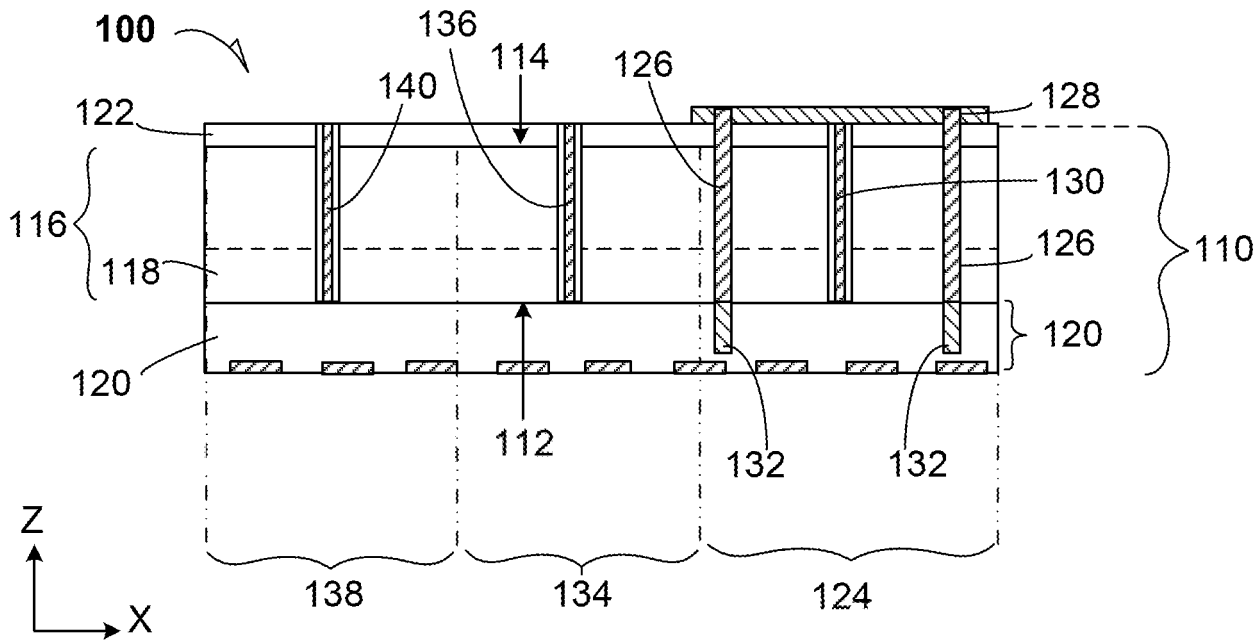

100
136
114
126
140
122
128
130
116
118
126
110
120
120
112
132
132
Z
X
138
134
124

Fig. 1a

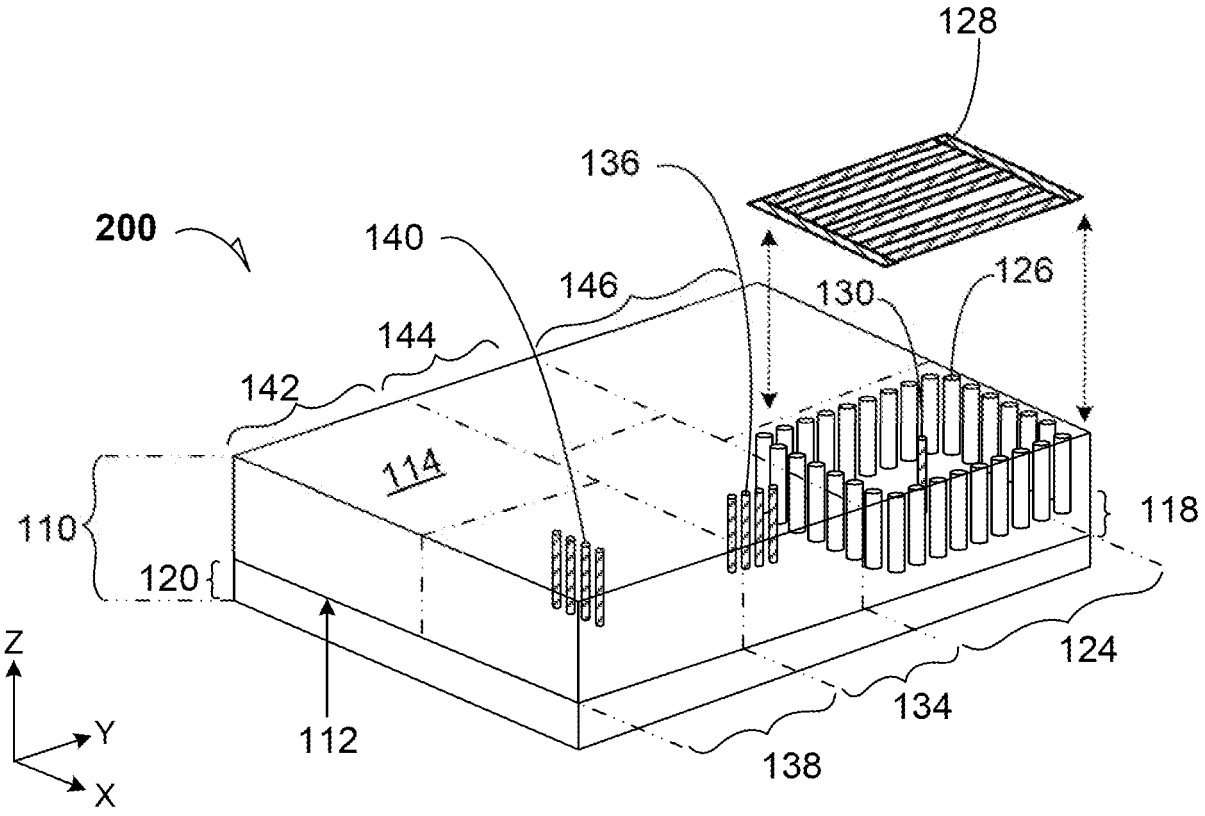

128
136
200
140
146
126
130
144
142
114
110
118
120
Z
Y
X
112
124
134
138

Fig. 2

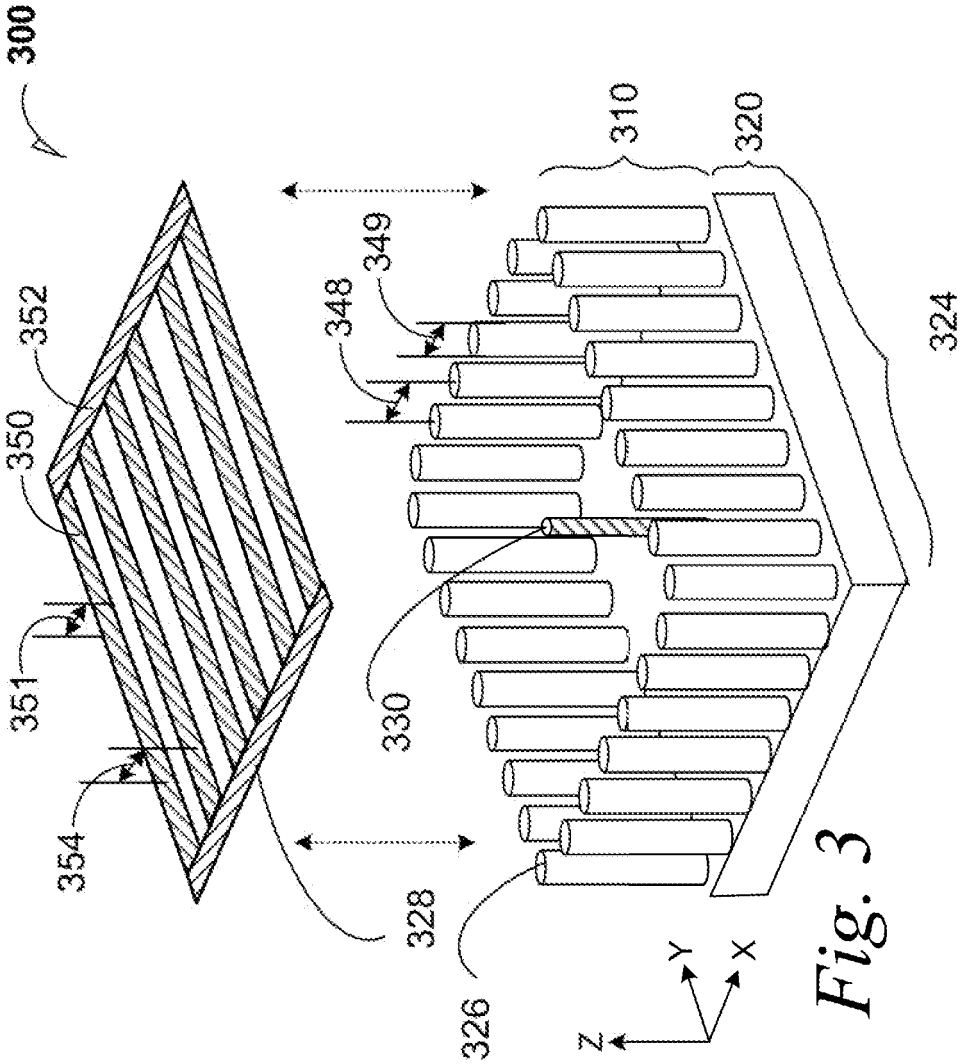

300
352
350
351
354
328
326
348
349
330
310
320
324
Z
Y
X

Fig. 3

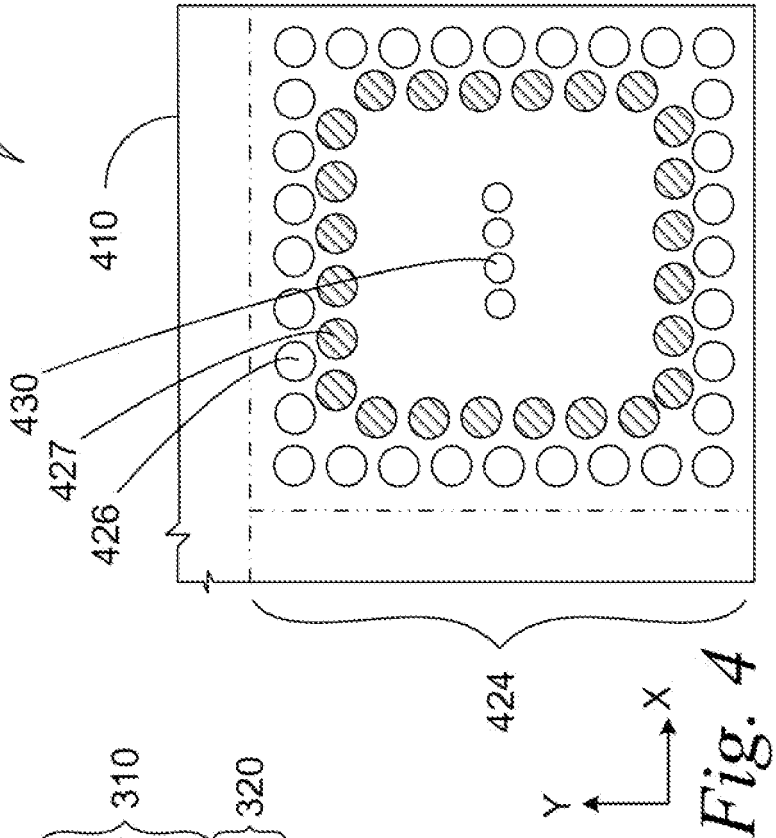

400
410
430
427
426
424
Y
X

Fig. 4

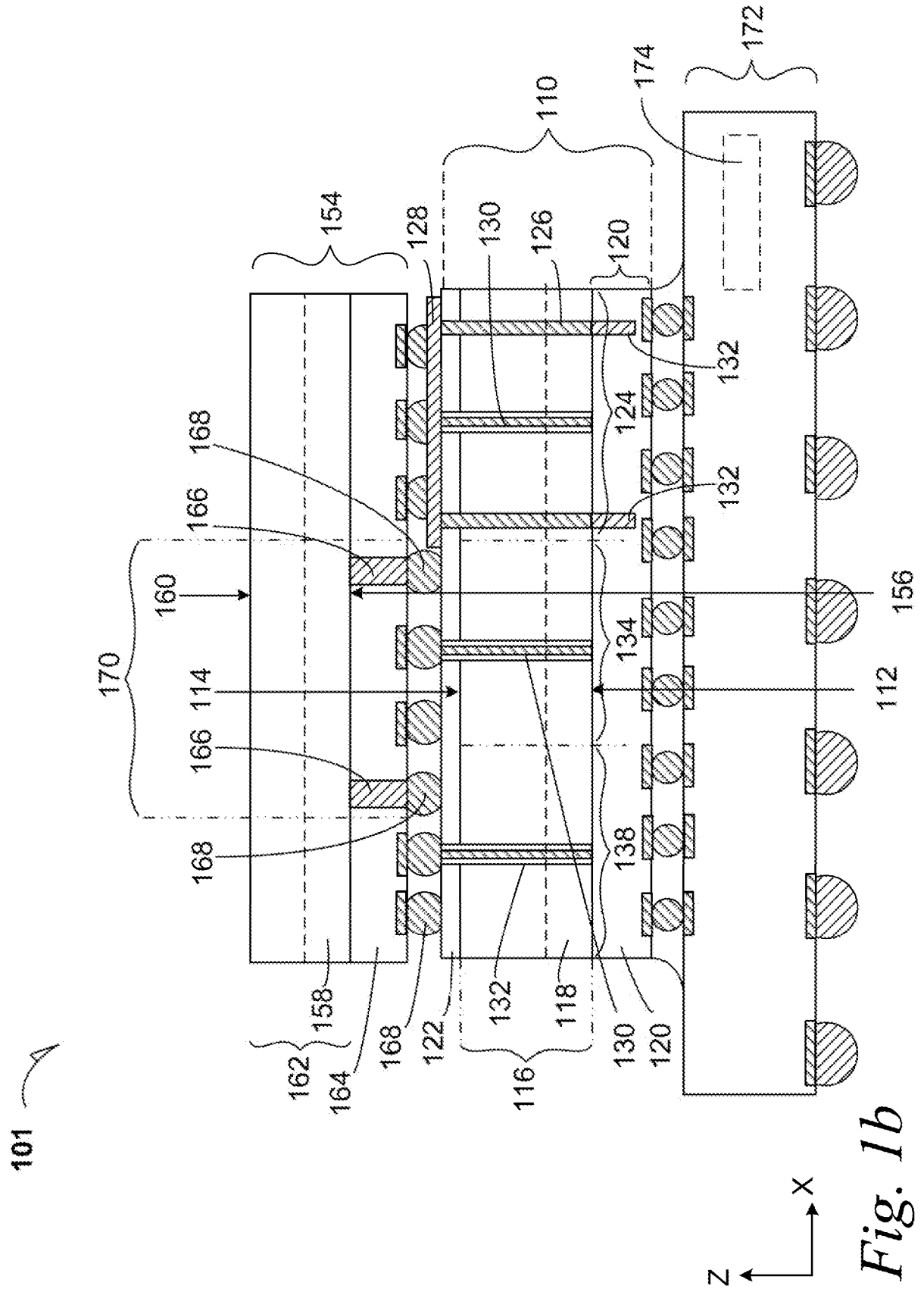

101
110
112
114
116
118
120
122
124
126
128
130
132
134
138
154
156
158
160
162
164
166
168
170
172
174
X
Z

Fig. 1b

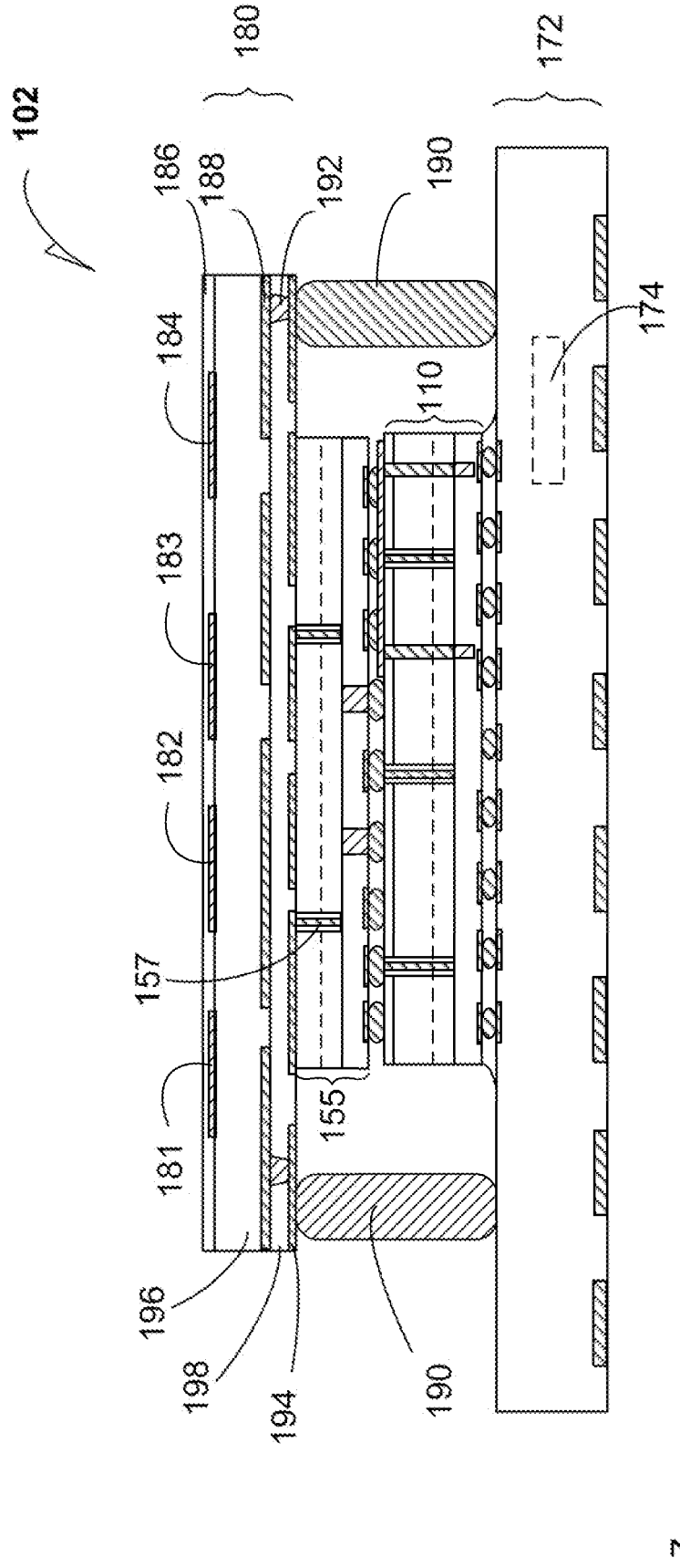

102
180
172
186
188
192
190
184
174
110
183
182
157
155
181
196
198
194
190
X
Z

Fig. 1c

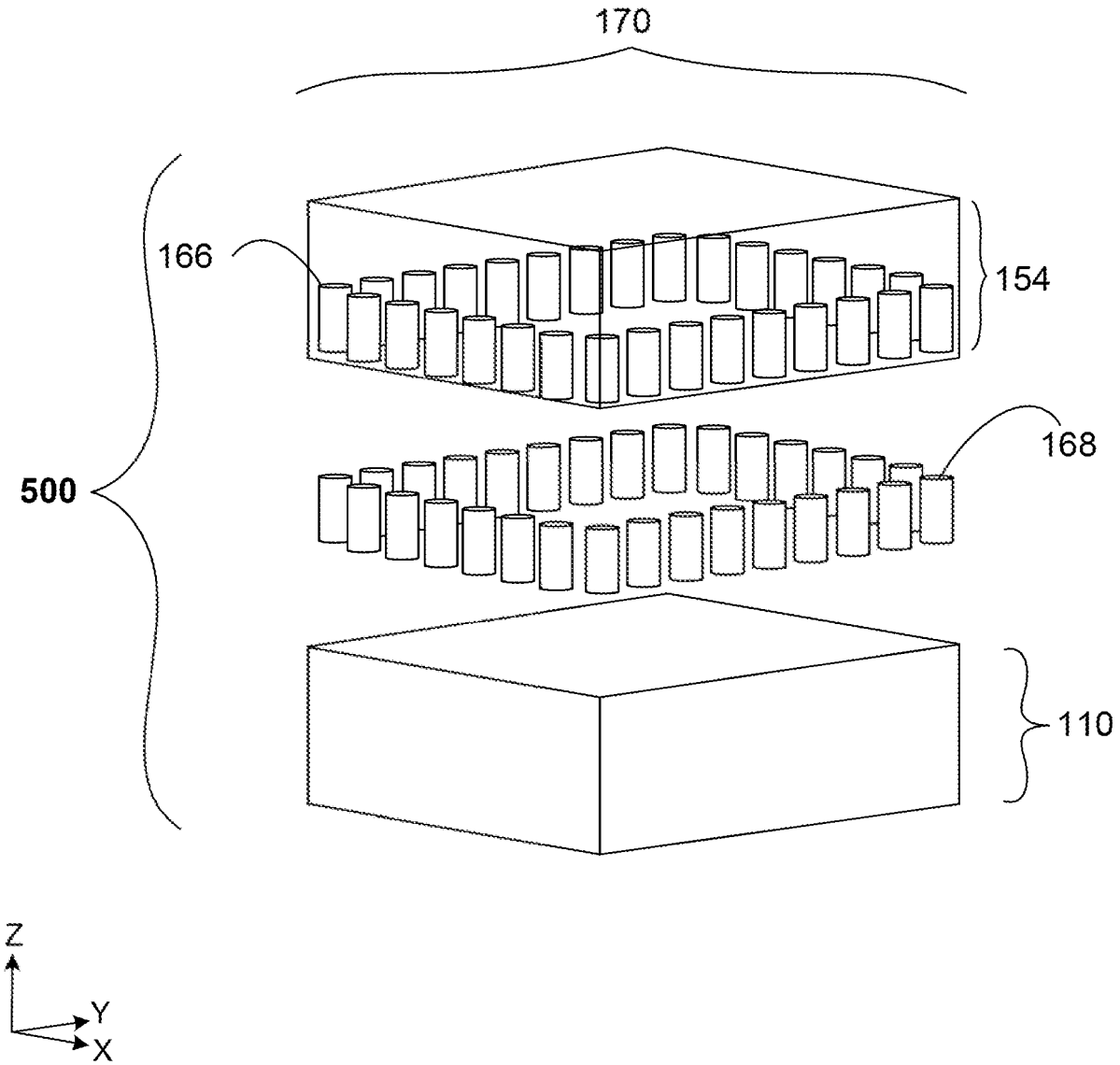


Fig. 5

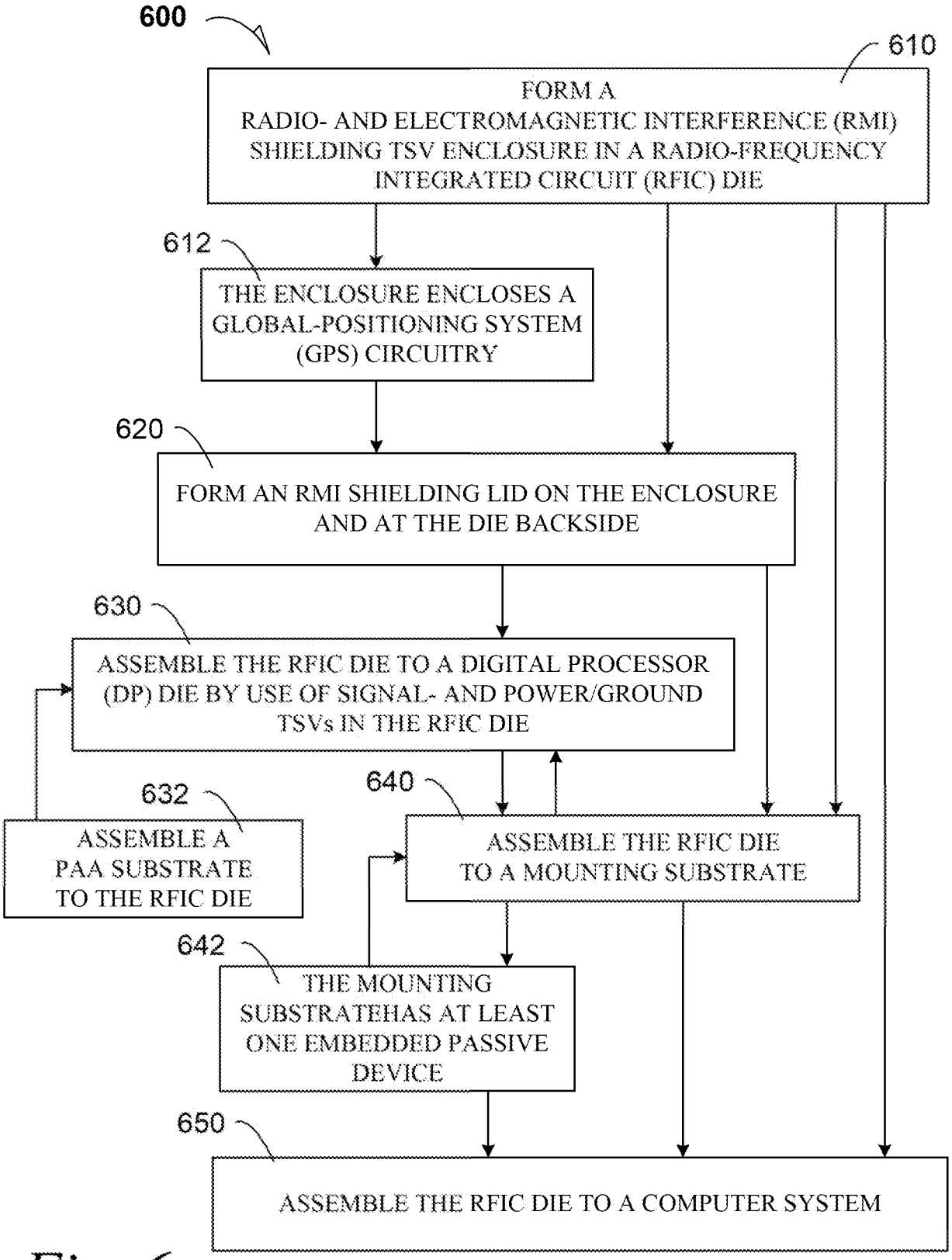

600
610
FORM A RADIO- AND ELECTROMAGNETIC INTERFERENCE (RMI) SHIELDING TSV ENCLOSURE IN A RADIO-FREQUENCY INTEGRATED CIRCUIT (RFIC) DIE
612
THE ENCLOSURE ENCLOSES A GLOBAL-POSITIONING SYSTEM (GPS) CIRCUITRY
620
FORM AN RMI SHIELDING LID ON THE ENCLOSURE AND AT THE DIE BACKSIDE
630
ASSEMBLE THE RFIC DIE TO A DIGITAL PROCESSOR (DP) DIE BY USE OF SIGNAL- AND POWER/GROUND TSVs IN THE RFIC DIE
632
ASSEMBLE A PAA SUBSTRATE TO THE RFIC DIE
640
ASSEMBLE THE RFIC DIE TO A MOUNTING SUBSTRATE
642
THE MOUNTING SUBSTRATEHAS AT LEAST ONE EMBEDDED PASSIVE DEVICE
650
ASSEMBLE THE RFIC DIE TO A COMPUTER SYSTEM

Fig. 6

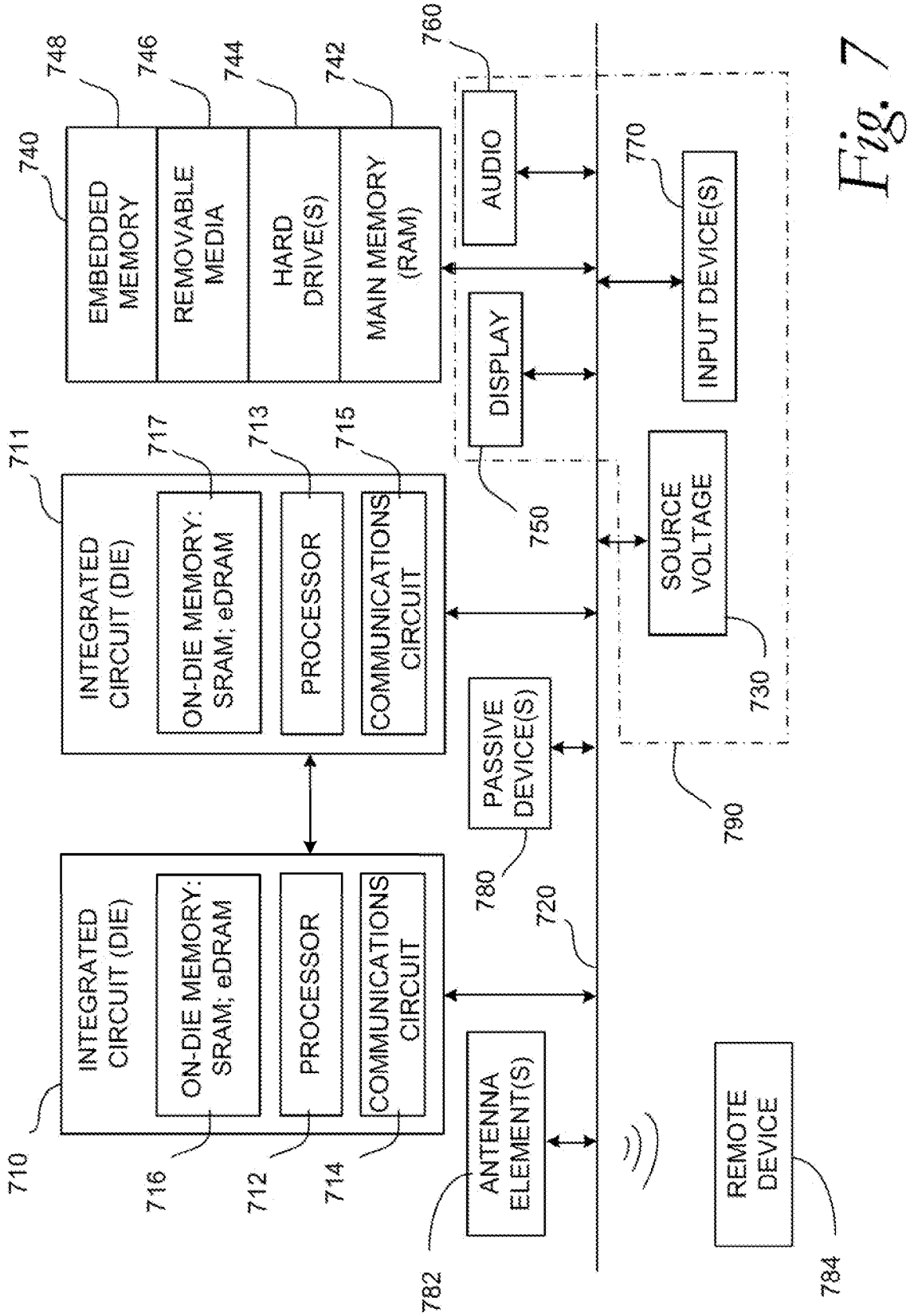

700
740
EMBEDDED MEMORY
748
REMOVABLE MEDIA
746
HARD DRIVE(S)
744
MAIN MEMORY (RAM)
742
760
AUDIO
770
INPUT DEVICE(S)
DISPLAY
750
711
INTEGRATED CIRCUIT (DIE)
717
ON-DIE MEMORY: SRAM; eDRAM
713
PROCESSOR
715
COMMUNICATIONS CIRCUIT
SOURCE VOLTAGE
730
PASSIVE DEVICE(S)
780
790
720
710
716
712
714
ANTENNA ELEMENT(S)
782
REMOTE DEVICE
784

Fig. 7