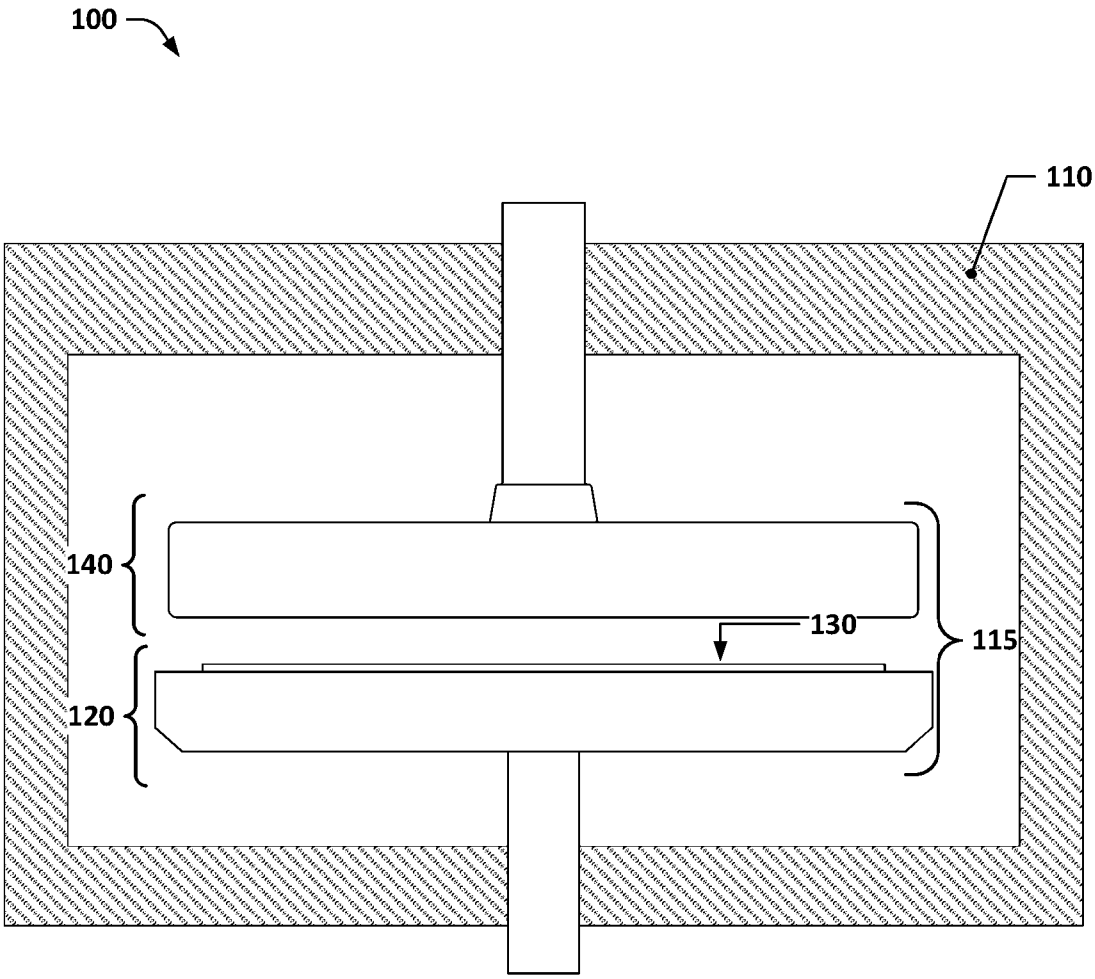


FIG. 1

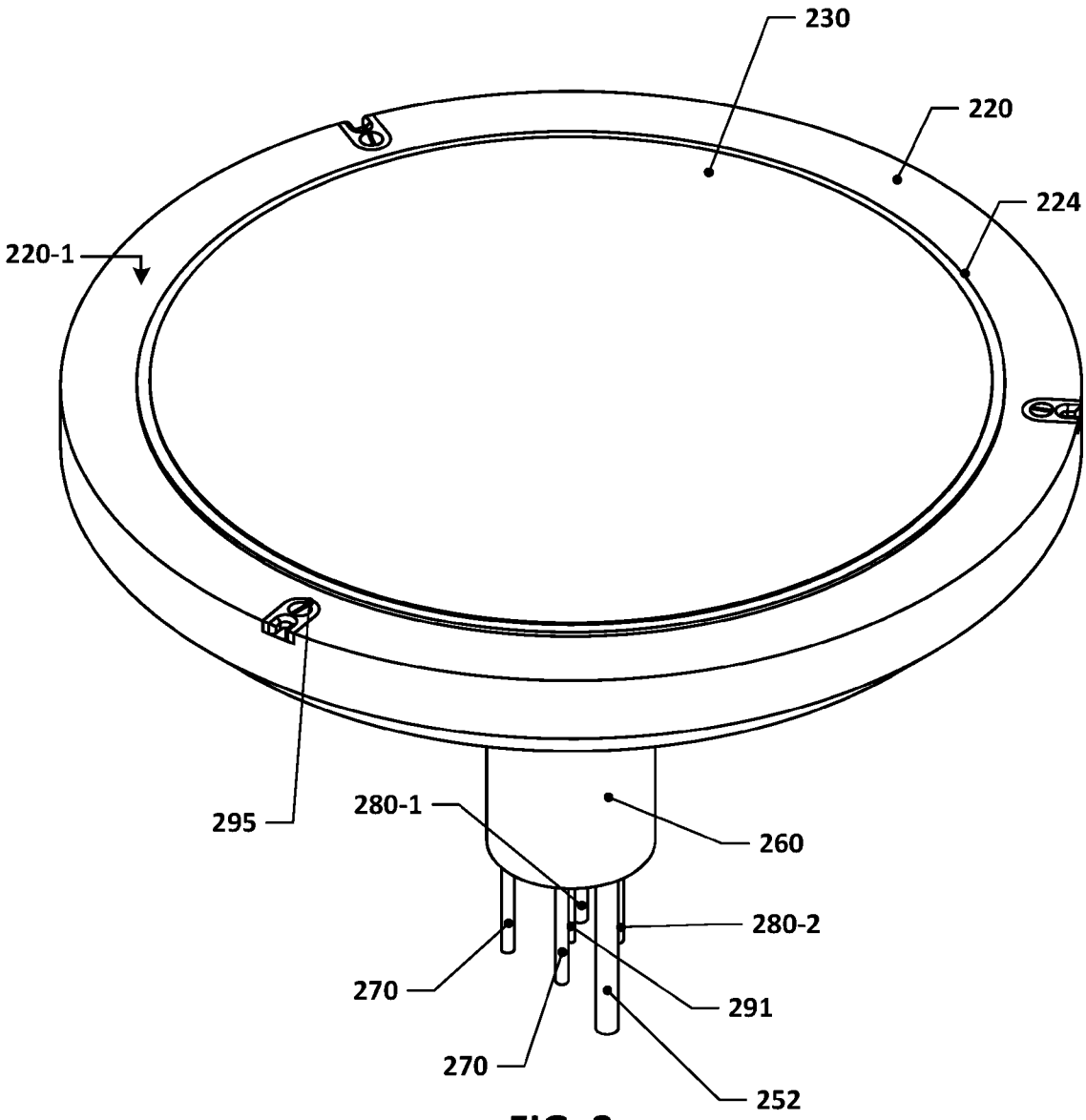


FIG. 2

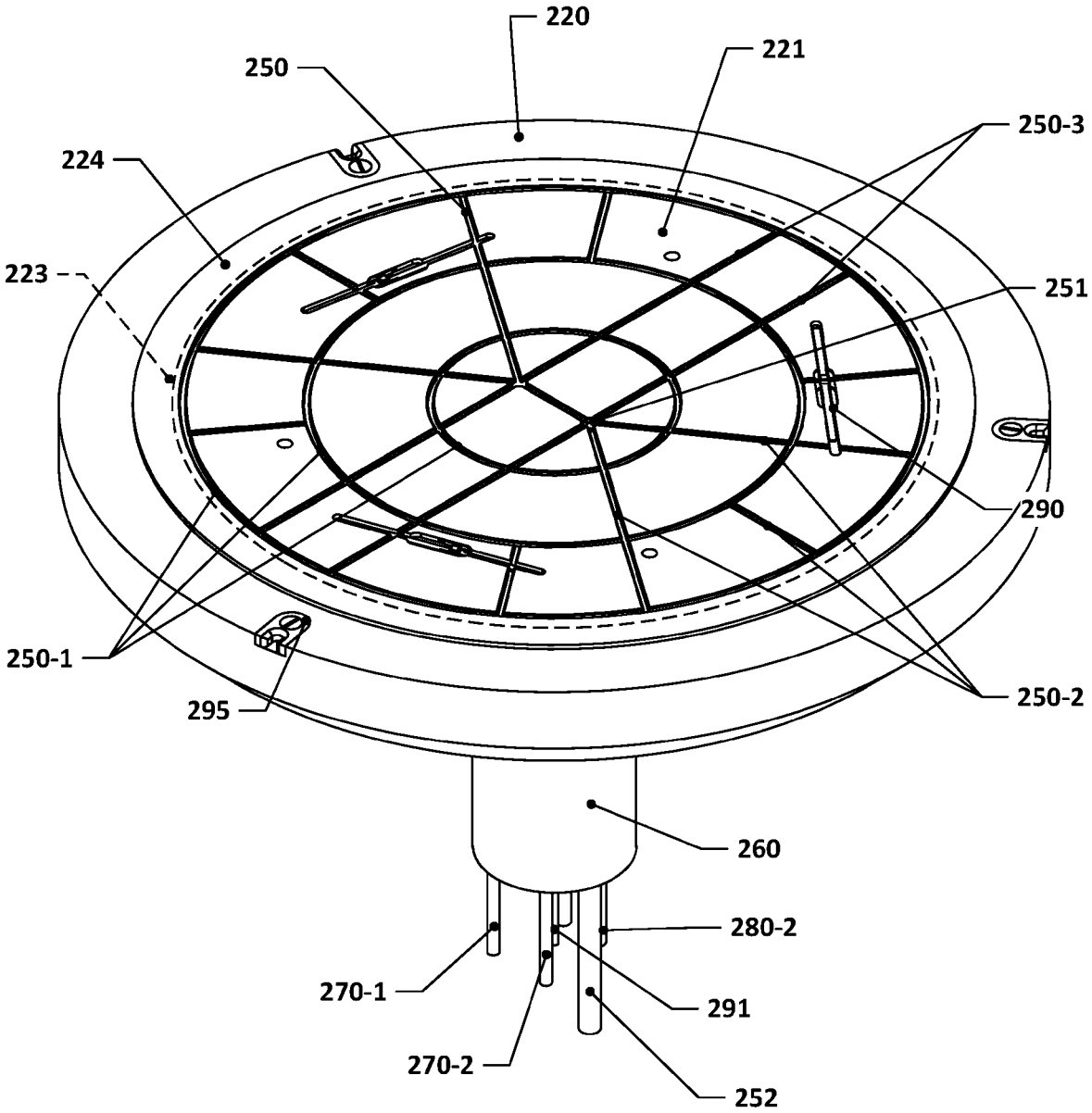

220
221
250
250-3
224
223
251
290
250-1
295
250-2
260
280-2
270-1
291
270-2
252

FIG. 3

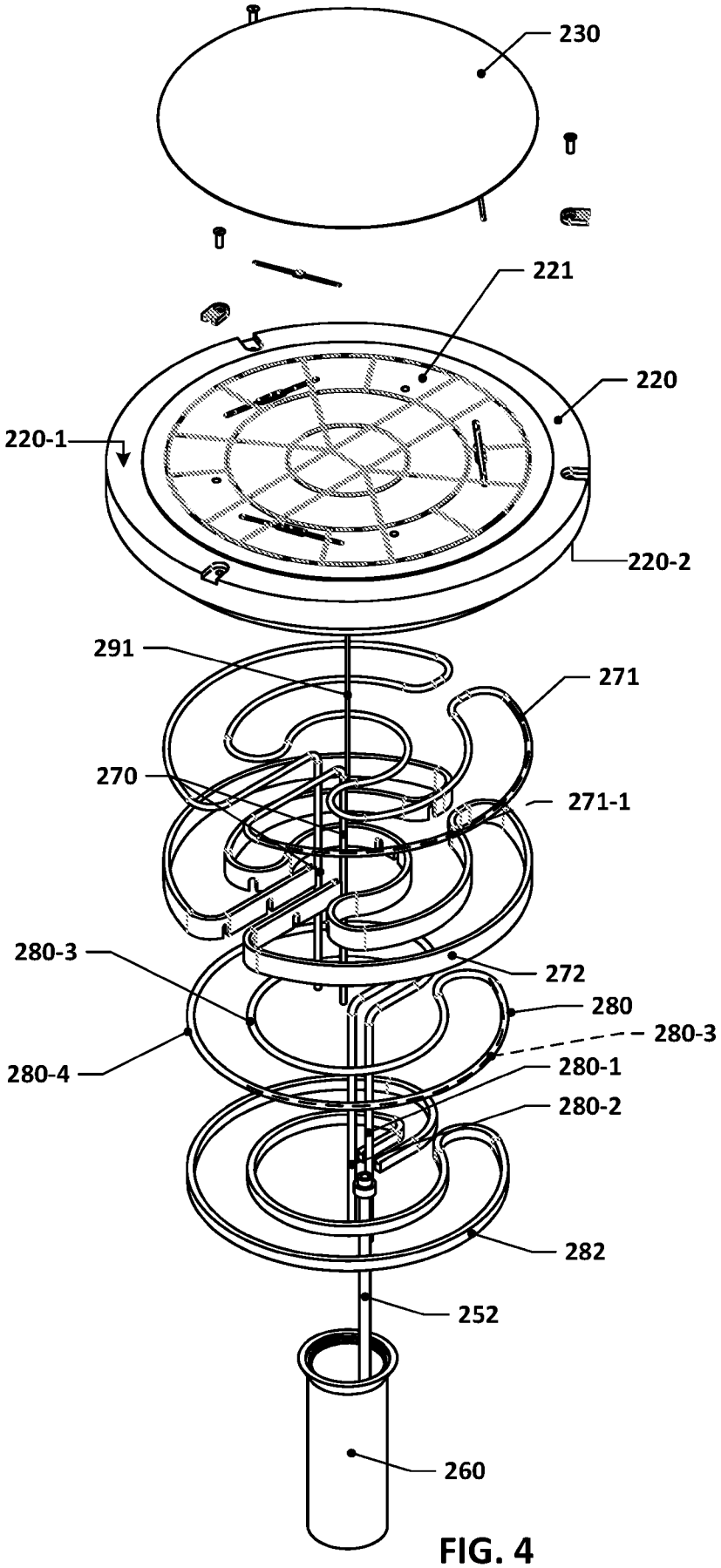

230
221
220
220-1
220-2
291
271
270
271-1
280-3
272
280
280-3
280-4
280-1
280-2
282
252
260

FIG. 4

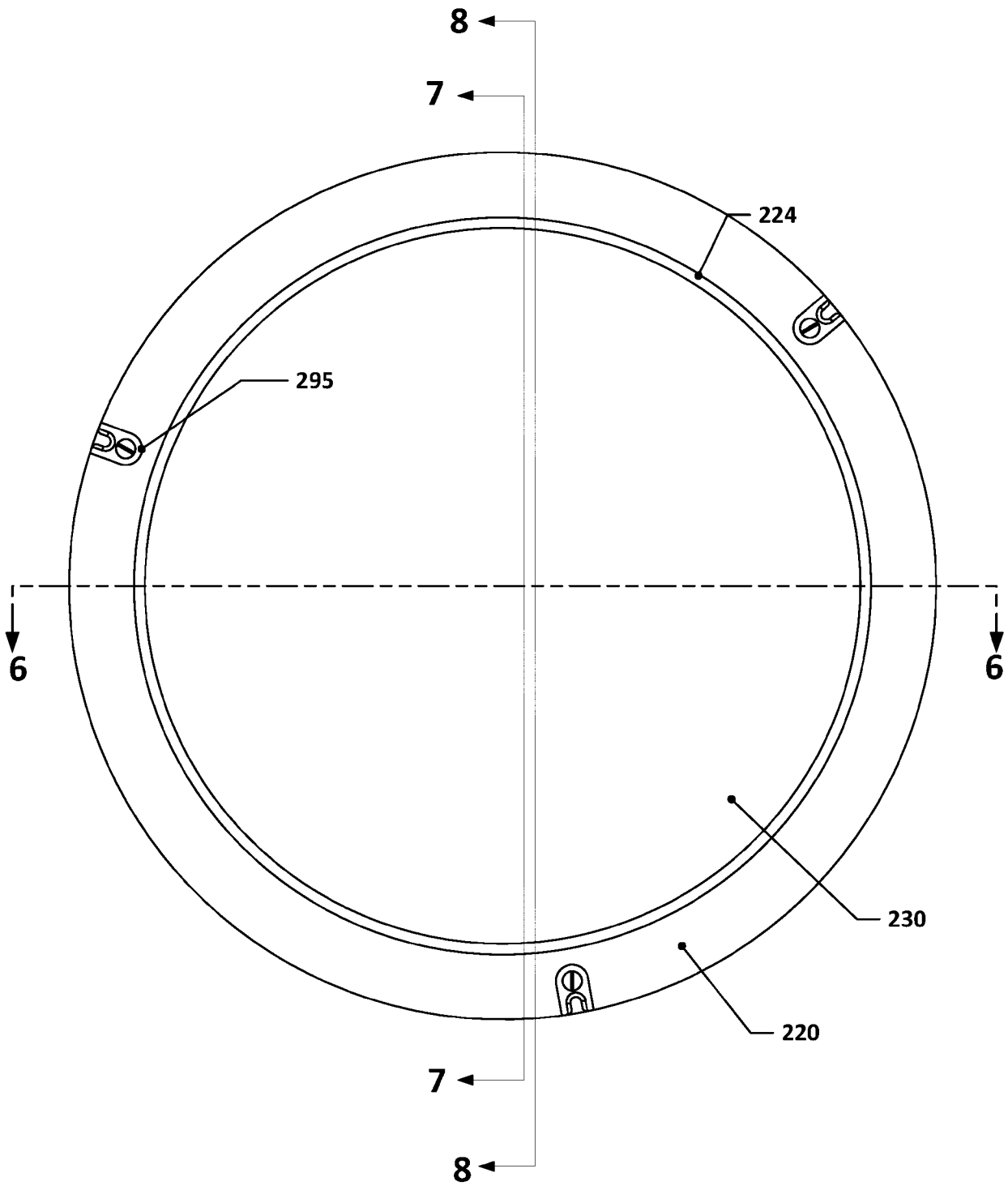


FIG. 5

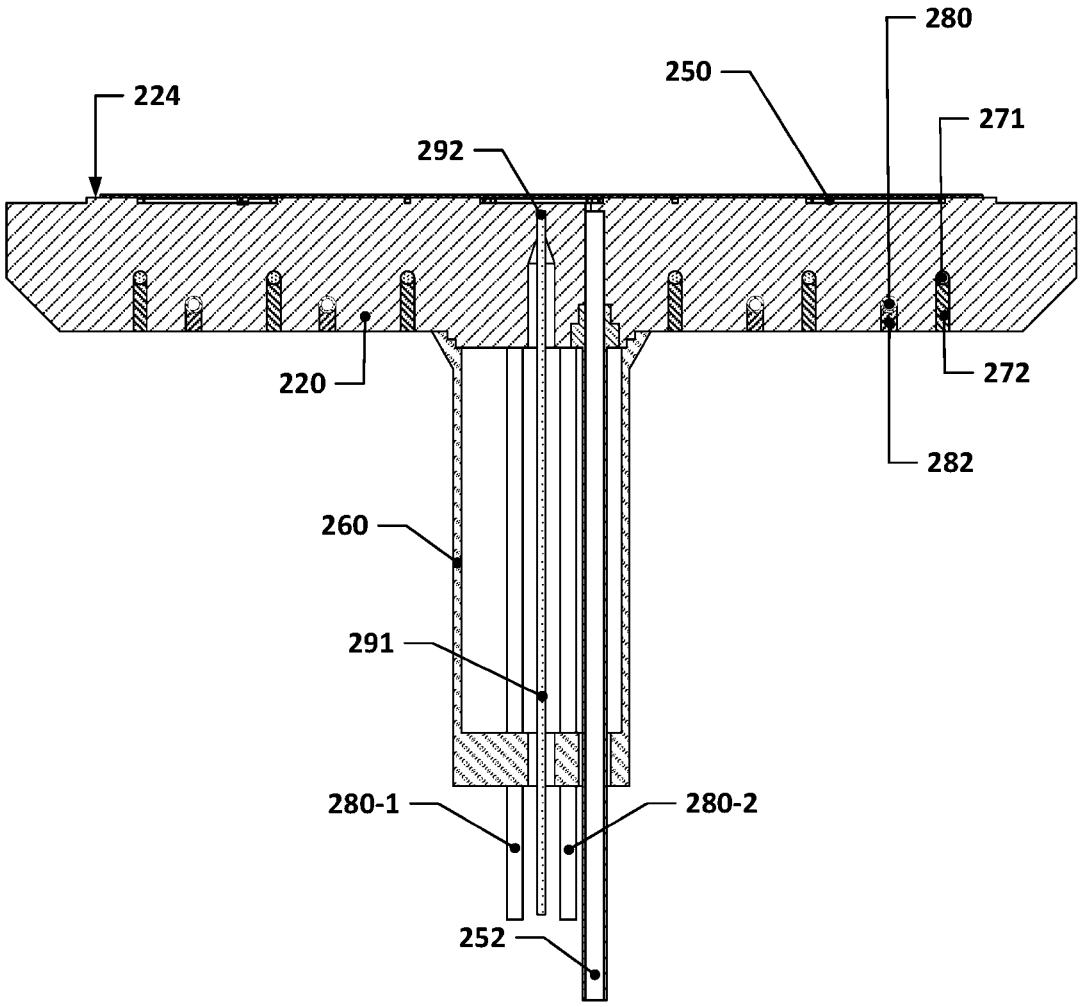


FIG. 6

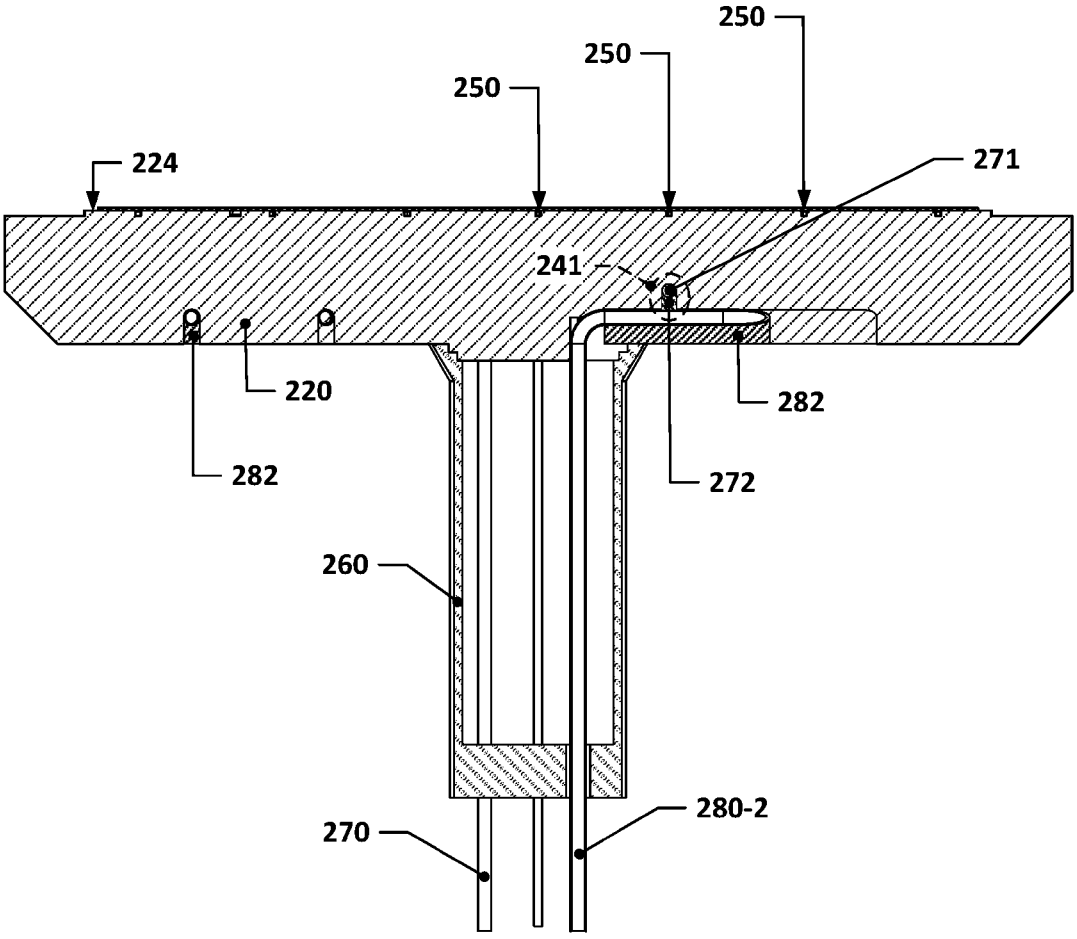


FIG. 7

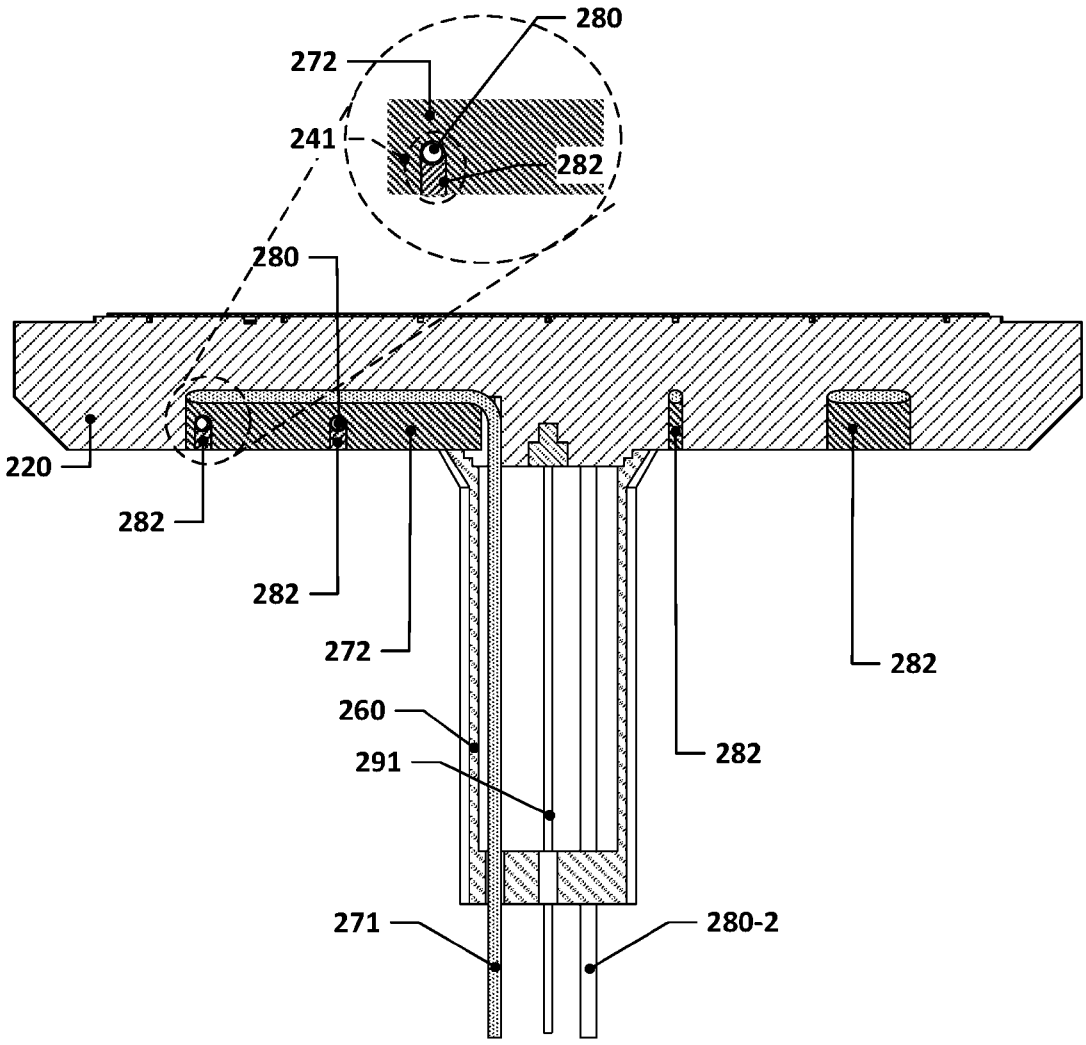


FIG. 8

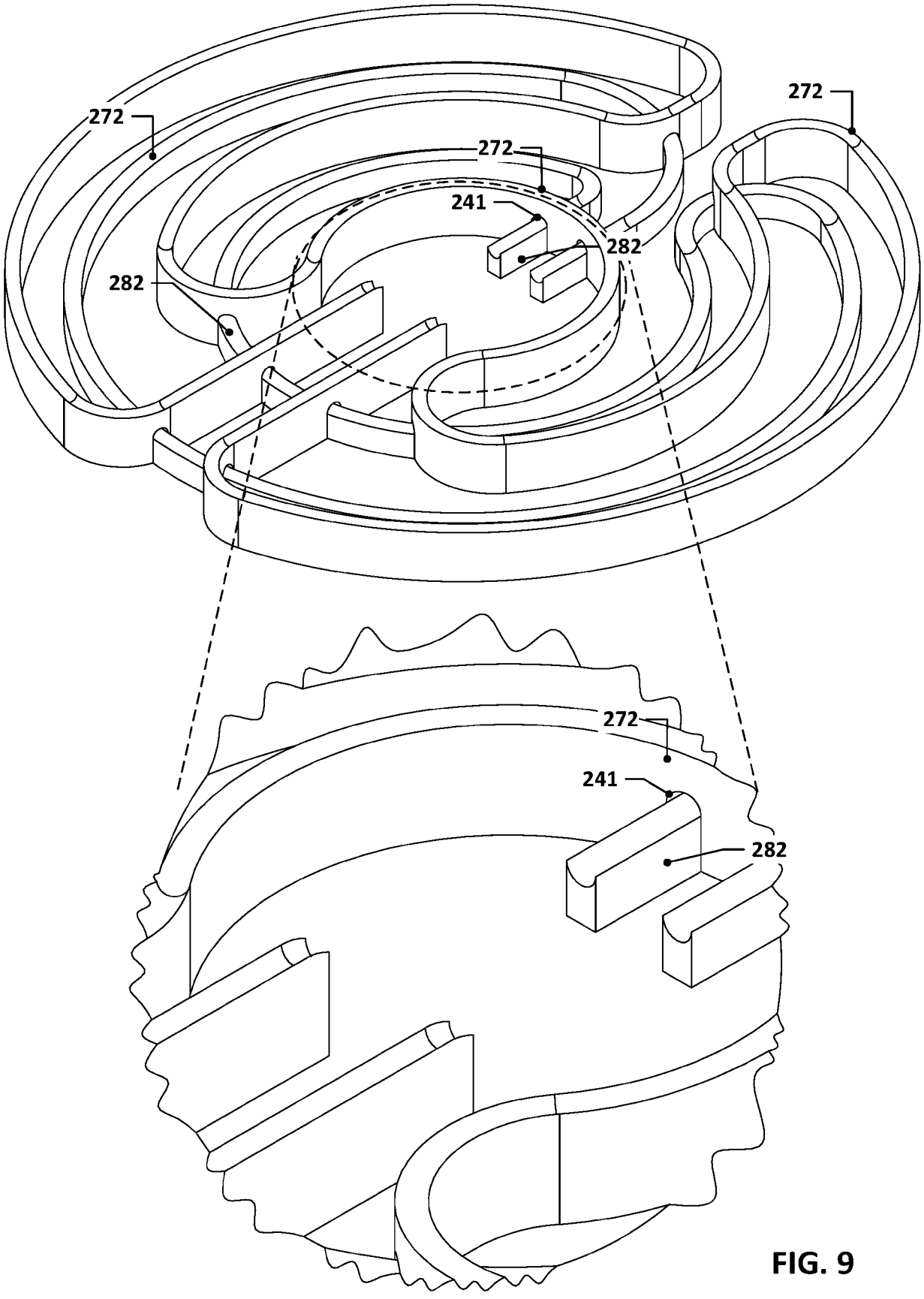


FIG. 9

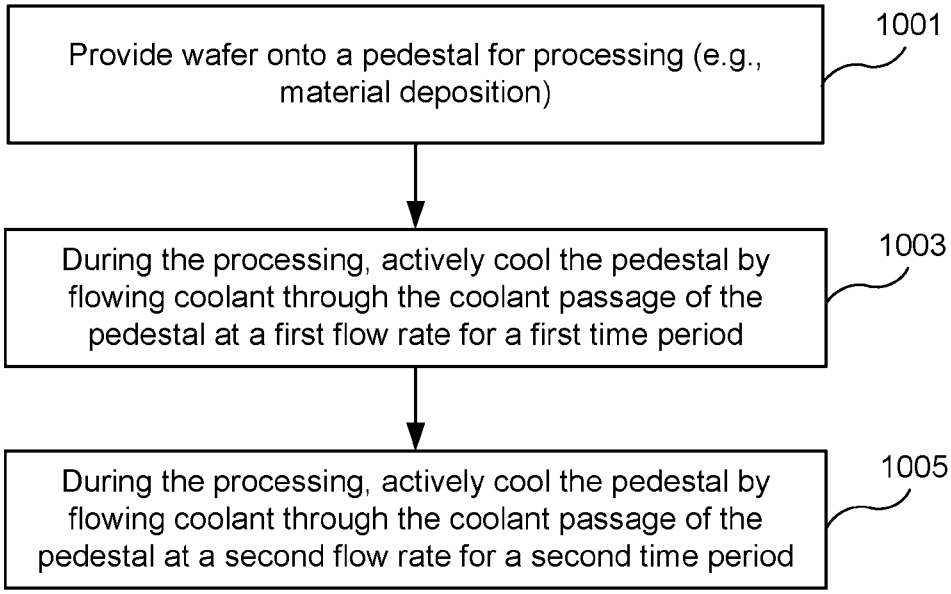

Provide wafer onto a pedestal for processing (e.g., material deposition)
1001
During the processing, actively cool the pedestal by flowing coolant through the coolant passage of the pedestal at a first flow rate for a first time period
1003
During the processing, actively cool the pedestal by flowing coolant through the coolant passage of the pedestal at a second flow rate for a second time period
1005

FIG. 10

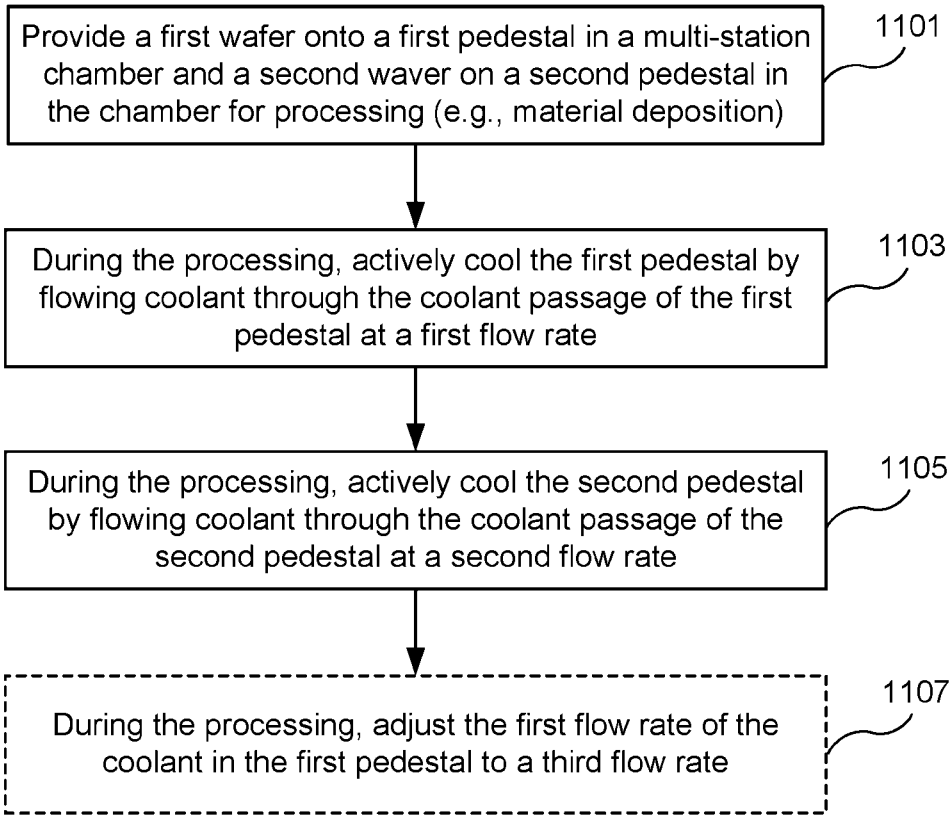

Provide a first wafer onto a first pedestal in a multi-station chamber and a second waver on a second pedestal in the chamber for processing (e.g., material deposition)
1101
During the processing, actively cool the first pedestal by flowing coolant through the coolant passage of the first pedestal at a first flow rate
1103
During the processing, actively cool the second pedestal by flowing coolant through the coolant passage of the second pedestal at a second flow rate
1105
During the processing, adjust the first flow rate of the coolant in the first pedestal to a third flow rate
1107

FIG. 11

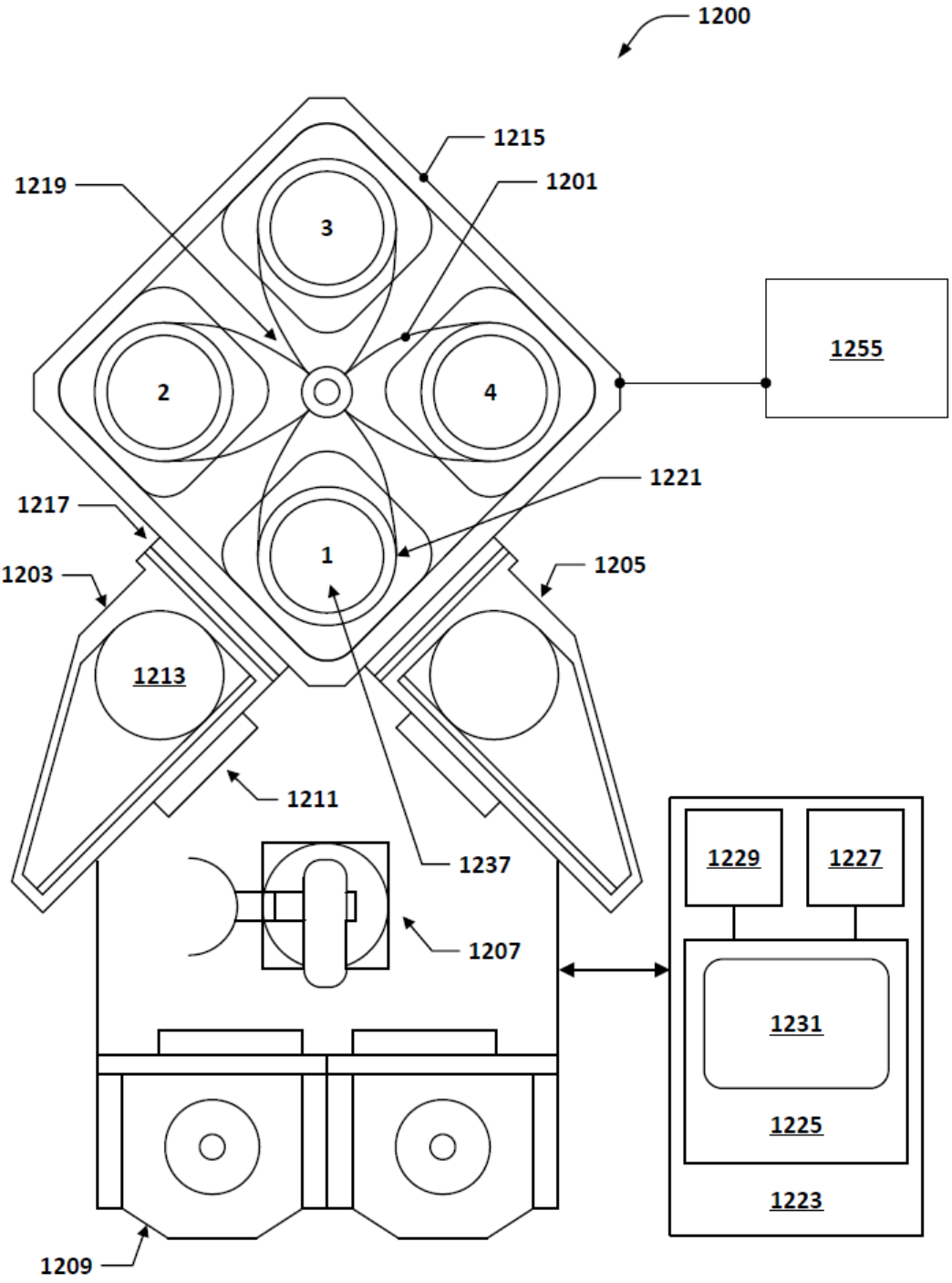

1200
1215
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1217
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FIG. 12