

:

(54)

(405) (410)) , 2 (409)
 (408) 1 (410)
 (410) 가 , (408) , (409)
 (405) (405) 1 2 (40
 8, 409) (stray quantity)
 1 2 (408, 409) (
 (curing)) .

4a

가

(tip) -

(gate)

가 100V

가

1

(aperture)(

Spindt)

(J.Appl.Phys. 39,7, pp3504 - 3505, (1968)).

(C A

(molybdenum)

가 .

가

GB 2 330 687 . 2a GB 2 332 089 GB 2 332 089

가 (211) (210)(가 가) (213) (212)

" 가 " (214) " " " (215)

가 ,

(crystalline solid) , (amorphous) (hopp

ing conduction)가 가 ,

2b 2 가 4

8) , (211), (228)) (227), : (210)(

3) (224). (opening)(225) (226) (222), (22

(飛翔) (trajectories)

FED

2c (230) 2

24) " (on)" (231) (232) (2

C (233) D

(smooth)

가

3a , (Geis) (J. Vac. Sci. Technol. 8 14(3) May/June 1996)

(300) (302) (303)

e) (306) (304) (301) (squeeze

(binder) (paste)(305)

3b ,

(compact)(320) ,

(reducing atmosphere) 1080 가 .

가
 (caesiated) 가 , 가
 3c (332 331) (303) (330)
 가 (334) 가 (sp)
 urious) (333)
 (sidewall)
 (336) (debris) (335)
 (electrophoretic deposition)

(Danroc) (5,836,796)
 (microtip) 가

(Jin) (5,811,916)

vehicles) ; (gyrotrons) ; (klystrons) ; (sterilisation) ; (thrusters); 가 ; (CFAs) ; (flash) - (x - ray) ; (gauges); (space
 ; (MASERS)

1 ,

- a) ;
- b) a) , 1 2 가 , ;
 1 ;
- b) :
- c) (stray quantity) , ;
- d)

, d) c) .

b) (precursor) (colloidal dispersion) 가 , d)

d) (fugitive) .

- (sol - gel) .

가 (soluble polymer) .

(silica) .

(b) (aperture) , 1 2 가
(spray) 가

, 1 2 (recess) (side wall)

(undercut) - (wet - etch) .

(sintered)

가

(track) 가 .

가 .

d) 1 / 가
2 가
1 / 2 (site) .

/ 가 가

b) c) (curing) - 가

d)

(hole)

b) (carrier) 가

(squeegee)

가

(effected).

a) b)

2 (d)

가

(patch)

(slot)

(reactor),

(thruster)

(x - ray)

(vacuum gauge), 가

(gas filled)

(triggering)

(priming)

(lamp)

(ballast)

가

/ (phosphor) 1

" (conducting)" " (insulating)"

(resistivity) 10^{-2} (

10^3 10^4)

1 3

가

1a 1b

2a 2c

3a 3c

4a 4e

5a 5c

6a 6c

7a 7c

1

GB 2 304 989 B

MIMIV

GB 2 304 989 B

(polymer)

- (sol - gel)

;

; (dispersants) (surfactants) . ,
 가 가
 가 - 2 - (propan - 2 - ol) - 450
 (profile) (cure)
 - PCT/GB00/02537

(formulation) :

1) -

(tetraethyl) (orthosilicate) (10 M ℓ), (MOS) (grade) - 2 - (47 M ℓ)
 1000 r.p.m. 5 - 10 (2.5g)
 (0.10g) 가 . 2 , ,
 4
 MOS - 2 - 가

2)

6 (0.150 g) 0.2 (1) -
 (9.850 g) , 10
 가 10 , 4

4a (, 401); (402)(); (403)();
 (404)() . (405) (410)
 1a 1b
 (12) (13)
 GB 2 330 687 B , 4a

4a , (408) 가 (407) (406)
 (405) (409)

4b 가
 (411)가 (402) (404) 가 , (suspen
 sion) (413) (402) 가
 가

/ (volts/cm) 가 .
 (Litlington, Royston, Hertfordshire, UK)
 (R K Print - Coat Instruments Ltd) (K
 - coaters)((wire roll)) , 가
 (dispenser)
 (hotplates) : a)
 - 50 10 ; b) - 120 10 .
 4c (421)
 (405) (409)
 4d (431) (MOS) (433) (432)
 10 - 20 (435) (404) (4
 34) - (lift - off) (436) .
 - 2 -
 (hotplates) : a)
 - 50 10 ; b) - 120 10 .
 () : 10 (10 /min) 450
 ; 120 450 ;
 4e
 2
 5 (bath) (602) (603)
 (605) (formulation)가
 (600) (604) (608)
 (607) (float) (609)
 (601) (604) / (volts/cm)
 가 (605) (606)
 5b (volume)
 (611) (620)
 5c (609)가 (610)

3

6a 6c , (undercut)

6a (401 405) 가 , 6a - (801) (800) (402) (apertures) (802) (404) (undercut) (801) (803) (810) (808) (collimated) (809) (801) (811) (804) 08)가 (405) , 6b

6b , (810) 1 (, GB 2 304 989) (820) (brazing) (fritting)

가 (,) , () 가

/ - GB 2 340 299 가 가

가 , 2 , 가 , 1 2 가 , -

가 ()

(fugitive) (vehicles)

," (comprise)" " ()
가

가 ,
(/), /

(,) , ,
() () (,)

(57)

1.

- a) ;
- b) a) 1 2 가 ;
1
- b) :
- c) (stray quantity) , ;
- d)

2.

1 , d) c) .

3.

- 1 2 , b) (colloidal dispers
ion) (precursor) 가 ,
- d)

4.

3 , d) (fugitive)

5.

3 4 , ,

6.

5 , - (sol - gel)

7.

5 6 , 가 (soluble polymer)

8.

1 2 , -

9.

3 8 , (silica)

10.

1 9 , (b) , 1 2
1 가 (aperture) ,
(spray) 가

11.

10 , , 1 2 (recess)
(side wall)

12.

11 ,

13.

12 , (undercut)
- (wet - etch)

14.

3 4 , (s
intered)

15.

1 2 , 가

16.

15 , (track) 가

17.

15 16 , 가

18.

1 17 ,

19.

18 ,

20.

18 19 , d) 1 / 가 2 가 1 / (site) ,

21.

20 , / 가 가

22.

1 21 , b) c) (curing) - 가

23.

- 1 22 , d)
- 24.
- 1 23 ,
- 25.
- 1 24 , (hole)
- 26.
- 1 25 ,
- 27.
- 1 26 , b) (carrier) 가
- 28.
- 27 , (squeegee)
- 29.
- 1 28 , (effec
ted)
- 30.
- 1 29 , b) a)
- 31.
- 1 30 , 2 (d)
- 32.
- 33.
- 1 32

34.

33 , 가

35.

34 , (patch)

36.

35 , (slot)

37.

34 36 , (reactor),
led) , , (thruster) , (x - ray) , (vacuum gauge), 가 (gas fil

38.

34 37 ,

39.

34 38 , (trigg
ering) (priming)

40.

34 39 ,

41.

34 39 , (lamp)

42.

41 ,

43.

34 42 , (ballast)

44.

35 43

가

45.

34 44

(phosphor)

1

46.

45

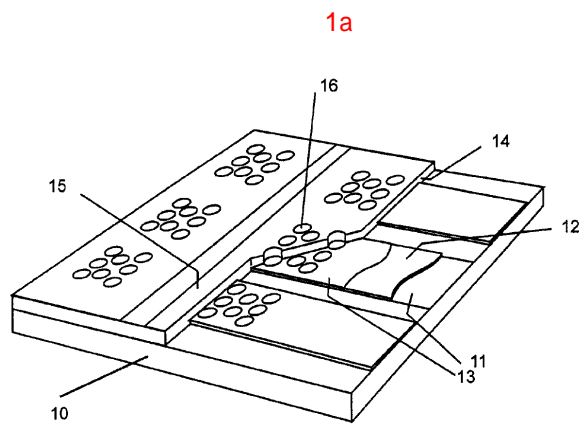
47.

34 46

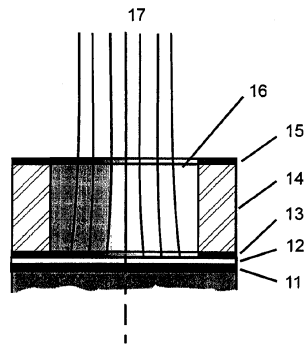
48.

34 47

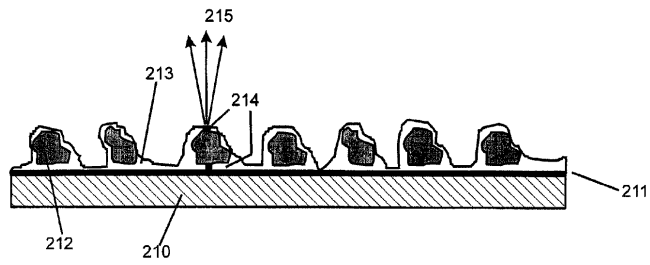
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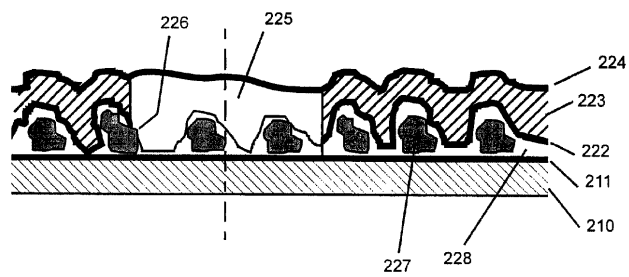
1b



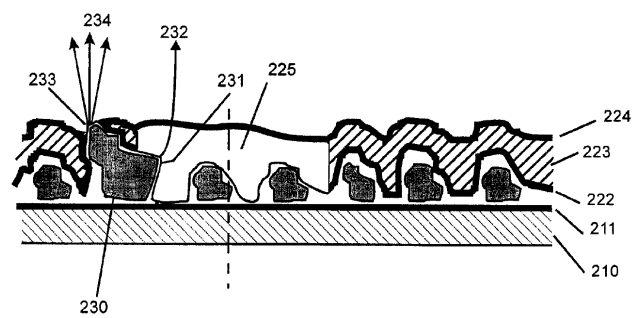
2a



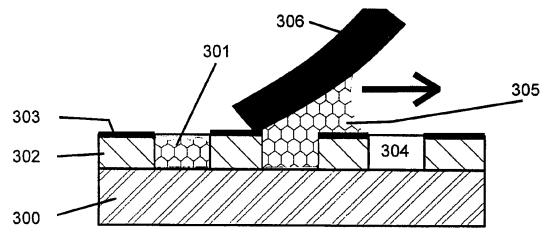
2b



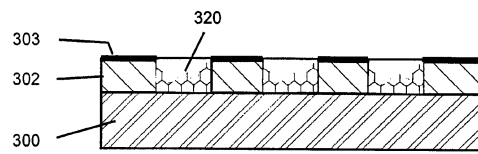
2c



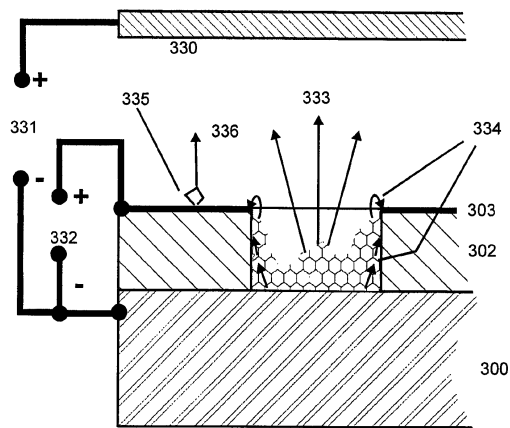
3a



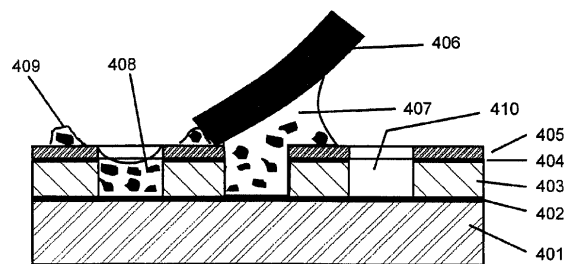
3b



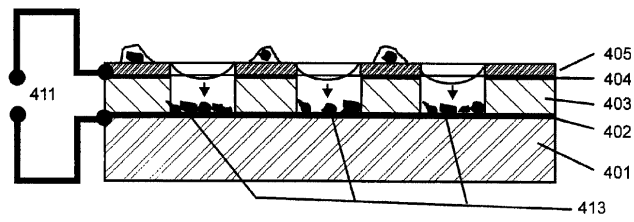
3c



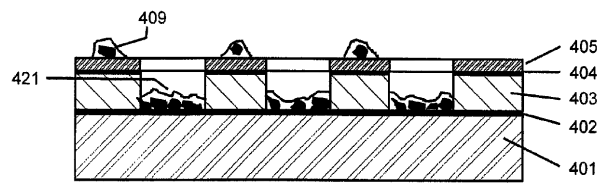
4a



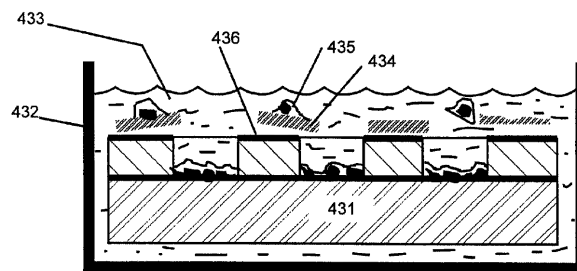
4b



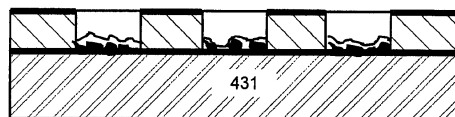
4c



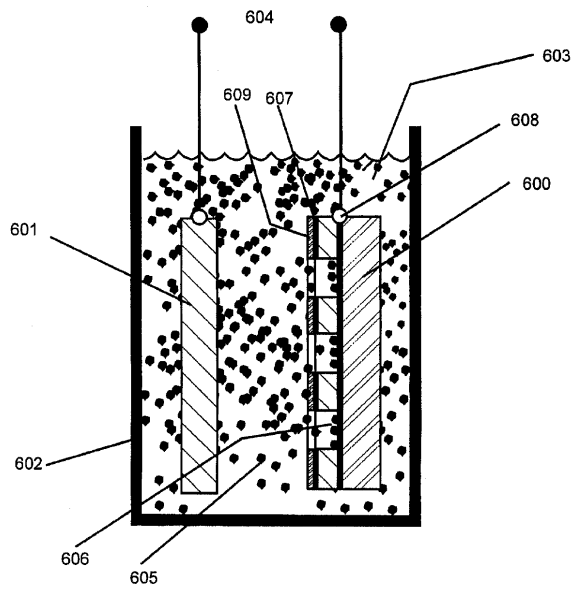
4d



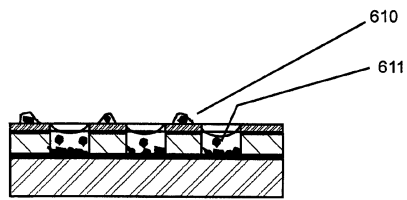
4e



5a



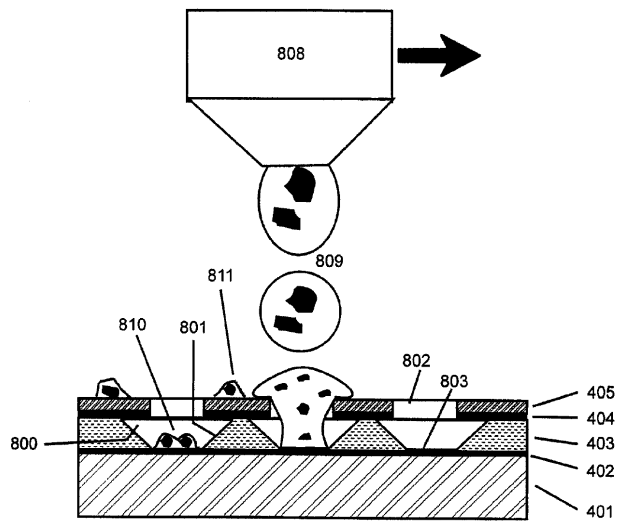
5b



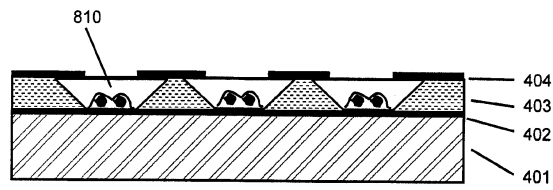
5c



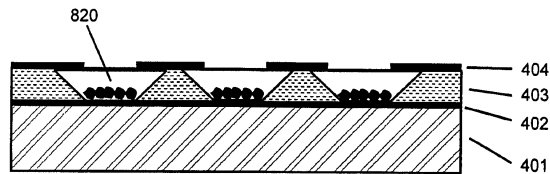
6a



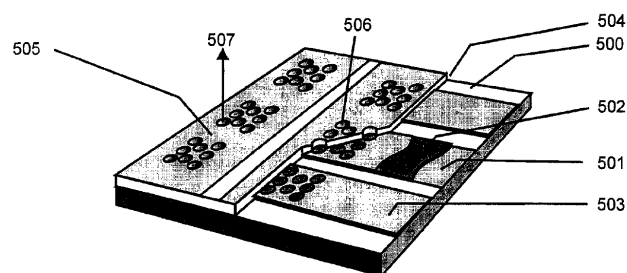
6b



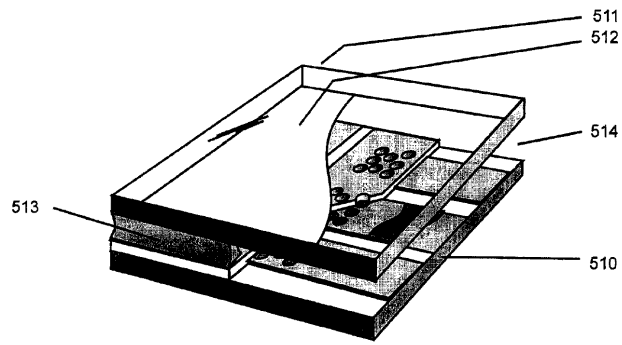
6c



7a



7b



7c

