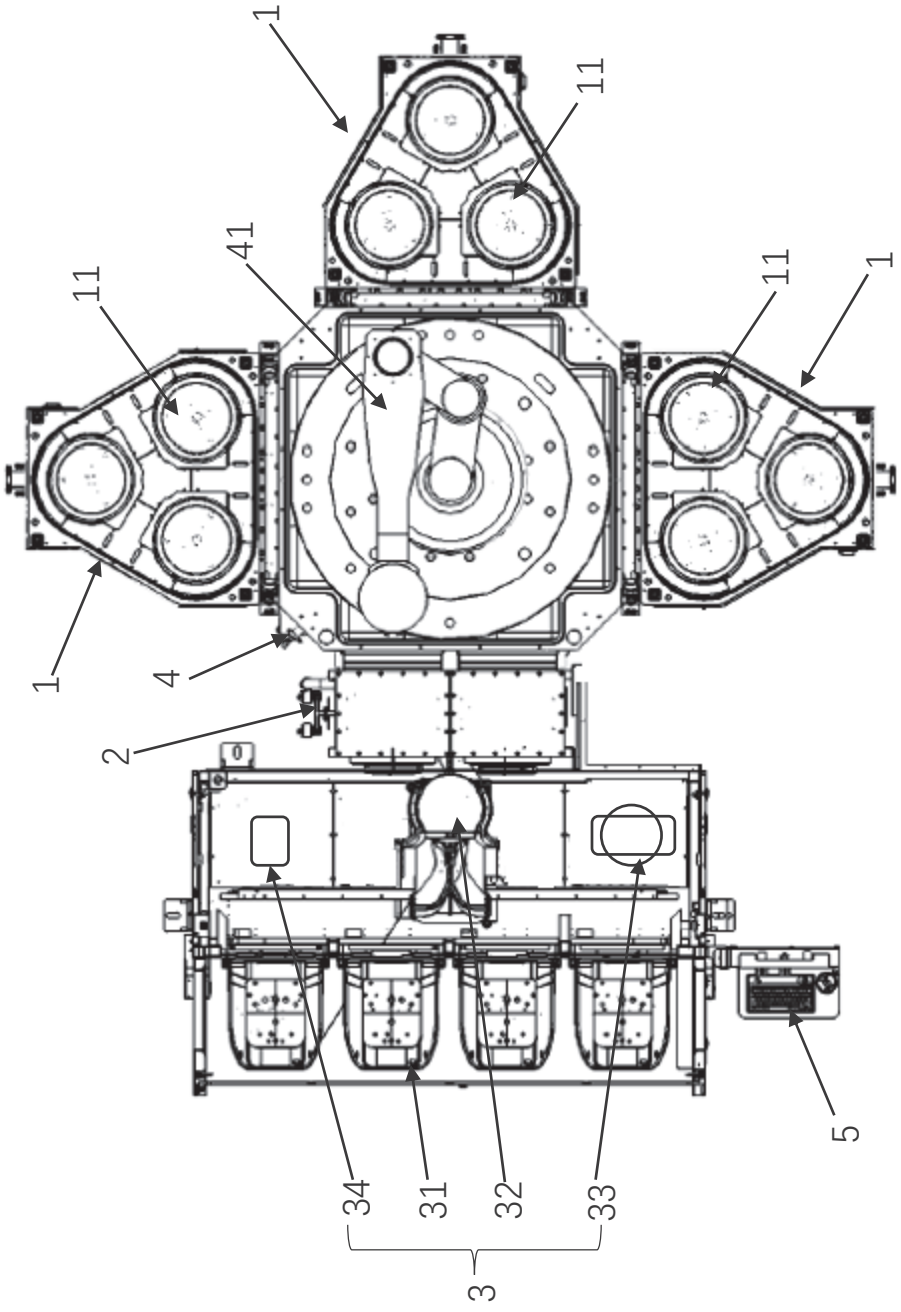


FIG. 1

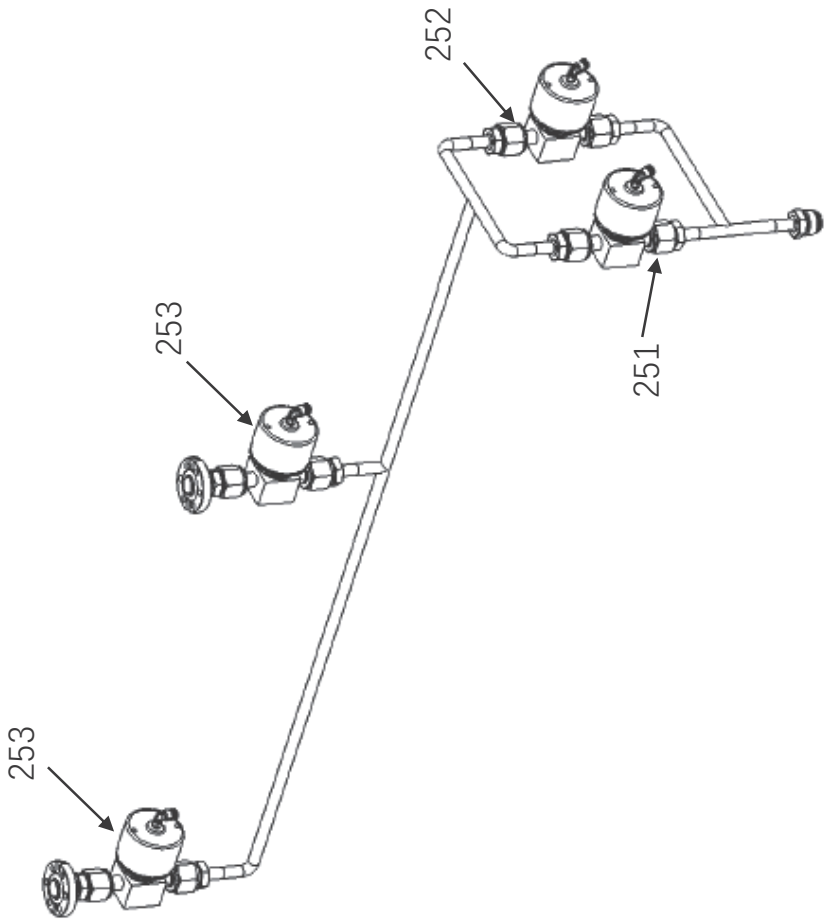

252
253
253
251

FIG. 2(b)

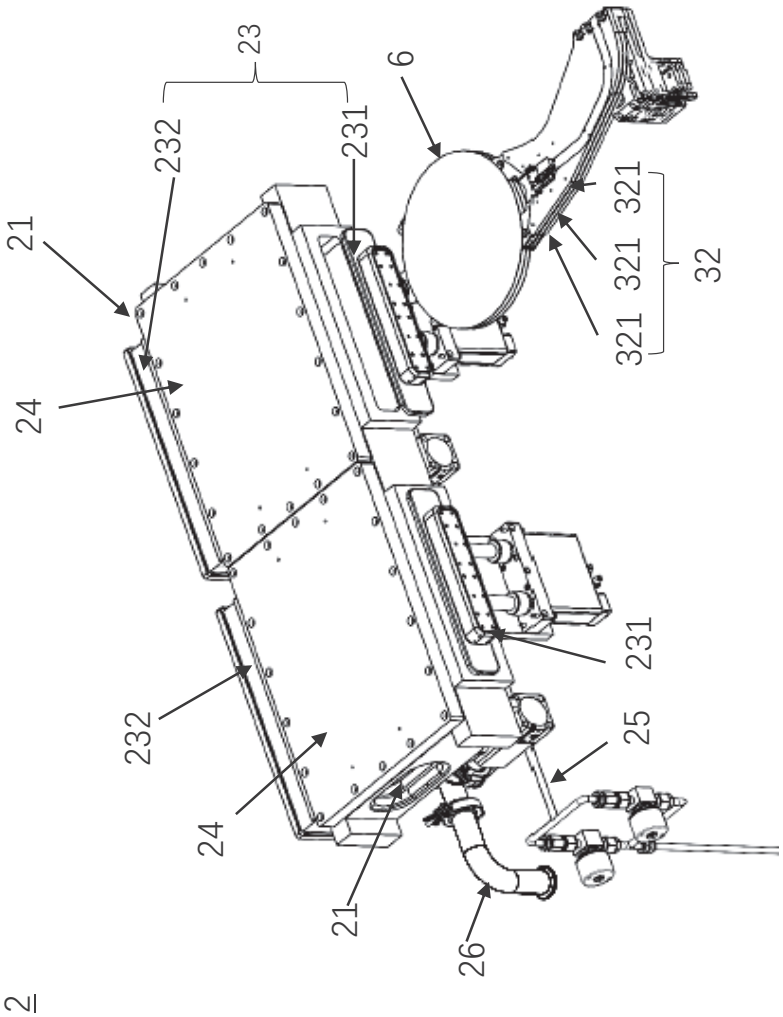

2
23
232
231
6
21
321
321
321
32
24
231
232
25
24
21
26

FIG. 2(a)

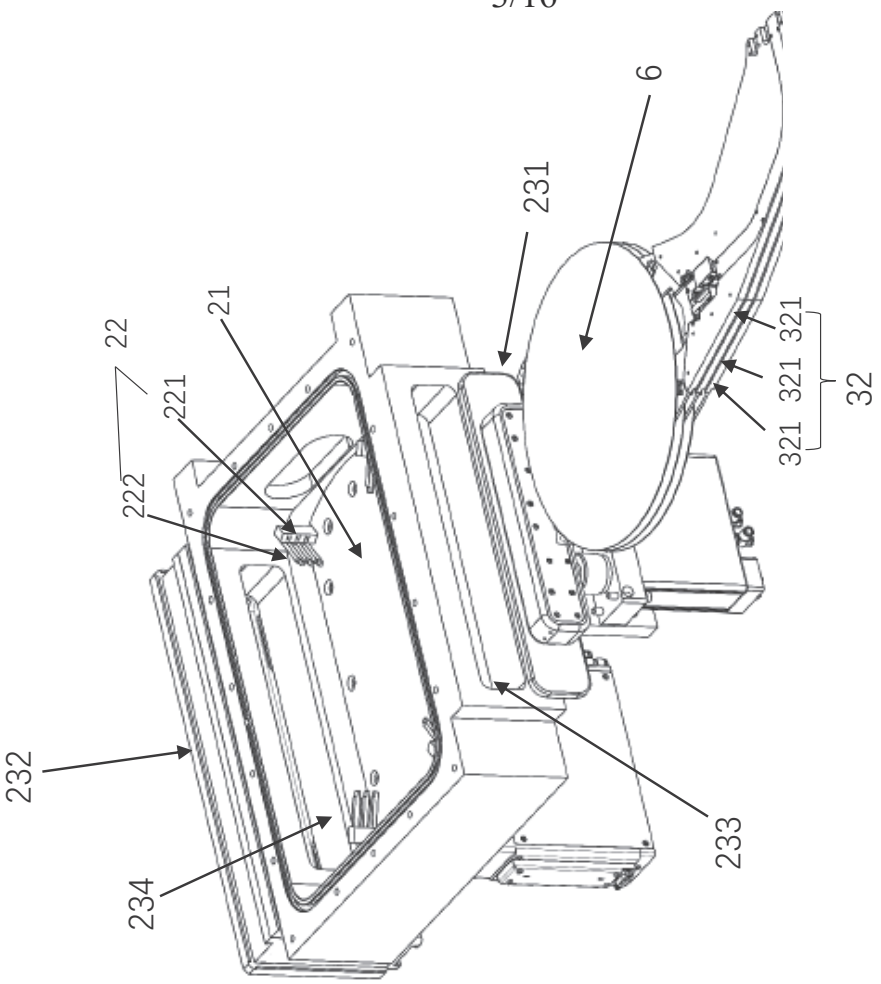


FIG. 2(d)

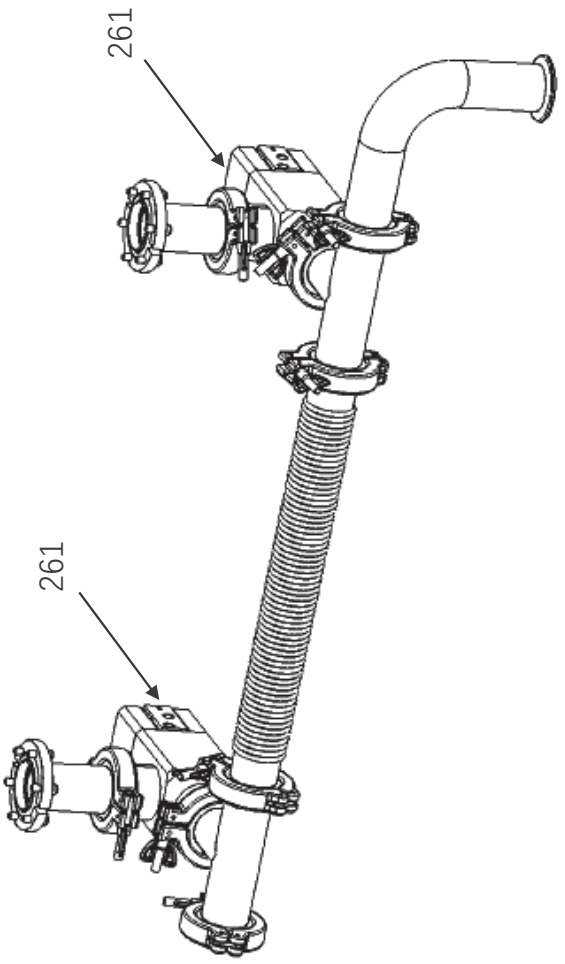


FIG. 2(c)

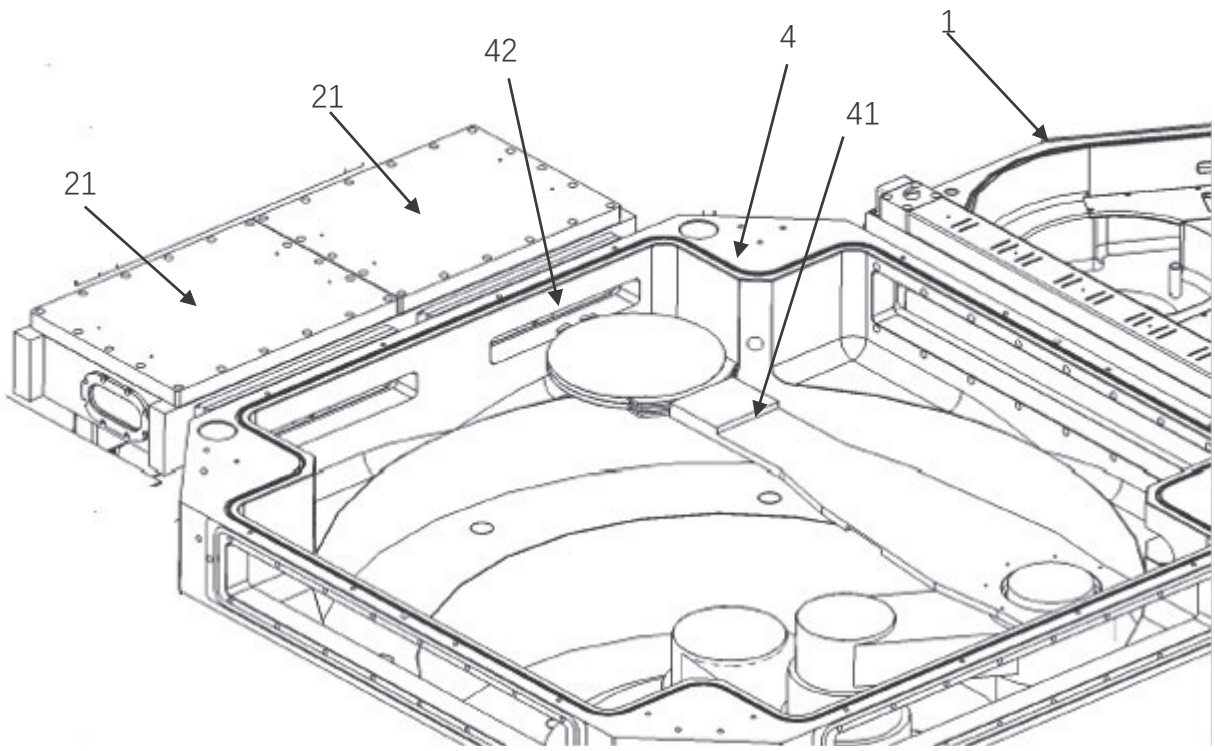


FIG. 3(a)

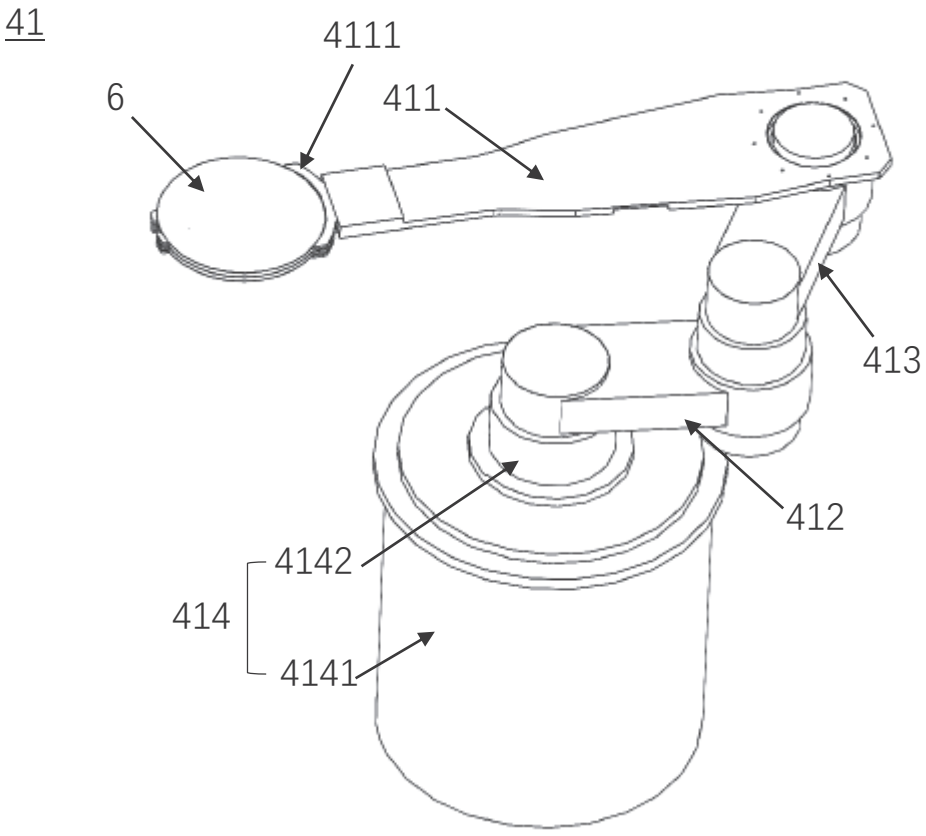


FIG. 3(b)

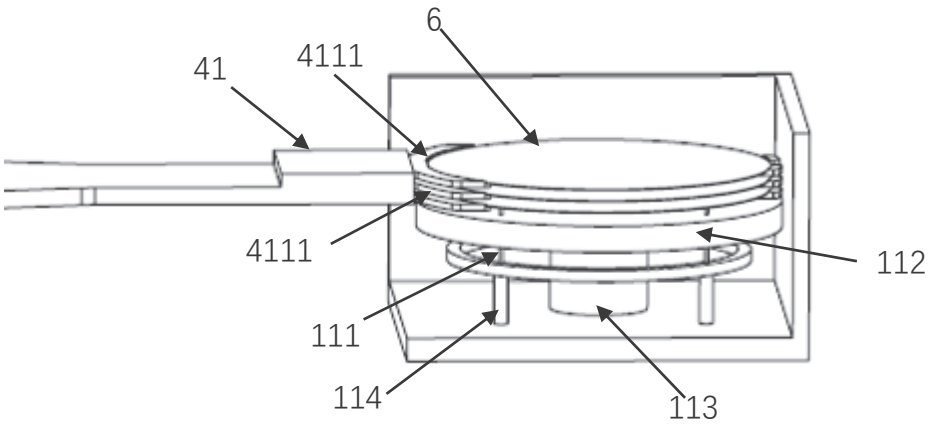


FIG. 4(a)

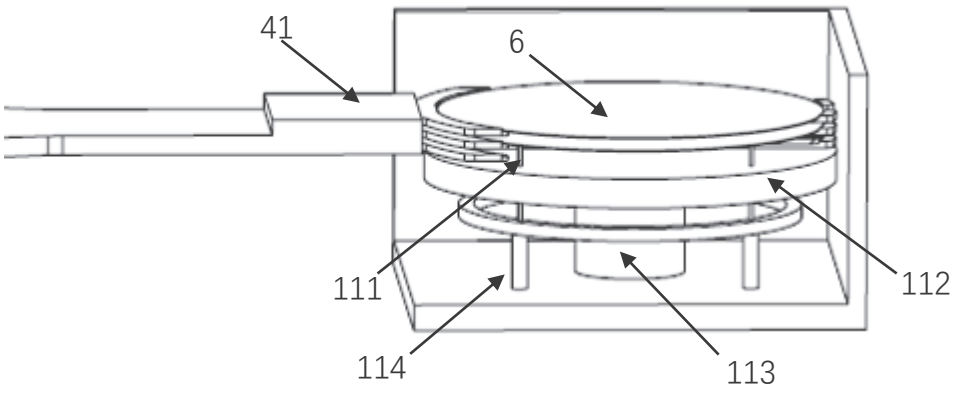


FIG. 4(b)

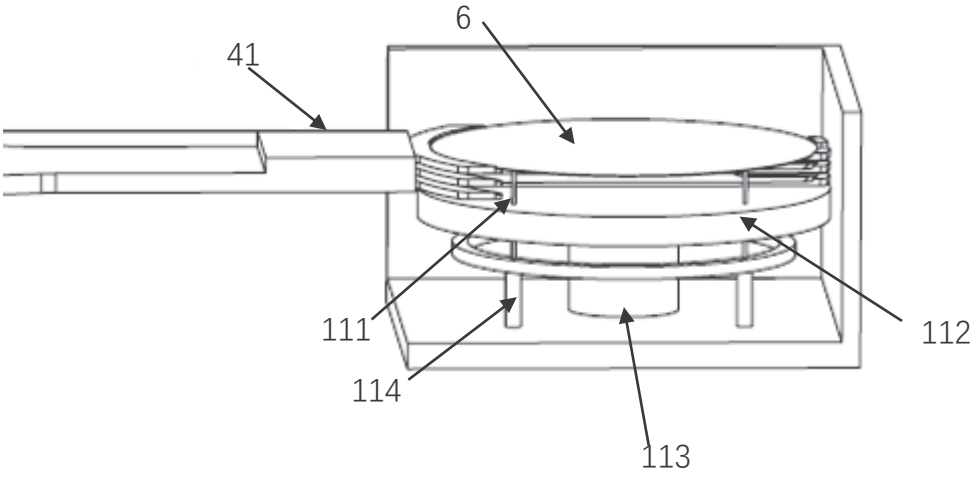


FIG. 4(c)

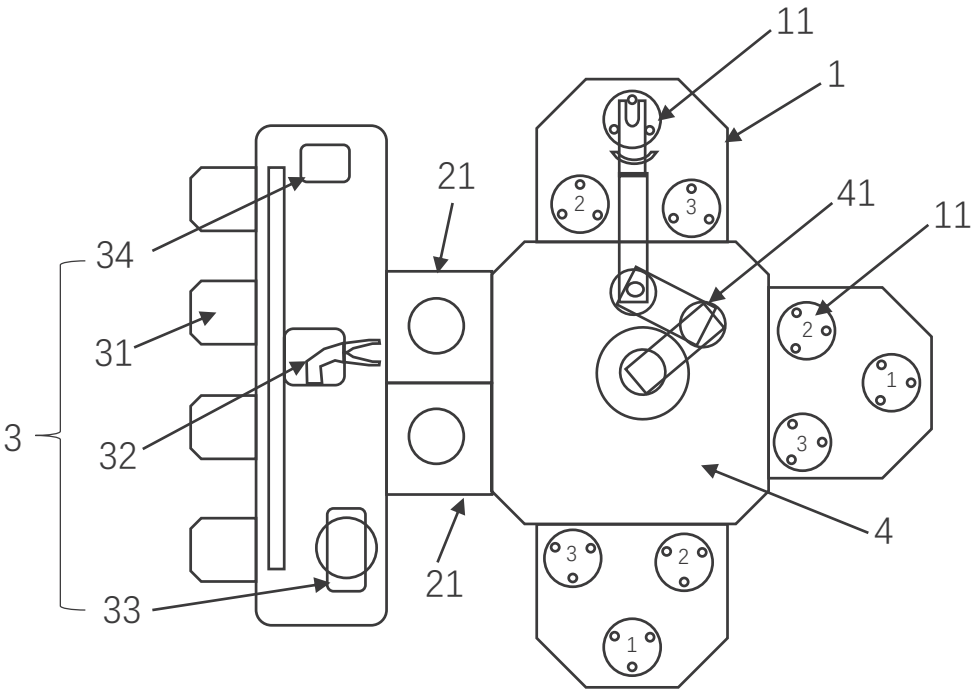


FIG. 5(a)

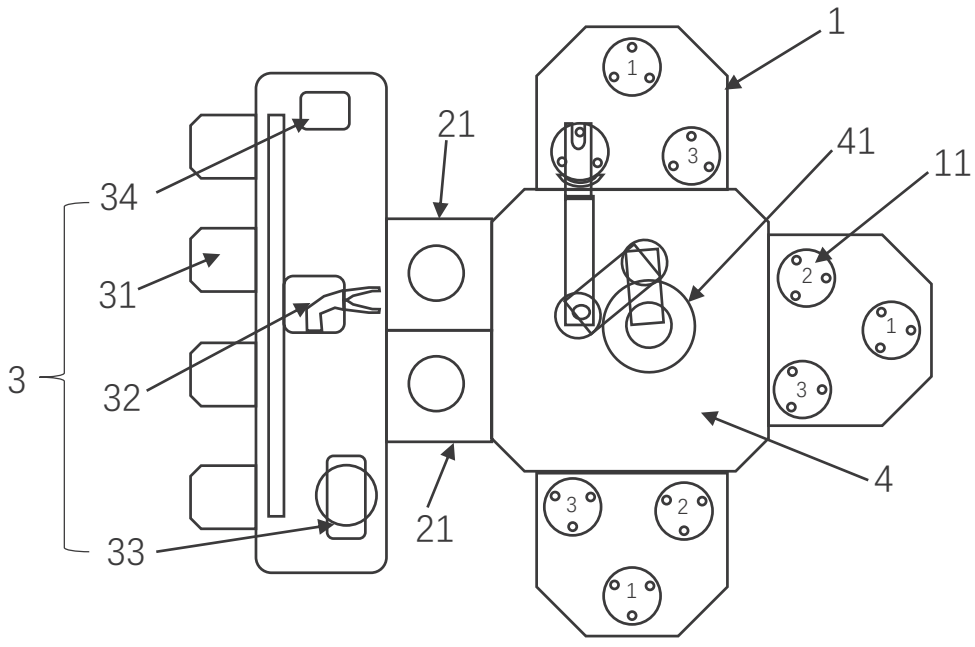


FIG. 5(b)

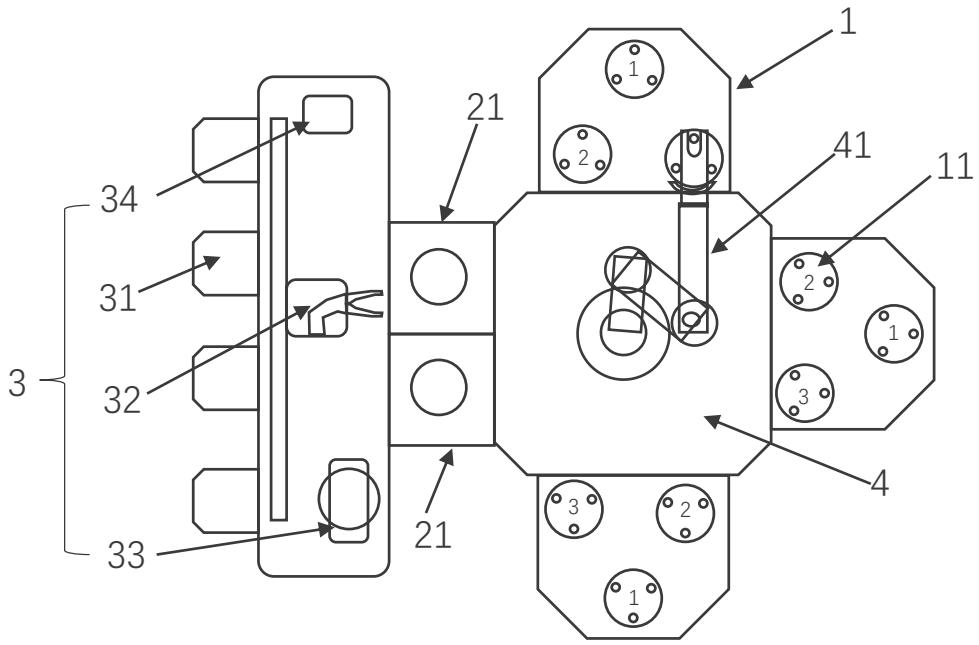


FIG. 5(c)

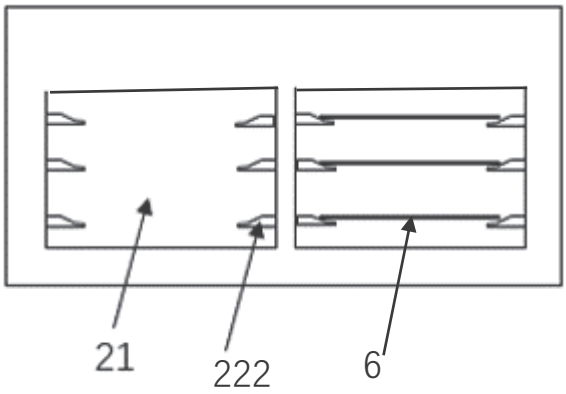


FIG. 5(d)

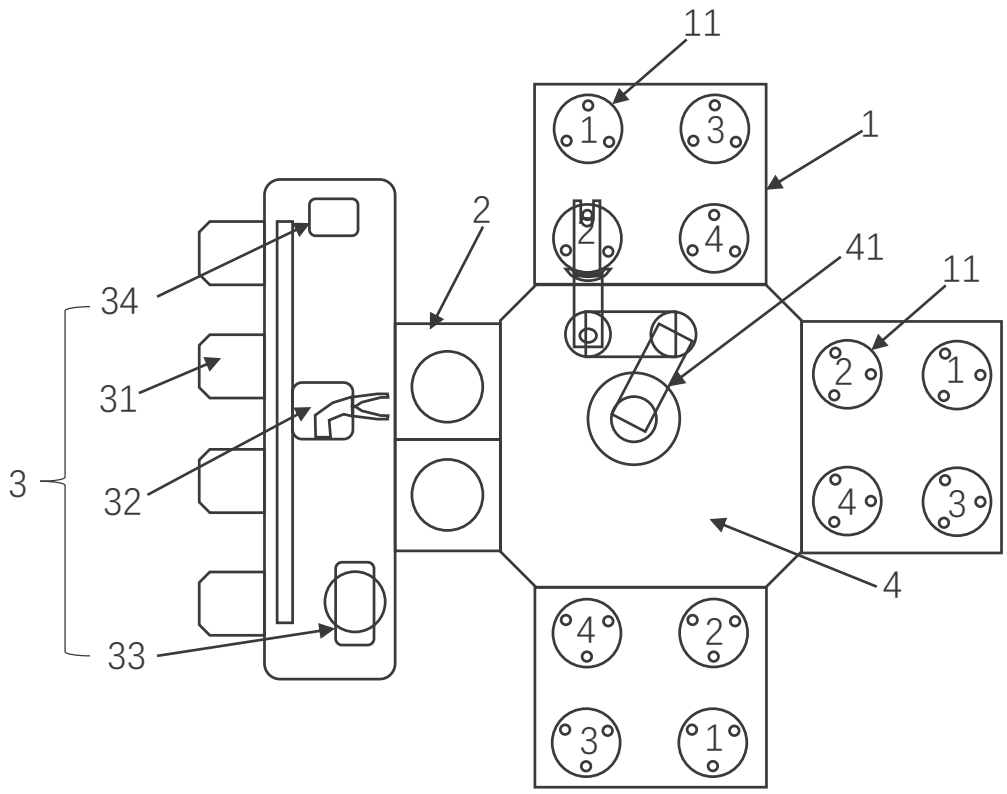


FIG. 6(a)

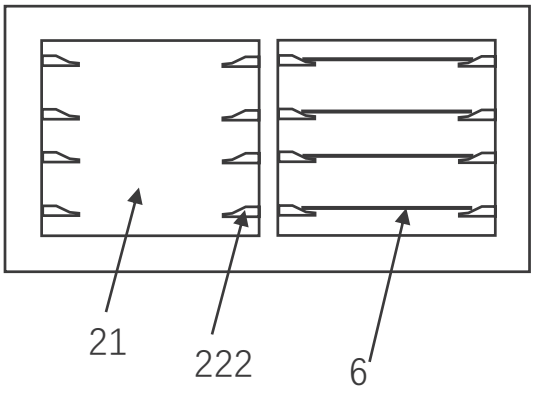


FIG. 6(b)

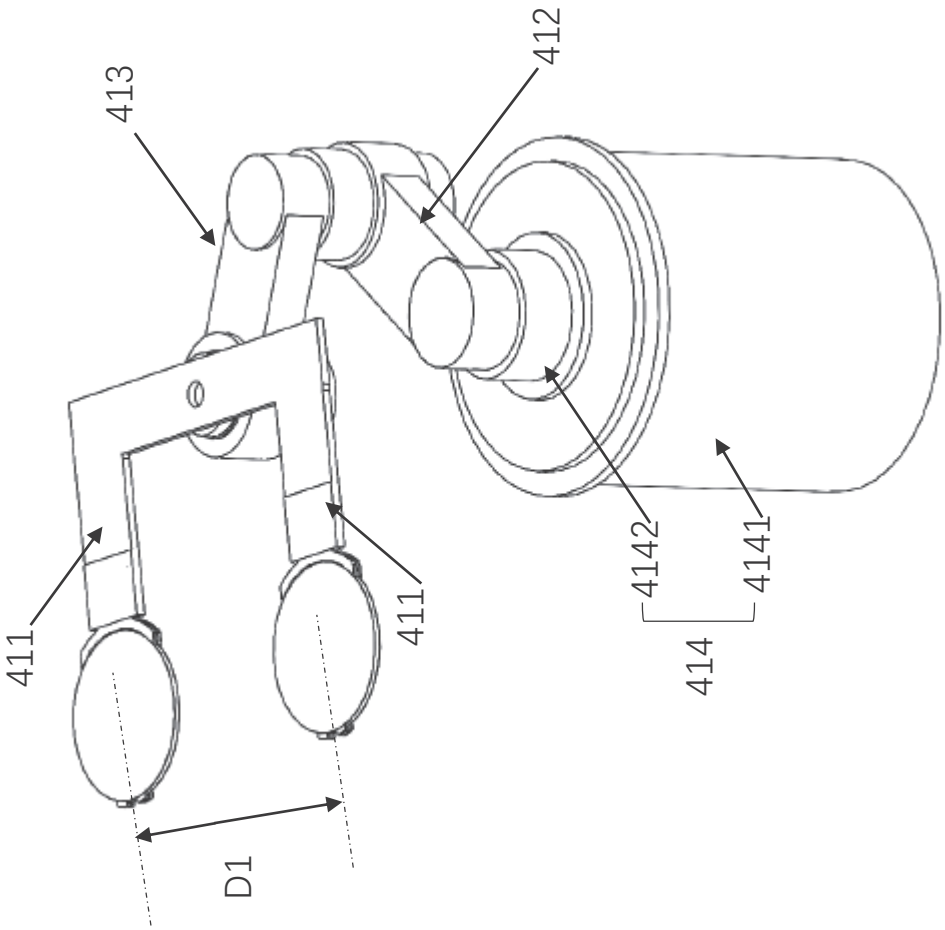


FIG. 7(b)

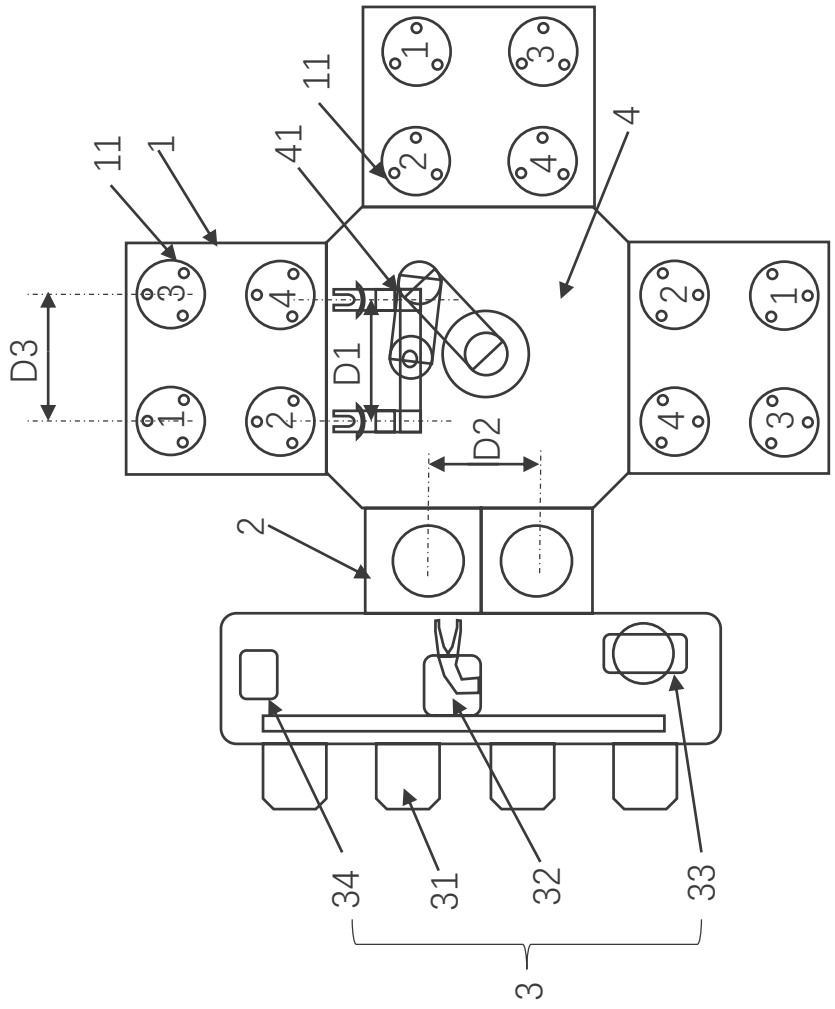


FIG. 7(a)

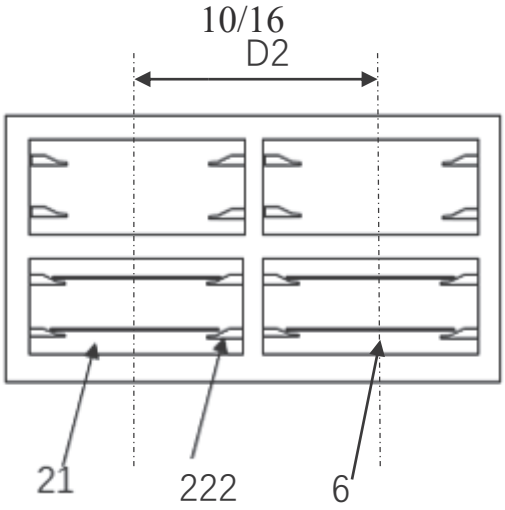


FIG. 7(c)

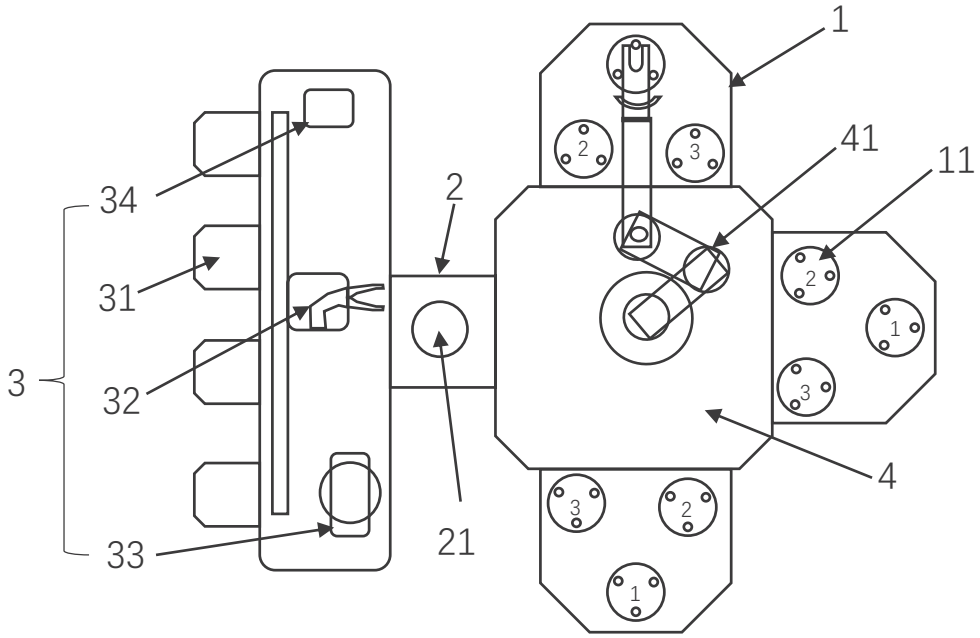


FIG. 8(a)

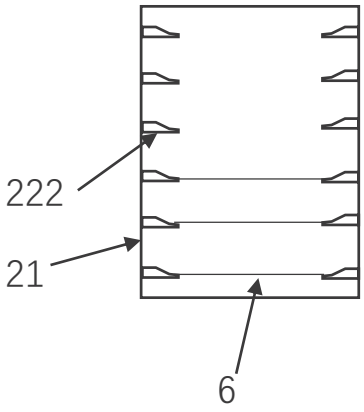


FIG. 8(b)

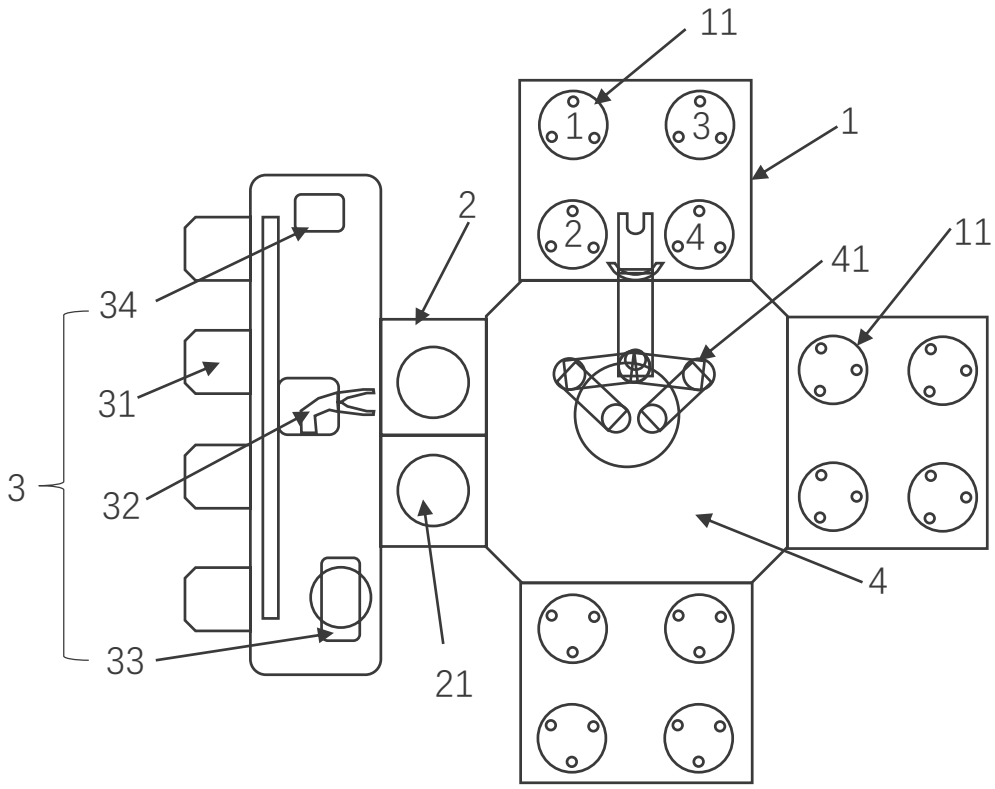


FIG. 9(a)

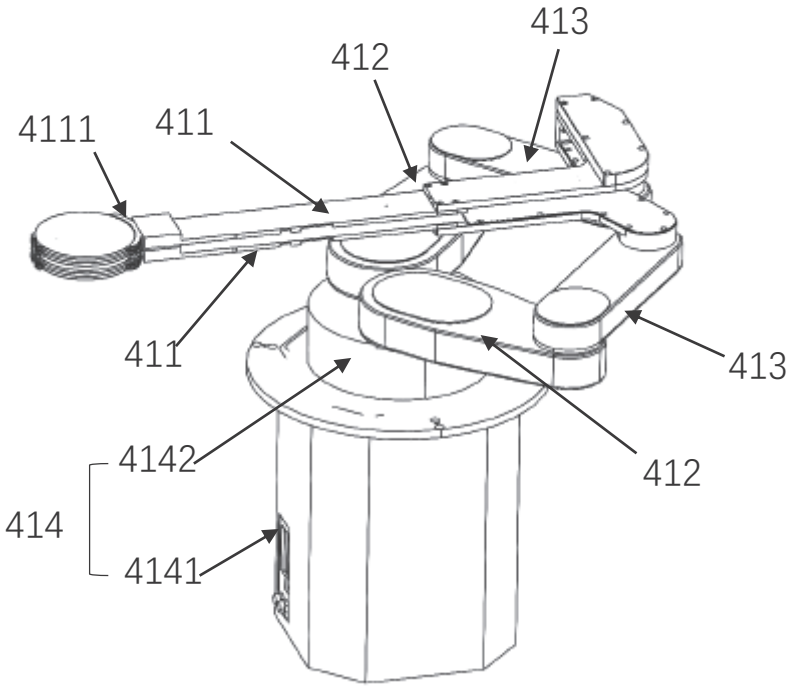


FIG. 9(b)

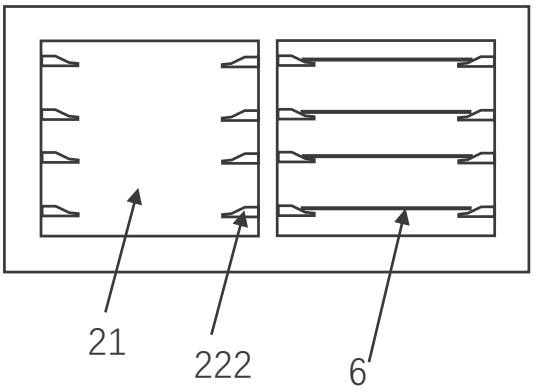


FIG. 9(c)

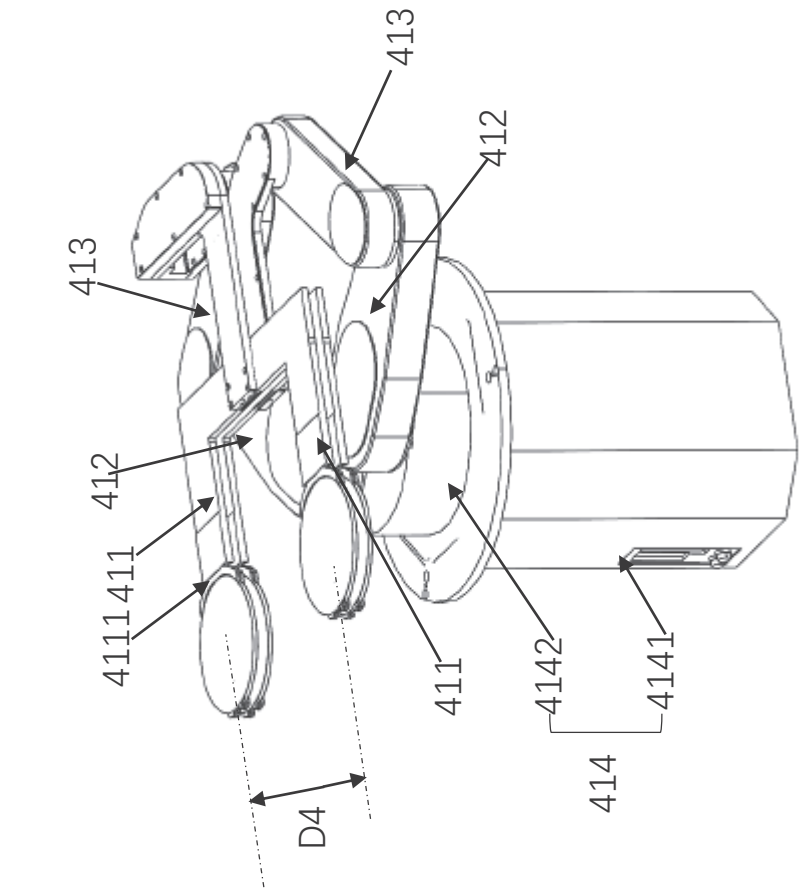


FIG. 10(b)

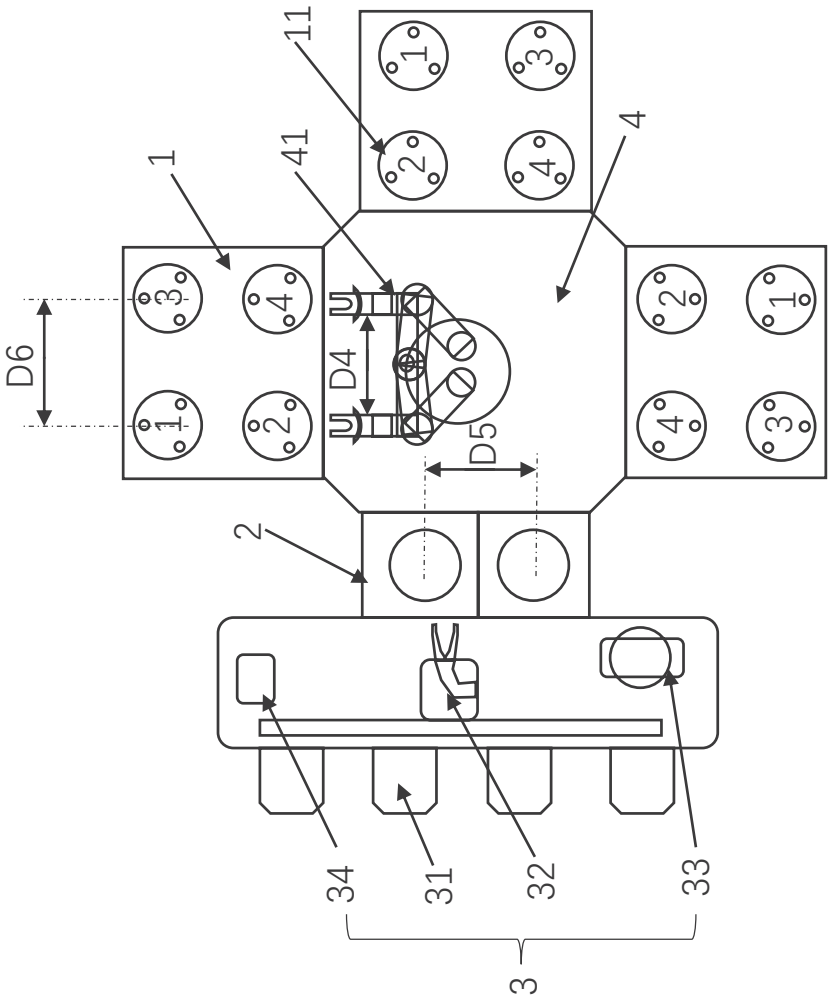


FIG. 10(a)

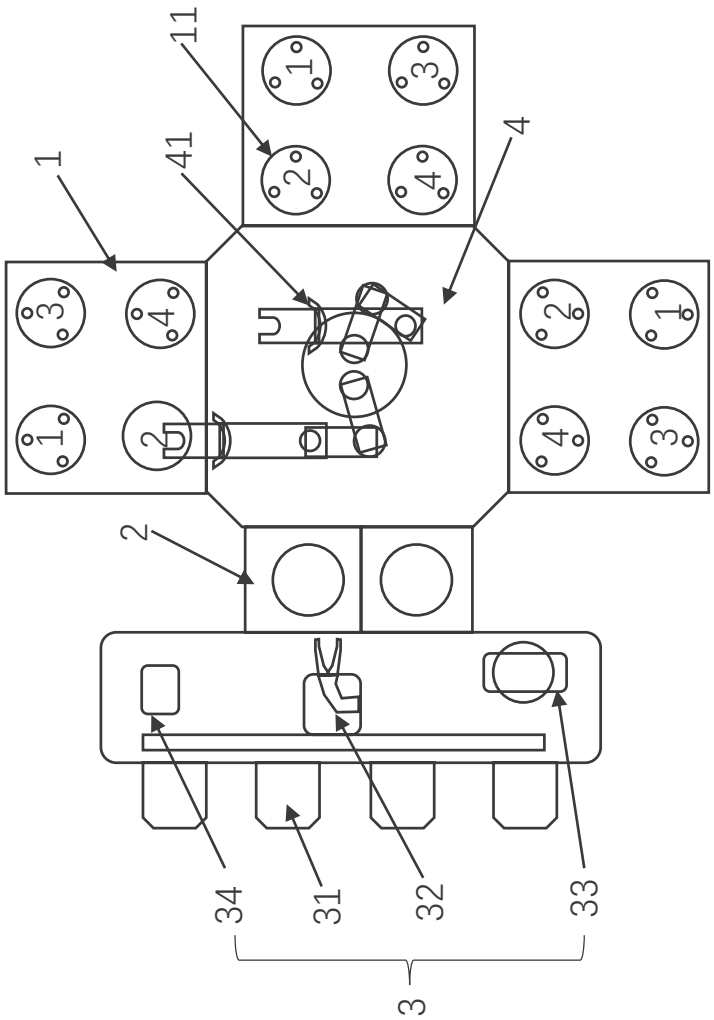


FIG. 11(a)

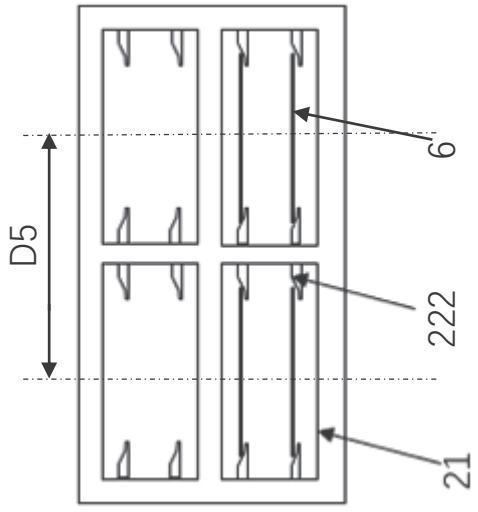


FIG. 10(c)

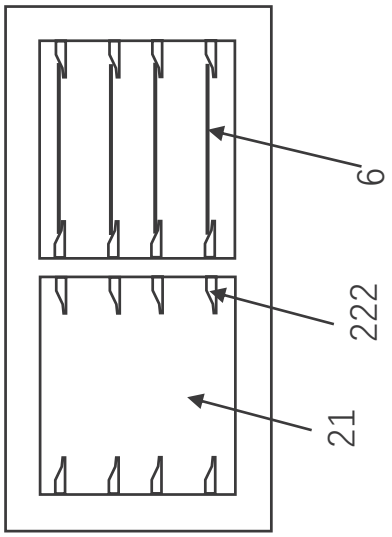


FIG. 11(c)

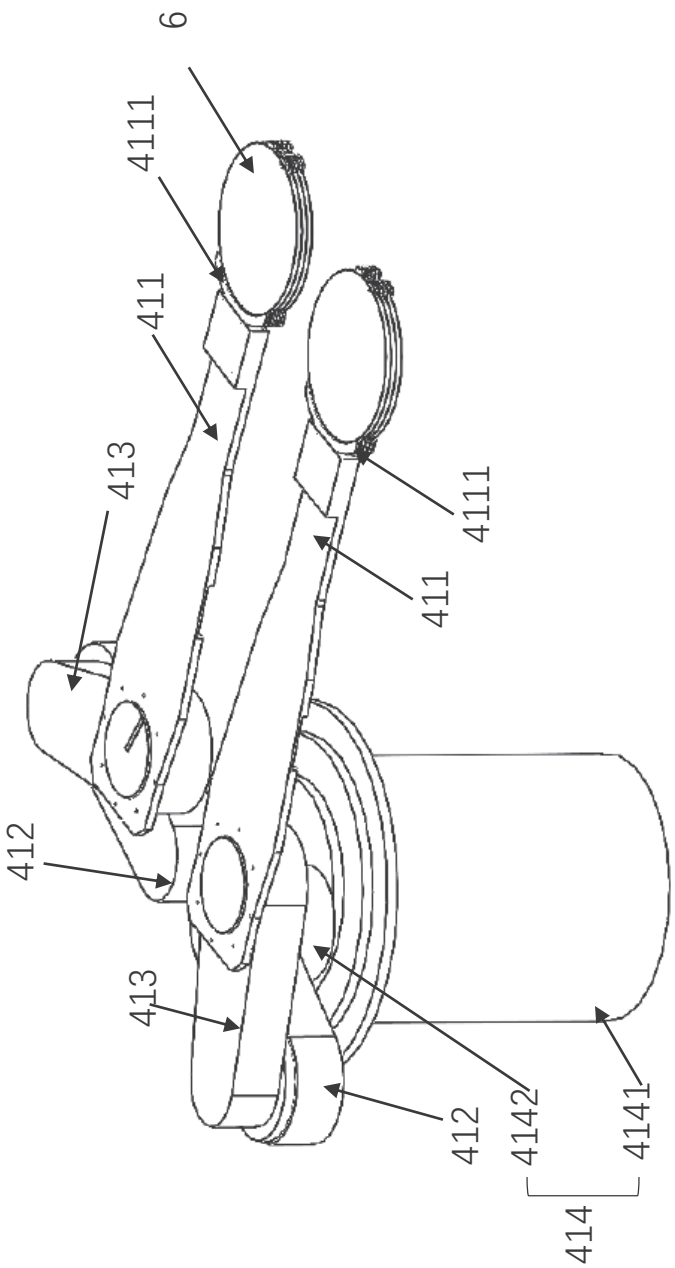


FIG. 11(b)

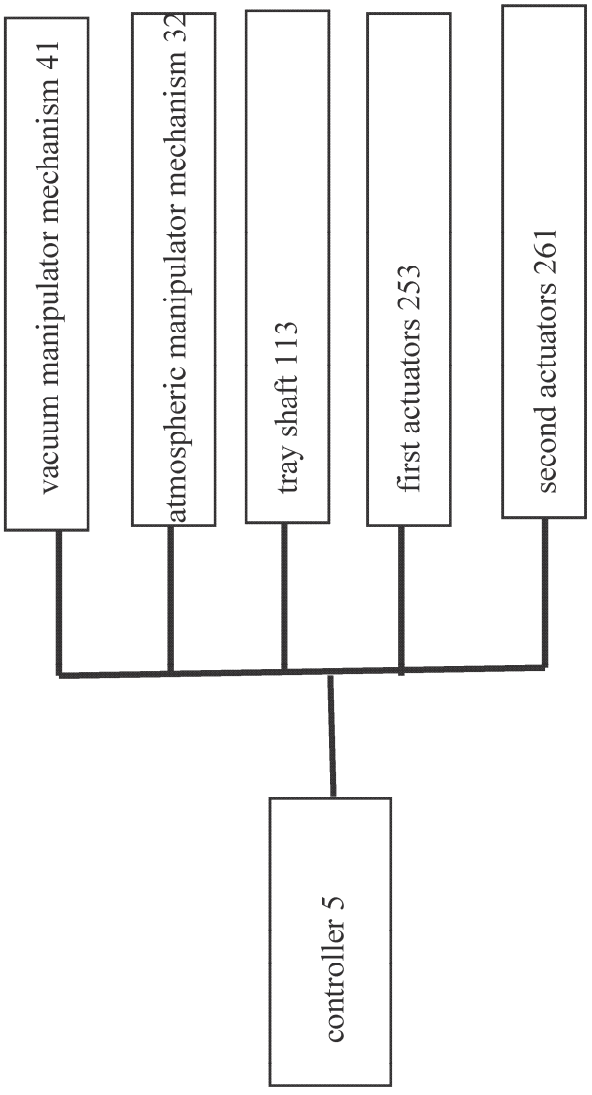

vacuum manipulator mechanism 41
atmospheric manipulator mechanism 32
tray shaft 113
first actuators 253
second actuators 261
controller 5

FIG. 12