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(71) 가 가 가 1006
가 가 가

(72) 가 3-6-3

4-11-6

(74)

:

(54)

1
2
1
2 1

1a

1a 1

1b 1

1c 1

1d 1 ,

2 1a 1 2 ,

3 1a ,

4a 4d 1 (104) ,

5 2 ,

6 2 ,

7a 3 ,

7b 3 ,

7c 3 ,

8 7a ,

9a 9e 3 ,

10a 4 ,

10b 4 ,

11a 4 ,

11b 4 ,

11c 4 ,

12a 5 ,

12b 4 ,

13a 1 5 ,

13b 13a I-J ,

13c 13b ,

14a 1 5 ,

14b 1 5 ,

15 1 5 ,

16 .

*

101 : 1 102 : 2

103 : 104 :

105, 106 :

가 , ,

가 가 (PDA) ,

가 . ,

16 .

16 (1) (2) (20) (1) (1) (2)

(end)가 (1) (1) (3) (4) (G)

(3) (4) (1) (2) (4) (5) (

(5) 가 (6) (2) (4) (5) (

) (6) .

16 (3) (3) (3)

(5) (5) (3) (4) (5)

가 (4) 가 16 (5)

(3) . ,

(yoke) (5) 가 , 가

가 (5) 가 ,

16 (5)

(4) 가 16 (4)

(4) , 16

(3) (3) (4) 16 (3) (4) (5)

(,) (3) (4) 16 (4) (,

(3)) 가 16

1 , , 1 , 2
 . 1 , 2
 , 1 1 , 2 1
 1 2 ,
 , 1 1 2 가 ,
 1 2 가 , 1
 , 1 2 가 (winding)
 , 1 1 가 가 ,
 , 1 (pieces)
 , 2 , 2 1 2
 , 1 2 가 1 1
 가 가 가 가 1 1
 가 가 가 가 10a , 1
 가 가 (420, 421)
 1 2 가 가 1 가
 가 , 1 2 가 ,
 , 1 1 가 가 가 가

가

1 2

2 , , 1 , 2 . 1

2 1 , 2 1 , 1

1 2 가

, 1

2 , 2 , 1 1

, 2 , 2 . 2

1 2 , 1 2

, ,

, ,

2 1 1 , 2

, 1 1 , 2 2

, 1 2

, ,

, .

, .

1 2

, 1 2 , , 1 2

, 16 가

, ,

, 1 (, 1 2) (magnetic operating point)

(magnetic permeance coefficient) 가 . 9.6mm

- 3.5 -

1a (105, 106) (PC) (105)
 1d (109) (108) (109) (110, 1)
 (106) (105) (108, 109) (105, 106)
 111) (105, 106) (105, 106)
 2 (101, 102), (103), (104) (105, 106)
 (casing)

1b 1 (101) 1 (101)
 1 (101) 1 (101)
 a (16) 1 (101) 가 1
 가 1b
 2 (102) 1b 1 (101)
 1 2 (101, 102) 39 가가 (MGOe) (neodymium)

1c (103) (103) 1 2
 (101, 102) (103)

1a 1 (101) (105) (107) 1d (107) 1
 (101) (105) (107) 1d (107) 2 (102) (106)
 2 (102) (106) (107) (107) 1 2 (101, 102) (104)
 (103) (103) (104) 1 2 (103) (104)
 1 2 (101, 102) 가 (104) (105) (106)
 (101, 102), (103), (104), (105, 106) 1 2
 (104) (105, 106) (101, 102) 가
 (103) 1 2 (101, 102) 가 (103)
 (104) (103) 2 (102)

1 1 2 (101, 102) (101, 102) 1a
 1 2 (101) (101)가 1 (101)
 (1a) (101) 2 (102)가 2 (101, 102) (104)
 (104) (101, 102)가

2 (103) 1 2 (101, 102) 1a
 1 2 (101, 102) (101, 102)가 1 2 1
 (101, 102) (104) (103) 1 2 1
 (104) (107)) 가
 (107) 가 2 (101, 102)가 1 2 (101, 102)
 (107) 가 2) 1 2 (101, 102)

3 2 가 (107)
 1 2 (107) 1 2 2mm 5mm
 3 (107)

mm (107) 2mm (103) (107) 5 (103)

3 (103) (107) 5mm 가 3

1 (101) 가 (101) 가 (101) 가 1a

(103) 1 (101) 2 (103) (103) 1

2 (101, 102) (107) (103) (103) 1 2

(101, 102)

가 (103) (103) (103)

104) (104) (104) (103)

2 (103) (103)

(104) 1 2

3 (103) 16 (103) 가 가

(103) 16 (3) (3) (3) 1 2 (101, 1

02) (3) 가 가 가 가

3.5 1 9.6mm 16

16 (3) (3) (3) (4) (4)

(3) 가 (4) 가 (3) (4) (3) (4)

(4) (4) (3) (5) 가 가 1 1 2 (

101, 102) (103) (103) 가 (3) 가 (104) 2

(103) 1 2

1 (103) 1 (101) 가 (104)(1a) (104)

(103) (101) 가 가 가 (3), 1

(103) 1 가 (104) (103) 1 2

(101) 가 가 (104) (103) 1 2

(101, 102)

1 (ferrite) 1 - 2 (101, 102)가 가 1 2 (101, 102

) 5 가 1 (samarium-cobalt) 1 2 2

1 1a (104) (1

04) 4a 4d 가 . 4a 4d 1 (104) . 가 (104)
 (104) . 가 (104)
 (112a), 4b (112b), 4c 4a (112c), 4d 2
 5 가 1
 , 1 , (105, 106)가 - 1 2 (101, 102)
 , 1 , 1 2 (101, 102)가 , ,
 , (104) , 1 2 (101, 102)가 (104)
 , (104) , (104) 1 2 (101, 102)가 (101, 102)가
 1 , , 1 2 (101, 102) 가 ,
 가 (103) (, 가) , ,
 , (103) , 1 , (103) , 가 가 ,
 (103) , 1 가 (103)
 , 1 , (air chambers) (minimum resonance)가 ,
 , 1 , (vibration damping cloth
) 2 5 , 1 ,
 (2)
 2 가 5 6 . 5 2
 . 6 2
 1 .
 5 (207)
 (204), 5 (205, 206) . 2 1 (201), 2 (202), (203),
 3 1 3 1 , 1 1 2
 1 (204) 가 (204) (204) (203)
 , (204) (204)
 (204) 가 2 (208) (205) , (204) (209) (
 206) 2 가
 2
 3 1 2 (201, 202) , 1 2 (101, 102)
 . 5 , 1 2 (201, 202)

가) , (5 1 2 , ' (radial magnetization)' , (201, 202) , , .

1 2 (201, 202) (203) . 1 , 가 (203) (204) 1 2 (204) 1 .

2 , (204) 1 2 (201, 202) 6 . , 1 2 (201, 202) 가 (G) , 6 , 5 .

2) 가 , 가 1 2 (201, 20 2) 가 (201, 202) 1 2 (G) (207) , 2 (201, 202) 1 2 (204) , 1 2 (201, 202) (204) . (204) .

1 (107)) , (101, 102) (, 1a (101, 102) (101, 102) , 2 (201, 202) (1 01, 102) (3) . , 2 , (203) 1 (203) 가 , (203) 1 가 . , (203) (203) .

2 , 1 (201) , (203) 1 가 . (203) (204) 1 가 .

2 , 1 (201) . 2 (202) 1 (201) .

(3)

3 가 . 7a 7c 3 , 7b 3 , 7a 3 7c 3 . 8 7a . 9a 9e 3 .

7a , 7b C-D 7a 1 (301), 2 (302), 1 (303), 2 (311), (304), (305, 306) , 1 (309), 2 (310) . 1 2 (301, 302) 1 1 2 (304) 2 (204) 1 . 7a 2 (101, 102) . (304) 2 1 2 .

7a 7a 7b , 1 (309) 1 ,

2 (310) 2 (302) 1 2 (309, 310) , 2
 (306) , 2 (310) (305) 1 (309) (306) 2
 (313, 314) (308, 312)

7c , 3 , 1 , 1
 2 (303, 311) , 1 (303) 2 (311)
 (303) , 1 (301) 가 가 가 (304) 2 1 (311)
) (303) , 1 2 (301, 302) (304) 2 (301, 302)
 1 (303) (304) , 1 2 (301, 302)
 2 (311) (304) 1 (303)
 2 (311)

1 2 (309, 310) . 1 , 1 2 (301, 302)
 (307) . 8 가 (304)
 303, 311) (304) . 1 2 가 (304)
 , 7a 8 , 1 (303)
 (301, 302) , 2 (311)
 (301, 302) 가 , 1 2
 (303, 311) 2 (303, 311) 가 , 1 2 (304)
 1 2 (303, 311) (303) (304)
 11)

1 2 (309, 310) 3 , 1 (301)
 1 (309) , 1 (301) 2 (310) 1 2 (302) 2 (310) , 2
 (311) , 1 (301) 2 (310) 1 (309) (G) (G) , 2 가
 (G) 1 2 (303, 311) 가 , 가
 (303, 311) 가 ,
 , 1 2 (309, 310)

1 2 (301, 302) 1 2 (309, 310) , 1
 2 (303, 311) 가 , , 가 가 , 1
 (303, 311) , (304) 가 (304) , (304)
 304) 가 (303, 311) , (304)

3 , (slit) 1 (309) 1 (301) , 1
 2 (310) 2 (302) . 7a 1
 2 (309, 310) 9a 9e 7a 9a 7a 2 (310) (310)
) 9b 9e 7a 2 (310) 2 (310) 가
 , (304)
 9b , 2
 (302) 2 (310) , 9c , 2
 (315) 2 (302) , 9d , (315)
 2 (302) , 9e
 302) (316) 2 (302) , 1 2 (301, 302)
 , 1 2 (301, 302) 1 2 (301, 302)
 9e가 2 (310) , 1 (309) 9a 9e 9a

가 (303, 311)
 , 1 2 (309, 310) , 1

2 (301, 302) 7a (303)
 (307) 가 (303) 1 2 (309, 310)

3 , , 1 2 (303, 311)
 1 (303) 2 (311)
 310) , 1 가 (9e), 1 2 (309, 가
 , 2 (311)

3 가 , 1 2 (303
 , 311) , 3 (304) , 1 2 (303
 , (304) , 가 (304)

가 . 가 가
 , 2 3 , 가
 , 가 2 3
 , 가 ,

3 , .

(4)

4 가 . 10a 10b 4
 . 10a 4 10a 10b 4
 . 11a 11c 4
 (401) , 11b 1 , 2 , (403, 411) , 11c 11a (4
 04)

10a , 10b (E-F) . 10a
 1 (401), 2 (402), 3 (412), 4 (414), 1 (403),
 2 (411), 10b z . 10a (407)

4 , 1 2 (403, 411
), 1 4 (401,402,412,413) 3 , (404), 1 2 (403, 411

10a 10b , (405) 가 (408, 414)
 . (415) . (415) , (408, 414)
 6) (405) . (408,414,415) . (405,406)
 (405, 406) (416,417,418) , PC

11a , 1 (401) . 2 4
 (402,412,413) 11a 1 (401) . 1
 4 (401,402,413) . 11a 가 1 4 (401,4
 02,412,413) z , ,
 . 11a , x .

1 4 (401,402,412,413) 1 (401)
 (414, 415) (405) 2 (402) (404) 1
 (401) , 2 (402) (416, 417) (406)
 (413) 3 (412) (408, 415) (405) 4 (413)
 (416, 418) (404) 3 (412) , 4 (407)
 (406) 1 3 (401, 412)
 , 2 4 (402, 413) (407)

1 4 (401,402,412,413) (404)
 , 1 3 (401, 412) , 2 4 (402, 413)
 1 3 (401, 412) , 1 3 (401, 412) 2 4 (402, 413)
 , 1 3 (401, 412) 2 2 (402) 1 (401)
 , 2 4 (402, 413) (10a)

2 1 4 (401, 412)가 1
 (102) (101) , 2 4 (402, 413)가 1
 (, 1 3 (401, 412) , 2 4 (402, 413)
).
 1 1 (101)
 (, 10a)
 가 , 1 3 (401, 412)

11b , (403,411) 3 , 4
 1 2 (403, 411) 2 (411)
 (404) , (407) 1 4 (401,402,412,413)
 (403, 411)
 1 2 (403, 411) (404)
 1 2 (403, 411) (404) 가
 10a , 1 3 (401, 412) 가 (404)
 1 (403) 가 가 1 (401)
 1 (401) 가 (407) (407)
 (420) 가 (421) , 10a 1 (401) 가
 4 가 가 2 가 (11b) 1 3 (401,
 412) 가 가 (404) 가 (411) 가
 가 (411)

10a 11b , 1 2 (401, 402) 1
 (403) , 3 4 (412, 413)
 1 (403) 1 (403)
 (407) ()
 , 1 2 (401, 402) 2 (411)
 , 3 4 (412, 413)
 2 (411) 2 (411)

11c , (404) 10a
 (404) (404) 1 2 (404a, 404c) (404b) 2 (404c)
 (404d) (404b, 404d) 1 2 (403, 41
 1) (404b)

10a (404) (404d) (404) (404)
 5) (406) 1 2 (401, 402) 1 2 (403, 411) 3 4 (404) (404)
 412, 413) d) .

02,412,413) . 1 (404) 4 (401,4
 (G) 가 1 2 가 (403, 411) 1 2 (403, 411) (403, 411)
 403, 411) 1 2 (404) . 1 2 (403, 411) (403, 411)
 , 4 , 가 .

PDA (space factor) . ,

, 4 가 (404) (404) (404) (303, 311)

3 4 (401,402,412,413) 4 1 4
 (401,402,412,413) . 9a 3 9e (G)

4 , 1 2 (403, 411) . ,
 1 (403) 2 (411)

4 (404) 1 3 (404a, 404c)
 (wave) , (oval) , (cone)

4 가 , 6 가 , 3

(5)

5 가 , 12a 12b 5
 . 12a 5

12b (G-H) 12a 12a
 1 (501), 2 (502), 3 (512), 4 (513), (503),
 (504), (505, 506) . 12a 12b (507) (505, 506)
 (503) 12a 5

1 2 4 (501,502,512,513)가 5 1 4
 (501,502,512,513) 12a 12b y 1 4 (510,502
 ,512,513) (507) . 1 4 (510,502
 (501) 3 (512) , 2 (502) 4 (51

3) (507) (503)
 (510,502,512,513) ,
 (504) 1 4 (501) 2
 (502) , 3 (512) 4 (513)
 12a , 1 2 (501, 502) , 3 4 (512, 513)
 , 5 1 4 (501,502,512,513)
 3) (504) (503)
 (504) (504)
 5 , 1 4 (501,502,512,513) 12a 12b
 y (503) 가 (504) 1 4 (501,502,512,513)
 (503), y
 2 가 (509) (505) 4
 (508) (506) 5 가
 02,512,513) (503) (503) 가 1 4 (501,5
 (503) (503) (503) (504)
 y , 5 , 1 4 (501,502,512,513) 12a 12b
 (G) 가 2 (503) 가 , 3
 4 (512, 513) 1 2 (501, 502)
 (503) 4 가 (503) 가
 가 (503) (503) (503)
 m)가 (503) (203) 4 (degree of freedo
 (504)
 , 4 가 , 5 PDA
 , 4 5 (504)
 (504)
 1 5 가 1 5
 가
 13a 13c 1 5 , 13b
 13a
 , 13c 13b 13a (I-J)
 , 13c 13b
 13a 13c , (601) (602)
 (601) 3 , (601)
 1 , 13a 13c , (602) 1
 , 13c , (601) (602) , 13a

4 5

(602) (601) 1 5
 , (602) (etching) (601) (photoresist) , etching re
 (602) 가 ()

sist) (602) (601) 13b 13c
 , 1 2 (602a, 602b) (601) , 13a 13c
 (602) 1 2 (602a, 602b)

(601) (602) (601)
 (602) 가 가 ,
 (602) (lead) 가 ,
 가 (13a).

가 가 , 가 ()

1 5 가
 , 14a 14b 1 5 , 14b (cutaway
 view) 15

14a 14b , (body,71) , (71) (72) , 1 5
 (71) (73) (73) (72) (72)

15 (81) , / (82) , (83) ,
 824) (84) / (82) (821), (822), (823), / (

1) (81) 가 가 (base station) (82)
 (81) 가 , (823) 가 ,
 (823) 가 , 가 ,
 (83) 가 / , 가 ,
 / (824) (73) / (824) 가 / ,
 , / (824) ,
 (83) 가 가 (824) ,
 (84) (83) (822) (73) (84)
 가 , (81)

(81) , (821) (baseband) 가
 823) (83) (823) ()
 , (83) 가 (audible frequency band) (pure tone)
 (73) (73) (73)
 (72) , (ring tone) 가 (73)

가 (73) , (823) (73) / (822)
 (84) (81)
 (carrier wave)
 가 / /
 (824) 가 가 (key) (823)
 / (823) (823)
 (73) (73)
 (73) / (73)
 (73)가 (71) (71) (7)
 (73) (73)
 (beeper)
 (73) (73)
 , PDA, (73) (73)

(57)

1.

(104) , (105 106) ,
 (103) ,
 1 (101) ,
 2 (102) , 1
 1 가 가 가 , 2
 1
 2.
 1 ,
 1 2 ,
 1 2

2 **3.** ,
 1 2 ,
 , 1 가

2 **4.** ,
 1 2 ,
 , 1 가

2 **5.** ,
 1 2 ,

(311) ,

(winding)

(303)

5 **6.** ,
 1 가 ,
 1 가 ,
 .

1 **7.** ,
 1 (pieces)(401, 412) ,
 1 ,
 2 1 ,
 (402, 413) ,
 2 ,
 2 ,
 2 .

7 **8.** ,
 1 2 가 (solid) ,
 - ,
 가 1 가 가
 - .

7 **9.** ,
 1 2 가 ,
 - ,
 가 1 가 가
 - .

7 **10.** ,
 1 2 가 ,

(411) .

(403)

10 **11.** ,
 (411) 1 가 가
 ,
 (403) 1 가 가

1 **12.** ,
 1 2
 가 .

1 **13.** ,
 1 2 .

14.

1 ,
, ,
.

15.

1 ,
, , (solid)
.

16.

1 ,
1 1 (309) ,
2 2 (310)

17.

16 ,
1 1 (gap) ,
2 2

18.

16 ,
1 2

19.

1 ,
, ,
.

20.

1 ,

21.

1 ,

22.

1 ,
(108)

23.

1

24.

(204) ,

(205, 206) ,

(203) ,

1 (201) ,

1 2 (202) ,

1 - (senses)

2 1

25.

24 ,

1 2 ,

26.

24 ,

1 (501, 512) ,

1 가 ,

2 1

(502, 513) , 2

2

2 가 ,

27.

24 ,

1 2

28.

24 ,

29.

24 ,

30.
24 ,
1 1 ,
2 2

31.
30 ,
1 1 ,
2 2

32.
30 ,
1 2

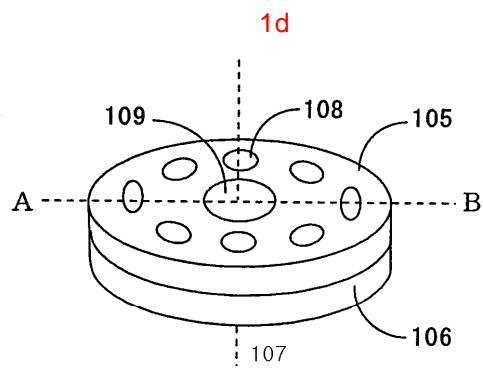
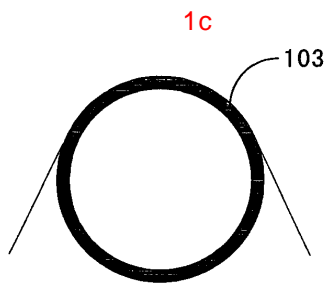
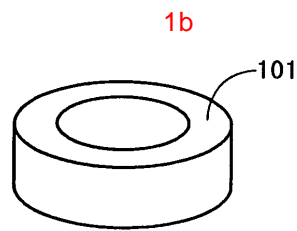
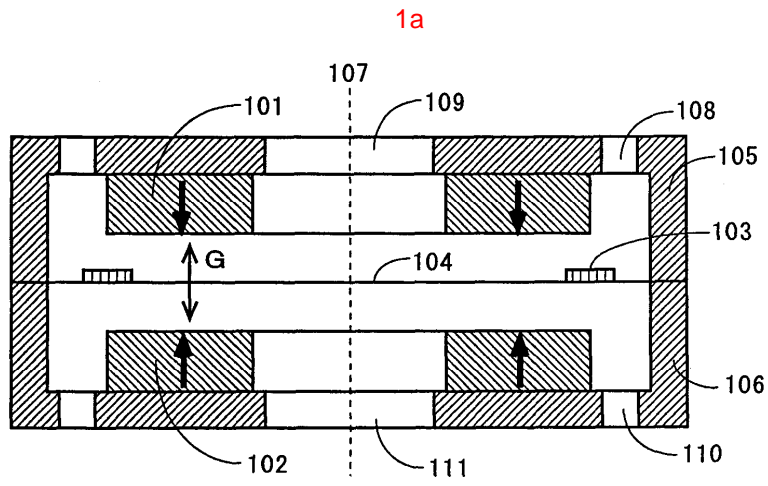
33.
24 ,
,

34.
24 ,

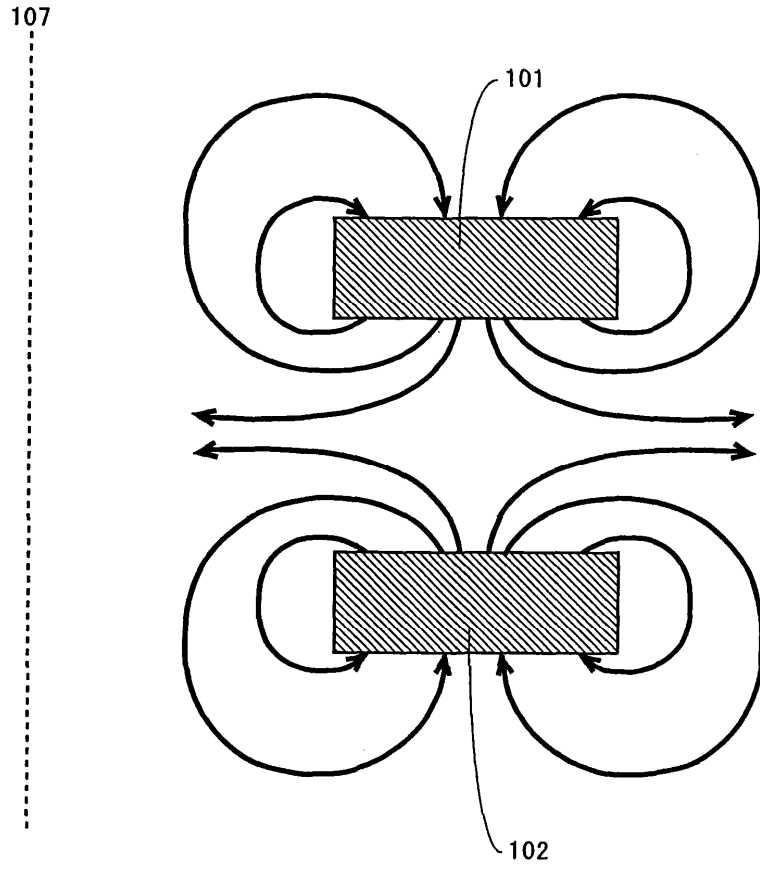
35.
24 ,

36.
24 ,

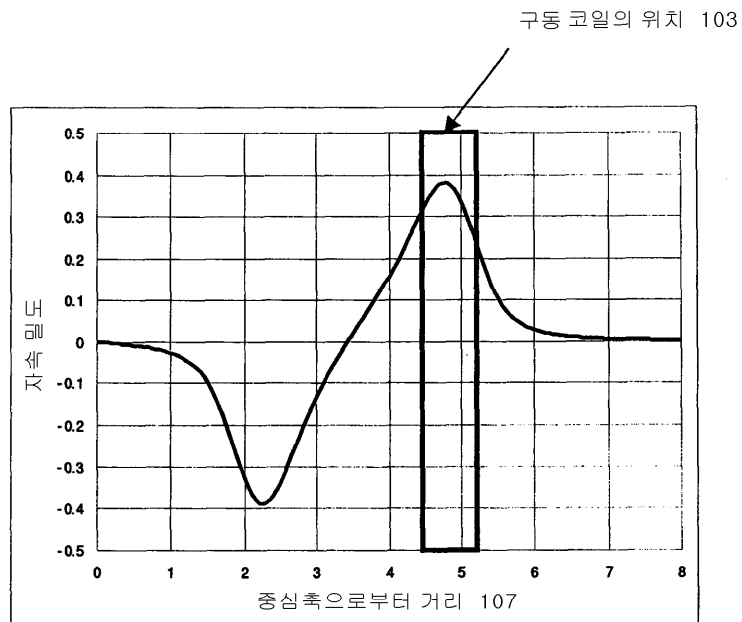
37.
24



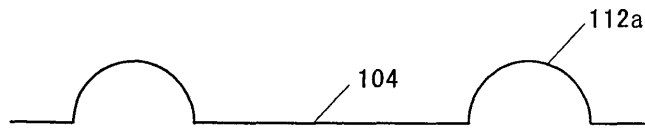
2



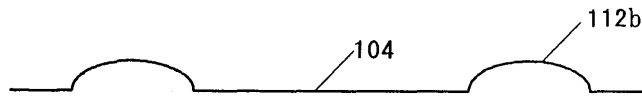
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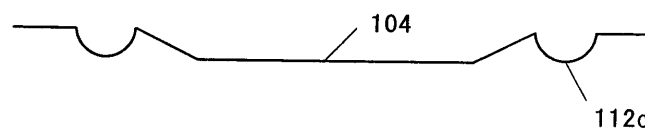
4a



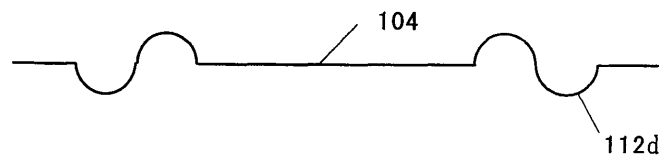
4b



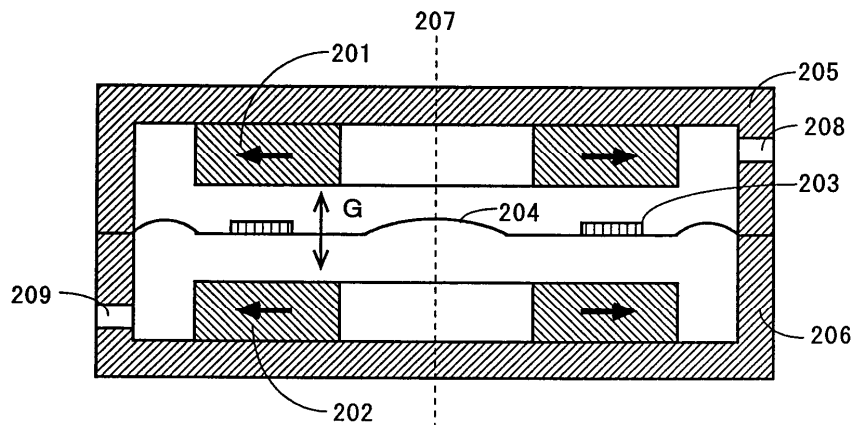
4c



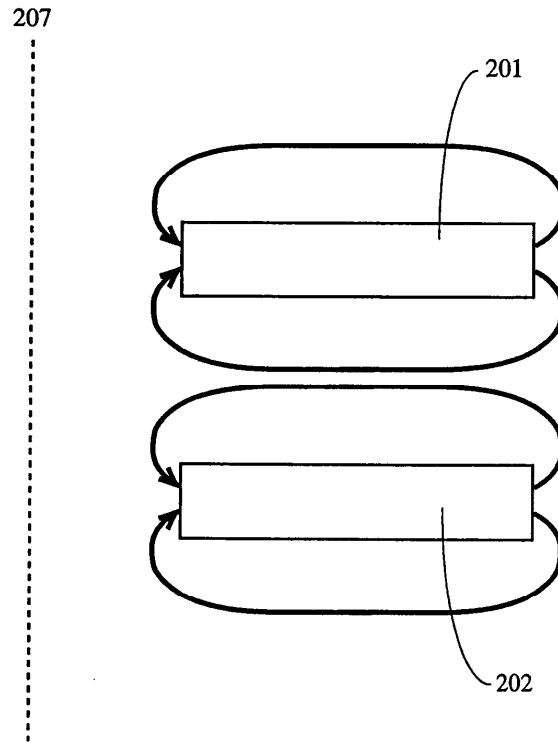
4d



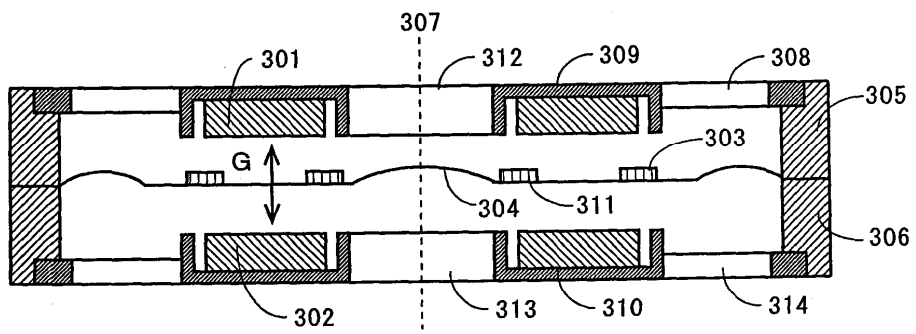
5



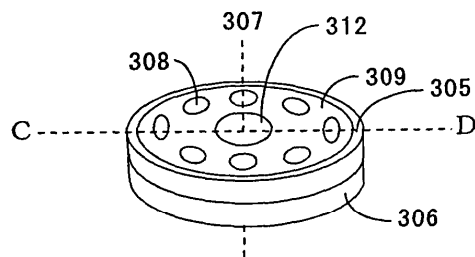
6



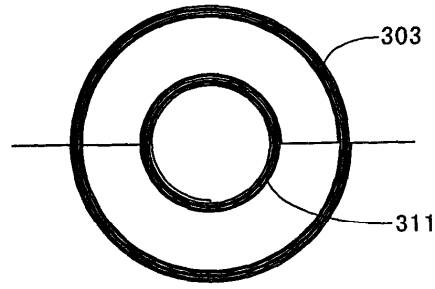
7a



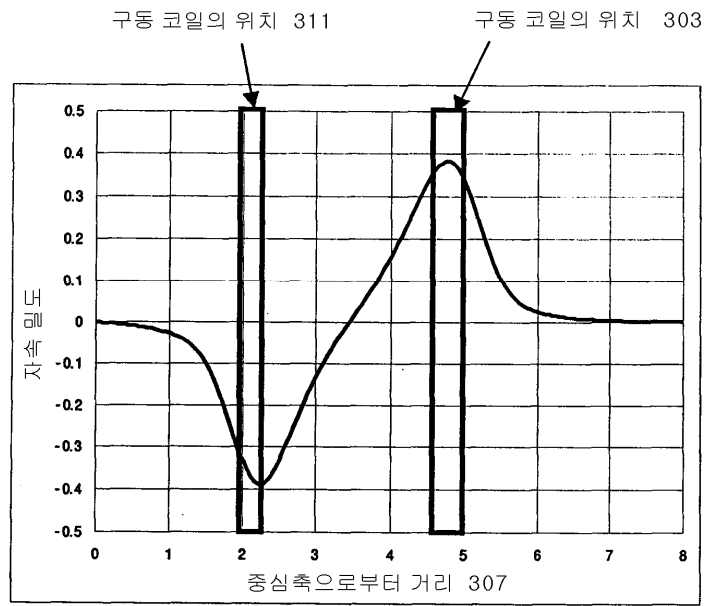
7b



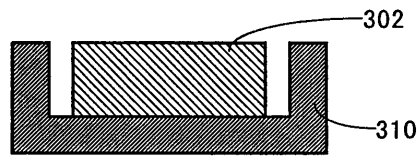
7c



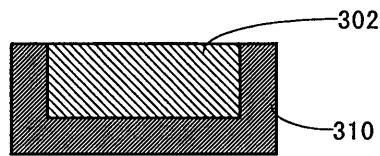
8



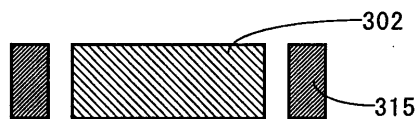
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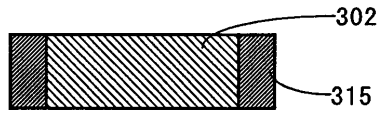
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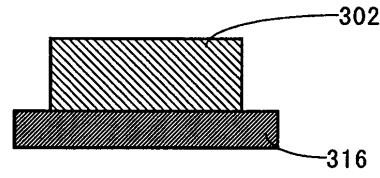
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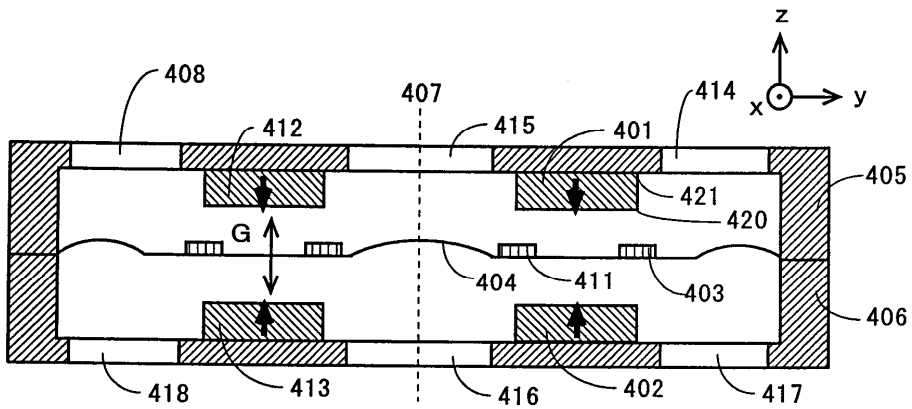
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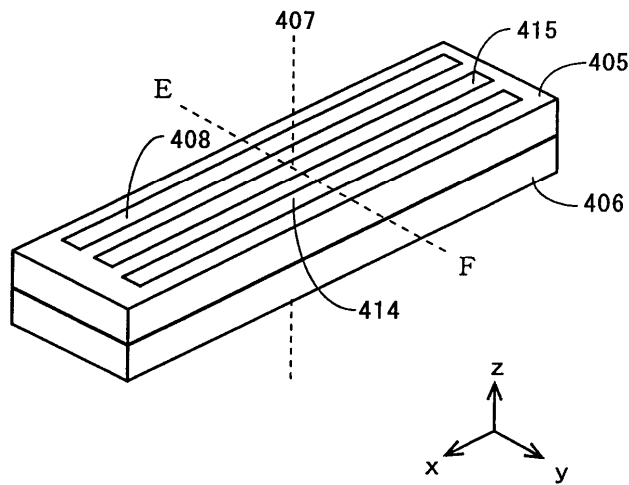
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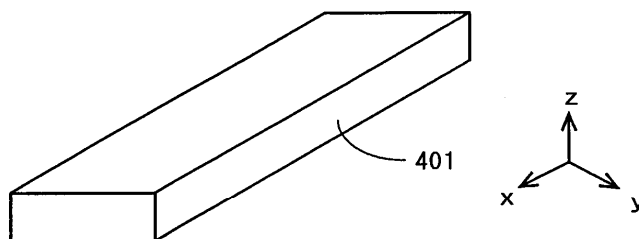
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10b



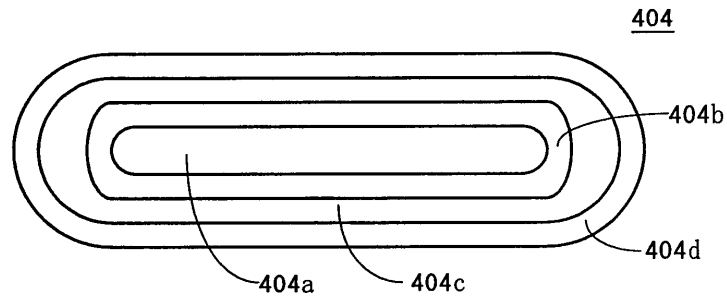
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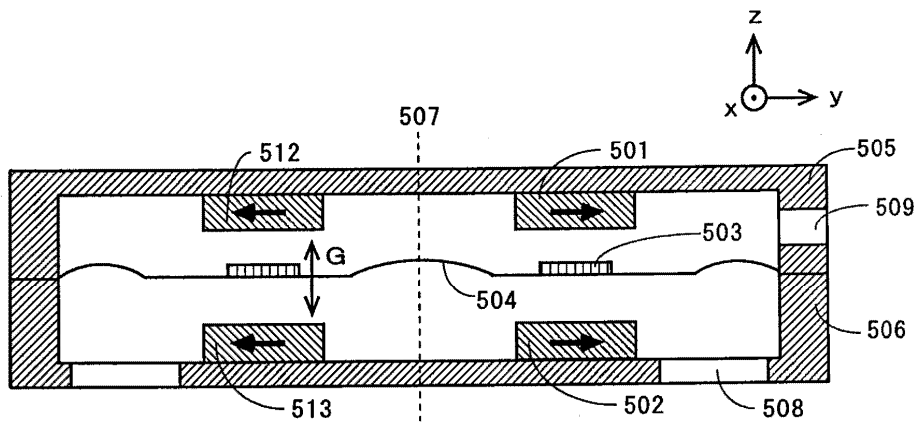
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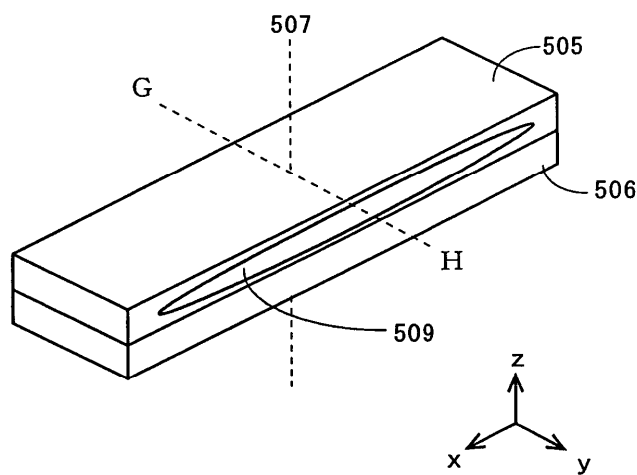
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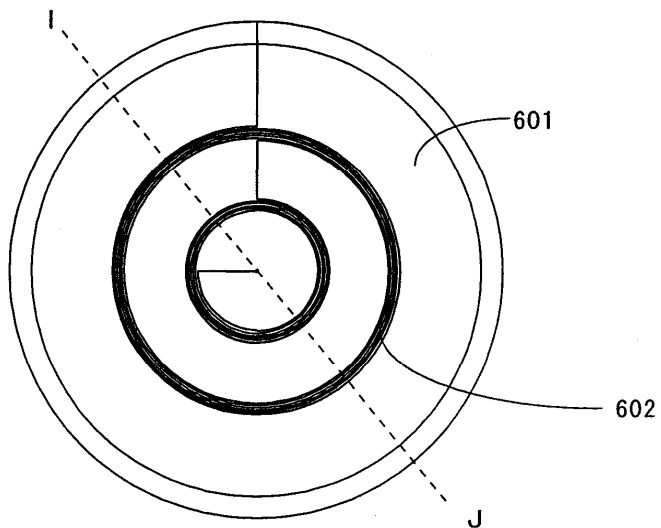
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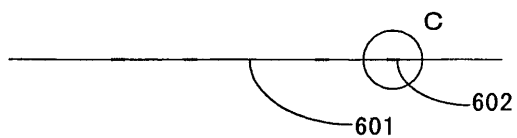
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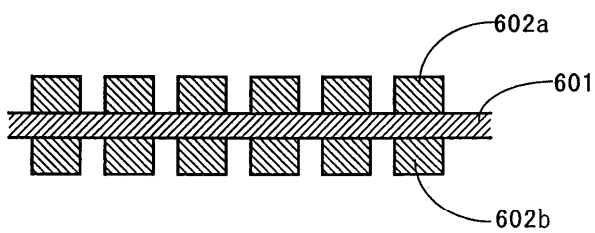
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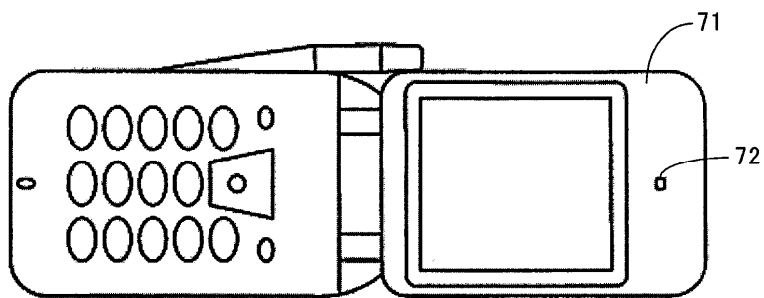
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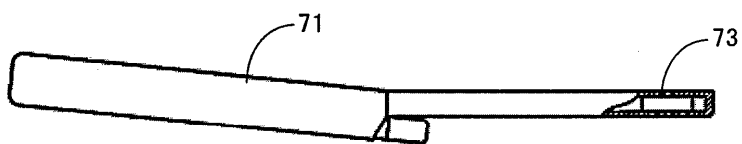
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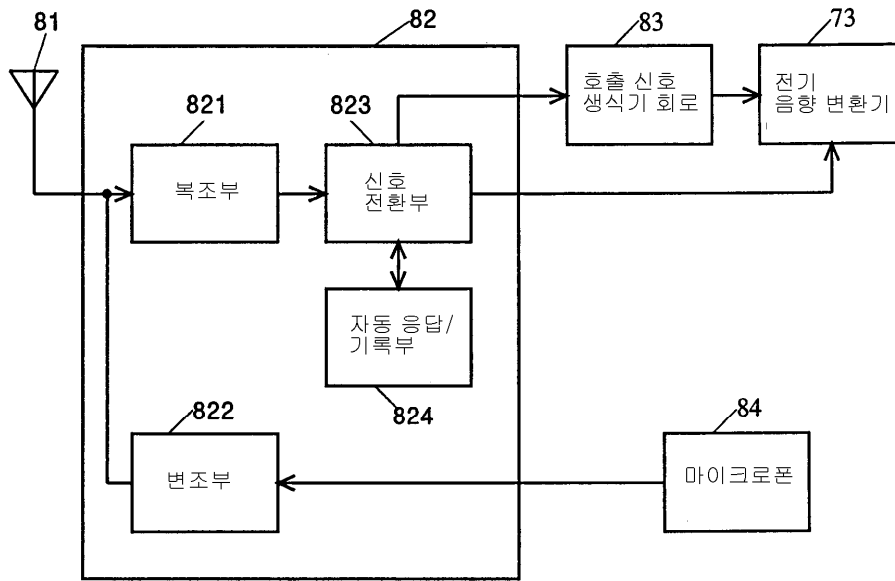
14a



14b



15



16

