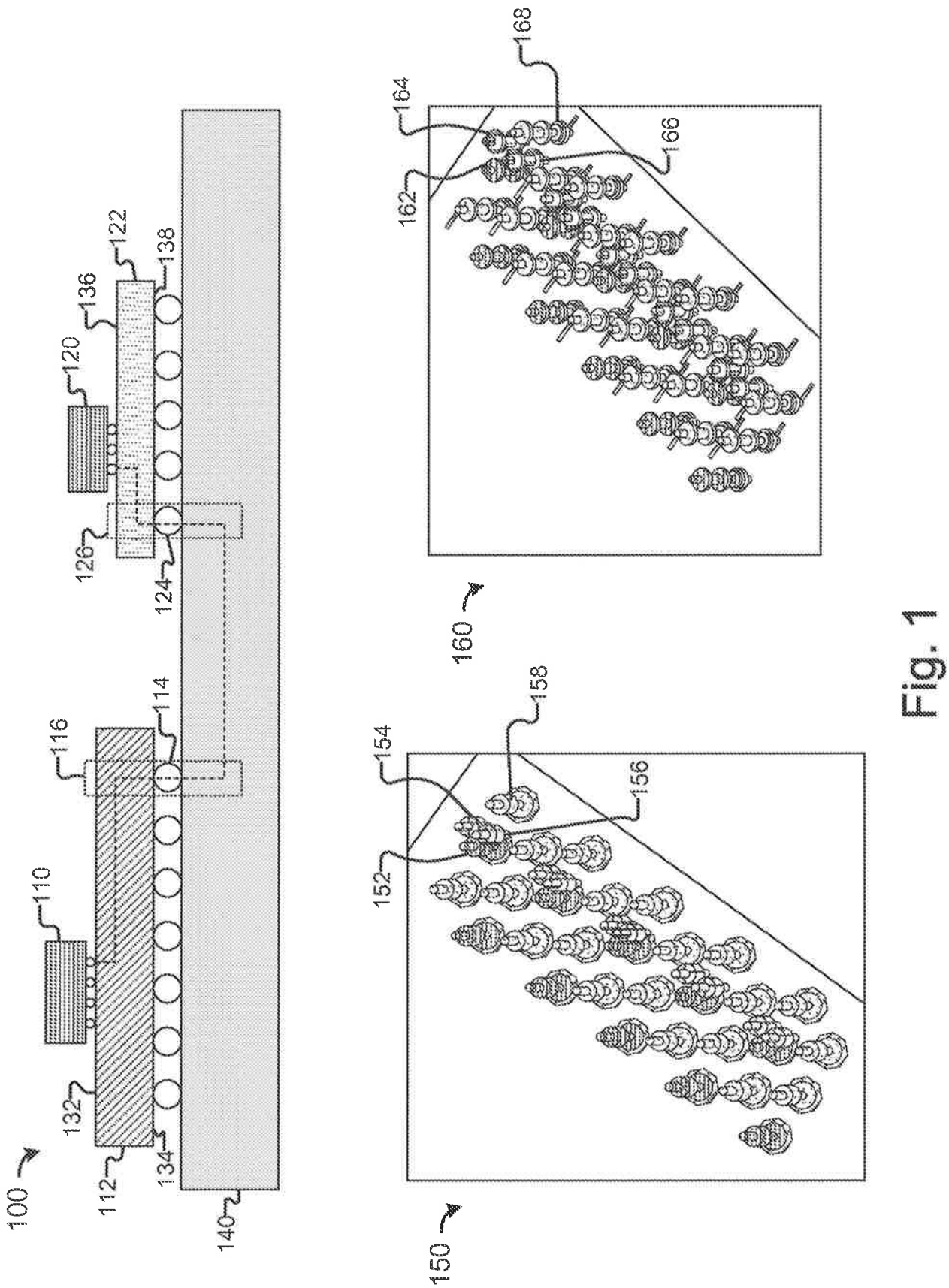
100
110
112
114
116
120
122
124
126
132
134
136
138
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152
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166
168

Fig. 1

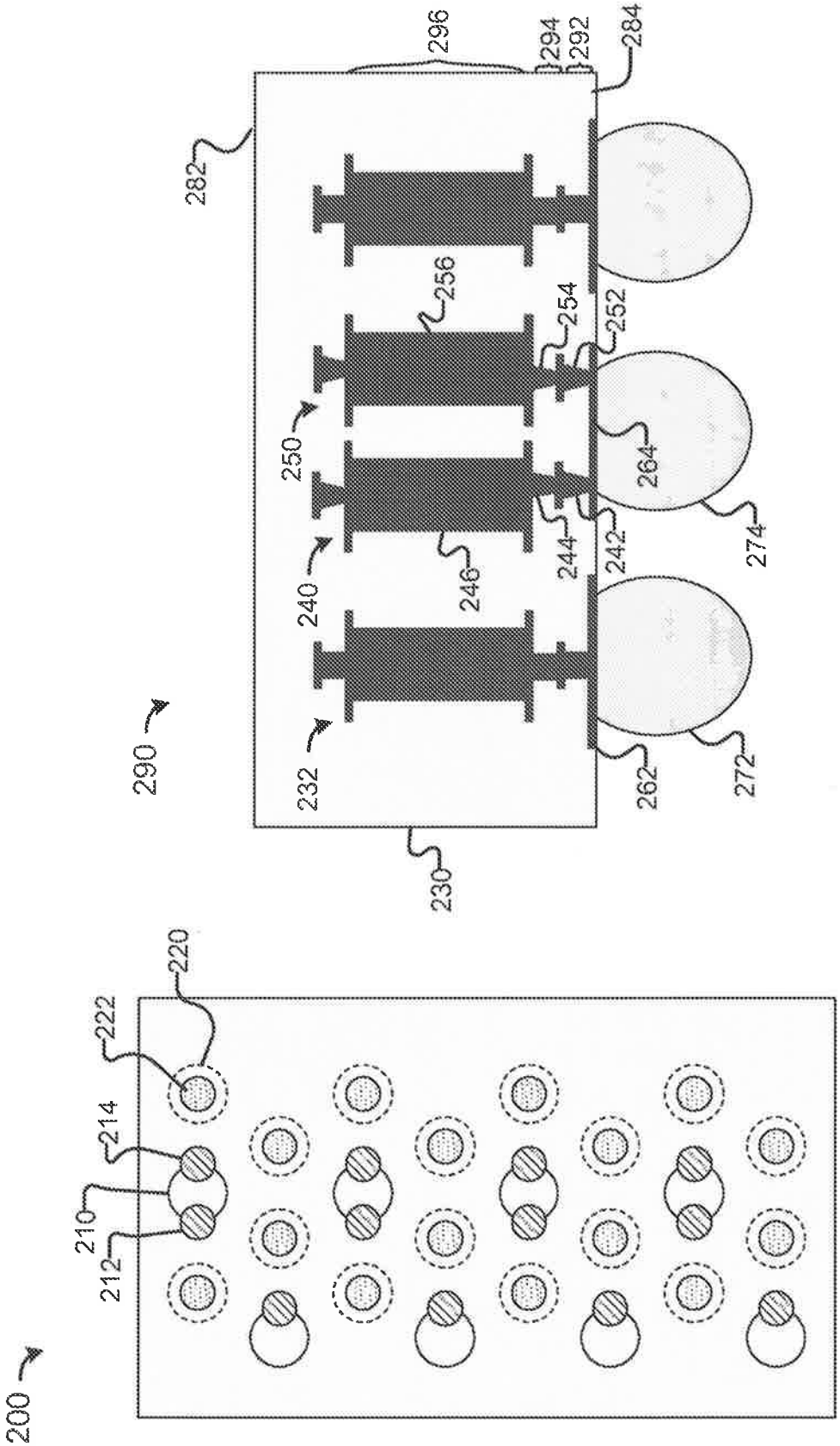
200
210
212
214
220
222
290
230
232
240
246
250
256
254
252
244
242
262
264
272
274
282
284
292
294
296

Fig. 2

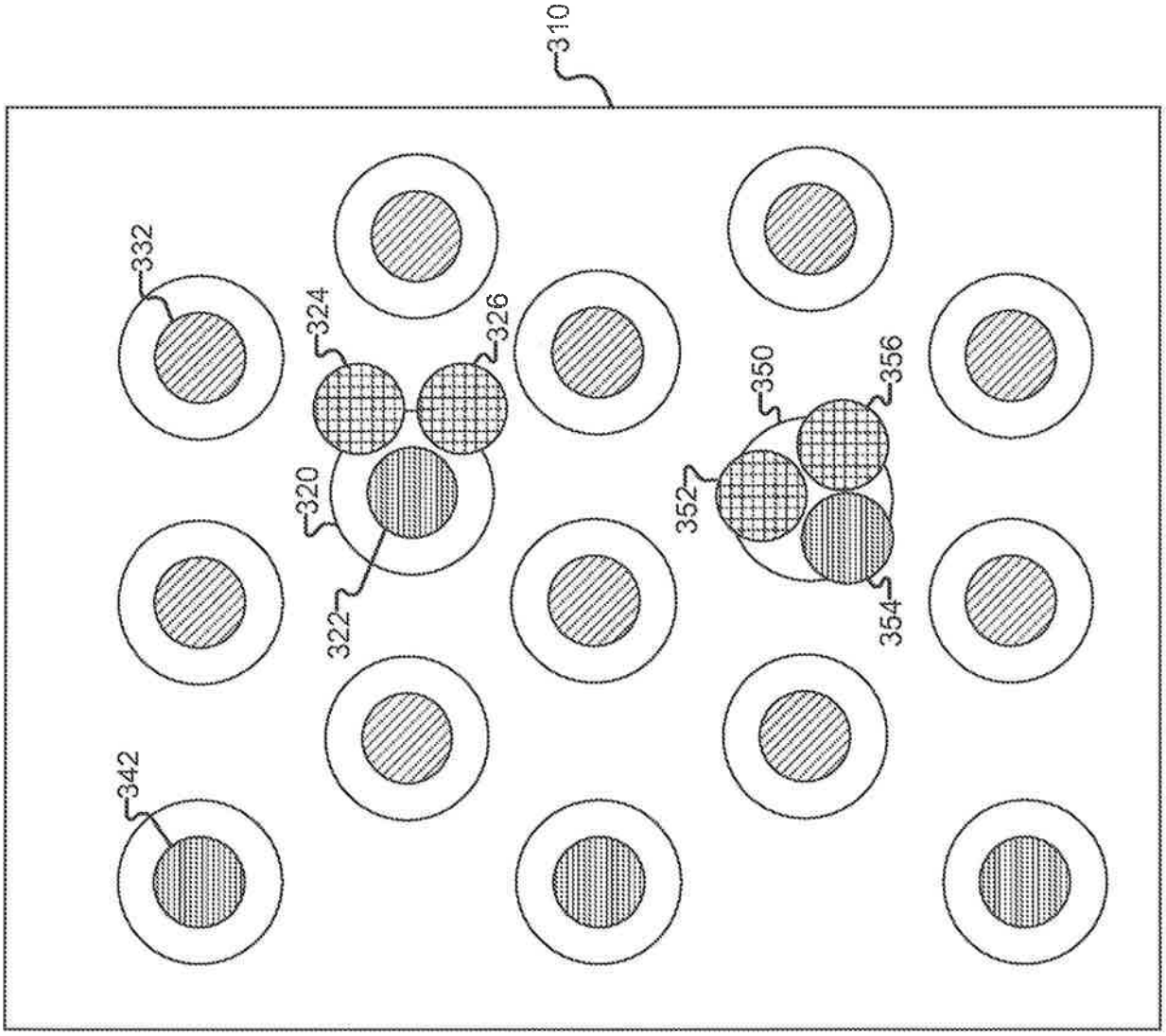

Fig. 3

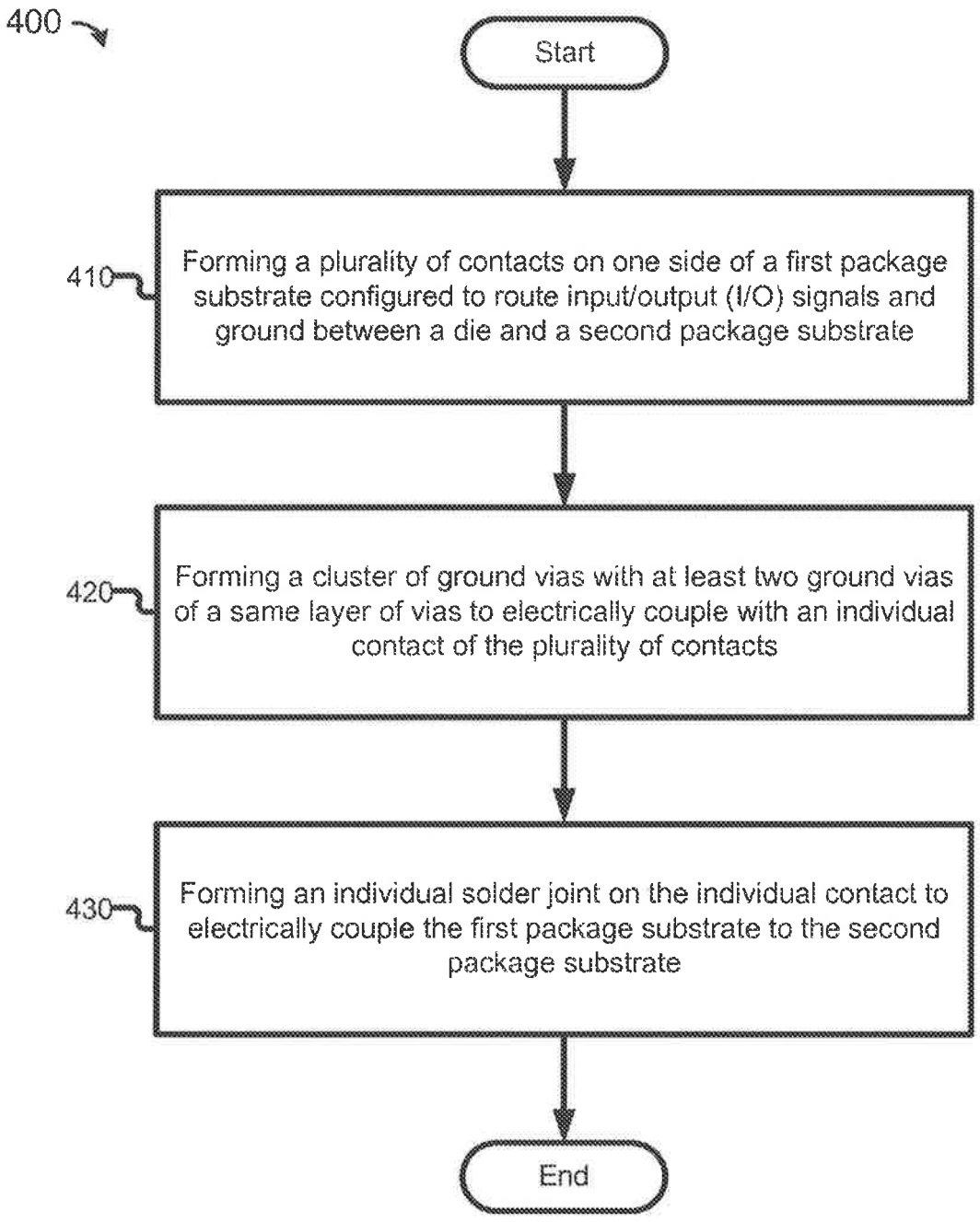
400
Start
410
Forming a plurality of contacts on one side of a first package substrate configured to route input/output (I/O) signals and ground between a die and a second package substrate
420
Forming a cluster of ground vias with at least two ground vias of a same layer of vias to electrically couple with an individual contact of the plurality of contacts
430
Forming an individual solder joint on the individual contact to electrically couple the first package substrate to the second package substrate
End

Fig. 4

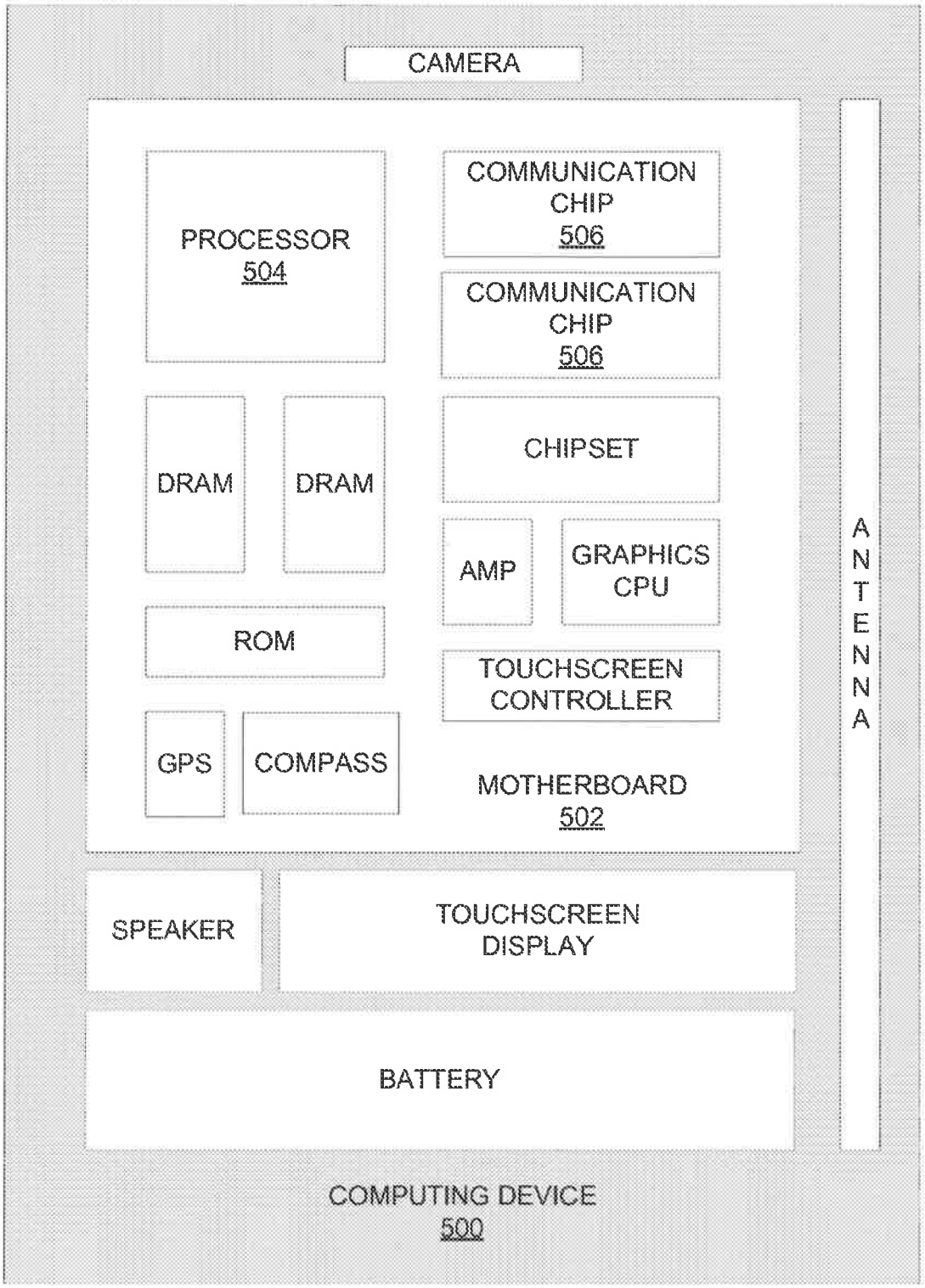
CAMERA
PROCESSOR
504
COMMUNICATION
CHIP
506
COMMUNICATION
CHIP
506
DRAM
DRAM
CHIPSET
AMP
GRAPHICS
CPU
ROM
TOUCHSCREEN
CONTROLLER
GPS
COMPASS
MOTHERBOARD
502
ANTENNA
SPEAKER
TOUCHSCREEN
DISPLAY
BATTERY
COMPUTING DEVICE
500

Fig. 5