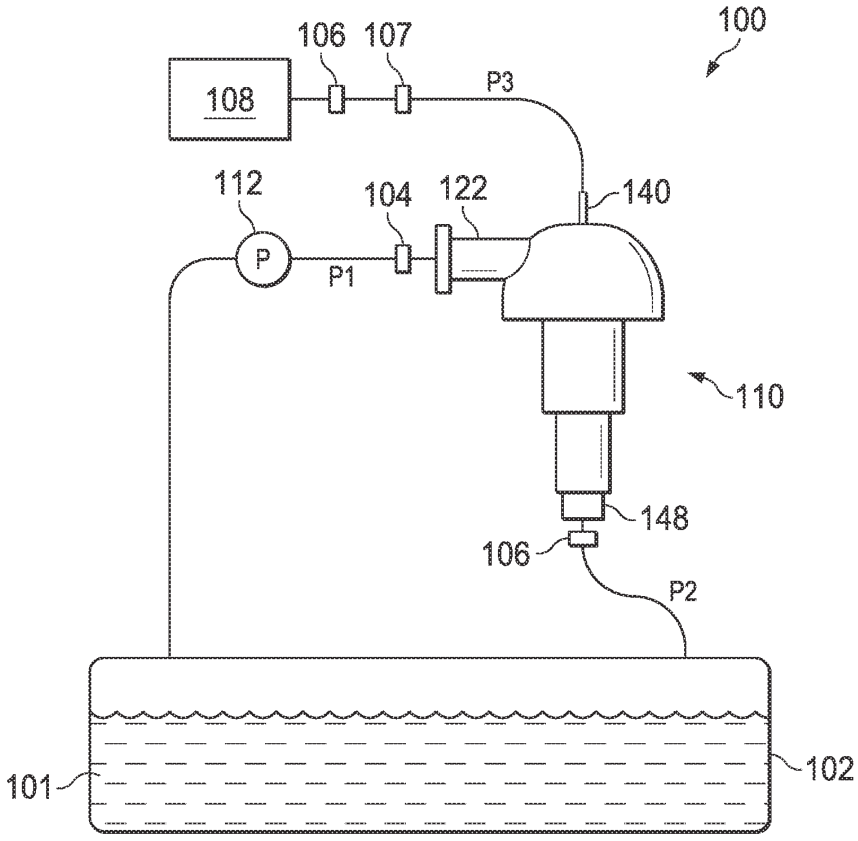


Fig. 1

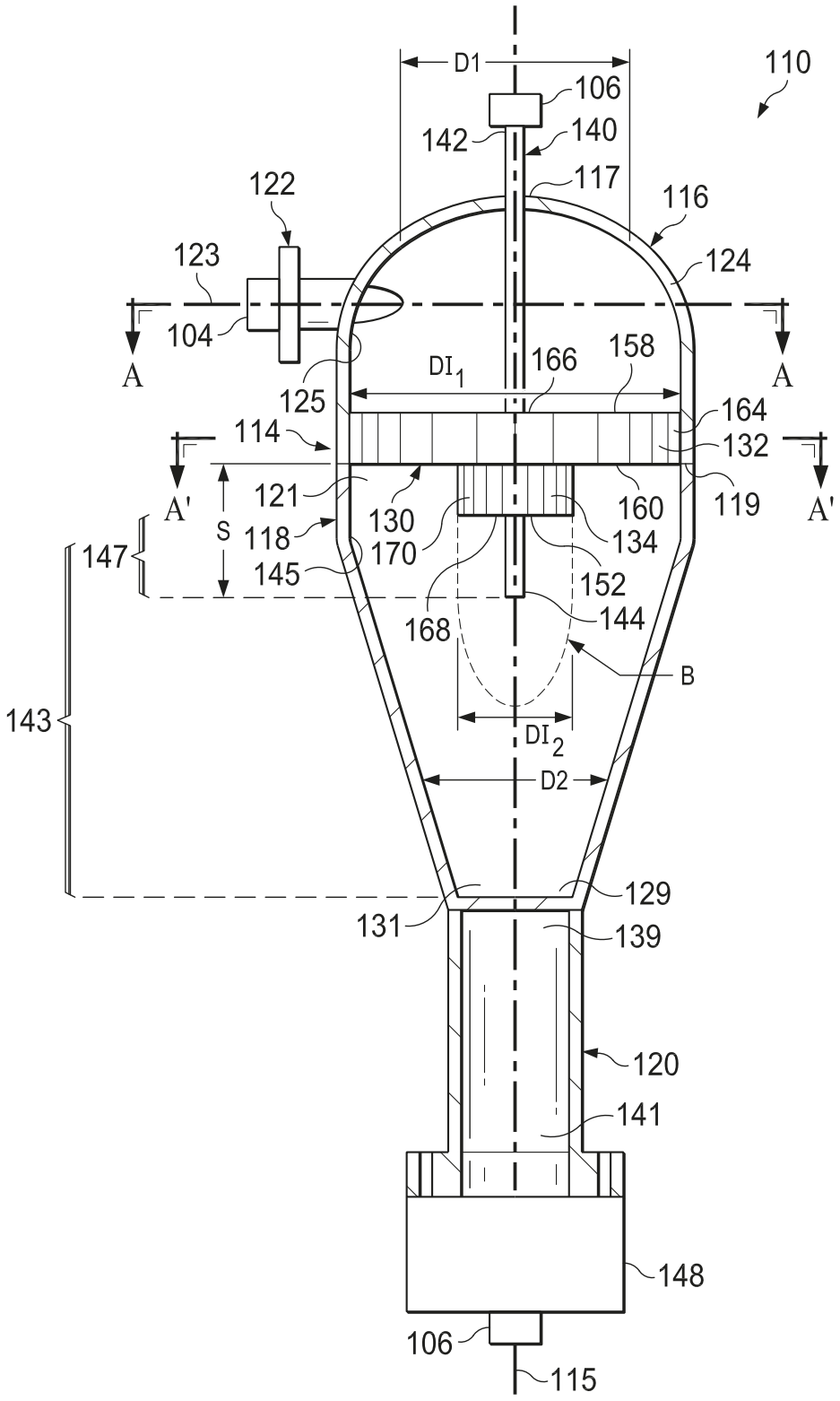

D1
110
106
142
140
117
122
116
123
124
104
A
A
DI1
166
158
125
164
114
132
A'
A'
121
130
160
119
S
118
134
147
170
145
152
168
144
B
143
DI2
D2
129
131
139
120
141
148
106
115

Fig. 2A

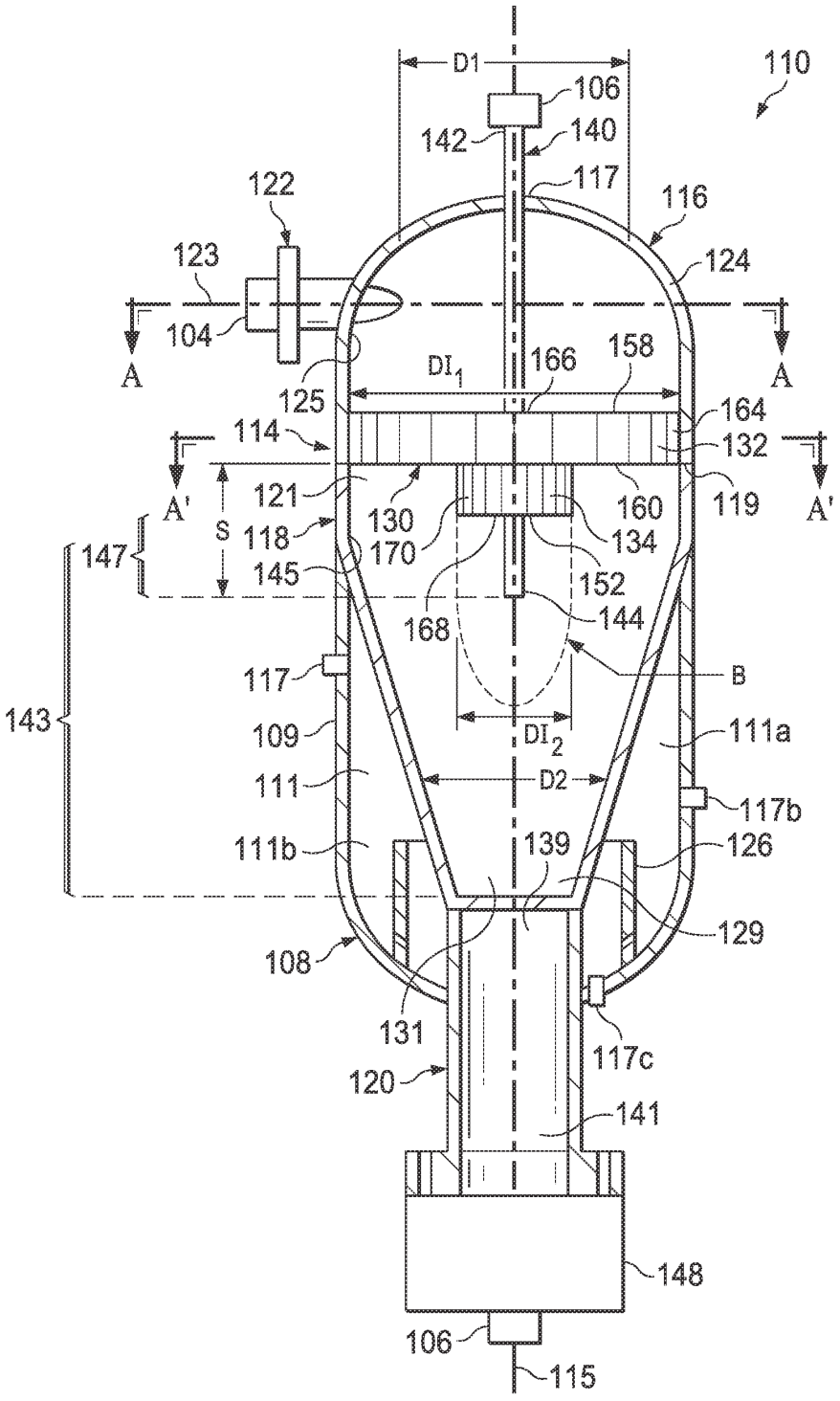

D1
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106
142
140
117
122
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123
124
104
A
A
DI1
166
158
125
164
114
132
A'
A'
121
130
160
119
S
118
170
134
147
145
152
168
144
117
B
143
109
DI2
111a
111
D2
117b
111b
139
126
129
108
131
117c
120
141
148
106
115

Fig. 2B

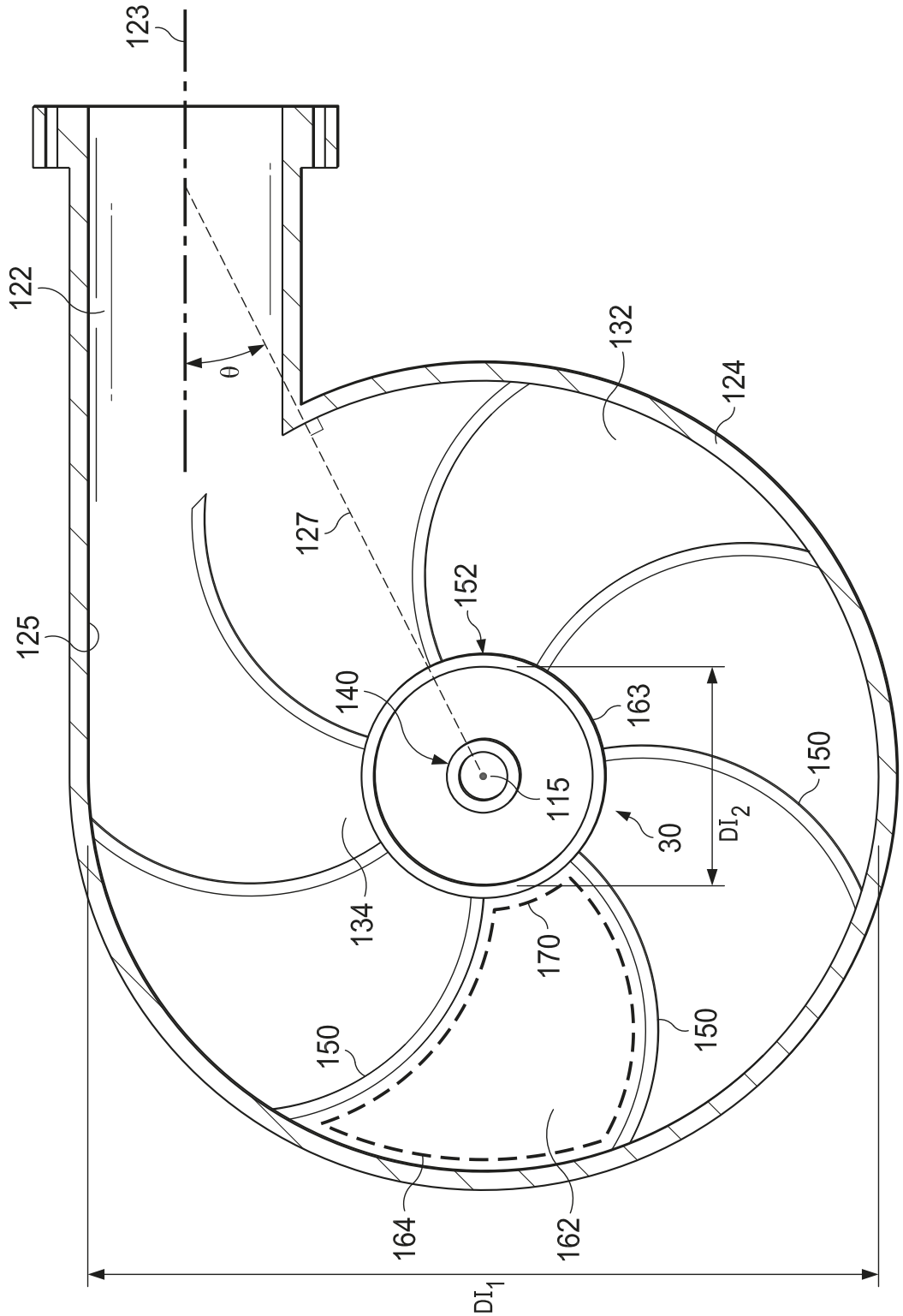

123
122
θ
132
124
127
152
125
140
163
115
150
30
DI2
134
170
150
150
164
162
DI1

Fig. 3A

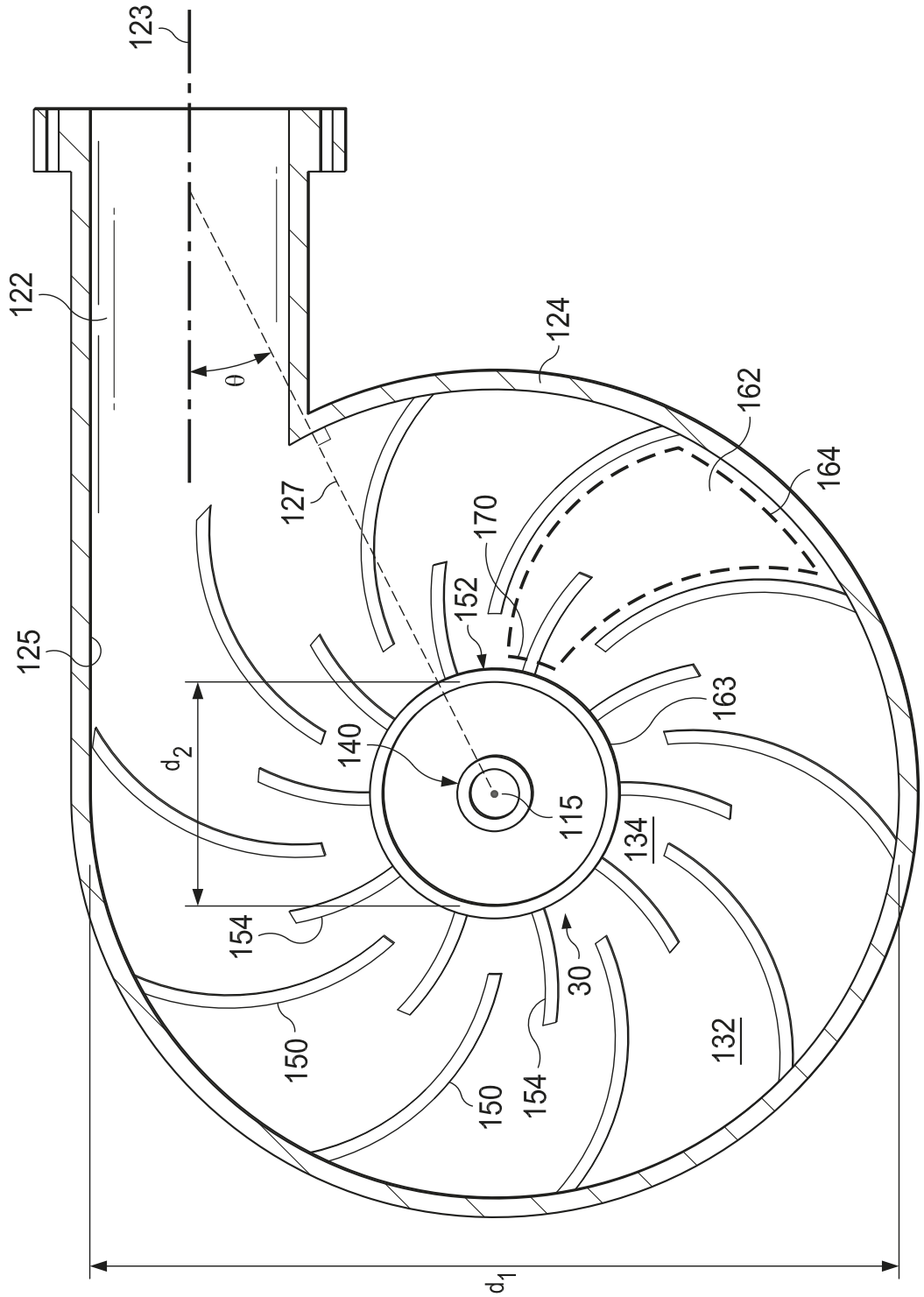

123
122
θ
124
162
164
127
170
152
125
163
140
115
134
154
30
150
154
150
132
d_2
d_1

Fig. 3B

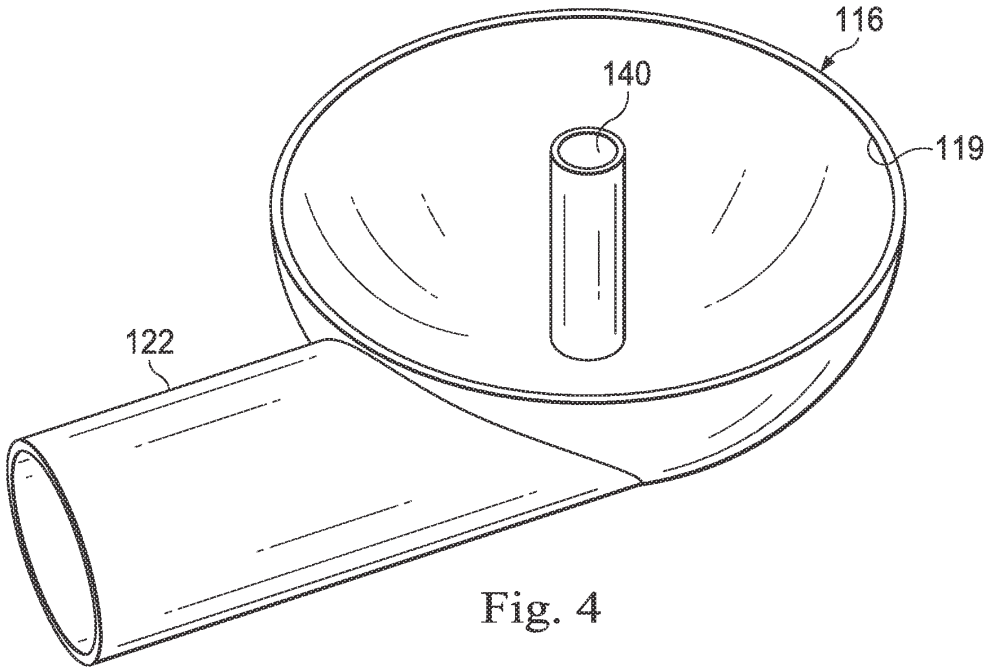

116
140
119
122

Fig. 4

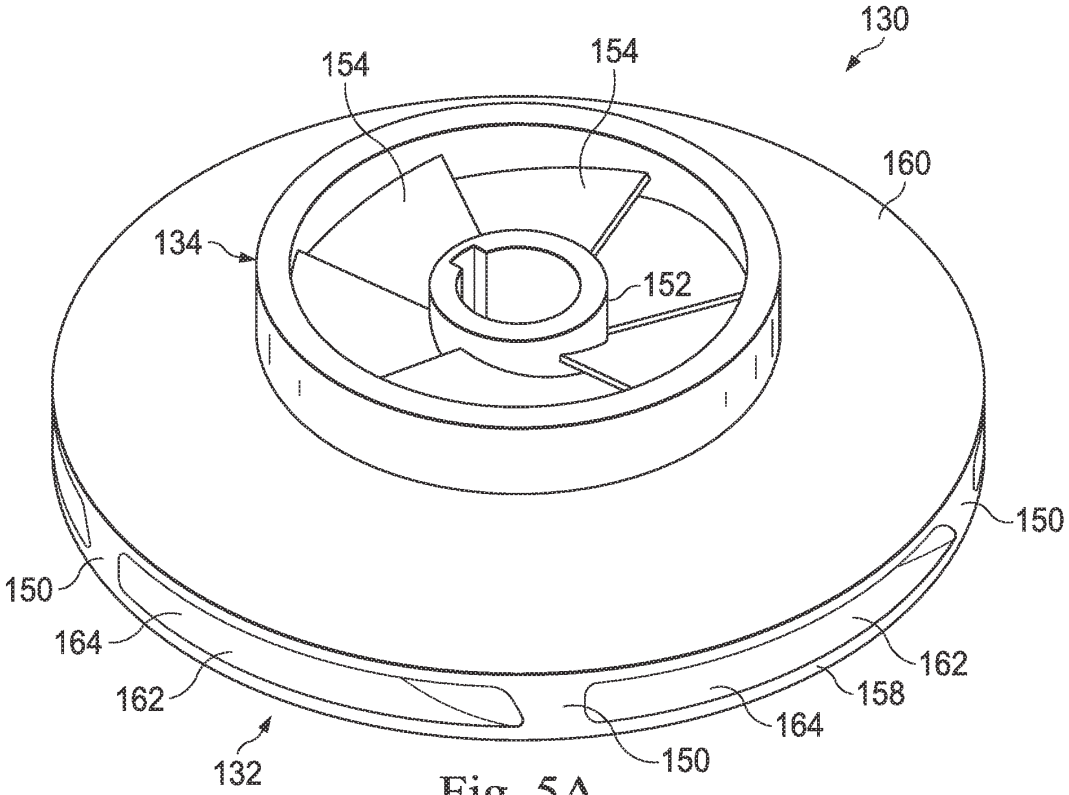

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154
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164
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162
158
164
150
132

Fig. 5A

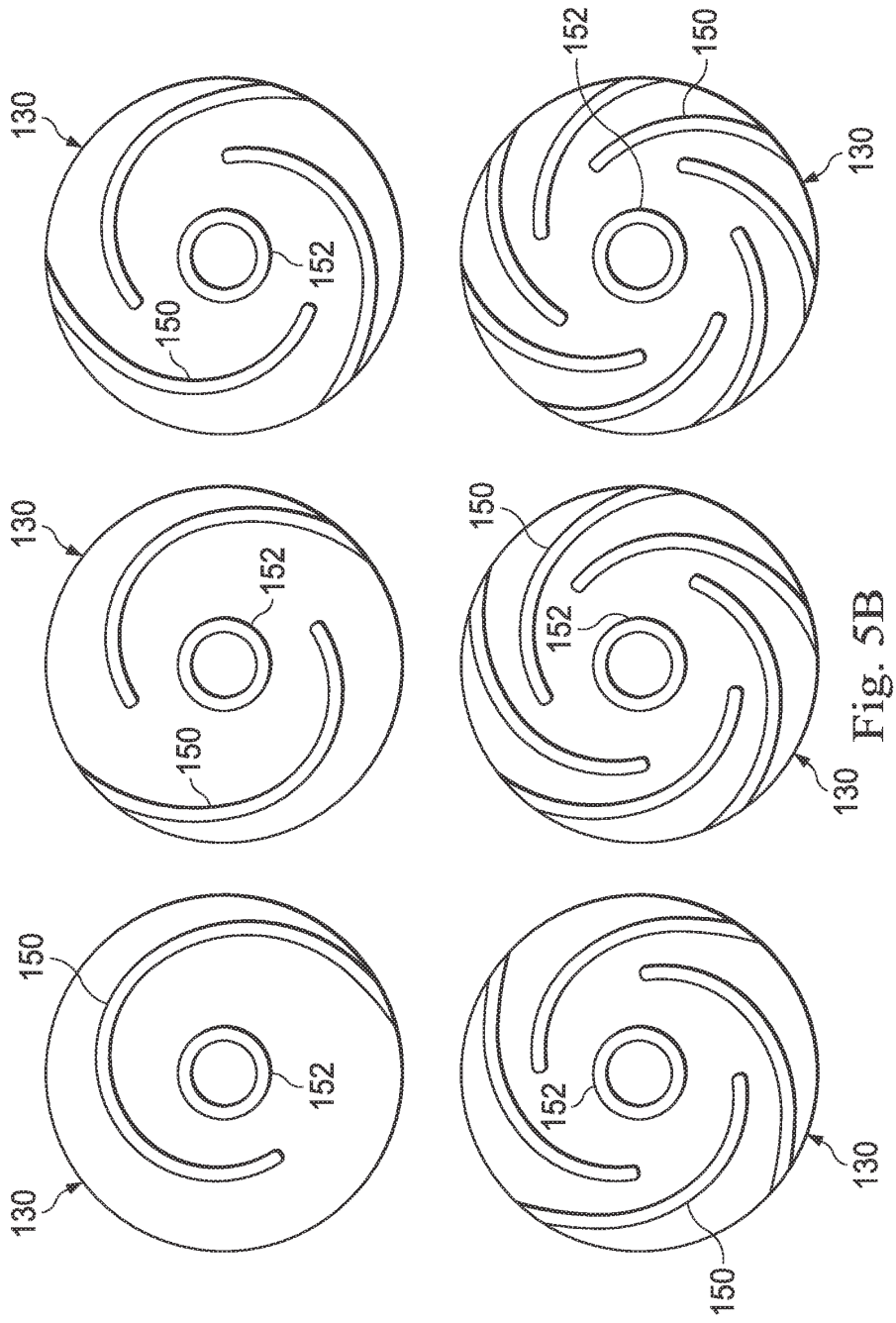

130
152
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152
130

Fig. 5B

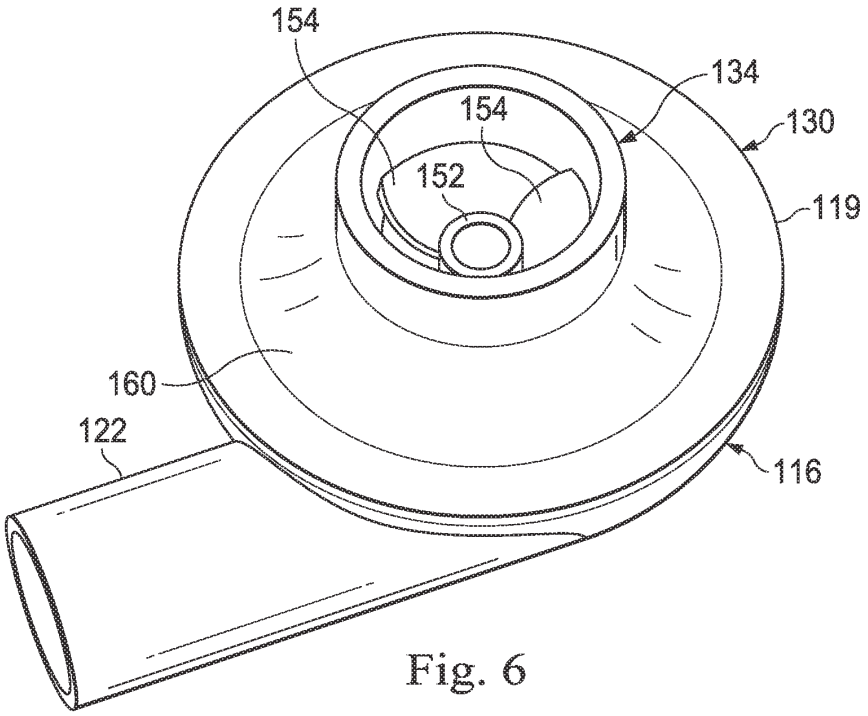


Fig. 6

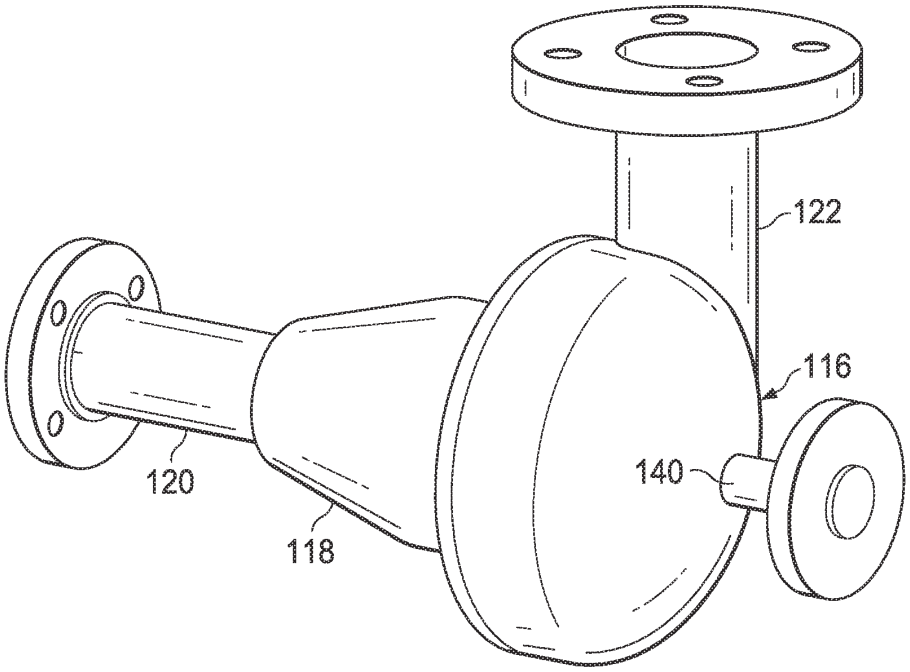


Fig. 7

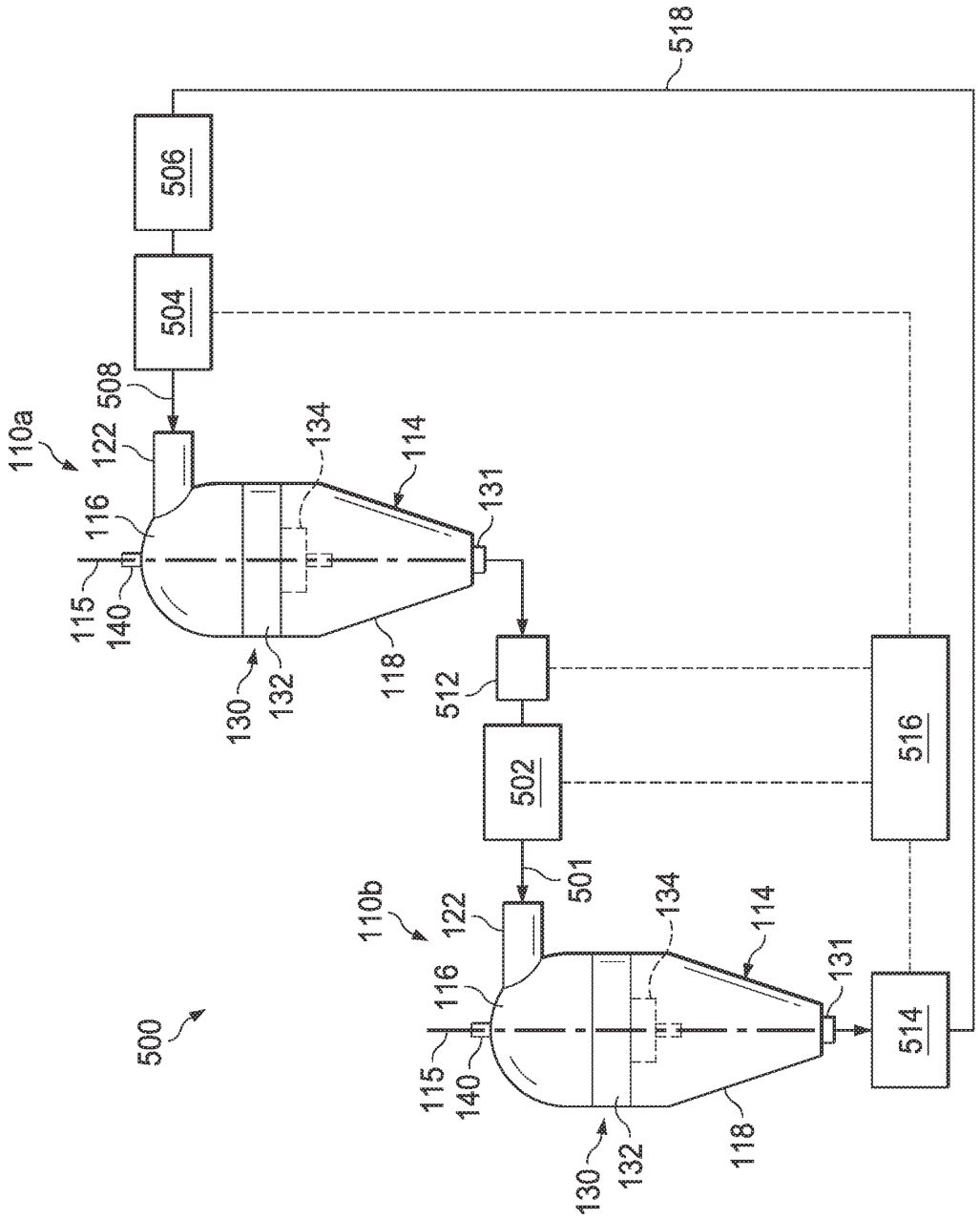

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506
504
508
110a
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116
131
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140
130
132
118
512
502
516
501
110b
514
500

Fig. 8

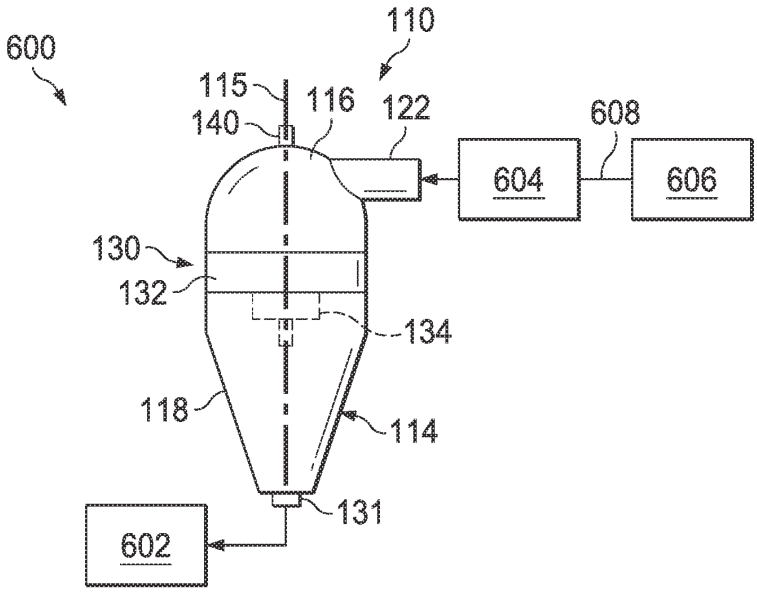

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115
116
122
140
608
604
606
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132
134
118
114
131
602

Fig. 9

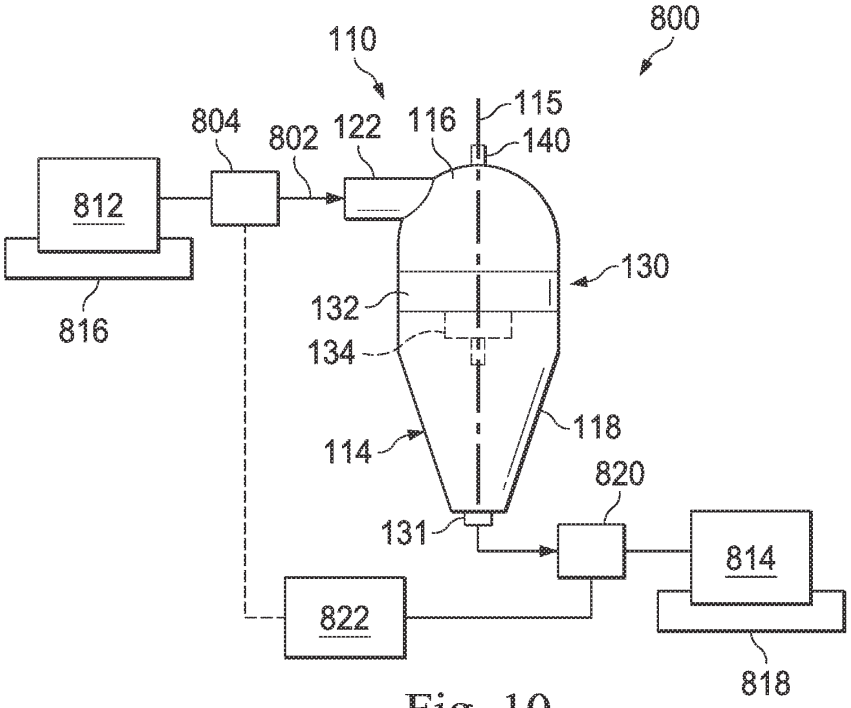

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816
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820
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814
822
818

Fig. 10

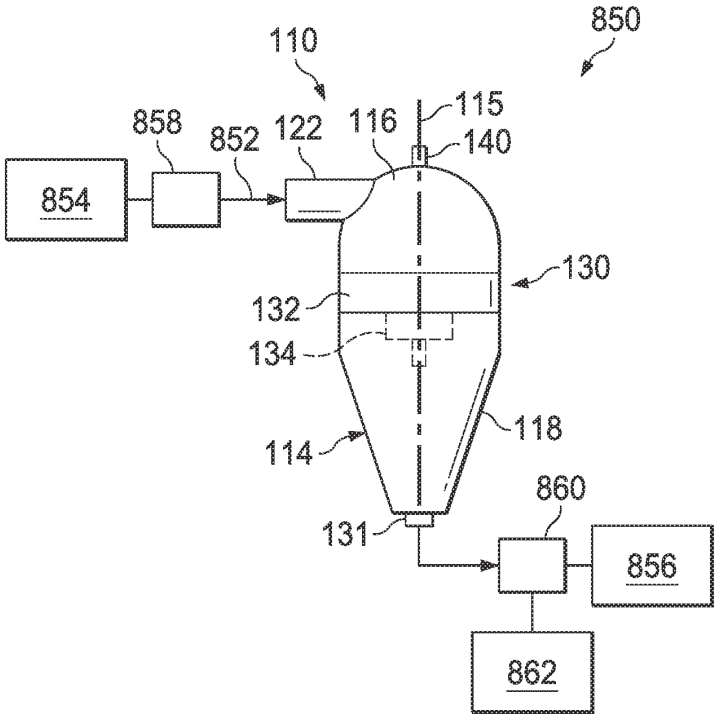

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858
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122
116
115
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854
130
132
134
118
114
860
131
856
862

Fig. 11

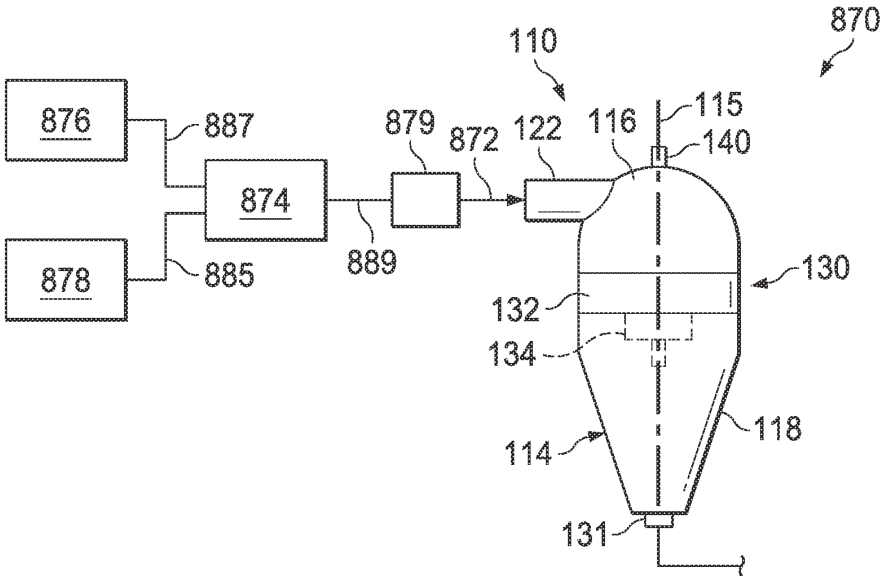

870
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887
879
872
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116
115
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889
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134
118
114
131

Fig. 12

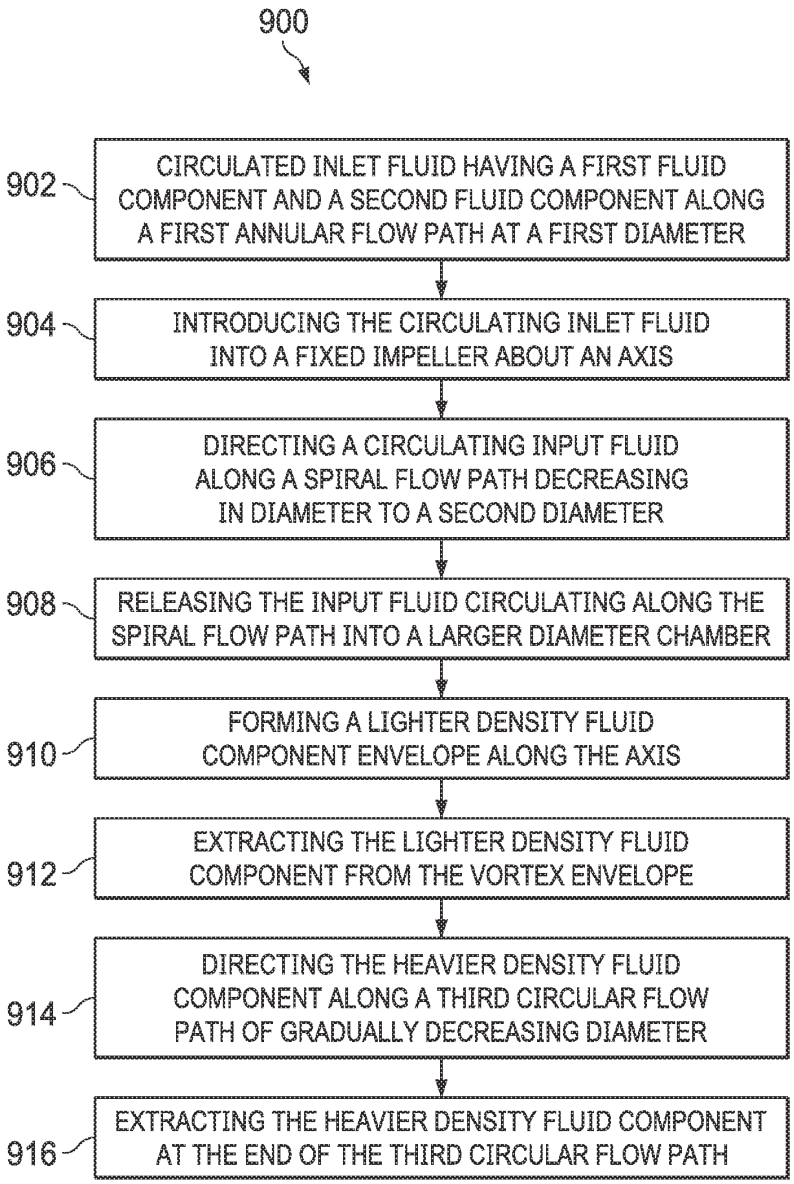

900
902
CIRCULATED INLET FLUID HAVING A FIRST FLUID COMPONENT AND A SECOND FLUID COMPONENT ALONG A FIRST ANNULAR FLOW PATH AT A FIRST DIAMETER
904
INTRODUCING THE CIRCULATING INLET FLUID INTO A FIXED IMPELLER ABOUT AN AXIS
906
DIRECTING A CIRCULATING INPUT FLUID ALONG A SPIRAL FLOW PATH DECREASING IN DIAMETER TO A SECOND DIAMETER
908
RELEASING THE INPUT FLUID CIRCULATING ALONG THE SPIRAL FLOW PATH INTO A LARGER DIAMETER CHAMBER
910
FORMING A LIGHTER DENSITY FLUID COMPONENT ENVELOPE ALONG THE AXIS
912
EXTRACTING THE LIGHTER DENSITY FLUID COMPONENT FROM THE VORTEX ENVELOPE
914
DIRECTING THE HEAVIER DENSITY FLUID COMPONENT ALONG A THIRD CIRCULAR FLOW PATH OF GRADUALLY DECREASING DIAMETER
916
EXTRACTING THE HEAVIER DENSITY FLUID COMPONENT AT THE END OF THE THIRD CIRCULAR FLOW PATH

Fig. 13