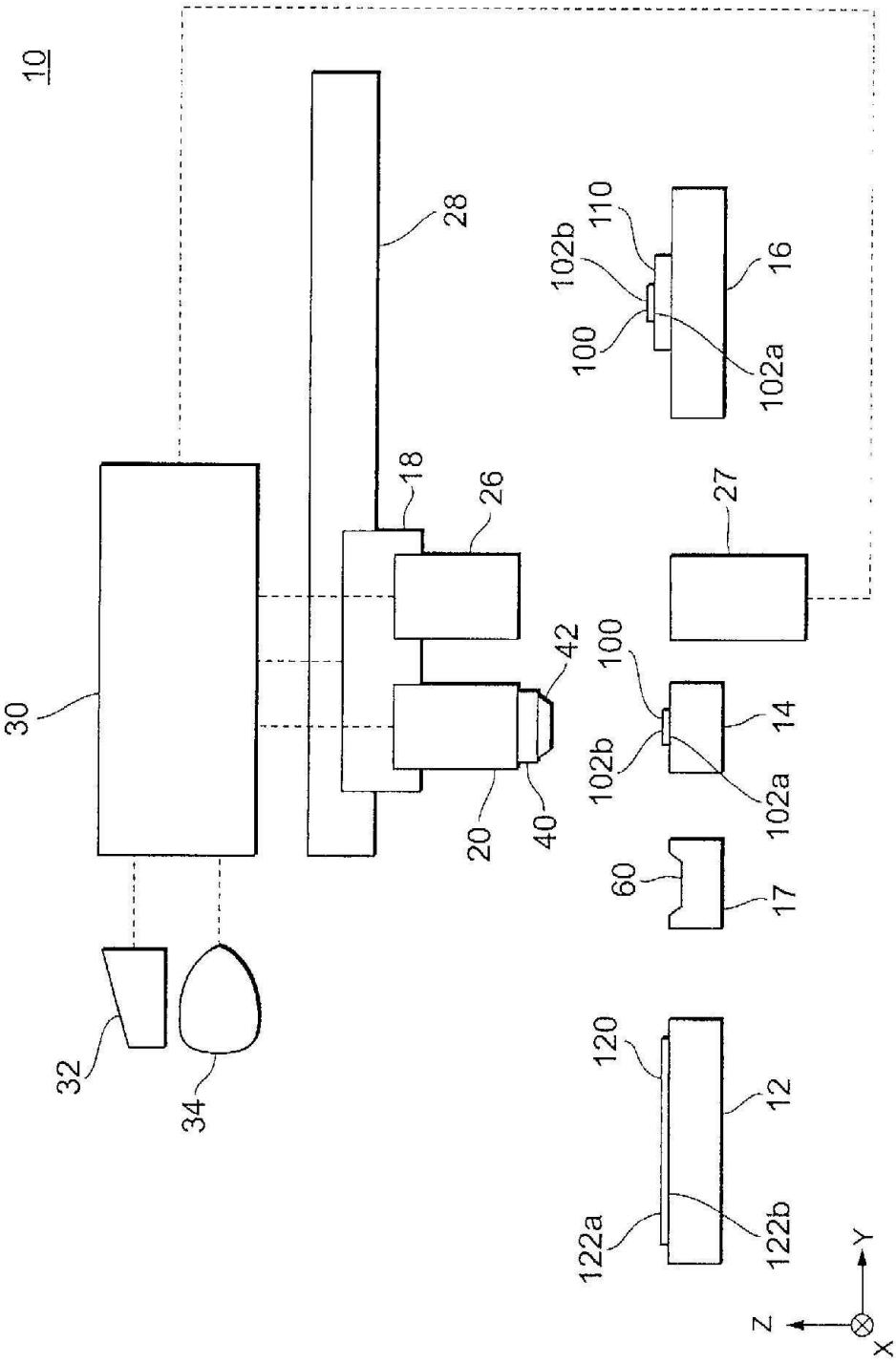
10
28
102b
110
16
100
102a
18
26
27
30
42
100
102b
14
102a
20
40
60
17
32
34
120
12
122a
122b
Y
Z
X

FIG. 1

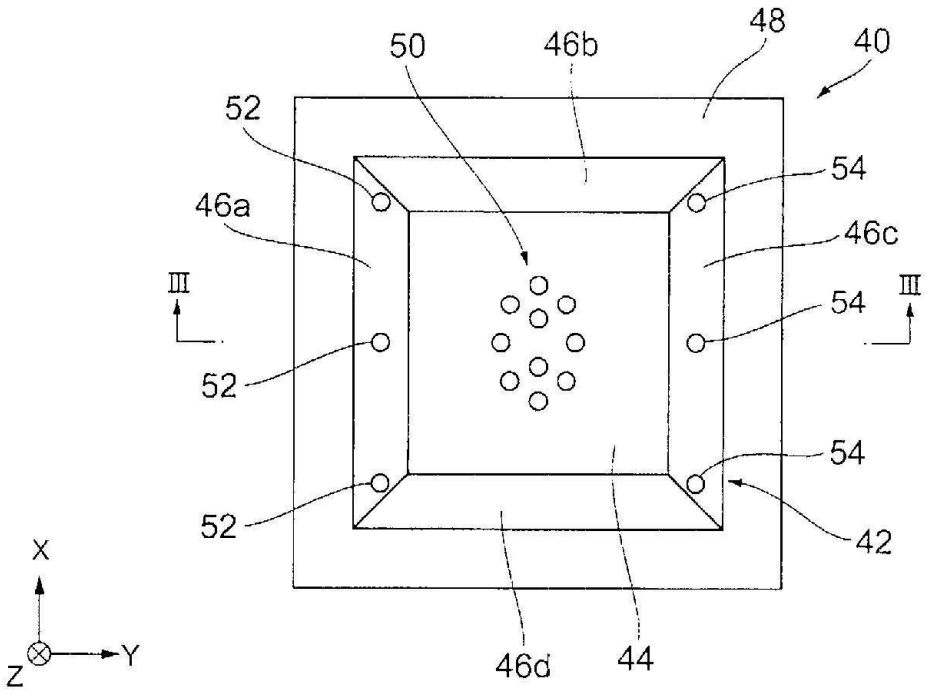
50
46b
48
40
52
54
46a
46c
III
III
54
52
54
52
42
X
Y
Z
46d
44

FIG. 2

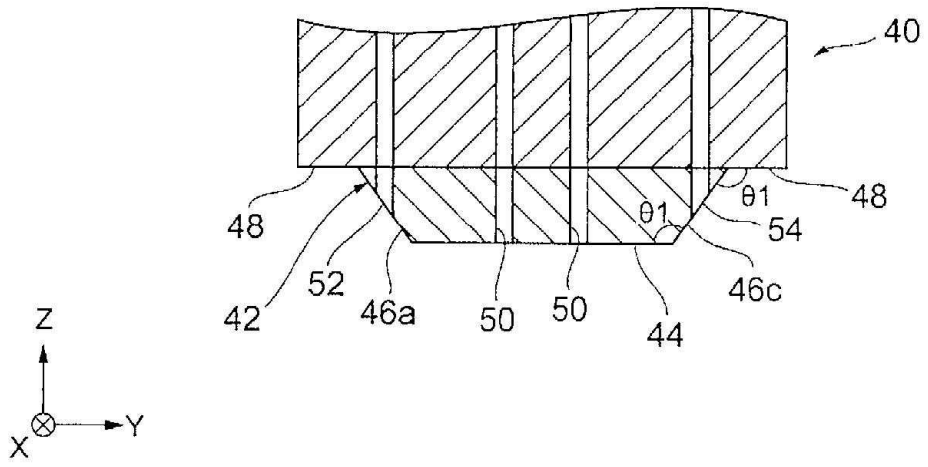
40
48
θ1
48
θ1
54
42
52
46a
50
50
46c
44
Z
Y
X

FIG. 3

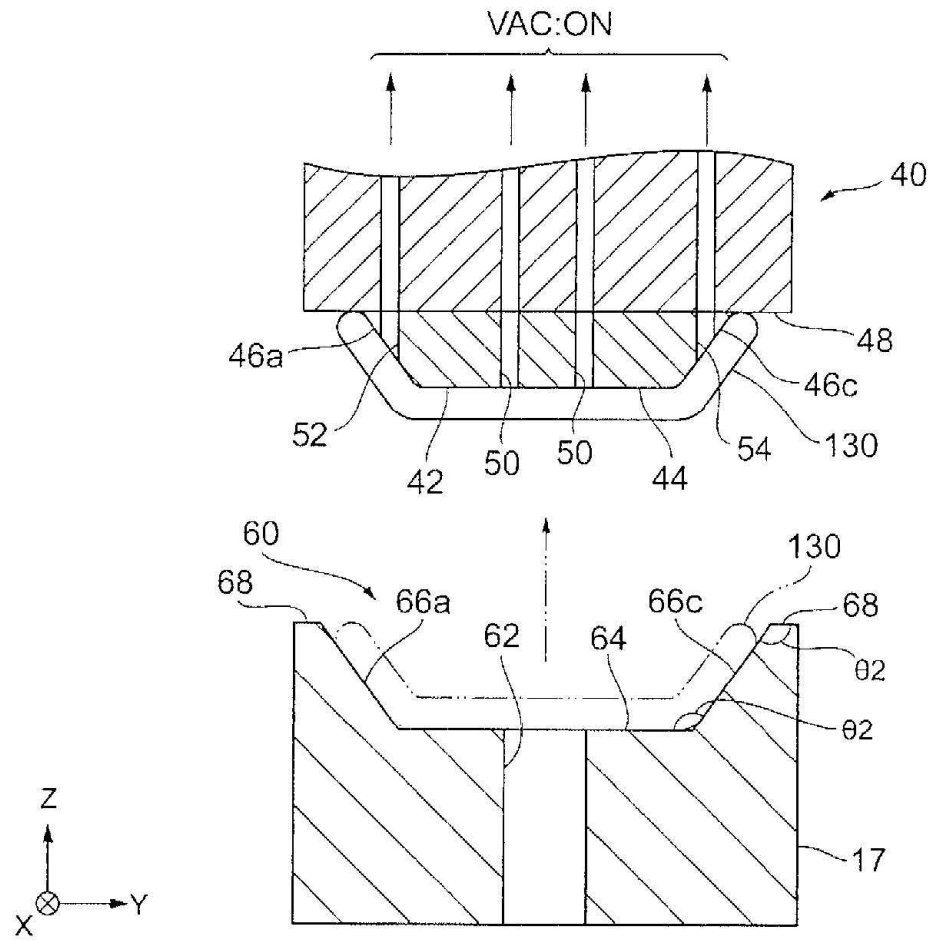
VAC:ON
40
48
46a
46c
52
42
50
50
44
54
130
60
68
66a
62
64
66c
130
68
θ2
θ2
17
Z
Y
X

FIG. 4

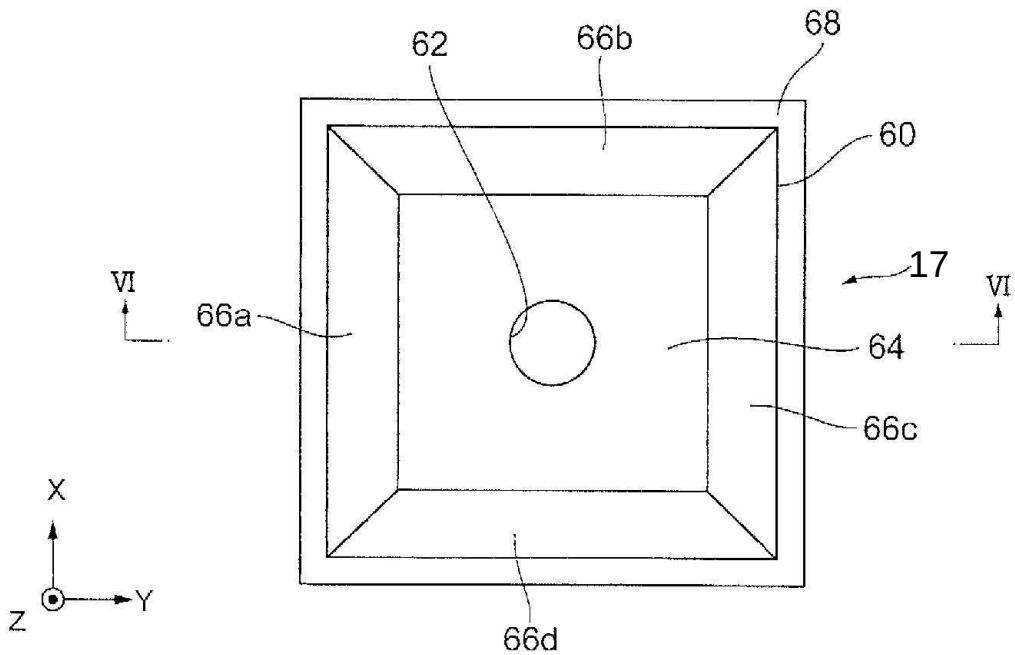
62
66b
68
60
17
VI
VI
66a
64
66c
X
Y
Z
66d

FIG. 5

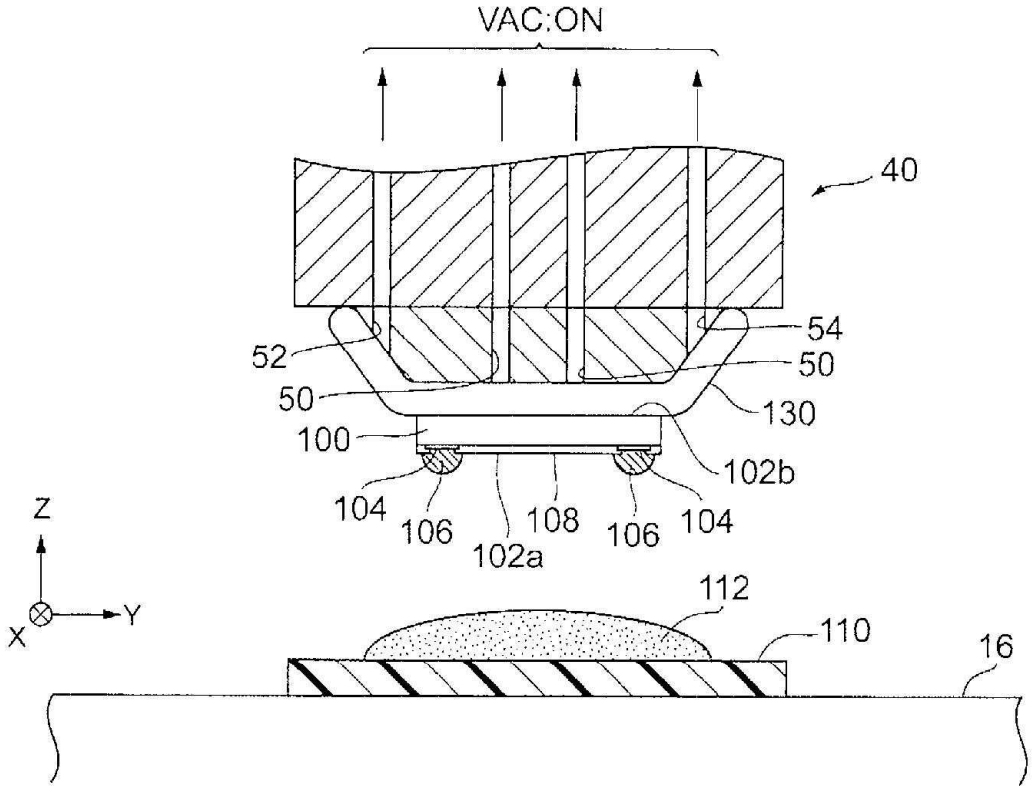
VAC:ON
40
54
52
50
50
130
100
102b
104
106
108
106
104
102a
Z
Y
X
112
110
16

FIG. 6

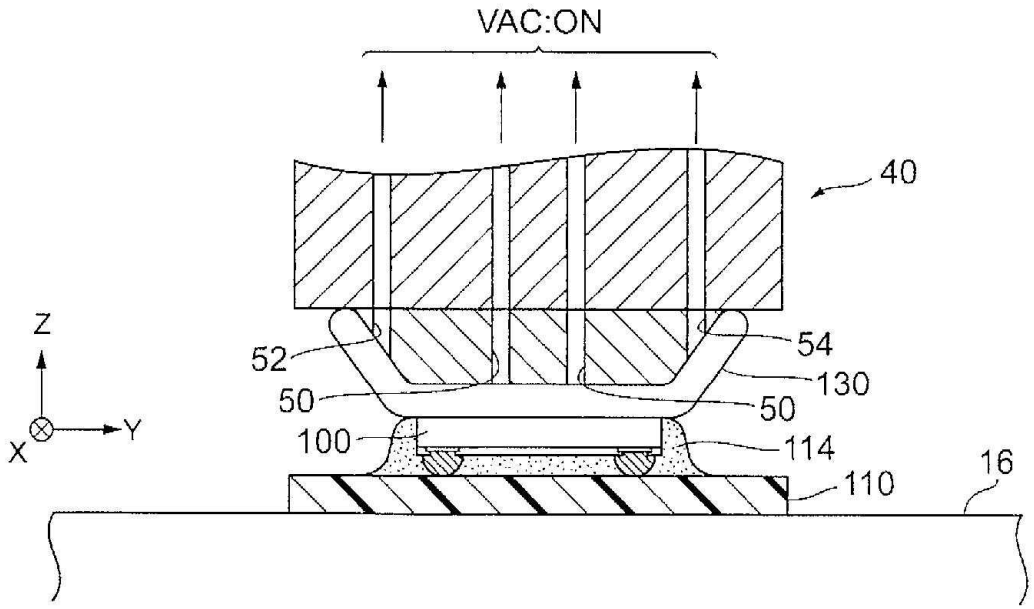
VAC:ON
40
Z
54
52
130
50
50
Y
X
100
114
110
16

FIG. 7

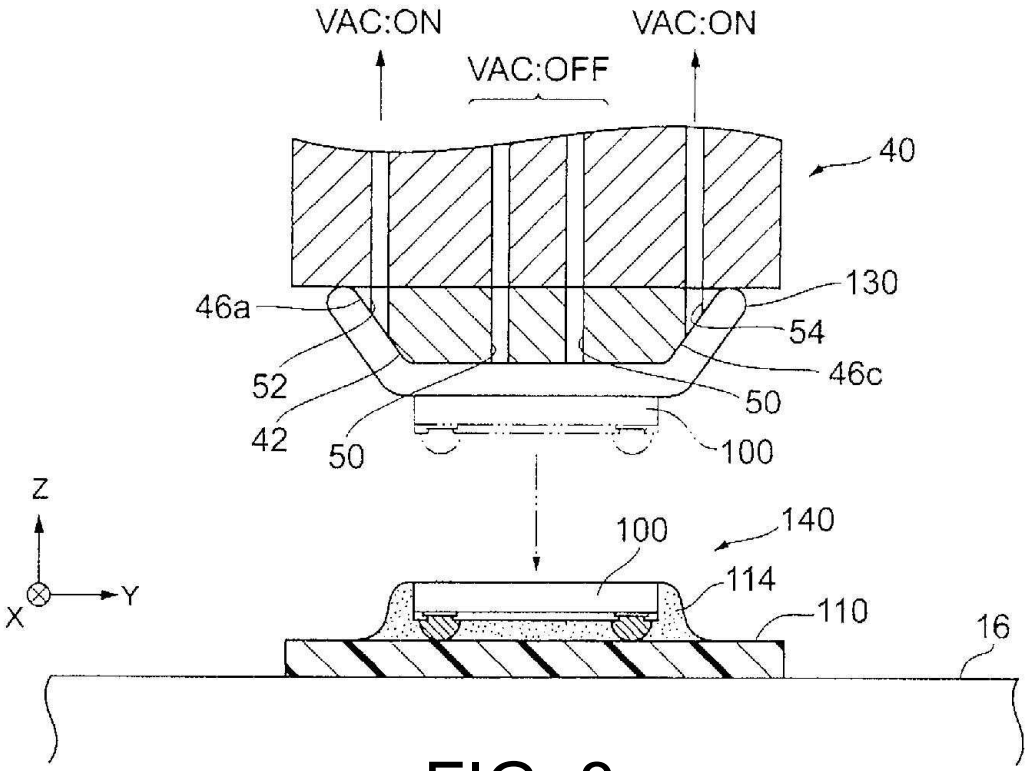
VAC:ON
VAC:ON
VAC:OFF
40
130
46a
54
52
46c
50
42
50
100
Z
Y
X
100
140
114
110
16

FIG. 8

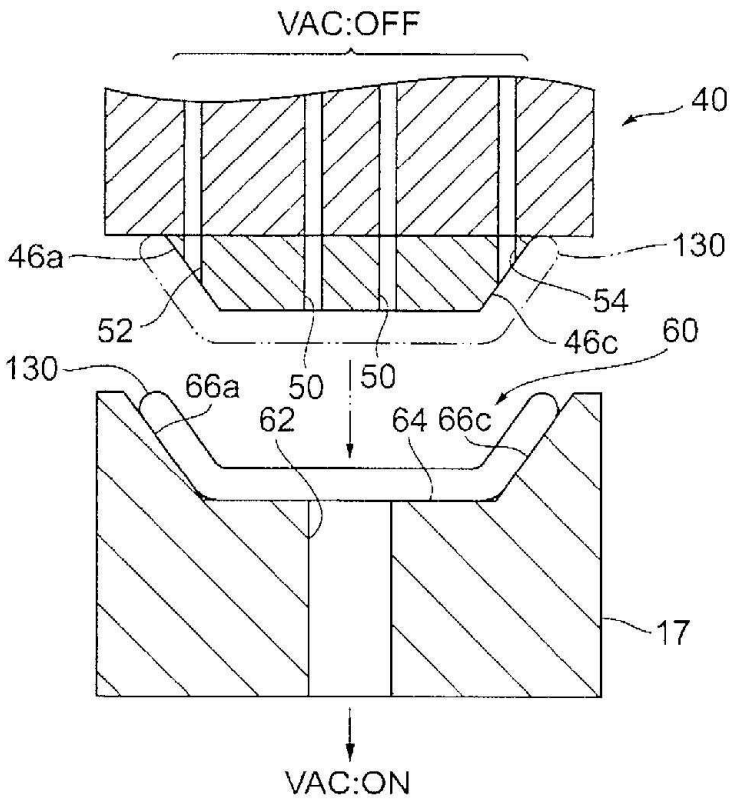
VAC:OFF
40
46a
130
54
52
46c
60
130
66a
50
50
62
64
66c
17
VAC:ON

FIG. 9

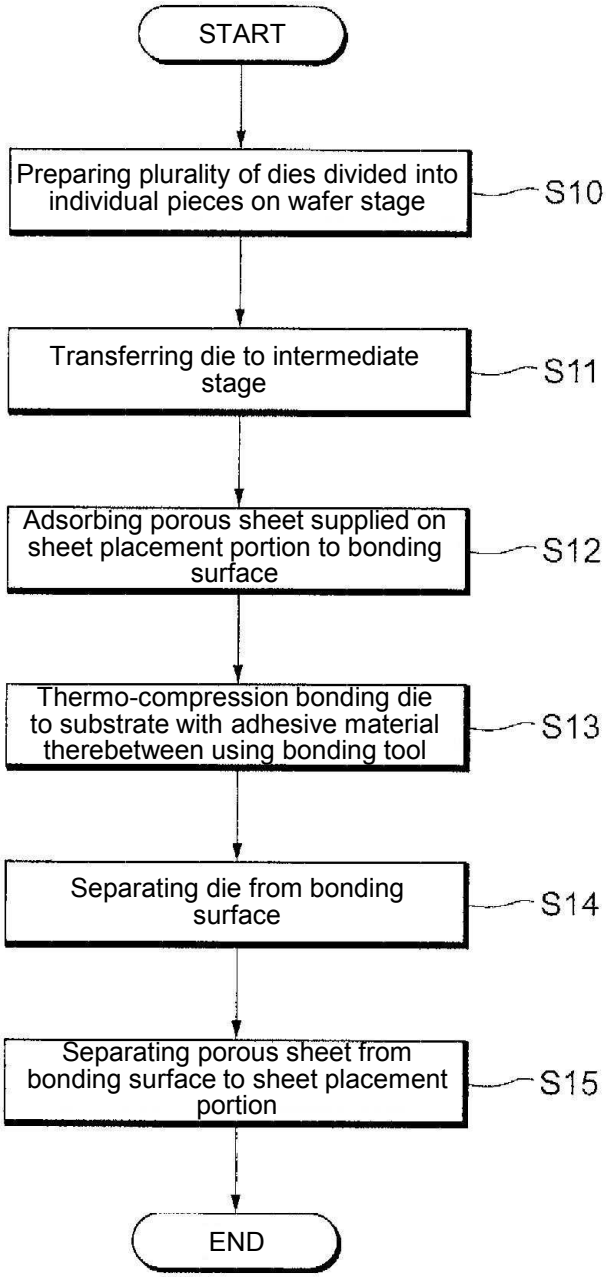
START
Preparing plurality of dies divided into individual pieces on wafer stage
S10
Transferring die to intermediate stage
S11
Adsorbing porous sheet supplied on sheet placement portion to bonding surface
S12
Thermo-compression bonding die to substrate with adhesive material therebetween using bonding tool
S13
Separating die from bonding surface
S14
Separating porous sheet from bonding surface to sheet placement portion
S15
END

FIG. 10

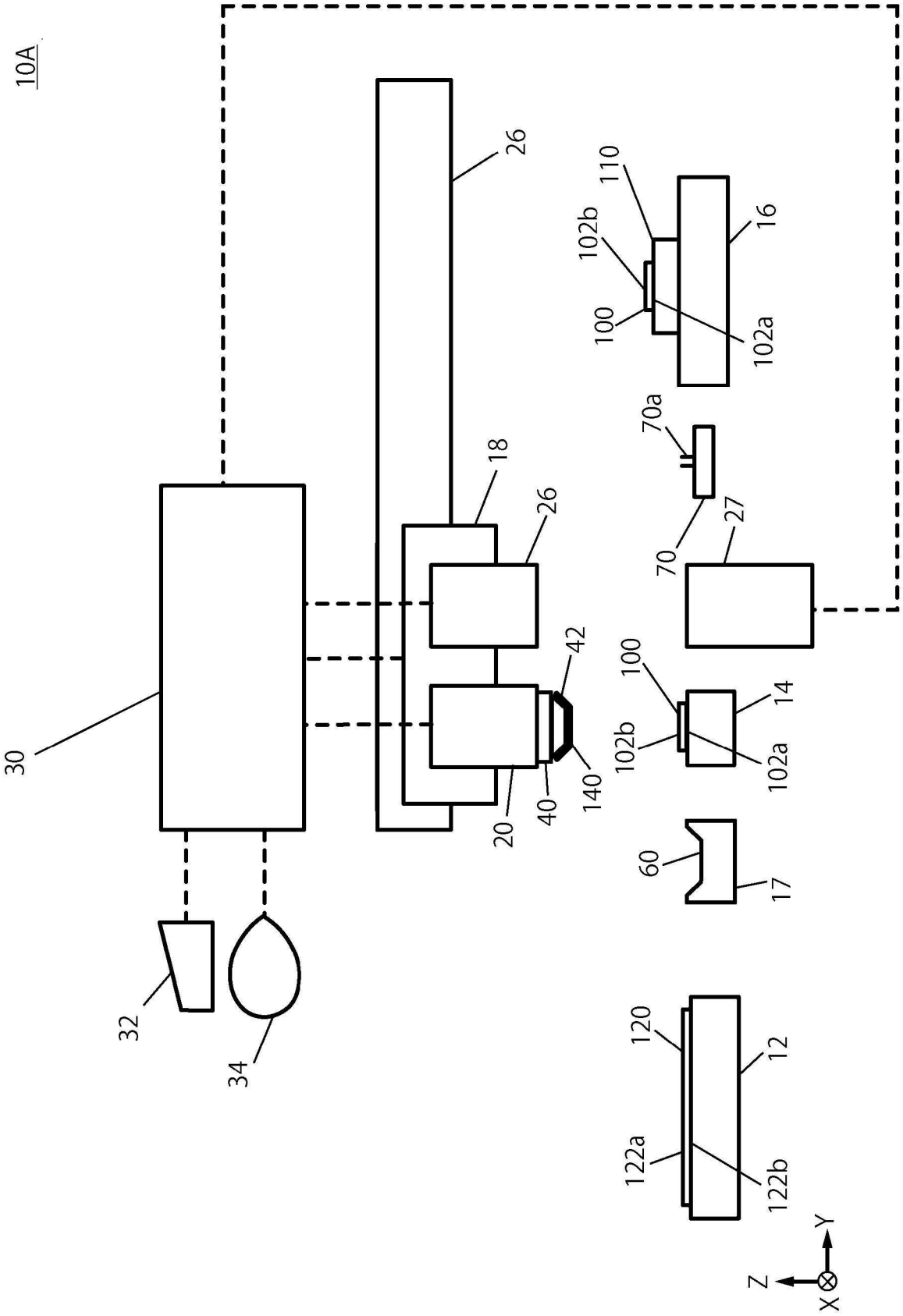
10A
26
110
102b
16
100
102a
70a
18
26
70
27
42
100
14
30
102b
102a
140
20
40
60
17
32
34
120
12
122a
122b
Z
Y
X

FIG. 11

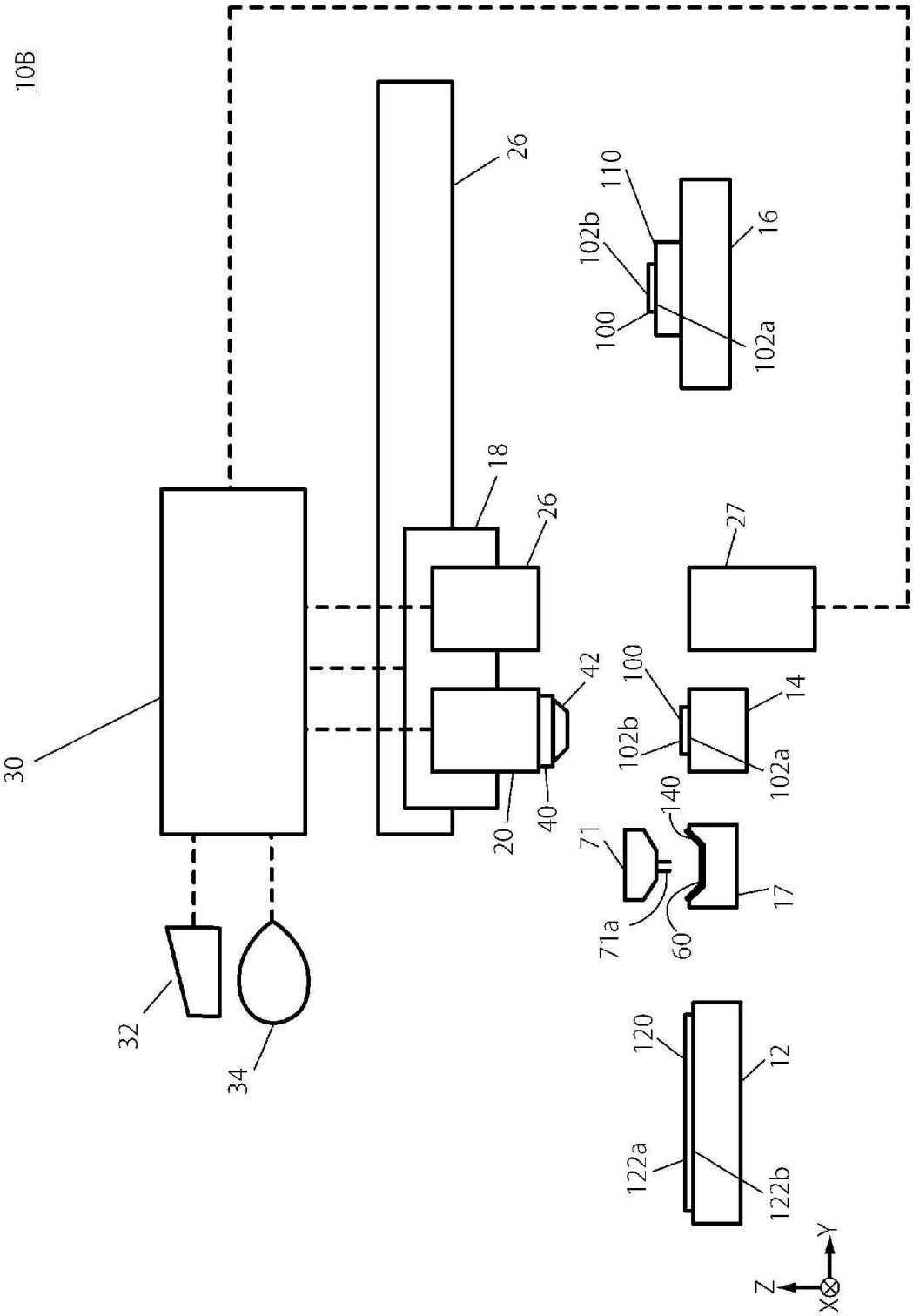
10B
26
110
102b
16
100
102a
18
26
27
30
42
100
14
102b
102a
140
71
17
20
40
71a
60
32
34
120
12
122a
122b
Z
Y
X

FIG. 12