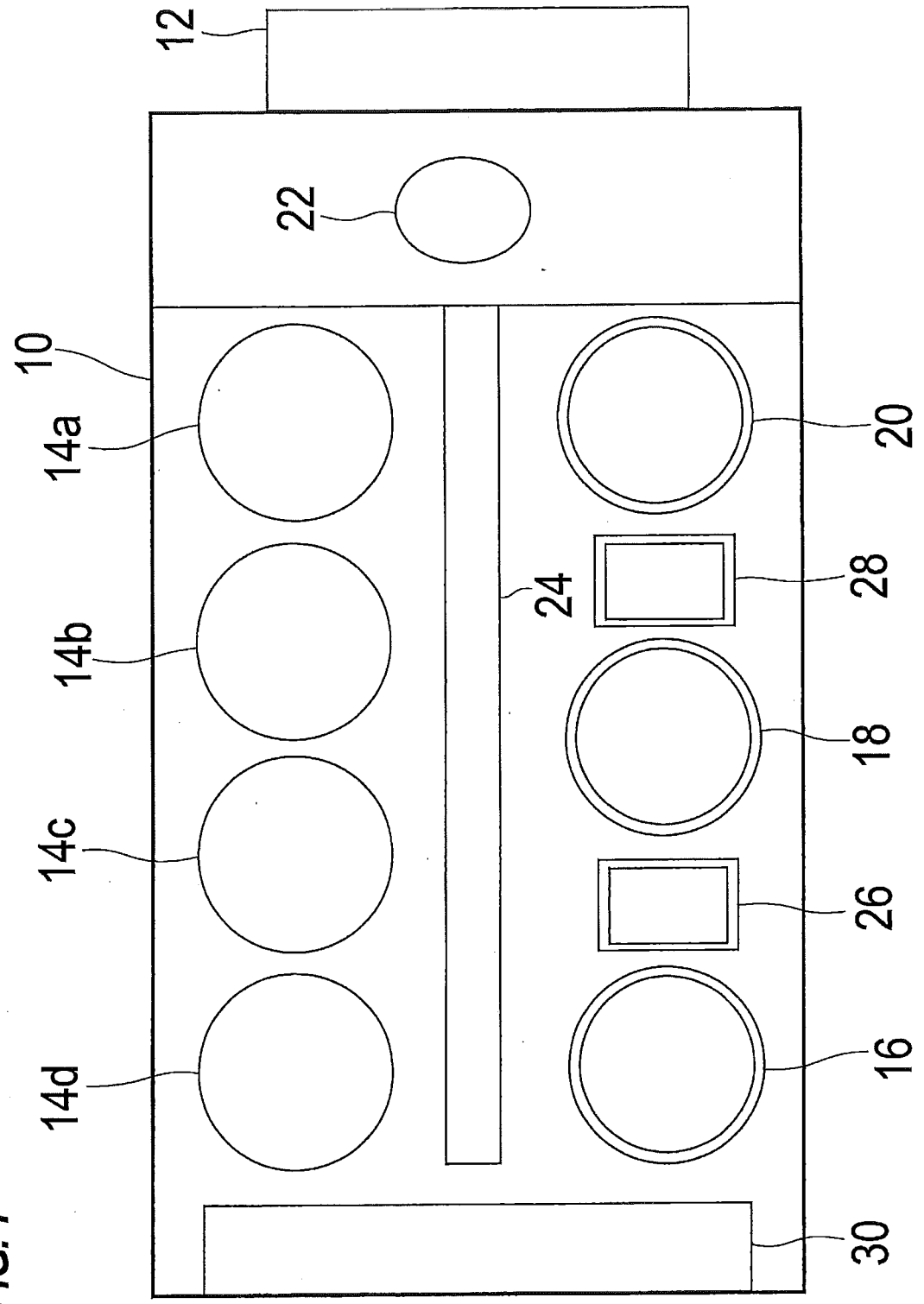


FIG. 1

FIG. 2

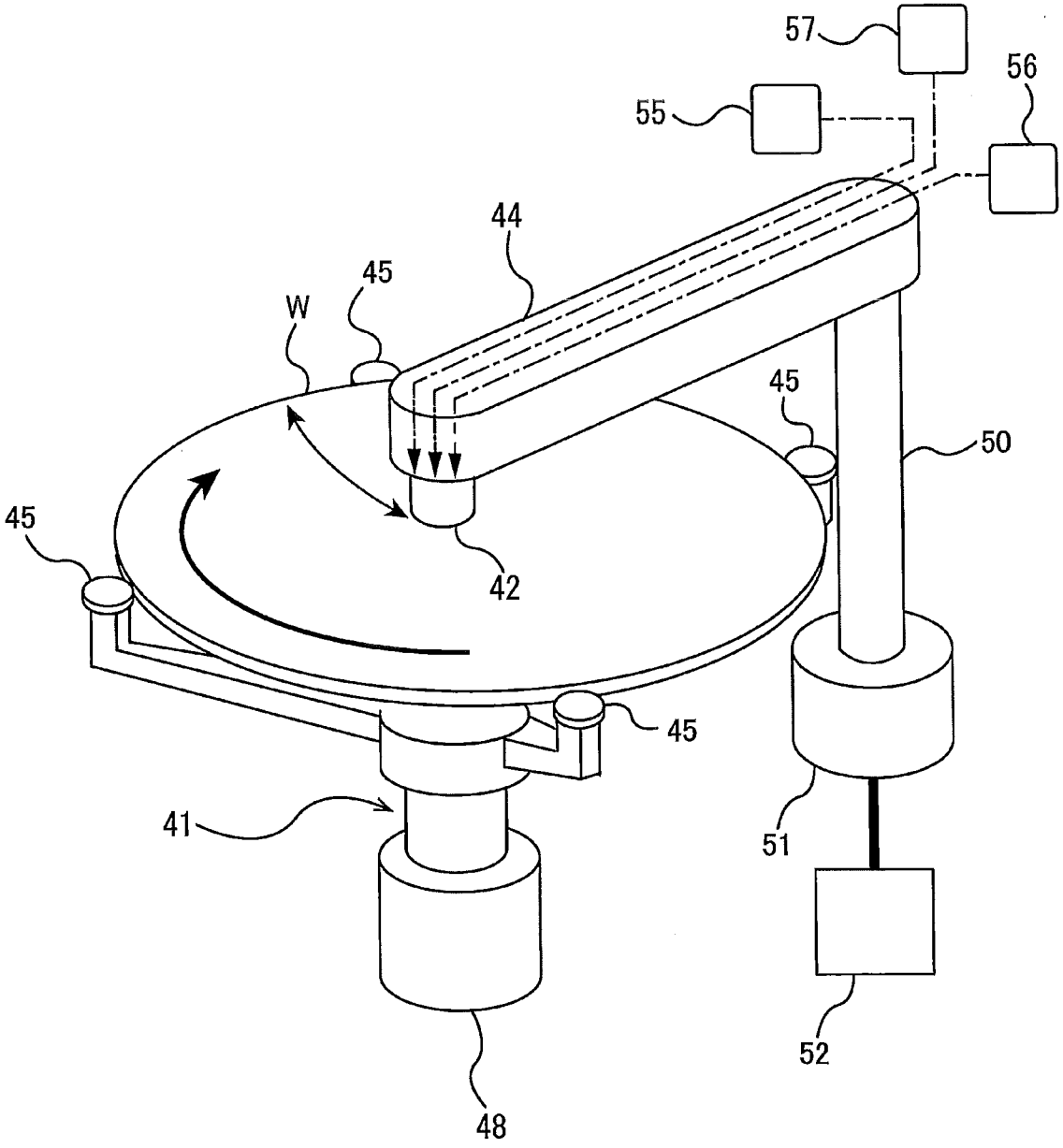


FIG. 3

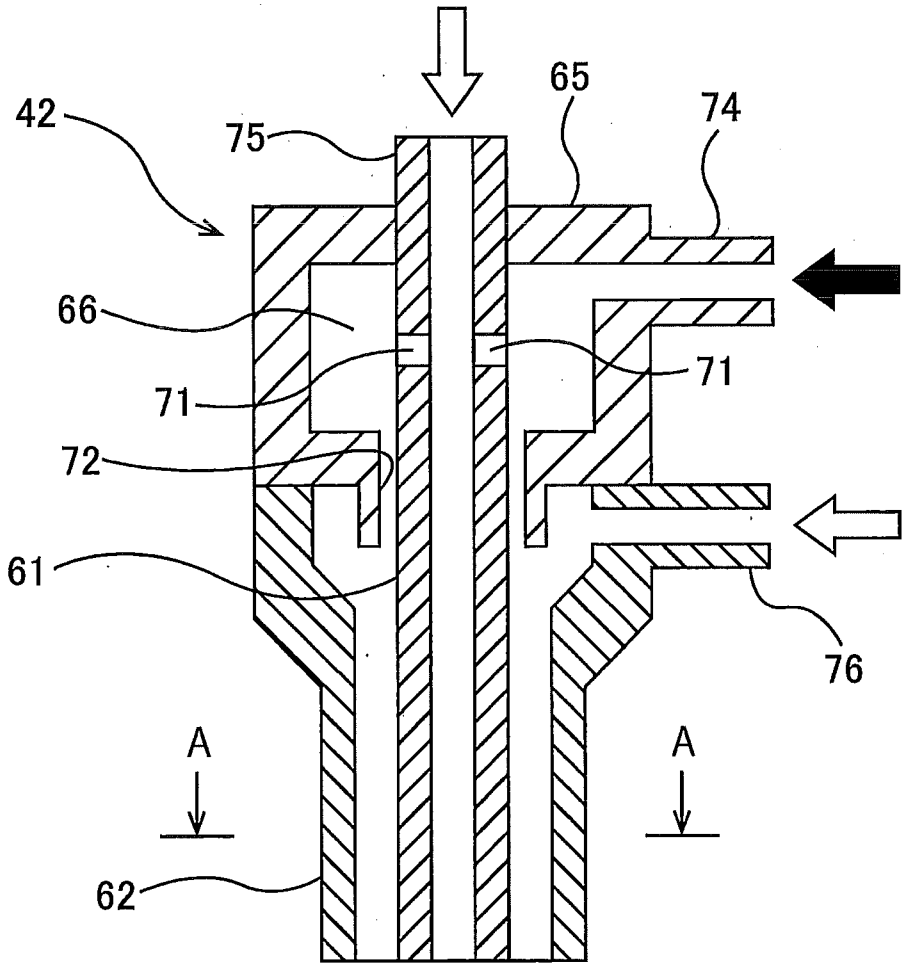


FIG. 4

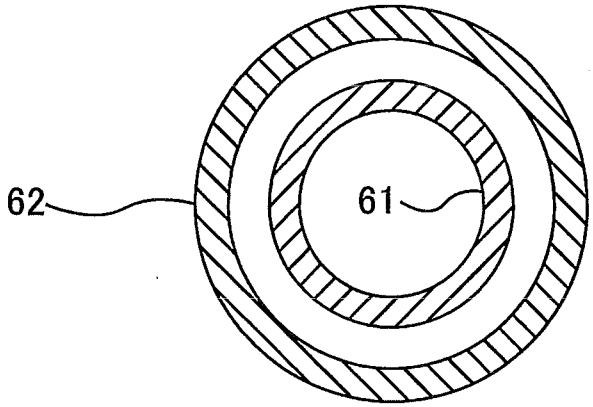


FIG. 5

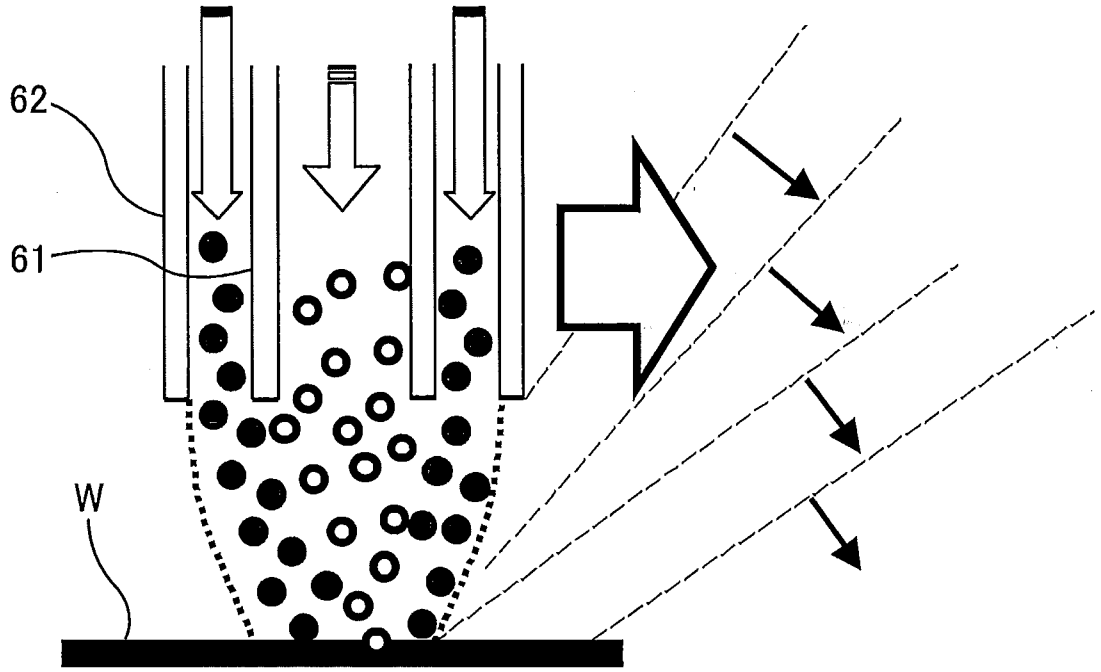


FIG. 6

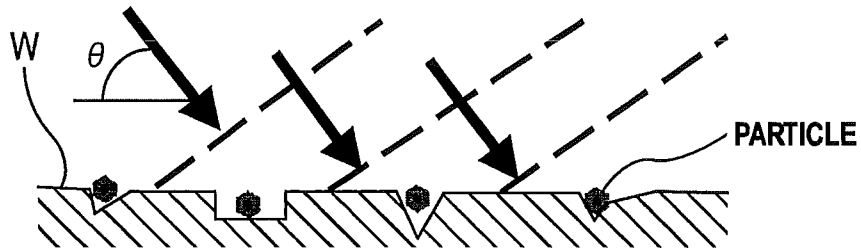


FIG. 7

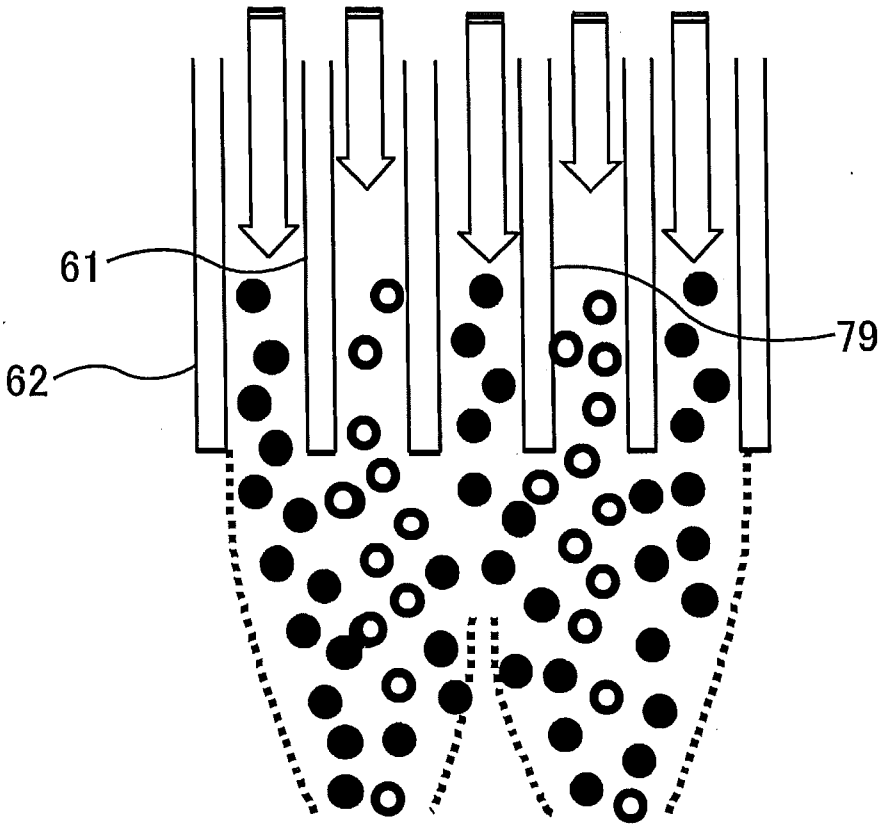


FIG. 8

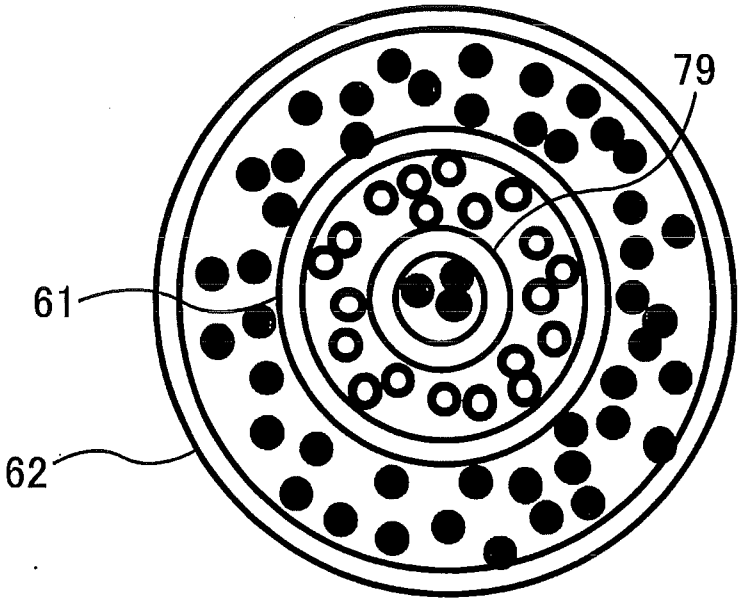


FIG. 9

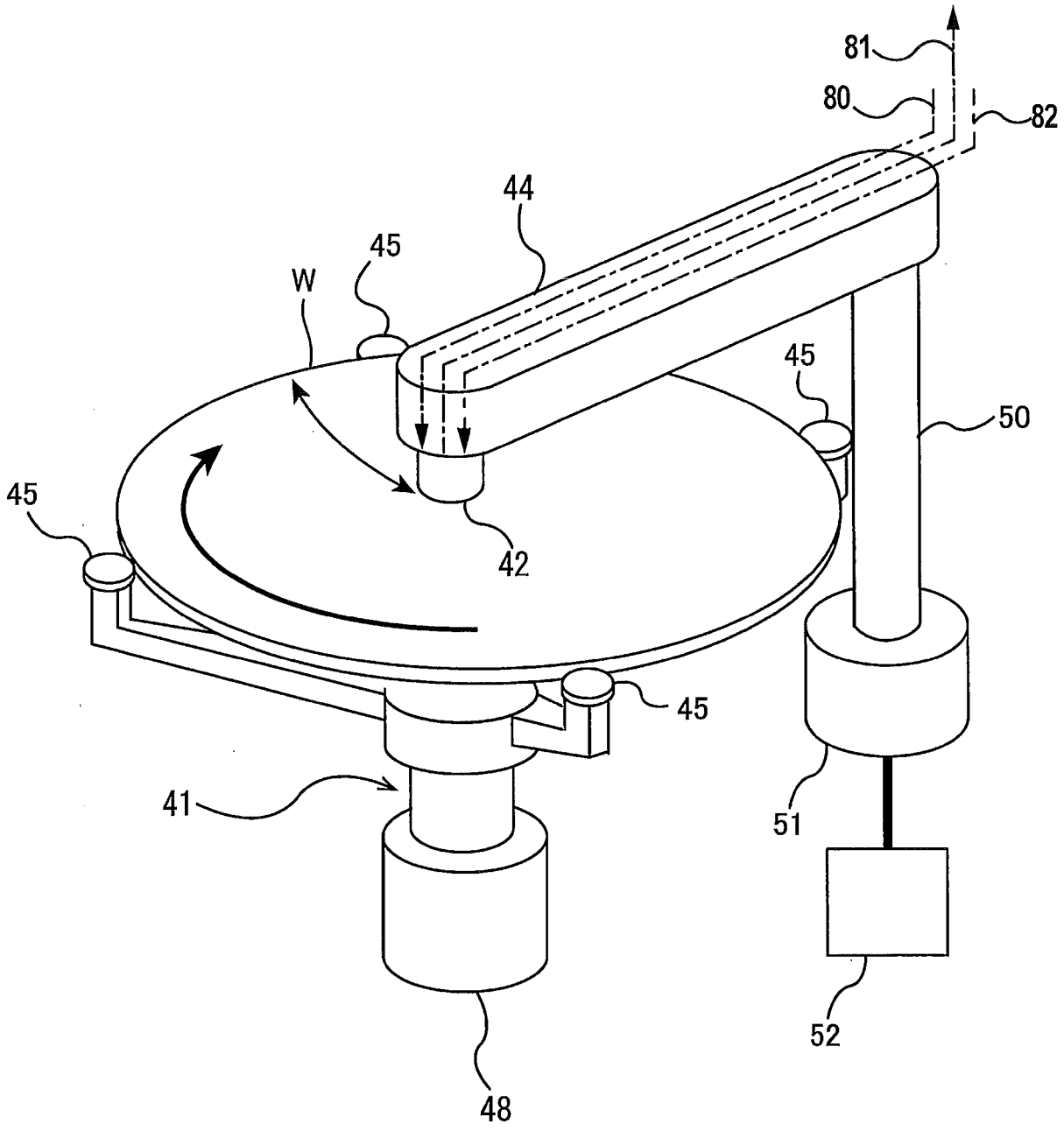
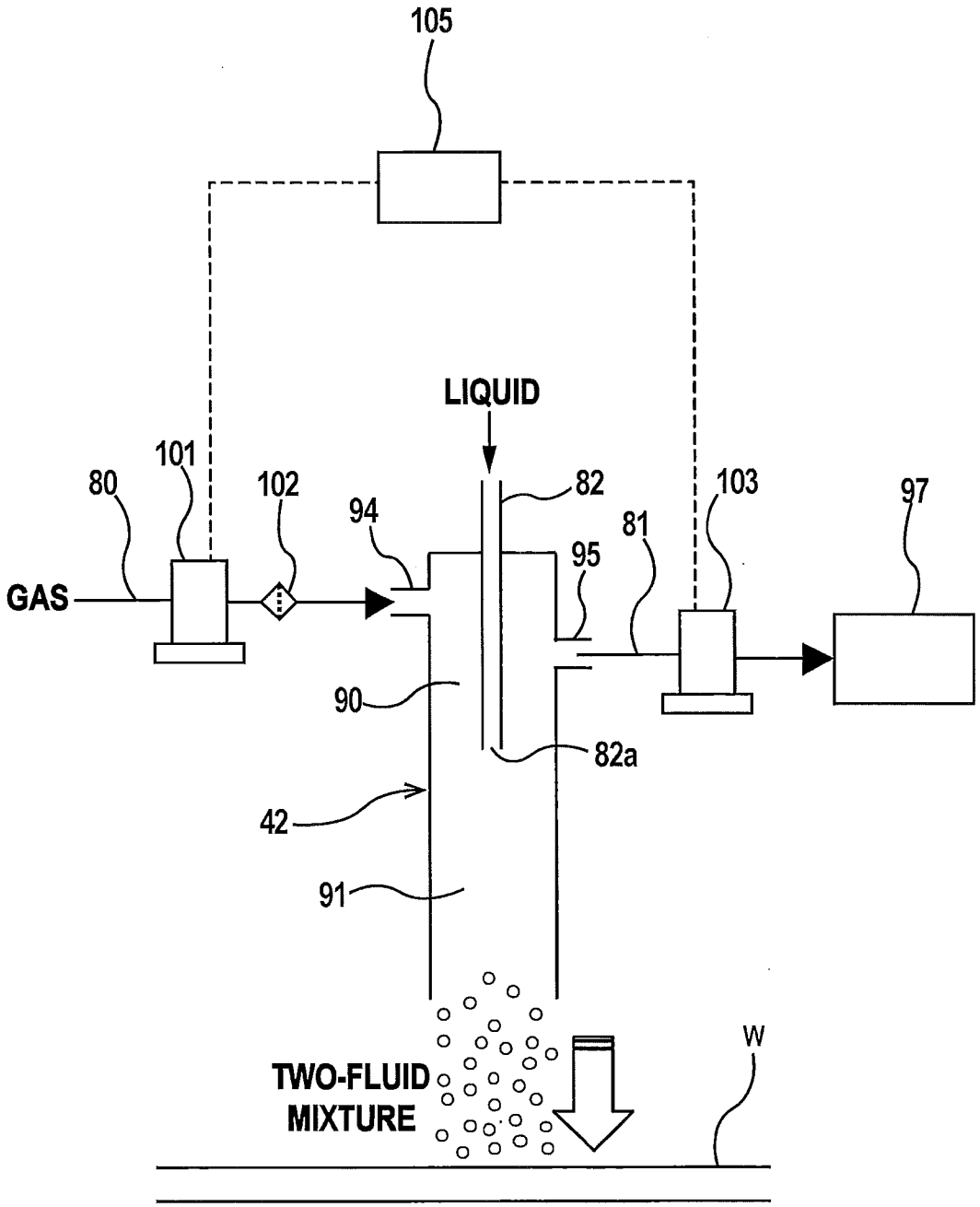


FIG. 10


105
LIQUID
101
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102
94
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103
97
81
95
GAS
90
82a
42
91
TWO-FLUID
MIXTURE
W

FIG. 11

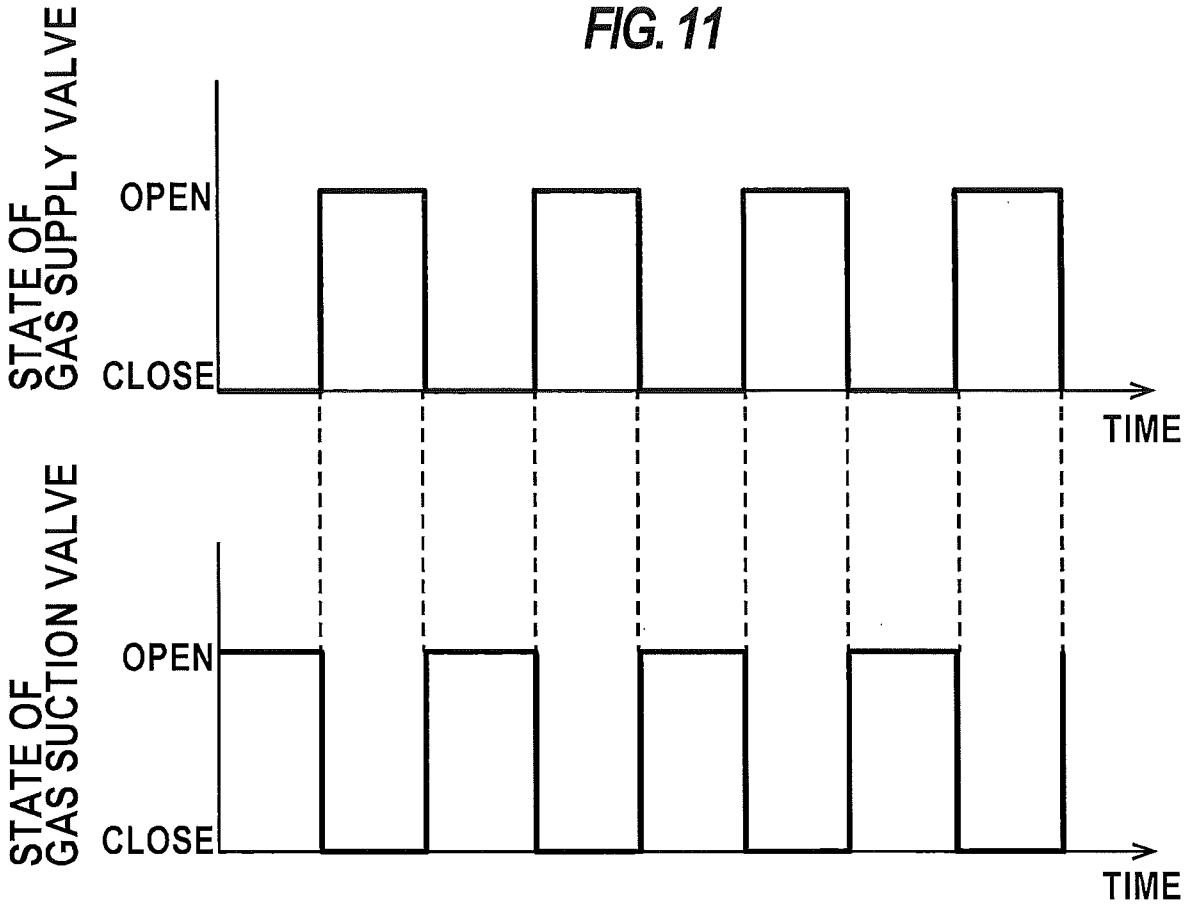

STATE OF GAS SUPPLY VALVE
OPEN
CLOSE
TIME
STATE OF GAS SUCTION VALVE
OPEN
CLOSE
TIME

FIG. 12

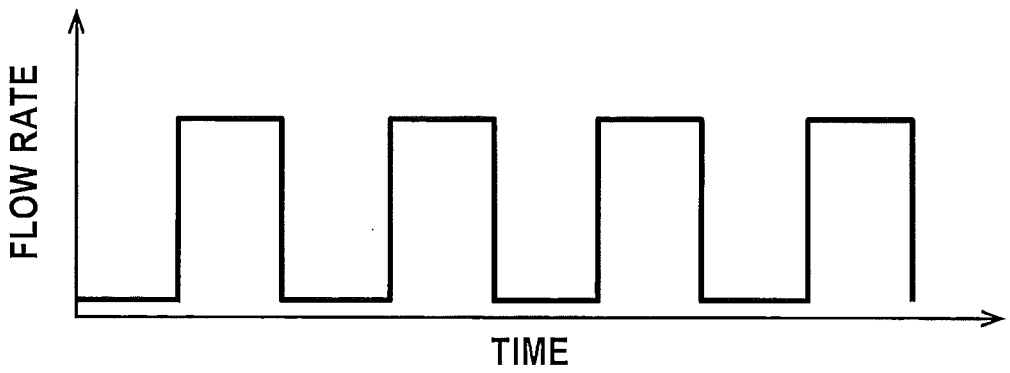

FLOW RATE
TIME

FIG. 13

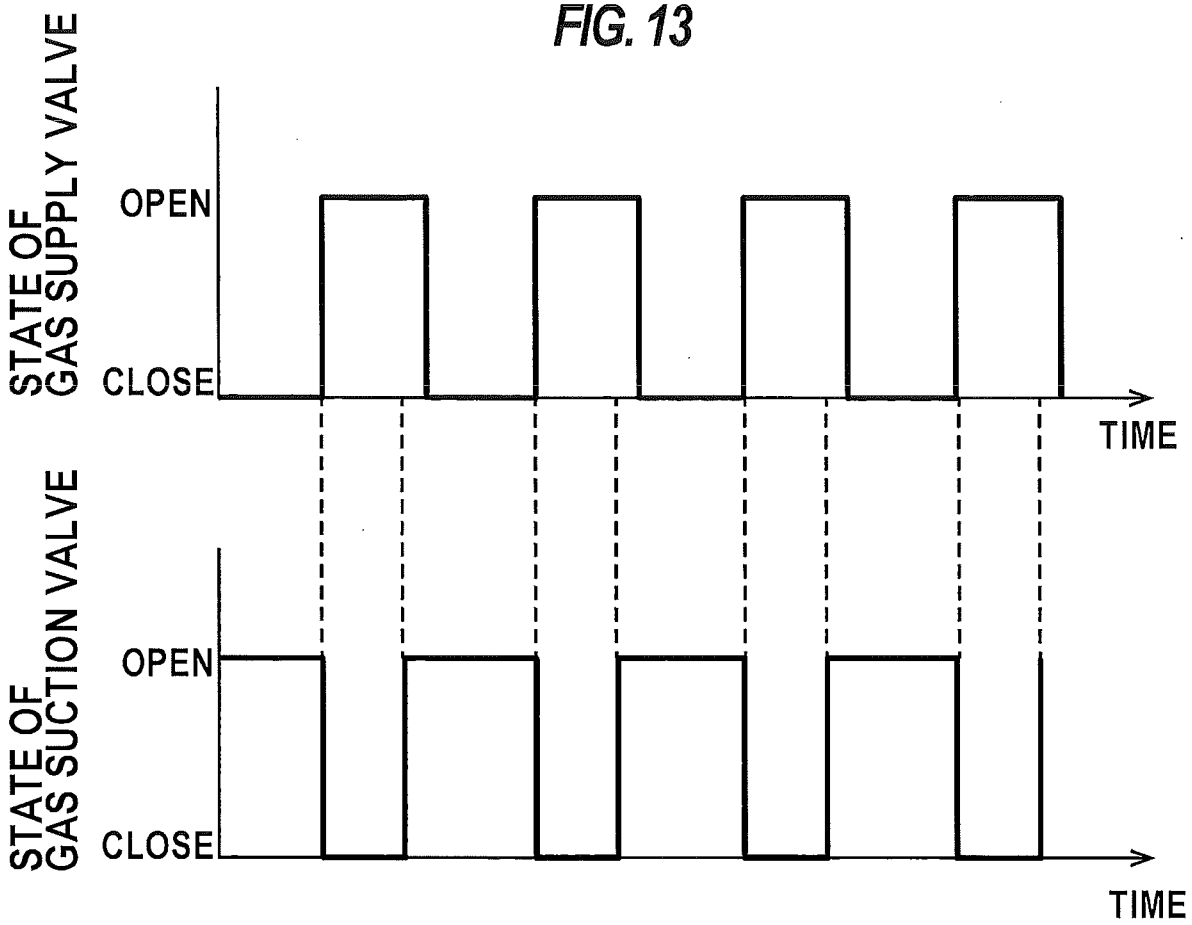

STATE OF GAS SUPPLY VALVE
OPEN
CLOSE
TIME
STATE OF GAS SUCTION VALVE
OPEN
CLOSE
TIME

FIG. 14

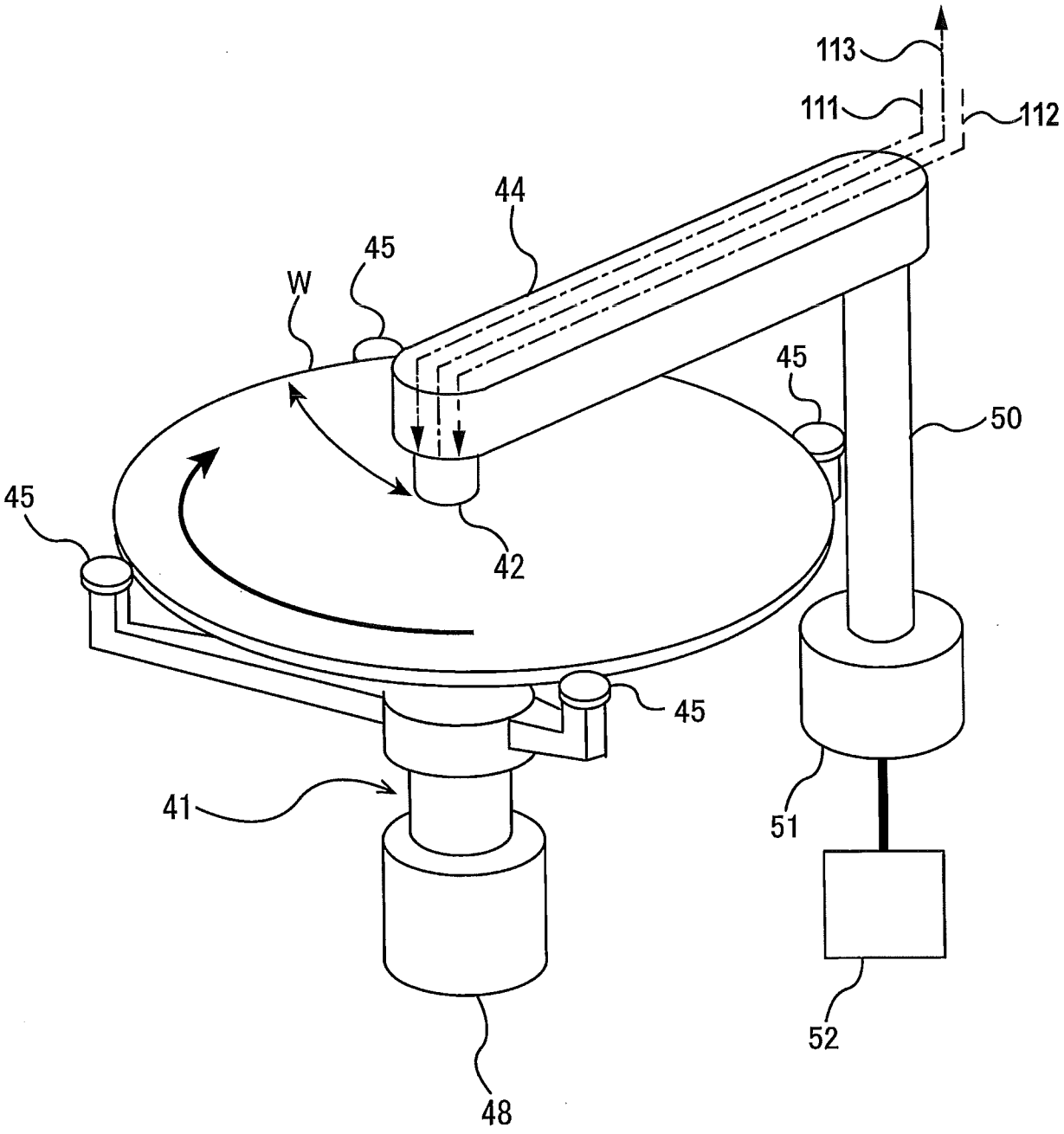
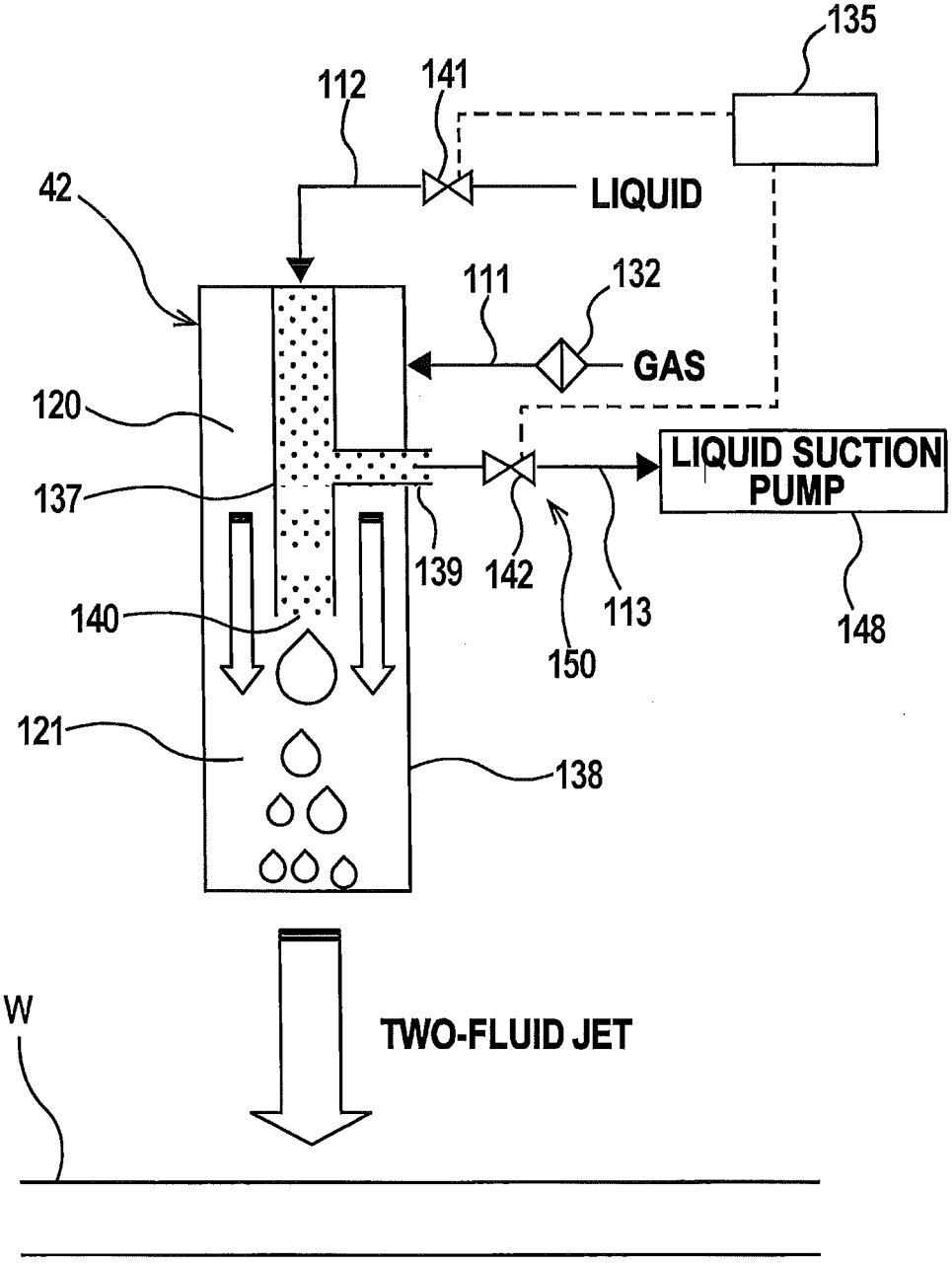


FIG. 15


135
112
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LIQUID
42
111
132
GAS
120
137
LIQUID SUCTION PUMP
139
142
113
148
140
150
121
138
W
TWO-FLUID JET

FIG. 16

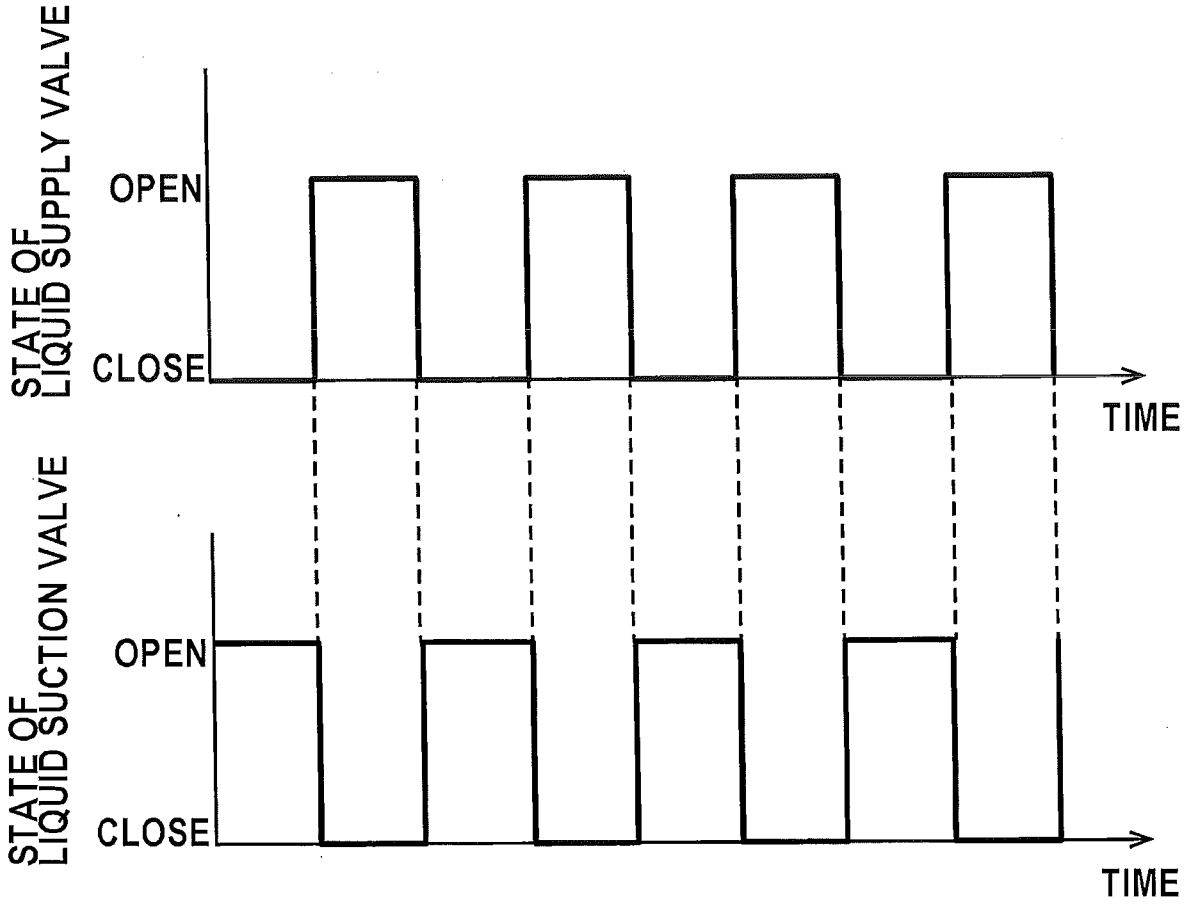

STATE OF LIQUID SUPPLY VALVE
OPEN
CLOSE
TIME
STATE OF LIQUID SUCTION VALVE
OPEN
CLOSE
TIME

FIG. 17

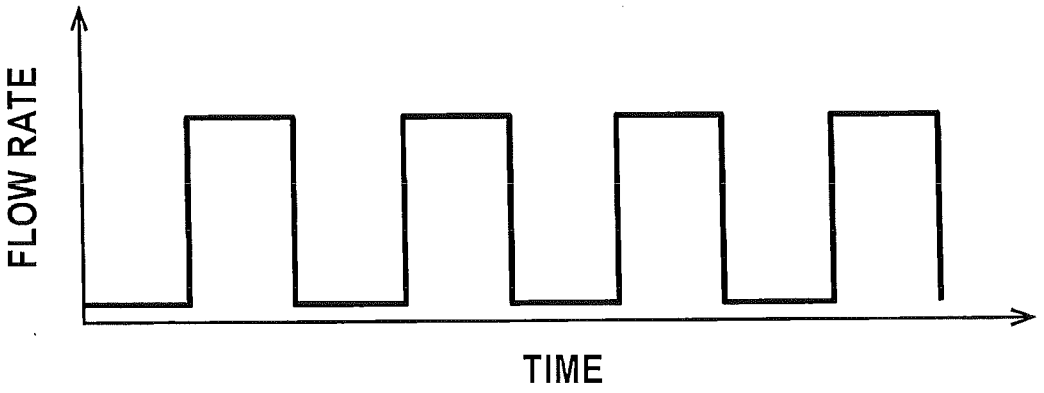


FIG. 18

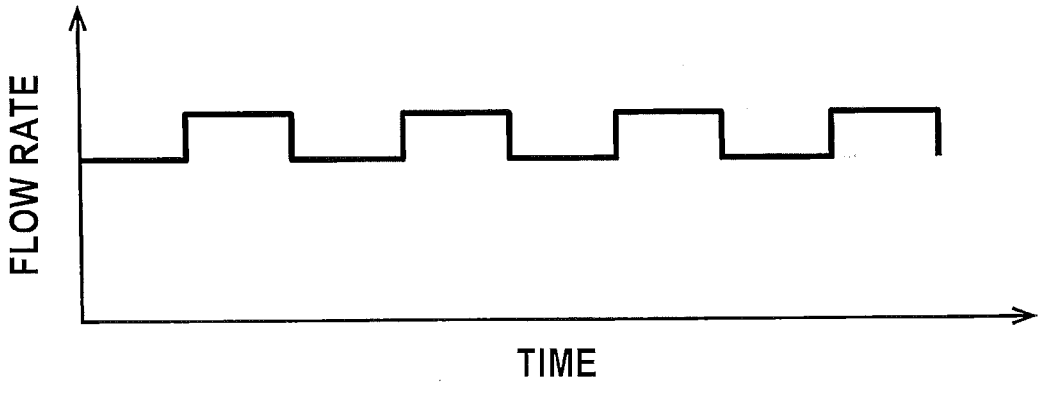


FIG. 19

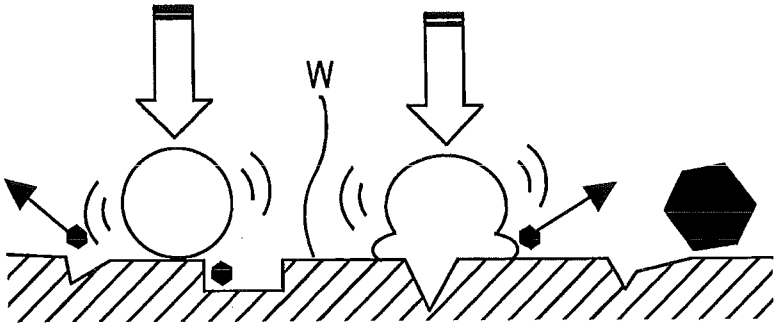
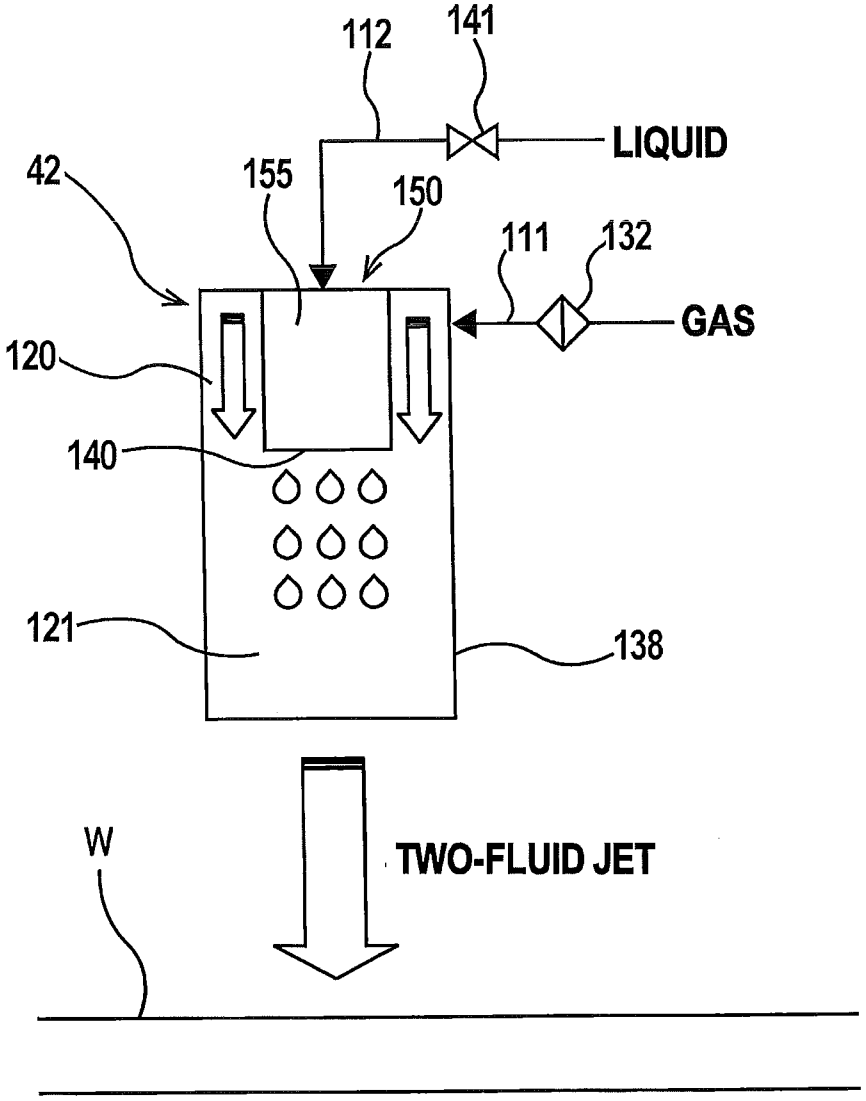


FIG. 20


112
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LIQUID
42
155
150
111
132
GAS
120
140
121
138
W
TWO-FLUID JET

FIG. 21

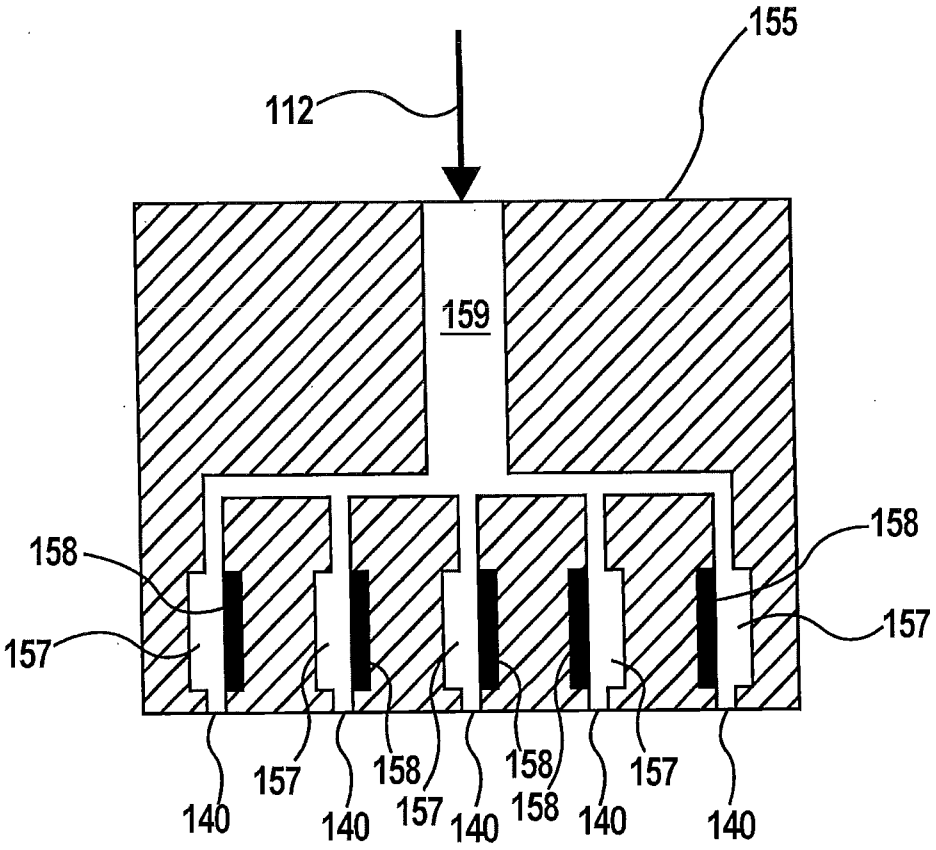
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FIG. 22

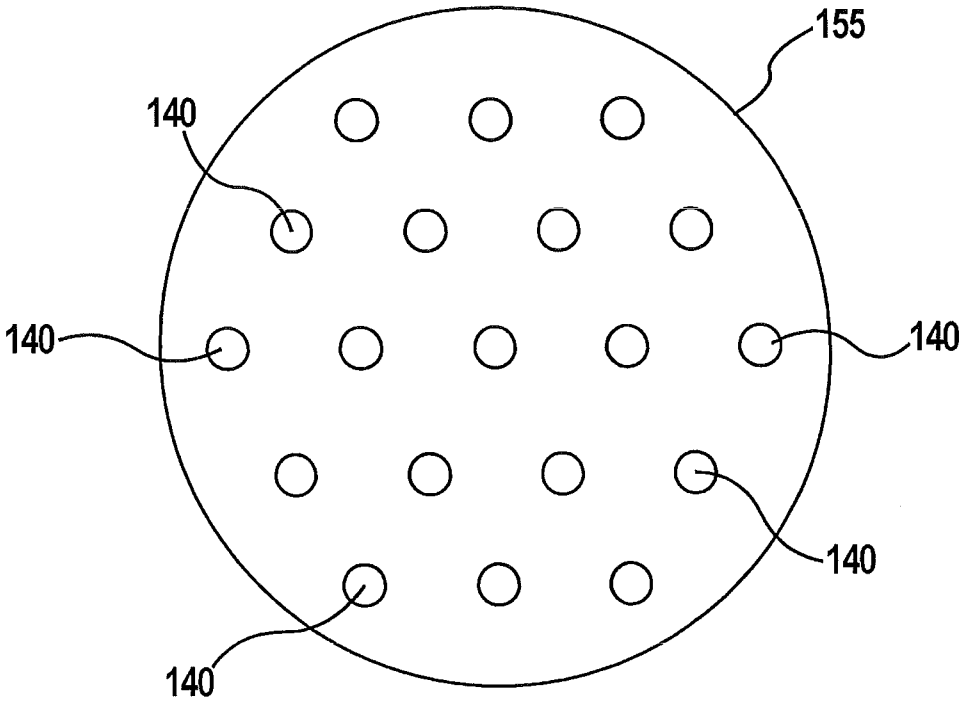


FIG. 23

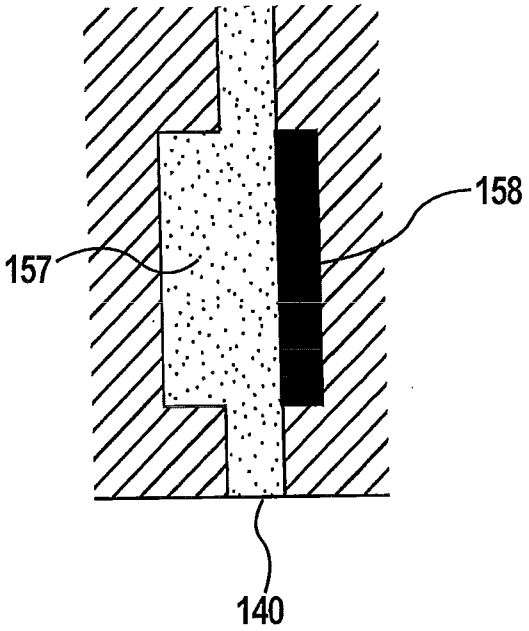


FIG. 24

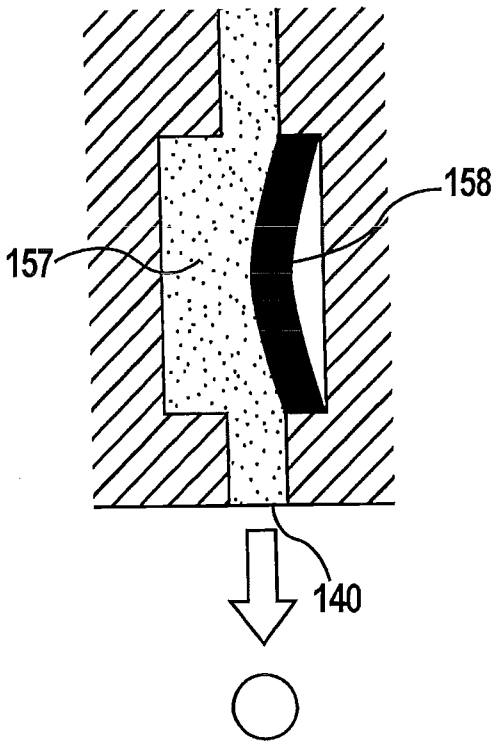


FIG. 25

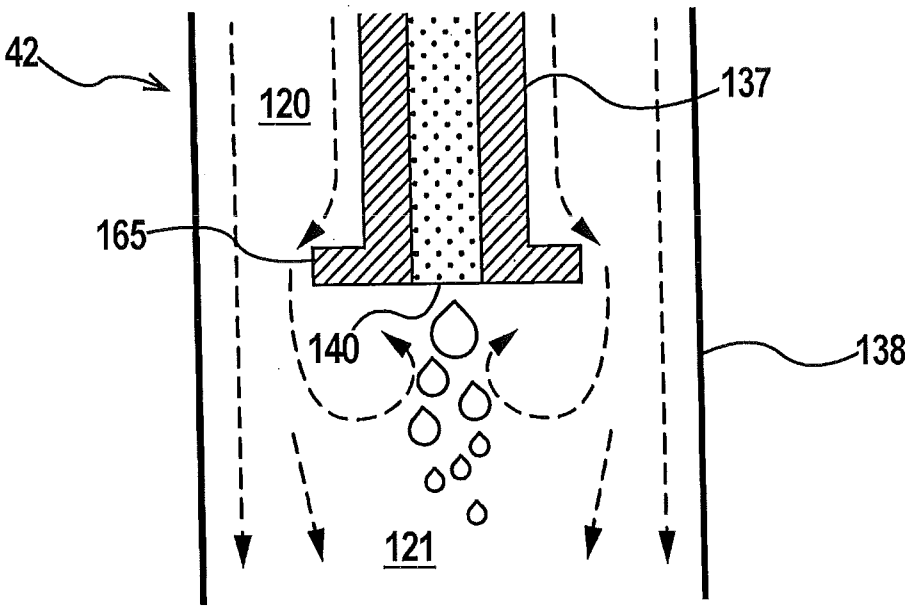


FIG. 26

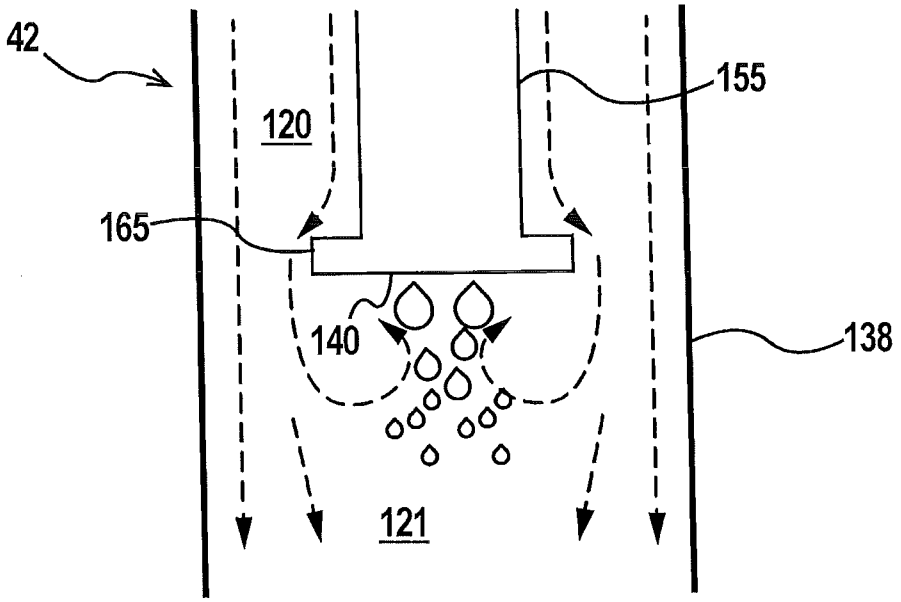
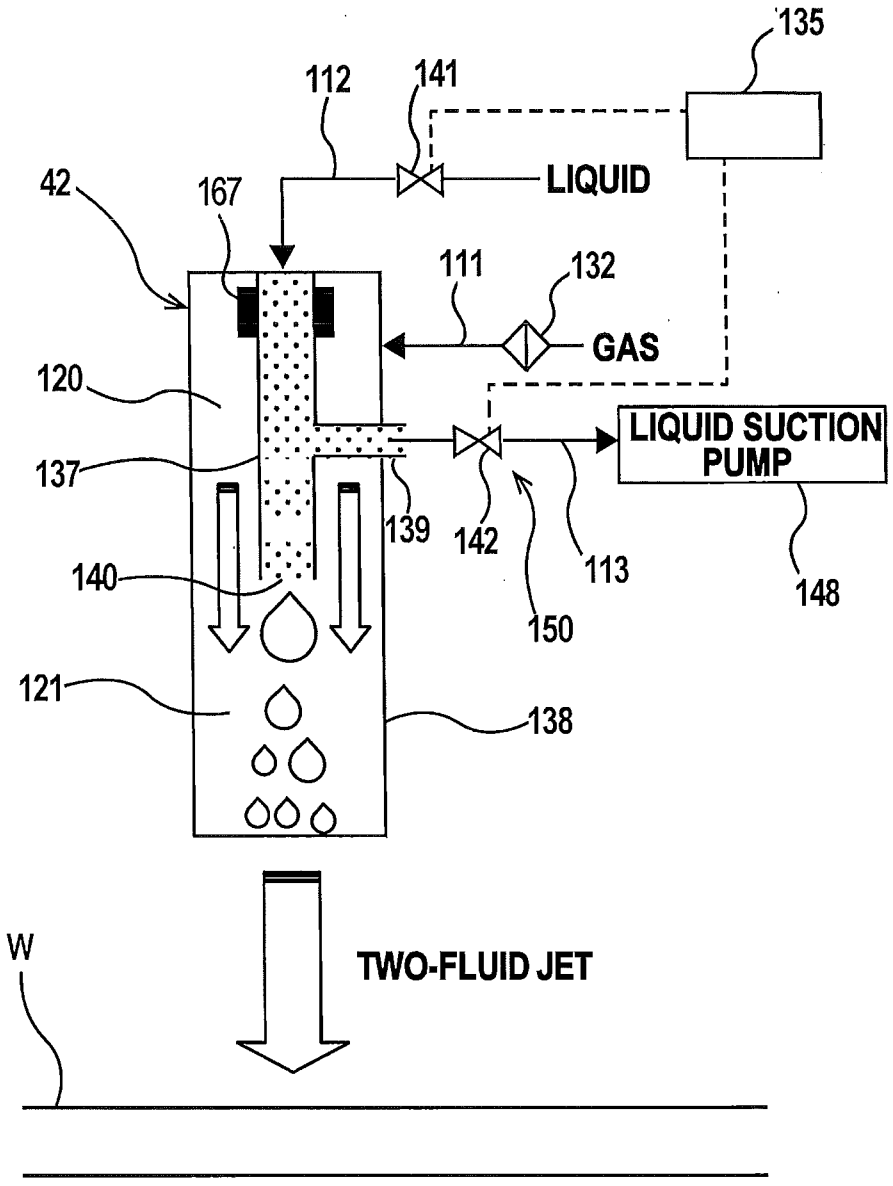


FIG. 27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LIQUID SUCTION PUMP
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150
121
138
W
TWO-FLUID JET

FIG. 28

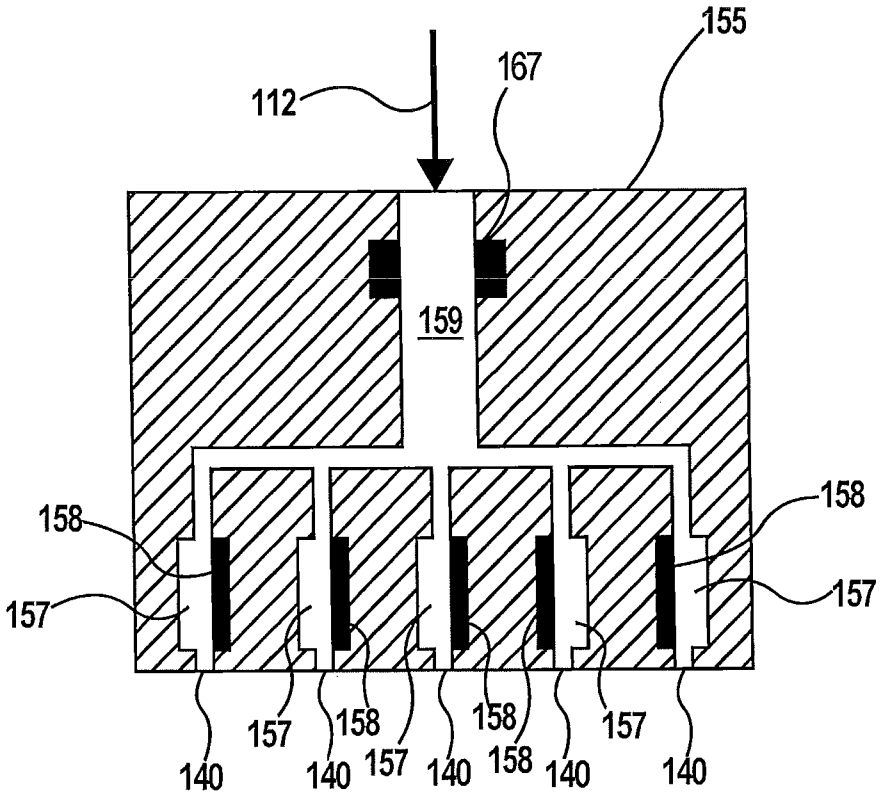
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FIG. 29

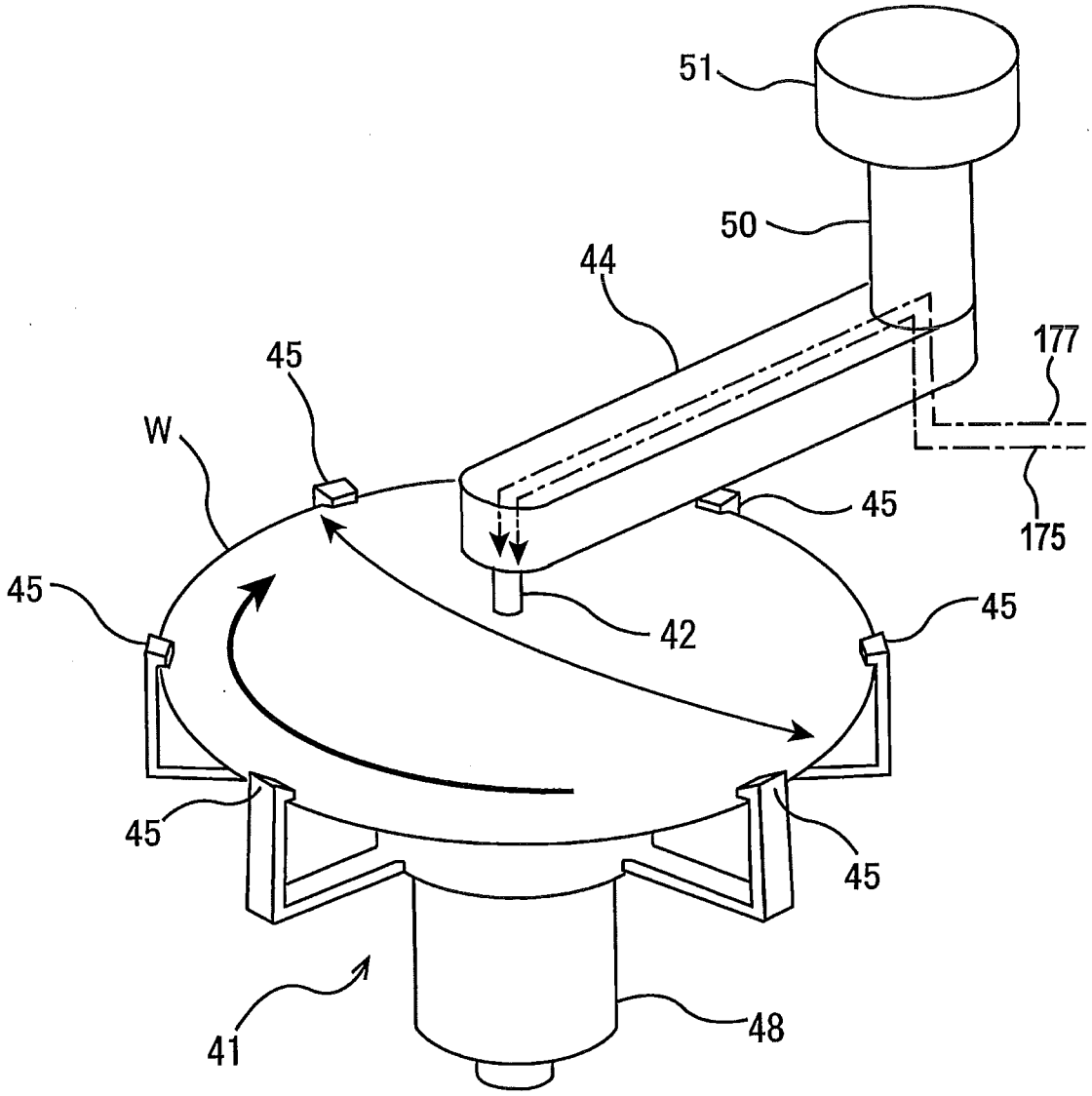


FIG. 30

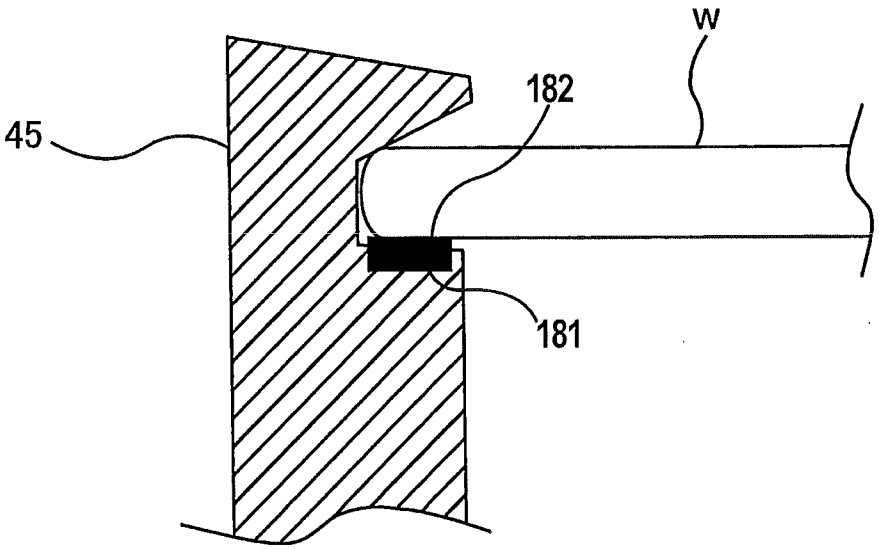


FIG. 31

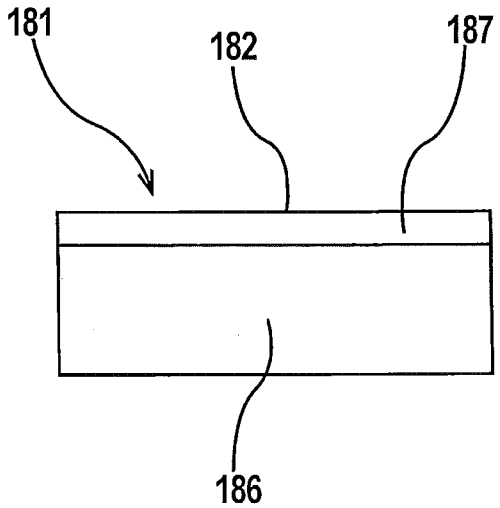


FIG. 32

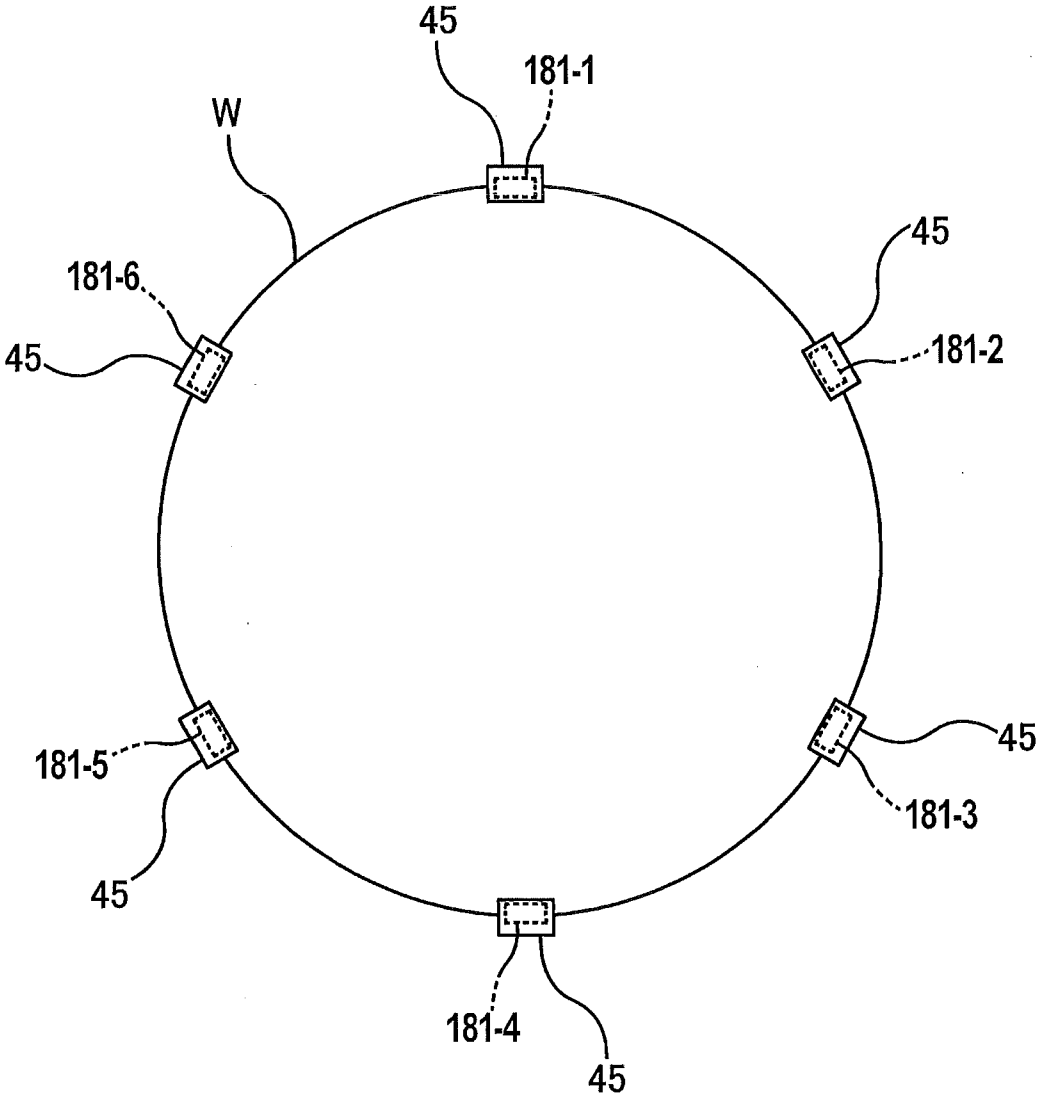


FIG. 33

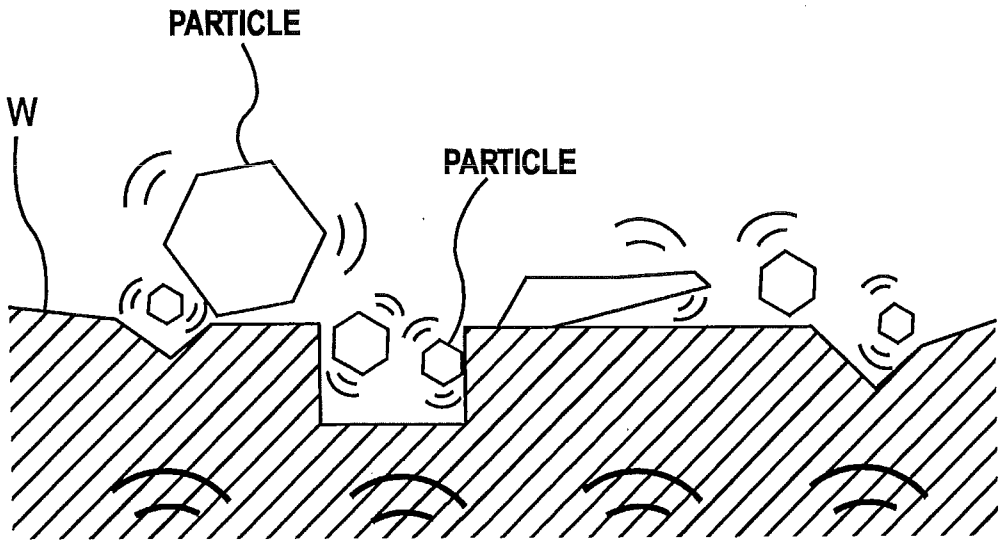


FIG. 34

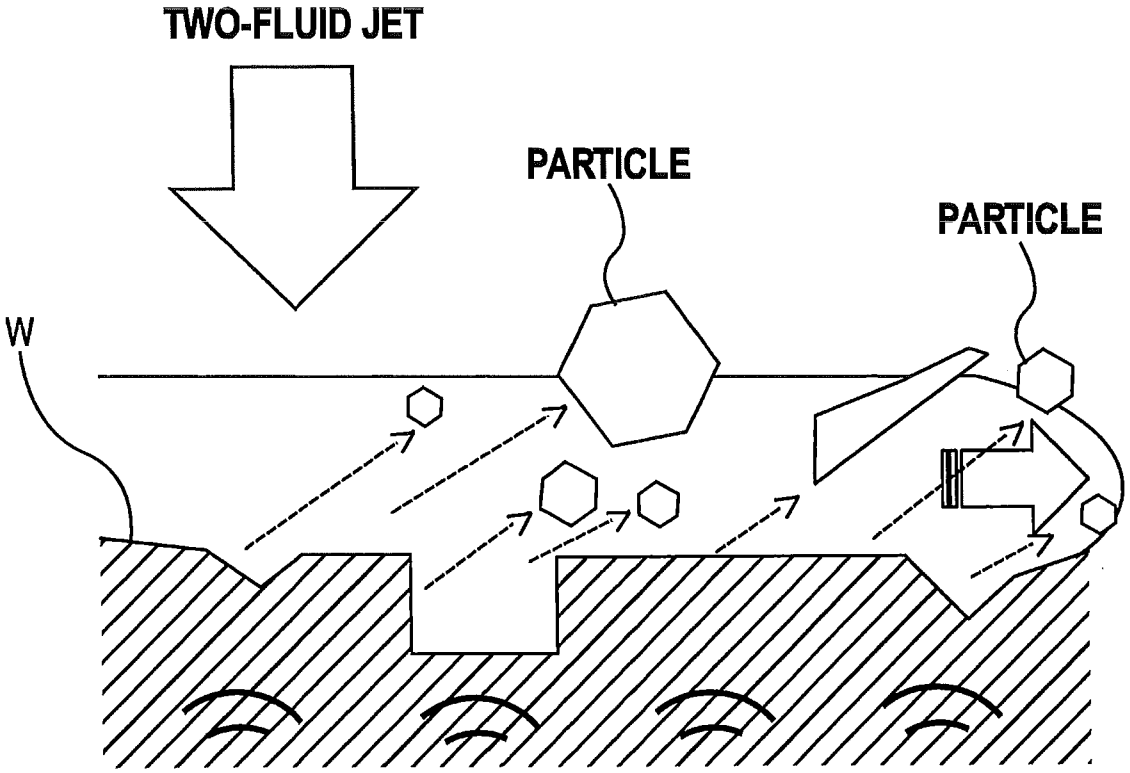


FIG. 35

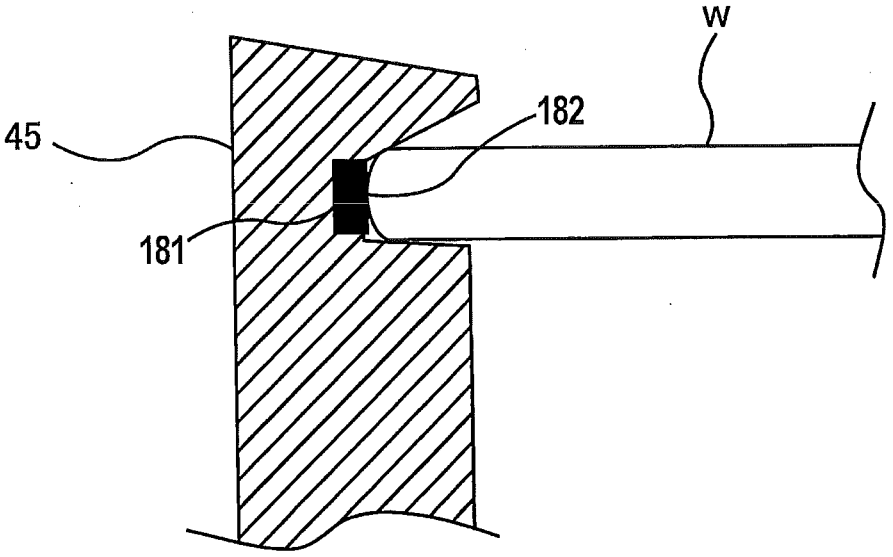


FIG. 36

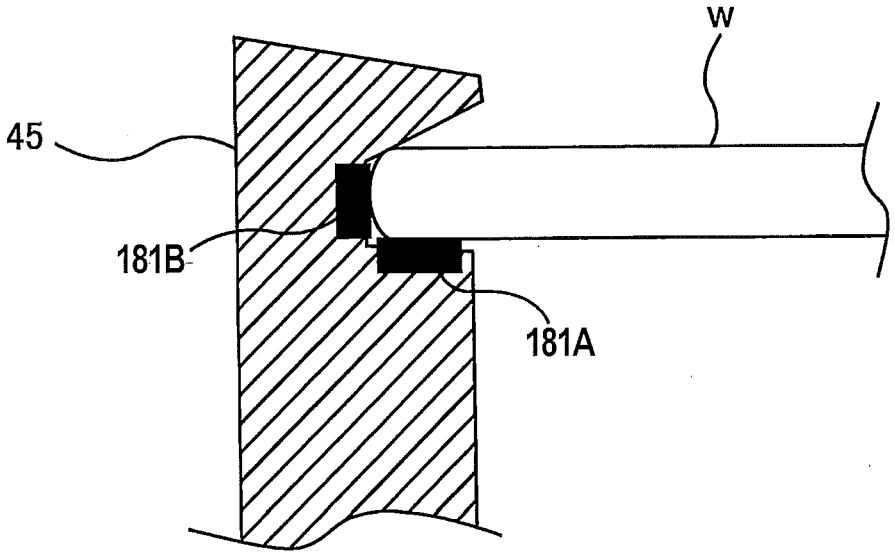


FIG. 37

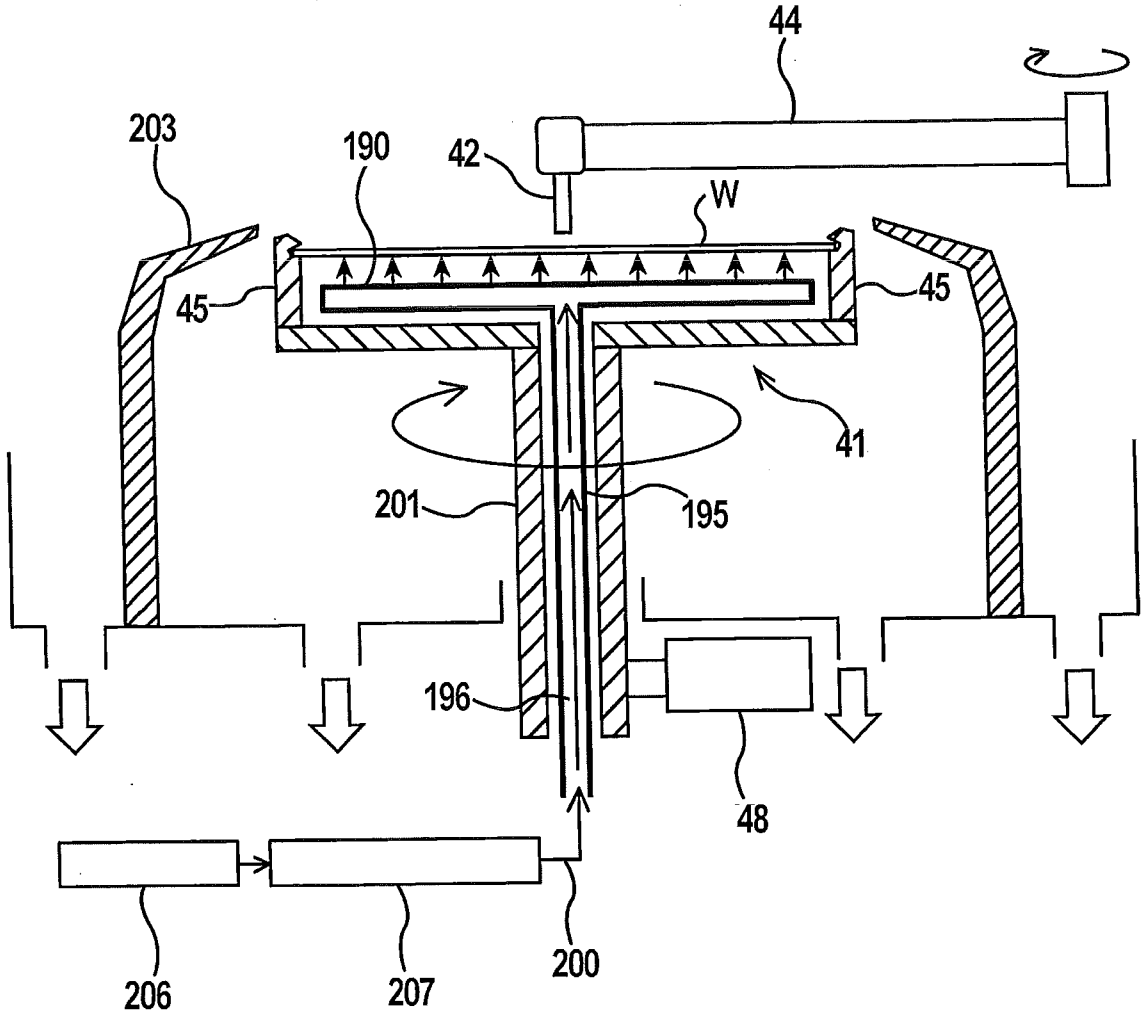


FIG. 38

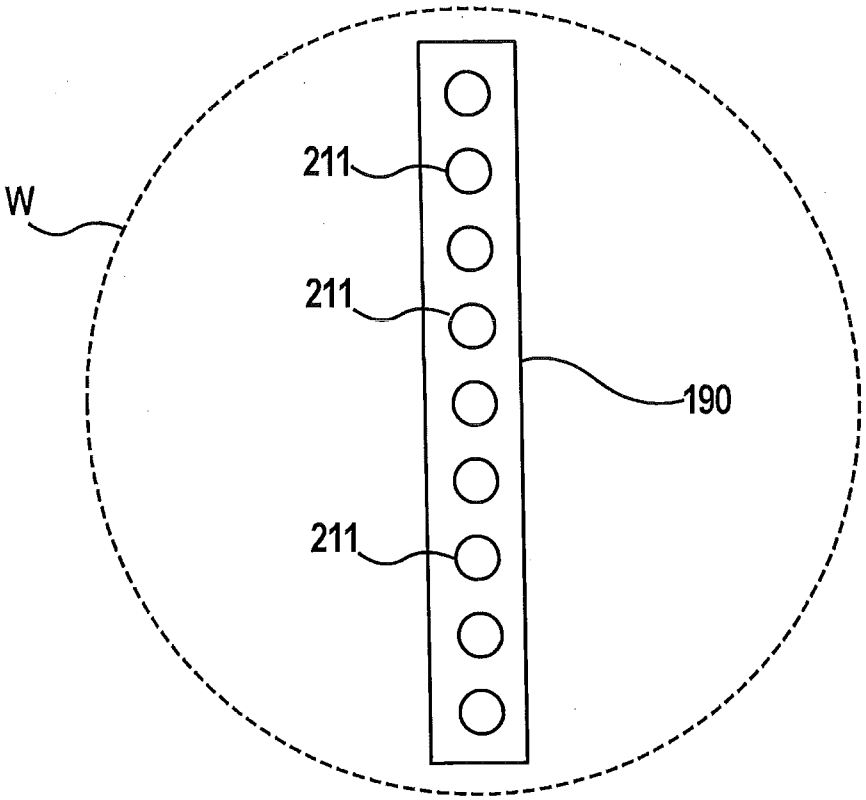


FIG. 39

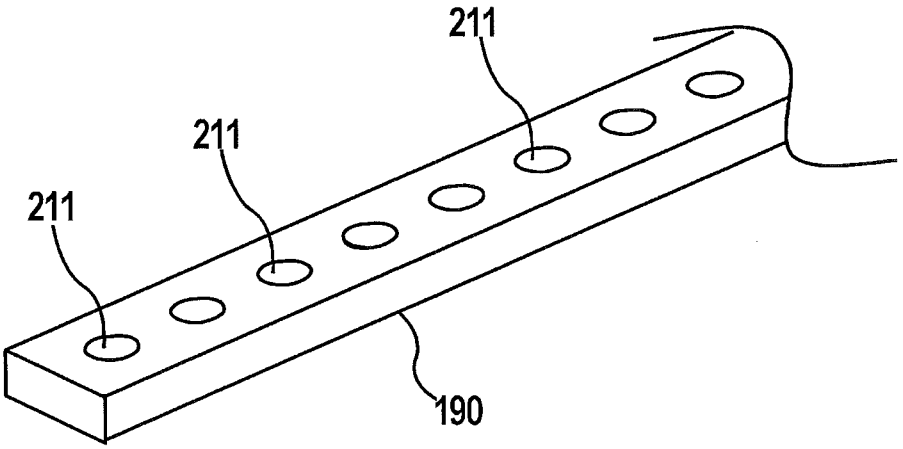


FIG. 40

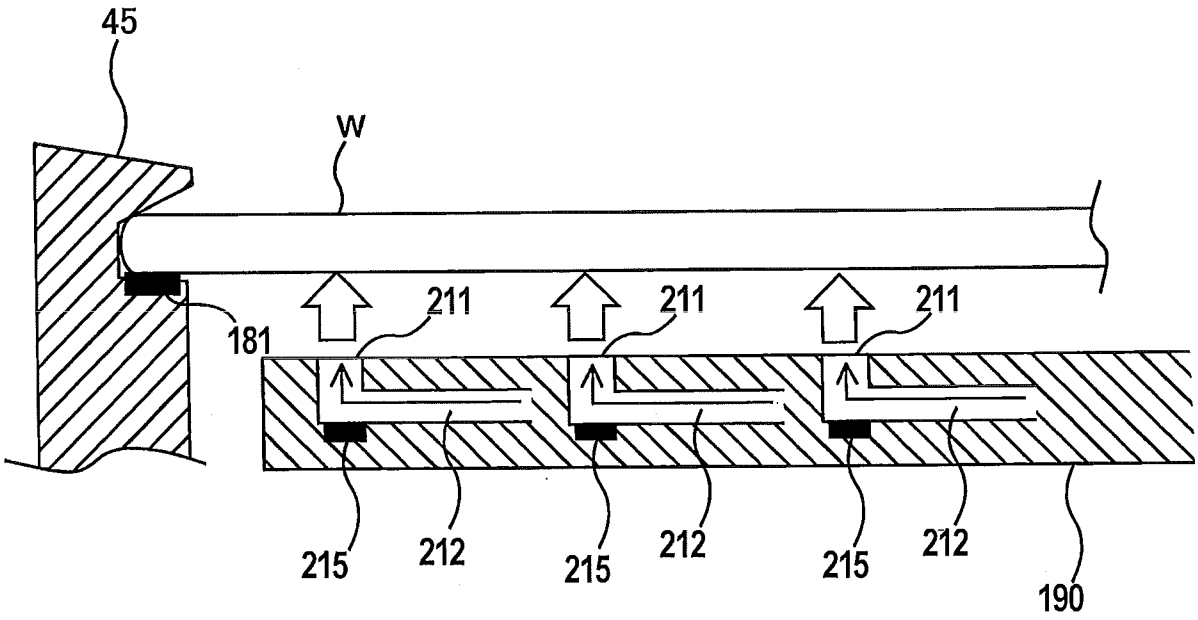


FIG. 41

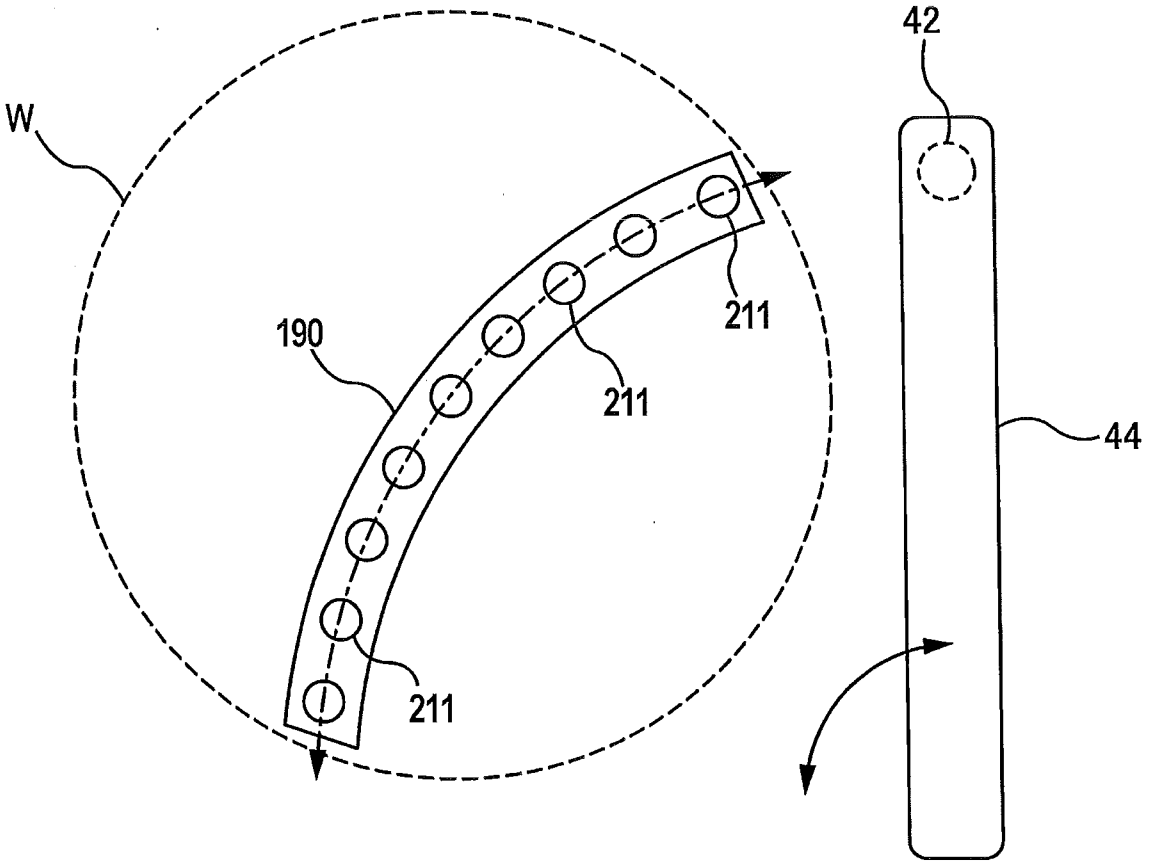


FIG. 42

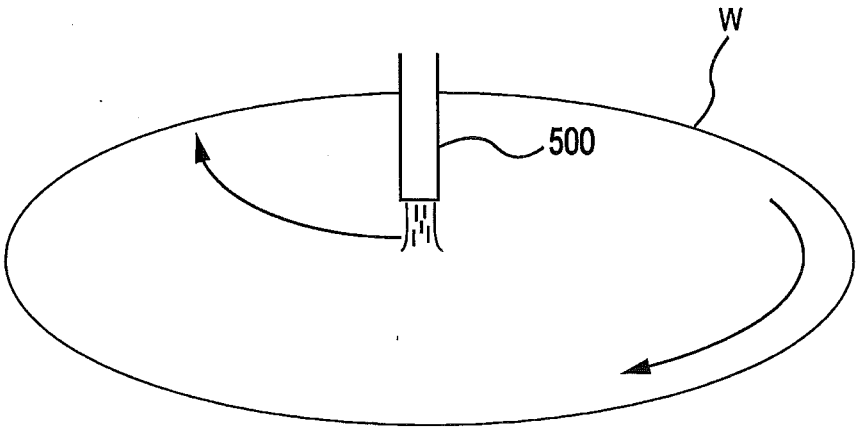


FIG. 43

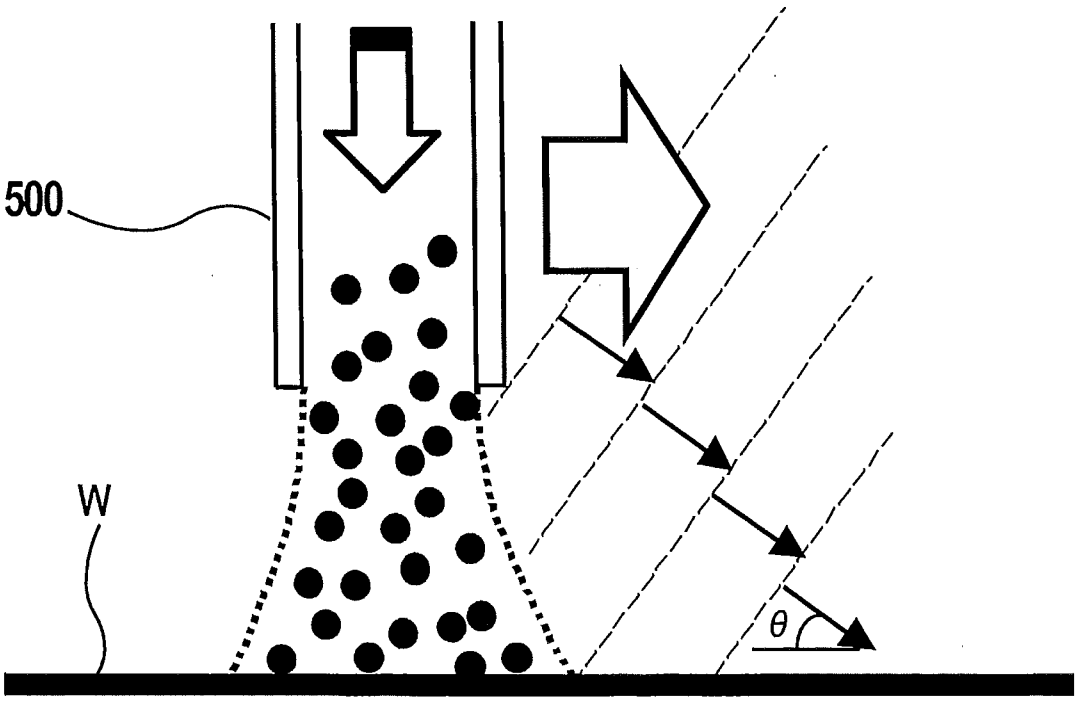


FIG. 44

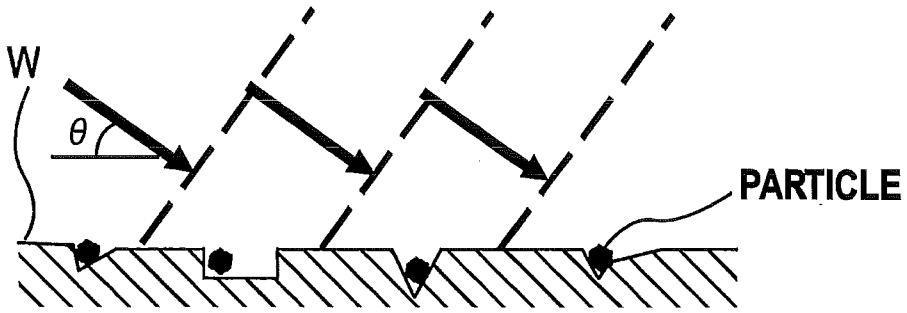
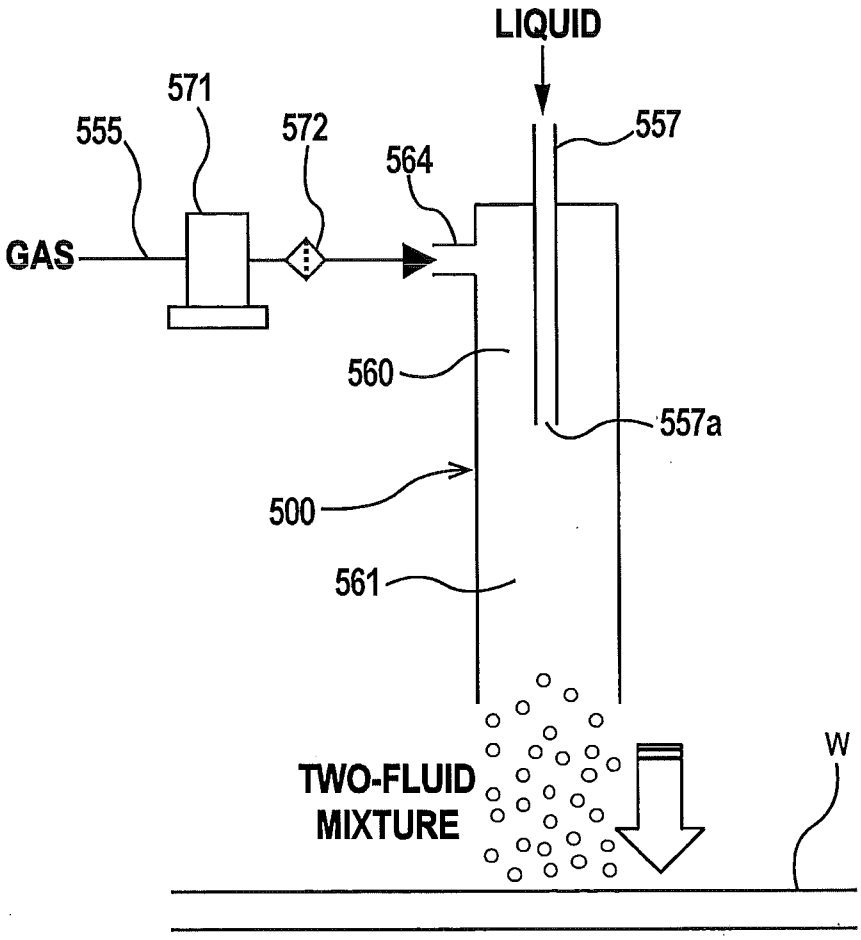


FIG. 45


LIQUID
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555
572
564
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GAS
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557a
500
561
TWO-FLUID
MIXTURE
W

FIG. 46

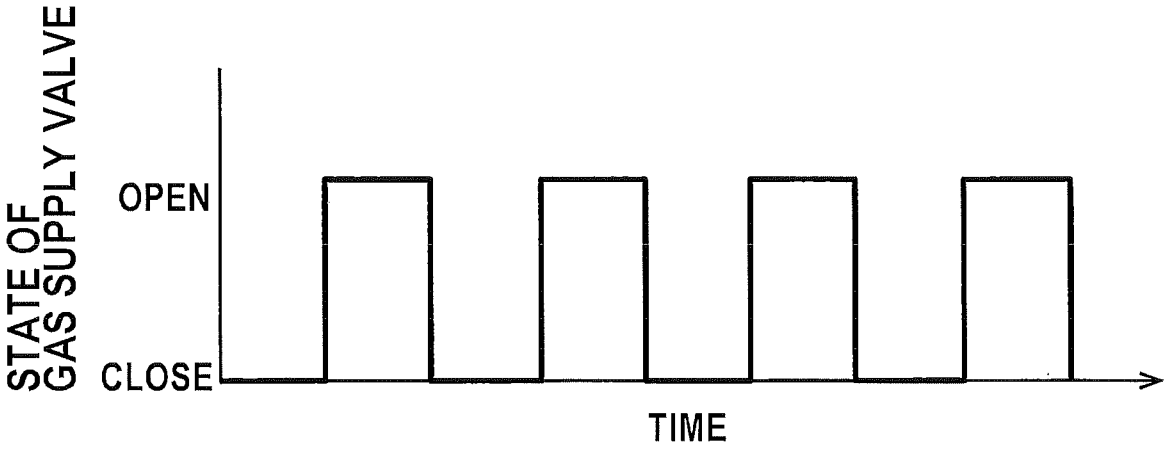
STATE OF GAS SUPPLY VALVE
OPEN
CLOSE
TIME

FIG. 47

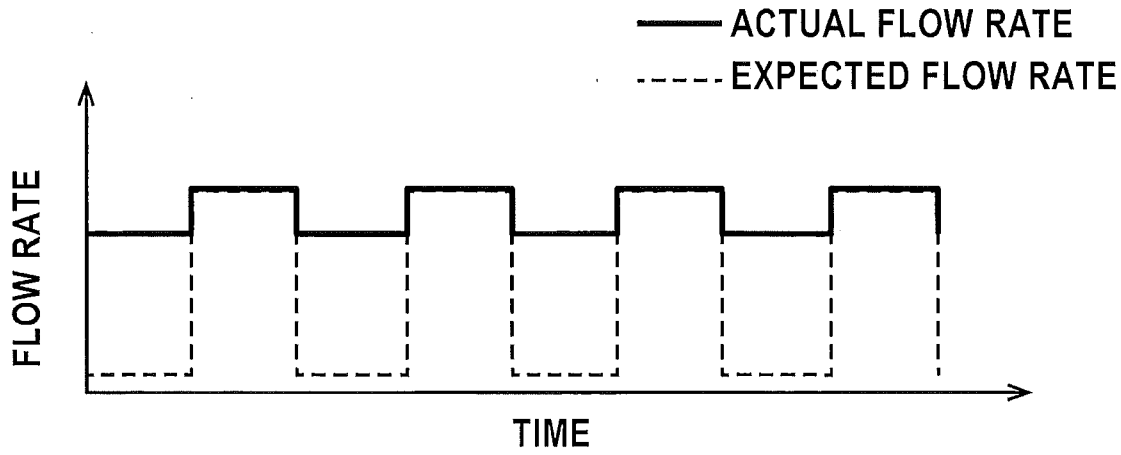
ACTUAL FLOW RATE
EXPECTED FLOW RATE
FLOW RATE
TIME

FIG. 48

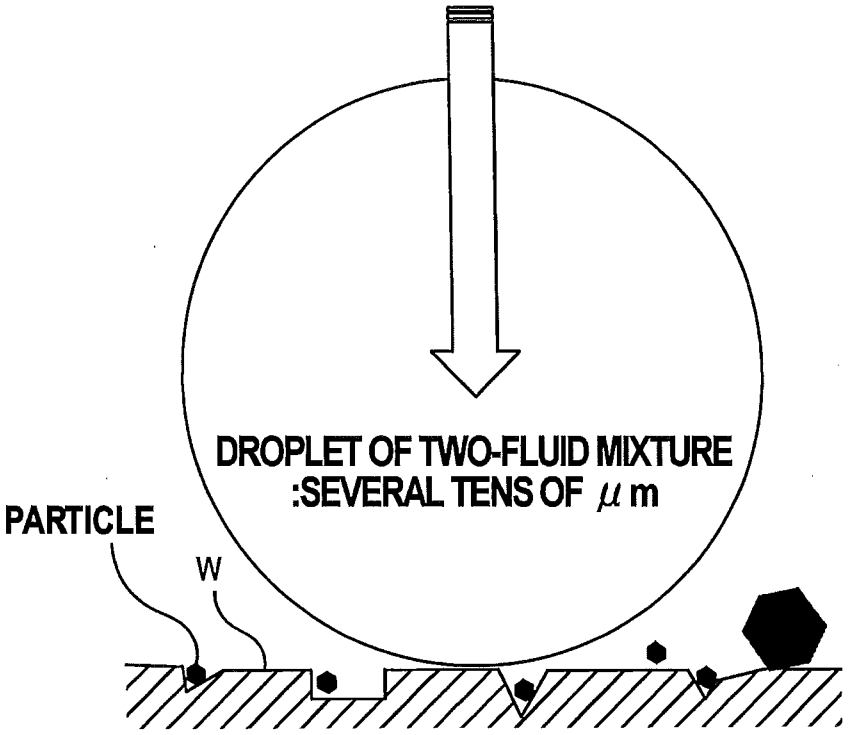
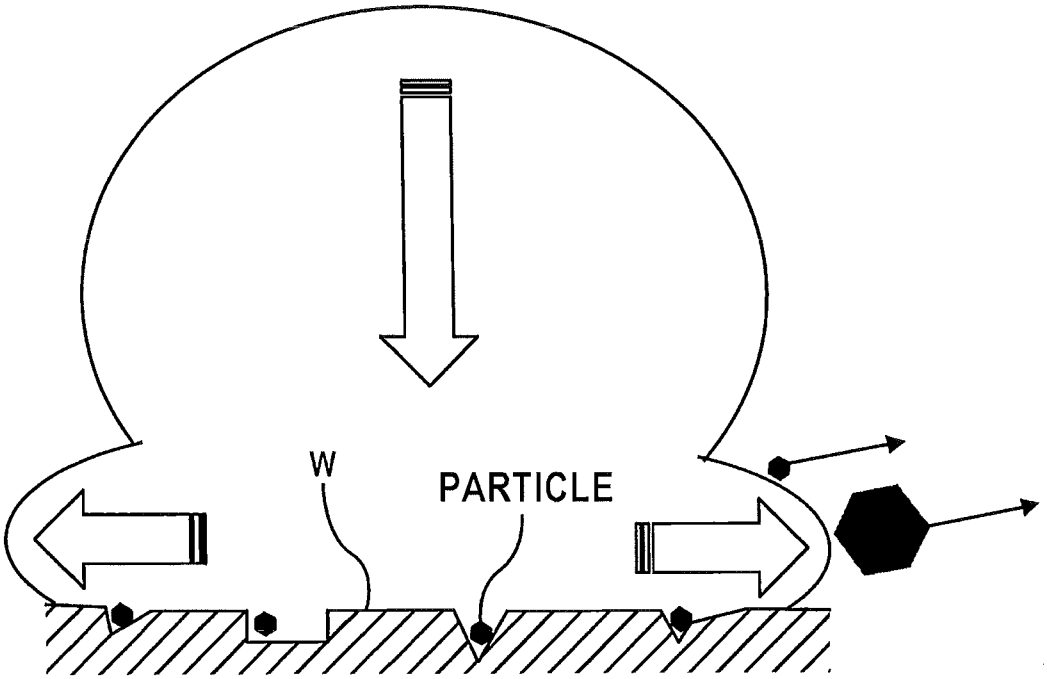
FIG. 49