FIG.1

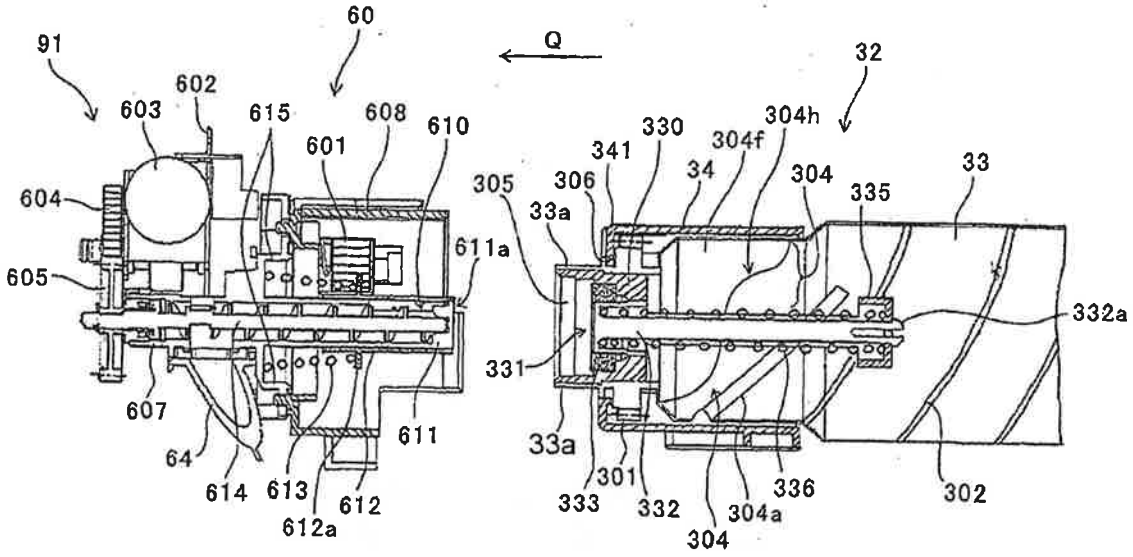

91
60
Q
32
602
603
615
608
610
601
604
605
611a
607
64
614
613
612
612a
611
305
306
341
330
304h
304f
34
304
335
33
33a
331
332a
33a
301
333
332
304
304a
336
302

FIG.2

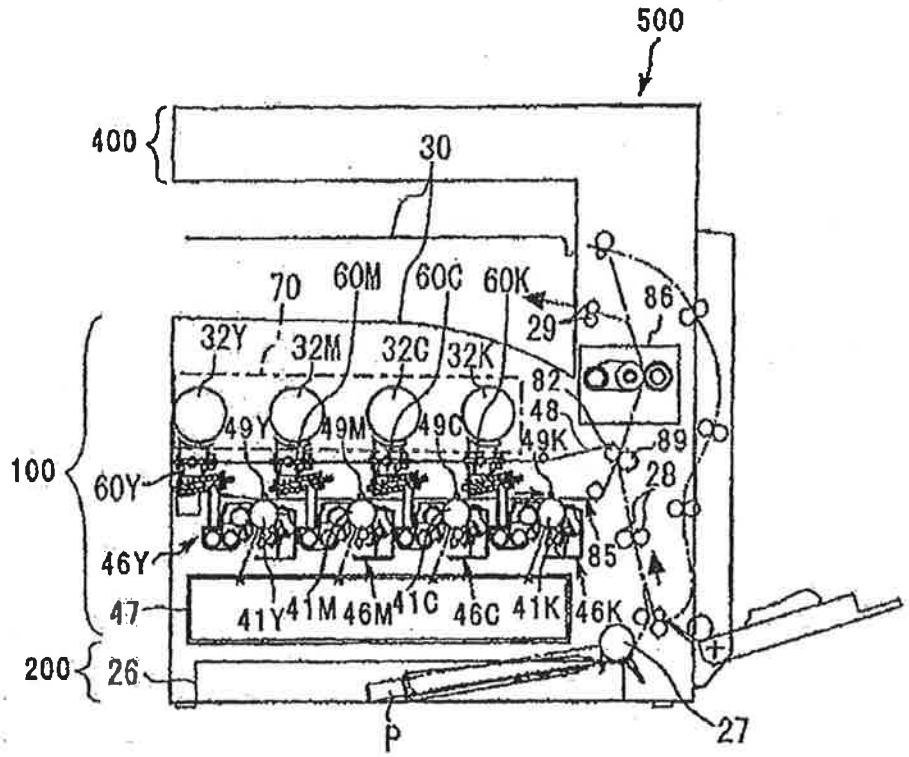

500
400
30
70
60M
60C
60K
29
86
32Y
32M
32C
32K
82
48
49Y
49M
49C
49K
89
100
60Y
28
46Y
85
47
41Y
41M
46M
41C
46C
41K
46K
200
26
P
27

FIG.3

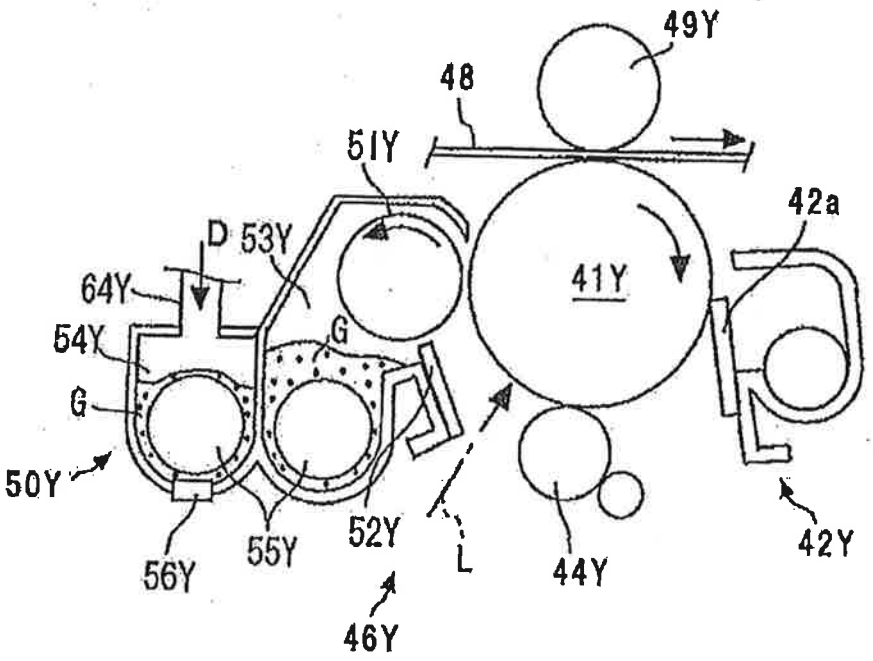


FIG.4

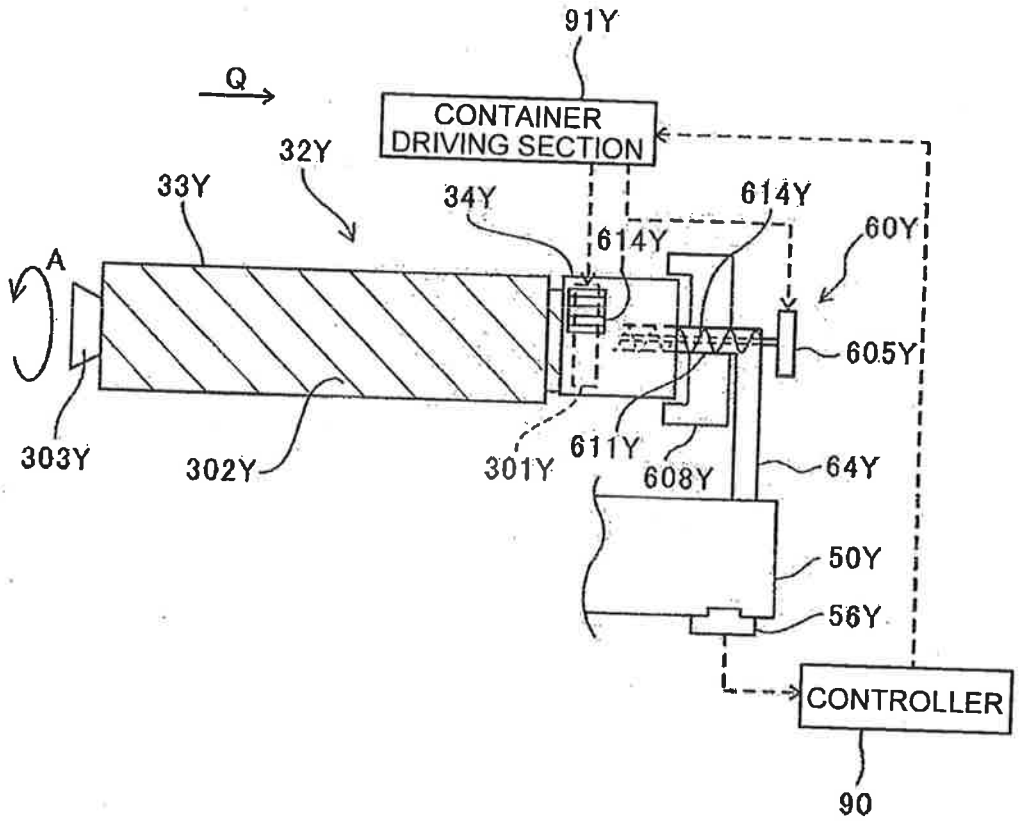

91Y
Q
CONTAINER DRIVING SECTION
32Y
33Y
34Y
614Y
614Y
60Y
A
605Y
303Y
302Y
301Y
611Y
608Y
64Y
50Y
56Y
CONTROLLER
90

FIG.5

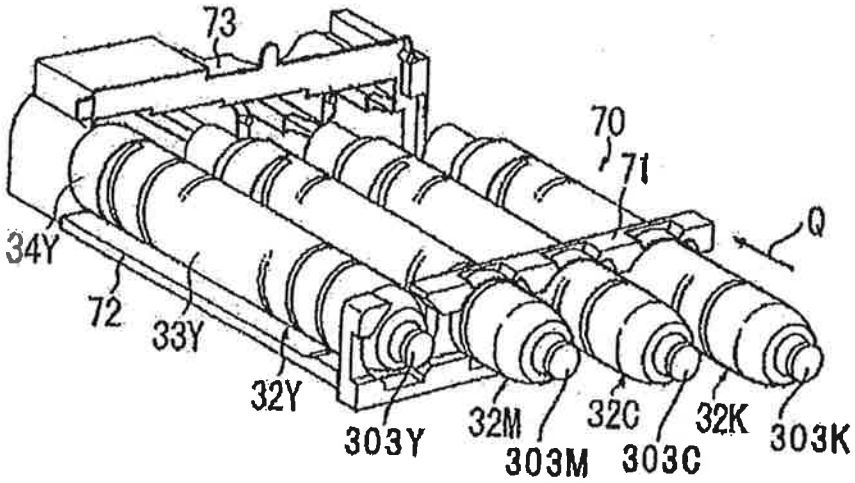


FIG.6

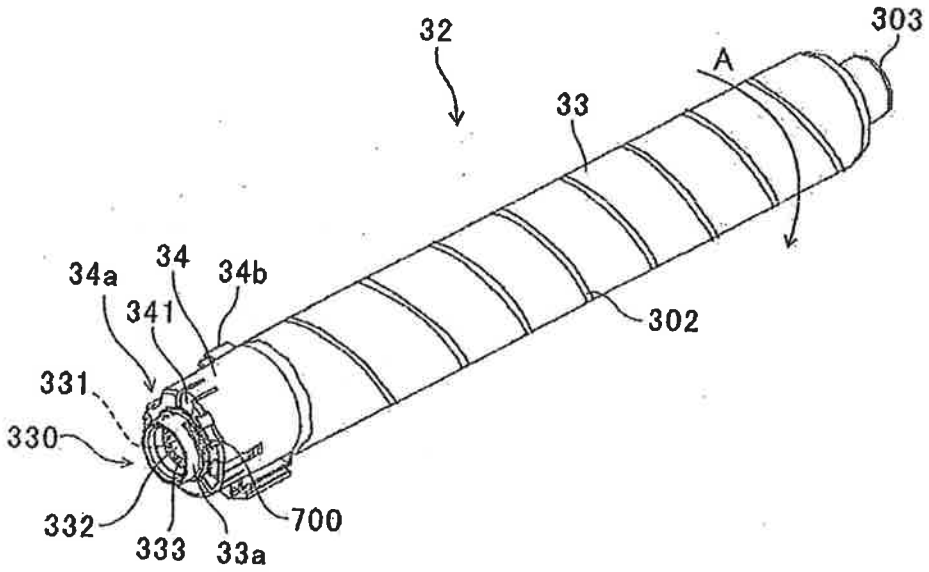


FIG.7

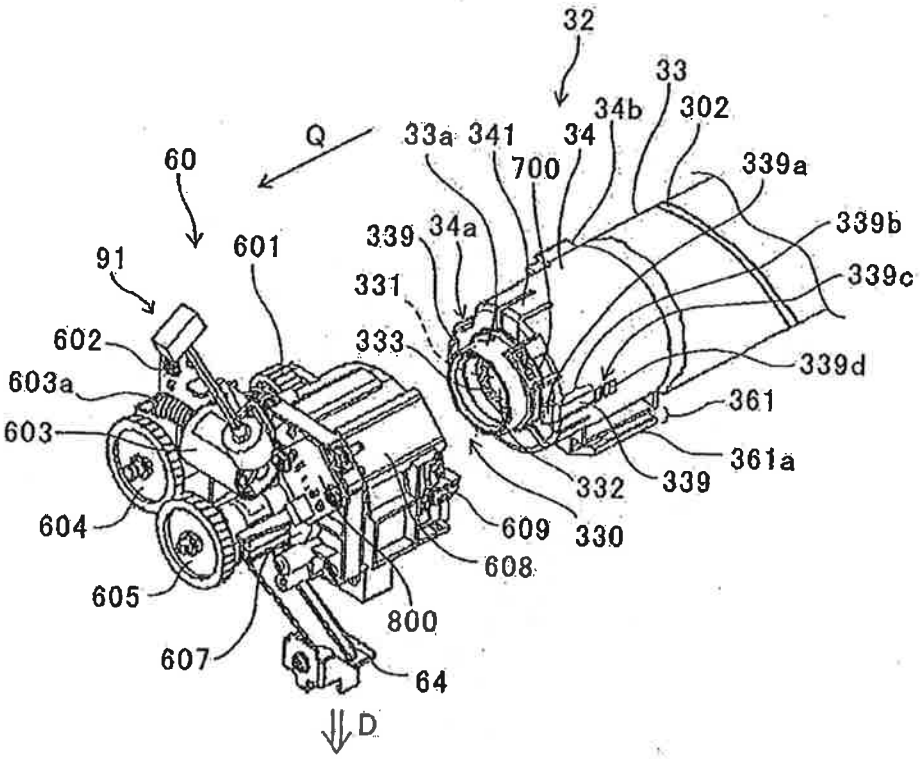

32
33
34b
302
Q
33a
341
34
700
339a
60
339b
339
34a
601
91
339c
331
602
333
339d
603a
361
603
361a
332
339
604
609
330
608
605
800
607
64
D

FIG.8

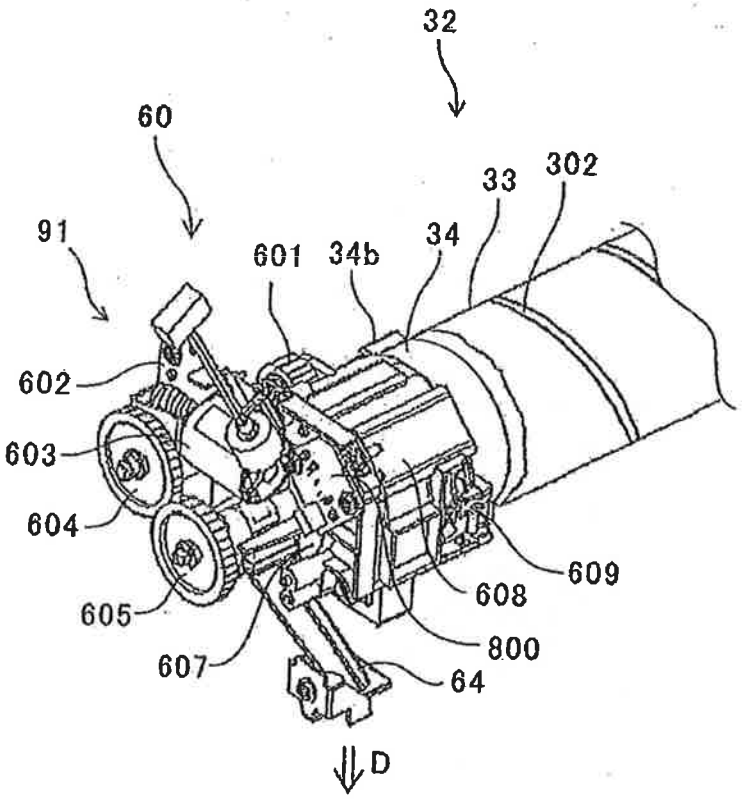


FIG.9

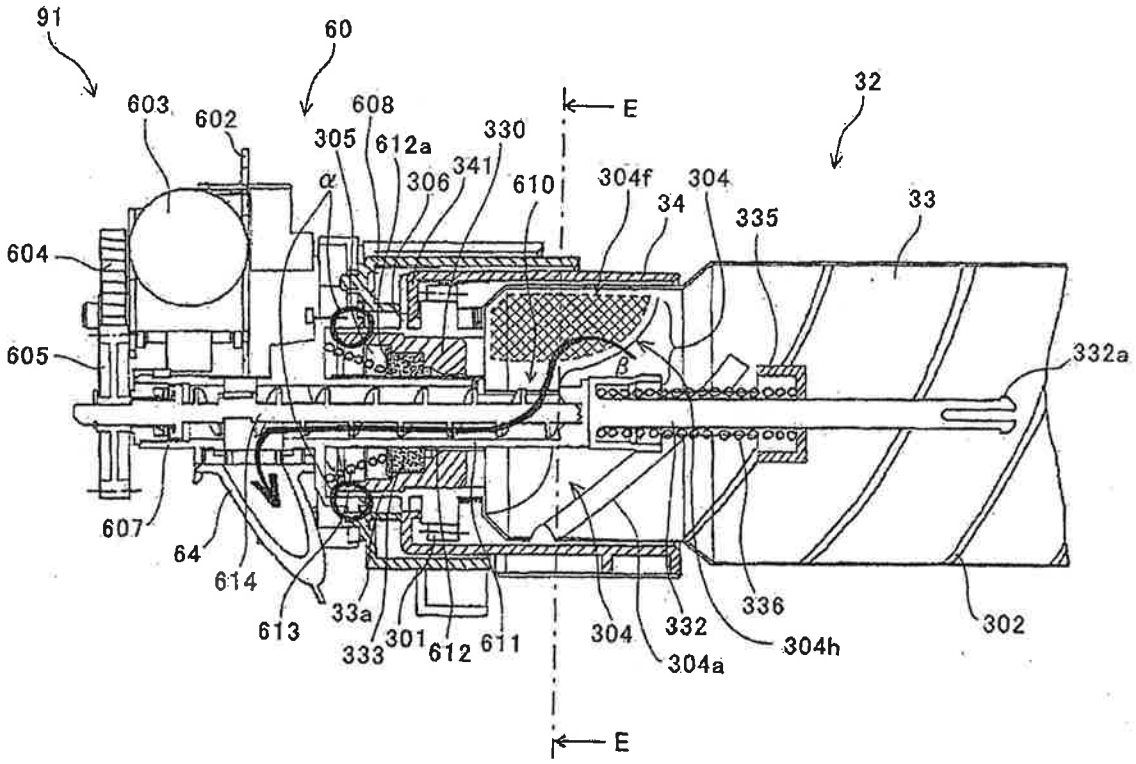

91
60
603
602
608
305
612a
330
306
341
610
α
304f
304
34
335
32
33
604
605
β
332a
607
64
614
613
33a
333
301
612
611
304
332
336
304h
304a
302
E
E

FIG.10

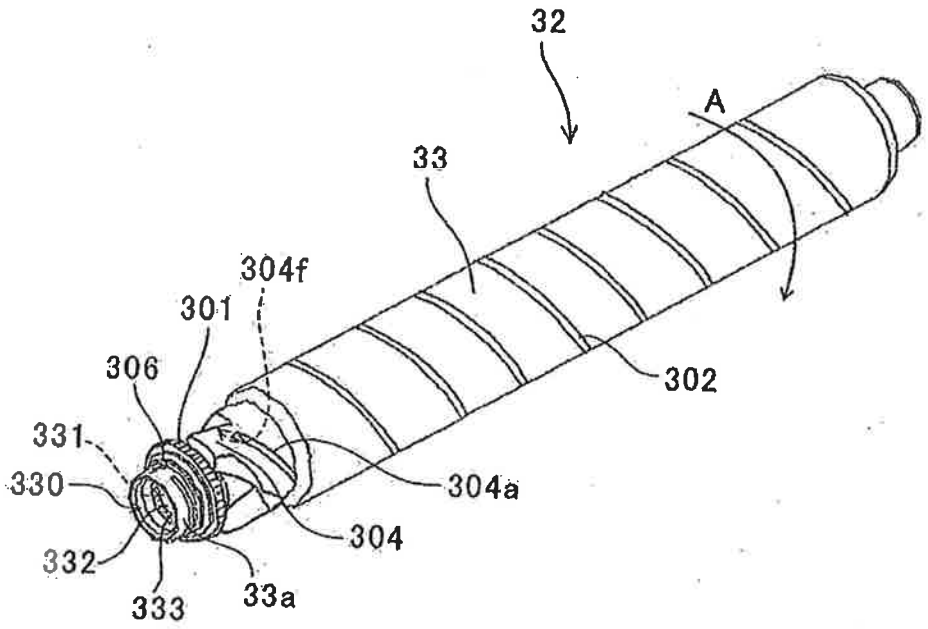


FIG.11

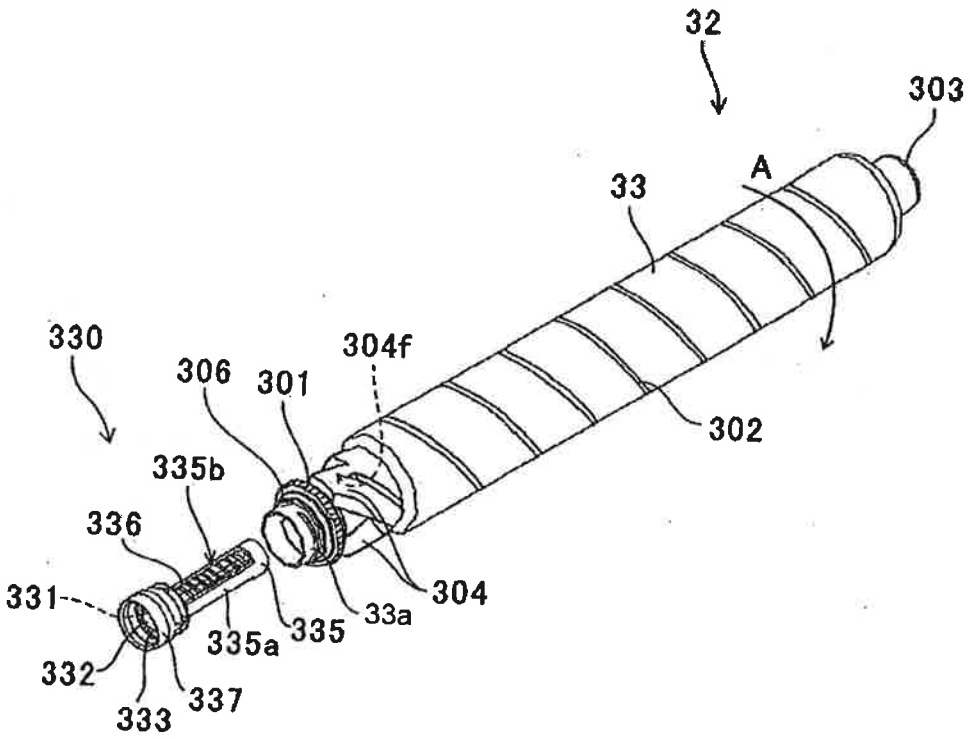

32
303
A
33
330
306
301
304f
302
335b
336
331
304
33a
335
335a
332
337
333

FIG.12

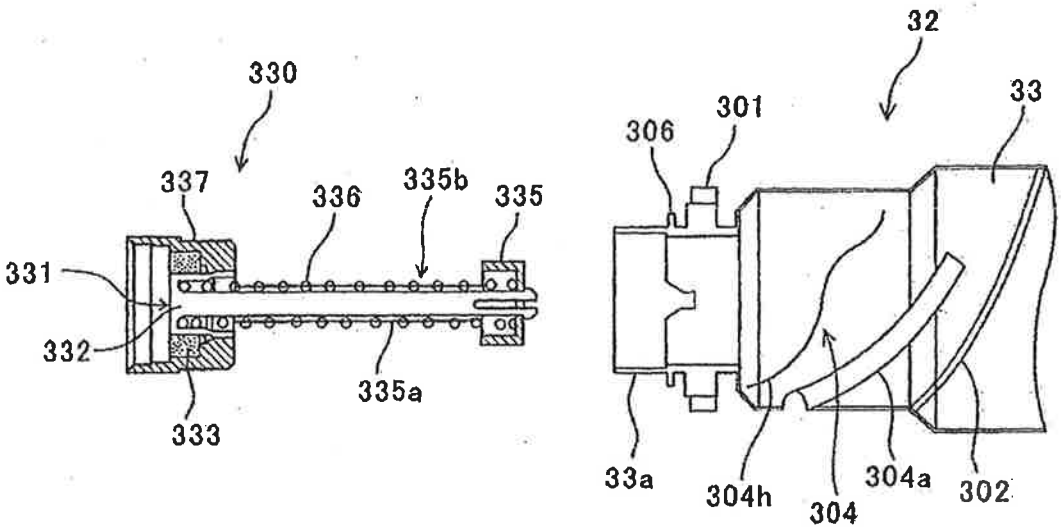

330
337
336
335b
335
331
332
335a
333
32
306
301
33
33a
304h
304
304a
302

FIG.13

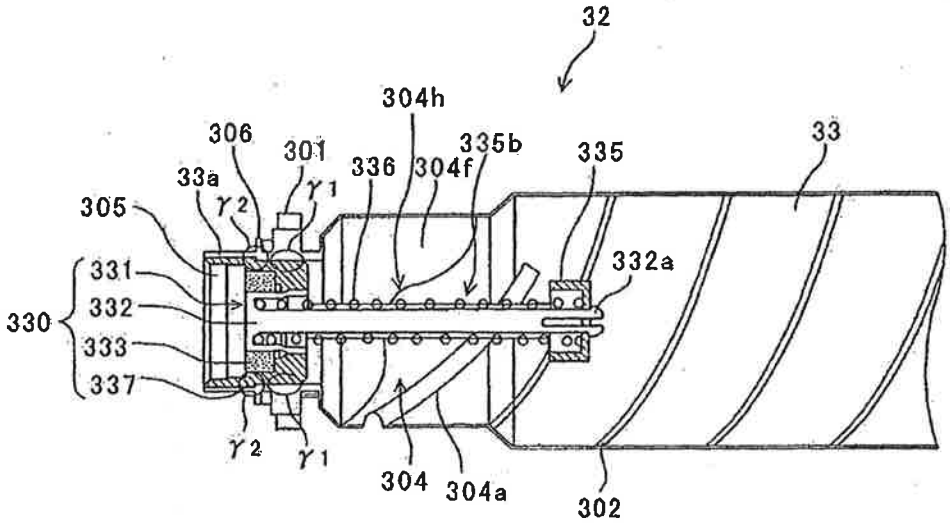

32
304h
306
301
335b
335
33
33a
γ2
γ1
336
304f
305
331
332a
330
332
333
337
γ2
γ1
304
304a
302

FIG.14

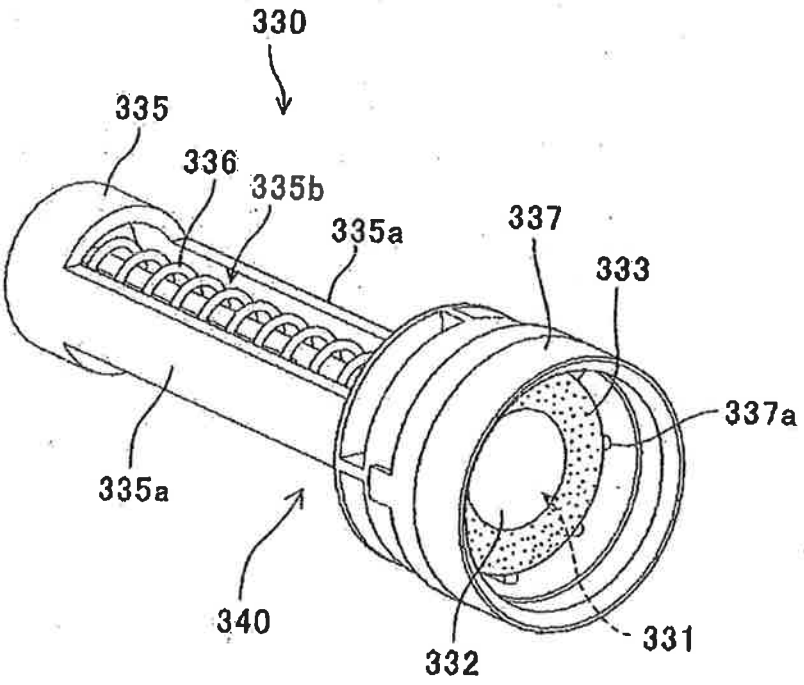


FIG.15

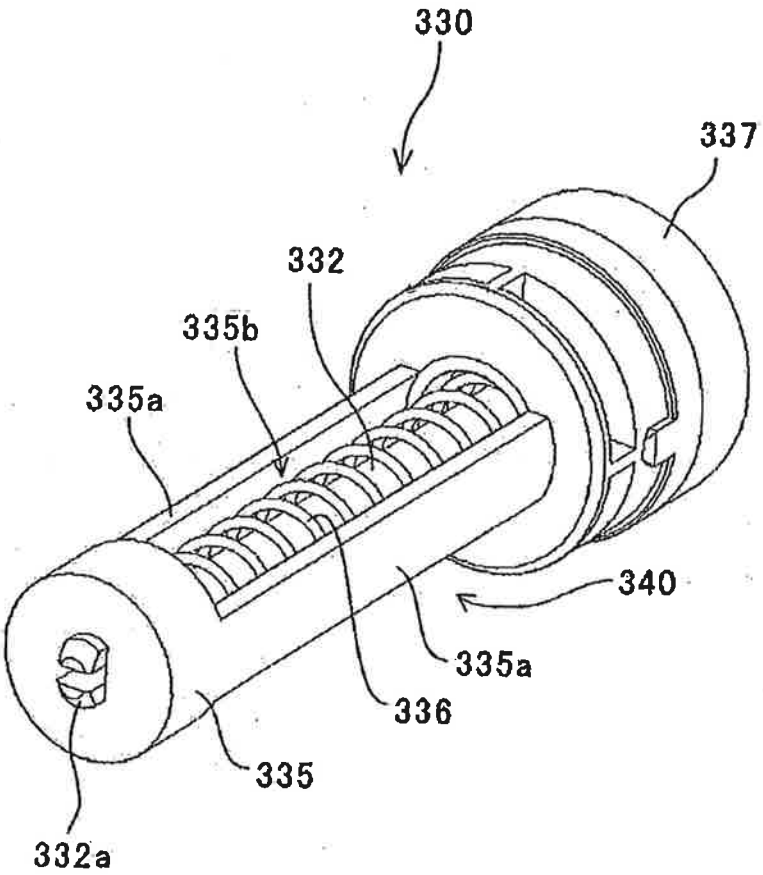


FIG.16

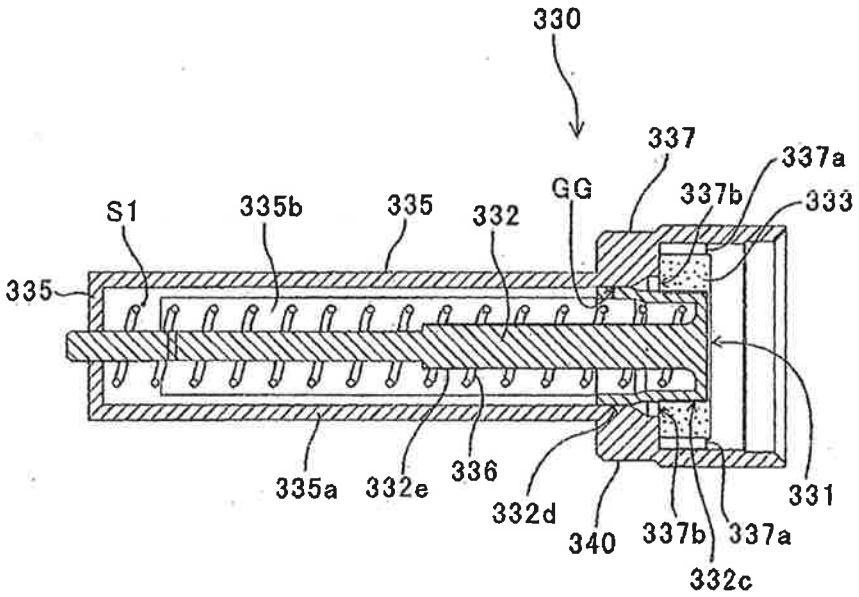

330
337
337a
337b
333
GG
S1
335b
335
332
335
335a
332e
336
332d
340
337b
337a
332c
331

FIG.17

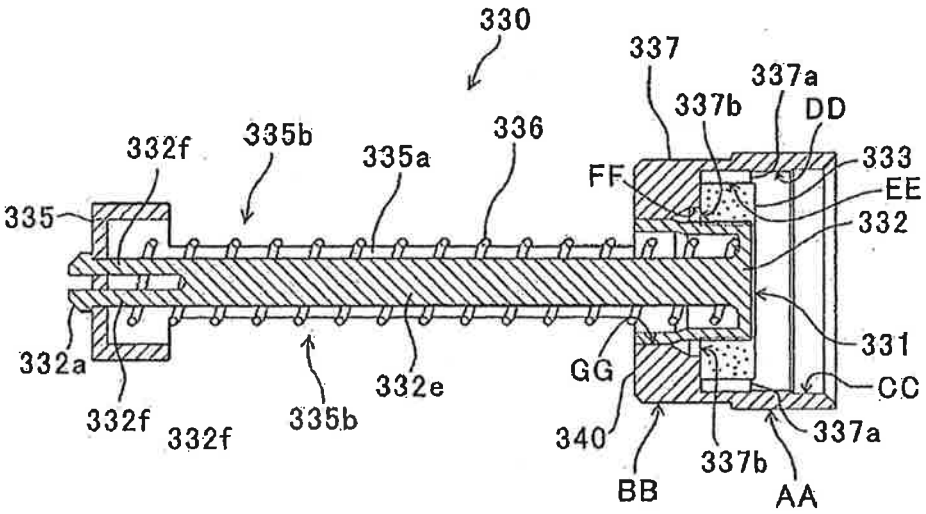

330
337
337a
337b
DD
333
EE
332
331
CC
337a
337b
AA
BB
340
GG
332e
335b
332f
332f
332a
335
332f
335b
335a
336
FF

FIG.18

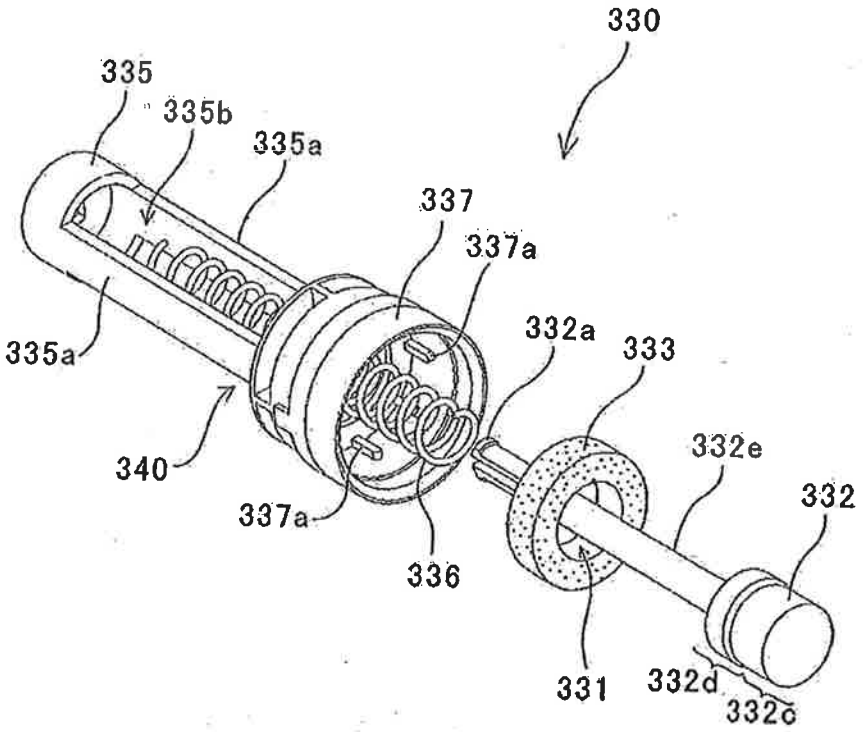

330
335
335b
335a
337
337a
332a
333
335a
340
332e
332
337a
336
331
332d
332c

FIG.19

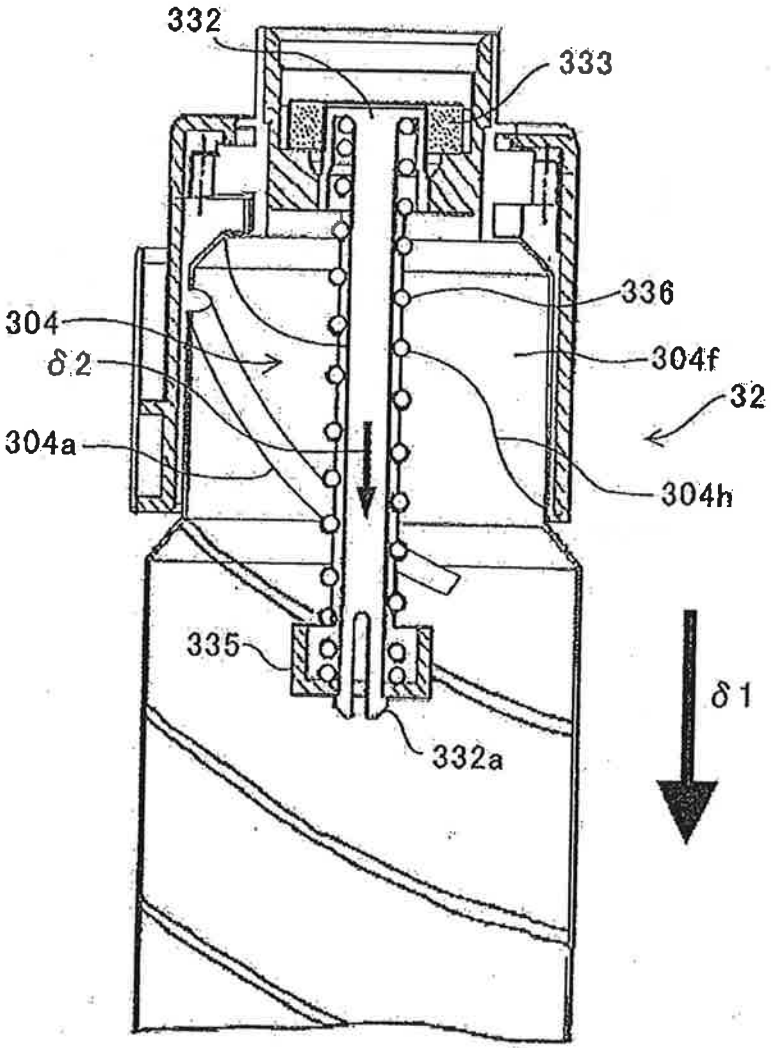


FIG.20

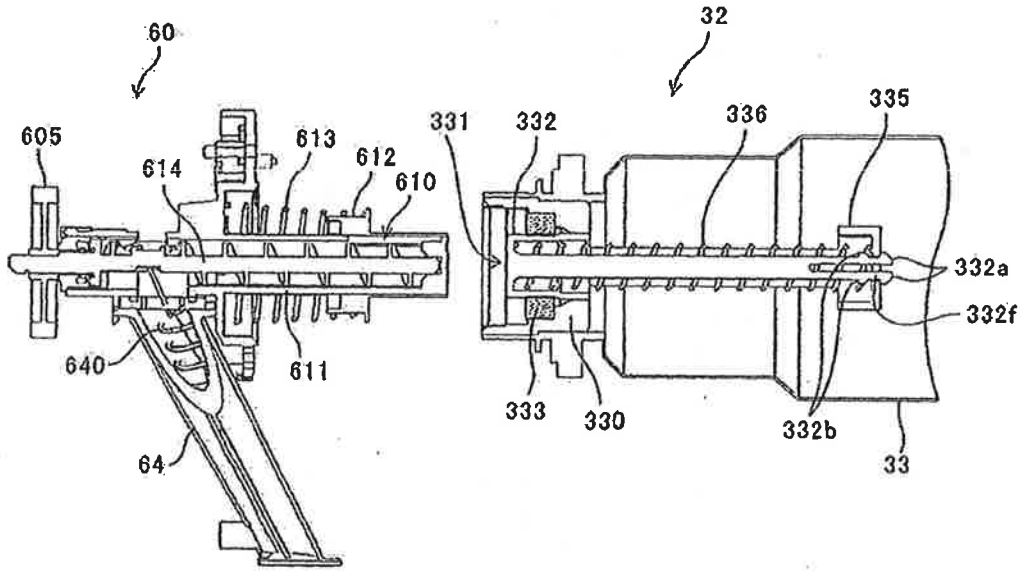

60
32
605
614
613
612
610
331
332
336
335
332a
332f
640
611
333
330
332b
33
64

FIG.21

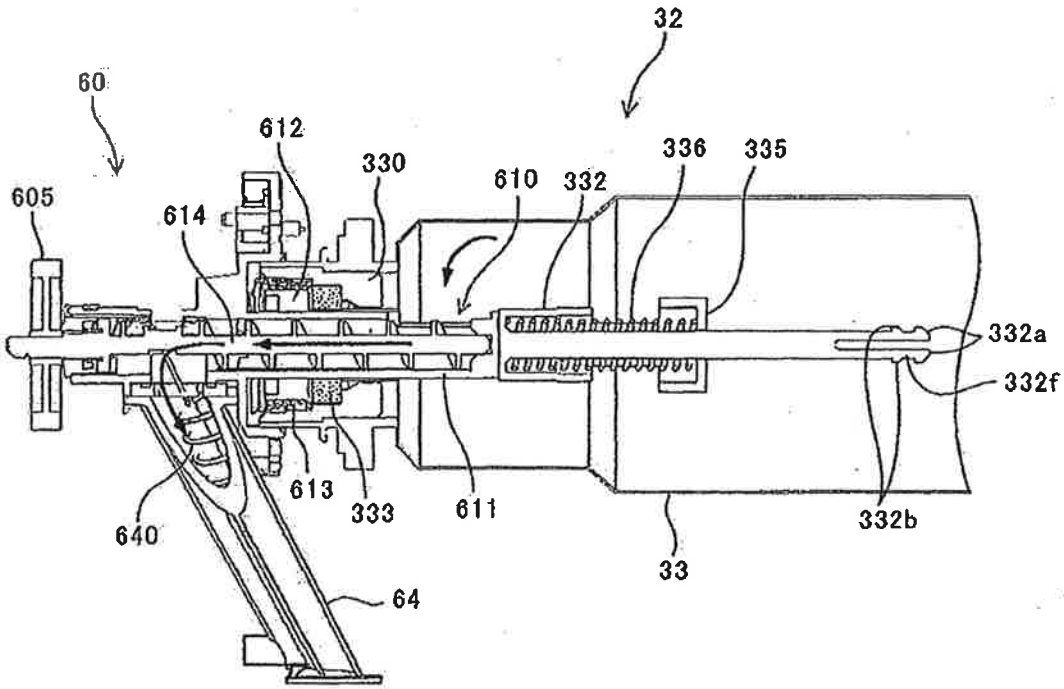

32
60
612
330
610
332
336
335
605
614
332a
332f
613
333
611
640
332b
33
64

FIG.22

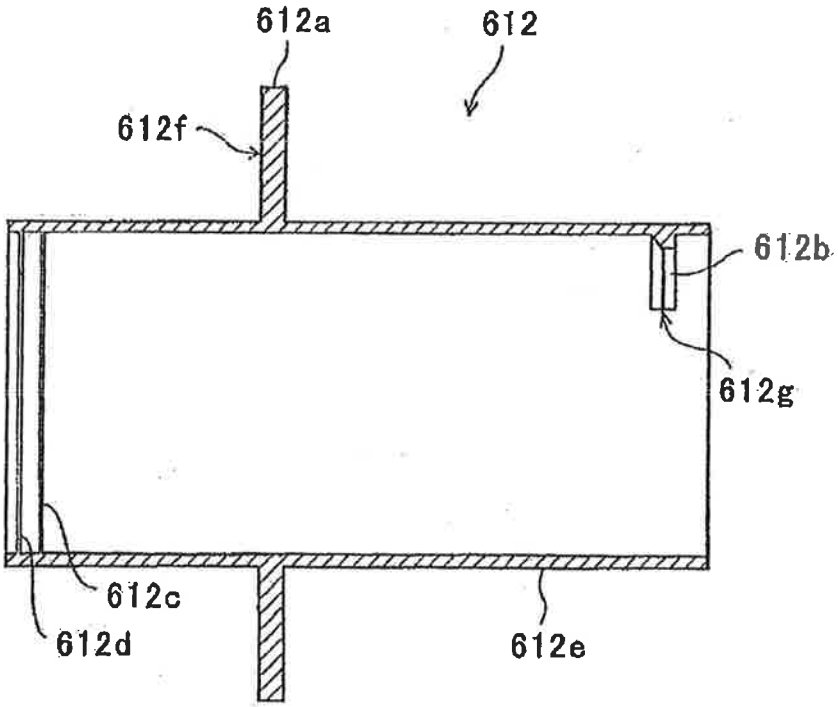


FIG.23

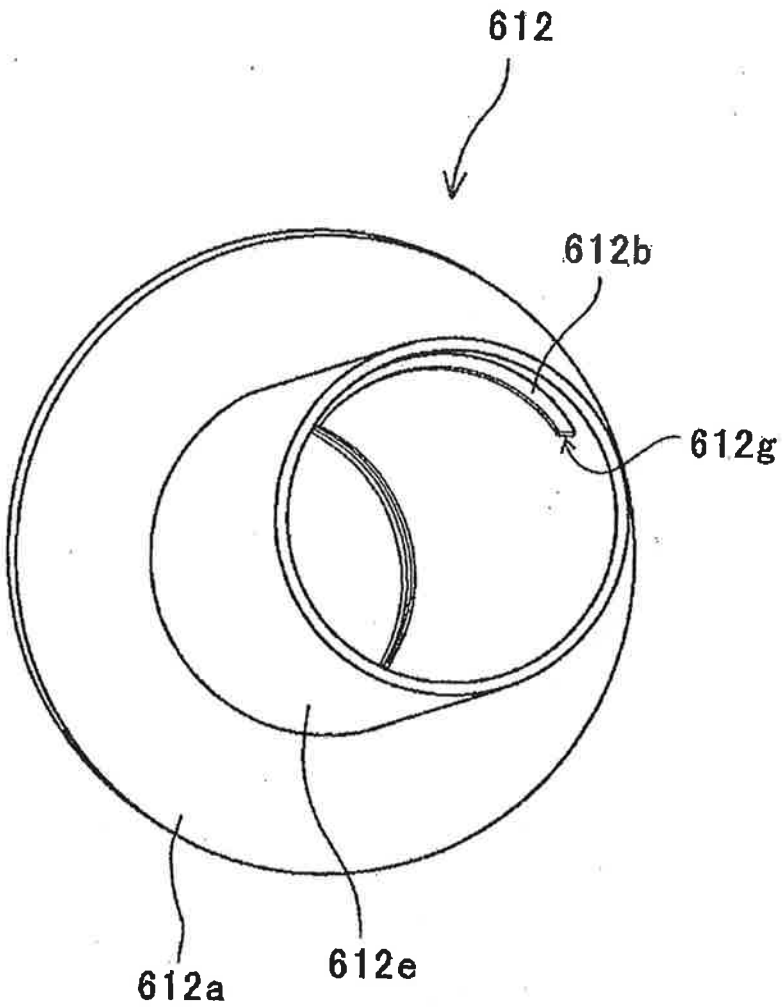


FIG.24

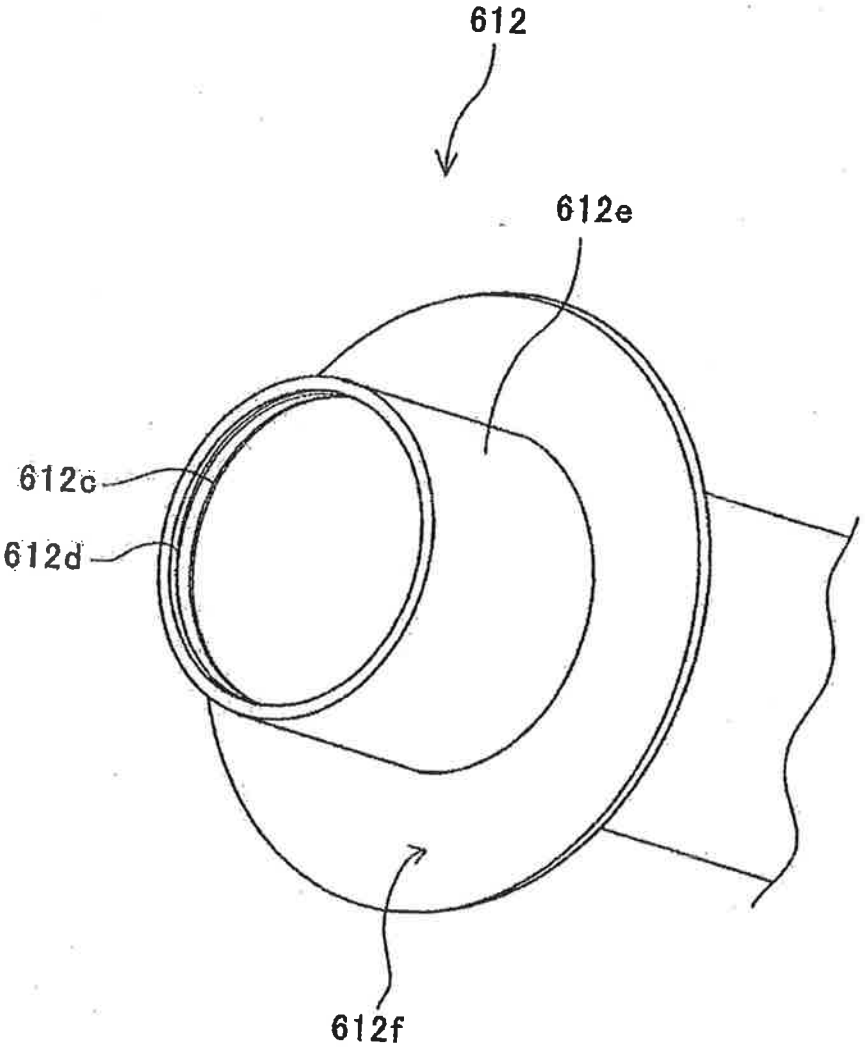


FIG.25

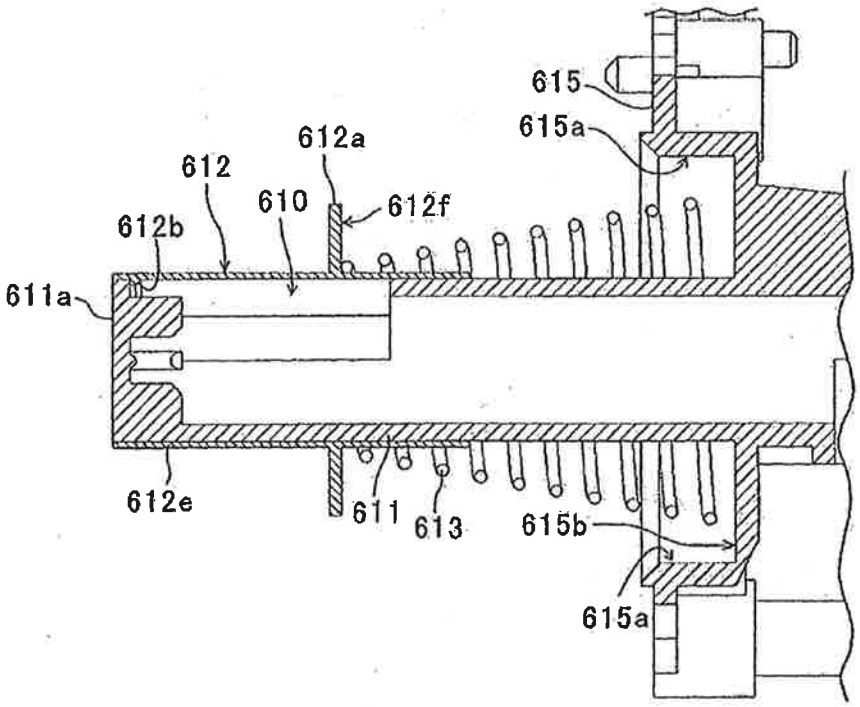


FIG.26

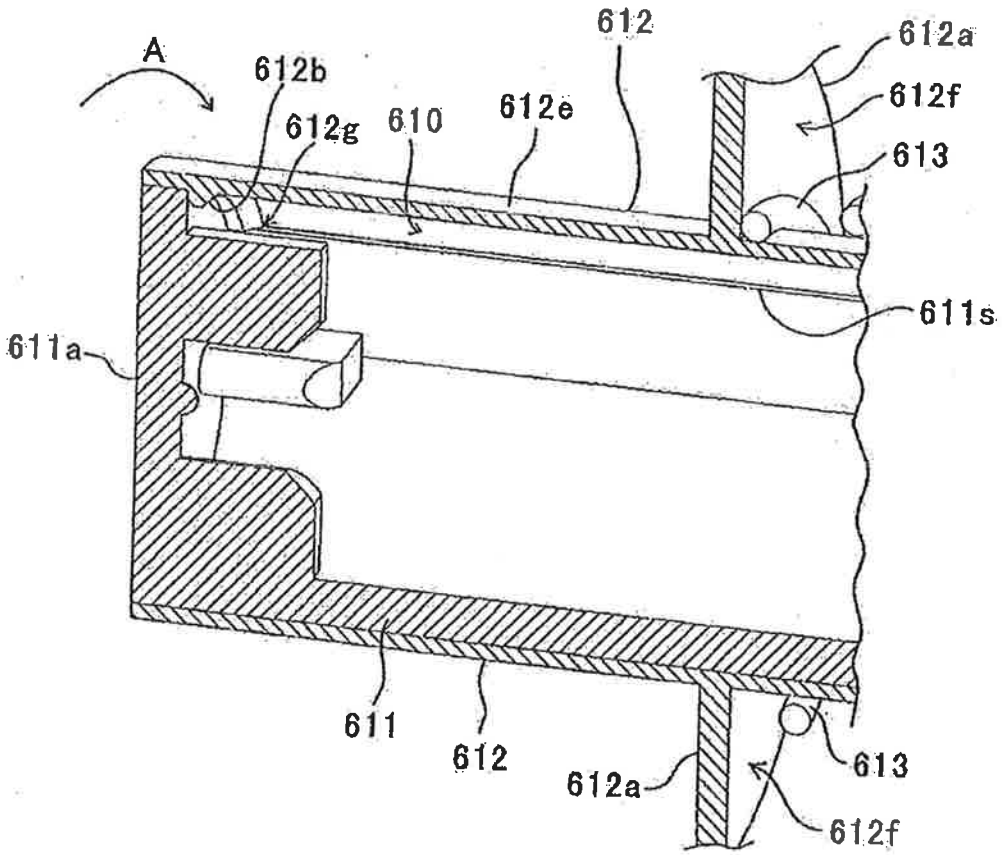

A
612b
612g
610
612e
612
612a
612f
613
611s
611a
611
612
612a
613
612f

FIG.27

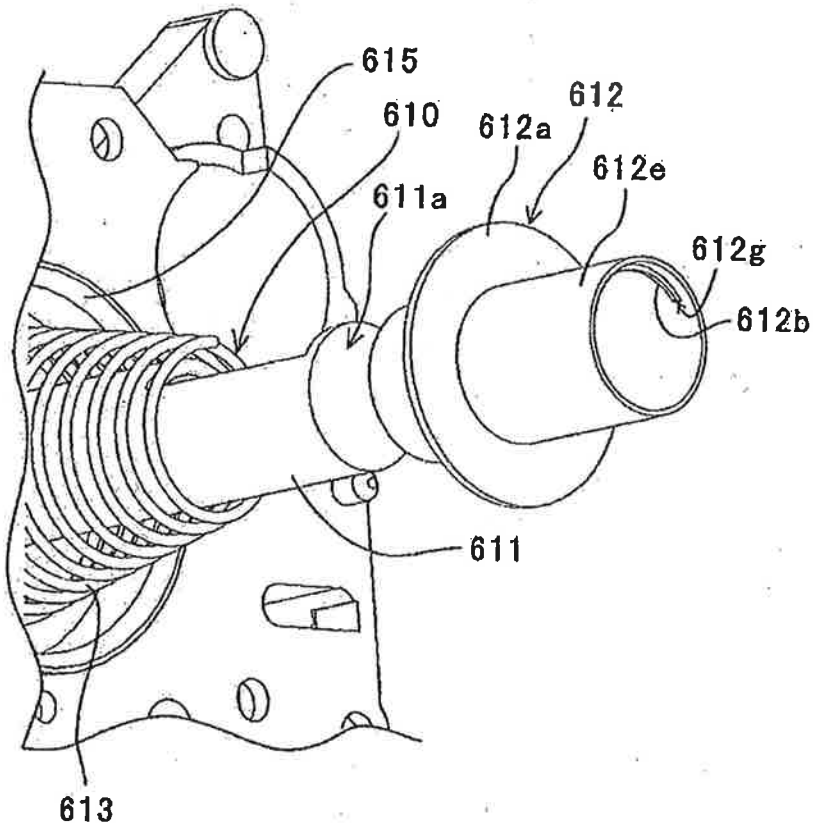


FIG.28

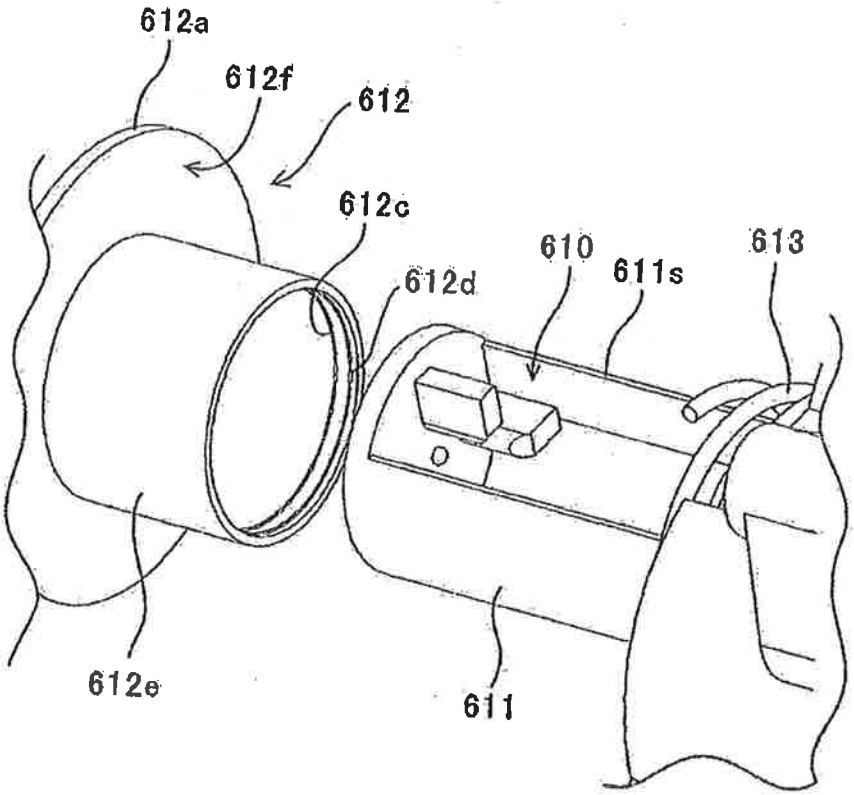


FIG.29

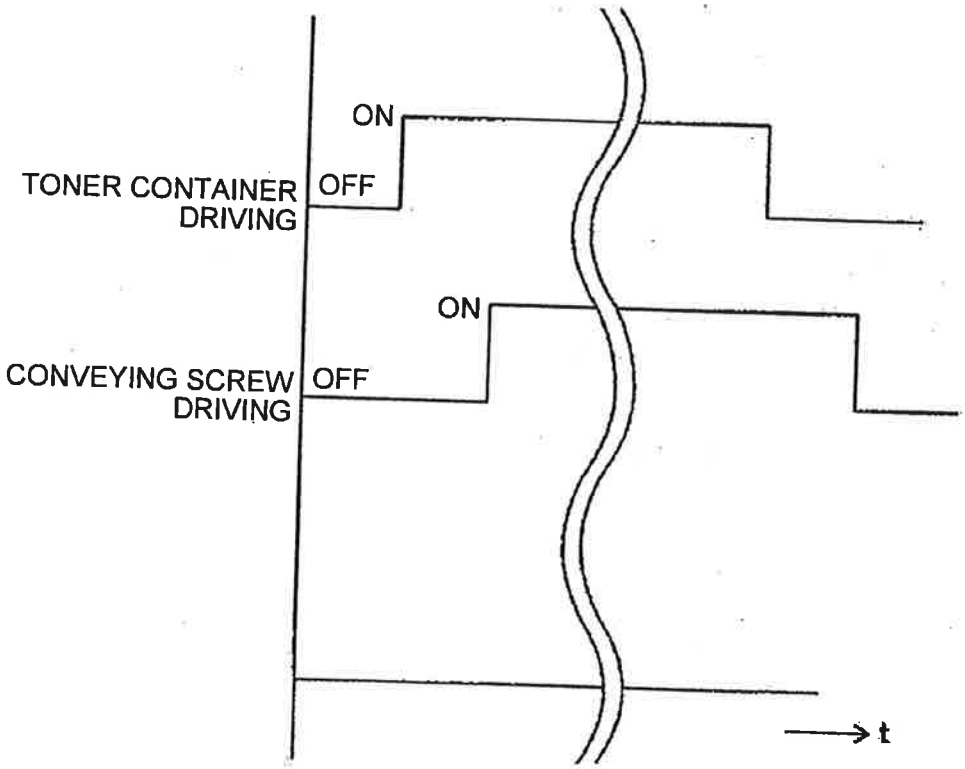

ON
TONER CONTAINER DRIVING
OFF
ON
CONVEYING SCREW DRIVING
OFF
t

FIG.30A

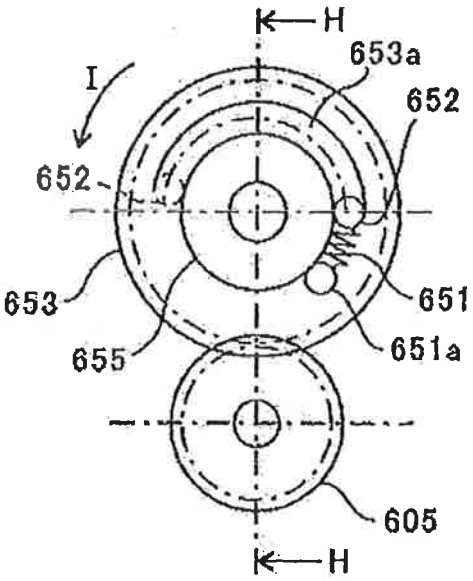


FIG.30B

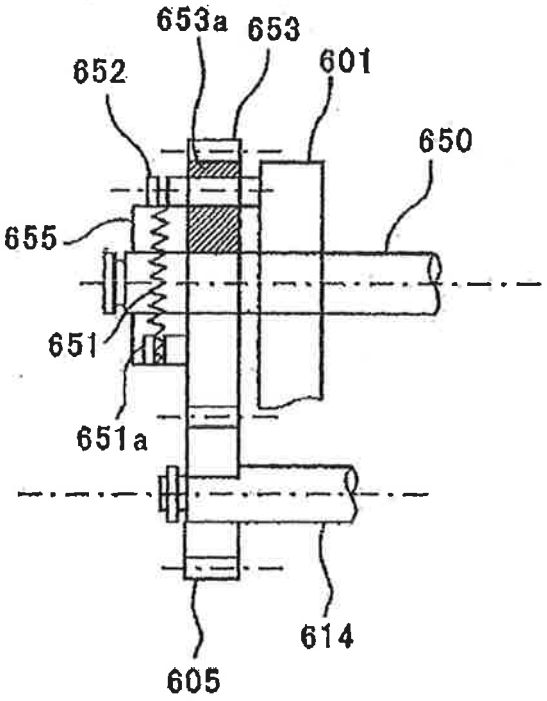


FIG.31

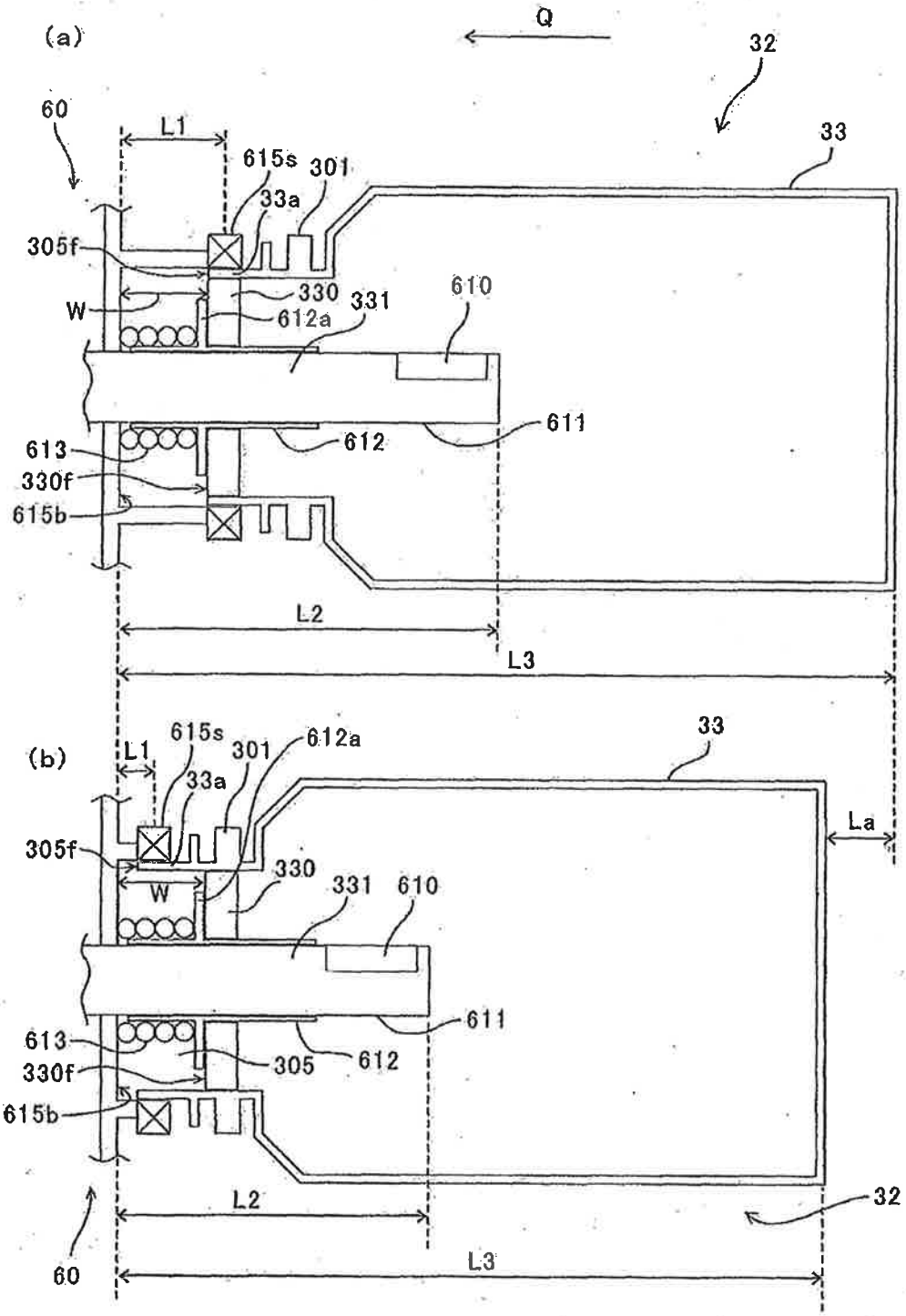

(a)
Q
32
60
L1
615s
301
33
33a
305f
330
331
610
W
612a
611
613
612
330f
615b
L2
L3
(b)
615s
612a
33
L1
301
33a
La
305f
330
331
610
W
611
613
305
612
330f
615b
L2
32
60
L3

FIG.32

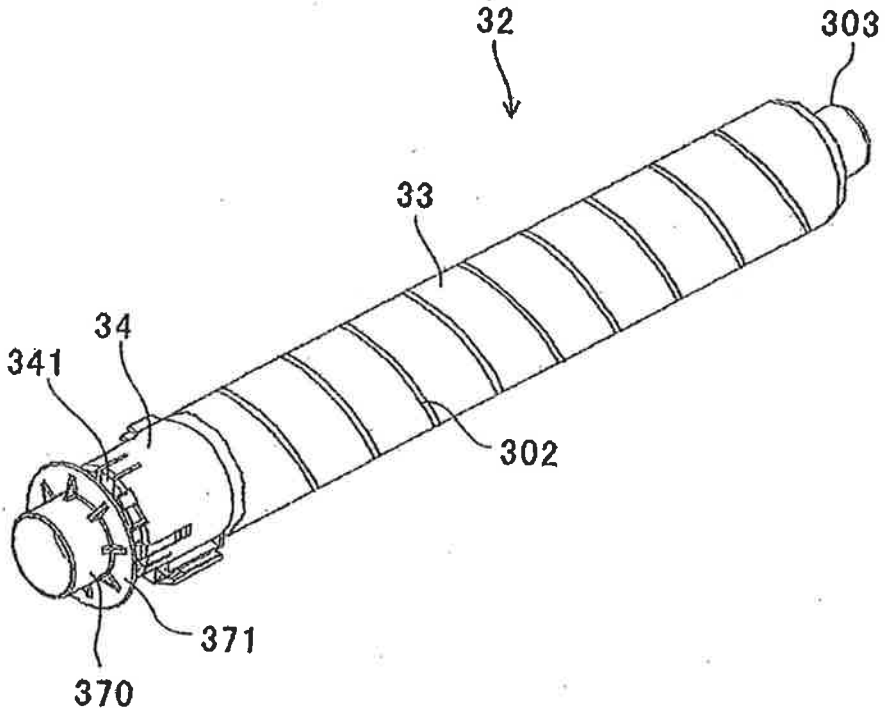


FIG.33

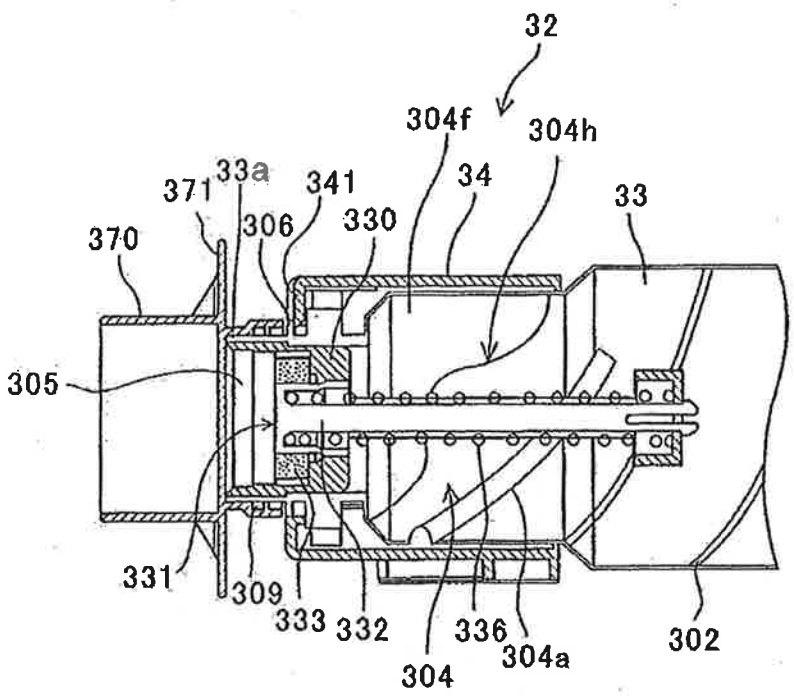

32
304f
304h
33a
371
341
34
33
370
306
330
305
331
309
333
332
336
304a
304
302

FIG.34

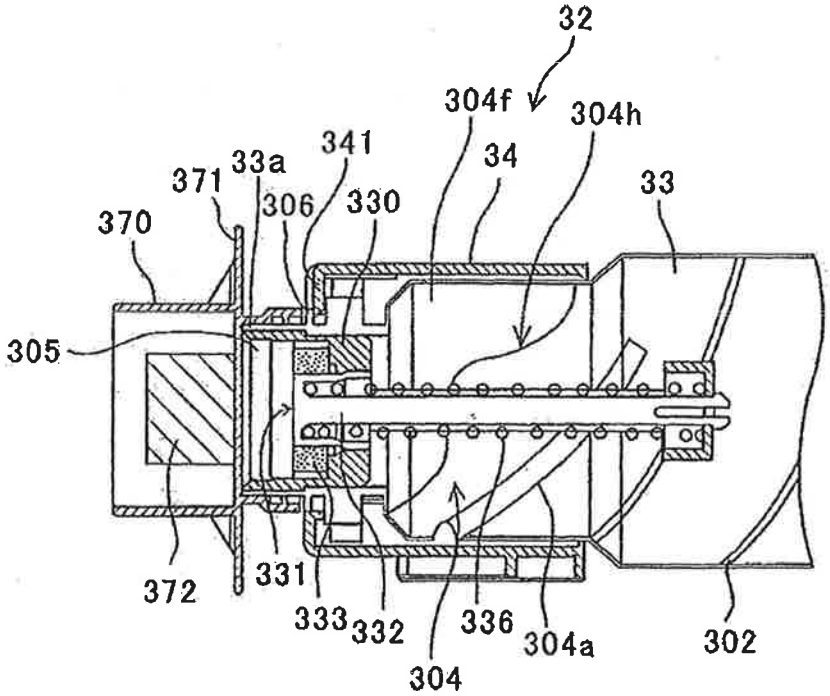

32
304f
304h
341
33a
34
371
306
330
33
370
305
372
331
333
332
336
304a
302
304

FIG.35

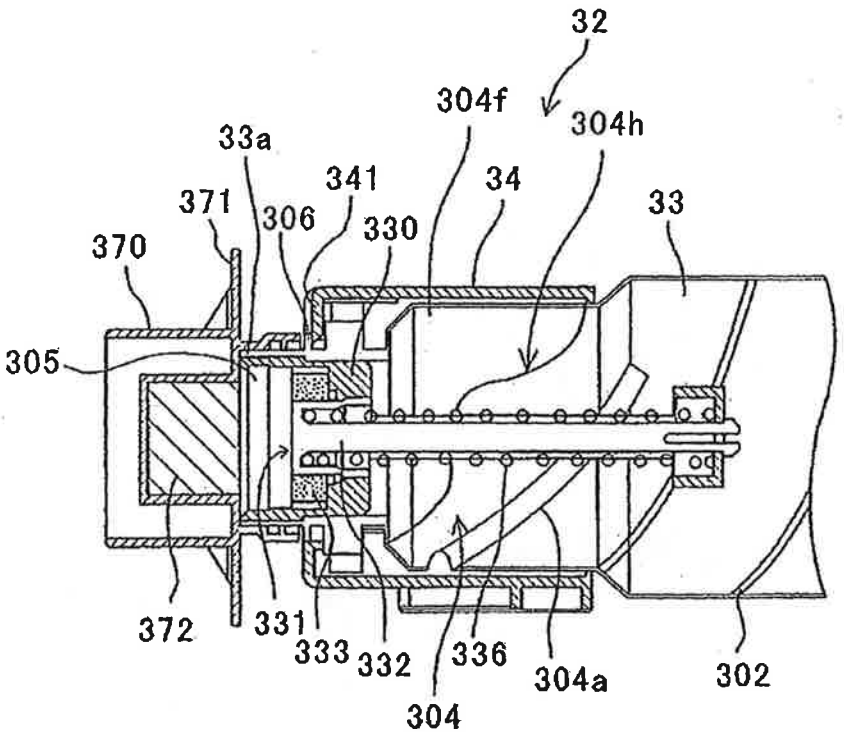

32
304f
304h
33a
341
34
371
306
330
33
370
305
372
331
333
332
336
304a
302
304

FIG.36

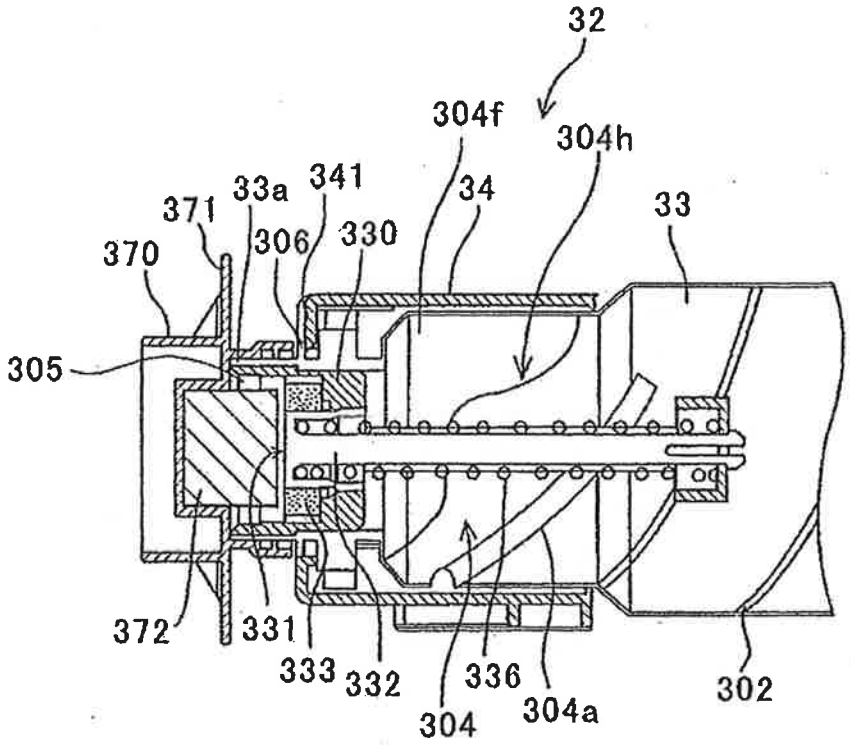

32
304f
304h
33a
341
34
371
33
370
306
330
305
372
331
333
332
336
304
304a
302

FIG.37

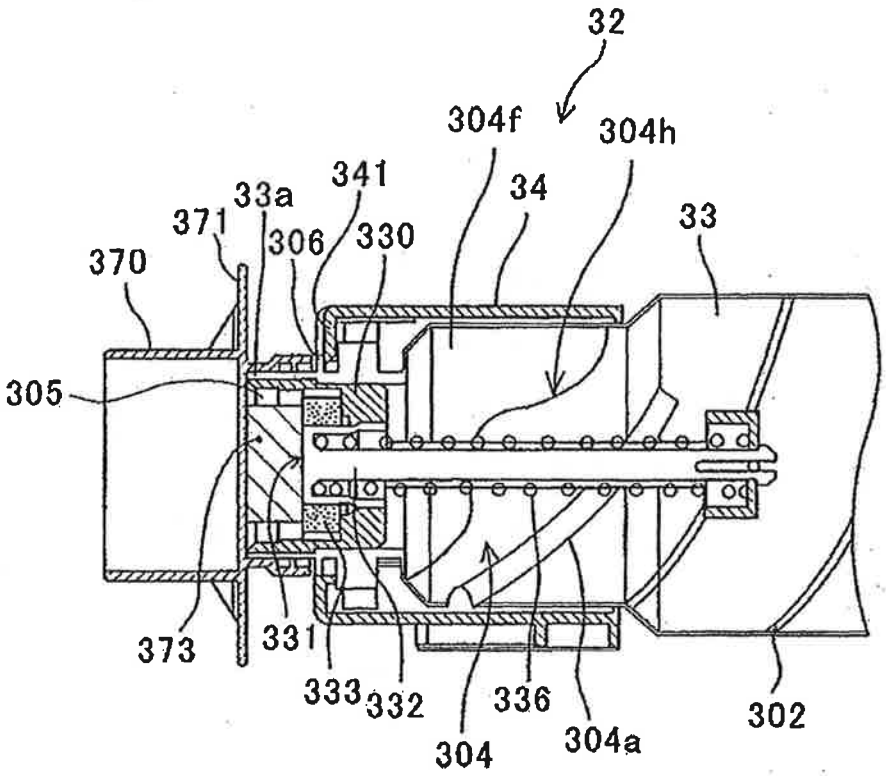

32
304f
304h
341
33a
34
371
306
330
33
370
305
373
331
333
332
336
304
304a
302

FIG.38

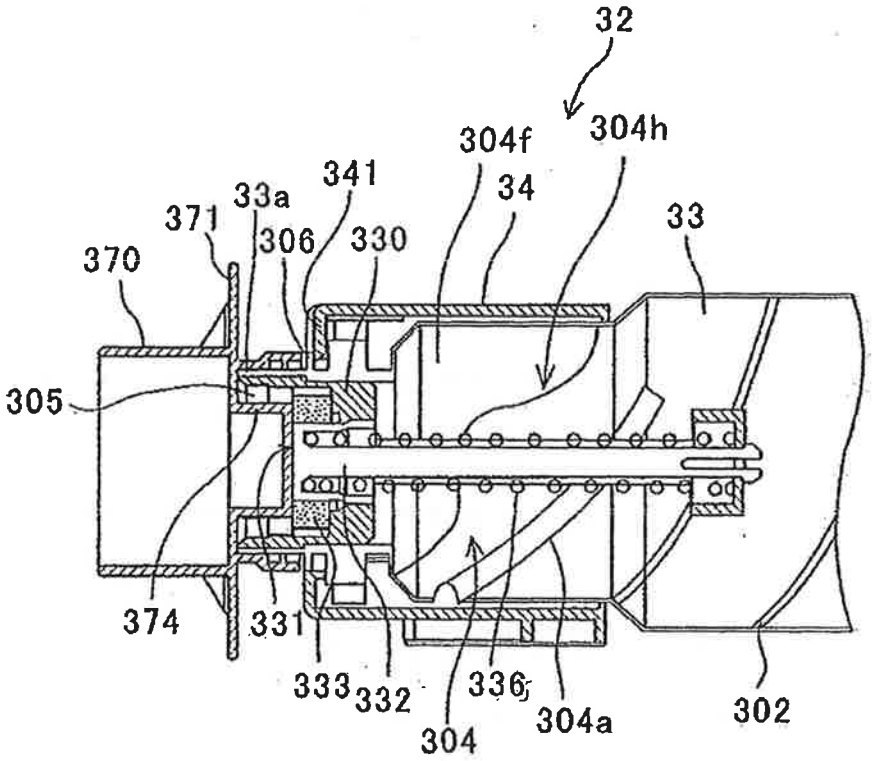

32
304f
304h
341
33a
34
371
306
330
33
370
305
374
331
333
332
336
304
304a
302

FIG.39

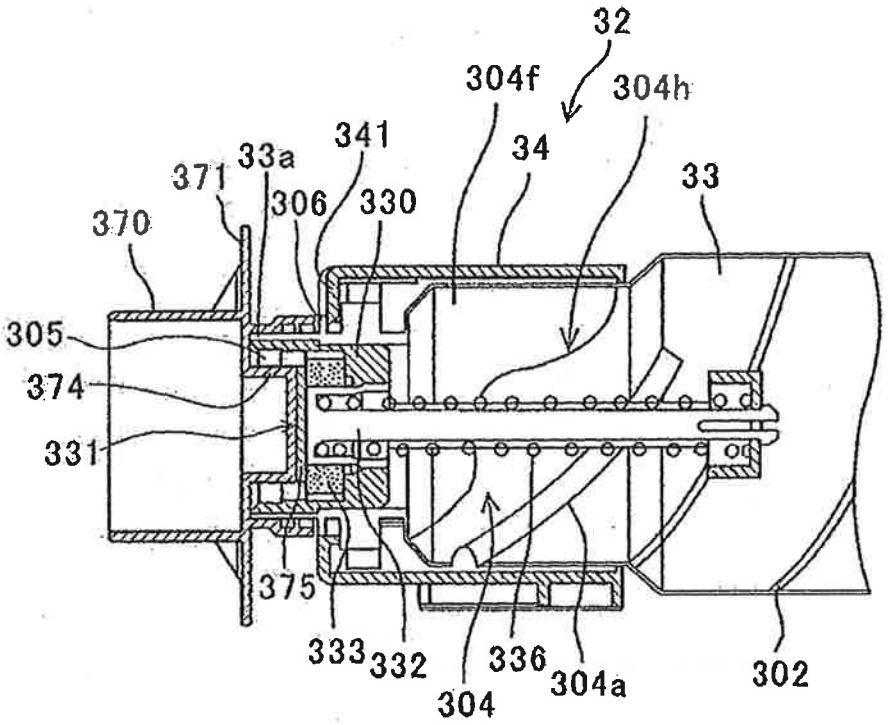

32
304f
304h
341
33a
34
371
306
330
33
370
305
374
331
375
333
332
336
304a
304
302

FIG.40

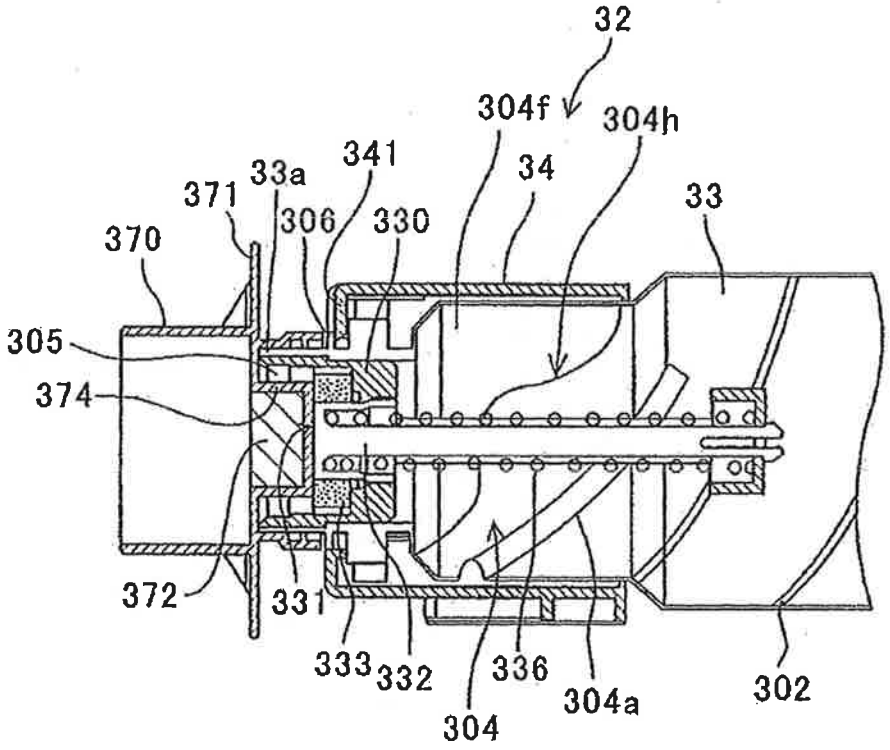

32
304f
304h
341
33a
34
371
306
330
33
370
305
374
372
331
333
332
336
304a
304
302

FIG.41

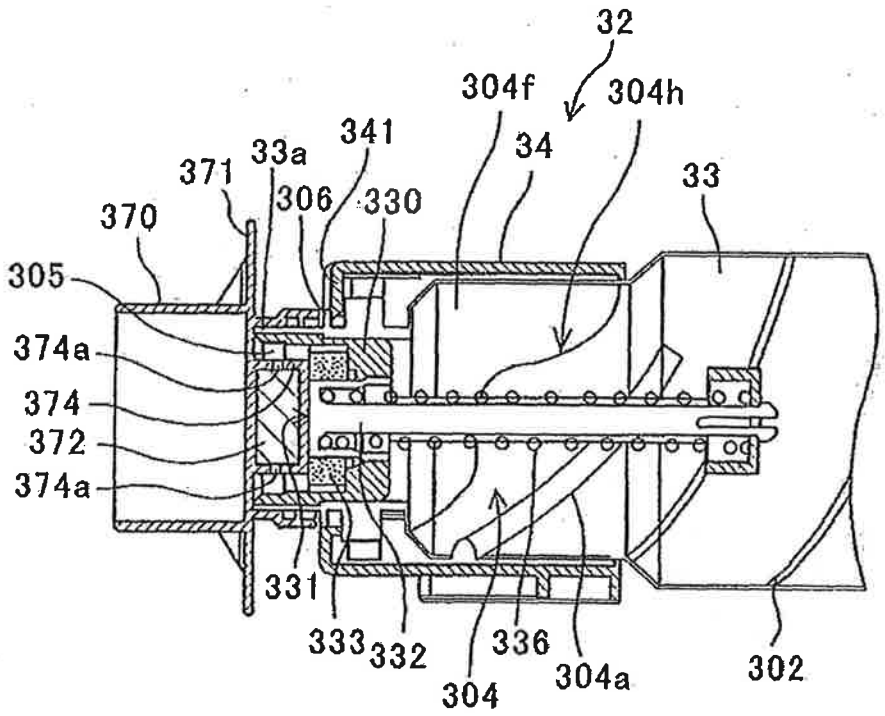

32
304f
304h
341
33a
34
371
306
330
33
370
305
374a
374
372
374a
331
333
332
336
304
304a
302

FIG.42

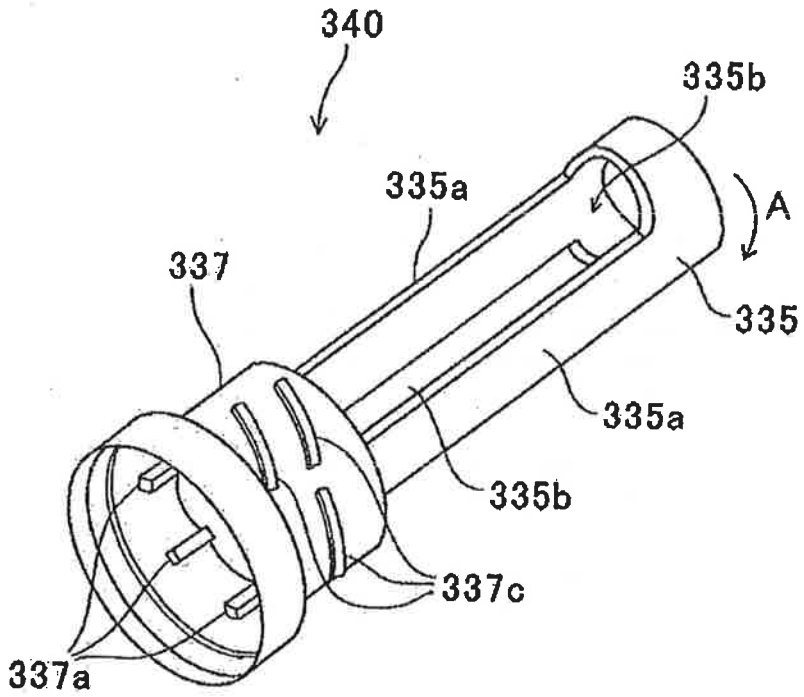


FIG.43

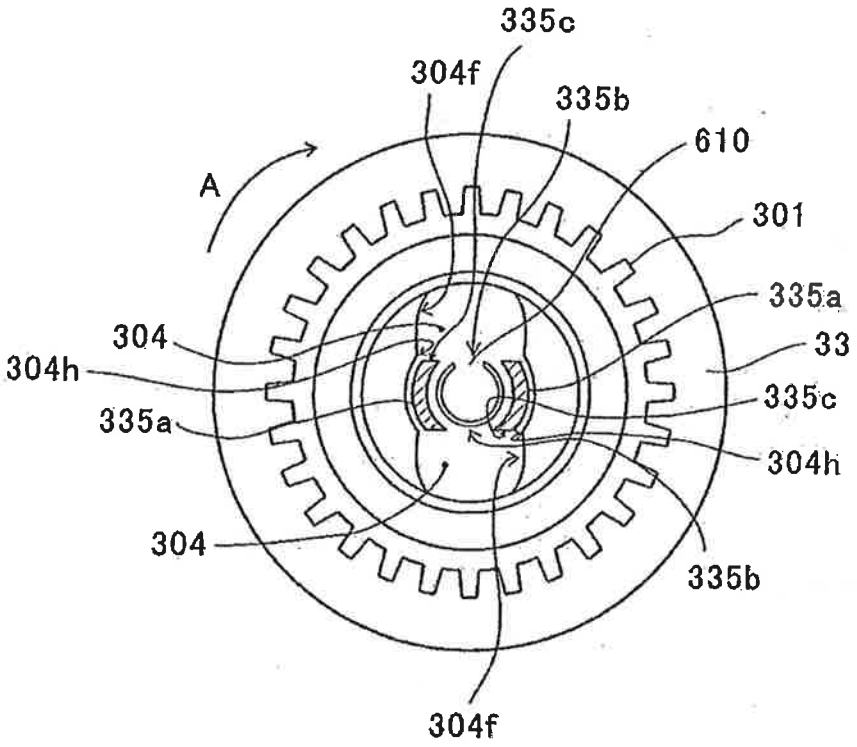

335c
304f
335b
610
A
301
335a
304
33
304h
335c
335a
304h
304
335b
304f

FIG.44

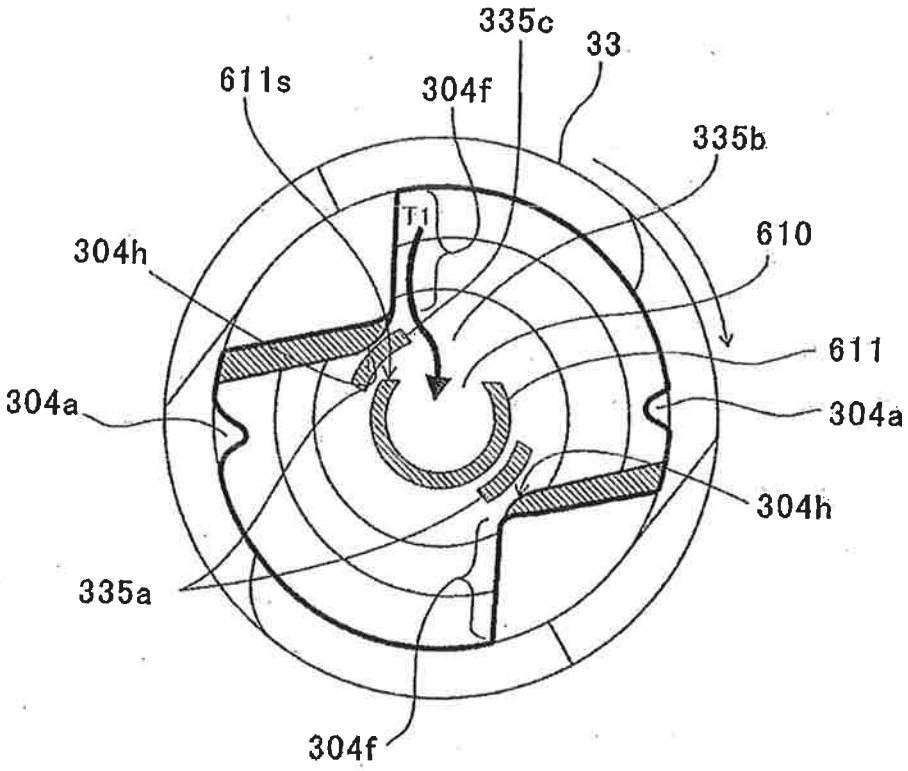

335c
33
611s
304f
335b
T1
610
304h
611
304a
304a
304h
335a
304f

FIG.45A

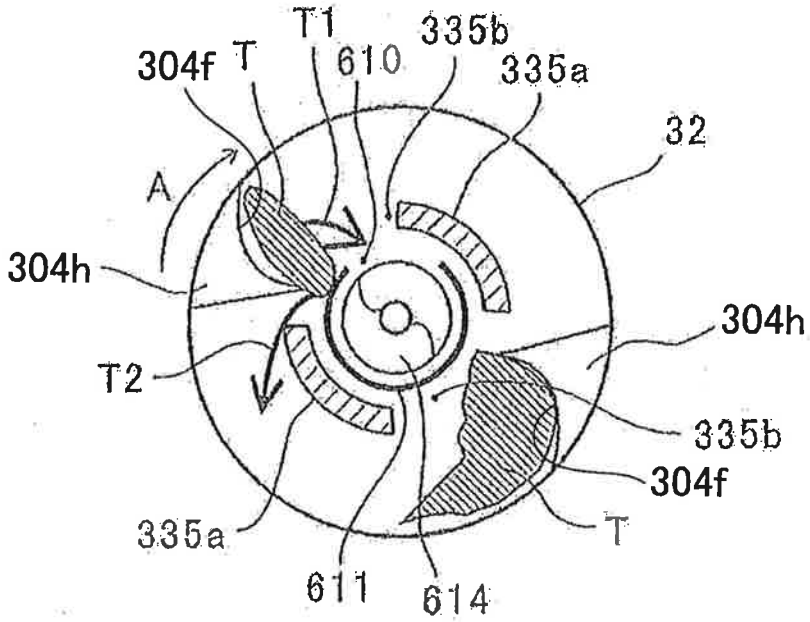


FIG.45B

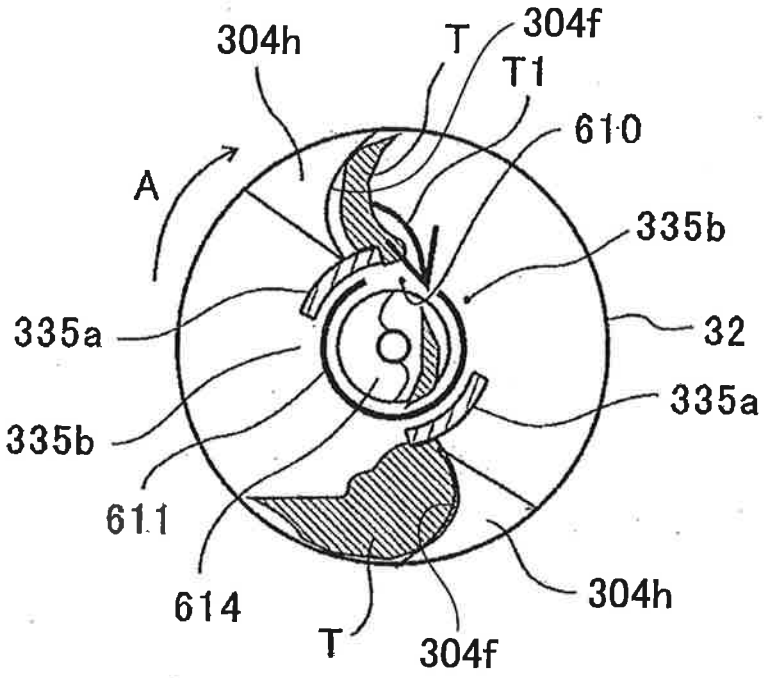


FIG.46

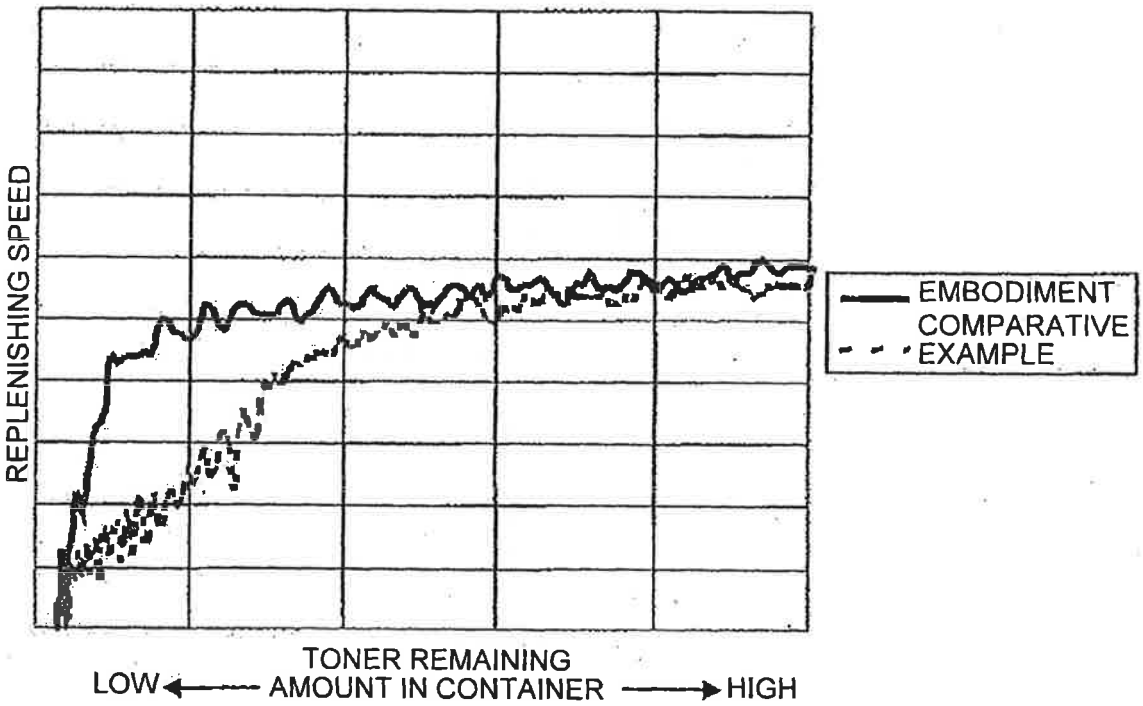

REPLENISHING SPEED
TONER REMAINING AMOUNT IN CONTAINER
LOW
HIGH
EMBODIMENT
COMPARATIVE EXAMPLE

FIG.47A

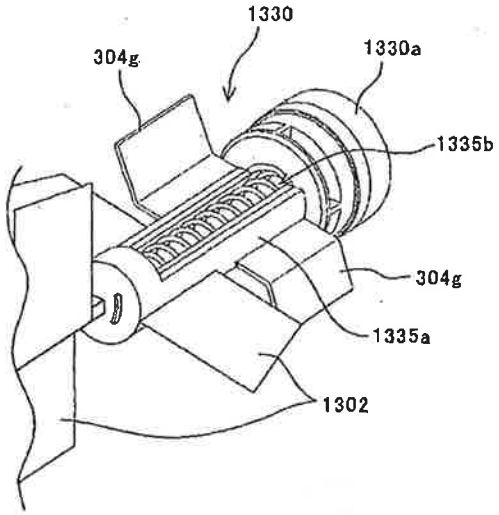


FIG.47B

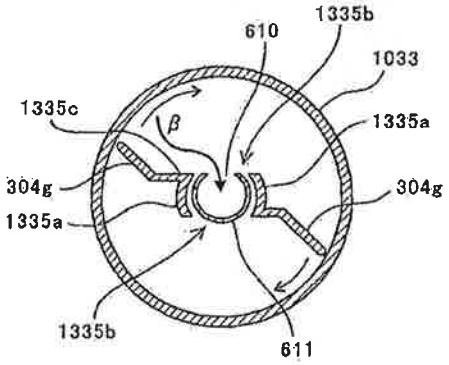


FIG.47C

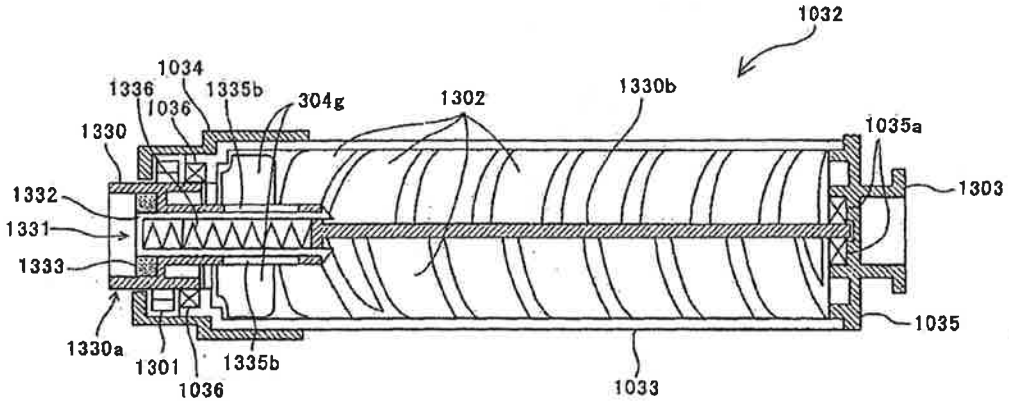


FIG.47D

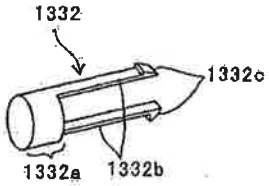


FIG.48A

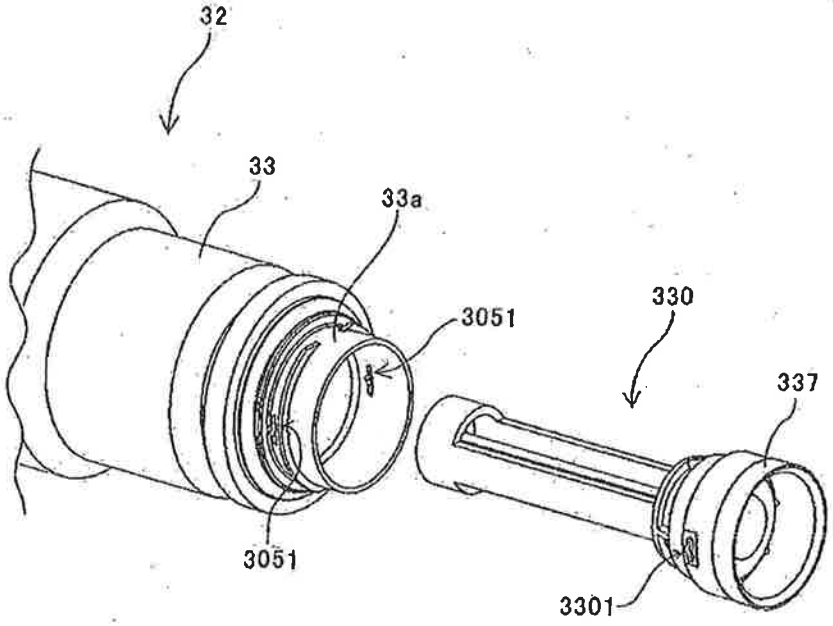


FIG.48B

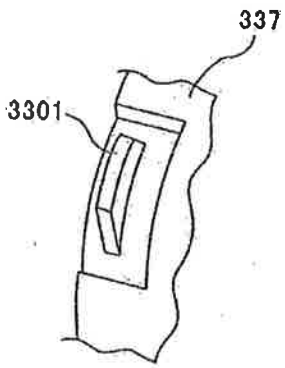


FIG.49

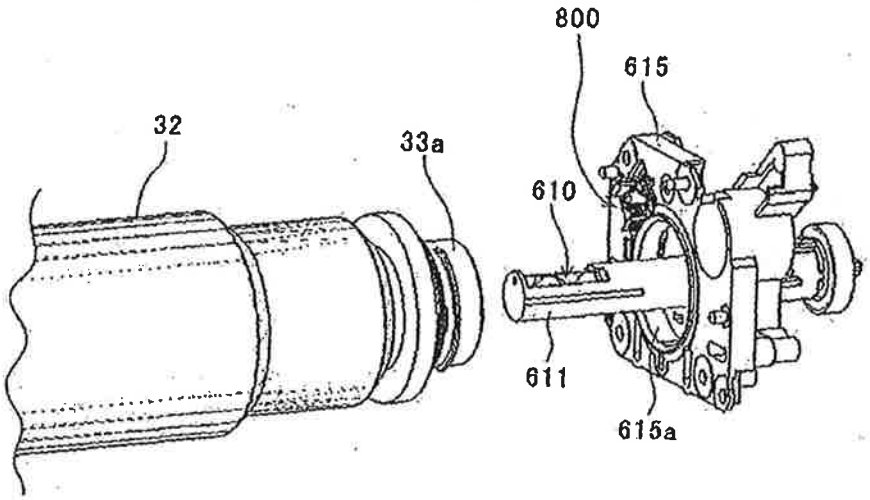


FIG.50A

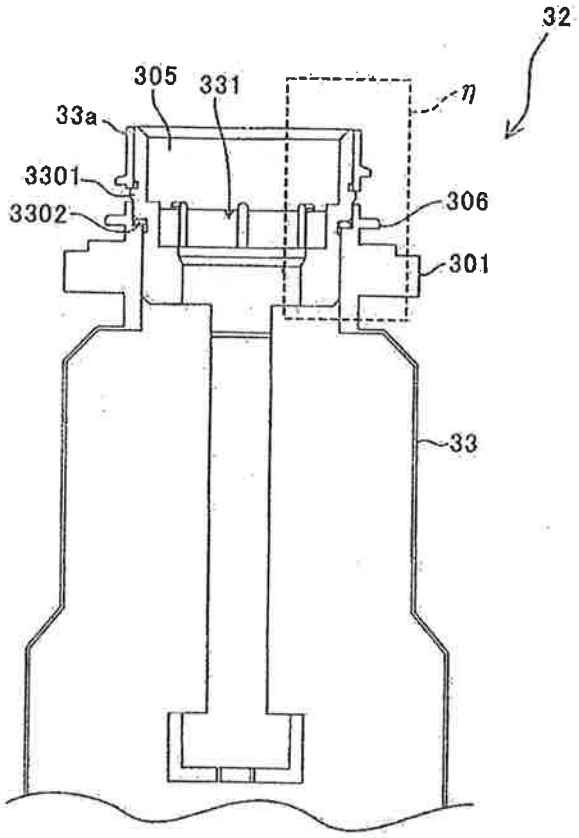


FIG.50B

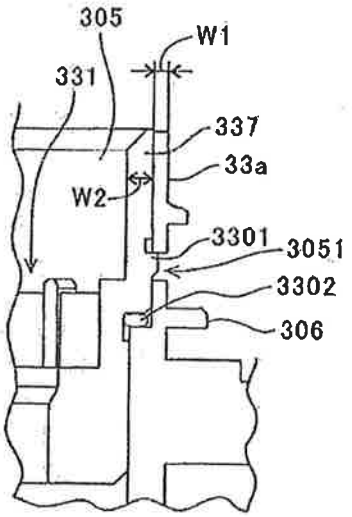


FIG.51A

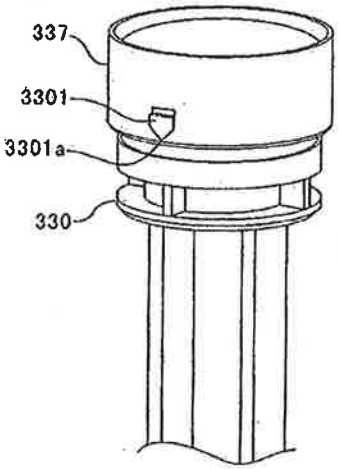


FIG.51B

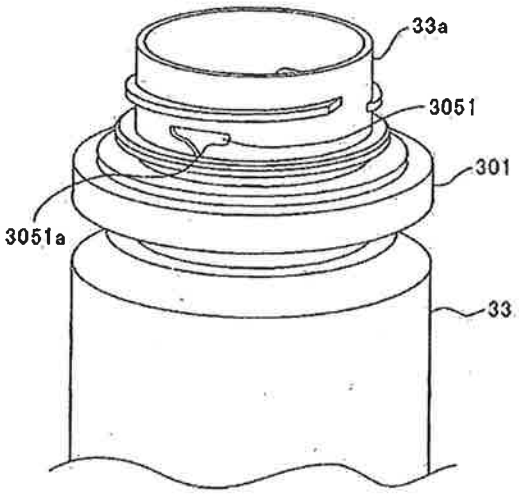


FIG.52A

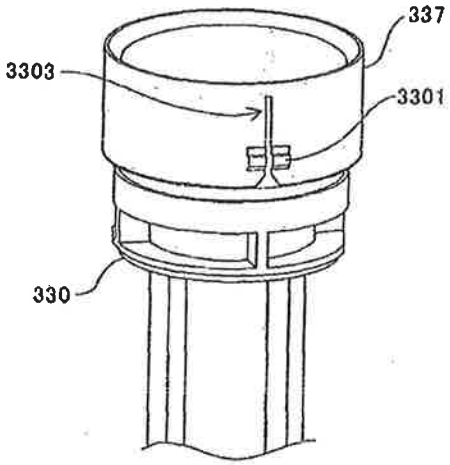


FIG.52B

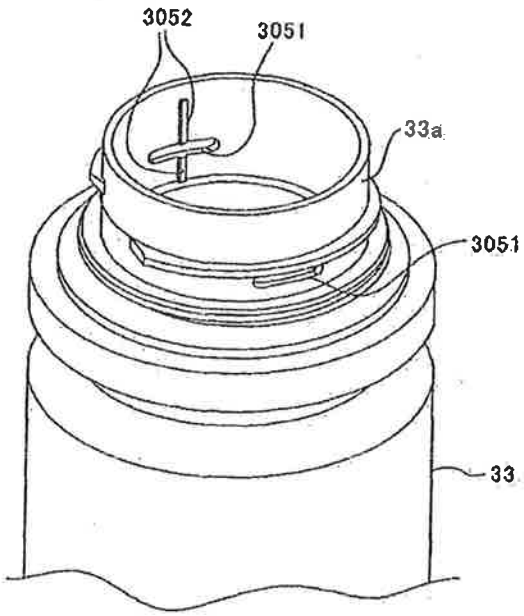


FIG.53A

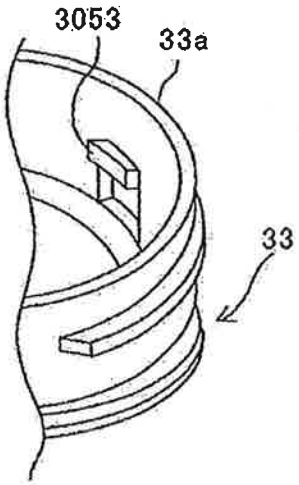


FIG.53B

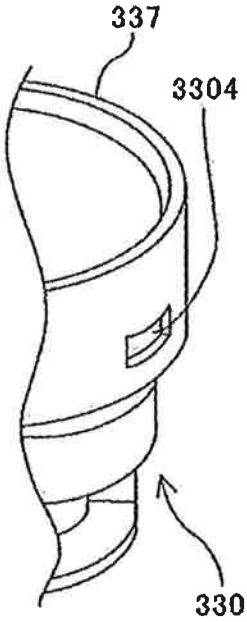


FIG.53C

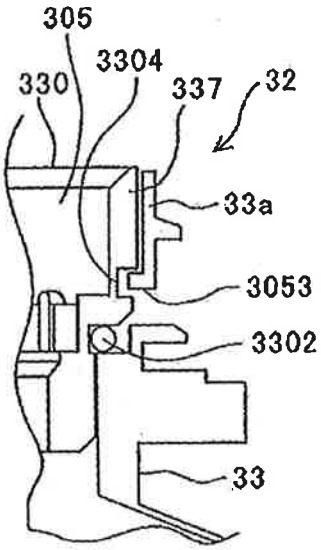


FIG.54A

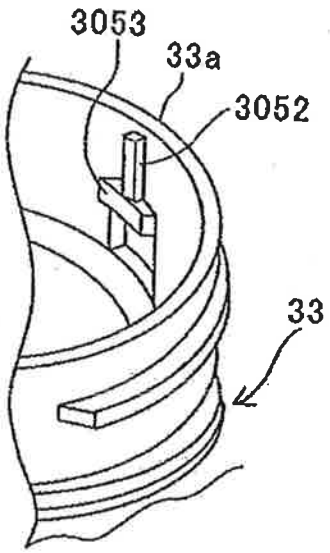


FIG.54B

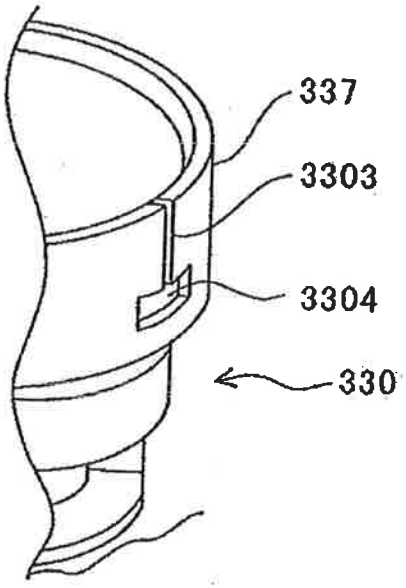


FIG.55

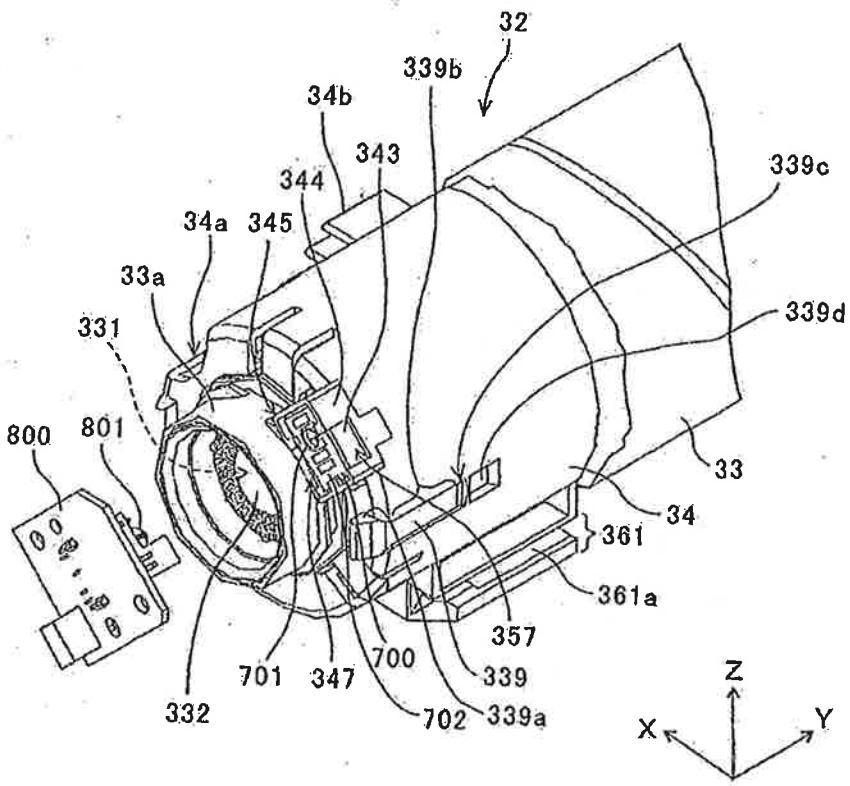

32
339b
34b
343
344
339c
34a
345
33a
339d
331
800
801
33
34
361
361a
357
339
700
701
347
332
702
339a
Z
X
Y

FIG.56

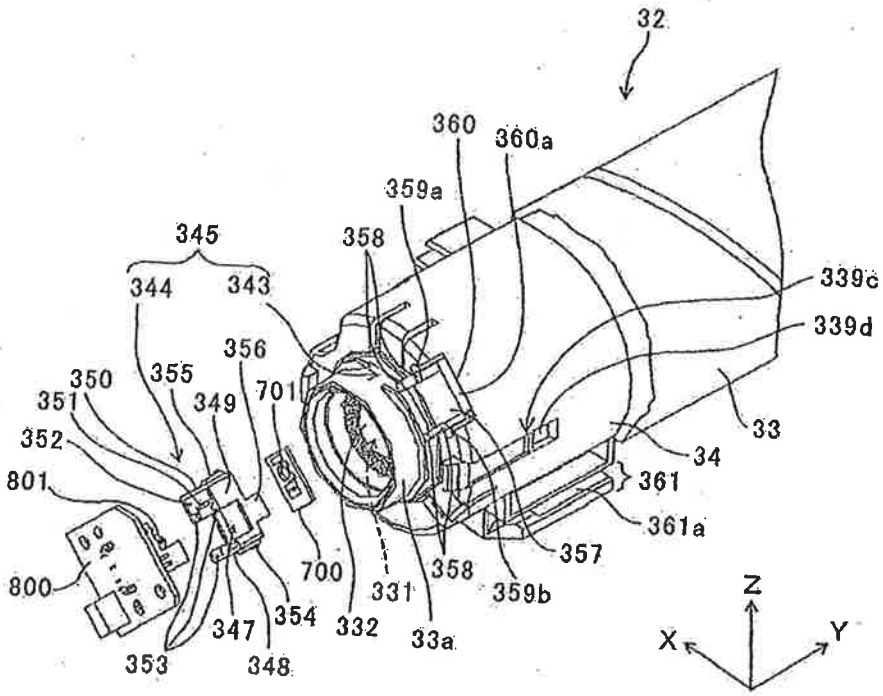

32
360
360a
359a
345
358
344
343
339c
339d
356
350
355
701
351
349
352
33
34
801
361
361a
357
700
358
331
359b
800
354
332
33a
347
353
348
Z
X
Y

FIG.57

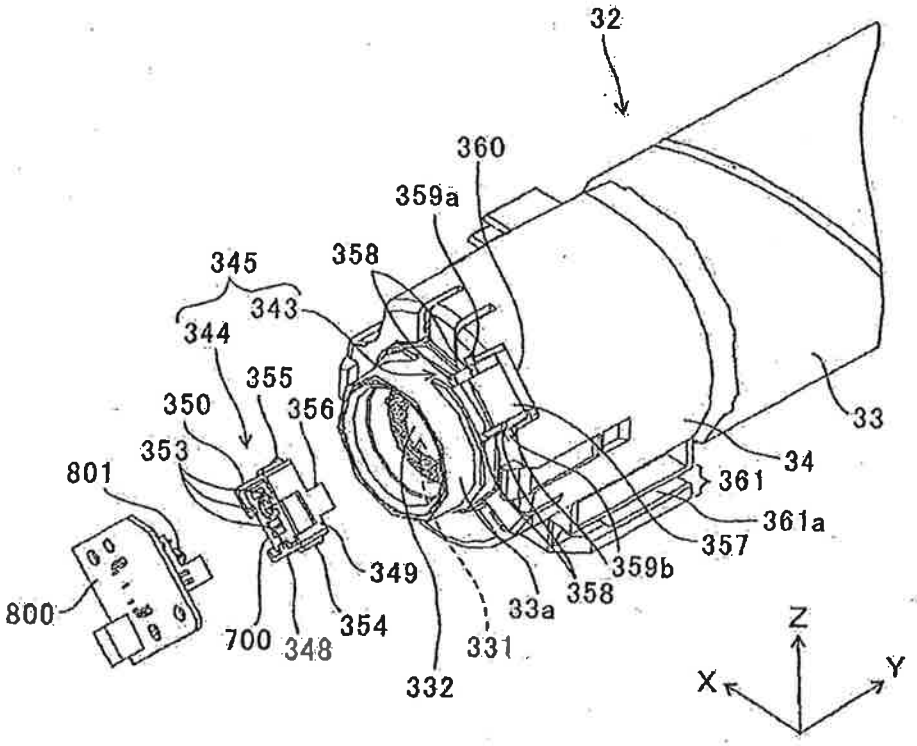

32
360
359a
358
345
343
344
355
350
356
353
801
800
700
348
354
349
331
332
33a
358
359b
357
361a
361
34
33
Z
X
Y

FIG.58A

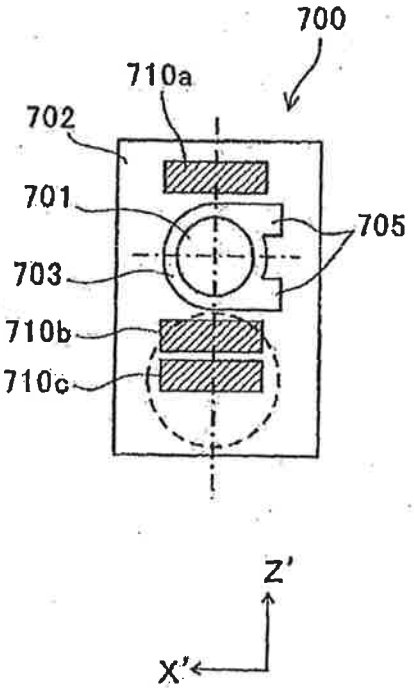


FIG.58B

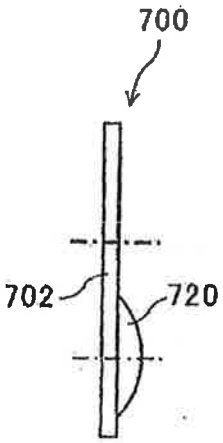


FIG.58C

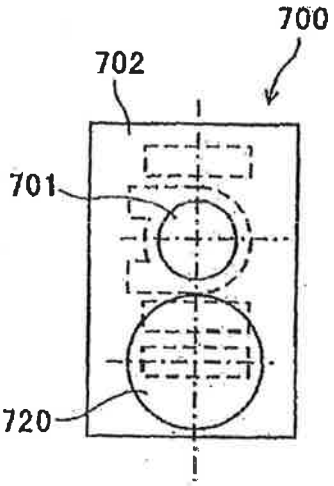


FIG.59

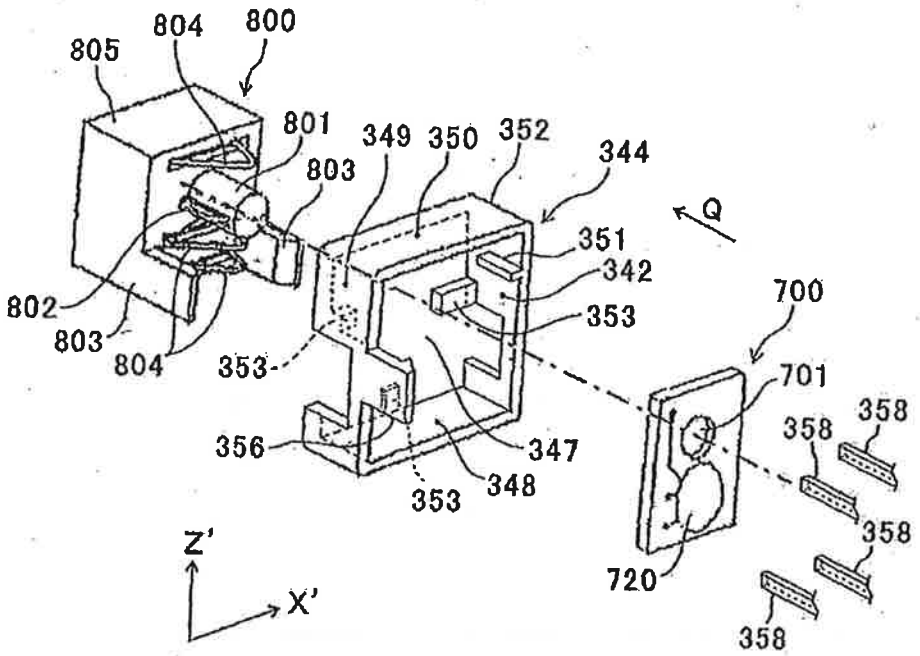

804
800
805
801
349
350
352
344
803
Q
351
342
802
700
353
803
804
353
701
358
358
356
347
348
353
358
Z'
720
X'
358

FIG.60

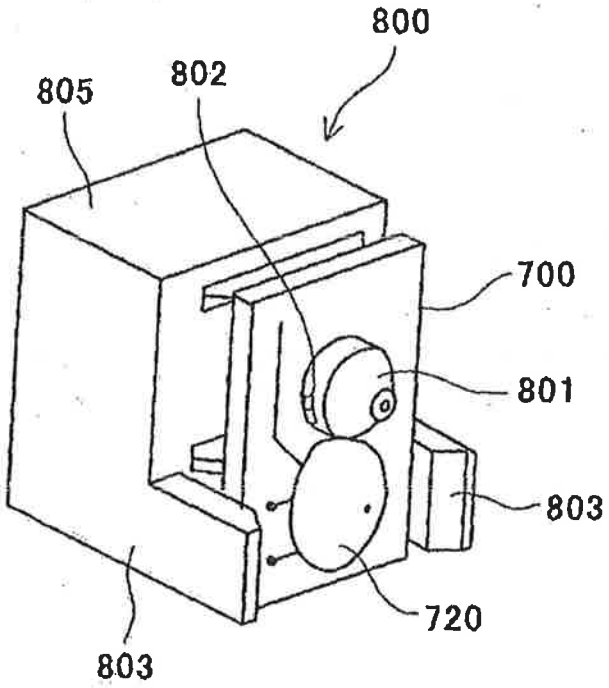


FIG.61A

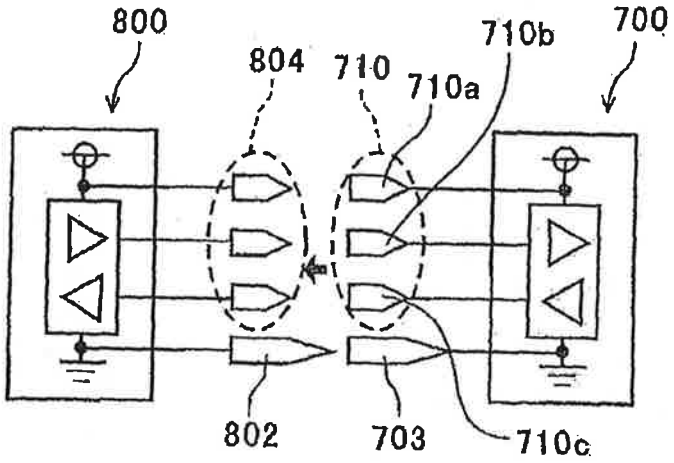


FIG.61B

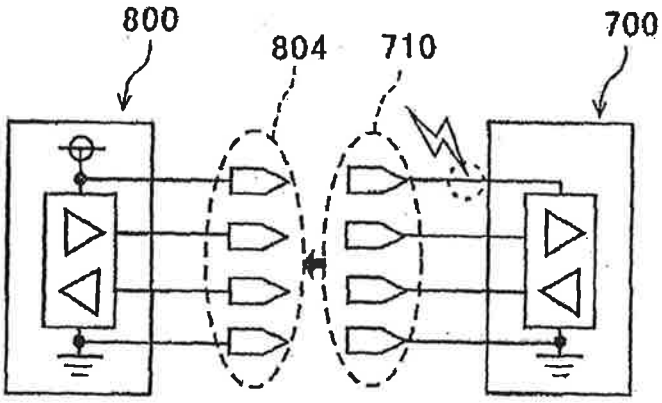


FIG.62A

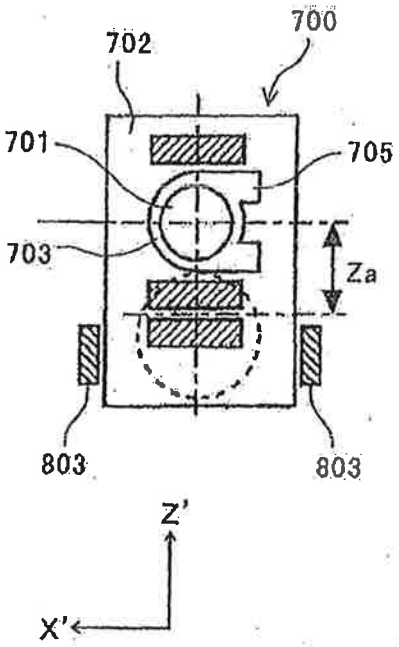


FIG.62B

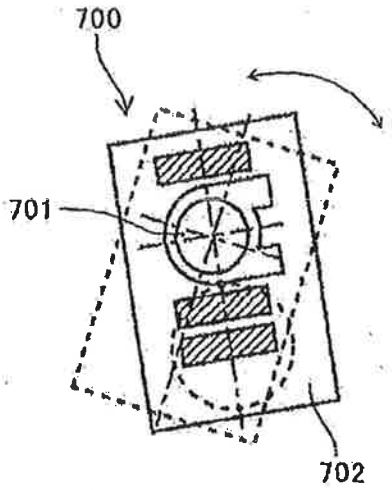


FIG.63

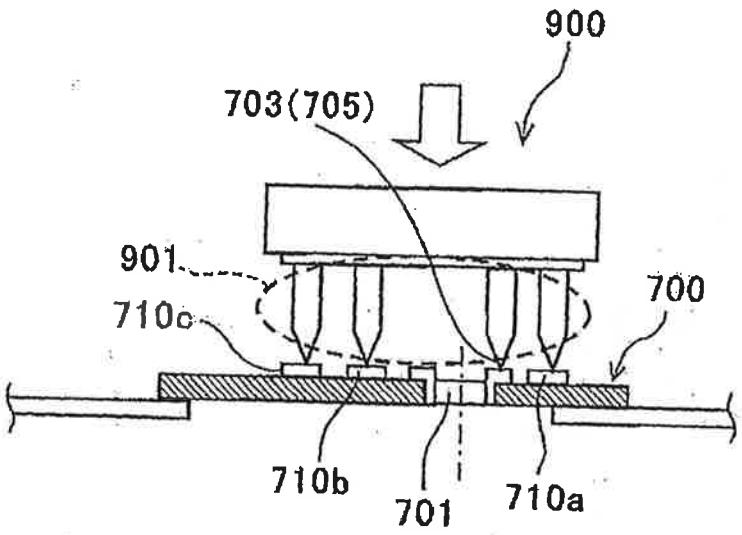


FIG.64A

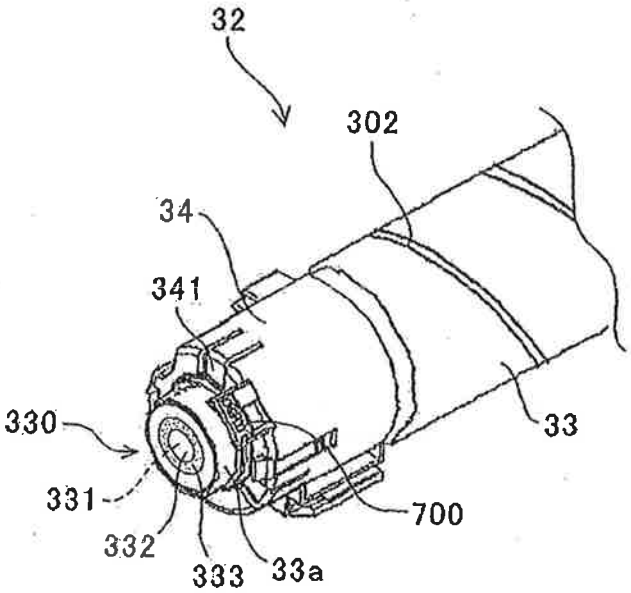


FIG.64B

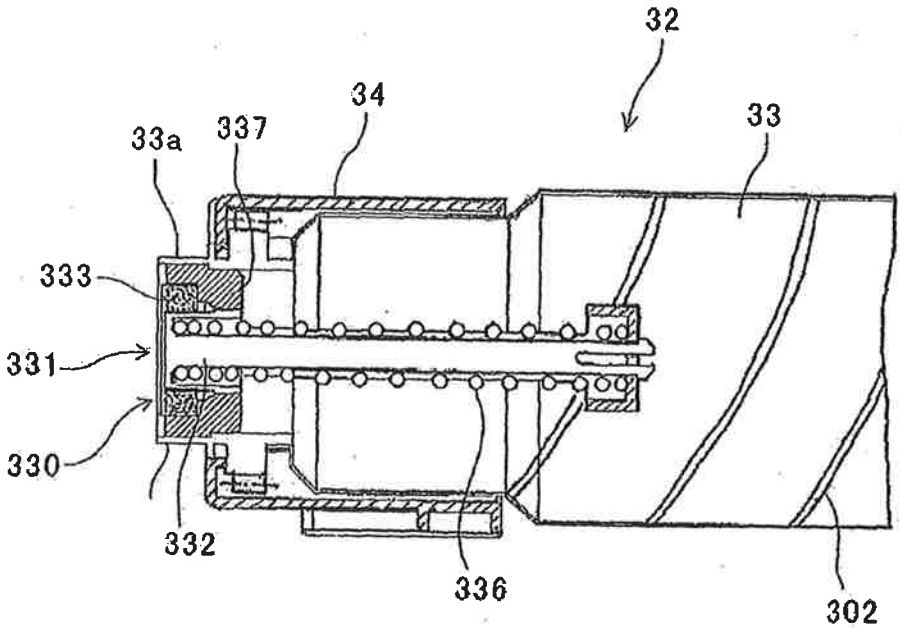


FIG.65A

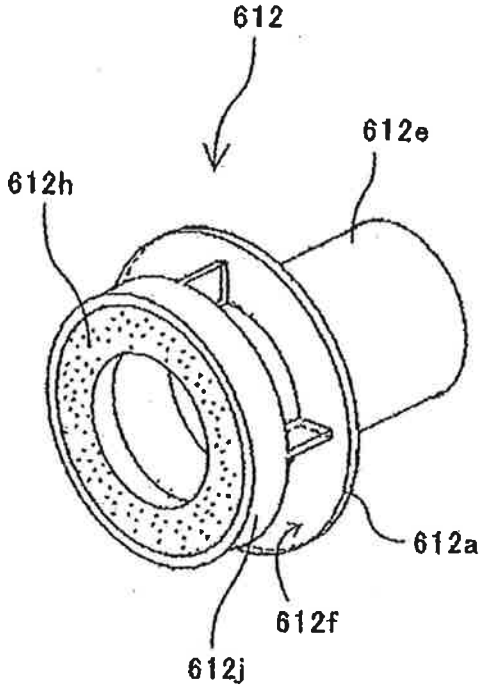


FIG.65B

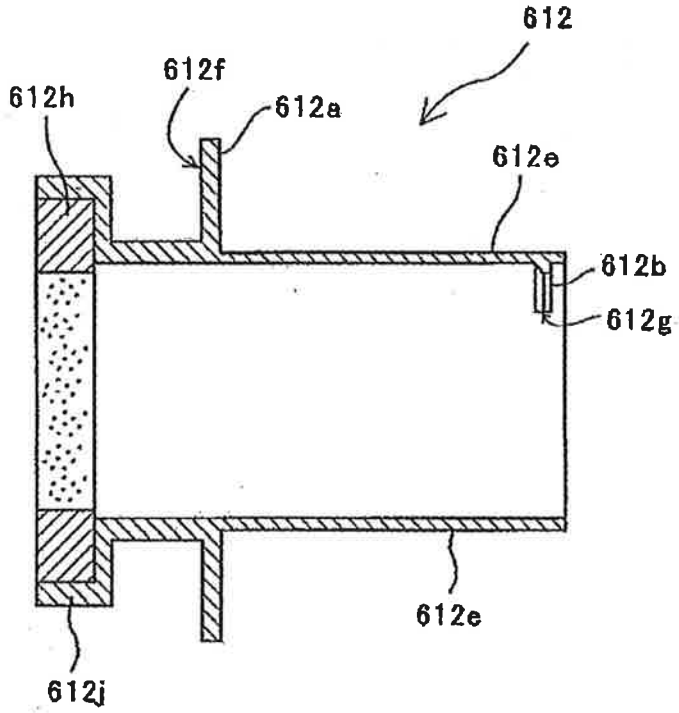
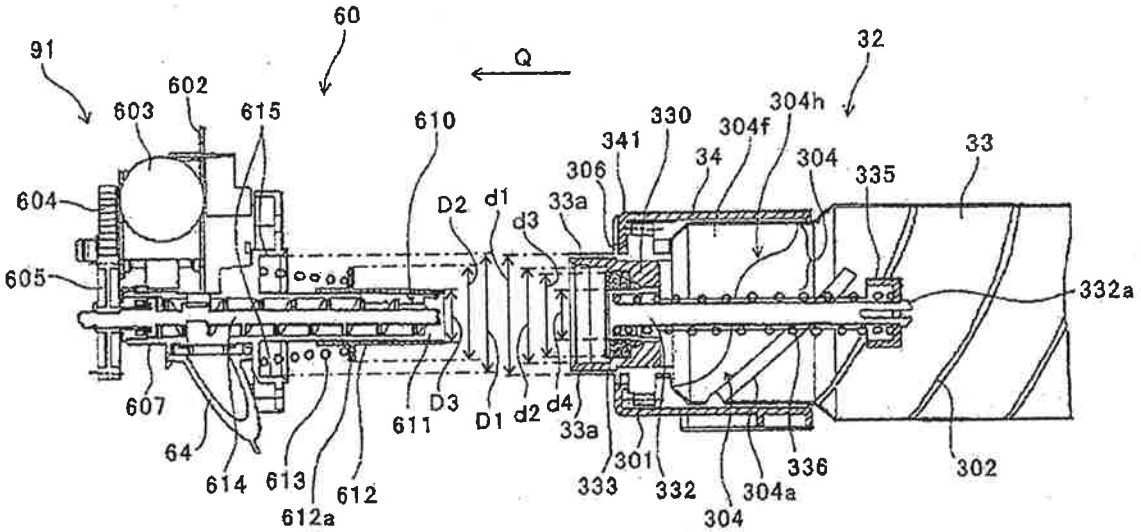


FIG.66


60
91
Q
32
602
603
615
610
330
304h
341
304f
34
306
304
335
33
604
D2
d1
d3
33a
605
332a
607
611
D3
D1
d2
d4
33a
64
614
613
612
612a
333
301
332
304
304a
336
302