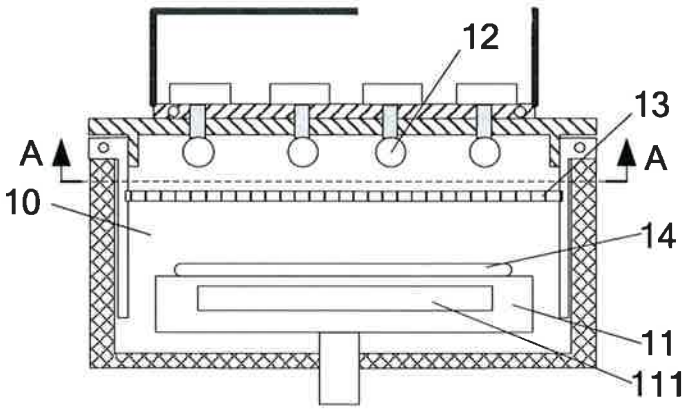

FIG. 1

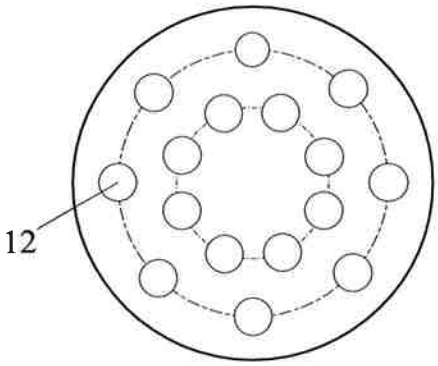

FIG. 2

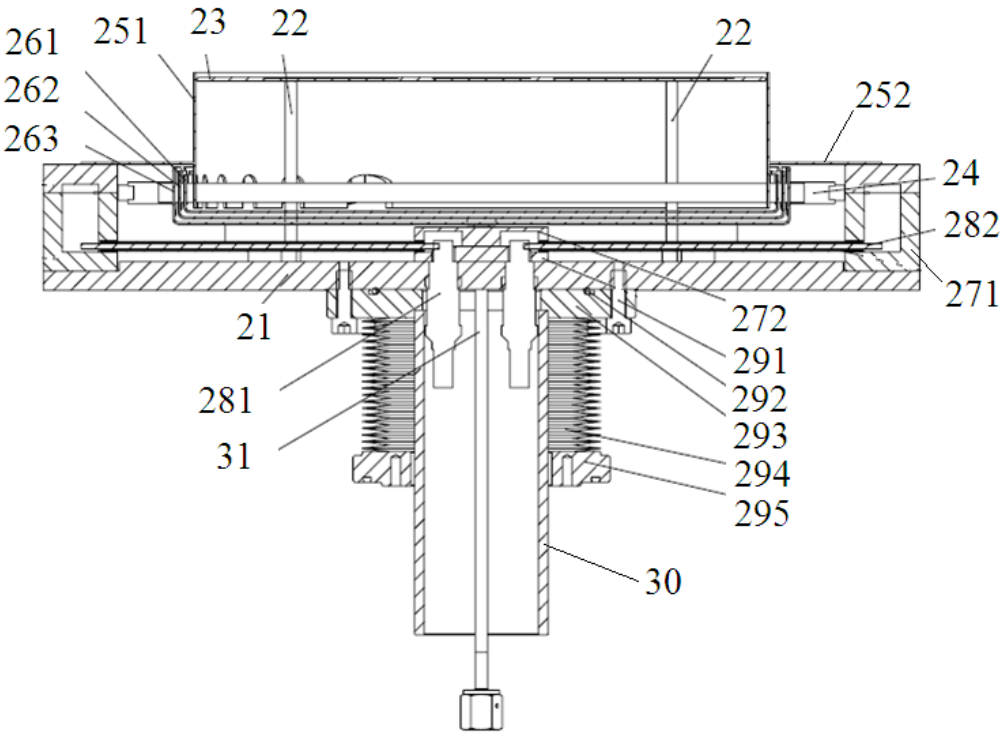
261
262
263
251
23
22
22
252
24
282
271
272
291
292
293
294
295
21
281
31
30

FIG. 3

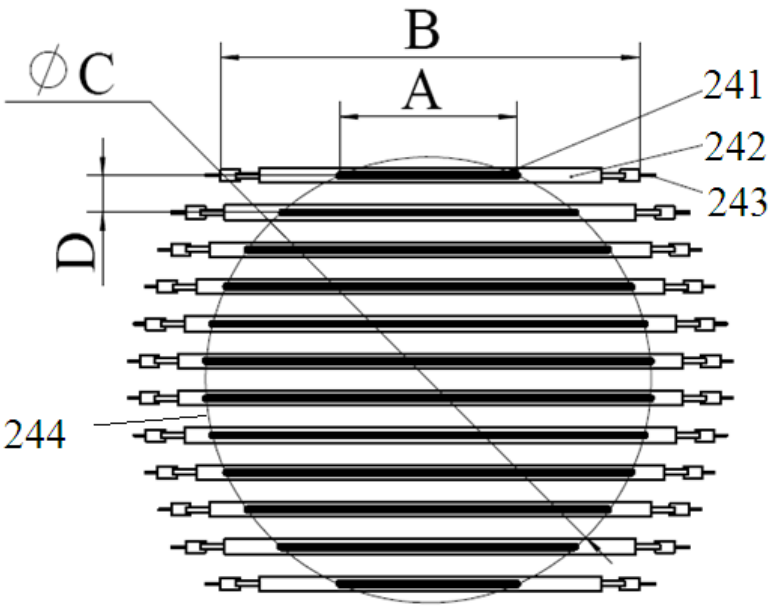
B
A
∅C
D
241
242
243
244

FIG. 4A

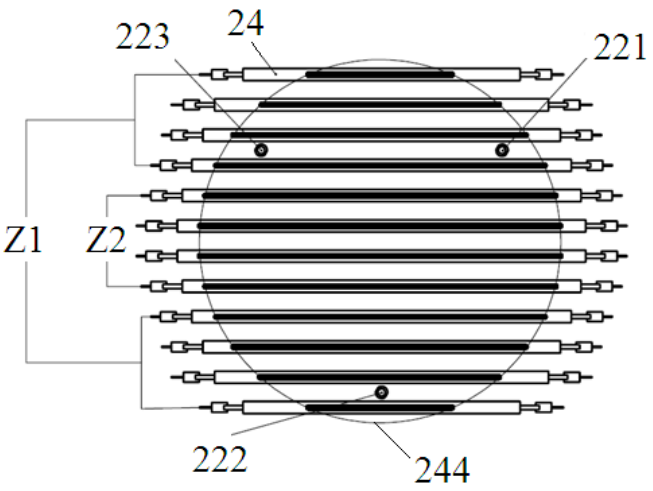

FIG. 4B

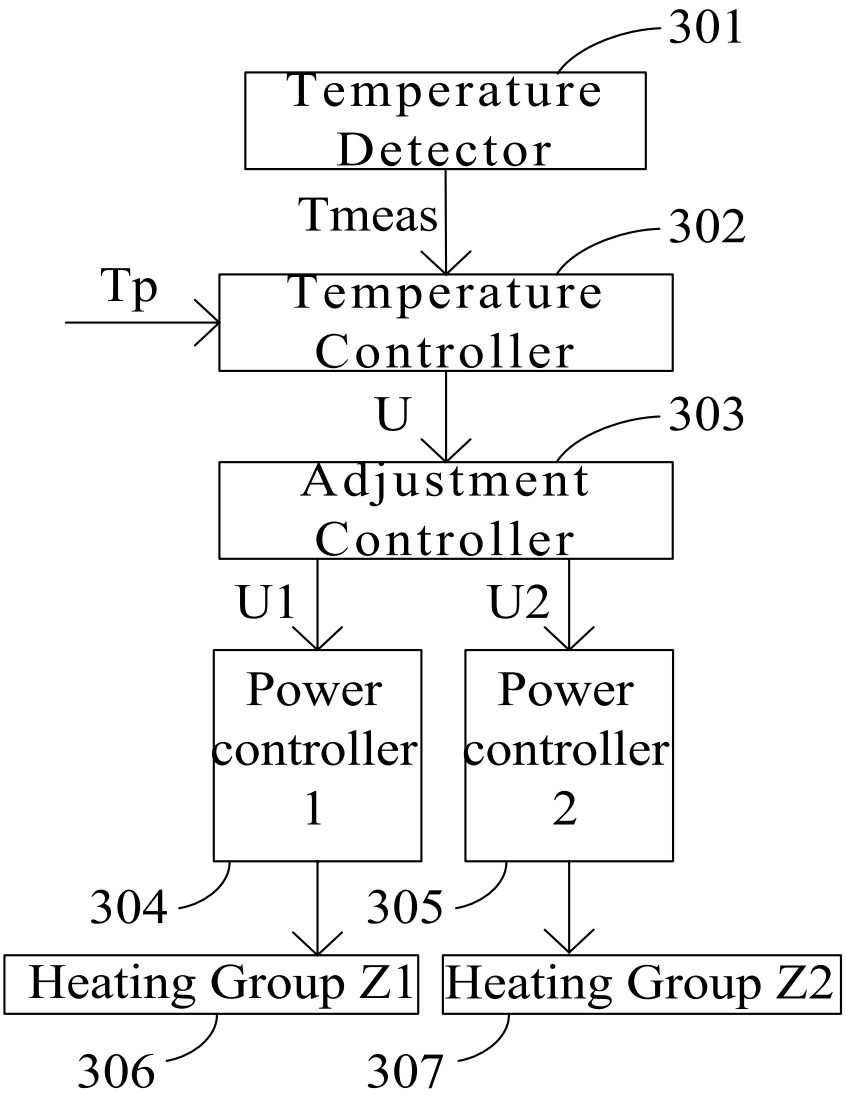
301
Temperature Detector
Tmeas
302
Tp
Temperature Controller
U
303
Adjustment Controller
U1
U2
Power controller 1
Power controller 2
304
305
Heating Group Z1
Heating Group Z2
306
307

FIG. 4C

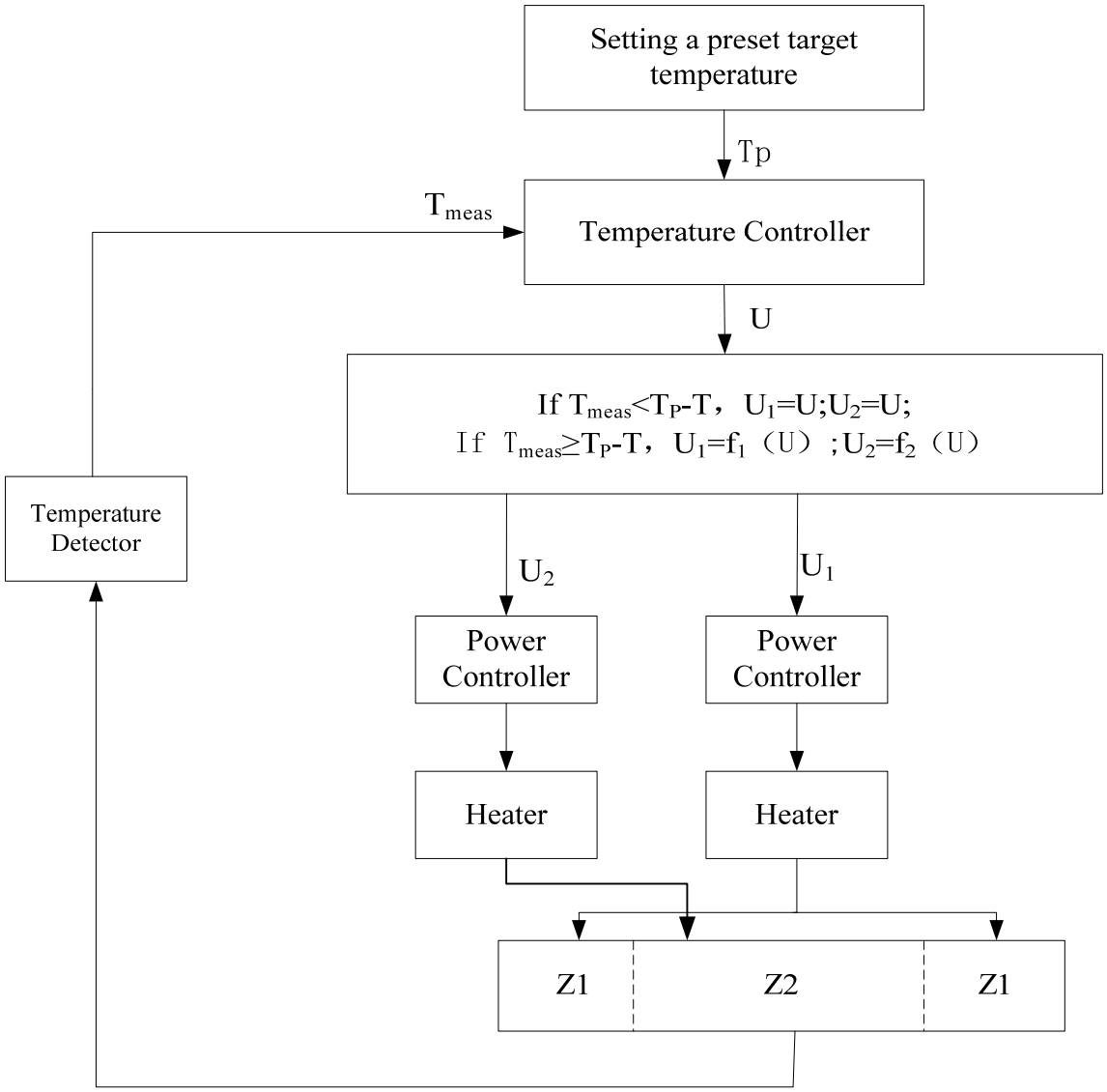
Setting a preset target temperature
Tp
Tmeas
Temperature Controller
U
If Tmeas<TP-T, U1=U;U2=U;
If Tmeas≥TP-T, U1=f1 (U) ;U2=f2 (U)
Temperature Detector
U2
U1
Power Controller
Power Controller
Heater
Heater
Z1
Z2
Z1

FIG. 4D

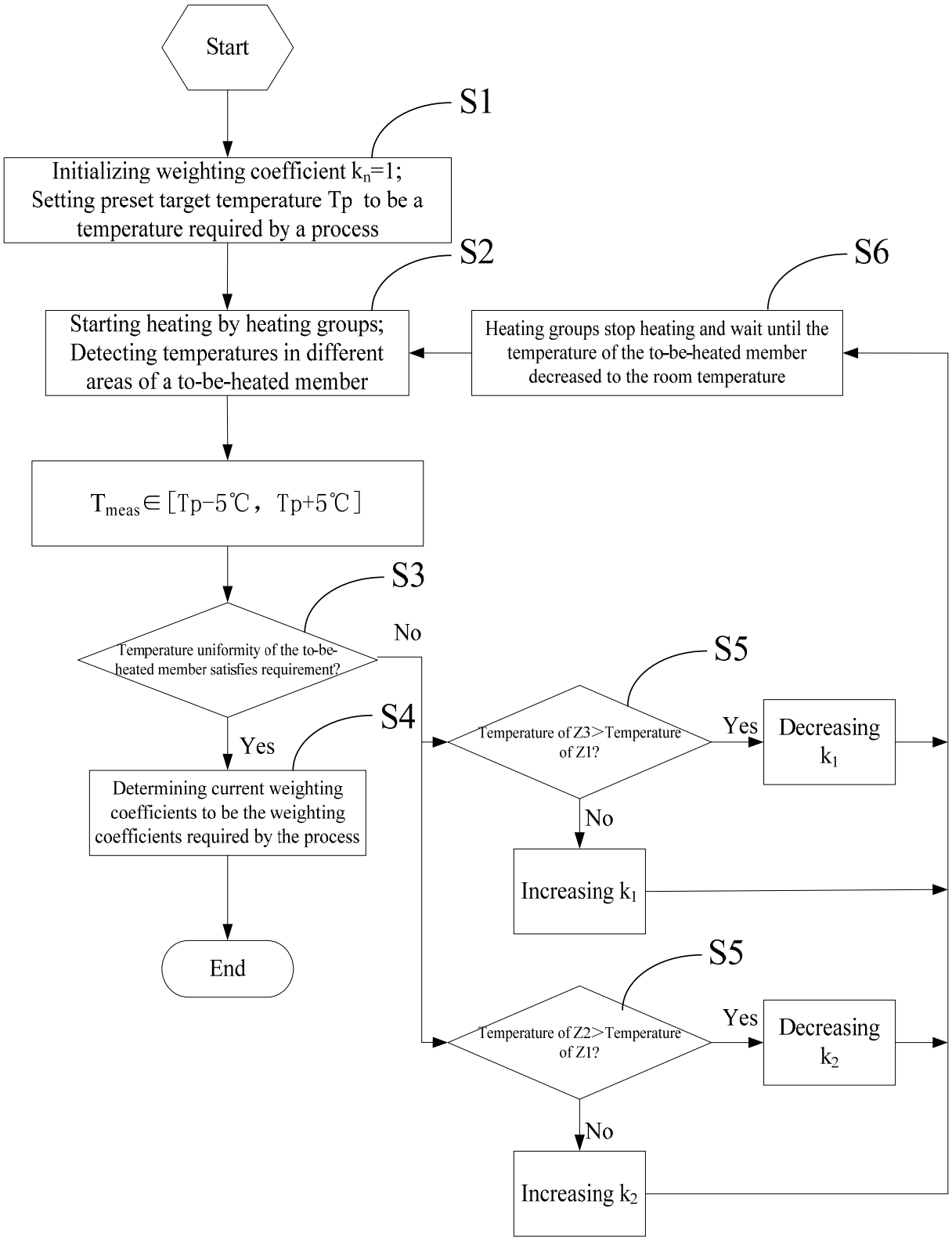
Start
S1
Initializing weighting coefficient k_n=1;
Setting preset target temperature Tp to be a temperature required by a process
S2
Starting heating by heating groups;
Detecting temperatures in different areas of a to-be-heated member
S6
Heating groups stop heating and wait until the temperature of the to-be-heated member decreased to the room temperature
T_{meas}∈[Tp-5℃, Tp+5℃]
S3
Temperature uniformity of the to-be-heated member satisfies requirement?
No
Yes
S4
Determining current weighting coefficients to be the weighting coefficients required by the process
End
S5
Temperature of Z3>Temperature of Z1?
Yes
Decreasing k_1
No
Increasing k_1
S5
Temperature of Z2>Temperature of Z1?
Yes
Decreasing k_2
No
Increasing k_2

FIG. 4E

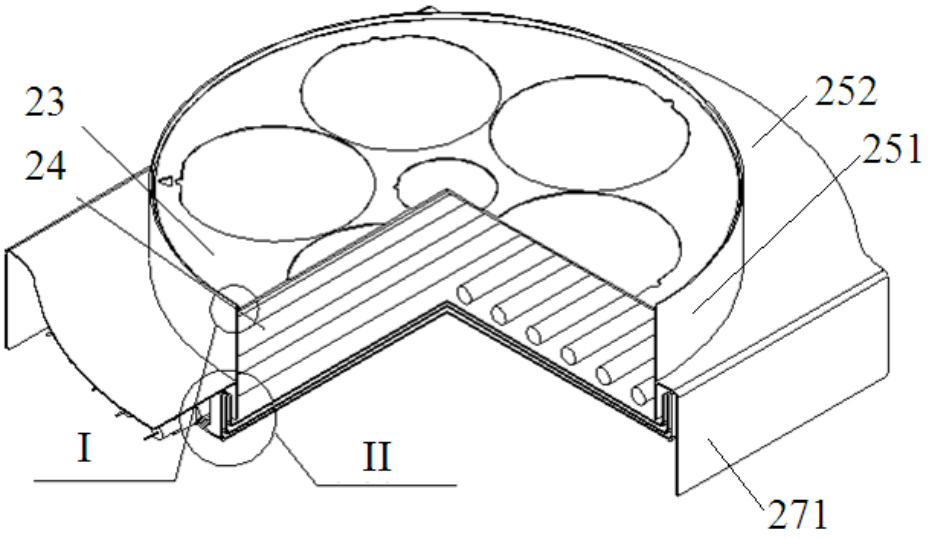

FIG. 5A

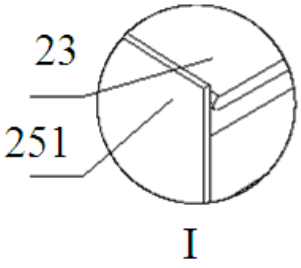

FIG. 5B

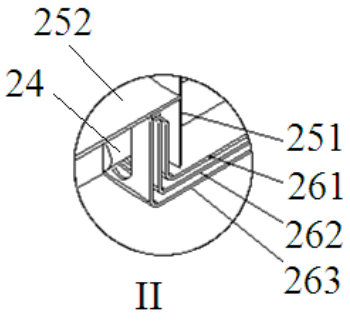

FIG. 5C

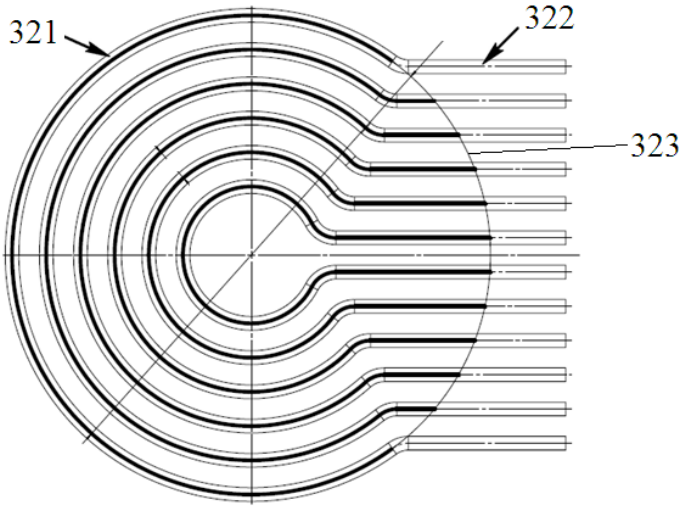

FIG. 6

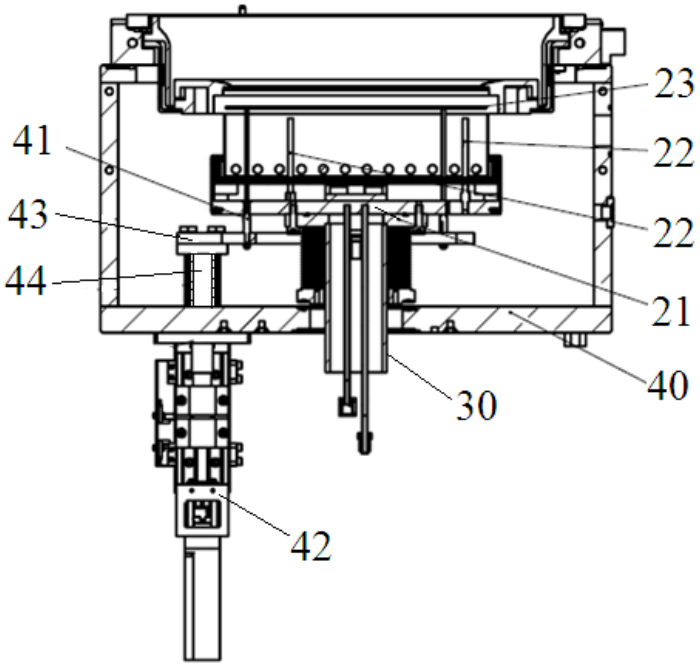

FIG. 7