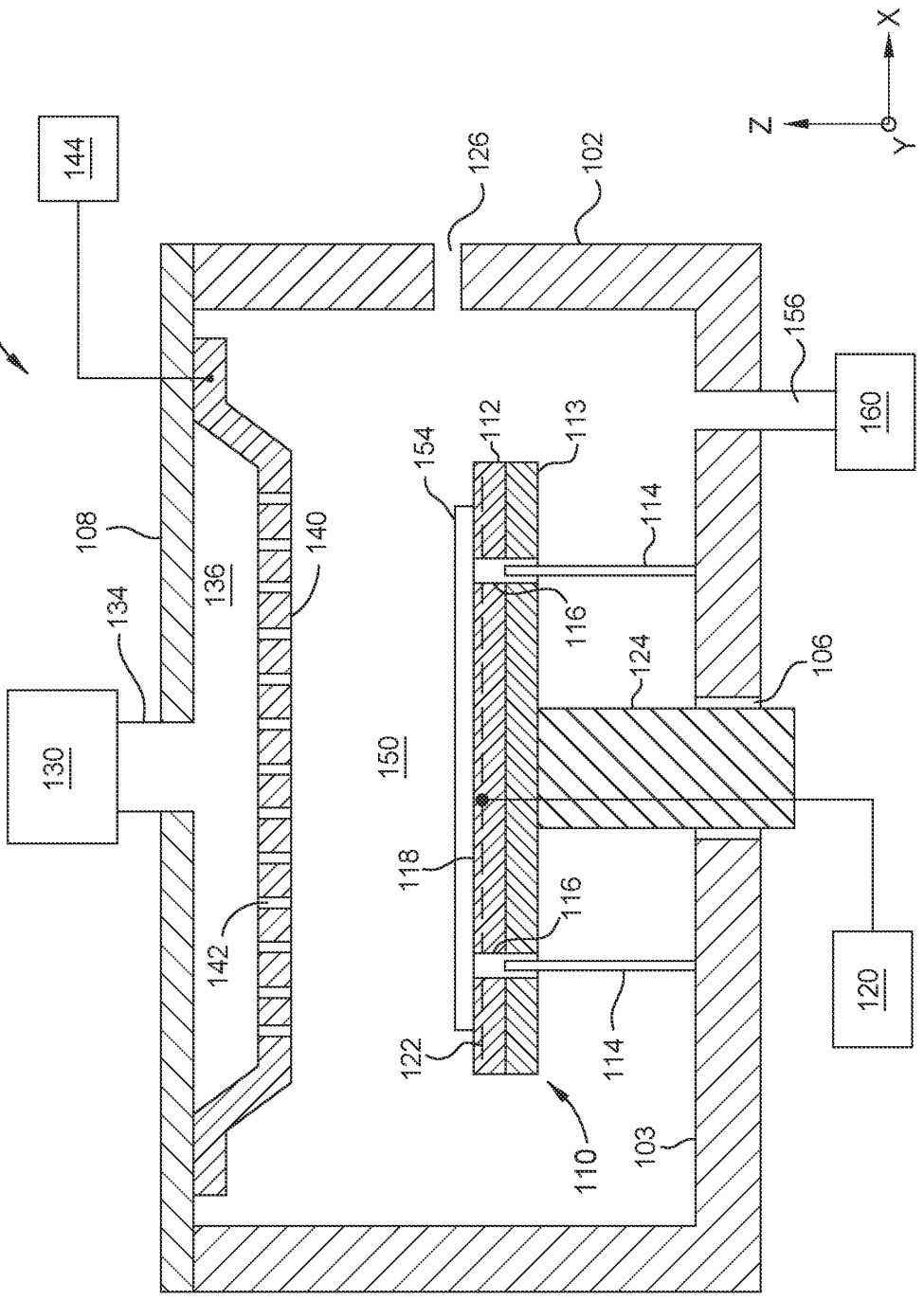

X
Z
Y
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142
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114
110
103

FIG. 1

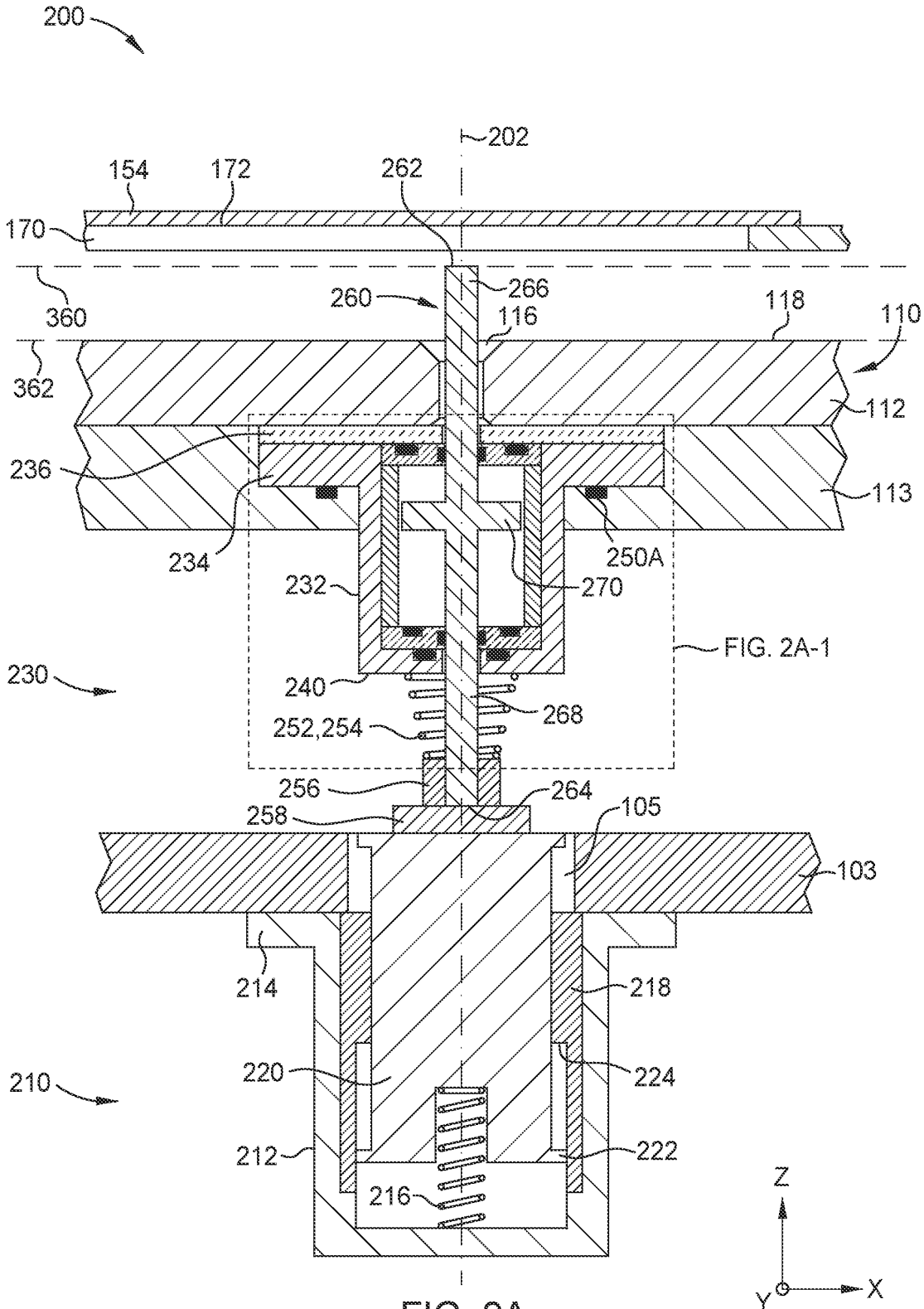

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232
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FIG. 2A-1
230
240
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264
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214
218
220
224
210
212
222
216
Z
Y
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FIG. 2A

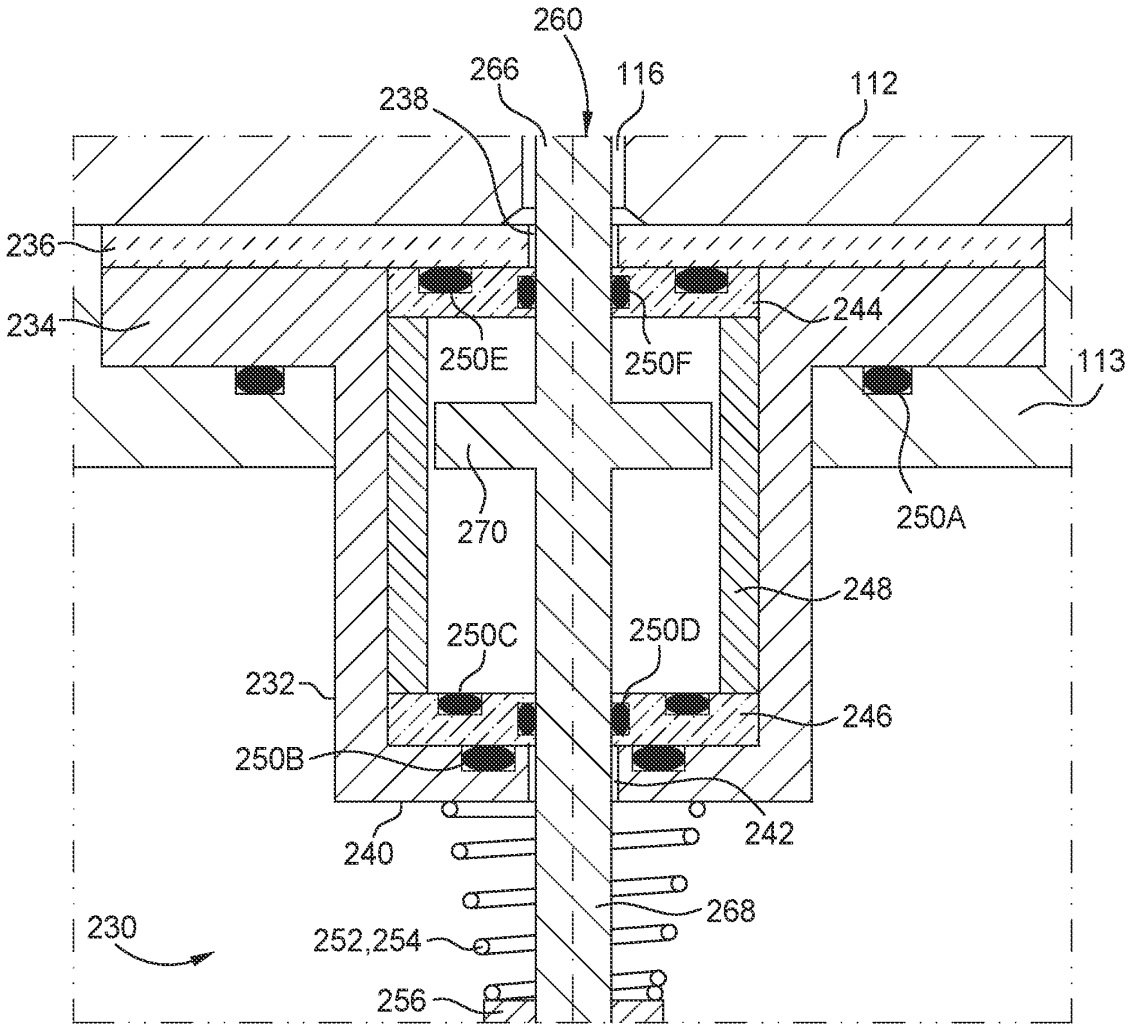
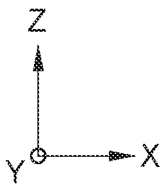

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266
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268
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252,254
256

FIG. 2A-1


Z
Y
X

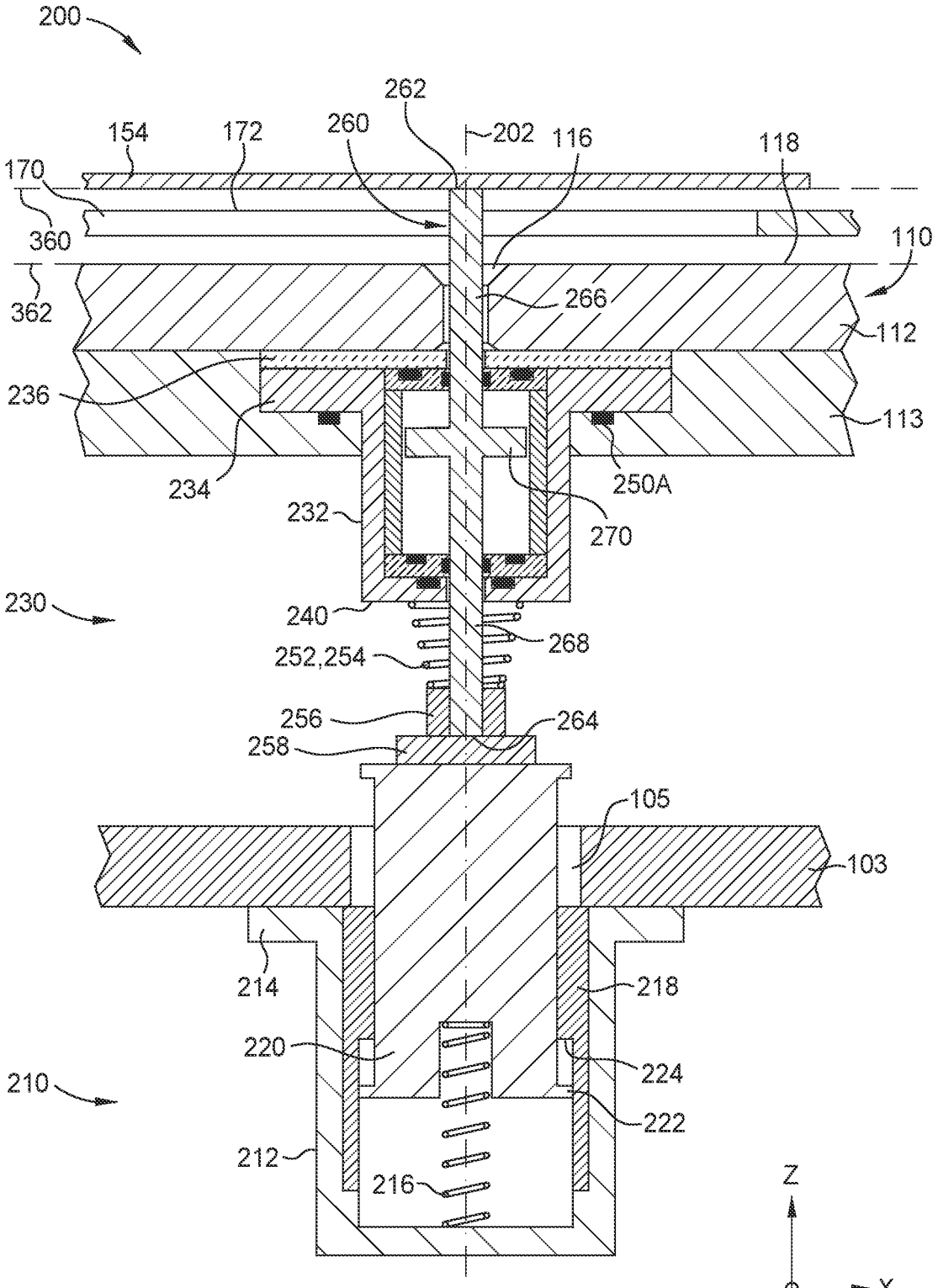

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230
240
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214
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224
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222
212
216
Z
Y
X

FIG. 2B

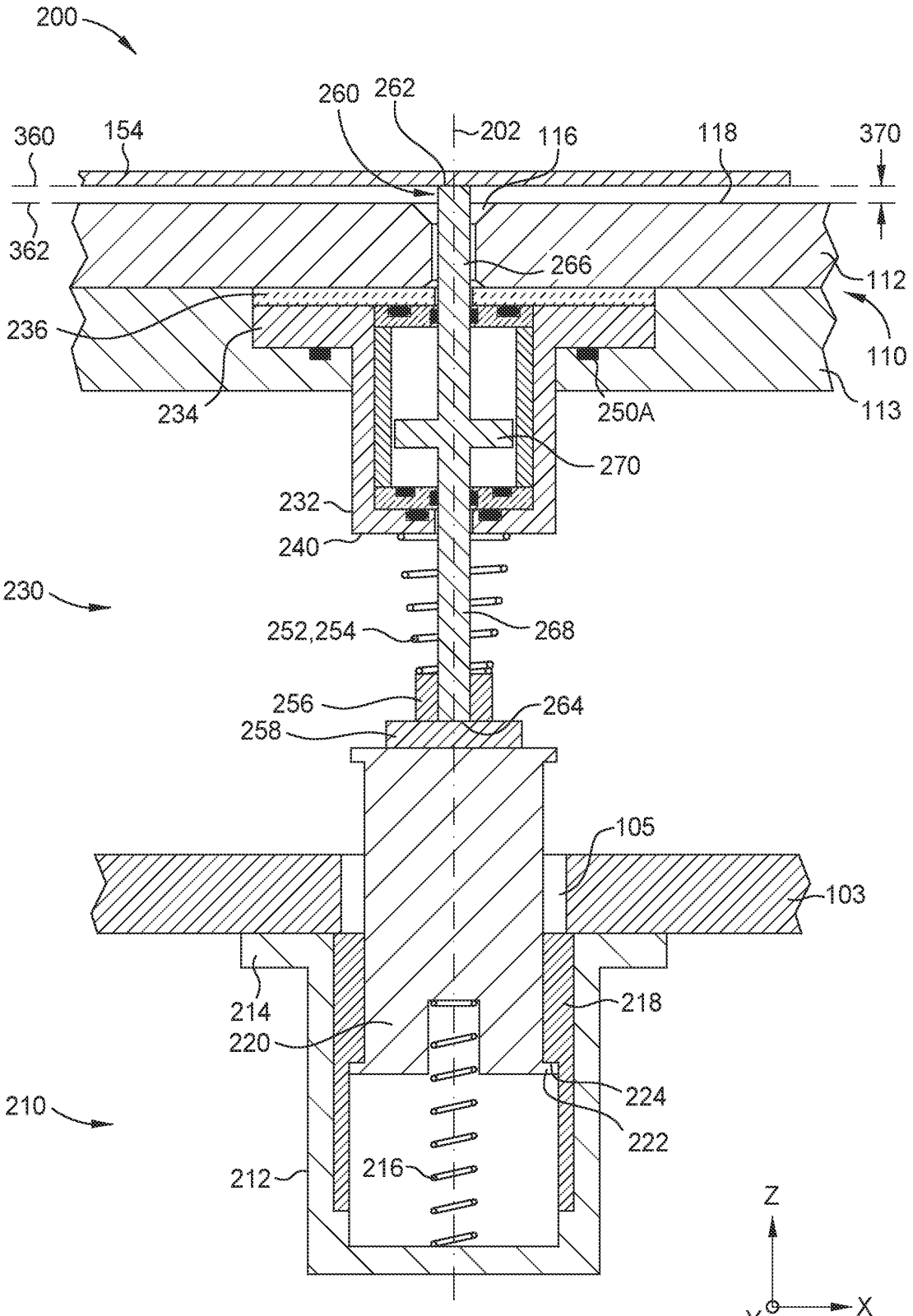

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270
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240
230
252,254
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256
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258
105
103
214
218
220
210
224
222
216
212
Z
Y
X

FIG. 2C

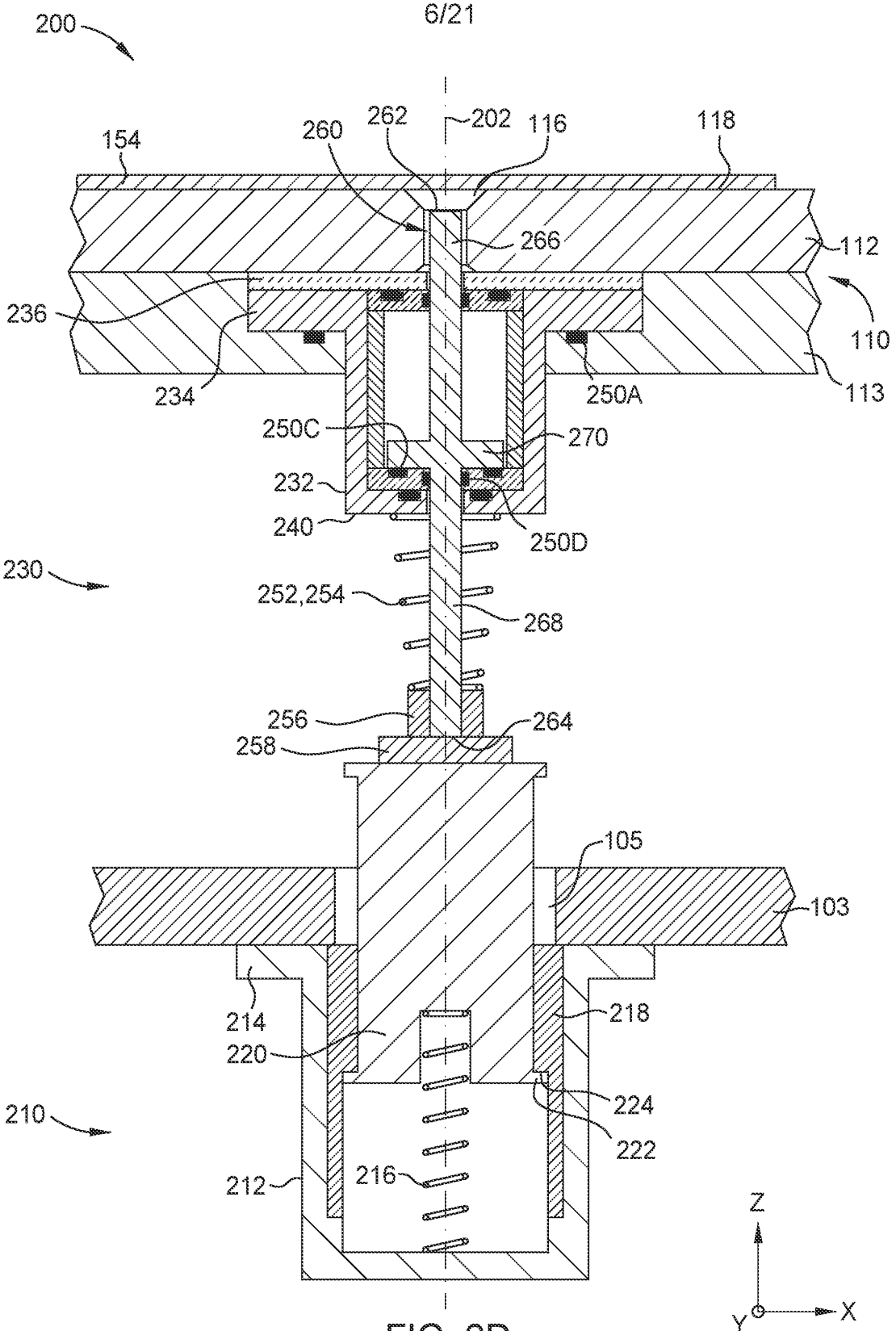

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250A
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250C
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240
250D
230
252,254
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256
264
258
105
103
214
218
220
224
222
210
216
212
Z
Y
X

FIG. 2D

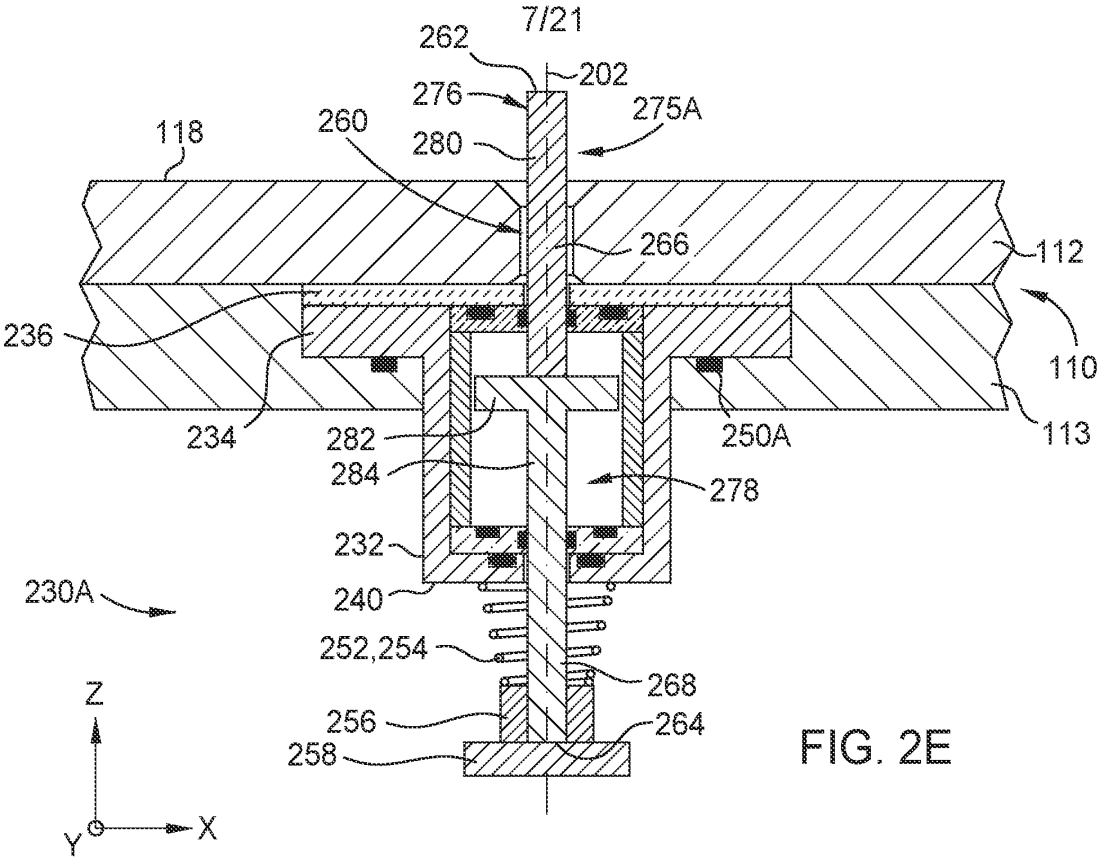

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202
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275A
260
280
118
266
112
236
110
234
282
250A
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232
230A
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252,254
268
Z
256
264
258
Y
X

FIG. 2E

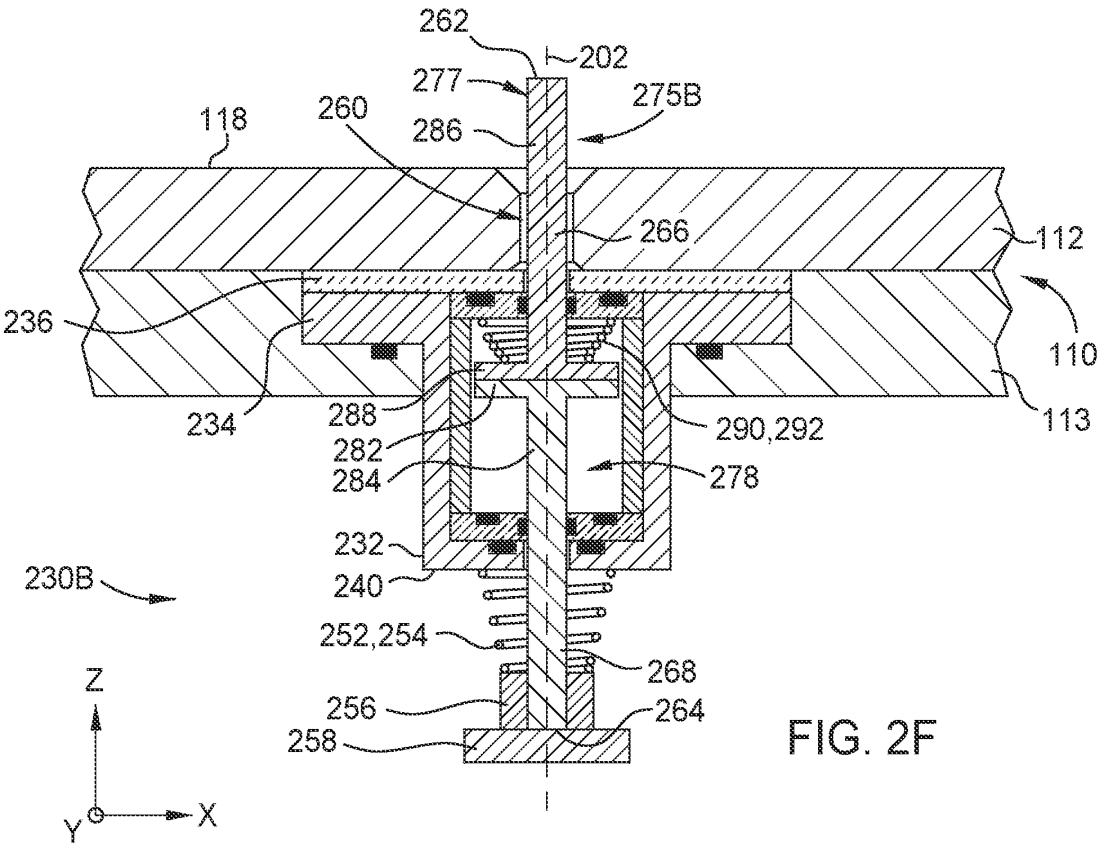

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202
277
275B
260
286
118
266
112
236
110
234
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290,292
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284
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232
230B
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252,254
268
Z
256
264
258
Y
X

FIG. 2F

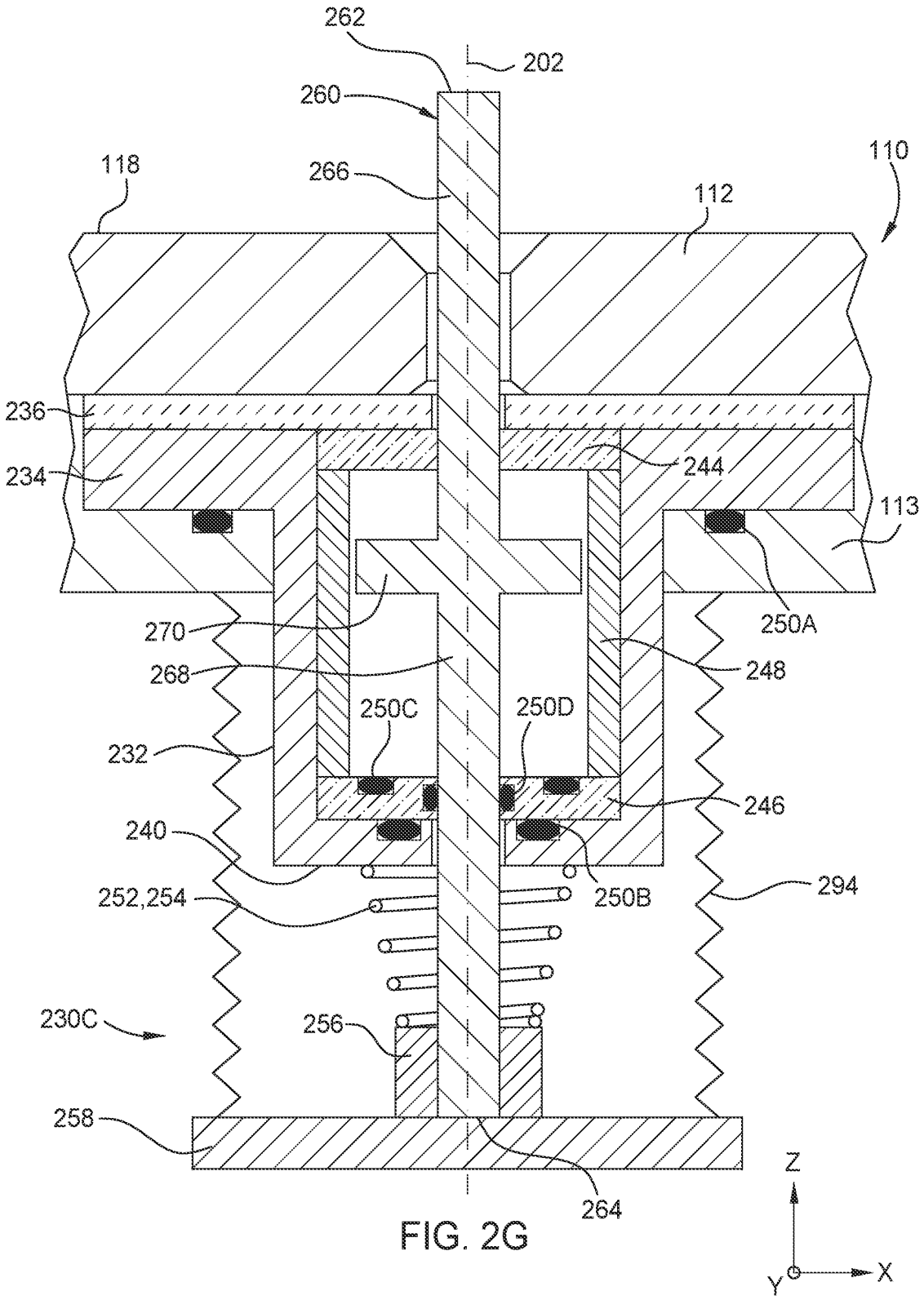

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266
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250A
270
268
248
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240
250B
294
252,254
230C
256
258
264
Z
Y
X

FIG. 2G

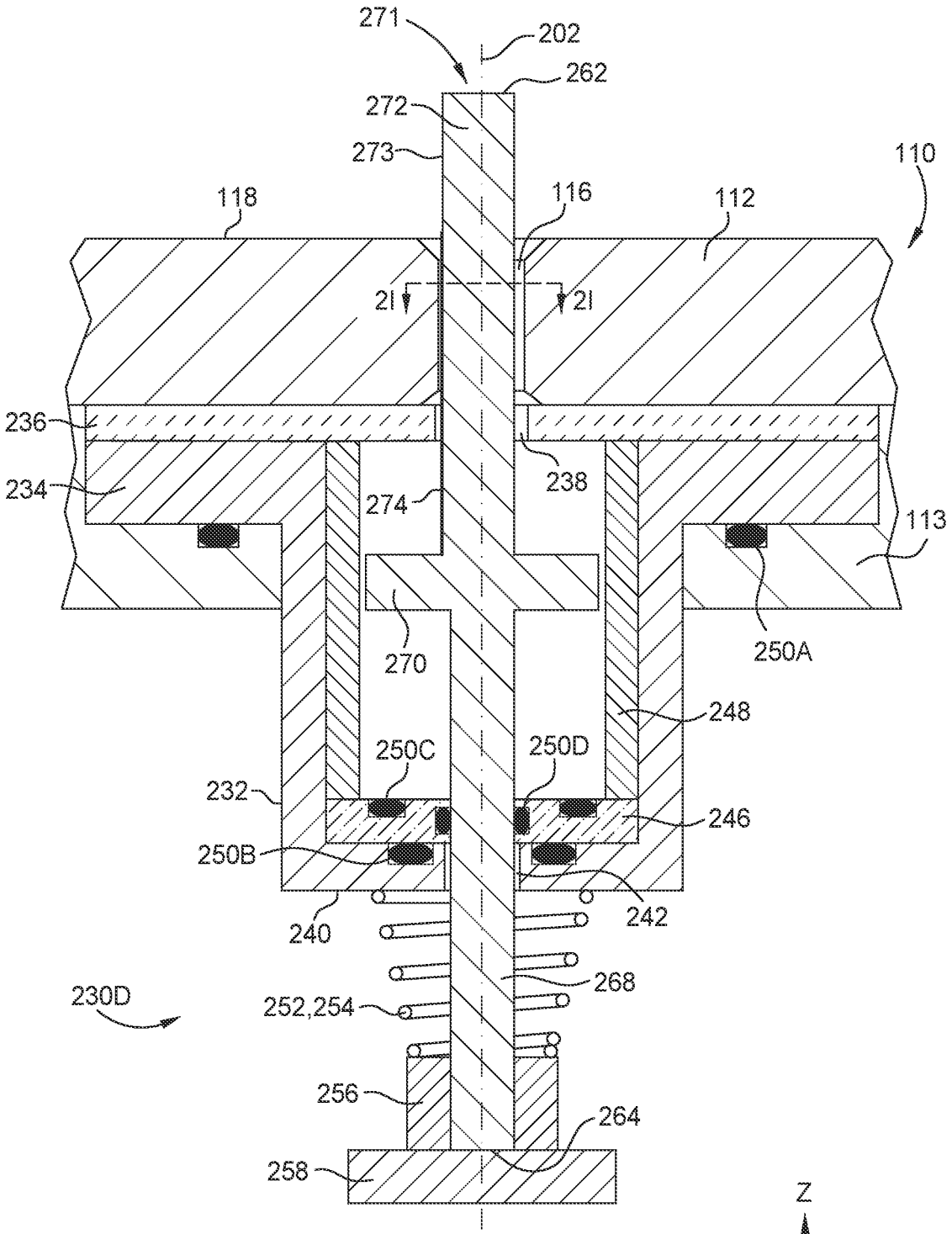

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202
262
272
273
110
118
116
112
2I
2I
236
234
238
274
113
270
250A
248
250C
250D
232
246
250B
240
242
230D
268
252,254
256
264
258
Z
Y
X

FIG. 2H

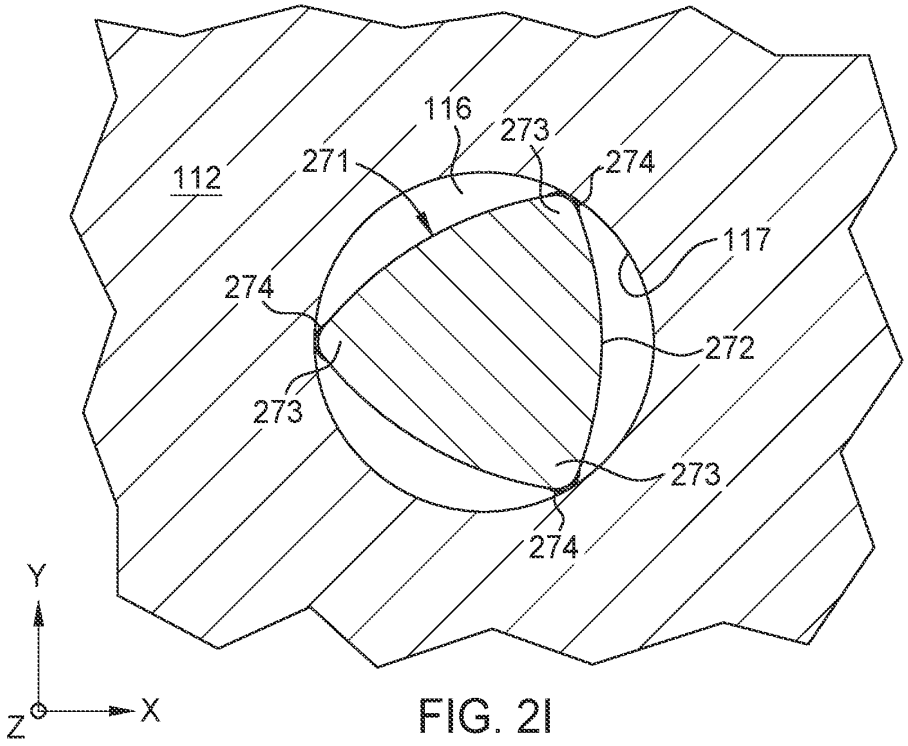


FIG. 2I

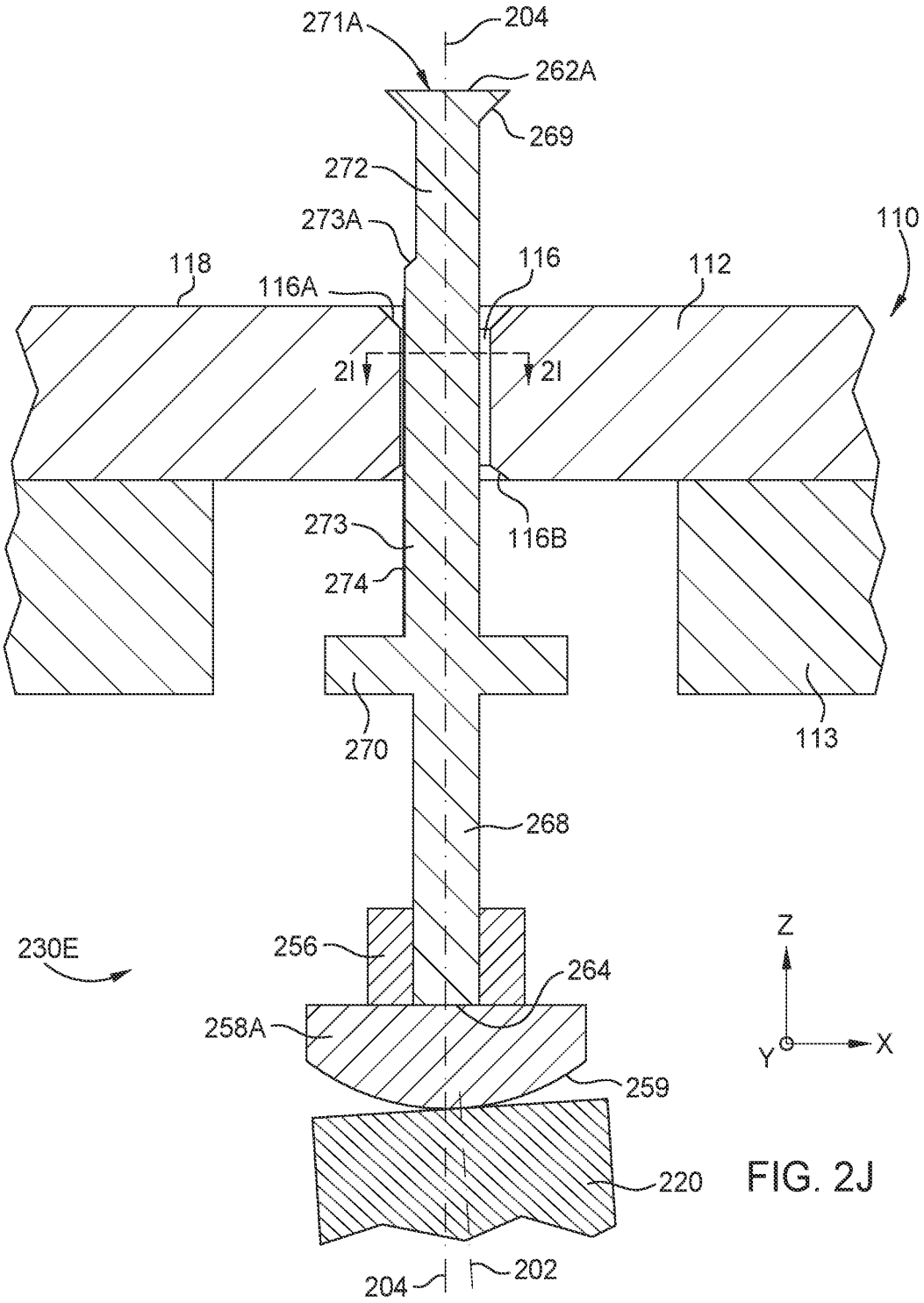

271A
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262A
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272
273A
110
118
116
112
116A
2I
2I
116B
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113
268
230E
256
264
258A
259
220
204
202
Z
Y
X

FIG. 2J

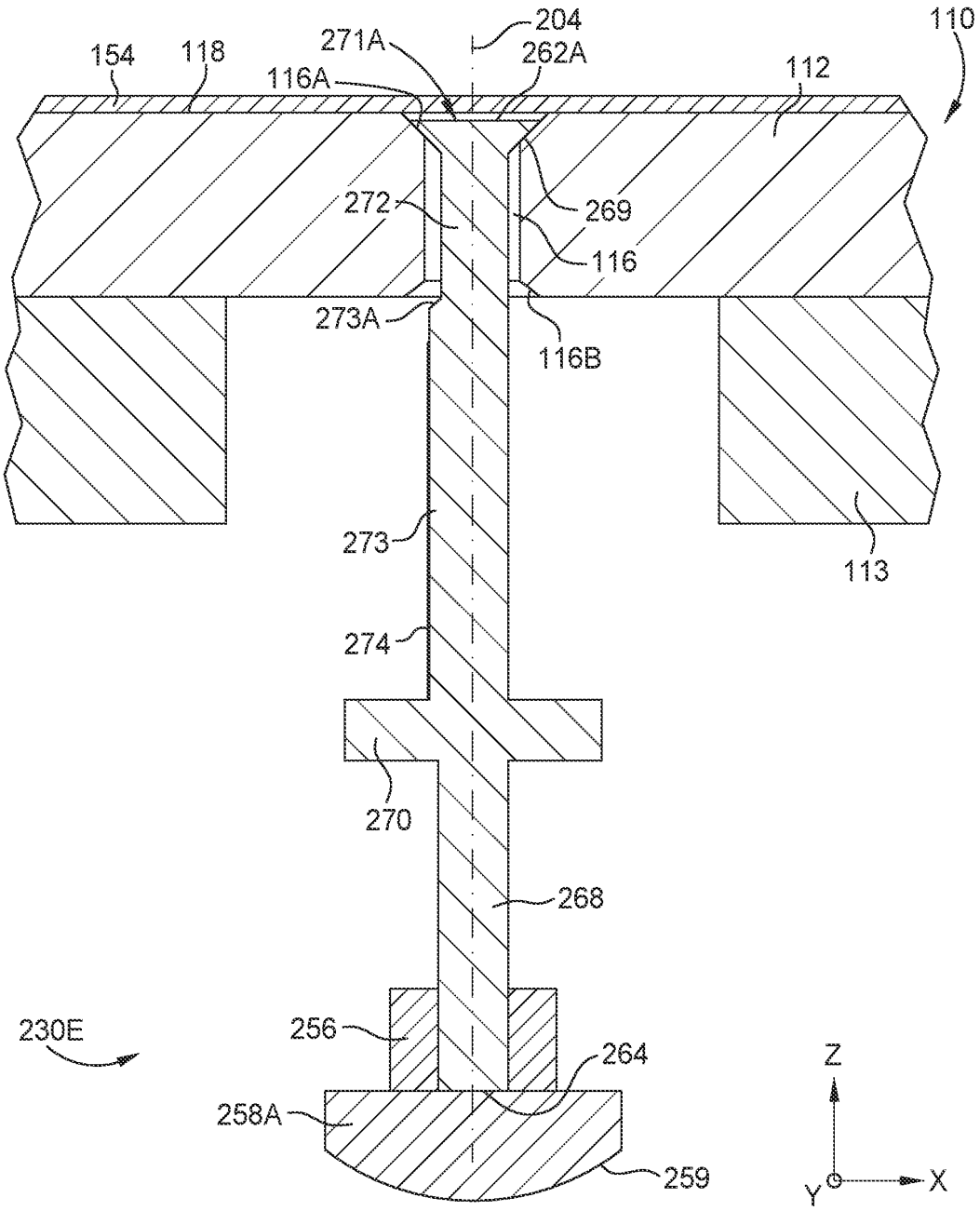

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116A
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230E
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264
258A
259
Z
Y
X

FIG. 2K

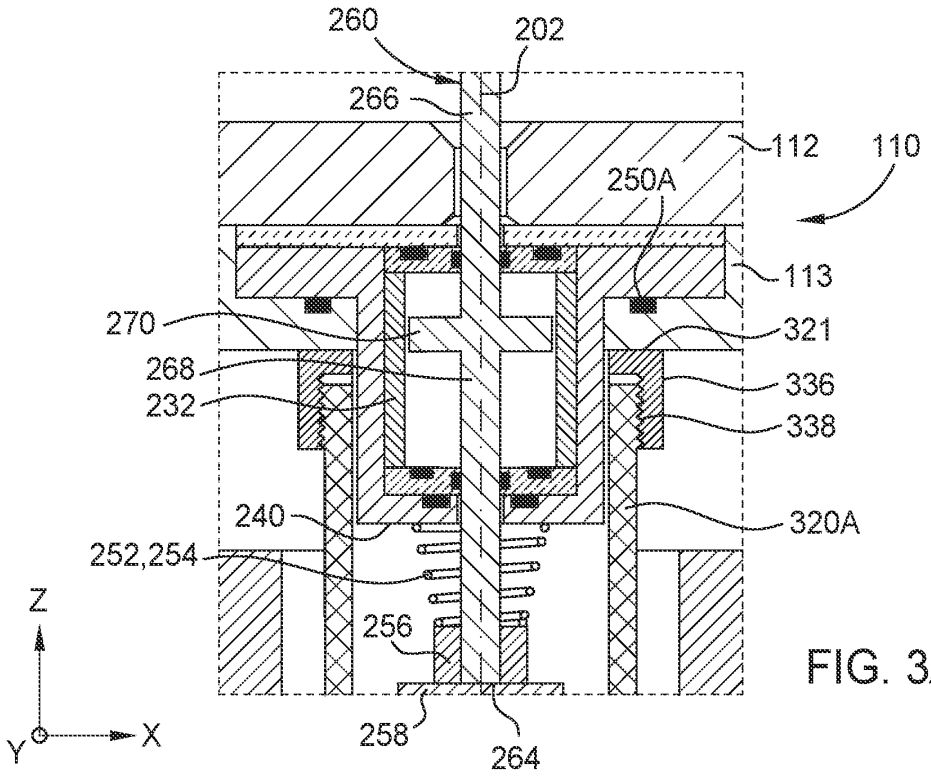

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112
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232
338
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320A
252,254
Z
256
Y
X
258
264

FIG. 3A-1

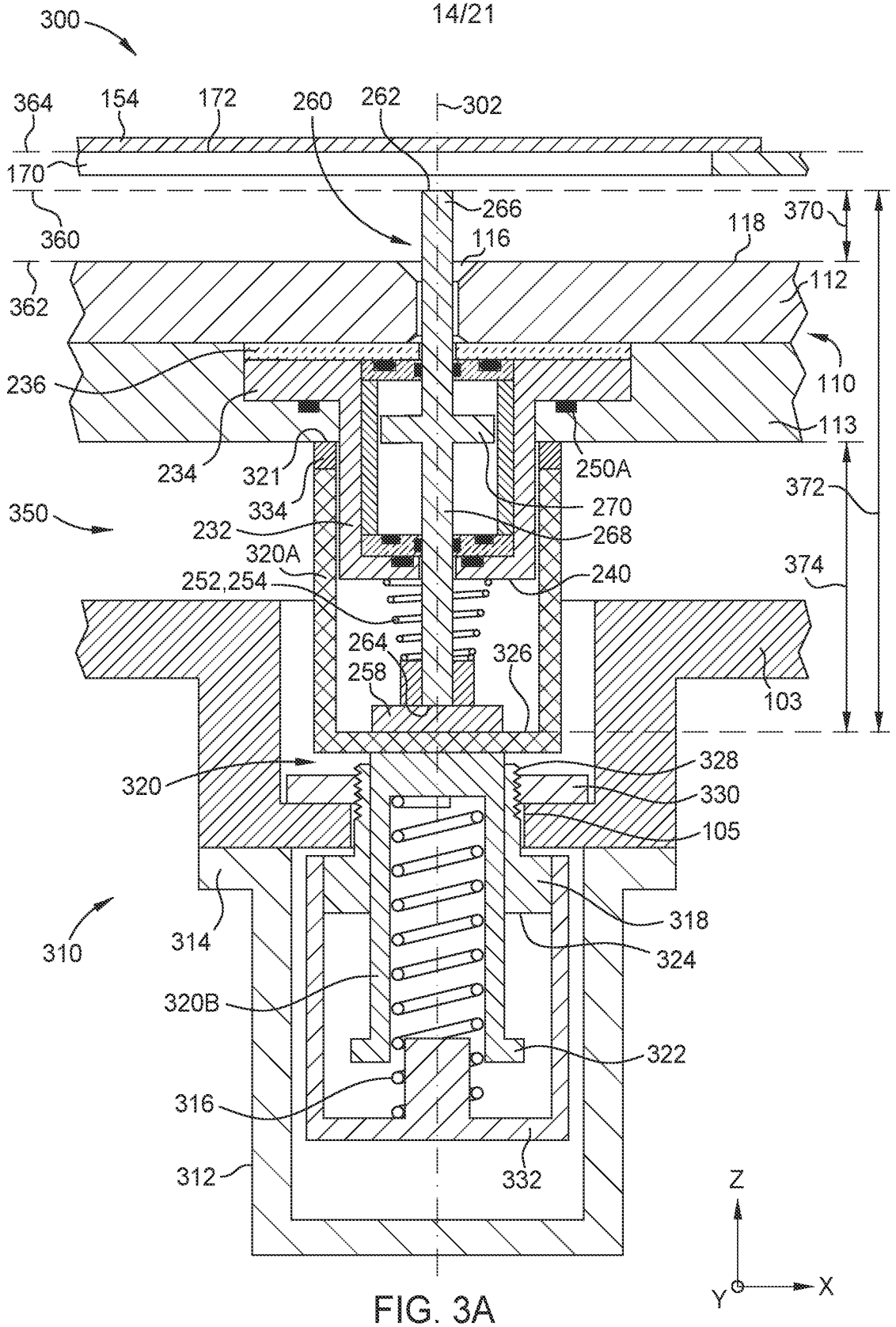

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320A
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258
326
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332
Z
Y
X

FIG. 3A

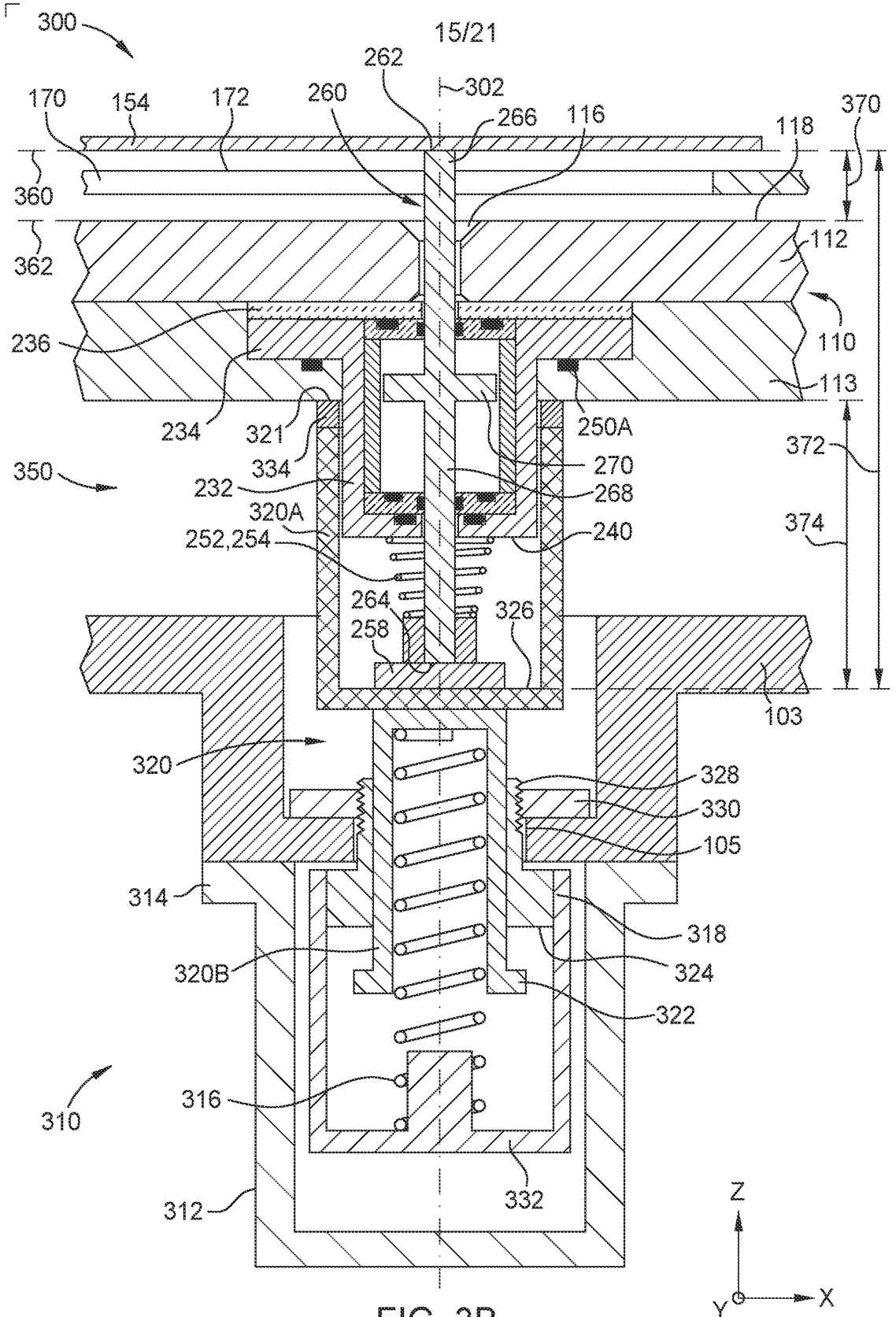

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FIG. 3B

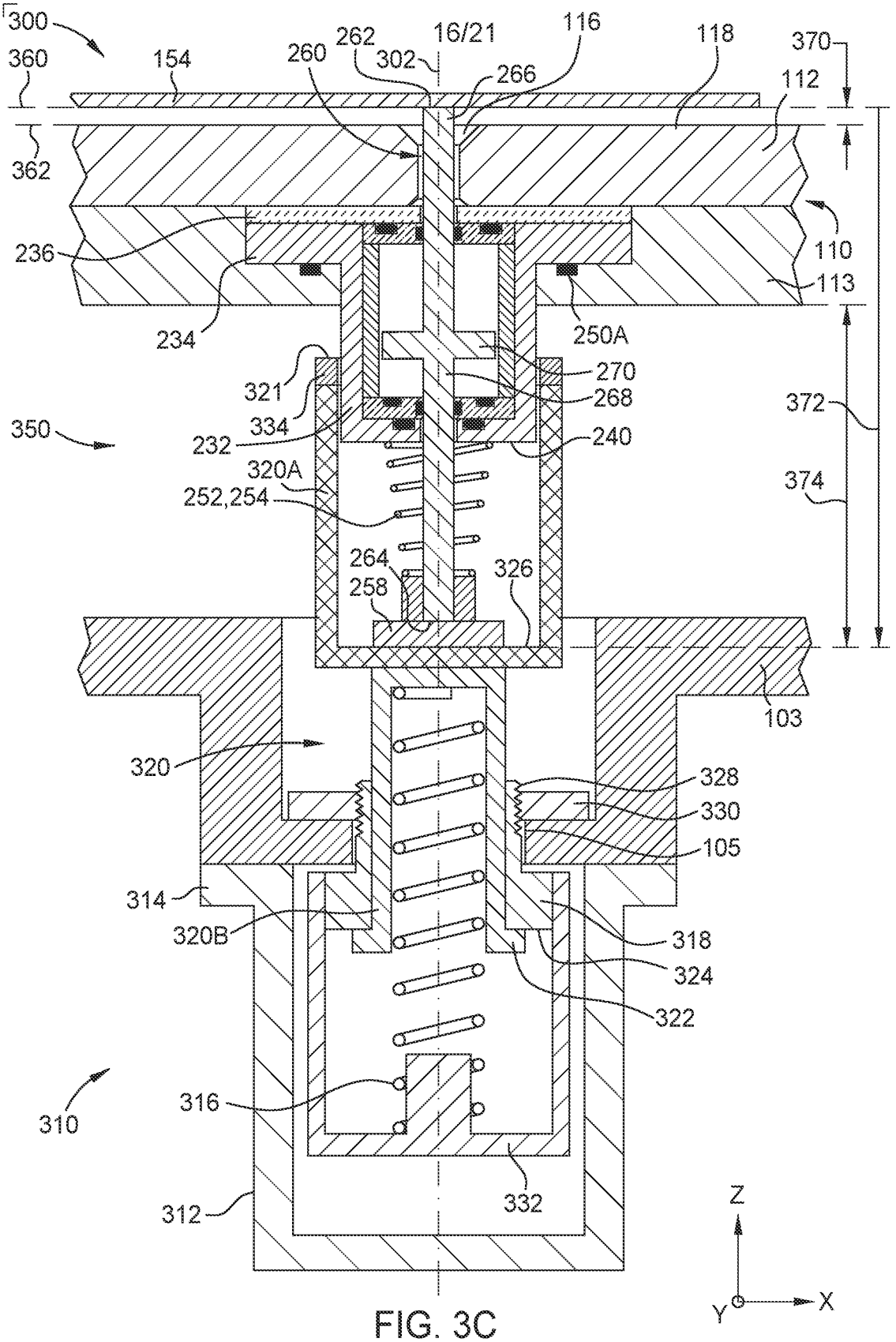

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320A
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320B
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316
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332
312
Z
Y
X

FIG. 3C

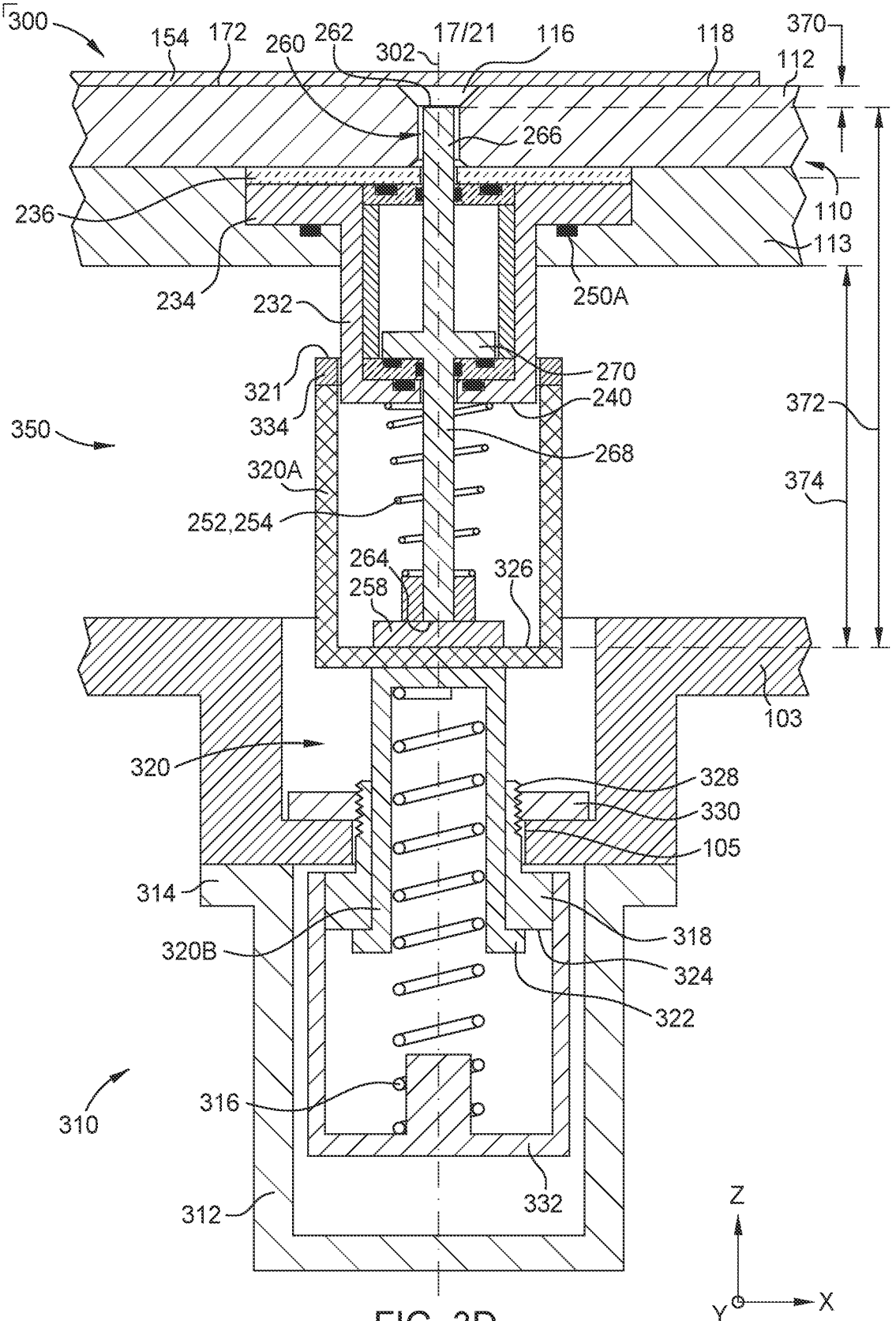

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320A
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FIG. 3D

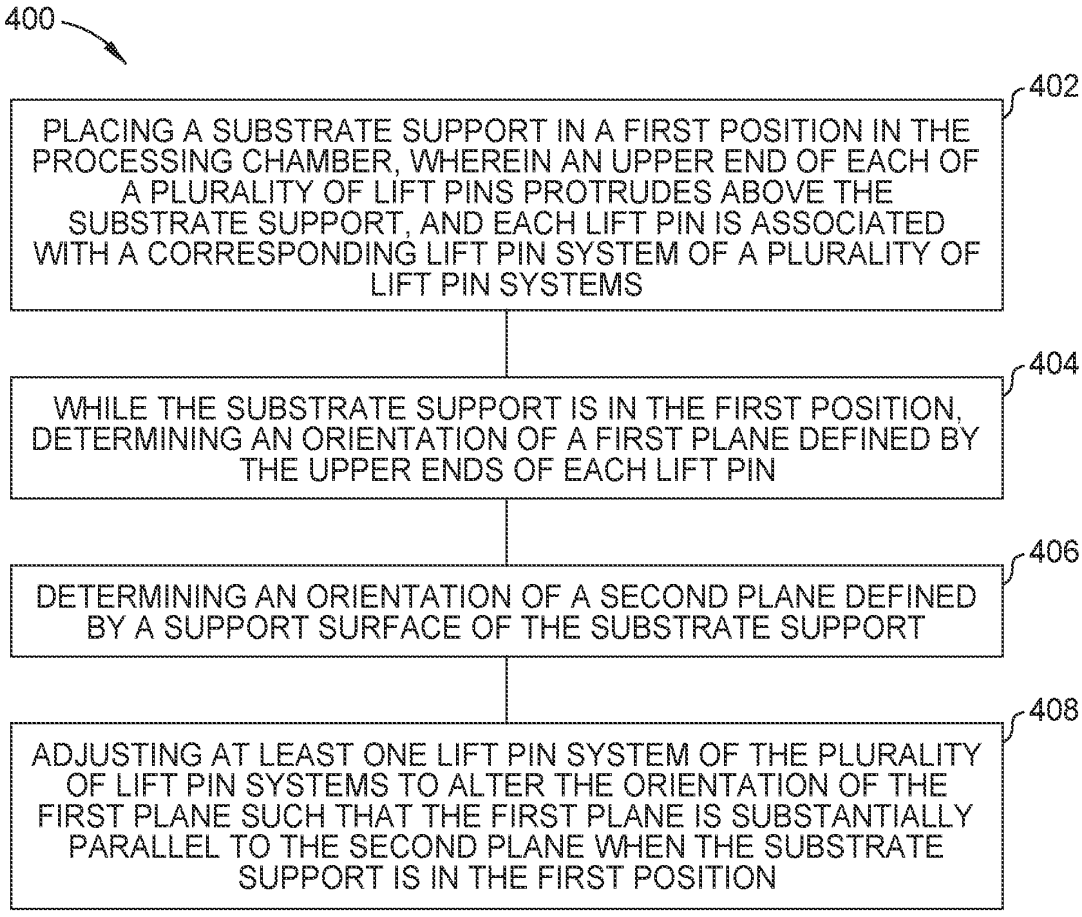

400
402
PLACING A SUBSTRATE SUPPORT IN A FIRST POSITION IN THE PROCESSING CHAMBER, WHEREIN AN UPPER END OF EACH OF A PLURALITY OF LIFT PINS PROTRUDES ABOVE THE SUBSTRATE SUPPORT, AND EACH LIFT PIN IS ASSOCIATED WITH A CORRESPONDING LIFT PIN SYSTEM OF A PLURALITY OF LIFT PIN SYSTEMS
404
WHILE THE SUBSTRATE SUPPORT IS IN THE FIRST POSITION, DETERMINING AN ORIENTATION OF A FIRST PLANE DEFINED BY THE UPPER ENDS OF EACH LIFT PIN
406
DETERMINING AN ORIENTATION OF A SECOND PLANE DEFINED BY A SUPPORT SURFACE OF THE SUBSTRATE SUPPORT
408
ADJUSTING AT LEAST ONE LIFT PIN SYSTEM OF THE PLURALITY OF LIFT PIN SYSTEMS TO ALTER THE ORIENTATION OF THE FIRST PLANE SUCH THAT THE FIRST PLANE IS SUBSTANTIALLY PARALLEL TO THE SECOND PLANE WHEN THE SUBSTRATE SUPPORT IS IN THE FIRST POSITION

FIG. 4A

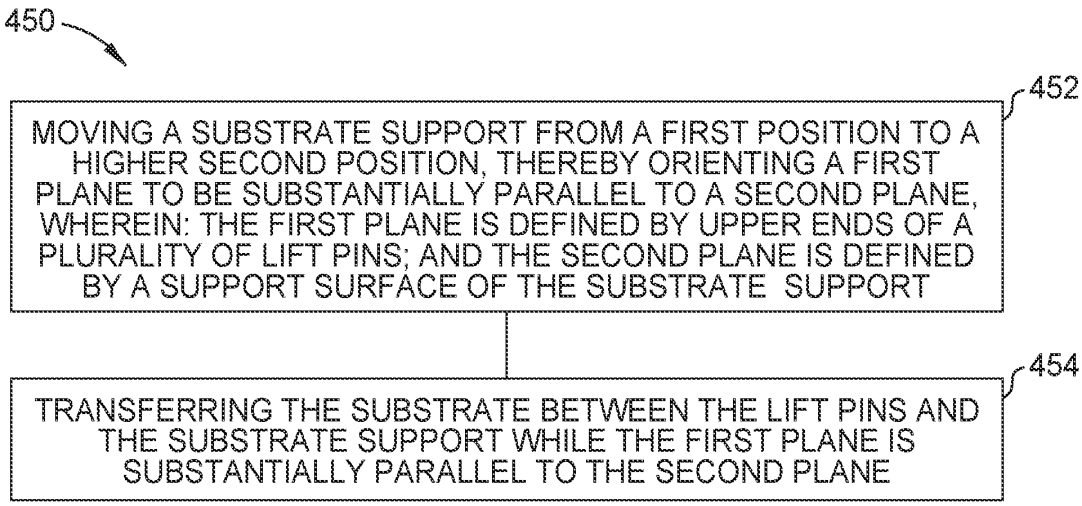

450
452
MOVING A SUBSTRATE SUPPORT FROM A FIRST POSITION TO A HIGHER SECOND POSITION, THEREBY ORIENTING A FIRST PLANE TO BE SUBSTANTIALLY PARALLEL TO A SECOND PLANE, WHEREIN: THE FIRST PLANE IS DEFINED BY UPPER ENDS OF A PLURALITY OF LIFT PINS; AND THE SECOND PLANE IS DEFINED BY A SUPPORT SURFACE OF THE SUBSTRATE SUPPORT
454
TRANSFERRING THE SUBSTRATE BETWEEN THE LIFT PINS AND THE SUBSTRATE SUPPORT WHILE THE FIRST PLANE IS SUBSTANTIALLY PARALLEL TO THE SECOND PLANE

FIG. 4B

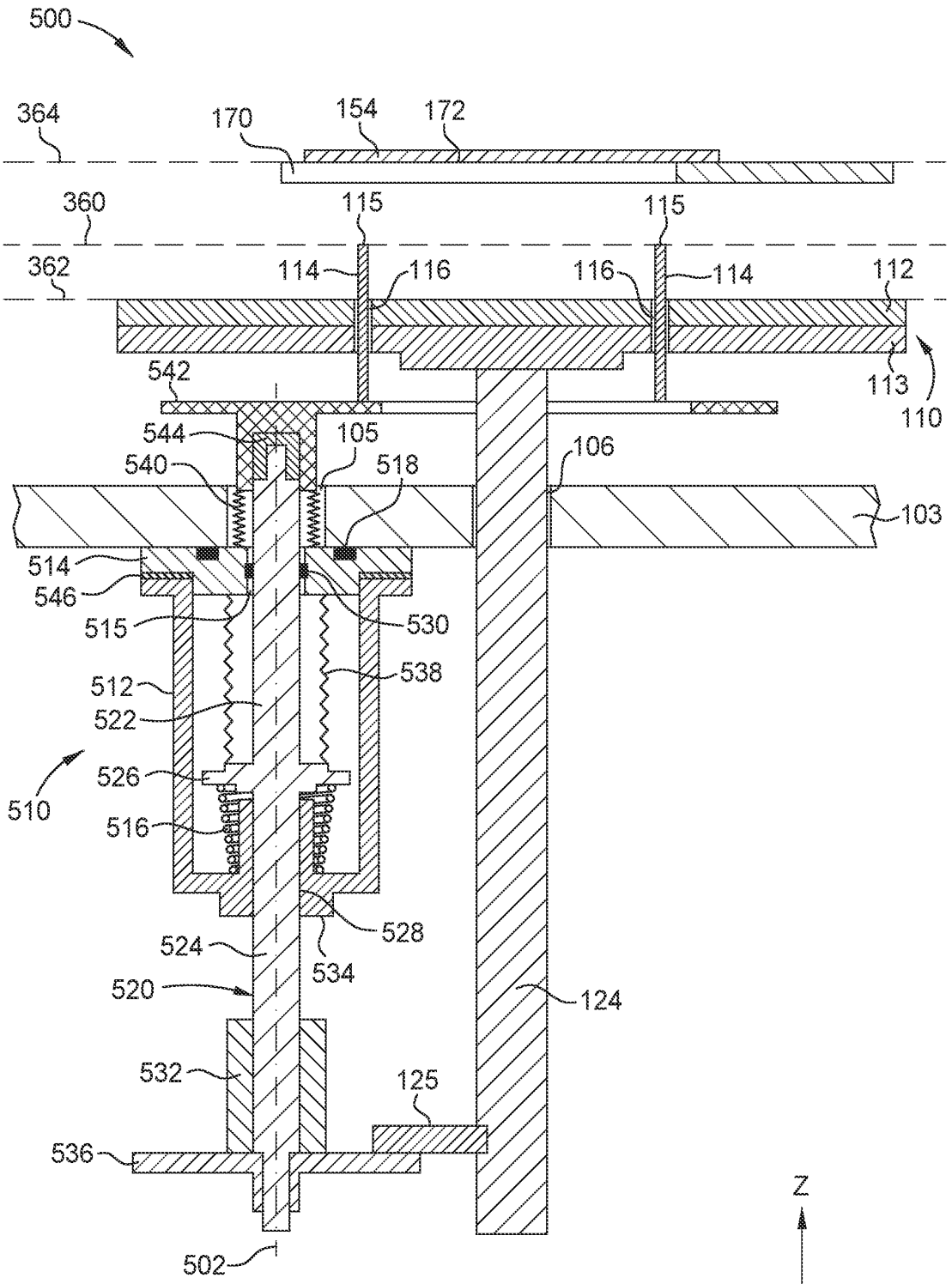

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546
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524
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520
124
532
125
536
502
Z
Y
X

FIG. 5A

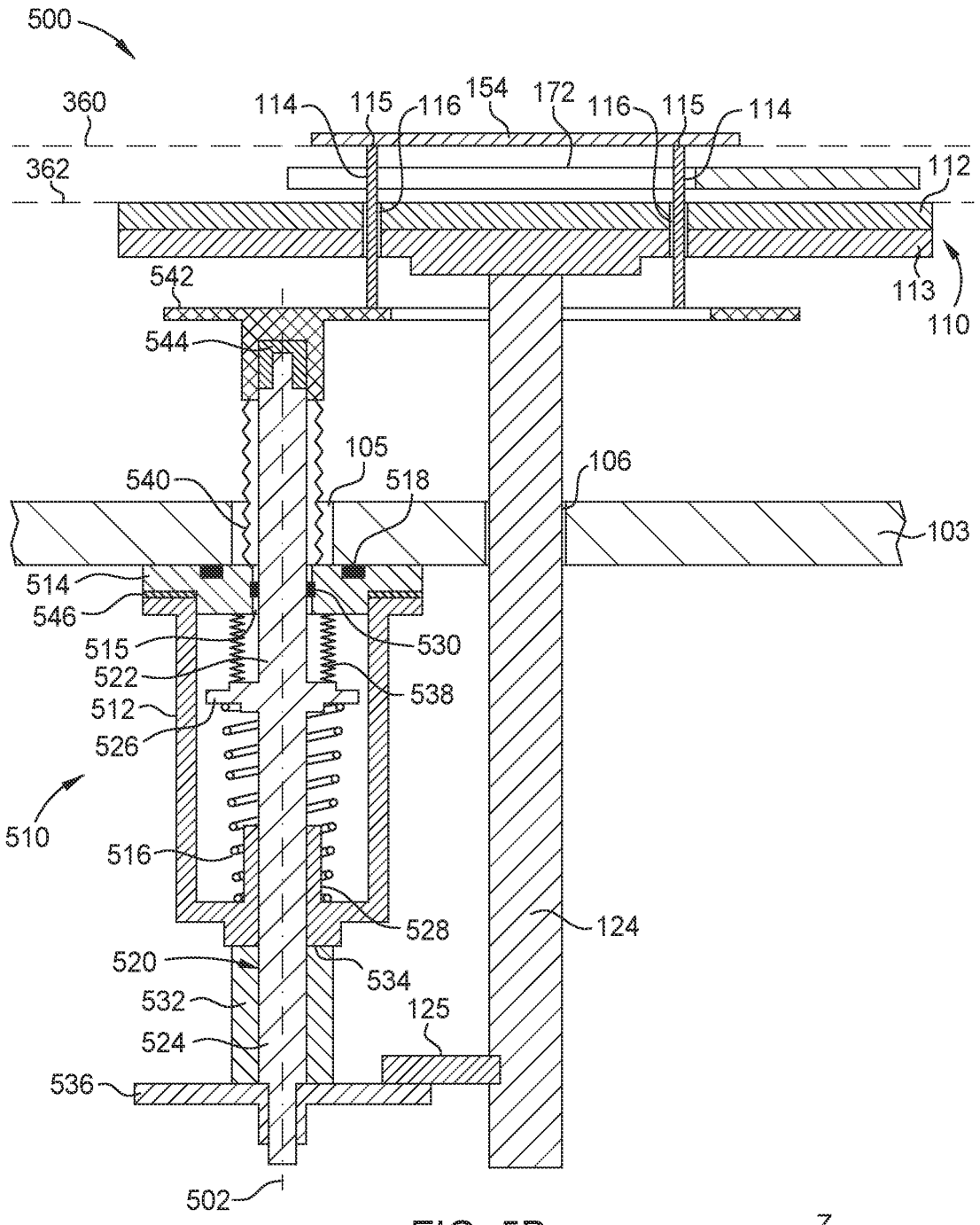

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FIG. 5B

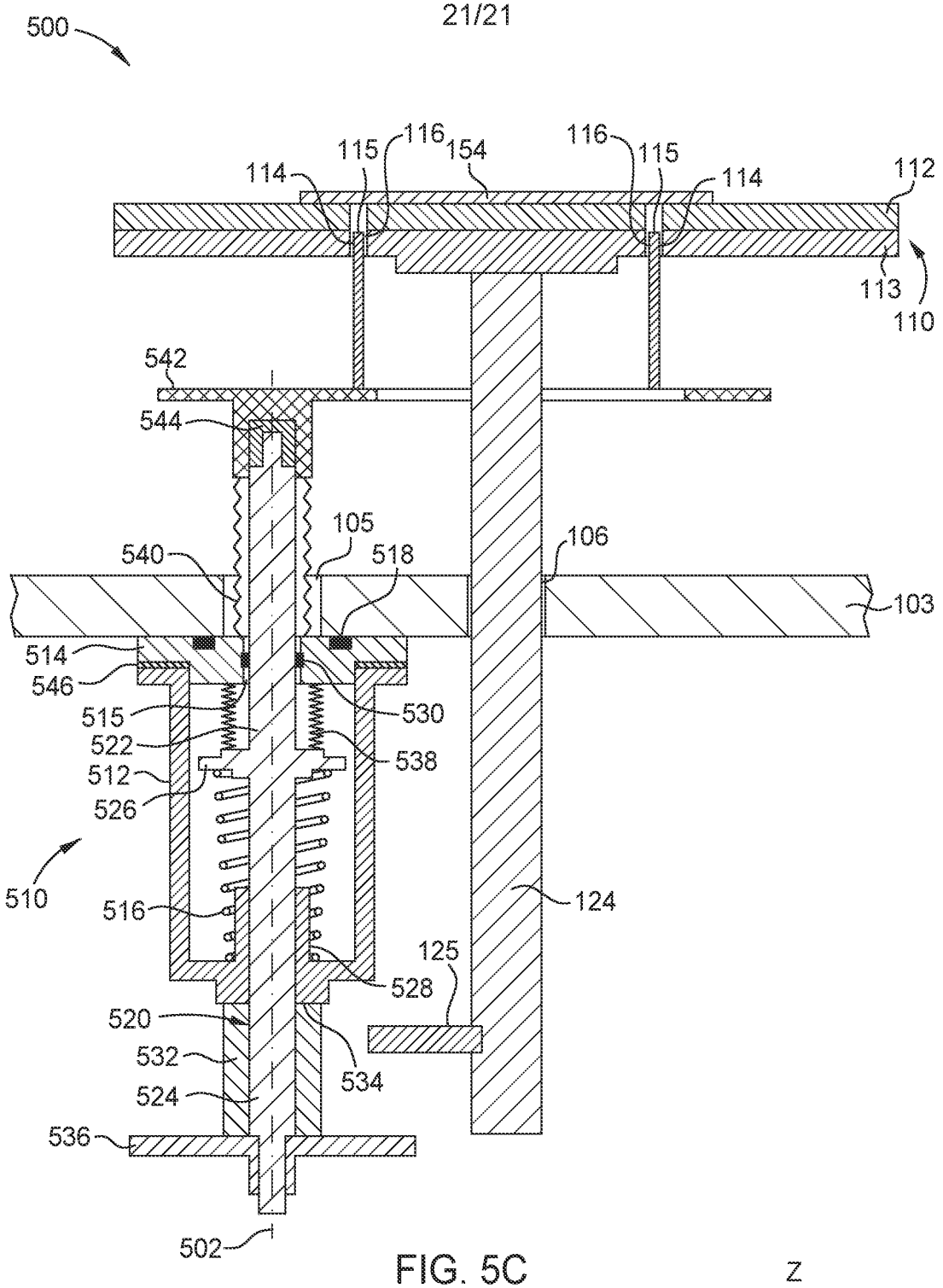

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532
534
524
536
502
Z
Y
X

FIG. 5C