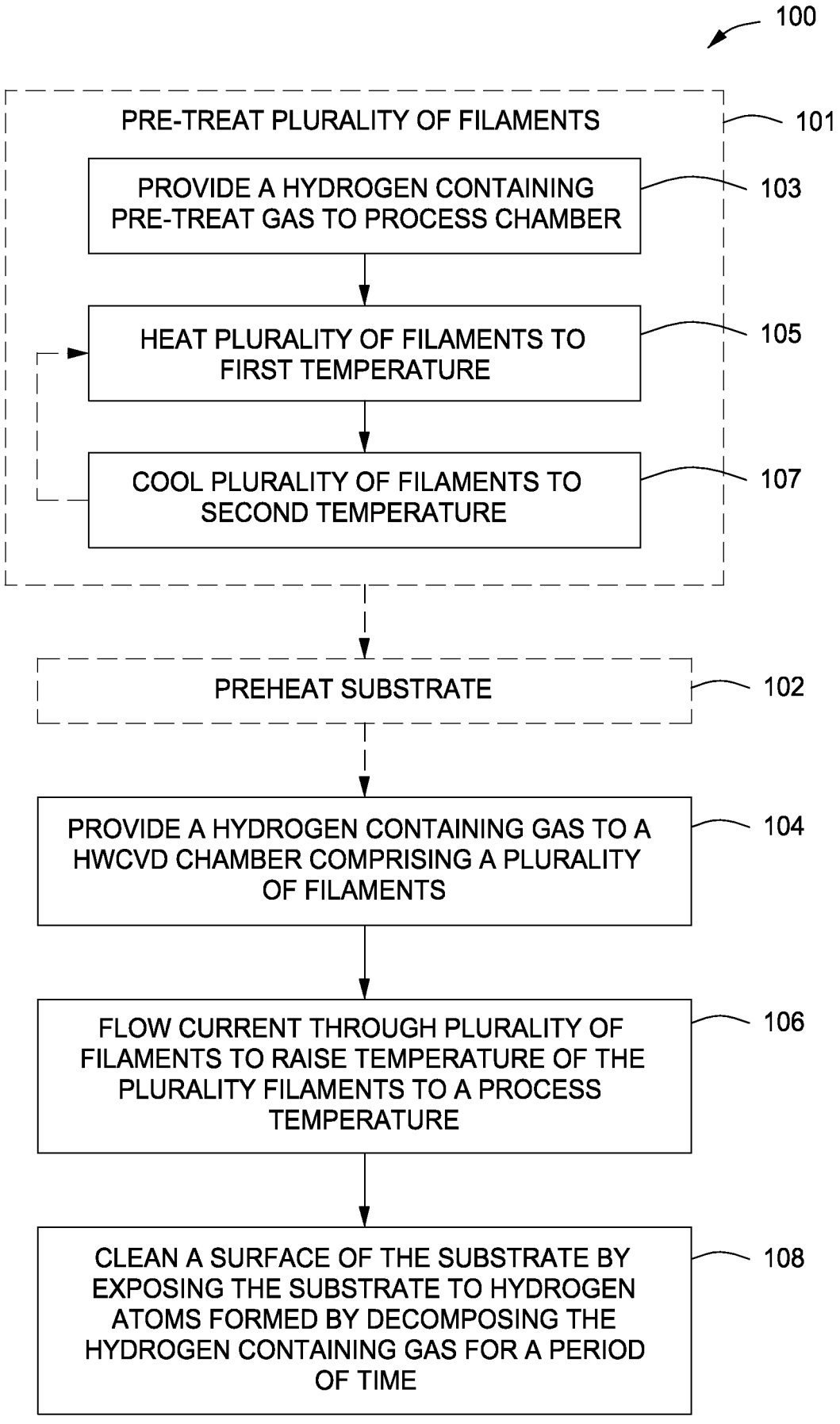

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PRE-TREAT PLURALITY OF FILAMENTS
101
PROVIDE A HYDROGEN CONTAINING PRE-TREAT GAS TO PROCESS CHAMBER
103
HEAT PLURALITY OF FILAMENTS TO FIRST TEMPERATURE
105
COOL PLURALITY OF FILAMENTS TO SECOND TEMPERATURE
107
PREHEAT SUBSTRATE
102
PROVIDE A HYDROGEN CONTAINING GAS TO A HWCVD CHAMBER COMPRISING A PLURALITY OF FILAMENTS
104
FLOW CURRENT THROUGH PLURALITY OF FILAMENTS TO RAISE TEMPERATURE OF THE PLURALITY FILAMENTS TO A PROCESS TEMPERATURE
106
CLEAN A SURFACE OF THE SUBSTRATE BY EXPOSING THE SUBSTRATE TO HYDROGEN ATOMS FORMED BY DECOMPOSING THE HYDROGEN CONTAINING GAS FOR A PERIOD OF TIME
108

FIG. 1

FIG. 2A

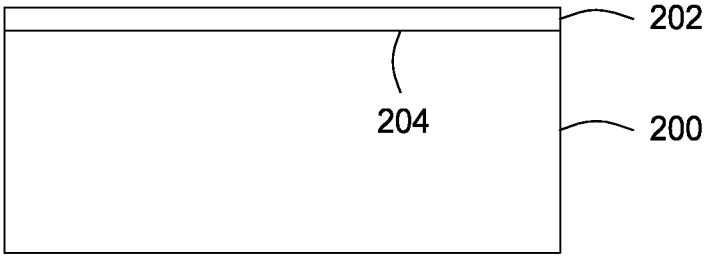
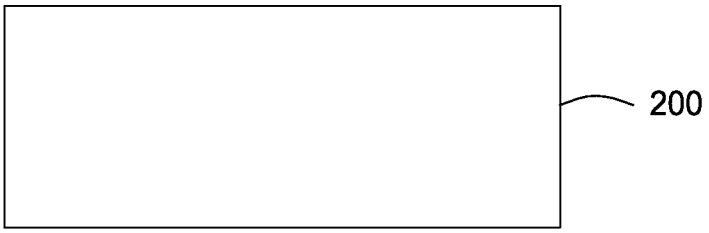


FIG. 2B



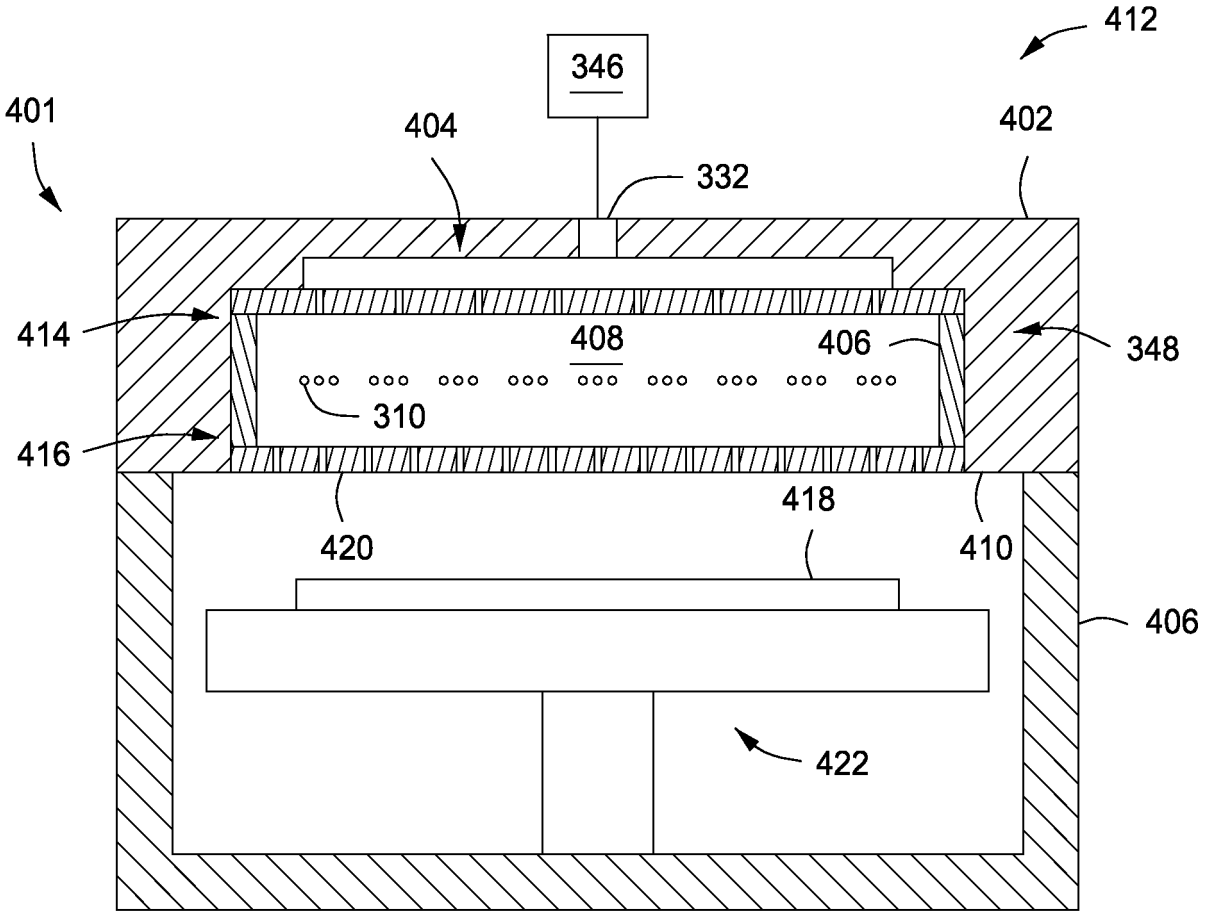


FIG. 4

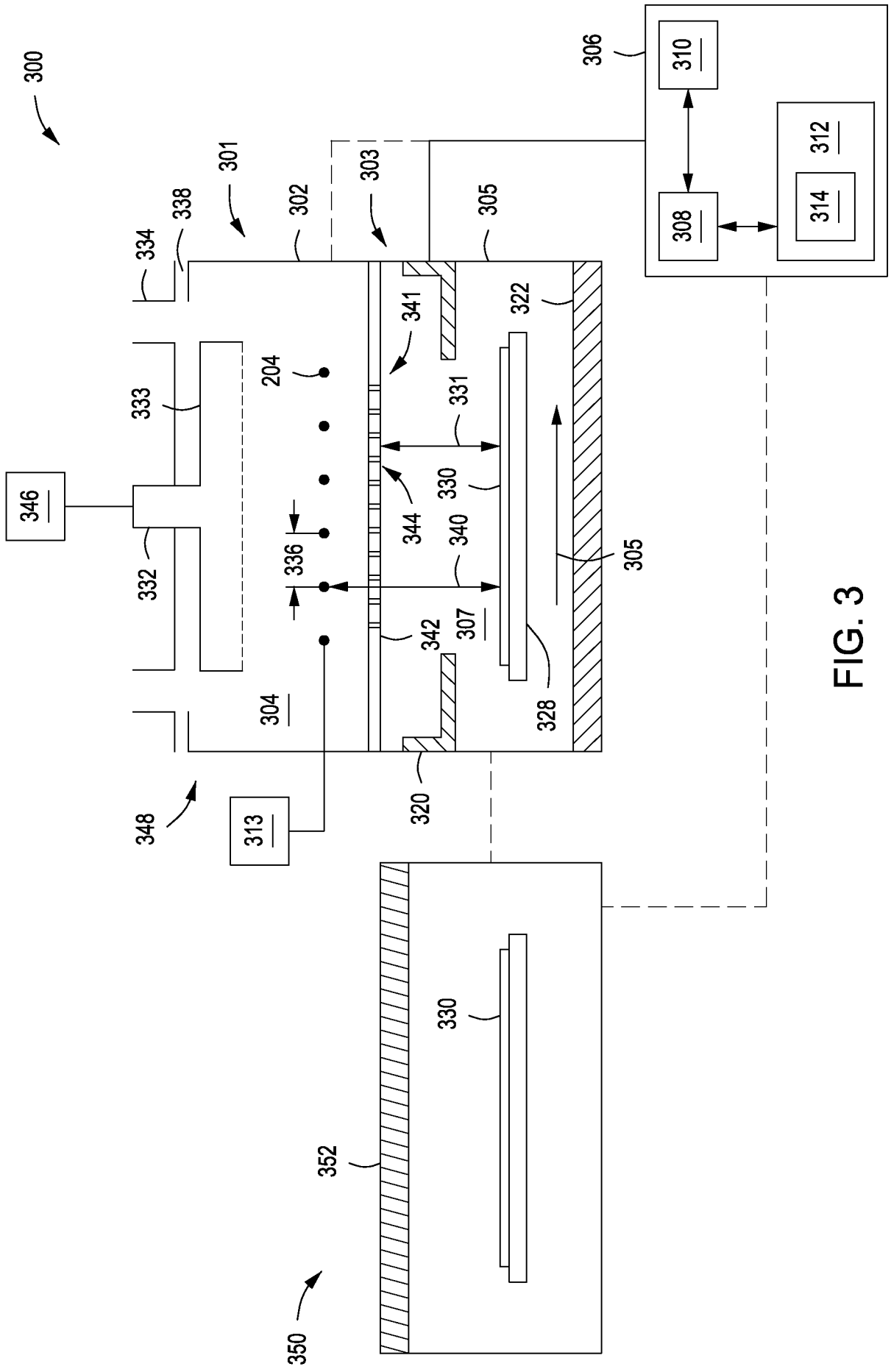

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FIG. 3

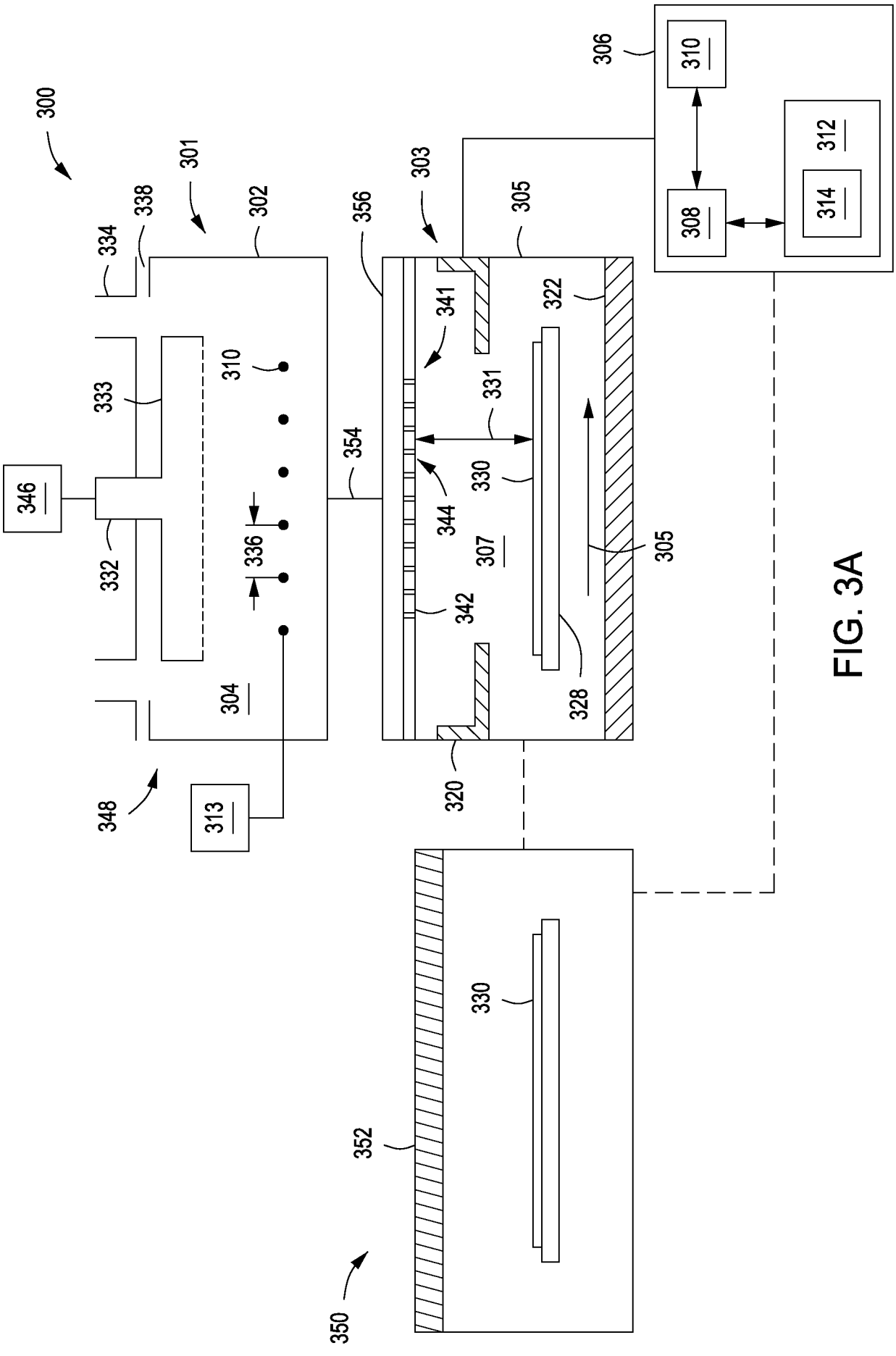

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FIG. 3A

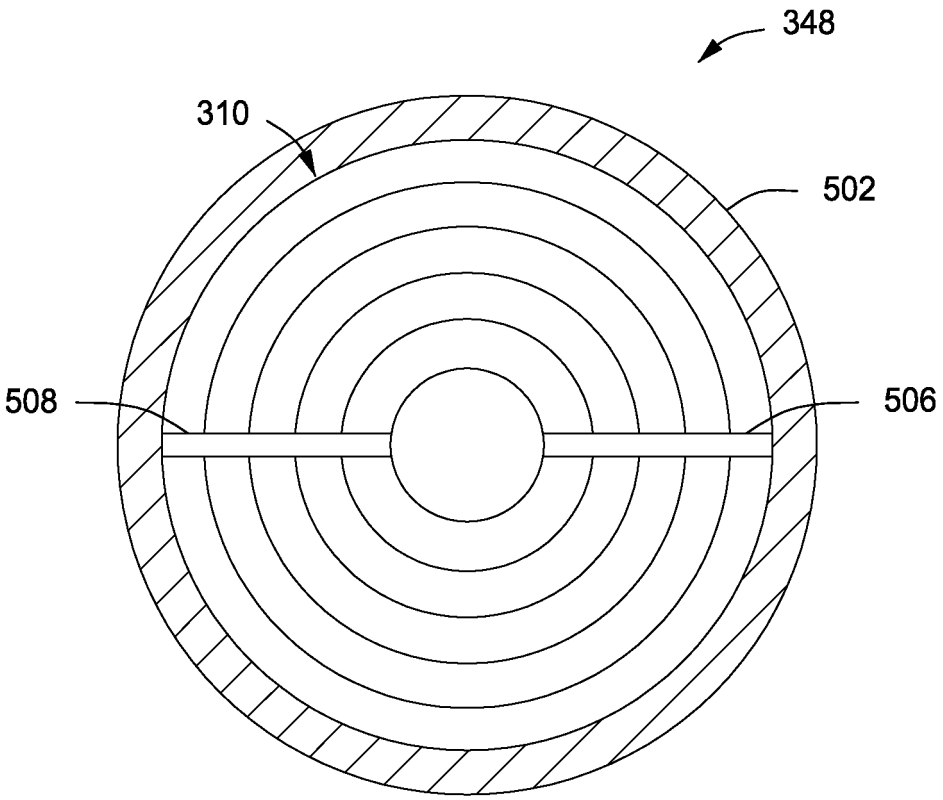


FIG. 5

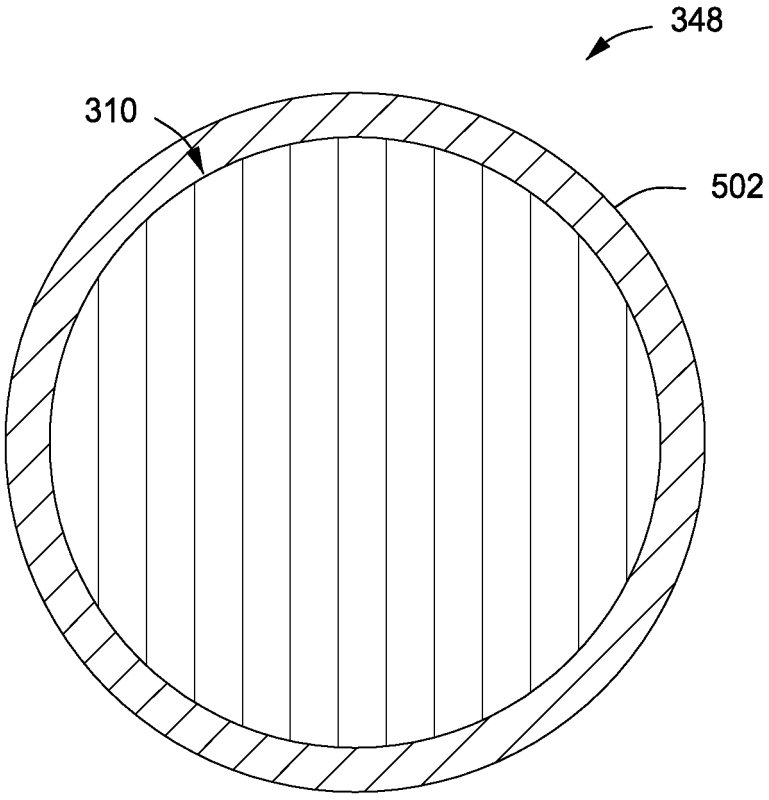


FIG. 6

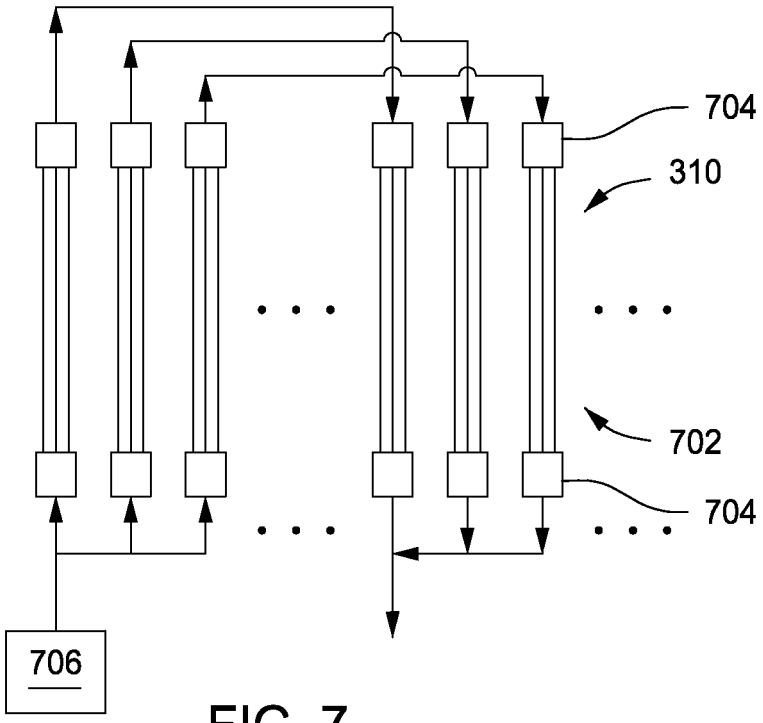


FIG. 7

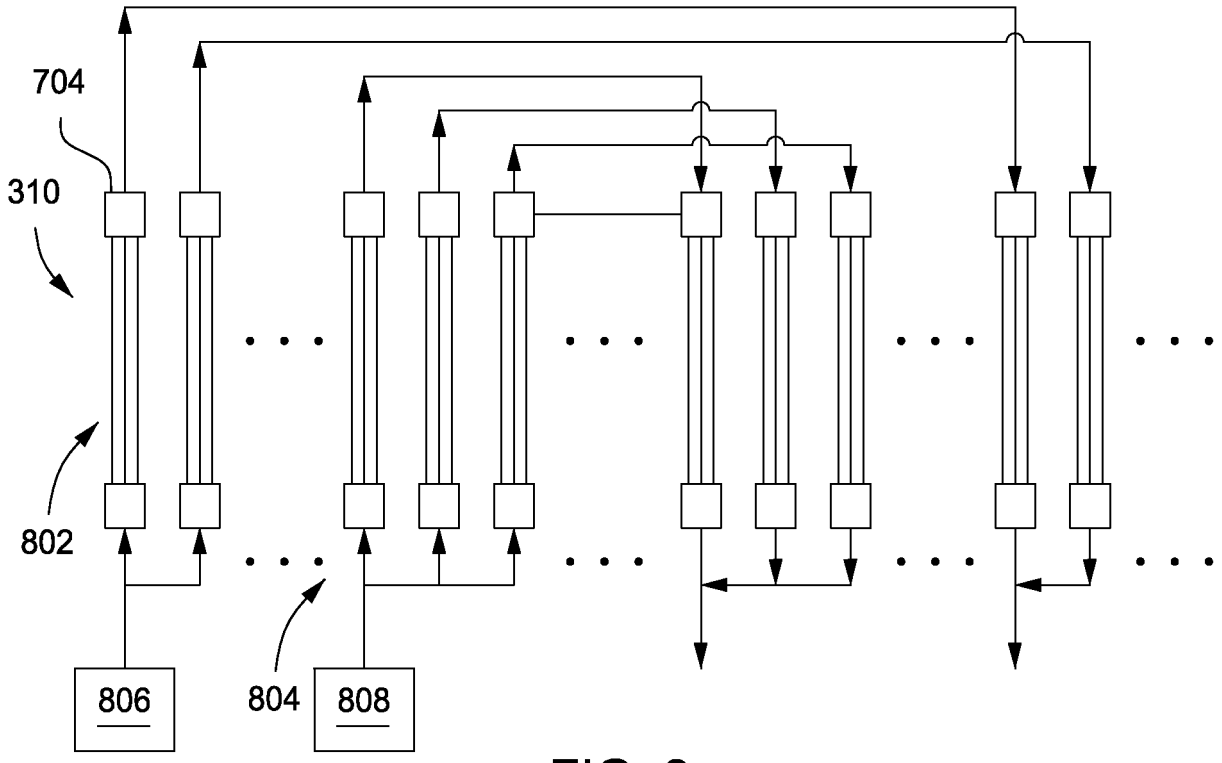


FIG. 8