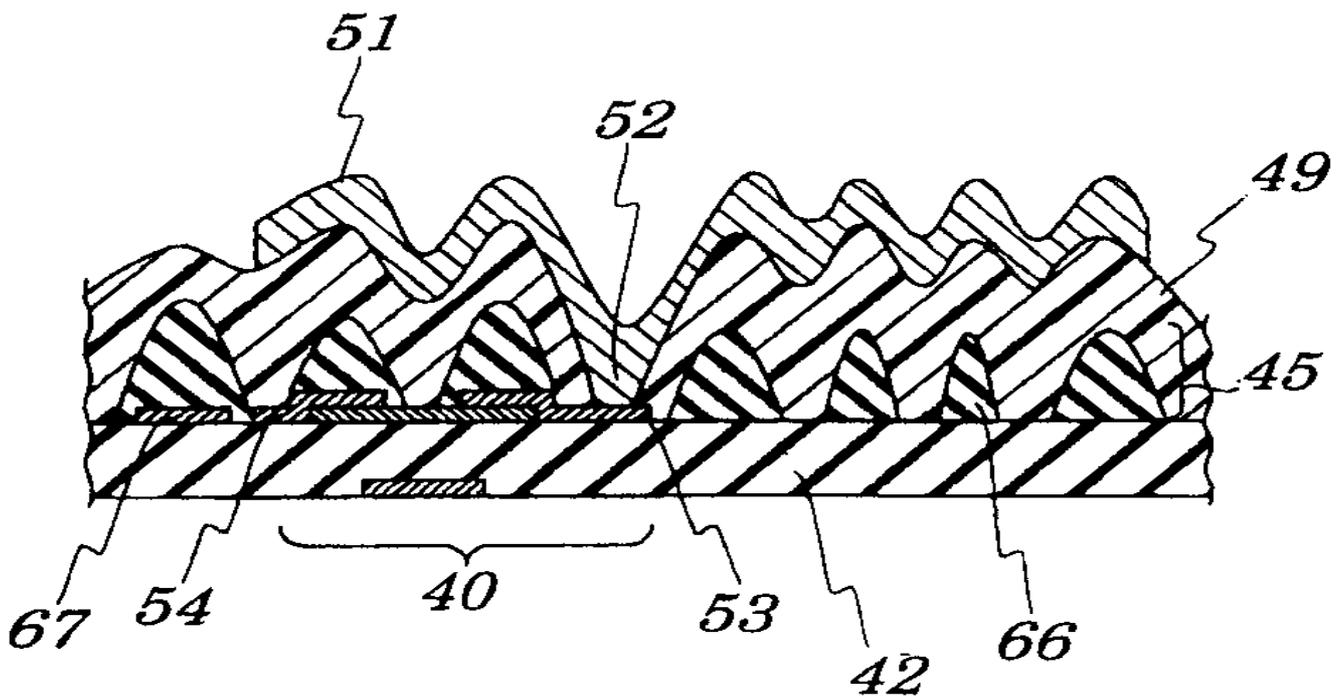


4

A

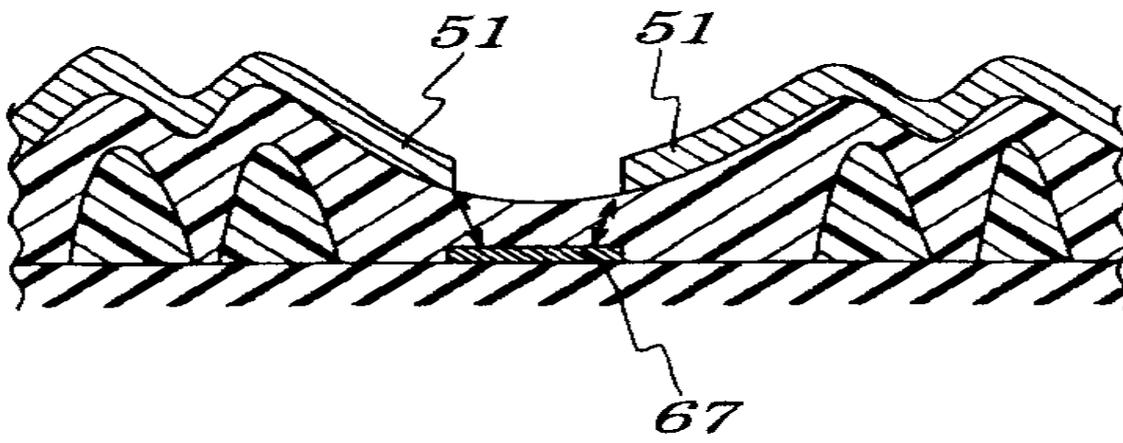


B

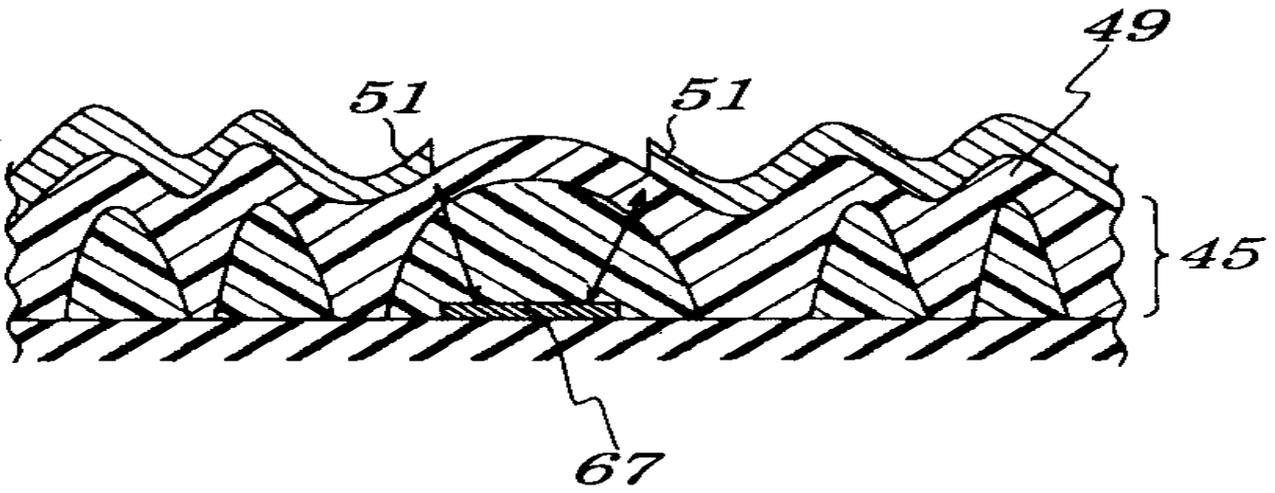


5

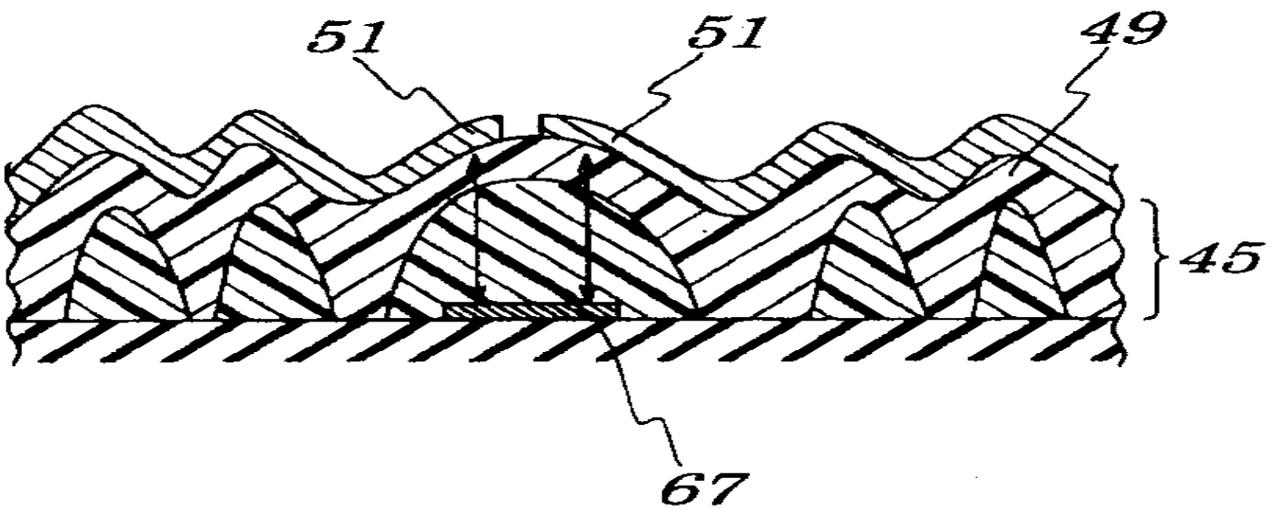
A

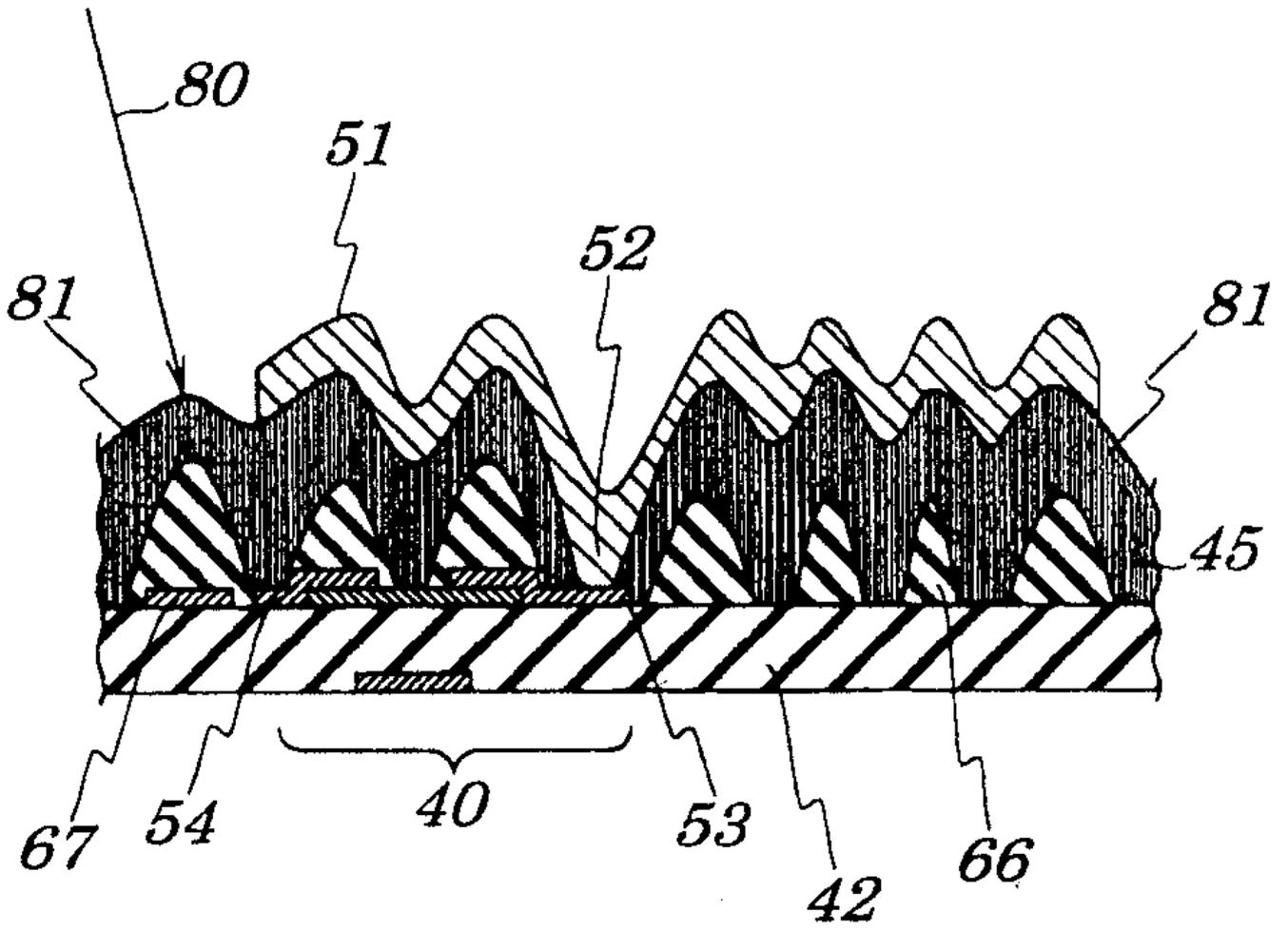


B



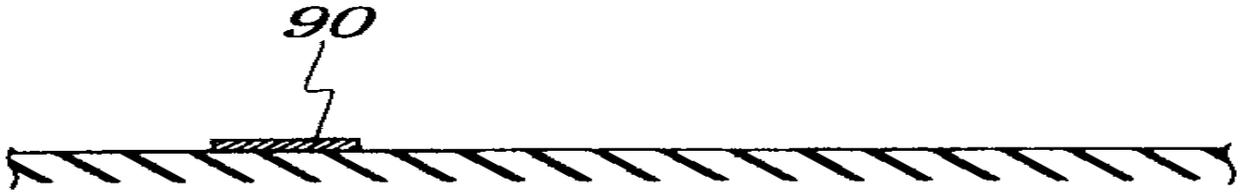
C



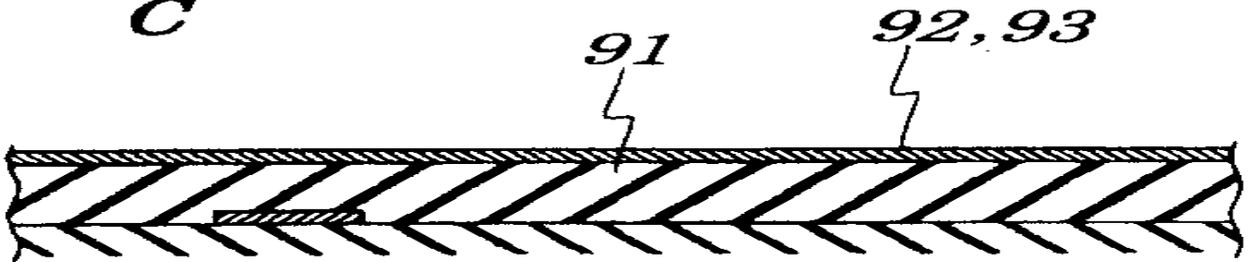


7

AB



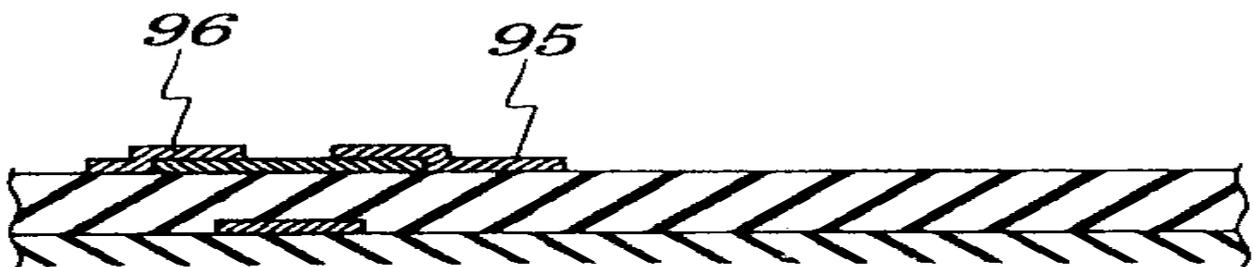
C



D



EF

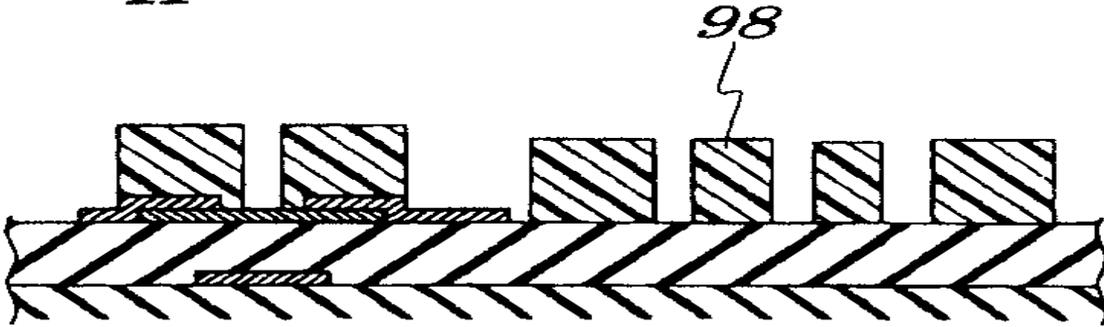


G

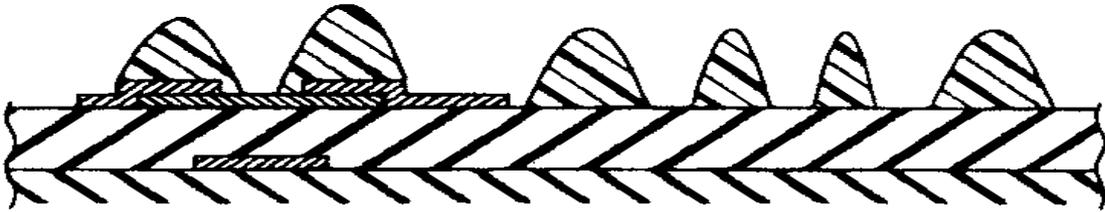


8

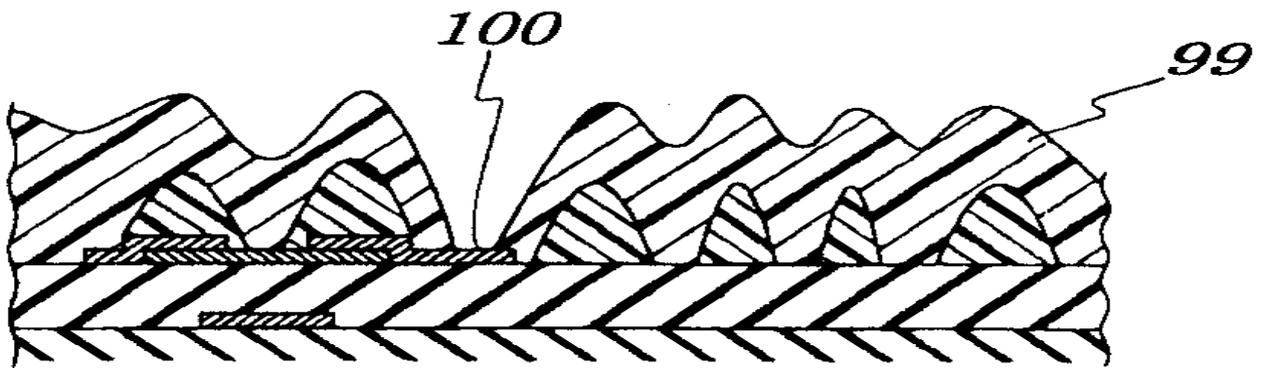
H



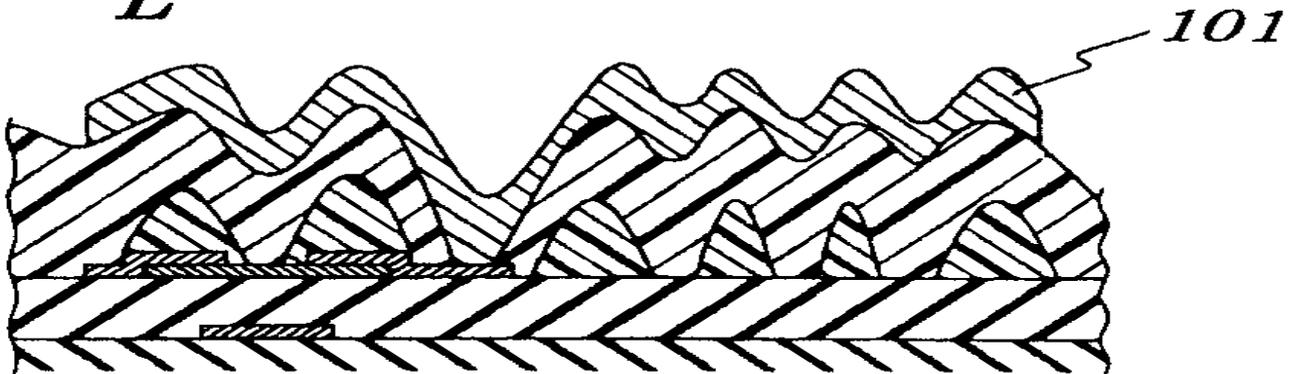
I



JK



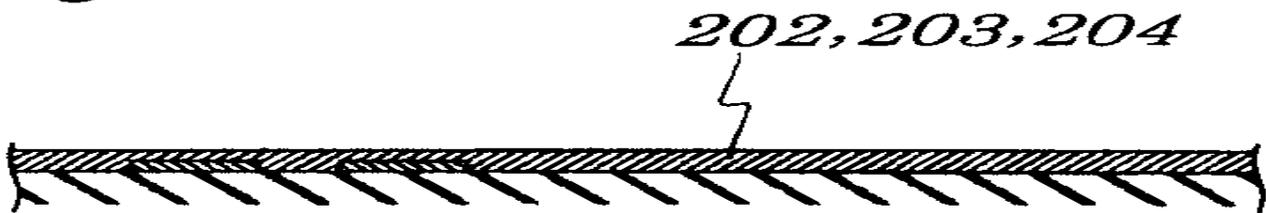
L



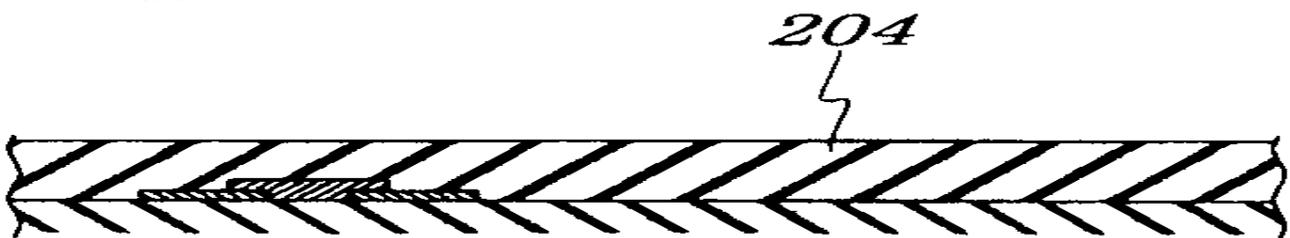
AB



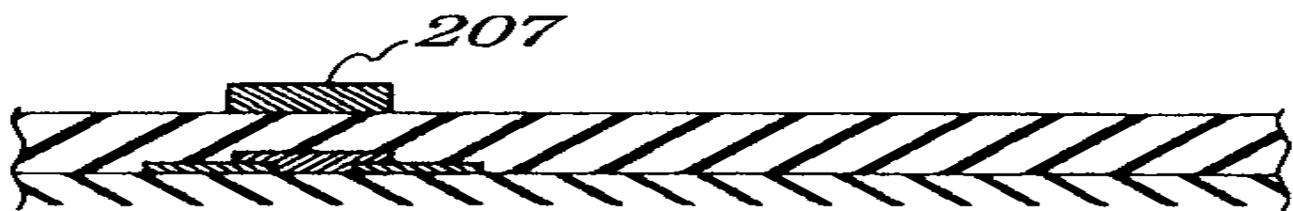
C



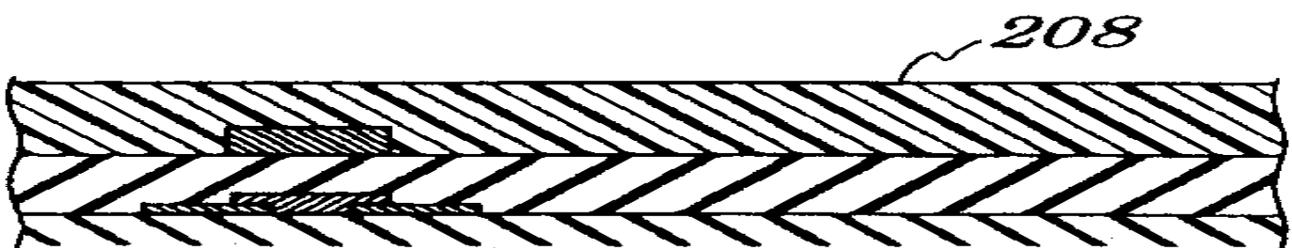
DE



FG

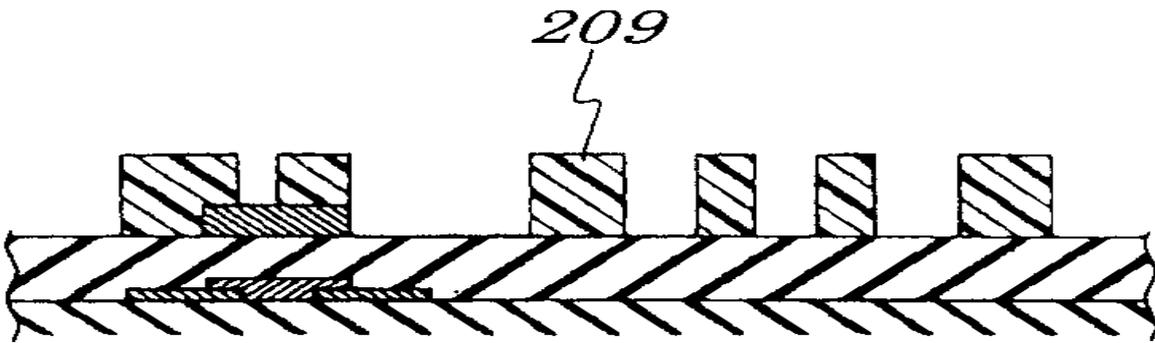


H

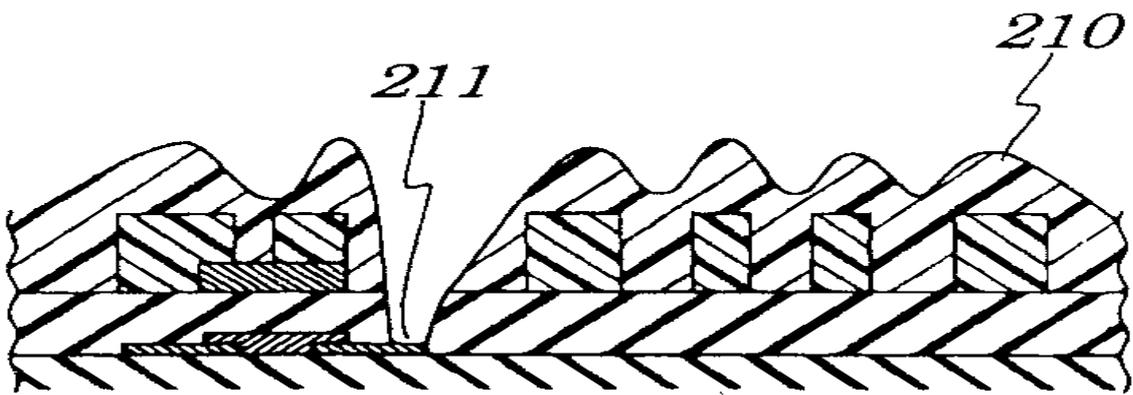


10

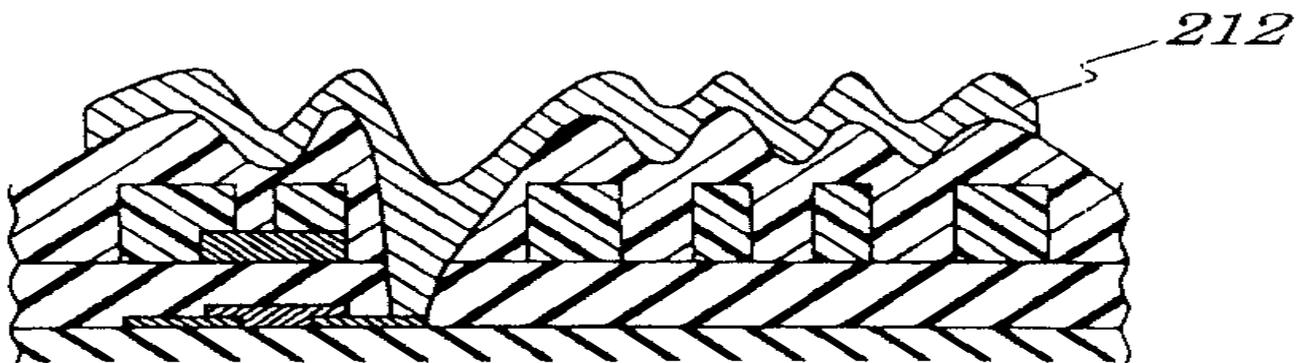
I



JK

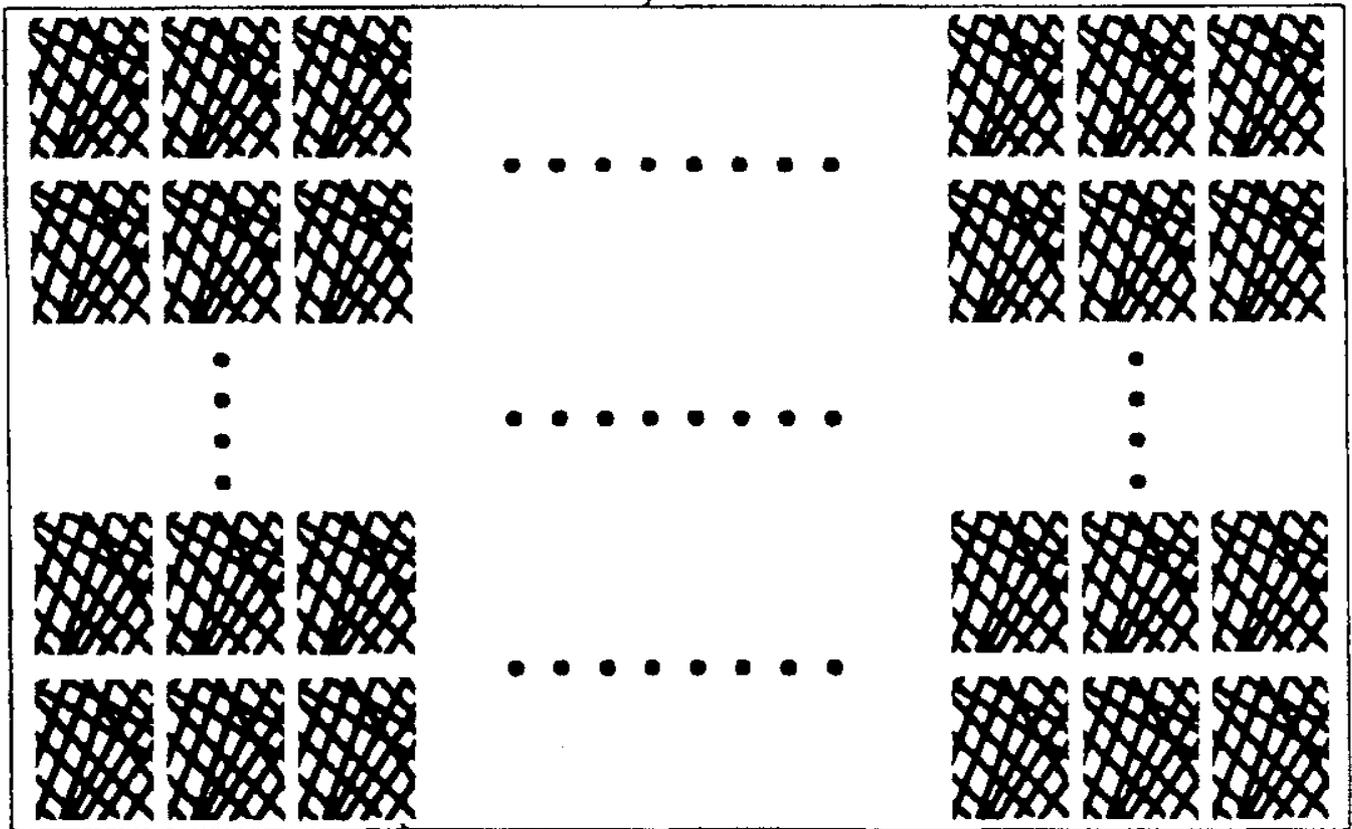


LM

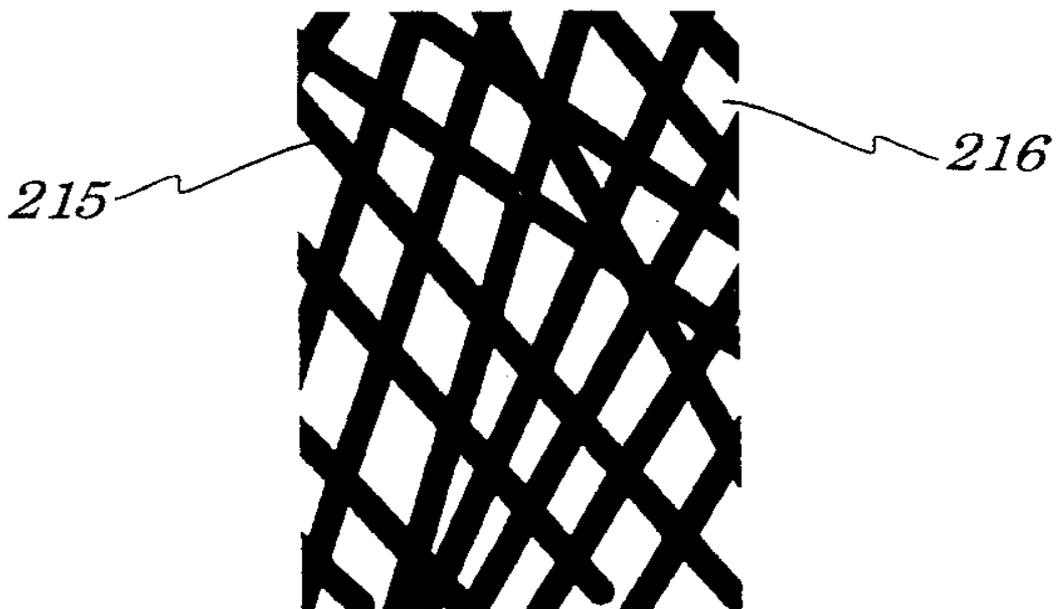


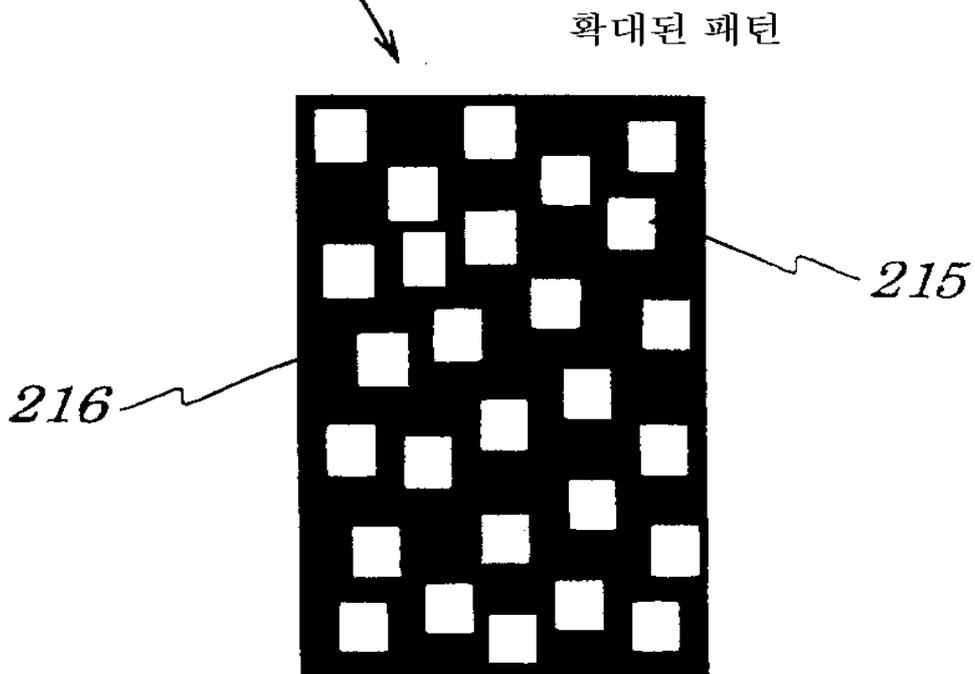
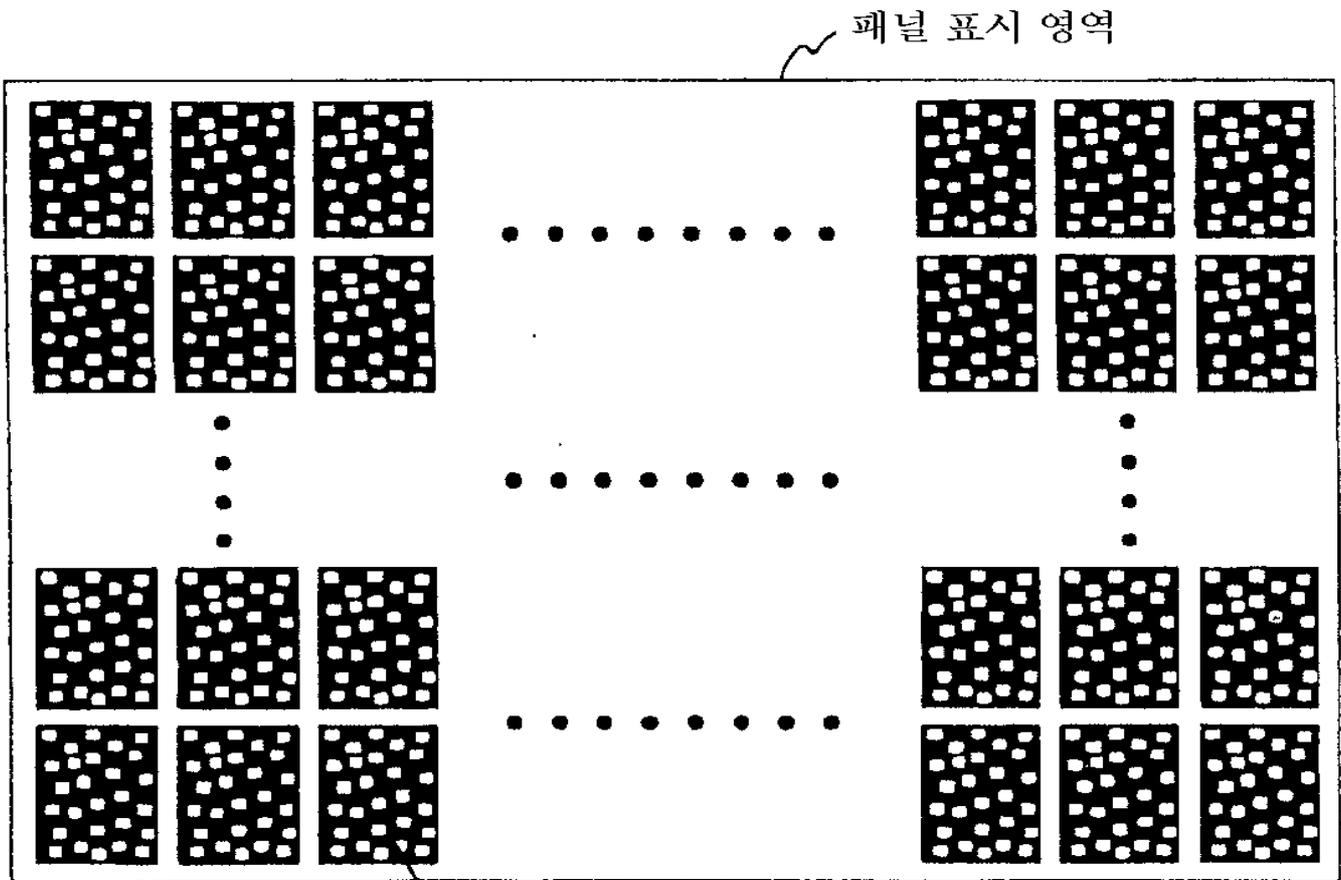
11

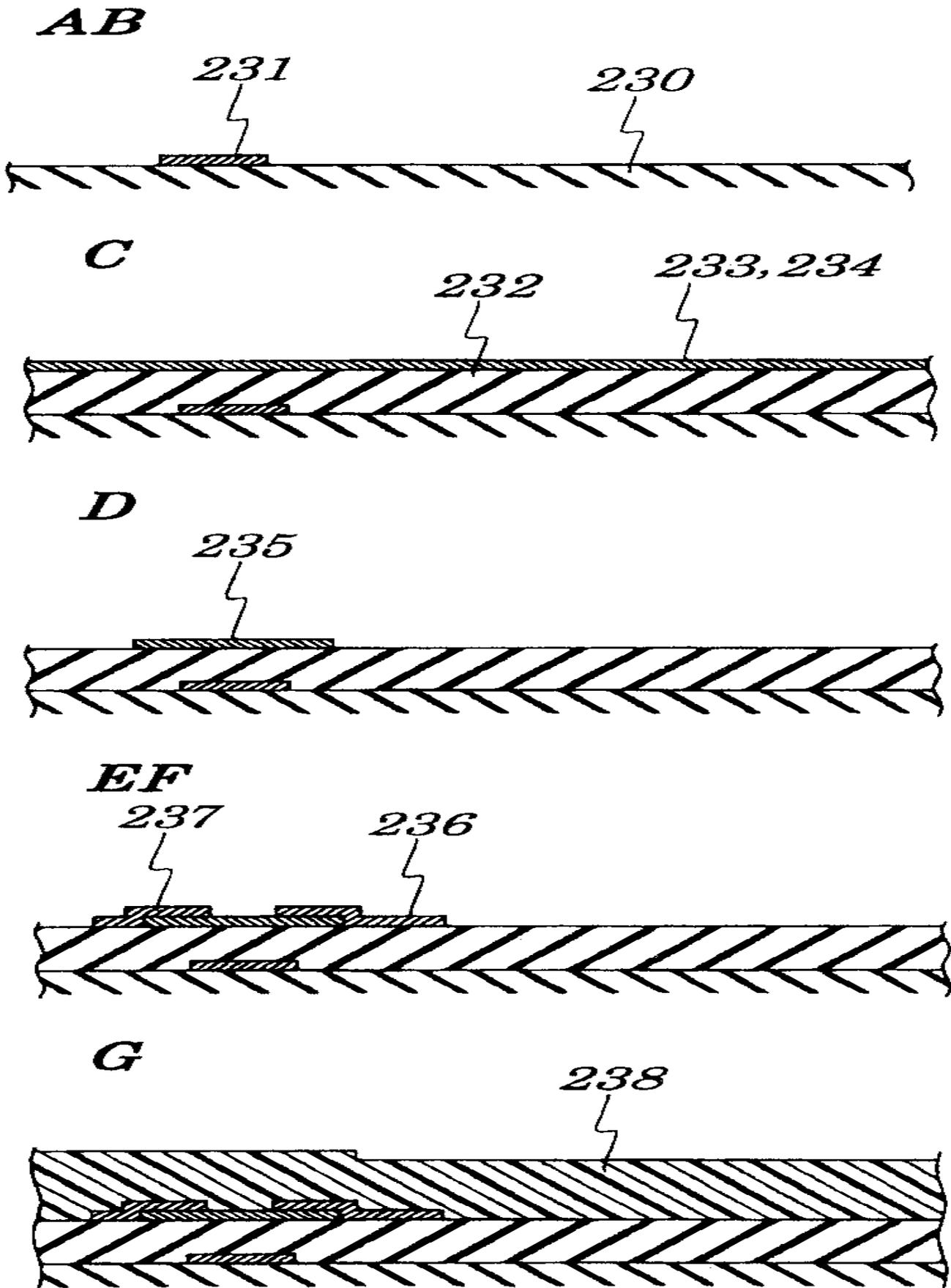
패널 표시 영역



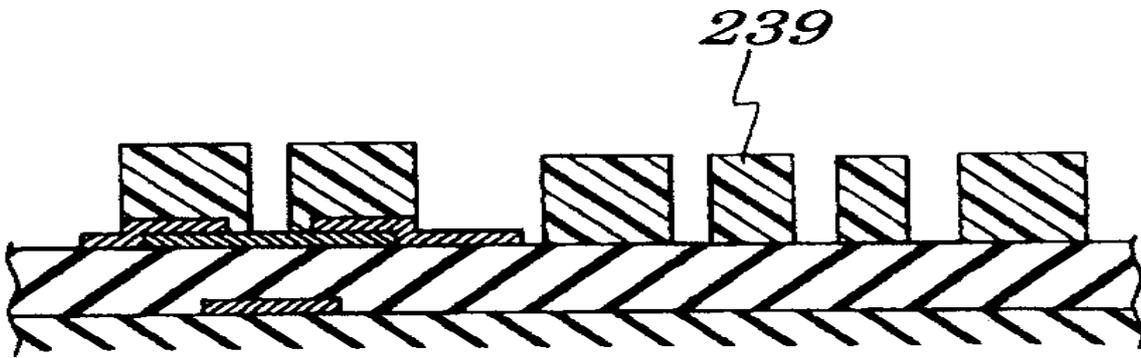
확대된 패턴



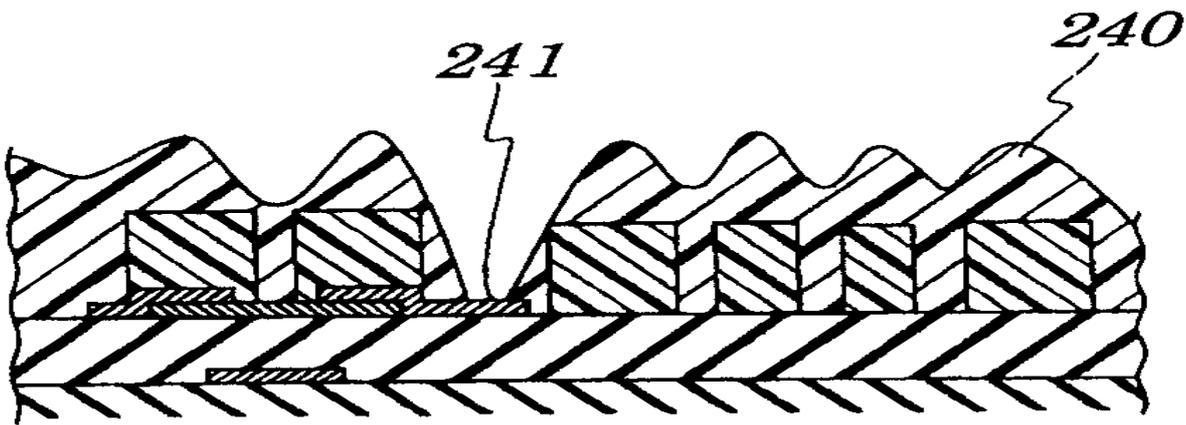




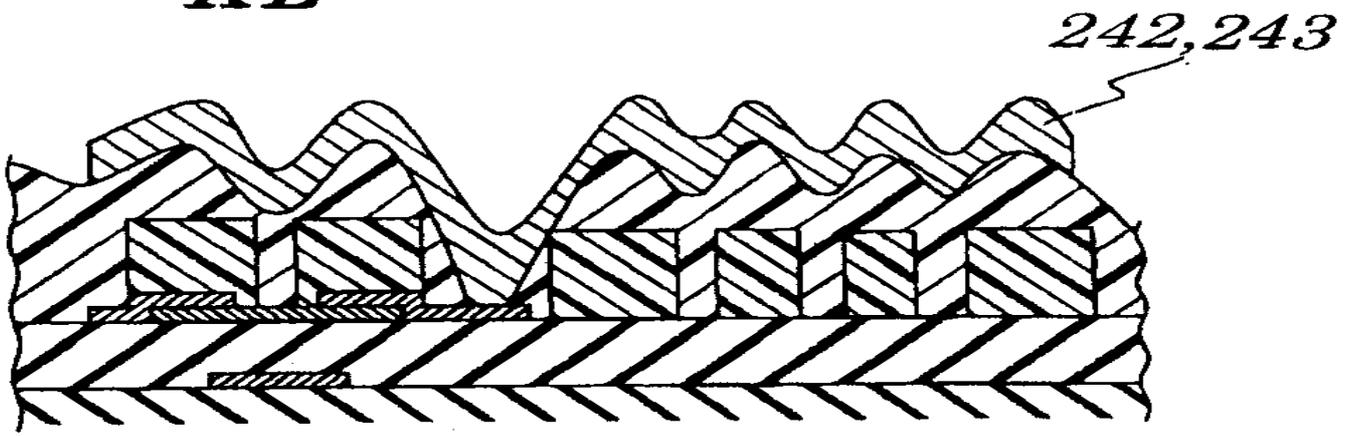
H



IJ



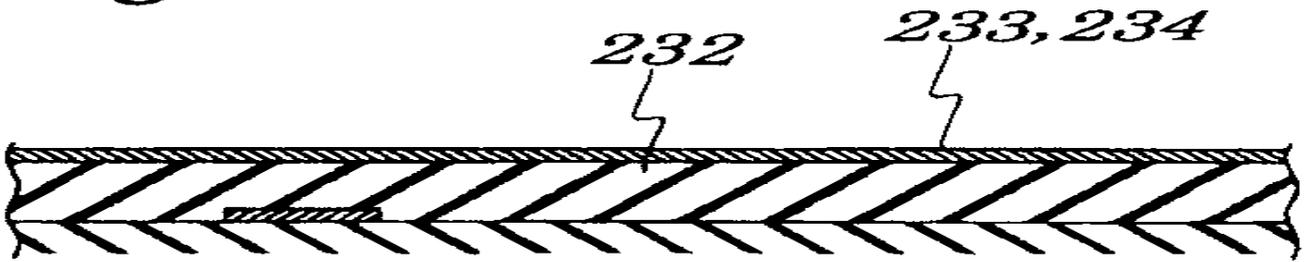
KL



AB



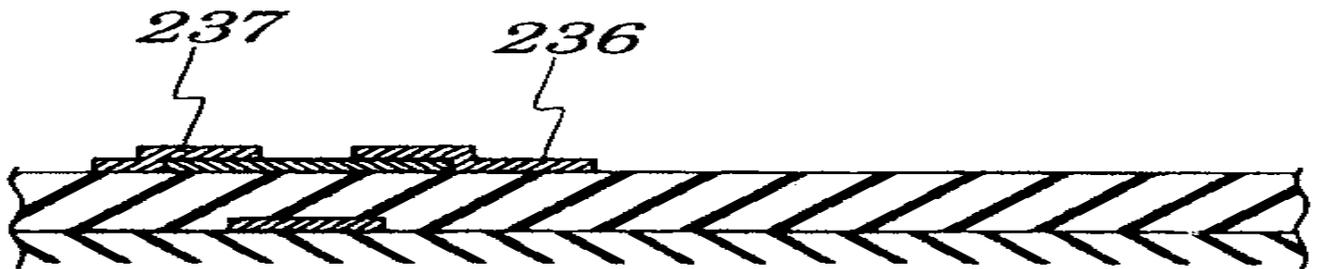
C



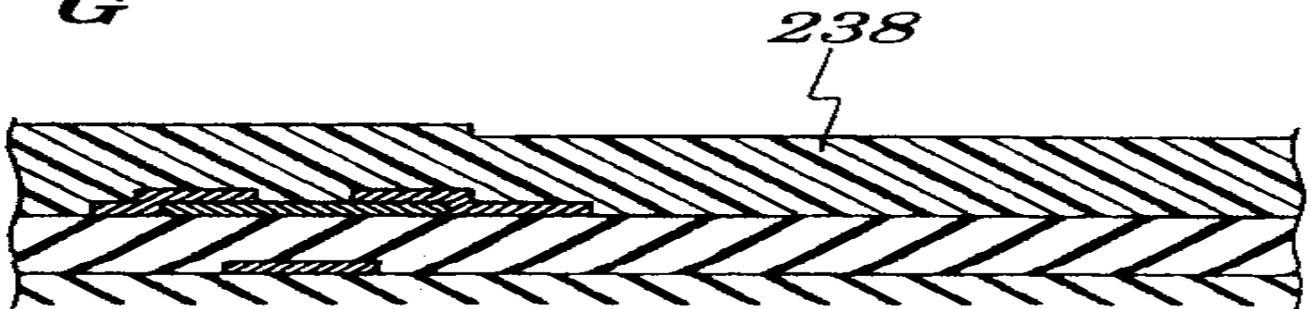
D



EF



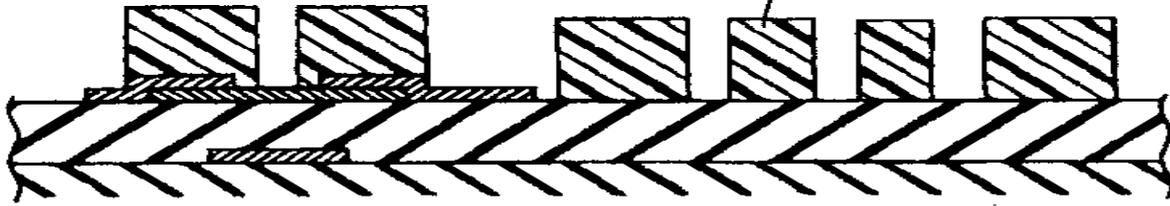
G



16

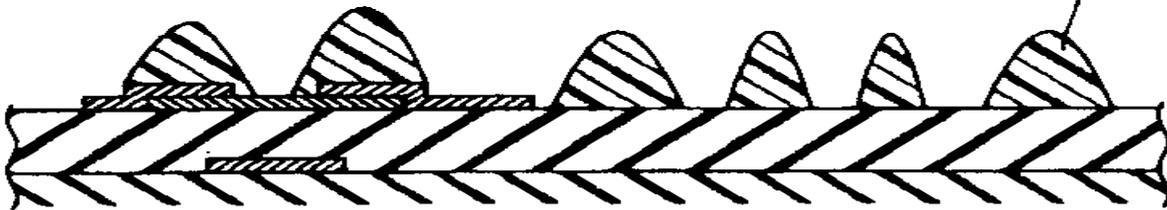
H

239



I

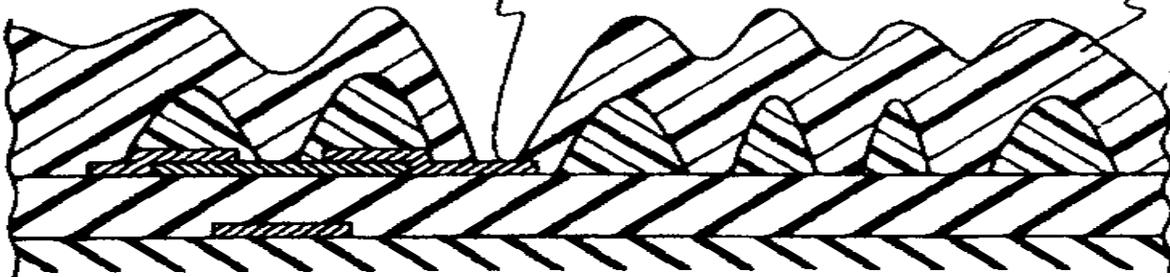
250



JK

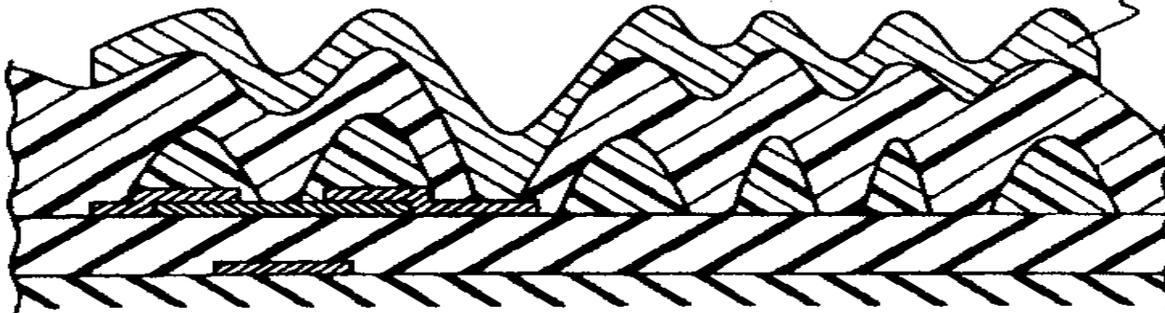
241

240



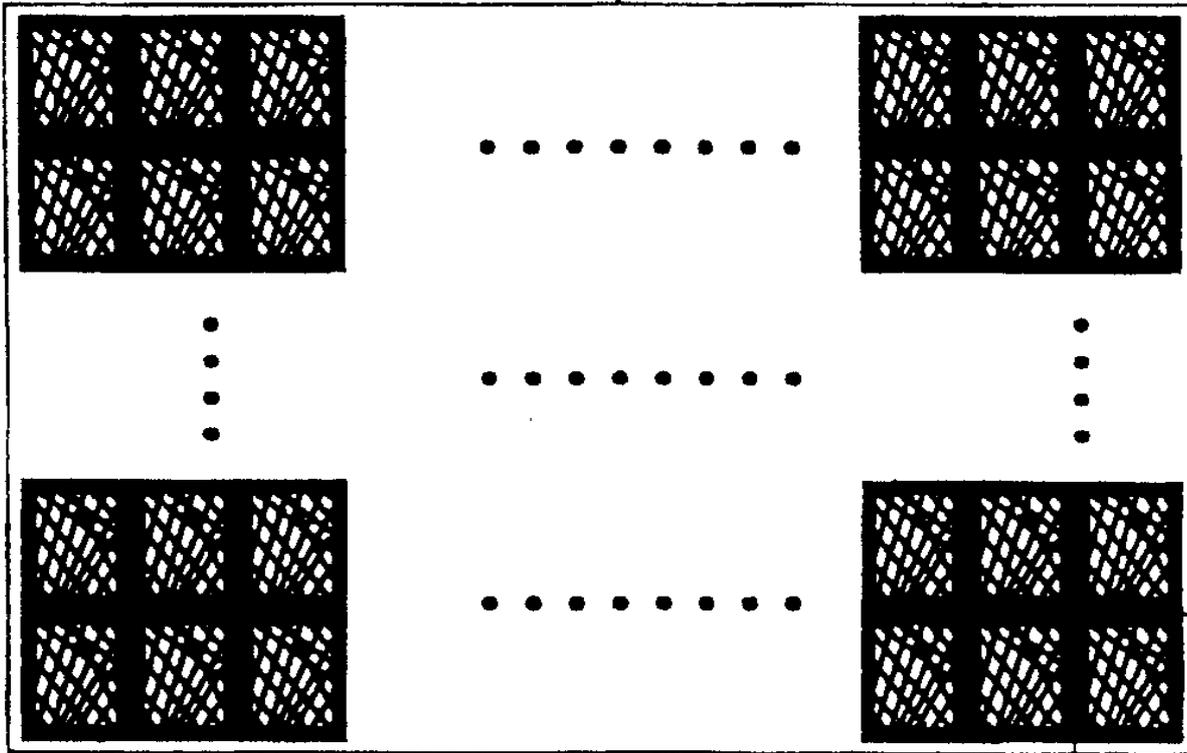
L

243



17

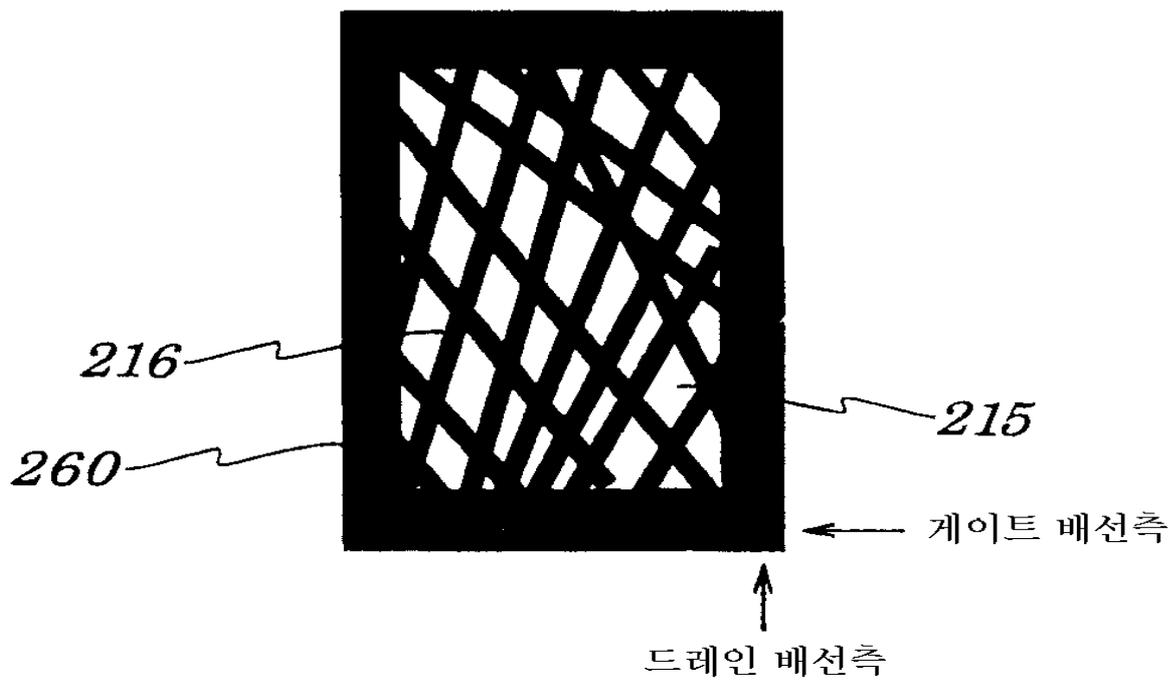
패널 표시 영역



262

261

확대된 패턴



216

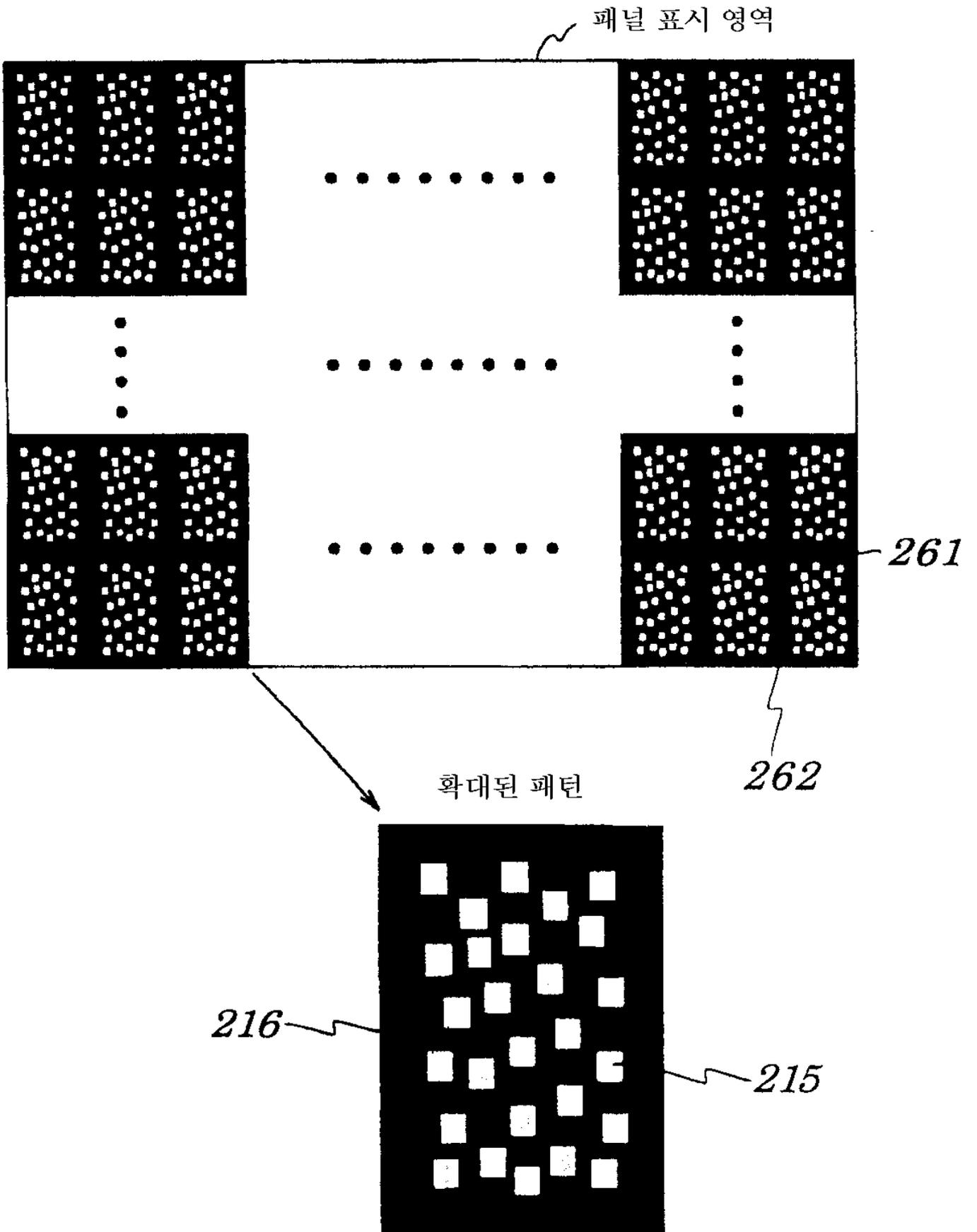
260

215

게이트 배선층

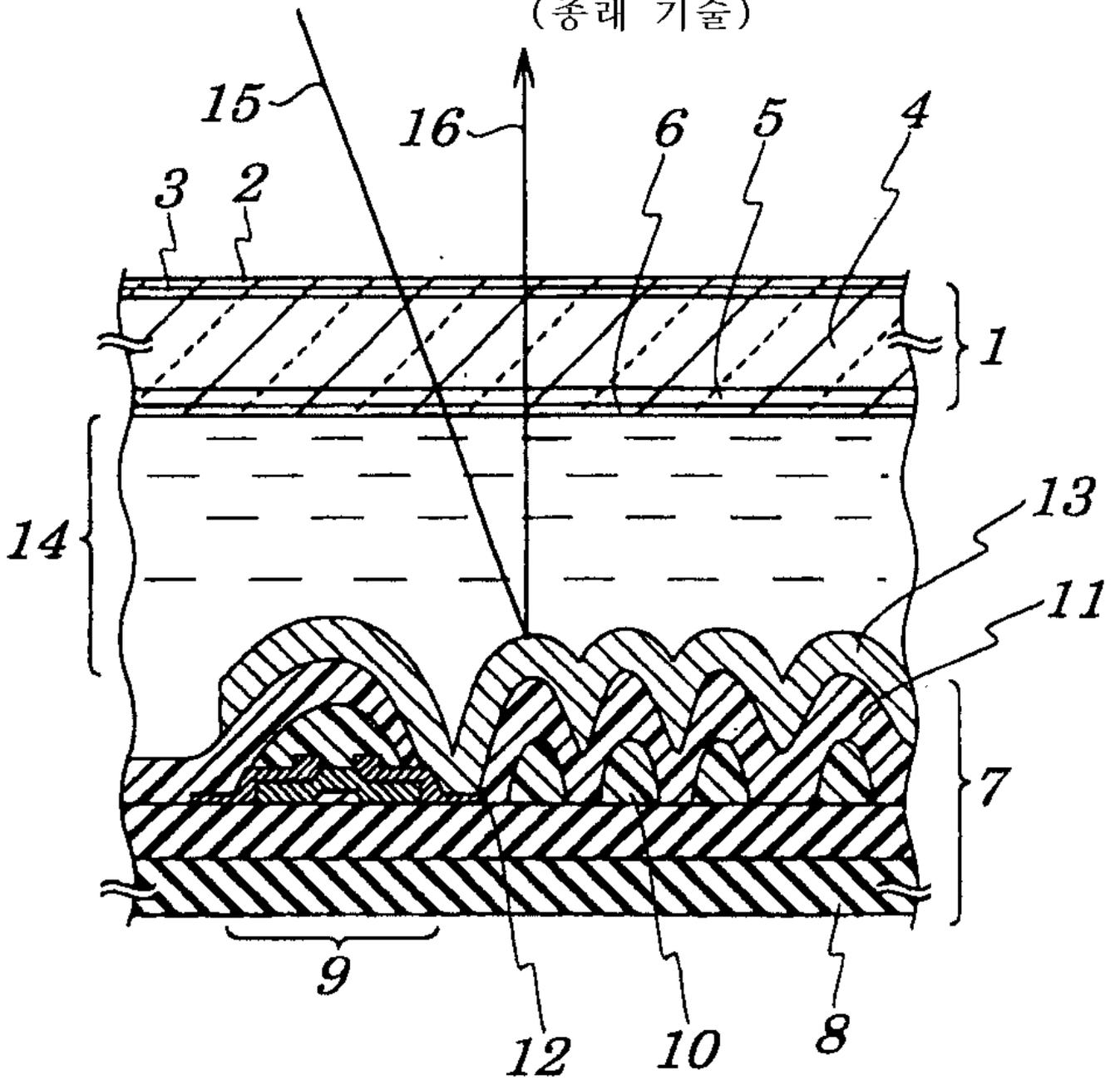
드레인 배선층

18



19

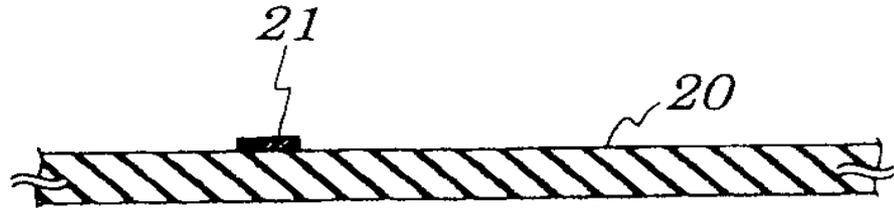
(종래 기술)



(종래 기술)

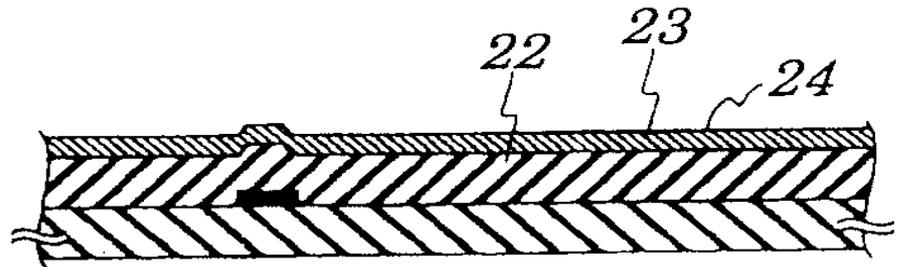
A

게이트 전극 형성



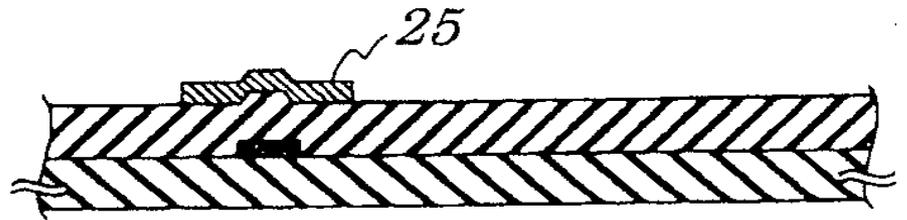
B

절연막,
반도체막 형성



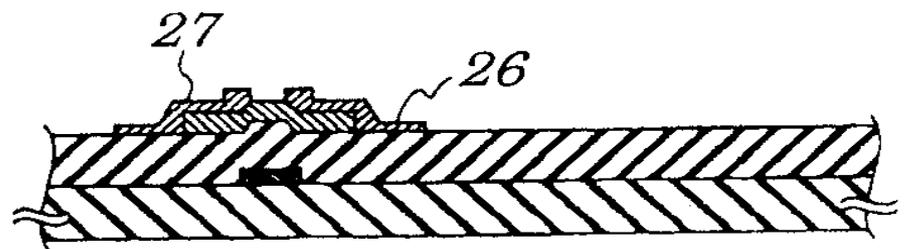
C

반도체막 패턴 형성



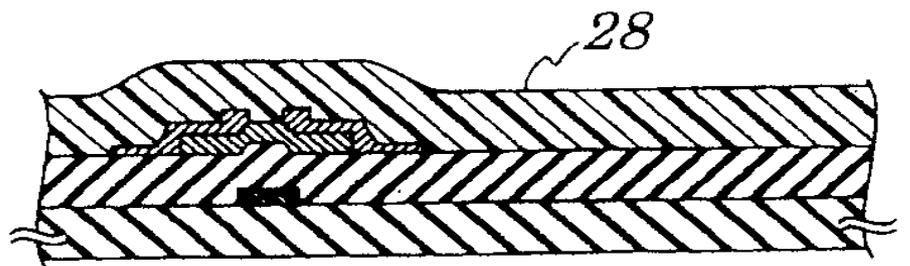
D

소스 전극,
드레인 전극 형성



E

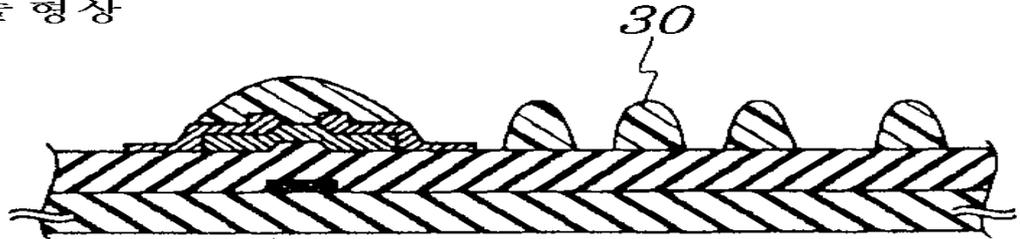
유기 절연층 형성



(종래 기술)

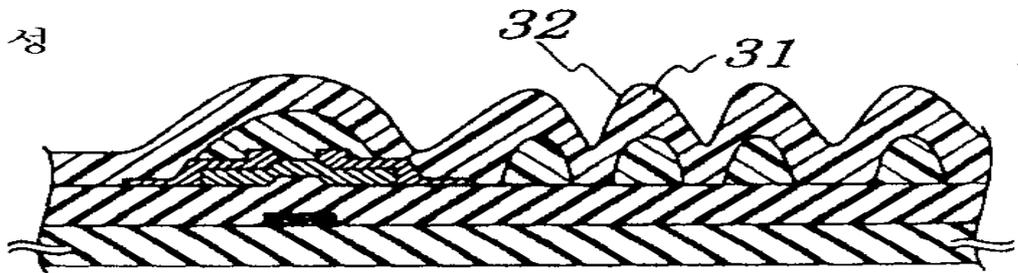
G

완만한 돌출 형상



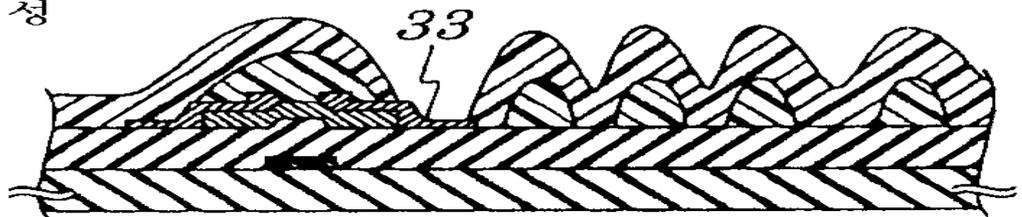
H

절연막 형성



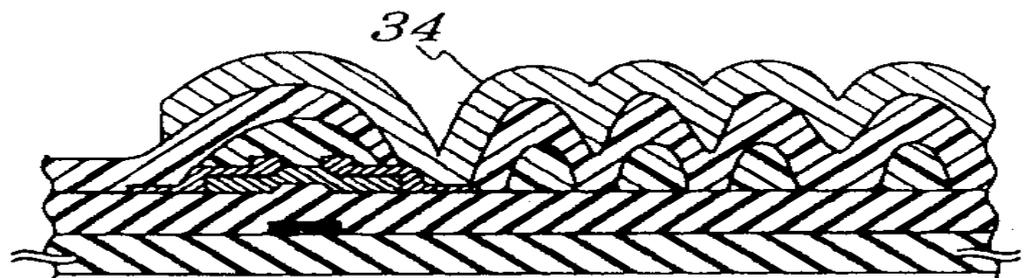
I

콘택트 영역 형성

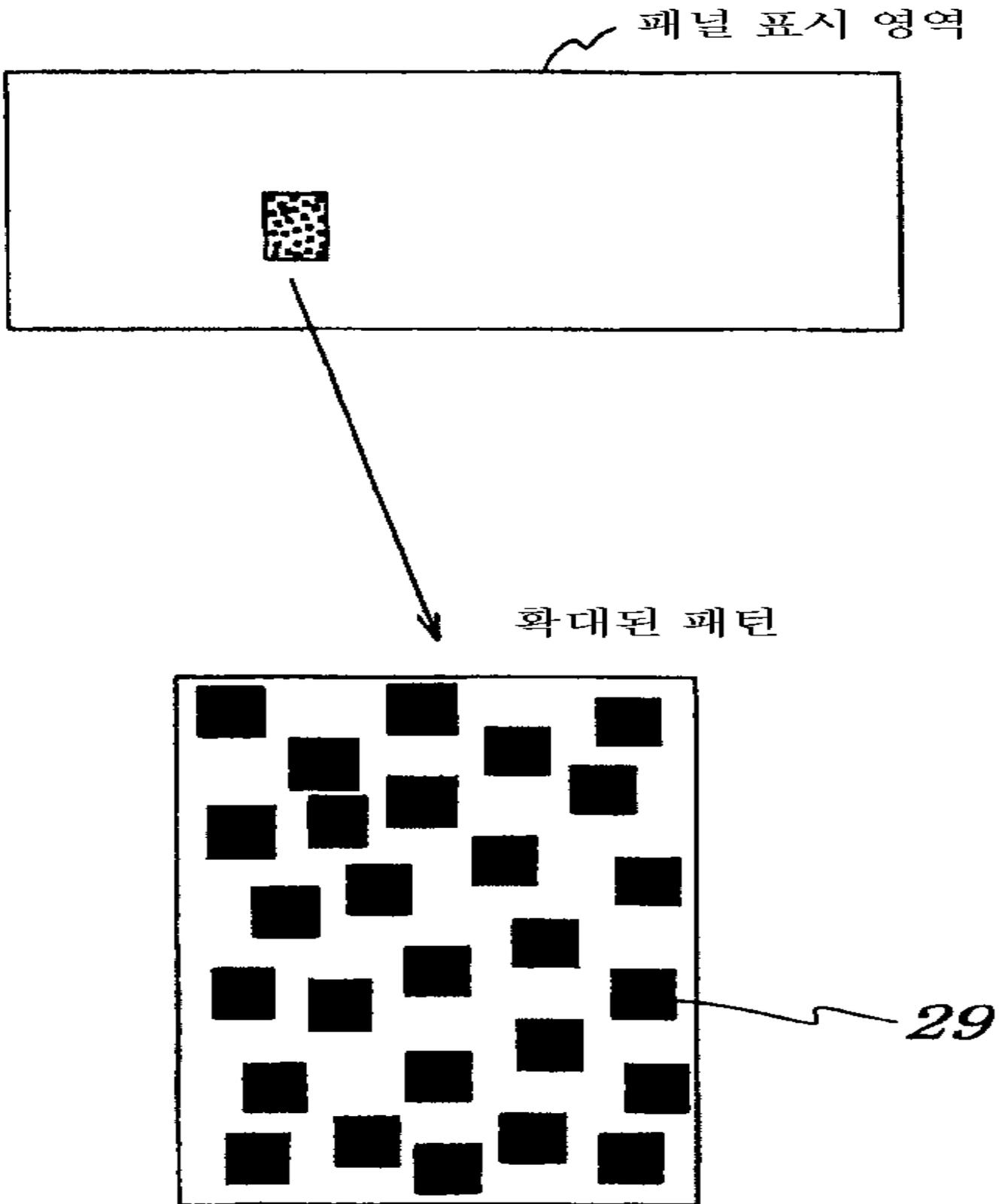


J

반사 픽셀 전극판
형성



(종래 기술)



专利名称(译)	反射型液晶显示装置及其制造方法		
公开(公告)号	KR1020010074545A	公开(公告)日	2001-08-04
申请号	KR1020010003627	申请日	2001-01-22
[标]申请(专利权)人(译)	NEC液晶技术株式会社		
申请(专利权)人(译)	日元号技术可否让这个夏 日本电气有限公司sikki		
当前申请(专利权)人(译)	日元号技术可否让这个夏 日本电气有限公司sikki		
[标]发明人	KANOU HIROSHI 가노우히로시 YAMAGUCHI YUICHI 야마구찌유이찌 SUZUKI TERUAKI 스즈끼테루아끼 KIKKAWA HIRONORI 기까와히로노리		
发明人	가노우히로시 야마구찌유이찌 스즈끼테루아끼 기까와히로노리		
IPC分类号	G02F1/13 G02F1/1368 G09F G09F9/00 G02F1/1335 G02F G02F1/136		
CPC分类号	G02F1/136227 G02F1/133345 G02F1/133553		
代理人(译)	CHANG, SOO KIL		
优先权	2000013216 2000-01-21 JP		
外部链接	Espacenet		

摘要(译)

根据本发明的反射型液晶显示器包括：透明电极，配备在2个玻璃基板上；以及一个玻璃基板，其中形成有凹凸结构的绝缘层，绝缘层的表面配备在另一个上。玻璃基板和配备在该绝缘层上的反射电极和配备在透明电极侧和反射电极侧面水果之间的液晶层。绝缘层包括第一绝缘层，其中由突出部分围绕并且分开的多个凹陷不规则地布置，并且第二绝缘层整体涂覆该绝缘层。突出部分一起连接到网上。因此，部分具有这些突出部分中的子层和弱粘合性。然而，相邻突出部分可以支持内聚性。反射型液晶显示器，凹凸结构，透明电极，反射电极，绝缘层。

