(19) (KR)
(12) (B1)

(45) 2010 04 23
(11) 10-0954120
(24) 2010 04 14

(51) Int. Cl.
A01K 89/027 (2006.01)
(21) 10-2003-0059917
(22) 2003 08 28
2008 05 28
(65) 10-2004-0020000
(43) 2004 03 06
(30)
JP-P-2002-00249255 2002 08 28 (JP)
JP-P-2003-00084896 2003 03 26 (JP)
(56)
JP 10004839 A
: 8 :

(73)
3 77
(72)
590-8577
3 77
590-8577
3 77
(74)

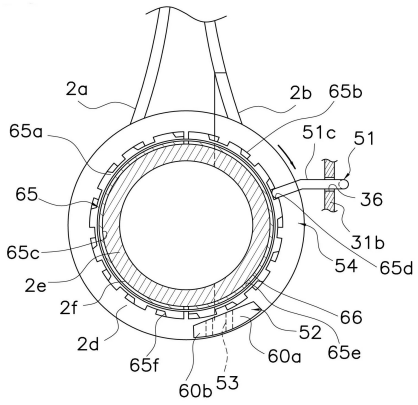
(54)

(57)

[ ] , .

[ ] (54) (17) (3) (51) (2e) ( ) (2f) (65) . (65) ( ) 1 (65a) 2 (65b) . 1 (65a) 2 (65b) ( ) (65e) (66) (2f) ( ) . (65) (2f) (65c) (51) ( )(51c) (65d) .

- 5



1

( )
,
1 2
, 2
,
, 2
,
( )
.

2

1 ,
, ( )
.

3

2 ,
,
( ) .

4

2 ,
(notch) ,
.

5

4 ,
,
.

6

5 ,
1 ( ) ,
1 ( ) 1 2
.

7

6 ,
1 ,
.

8

1 7 ,

( ) ( ) ,

,

.

[0029] , , ( )

.

[0030] , .

( ) ,

.

,

.

[0031] 10 4839 .

( ) ( ) ,

. 2

2 .

. ,

, .

[0032] .

(casting) (thumbing)

.

[0033] ,

.

.

.

[0034]

. , ( )

.

. , ( )

.

[0035] ,

. ,

.

[0036] , .

[0037] 1

,

1 2

2 ,

2

( ) .

[0038] ,

, .

, ,

. , ,

.

[0039] 2 1 ,

. ,

.

[0040] 3 2 ,

, ( ) . ,

, .

[0041] 4 2 , (notc
h)

. , C

.

[0042] 5 4 ,

,

. , C

, .

, ,

.

[0043] 6 5 ,

1 ( ) , 1 1

2 . , ,

.

[0044] 7 6 , 1

.

. , 2 2

( ) 1

.

[0045] 8 1 7 , ,

( )

. ,

.

[0046] < >

[0047] 1 2 , (1) (1) (2) , (3) (4) . (3) (2) . (4) (3) . 1 (1) (2) , 2 . , (1) (2) .

[0048] (2) (2a) (2a) (2a) (2b) .

[0049] (2a) T (2c) . 2 , (2a) (3) (1) (5) (4) (6) . (2a) (2b) (2d) (2d) ( ) (2e) . (2e) 5 , (2f) .

[0050] (2b) 3 (2a) . (2d) , (2a) (2b) 5 6 , (52) .

[0051] (5) 2 , (1) (10) (10) (11) (11) (12) . (12) (12a) (3) (13) (3) . (12) ( ) (14a, 14b) (2) .

[0052] (6) (4) (71) (15) (4) .

[0053] (3) 2 , (16) (16) (17) (17) (16) (18) .

[0054] (16) (2a) (15) (30) (30) 1 2 (31, 32) . (30) (31, 32) .

[0055] (30) (33) (33) (boss) (33a) . (33a) (12a) (15) . (33) (3) (13) . (30) 3 (30a) .

[0056] 1 2 (31, 32) 2 4 , (30) 1 2 (31a, 32a) , 1 2 (31a, 32a) 1 2 (31b, 32b) , (31a, 31b) (31b, 32b) 1 2 (31c, 32c) . 1 2 (31a, 32a) (30) .

[0057] 1 2 (31b, 32b) 1 2 (31a, 32a) (30) . 1 2 (31b, 32b) (30) . (31a, 31b) (31b, 32b) (31d, 32d) , 1 2 (31c, 32c) (31d, 32d) . 1 (31c) 1 (31a) 1 (31b) (48) .

[0058] 1 (31b) 1 (40) . 1 (31b) 3 4 , (18) (51)

(36) , (17) (75) (8)
(37) , 1 (40) (38)
. 2 (32b) 2 (42) .

[0059] 1 (40) 1 (31b) (38) (39) 1 (3
1) . (39)
.

[0060] 1 (40) 3 , (4)
(41) , (41) 1 (40) (47) .
(41) 1 (40) . (47)
. (47) 2 (42) ( )
U (43) . 1 2 (40, 42),
(41), (43) (47) (4) (17) .
(17) 3(a) , 3(b)
.

[0061] (18) 1 (31) (48) . (18)
(17) (3)
.

[0062] (18) 3 6 , (48) 1 (31b)
(50) , (48) (51) ,
(51) (2d) (52) , (3)
(65) (54) , (17)
(75) .

[0063] (50) 3 , (17) 1
2 1 (31) (17)
. (50) 1 (40)
, 1 (31b) (55) , (55)
(57) .

[0064] (55) 4 , 1 (40) (40a) 1
(40) (55a) . , (55) (57)
(55b) , ( )(55c)
. (55b) (57) (56)
(57) (55) .

[0065] (57) (31b) (34)
. (34) (57) ( )
(34a) . (34a) (57)
. (57) (57)
(31b) .

[0066] (57) (56) ( ) .
(57) (55) (57)
(55) (57) . (57)
(57)
. , 1 (40)
(31b) . , (31b)
.

[0067] (50) (57) 1
(40) (0) ((39))
(55) 1 (40) .

(50) ( ) ((57)) .
, (50) (17)
. (50) ( ) .

[0068] (51) , 90
. (51) 3(a) 1 ( ) 3(b) 2
( ) 1 (31b) . (51) 3
6 , (51a) 1 (40)
(40b) . (51b) (55) 1 (31b)
.

[0069] (51c) (36) (54) (65)
. (36) (51) .
, (51) (51b) (17) (36)
. (51b) (51c) (67)
. (67) 1 (31c) (51c)
(67a) .

[0070] (67) (68)
(67b) (67a) . (68) (67a)
(51) (51b) (51c) (65) .
(68) (51) (51b) (69a)
(69) . (69) (51) (51b)
(68) (51b) .

[0071] (51) (40b) (17) , (51c)
(17) . , (51)
(3(b)) (51c) 1 (40)
1 ( ) 2 ( ) 1 (40)
. , (51) (51c) (52)
, 1 (40) . 2 ( )
, (51c) (65)
. , (51) .

[0072] (52) , 5 6
, (2a) (2b) (2d)
. (2a) (2b) ( ) (53) . (5
2) 2 (60a, 60b) ( ) (60) (60) (61)
(62) . (60a) 6 (3)
(3) . (60b) (60a)
. (60a, 60b)
(60c) (60a) (51c) (51) (17)
(50) .

[0073] (61) (53) (2d)
(60) (62) . (62) (61) (2d)
. (60b) (17) (
) (51) (52) (18)
(51) (60b) (52) .

[0074] (54) (17) (3) ,
(51) (2e) (2f) (65) . ,
(51) (18) (54) .

[0075] (65) (17) , (3)

. (65) - - (SBR), - - , - , - , - , ( )
1 (65a) 2 (65b) 2 . 1
(65a) 2 (65b) (65e) (66)
(2f) . (65) (2f) (65
c) (51) (51c) (65d) . (65d)
(65) (51c) . , (65)
(65d) (65f) . (65f) (51c)
(65d) .

[0076] (66) (65) (65e) ,
. (66) , (65)
.

[0077] (75) (17) (3) 1 (31b) (17)
, (17) (17)
(51) (51c) (60a) (60c)
. (75) 7 8 , 1 (31b) (37)
(76) (76) (17) (77) 1 (40)
(78) .

[0078] (76) (76a) (76b) .
(76a) (76b) (77) . (77)
(76b) , (76) 1 (40) .
(78) 2 (78a, 78b) 1 (31b) . (78)
, (51) (51c) (60a) (60
c) (76) . ,
9(a) , (78) (76)
, 9(b) ,
(50) (76) .

[0079] (18) (50) 3(a) 1
3(b) 2 . 1 (17)
, 2 (17) . , (51) 3(a)
1 ( ) 3(b) 2 ( ) (51c) (36)
. 1 ( ) , 2 (
) . 2 ( ) (51) (51c)
(65) (65d) . , (54) (3) (65)
(65c) (2f) (3) .

[0080] , 2 ( ) (1) (3) ,
(51) (51c) (52) (60a) , (51) 1 (
) (50) (17)
. , (75) (76) (50)
.

[0081] (3) (30) 2 , (3) ,
(70) . (70) ,
(3) , .

[0082] (4) (3) 1 (31) 2 (32) , (15)
(71) . (4) (4a) ,
(4a) (4b) (4a) (4c)
.

[0083] , .

[0084] (70) (3) (17) . (17) , 1 (40) 2 (42) (18) 3(b) 2 . , (75) (50) (78) (76) . (17) (4) .

[0085] , (50) 1 (40) (55) 3(a) ( ) , 3(b) 2 . , . (55) (57) (17) . (75) (78) (76) (17) , (78) (76) (76) 1 (40) .

[0086] (17) , (51) (51c) (65) (65d) . , (3) (65) (65c) (2f) (3) .

[0087] . . , (17) (75) .

[0088] (17) (1) (5) (3) . (3) (17) (18) .

[0089] (54) (17) , (3) (51) (51c) (65) (65d) , (3) (65) (65c) (2f) (3) . , (65c) (2f) .

[0090]

[0091] (a) (front) , (rear) (lever) .

[0092] (b) (65) 1 (65a) 2 (65b) 2 , . , (65) .

[0093] (65) 10 15 , (65c) (65g) (65g) (65h) .

[0094] (65g) 12 , , C (65k) . (65h) (65g) , (65h) (51) (51c) (65d) .

[0095] (65h) 14 15 , (65g) 1 (65i) 1 (65i) 1 (65i) 2 (65j) . 1 (65i) (65) , (2d)

. 1 (65i) 2 (65j)
. , 15 , (65) (65g) 1 (65i) 2
(65j) . , (65)
, .

[0096] , 10 11 , (65) (2d)
(80) . (80) 13 ,
( )(80a) . (80a) 11 15 ,
(2d) (2h) (80a)
(2h) . , (80a) (2h)
(80) (2d) (2h) (80) .
(2a) (2b) (2d) (2g) (10) ( )
, (2d) (80) 1 (65i)
.

[0097] (c) (65) (66) (2f) ,
10 , (65)
.

[0098] (d) 16 , (65) (65c) 1
(65l) 2 (65m) , 1 (65l) 2 (65m)
C 3 (65n) . 1 (65l) 2 (65m)
, (2f) 3 (65n)
. 3 (65n) , 1 (65l) 2 (65m)
(65g) , (65g)
(65h) . (65h) (65g) ,
(65h) (51) (51c) (65d) .
, (65) 1 (65l) 2 (65m) (65c) 3 (65n) (65d)
(65) .

[0099] ,
, . ,
.

[0001] 1 .

[0002] 2 .

[0003] 3 1 .

[0004] 4 1 .

[0005] 5 .

[0006] 6 .

[0007] 7 1 .

[0008] 8 7 VIII VIII .

[0009] 9 .

[0010] 10 5 .

[0011] 11 6 .

[0012] 12 .

[0013] 13 .

[0014] 14 12 .

[0015] 15 11 .

[0016] 16 5 .

[0017] < >

[0018] 2: 3:

[0019] 17: 50:

[0020] 51: 51a:

[0021] 51b: 51c:

[0022] 54: 65:

[0023] 65a: 1 65b: 2

[0024] 65c: 65d:

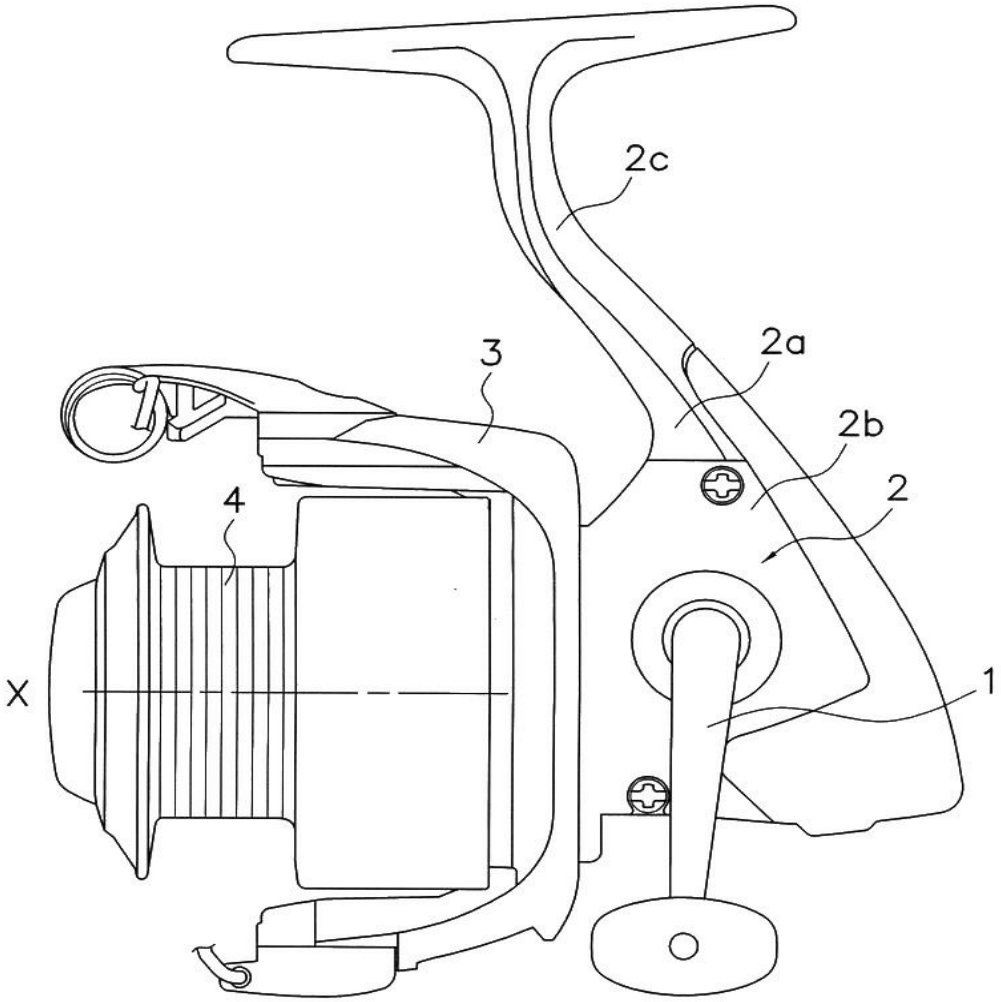
[0025] 65e: 65g:

[0026] 65h: 65i: 1

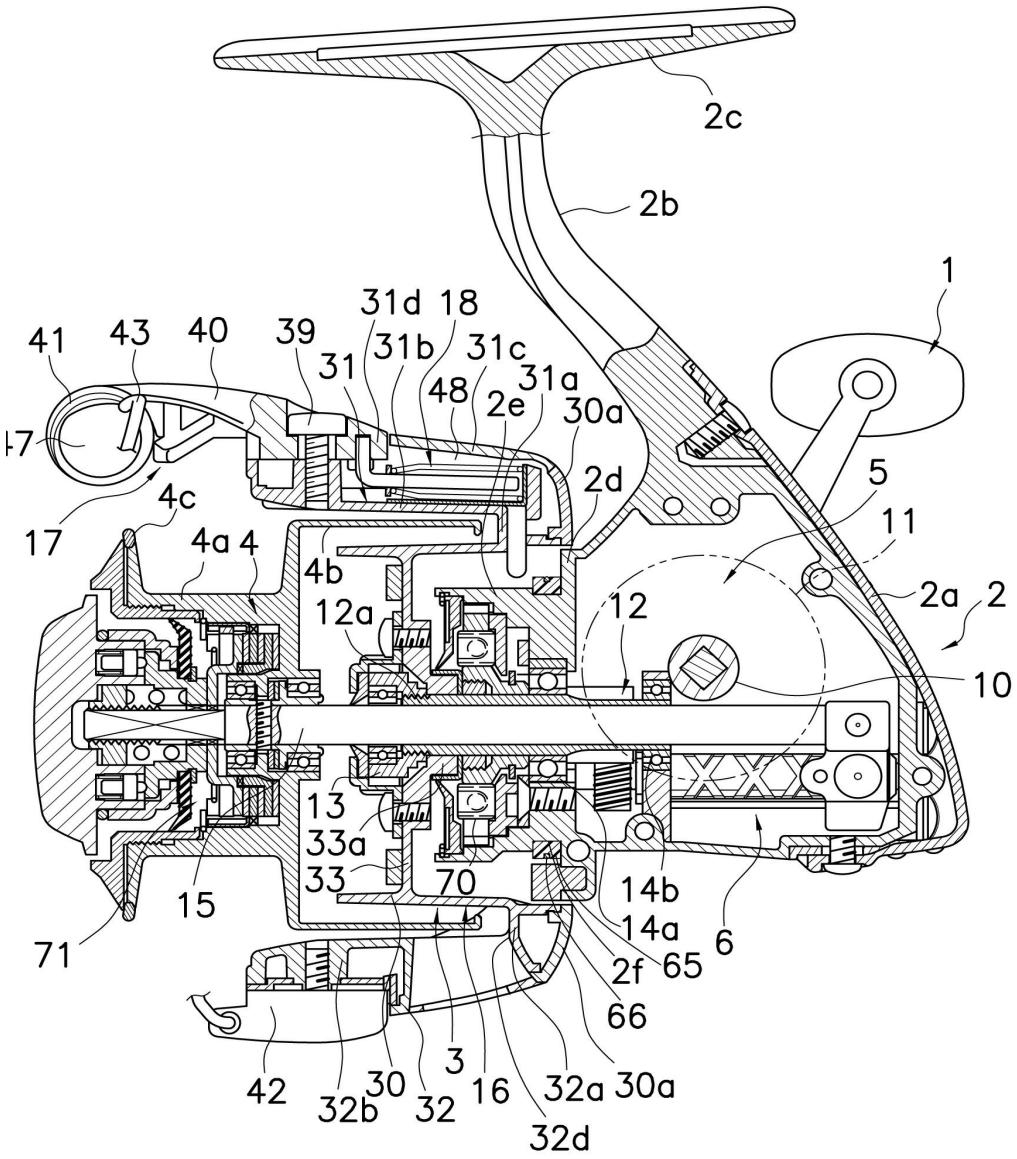
[0027] 65j: 2 66:

[0028] 80:

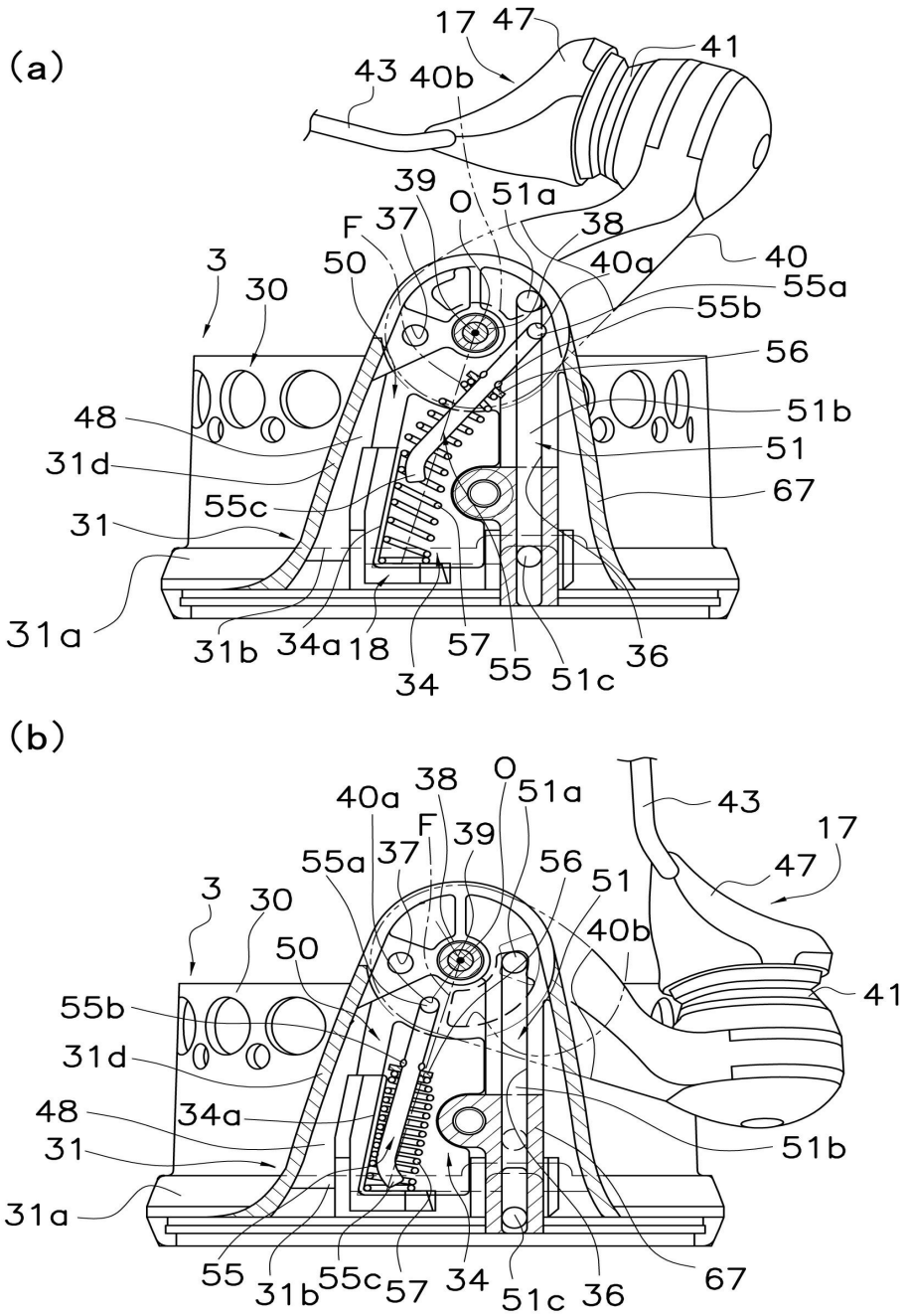
1



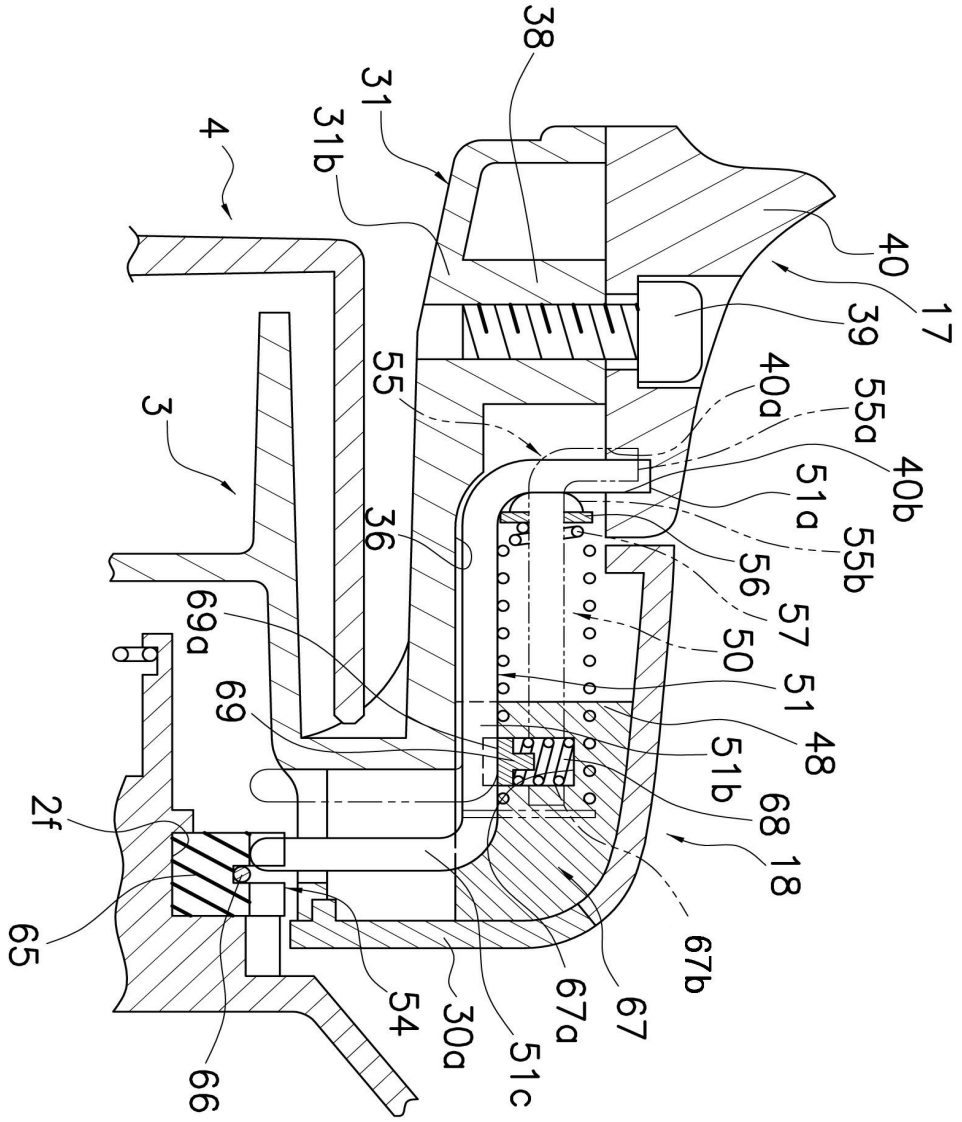
2


2c
2b
1
31d
18
41
43
40
39
31
31b
31c
48
31a
2e
30a
47
2d
5
4c
11
17
4a
4
4b
2a
2
12a
12
10
13
33a
33
70
14b
15
14a
6
71
2f
65
66
3
42
32b
30
32
16
32a
30a
32d

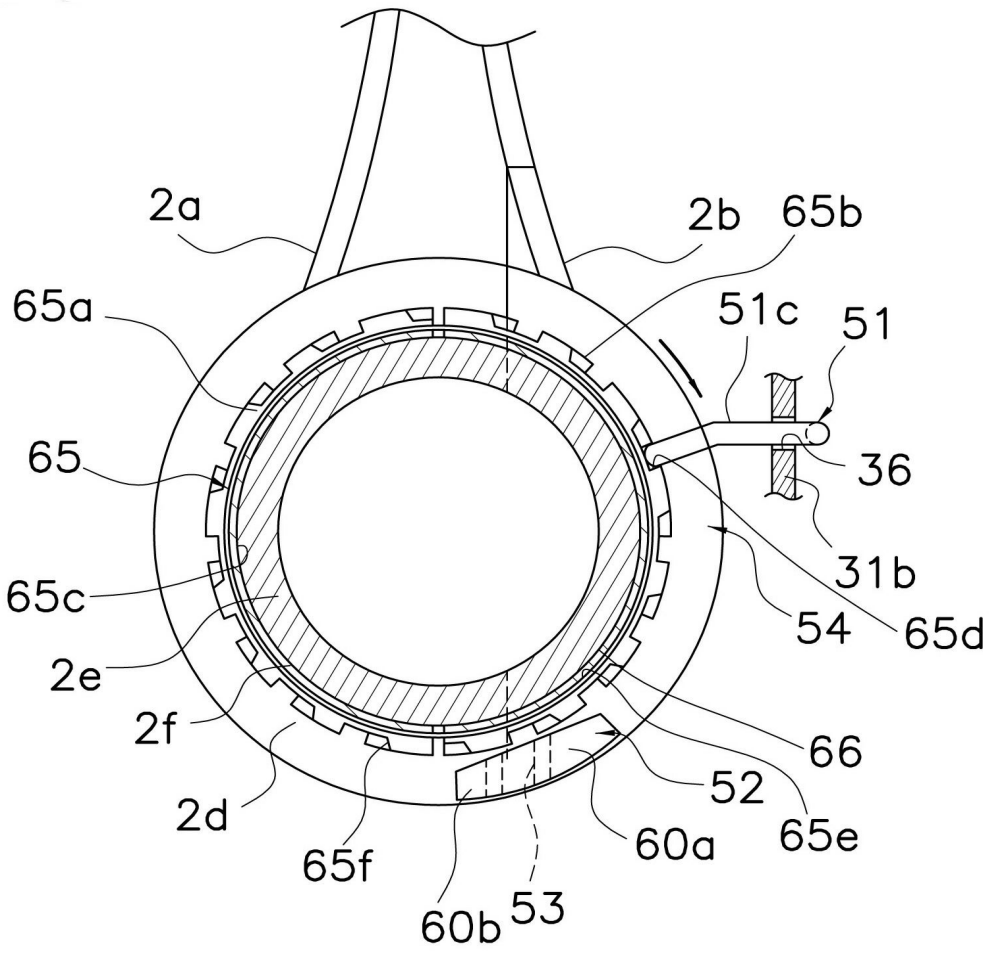
3


(a)
17
47
41
43
40b
39
O
51a
F
37
38
3
50
40a
40
30
55a
55b
56
48
51b
31d
51
55c
67
31
31a
31b
34a
18
57
55
51c
36
34
(b)
38
O
51a
40a
43
F
39
17
55a
37
56
47
51
3
30
40b
50
41
55b
31d
48
34a
51b
31
31a
55
31b
55c
57
34
51c
36
67

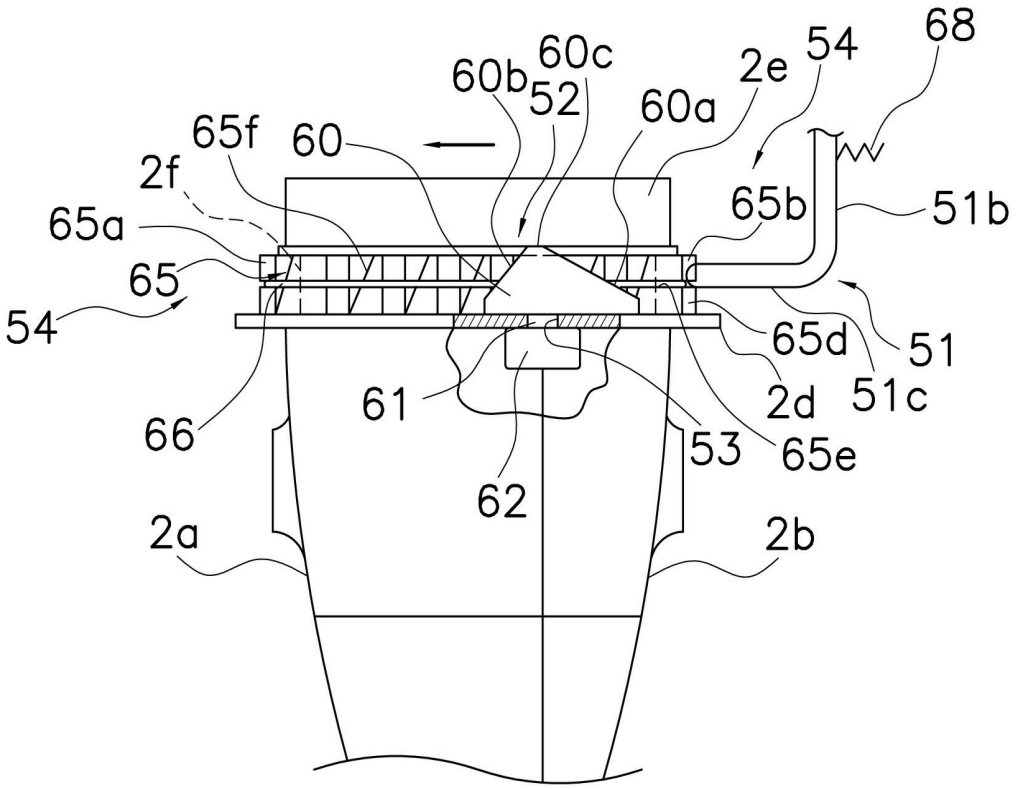
4


38
31
31b
4
40
17
39
55
40a
55a
40b
3
51a
55b
36
56
57
50
51
48
69a
69
51b
68
18
2f
65
67b
67
67a
54
30a
51c
66

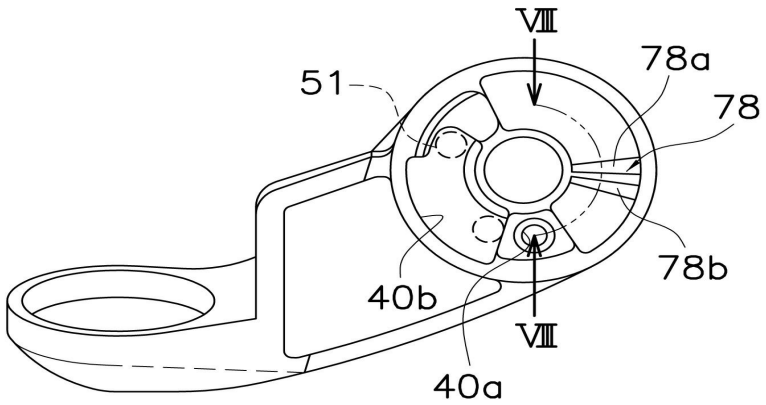
5


2a
2b
65b
65a
51c
51
65
36
31b
65c
54
65d
2e
2f
66
52
2d
65e
65f
60a
60b
53

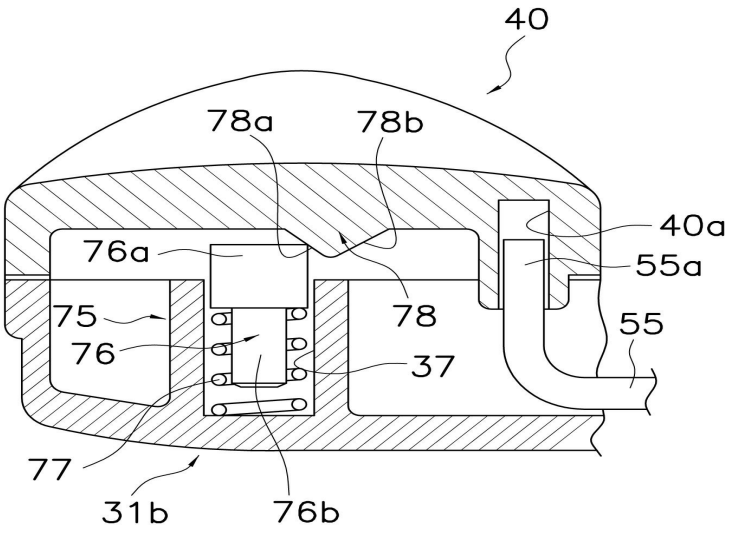
6


68
54
2e
60c
60b
52
60a
65f
60
2f
65a
65
54
65b
51b
65d
51
51c
2d
61
66
53
65e
62
2a
2b

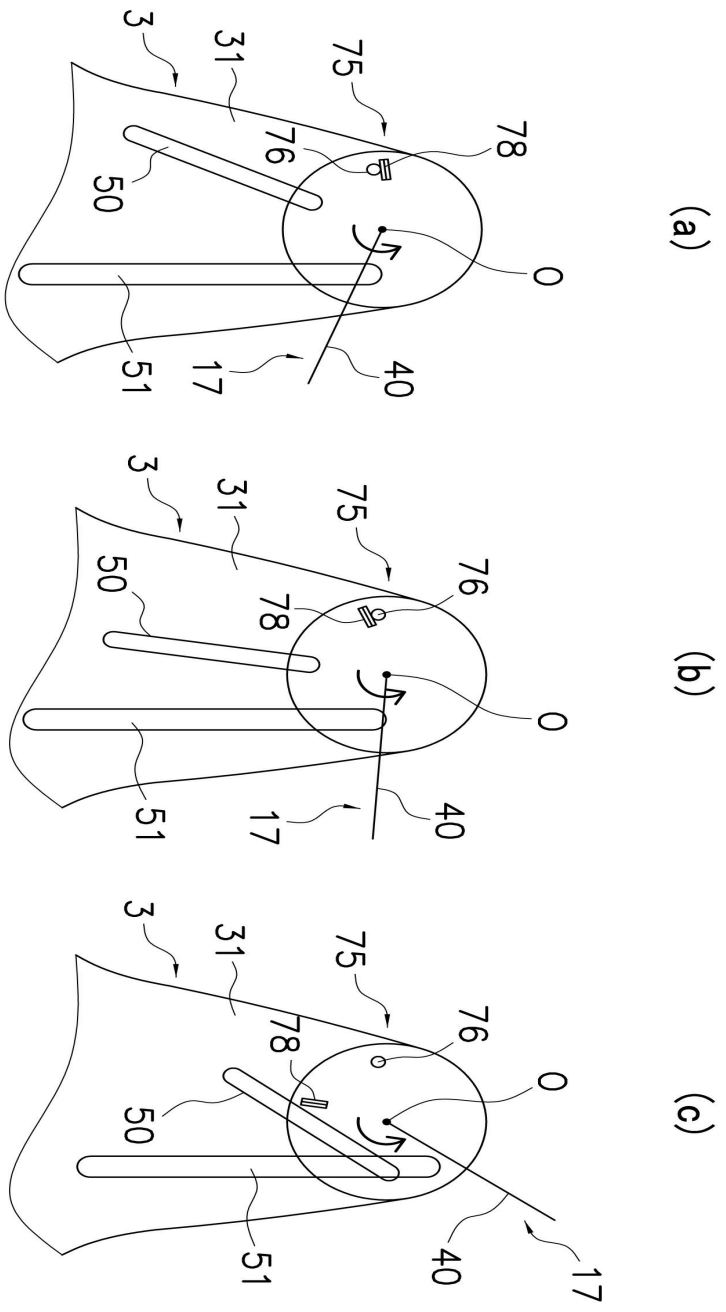
7


VIII
78a
51
78
78b
40b
VIII
40a

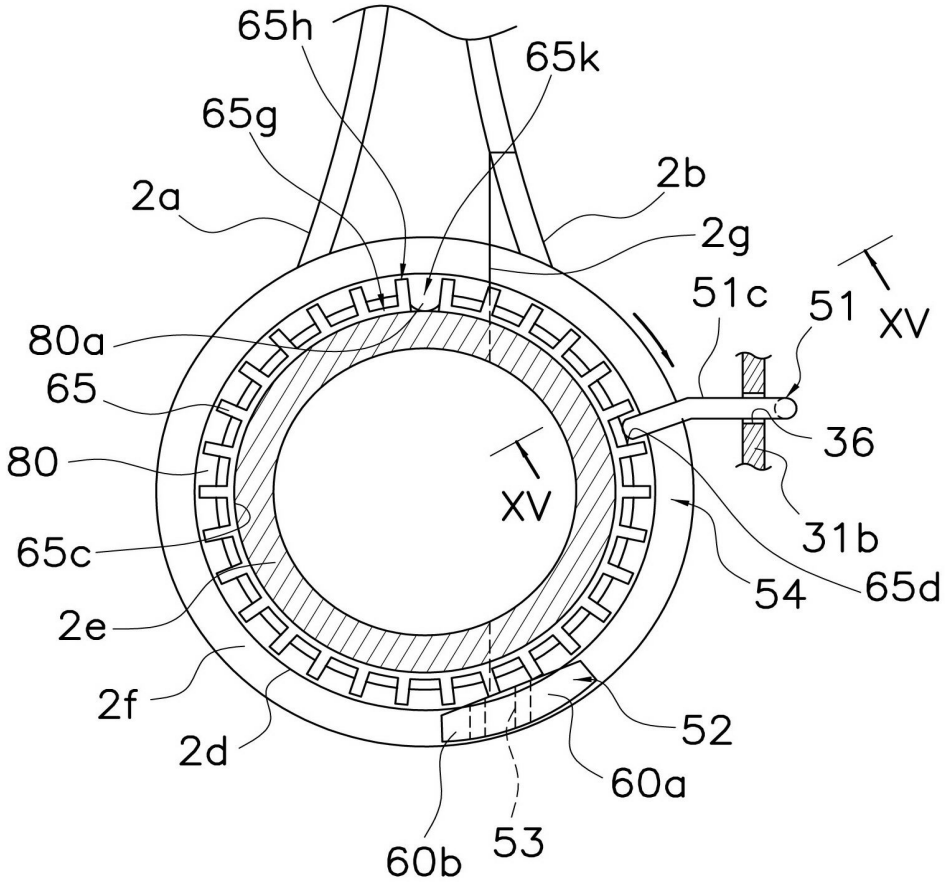
8



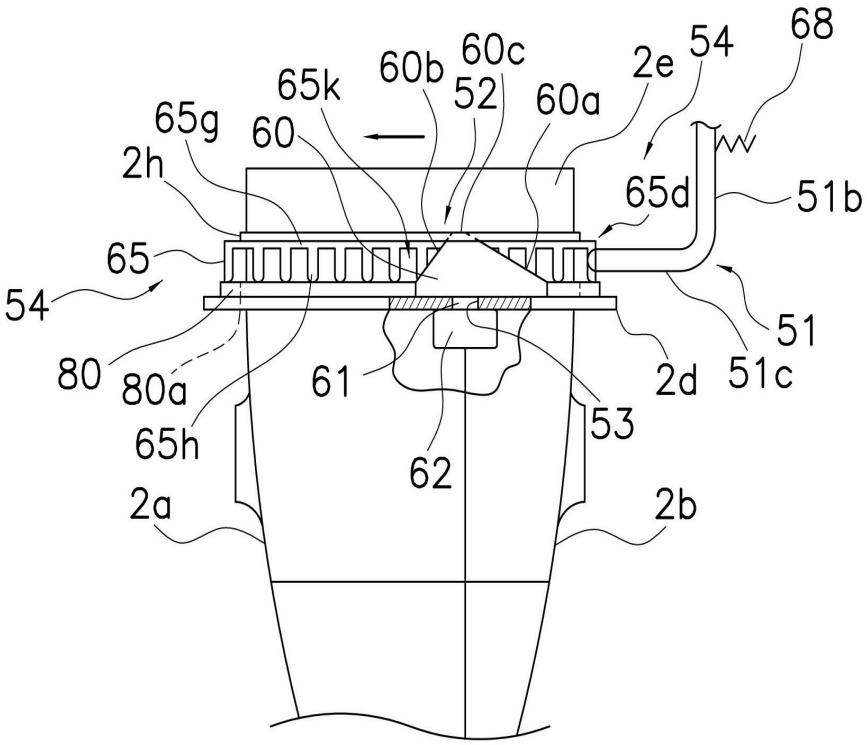
g


(a)
3
31
75
78
76
50
0
51
17
40
(b)
3
31
75
76
50
78
0
51
17
40
(c)
3
31
75
76
78
0
50
51
40
17

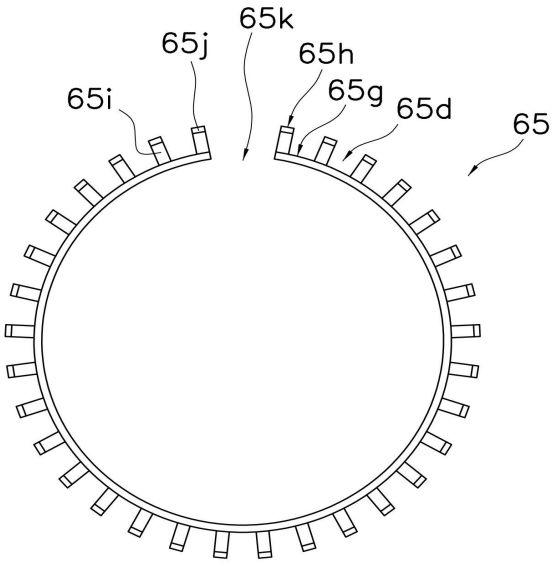
10


65h
65k
65g
2b
2a
2g
51c
51
XV
80a
65
36
80
XV
31b
65c
54
65d
2e
2f
52
2d
60a
60b
53

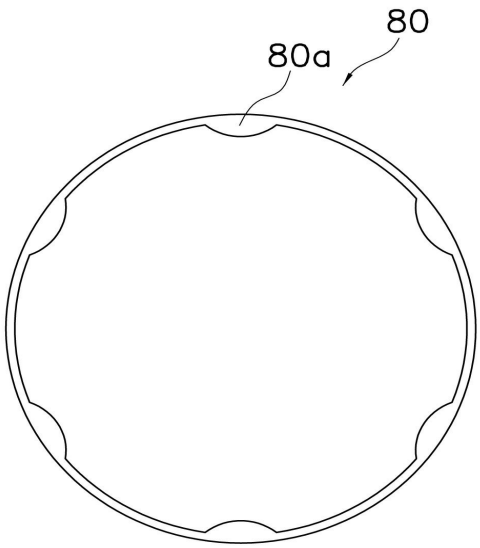
11


68
54
2e
60c
60b
52
65k
60a
65g
60
2h
65d
51b
65
54
51
80
80a
61
2d
51c
65h
53
62
2a
2b

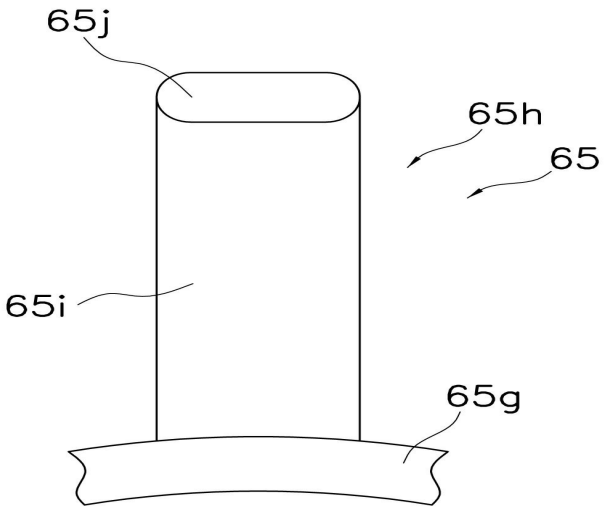
12


65k
65j
65h
65i
65g
65d
65

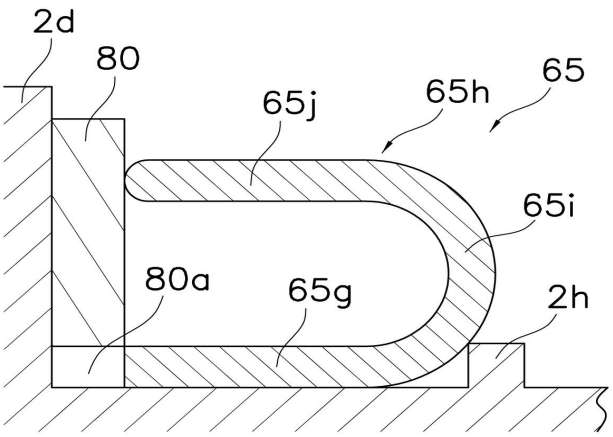
13



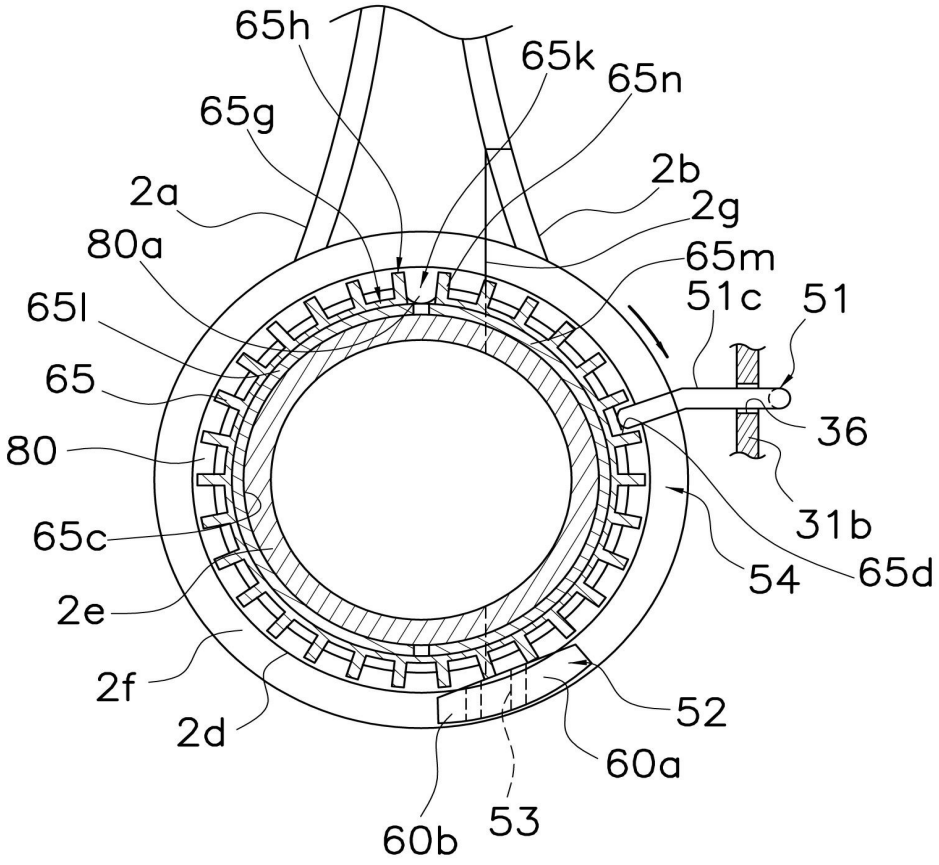
14



15


2d
80
65j
65h
65
65i
80a
65g
2h

16


65h
65k
65n
65g
2b
2a
2g
80a
65m
51c
51
65l
65
36
80
31b
65c
54
65d
2e
2f
52
2d
60a
60b
53