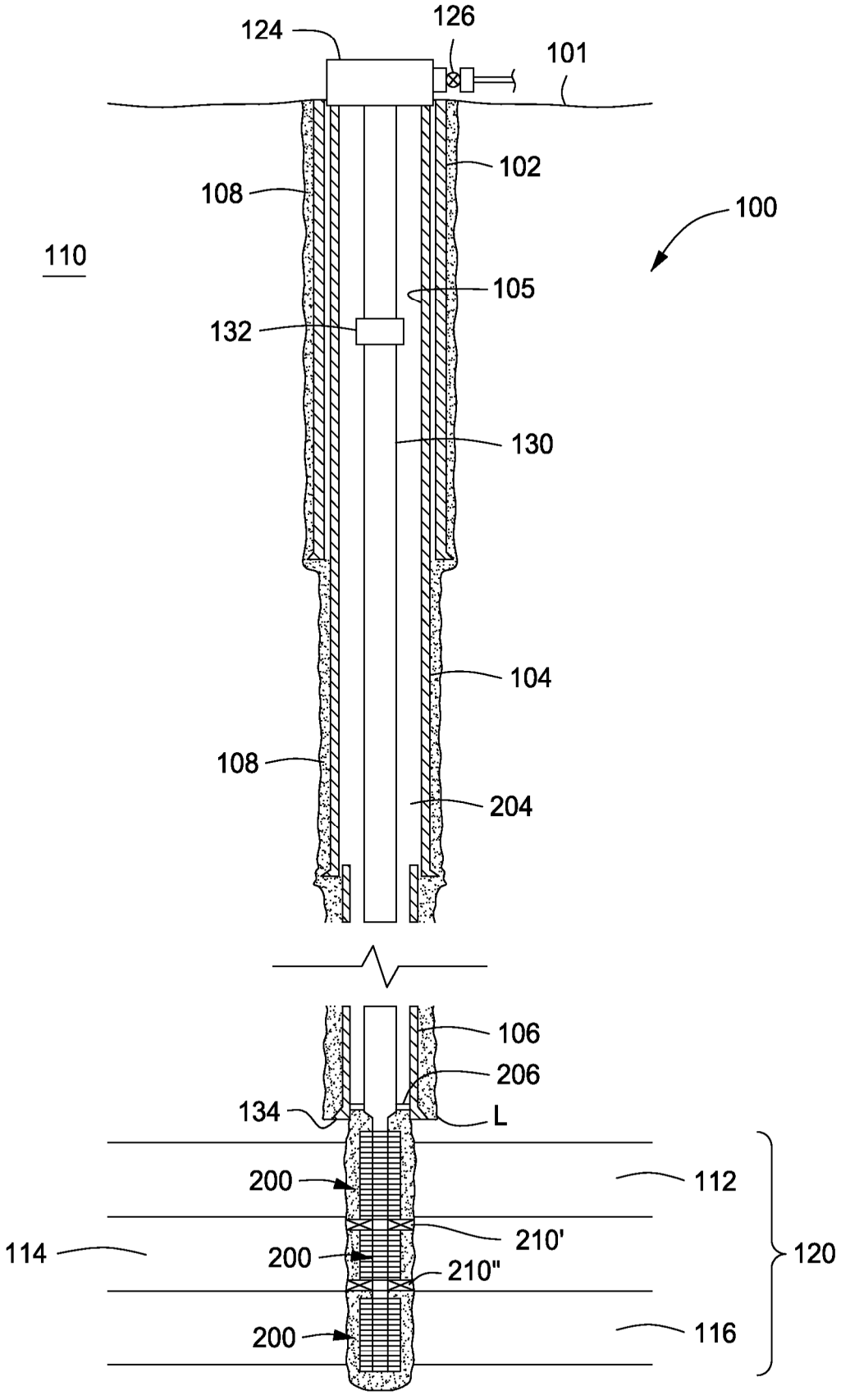

124
126
101
102
108
100
110
105
132
130
104
108
204
106
206
134
L
200
112
210'
114
200
210"
120
200
116

FIG. 1

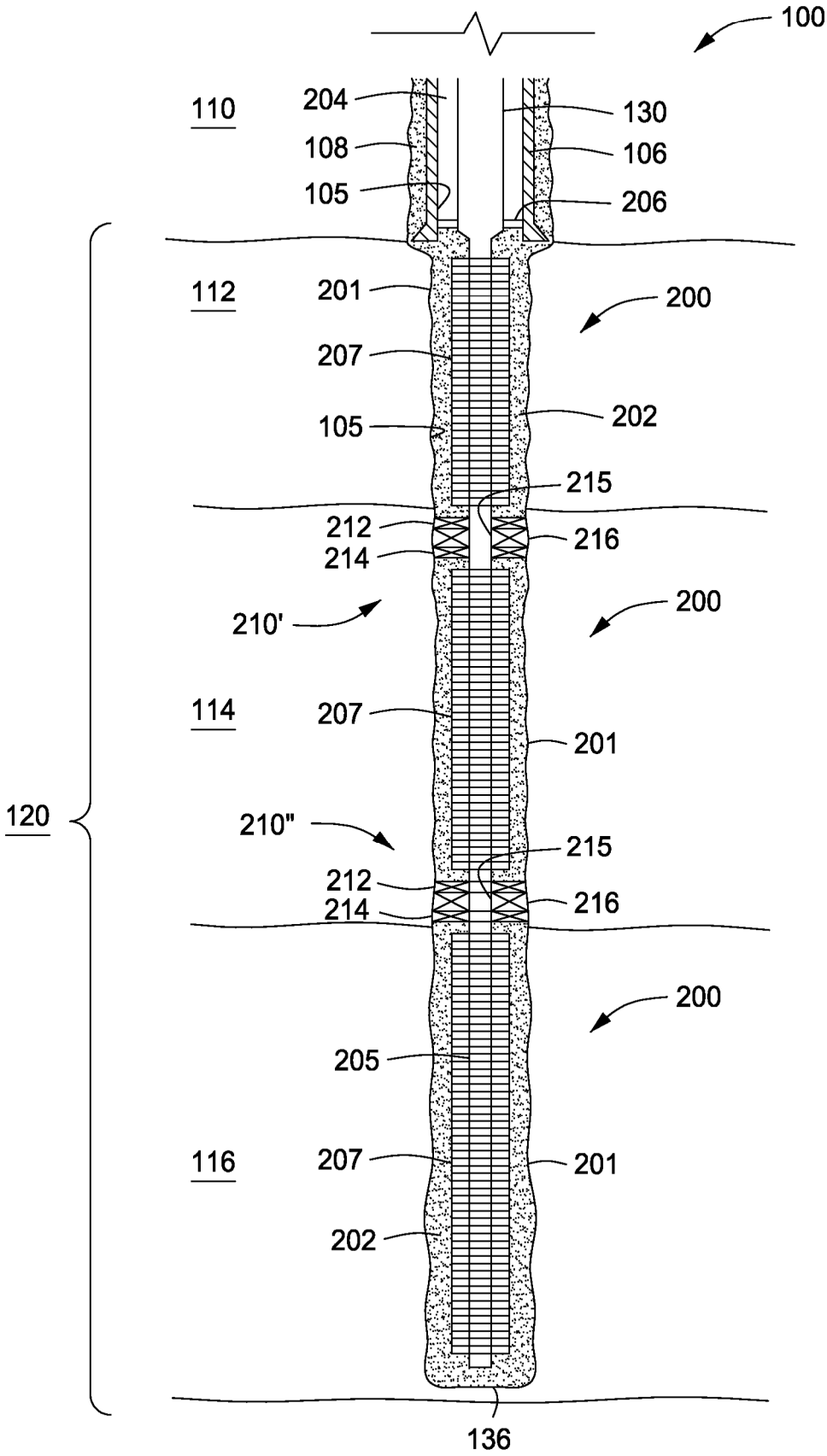

100
110
204
130
108
106
105
206
112
201
200
207
105
202
215
212
216
214
210'
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114
207
201
120
210"
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212
216
214
200
205
116
207
201
202
136

FIG. 2

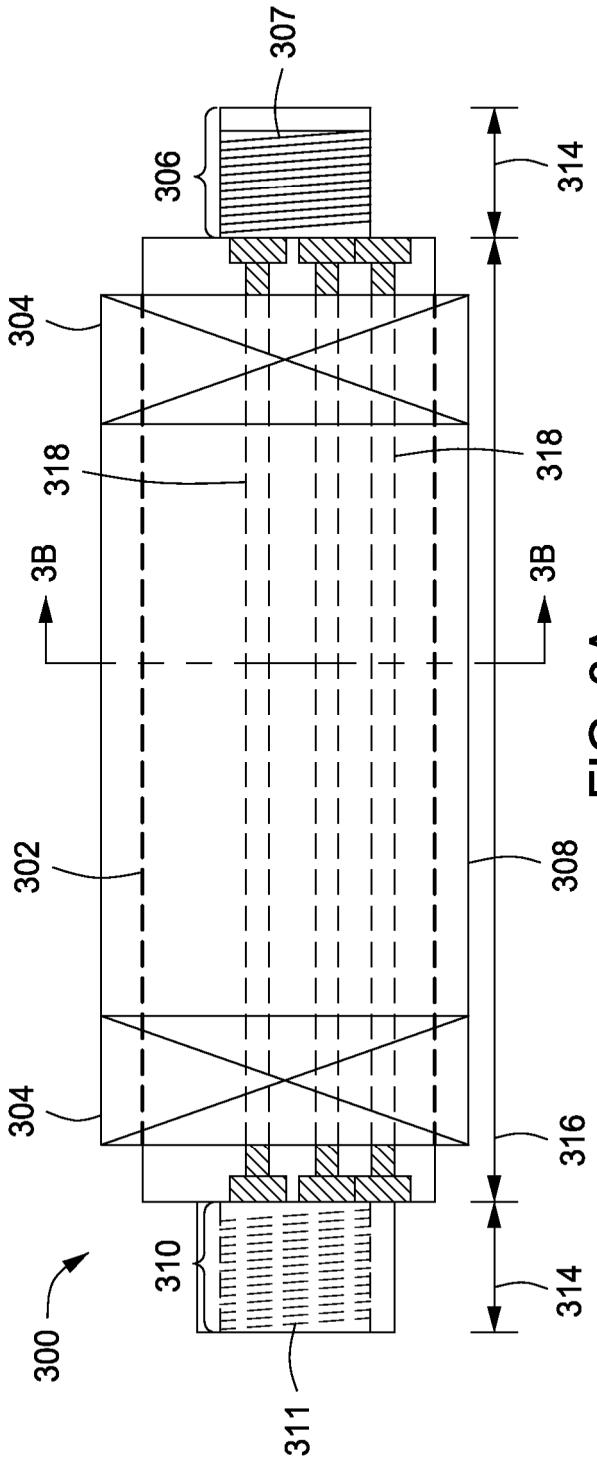


FIG. 3A

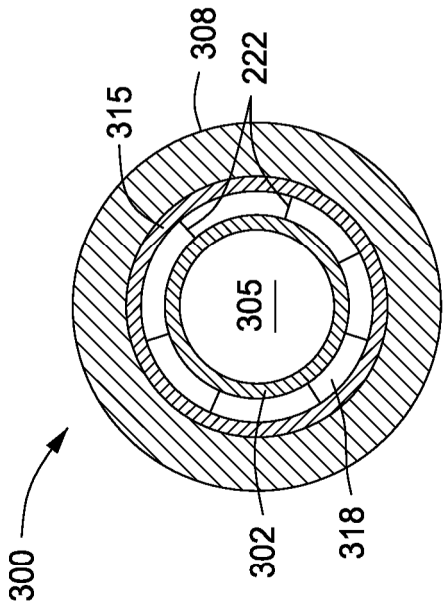


FIG. 3C

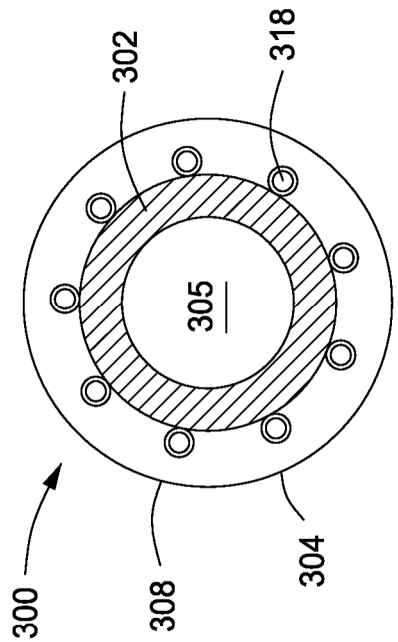


FIG. 3B

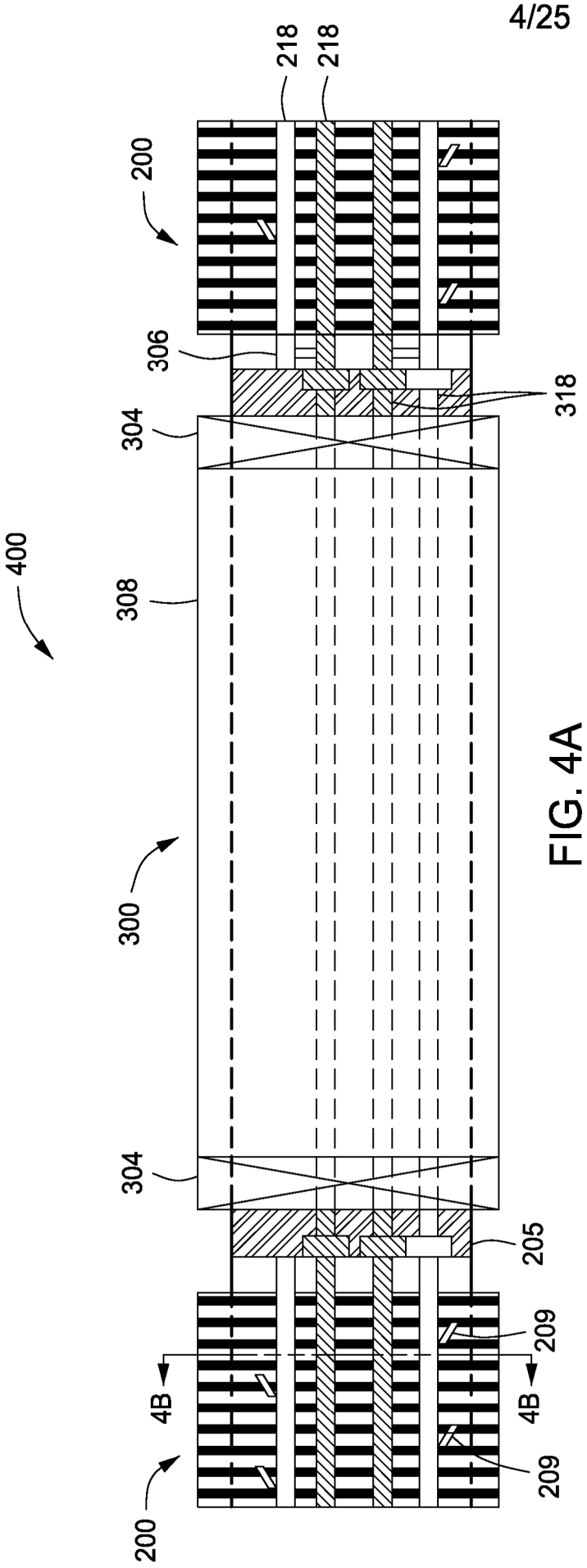

218
218
200
306
318
304
400
308
300
304
205
209
4B
4B
209
200

FIG. 4A

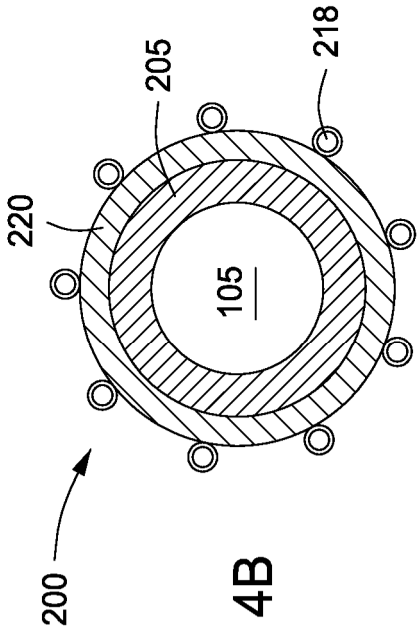

205
218
220
105
200

FIG. 4B

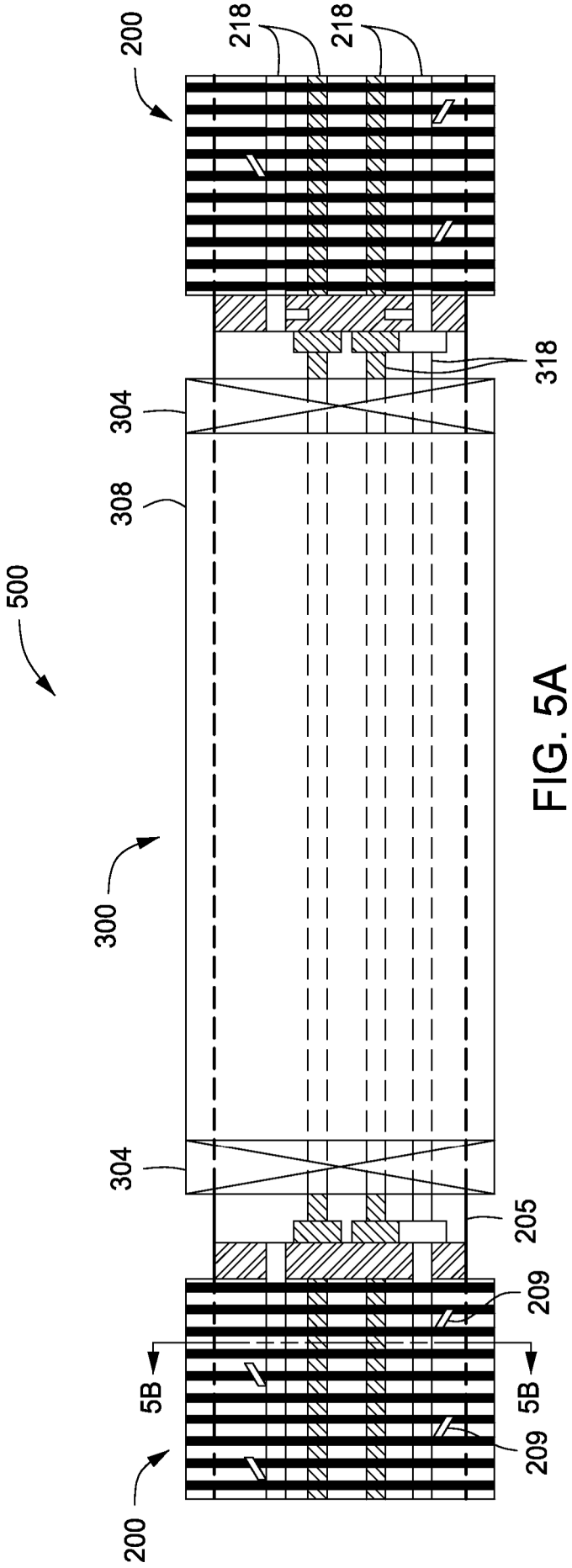

200
218
218
318
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308
500
300
304
205
209
5B
5B
209
200

FIG. 5A

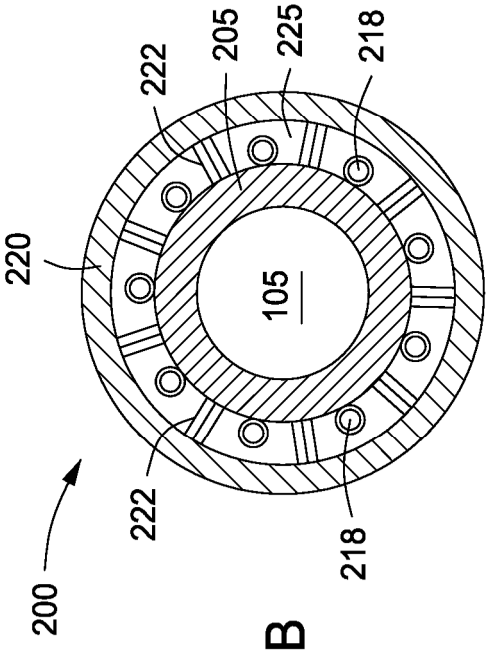

222
205
225
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220
105
222
218
200

FIG. 5B

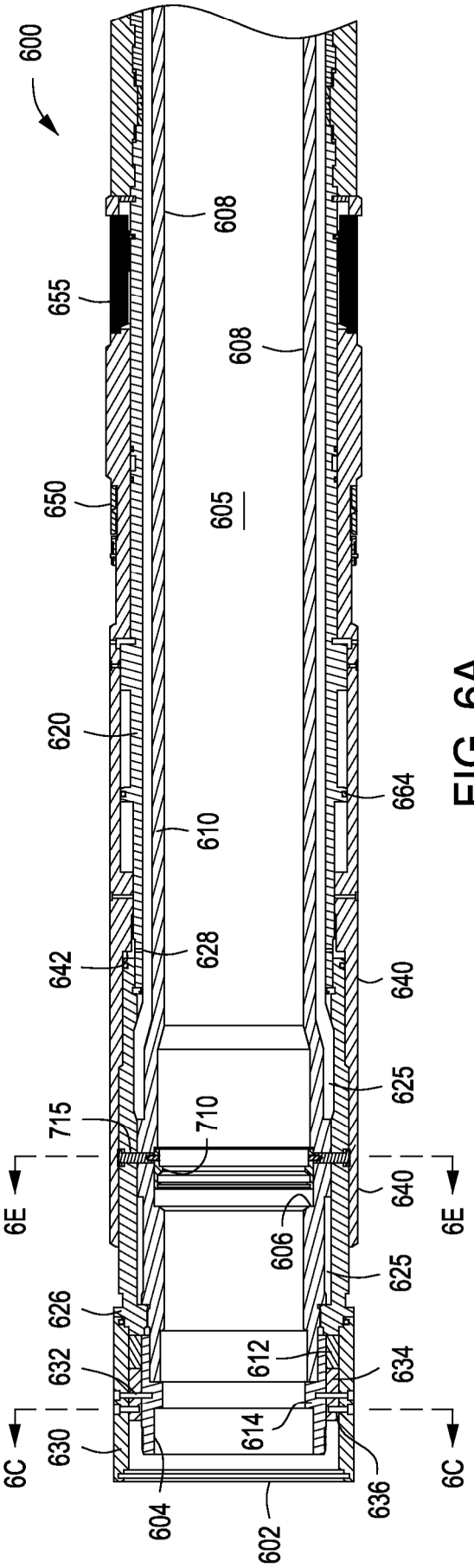

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610
664
642
628
640
625
715
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625
626
632
612
634
614
630
636
604
602
6E
6E
6C
6C

FIG. 6A

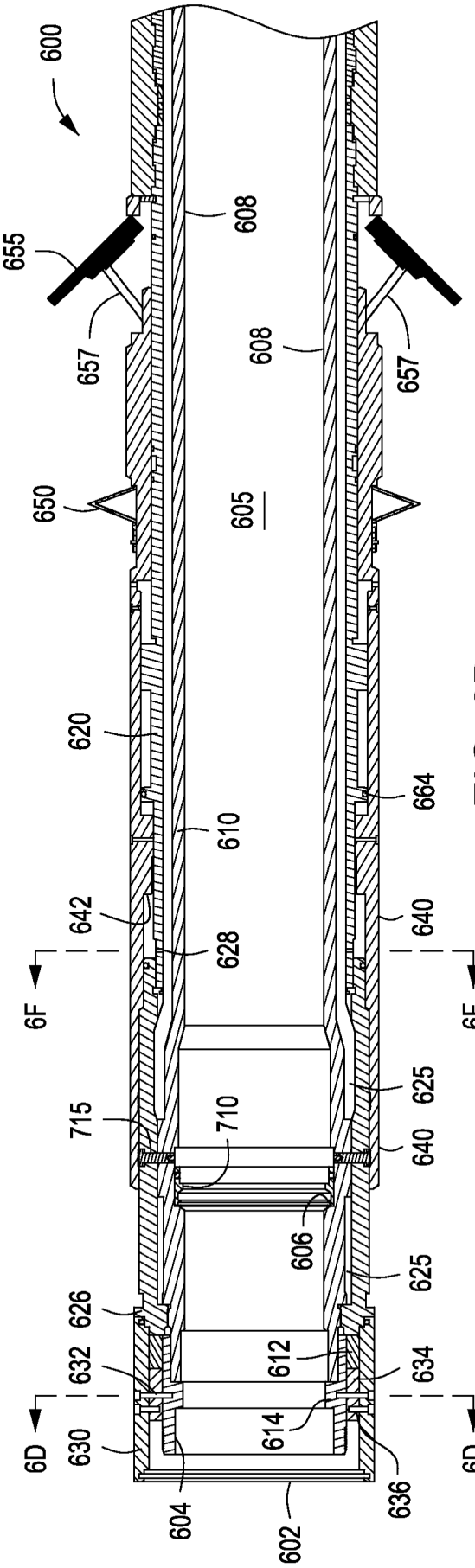

600
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657
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628
640
625
715
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640
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625
626
632
612
634
614
630
636
604
602
6F
6F
6D
6D

FIG. 6B

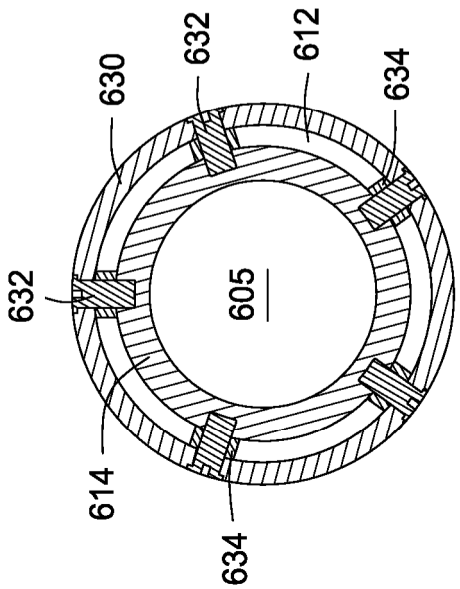


FIG. 6D

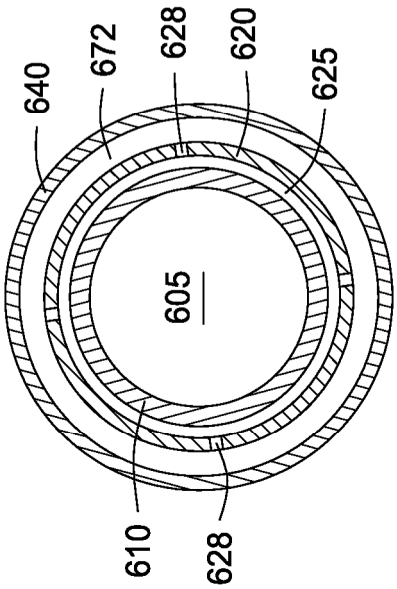


FIG. 6F

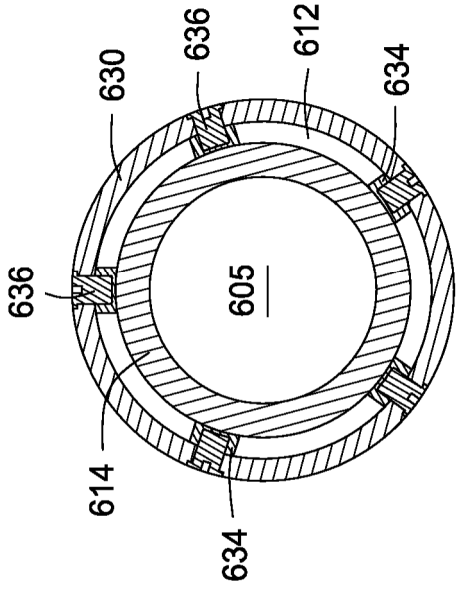


FIG. 6C

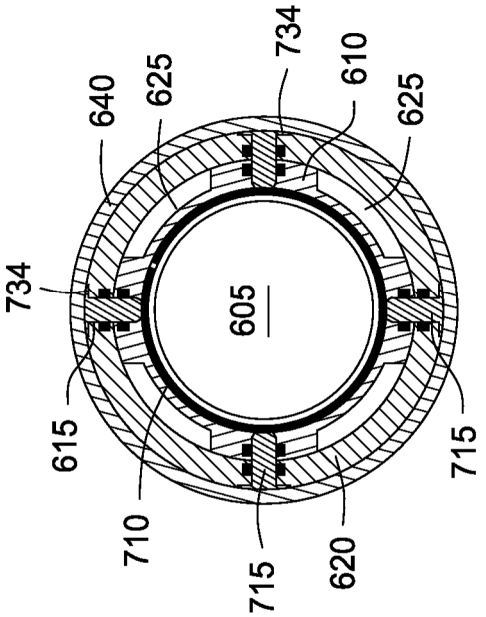


FIG. 6E

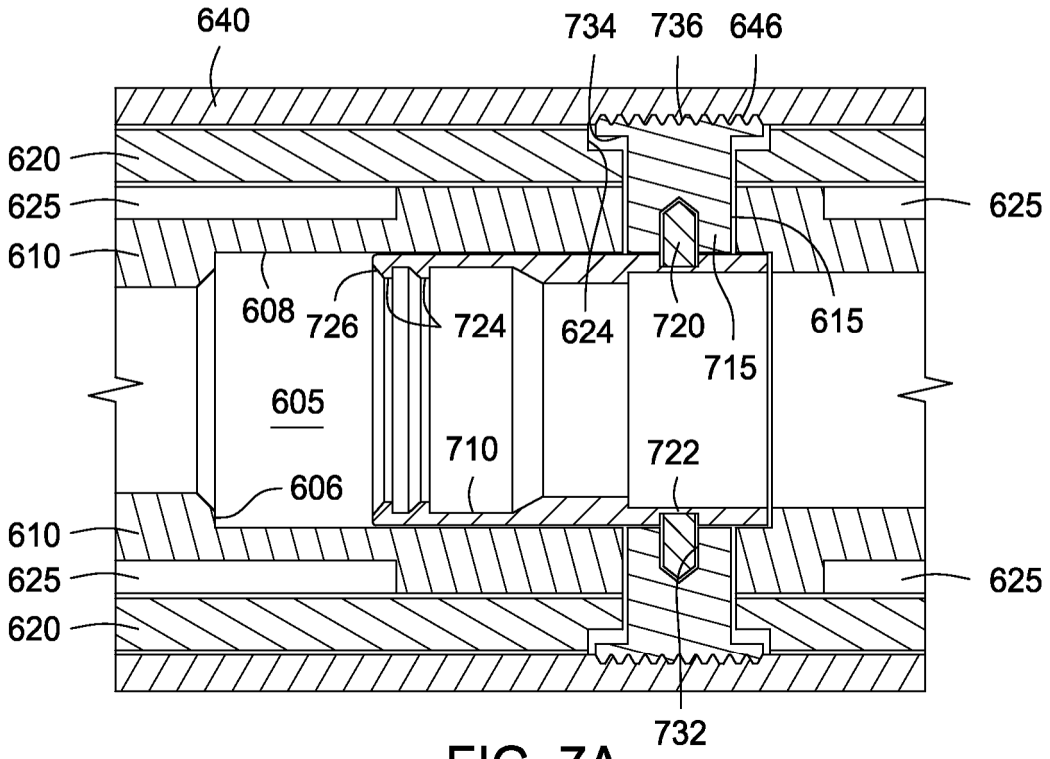

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734
736
646
620
625
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726
724
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715
605
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722
606
610
625
620
625
625
732

FIG. 7A

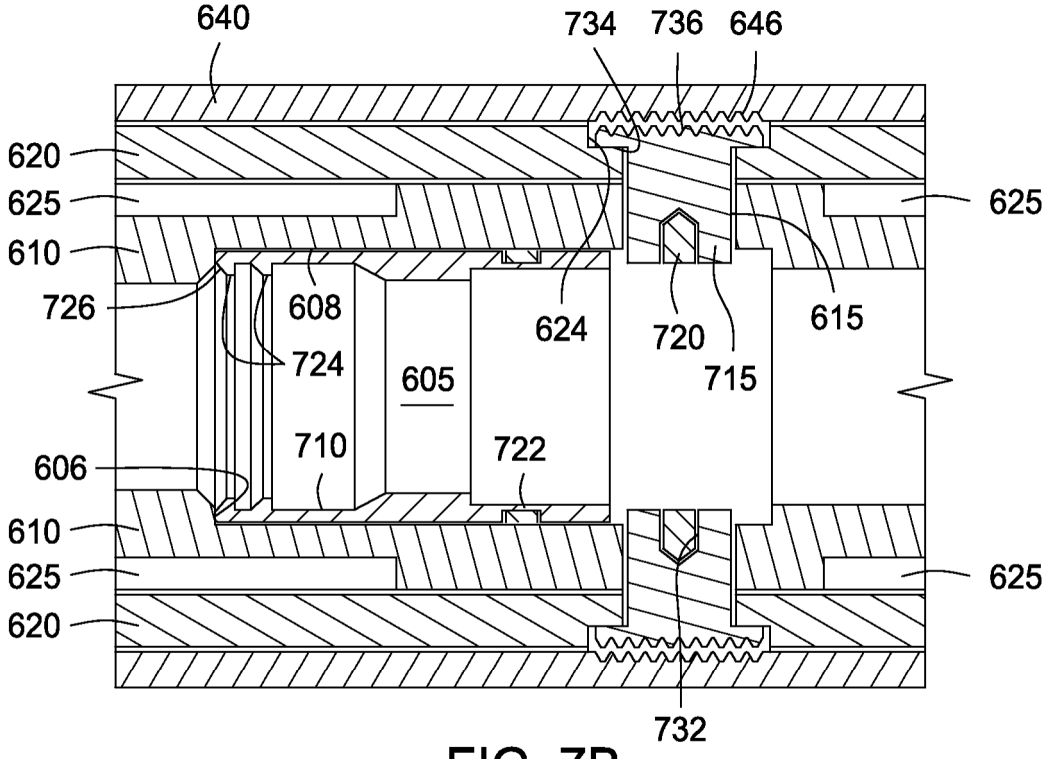

640
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715
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610
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625
625
732

FIG. 7B

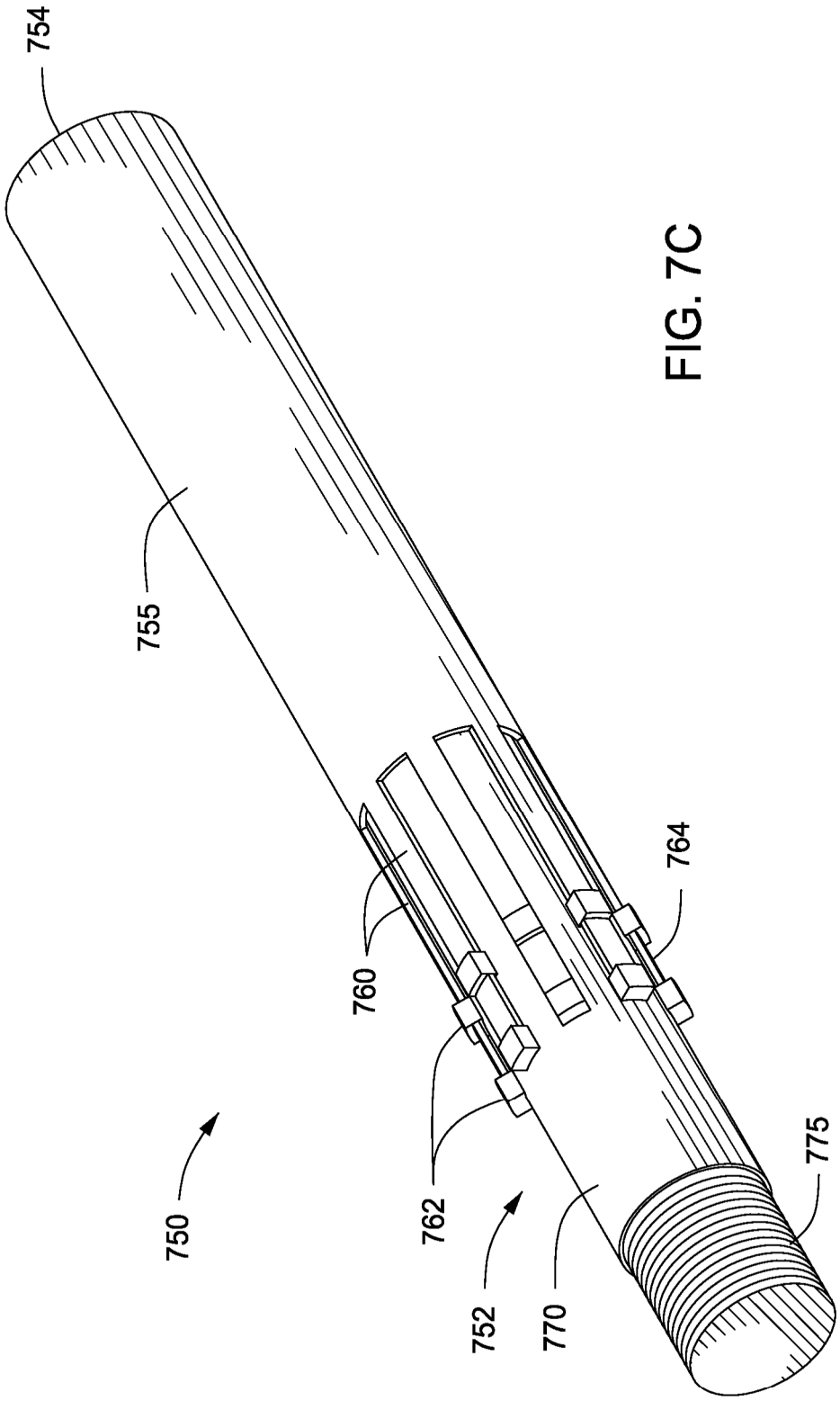


FIG. 7C

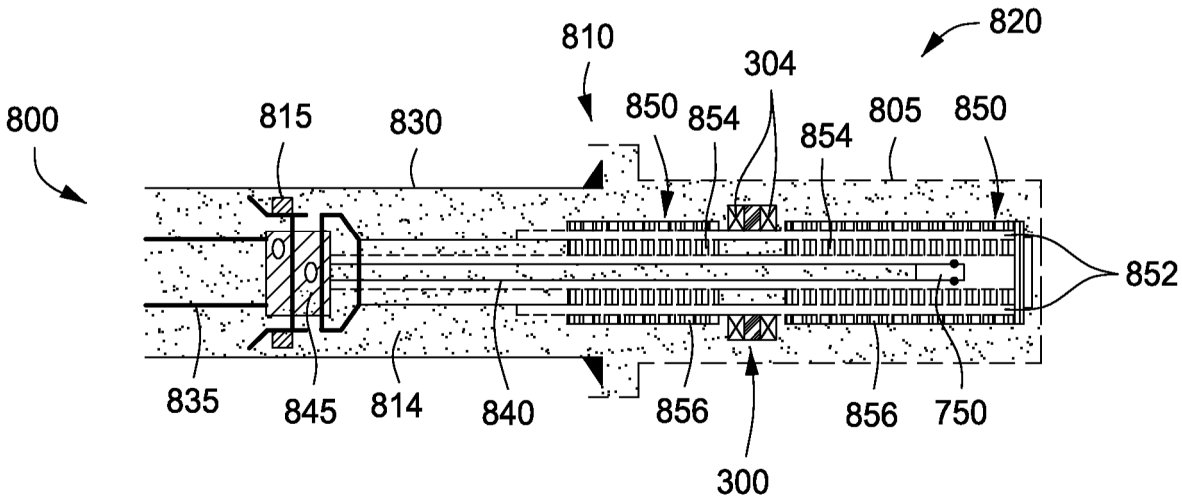

800
815
830
810
850
854
304
854
805
850
820
852
835
845
814
840
856
856
750
300

FIG. 8A

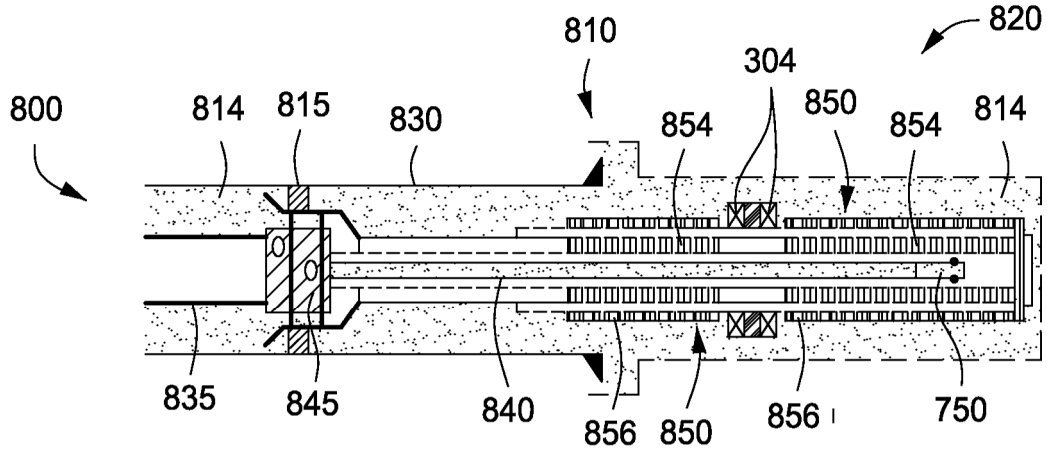

800
814
815
830
810
854
304
850
854
814
820
835
845
840
856
850
856
750

FIG. 8B

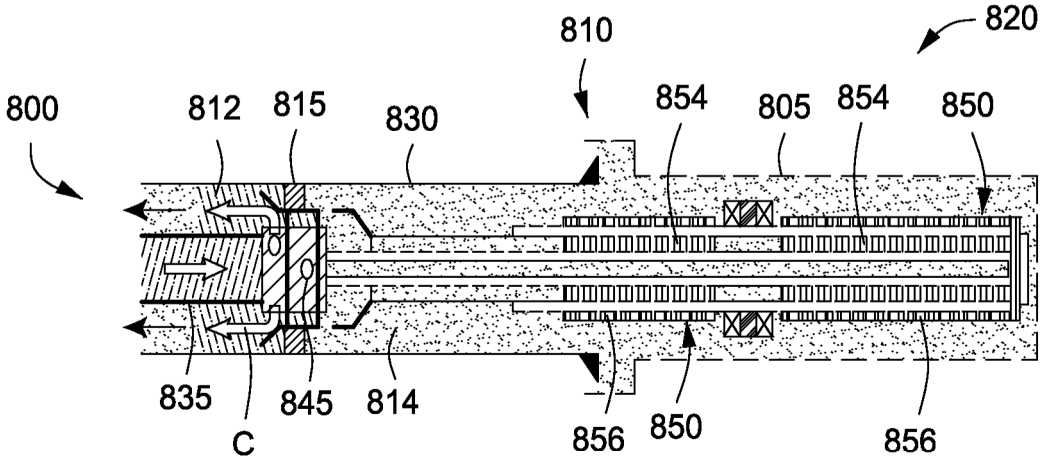

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854
805
854
850
820
835
C
845
814
856
850
856

FIG. 8C

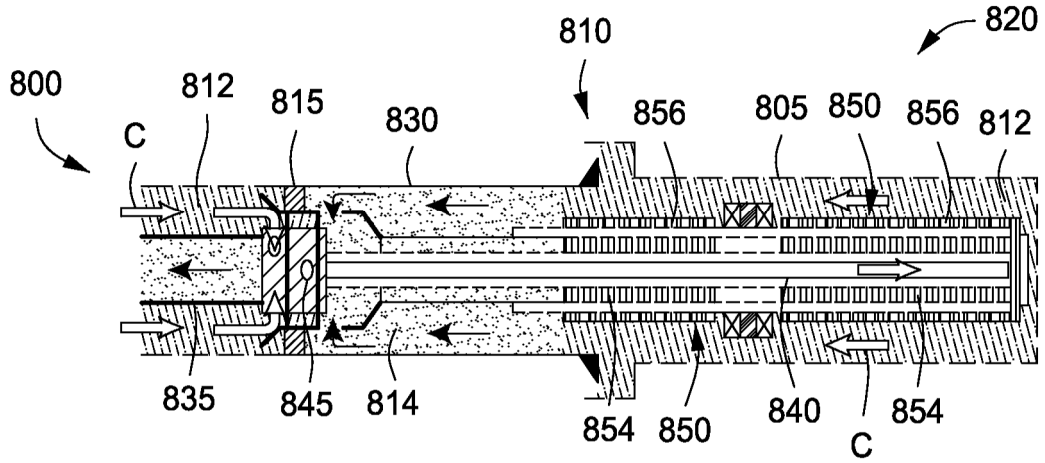

800
C
812
815
830
810
856
805
850
856
812
820
835
845
814
854
850
840
C
854

FIG. 8D

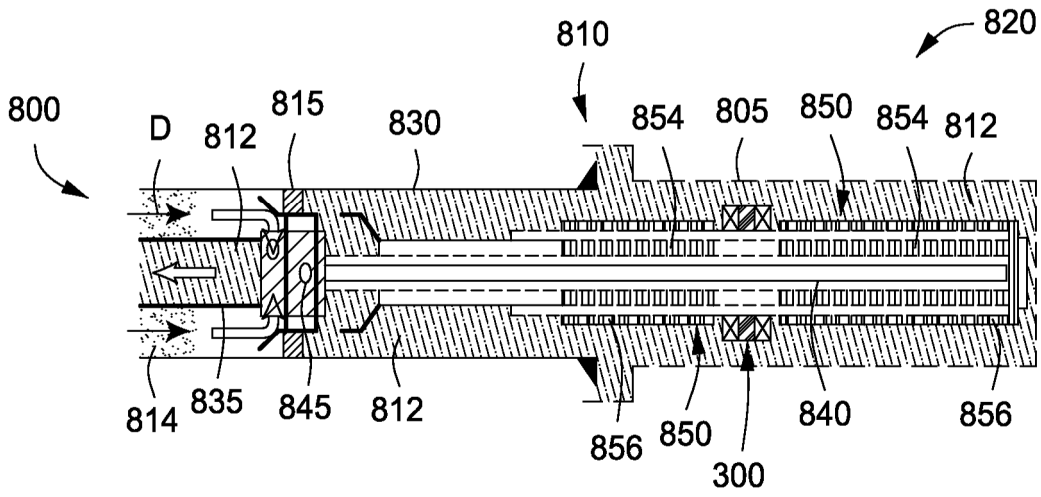

800
D
812
815
830
810
854
805
850
854
812
820
814
835
845
812
856
850
300
840
856

FIG. 8E

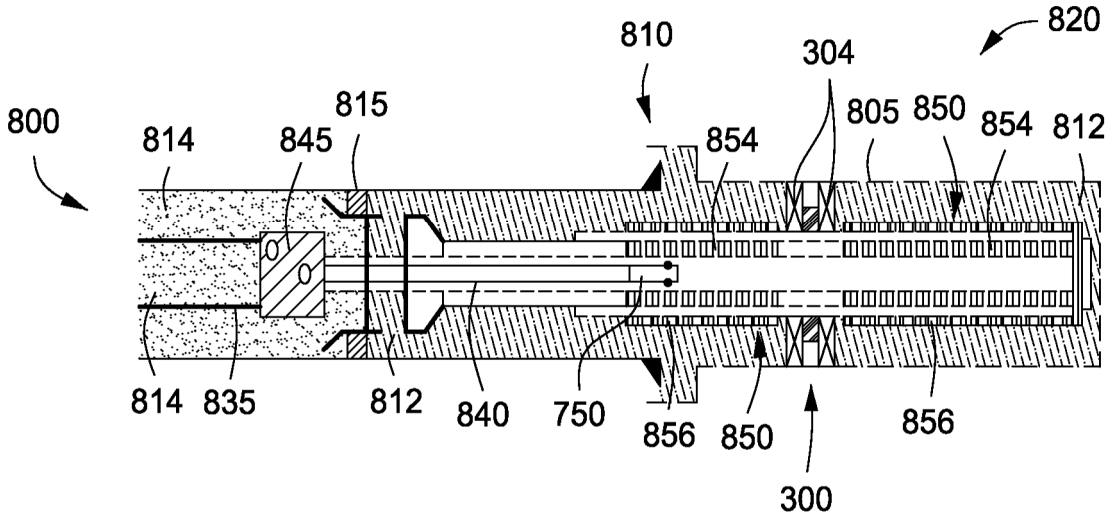

800
814
845
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810
304
805
850
854
812
820
814
835
812
840
750
856
850
300
856

FIG. 8F

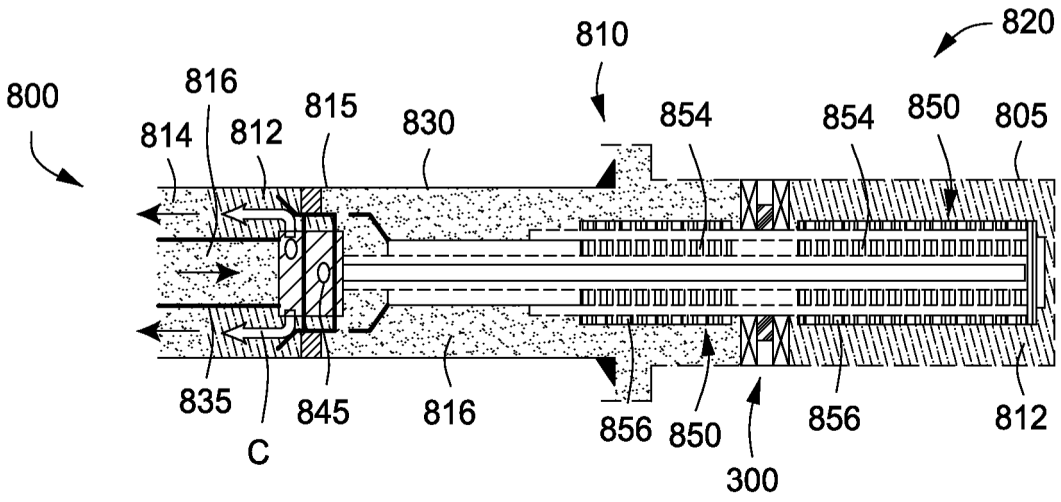

800
816
814
812
815
830
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854
854
850
805
820
835
C
845
816
856
850
300
856
812

FIG. 8G

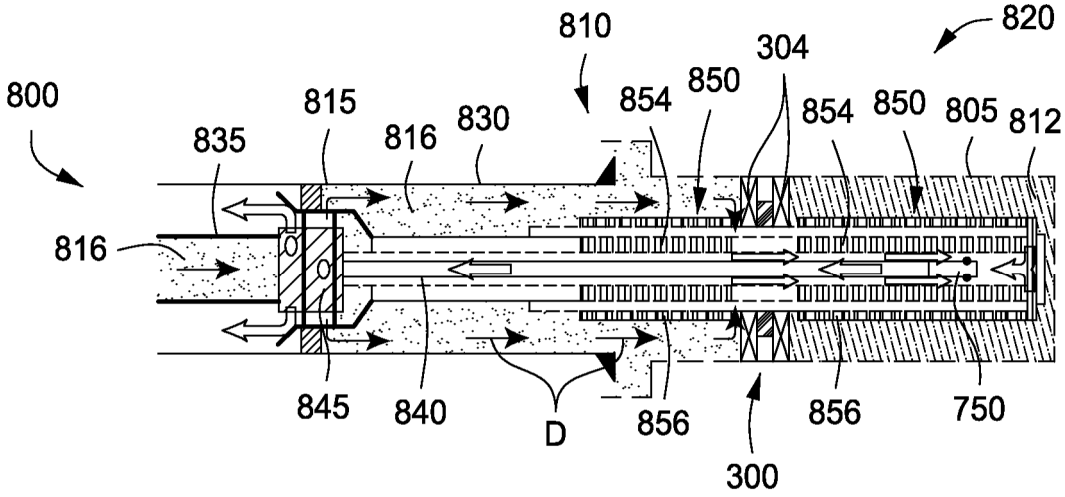

800
816
835
815
816
830
810
854
850
304
854
850
805
812
820
845
840
D
856
300
856
750

FIG. 8H

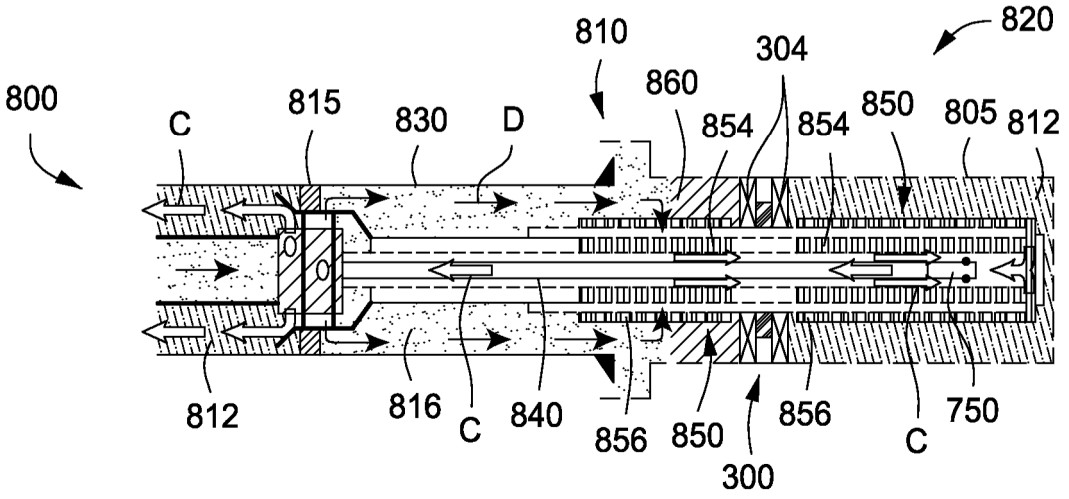

800
C
815
830
D
810
860
304
820
854
854
850
805
812
812
816
C
840
856
850
856
C
750
300

FIG. 8I

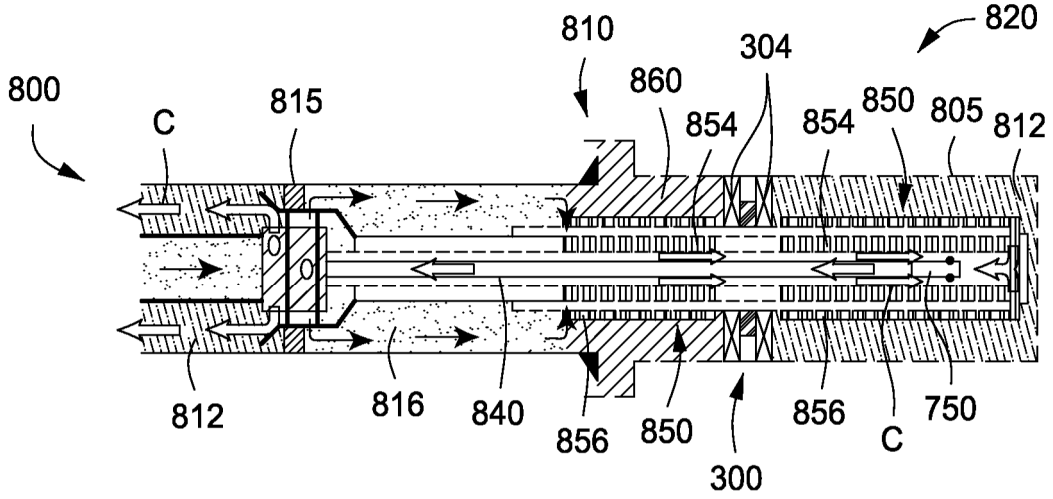

800
C
815
810
860
304
820
854
854
850
805
812
812
816
840
856
850
856
C
750
300

FIG. 8J

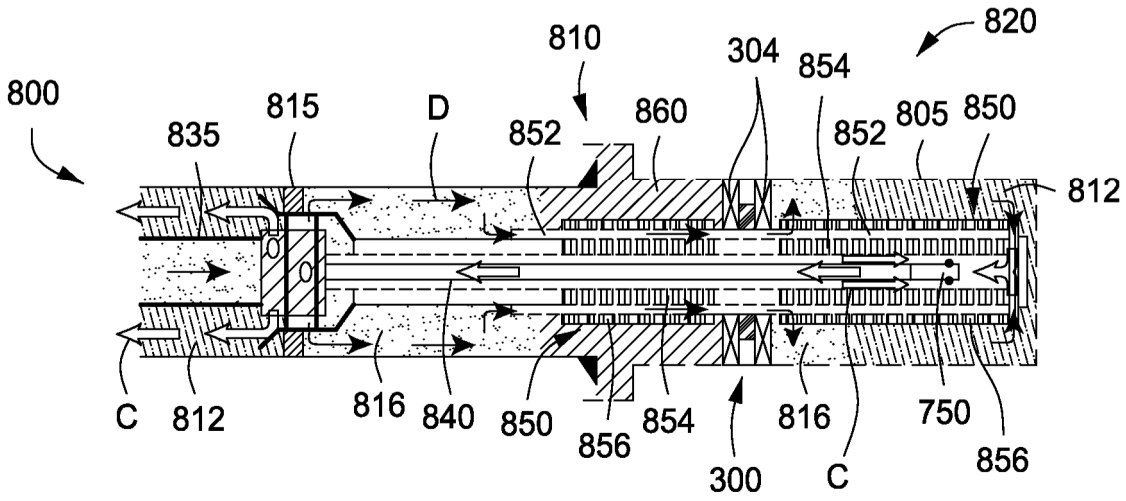

800
835
815
D
810
852
860
304
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852
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820
812
C
812
816
840
850
856
854
816
300
C
750
856

FIG. 8K

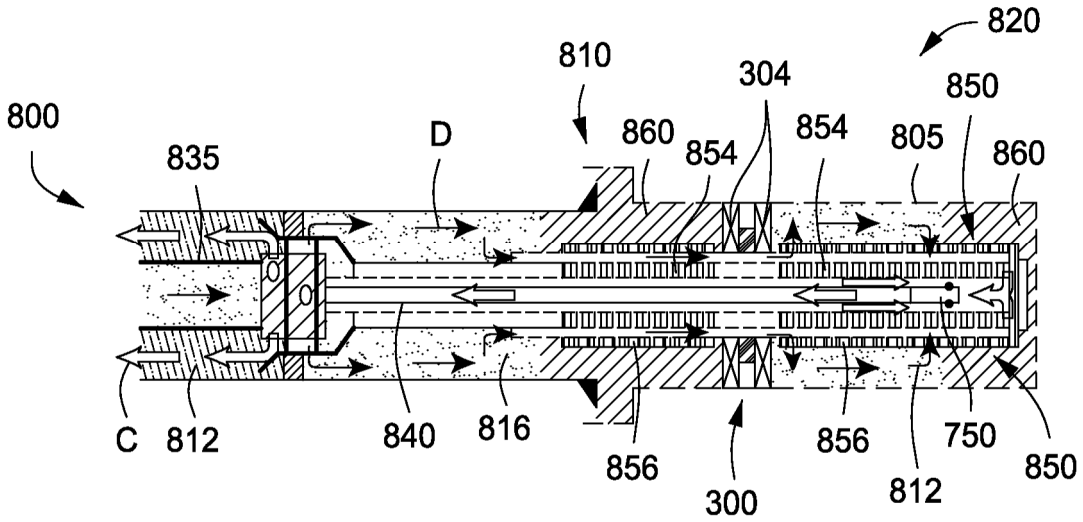

800
835
D
810
860
854
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805
850
860
820
C
812
840
816
856
300
856
812
750
850

FIG. 8L

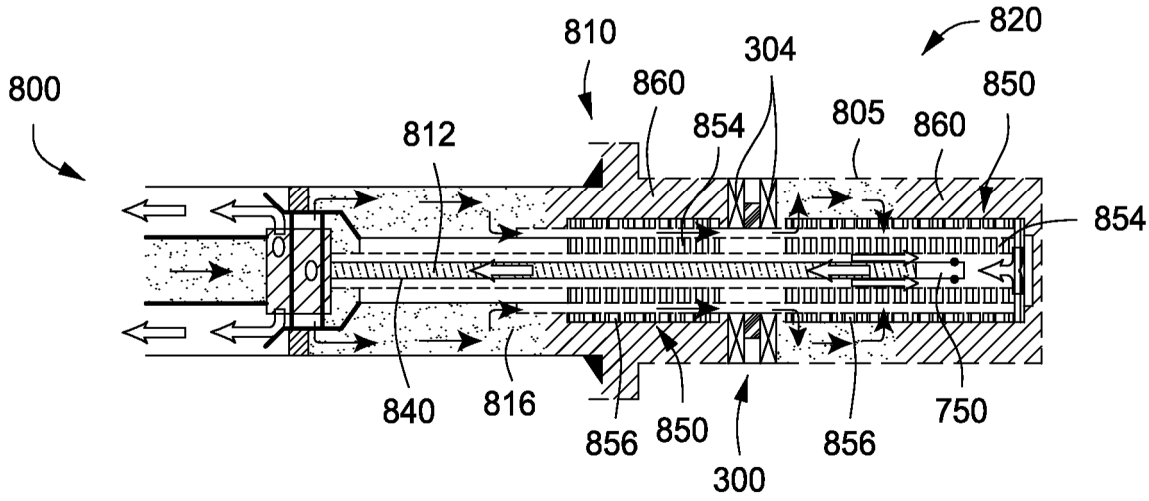

800
810
820
304
860
850
812
854
805
860
854
840
816
856
850
300
856
750

FIG. 8M

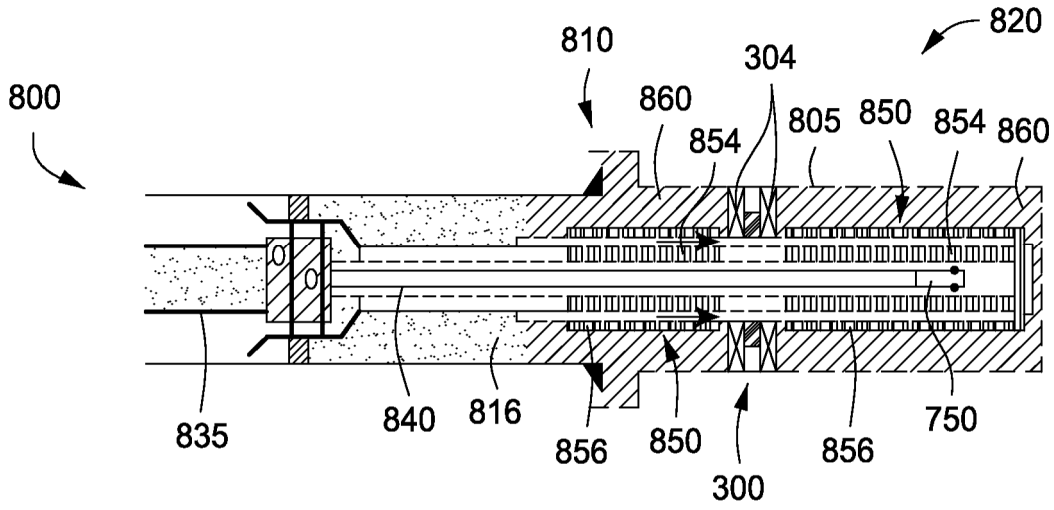

800
810
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304
860
805
850
854
860
854
835
840
816
856
850
300
856
750

FIG. 8N

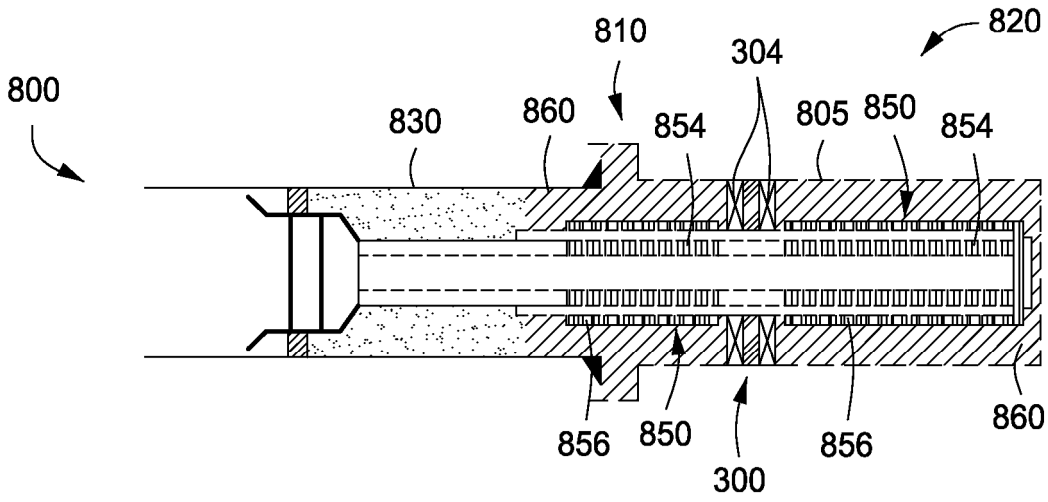


FIG. 8O

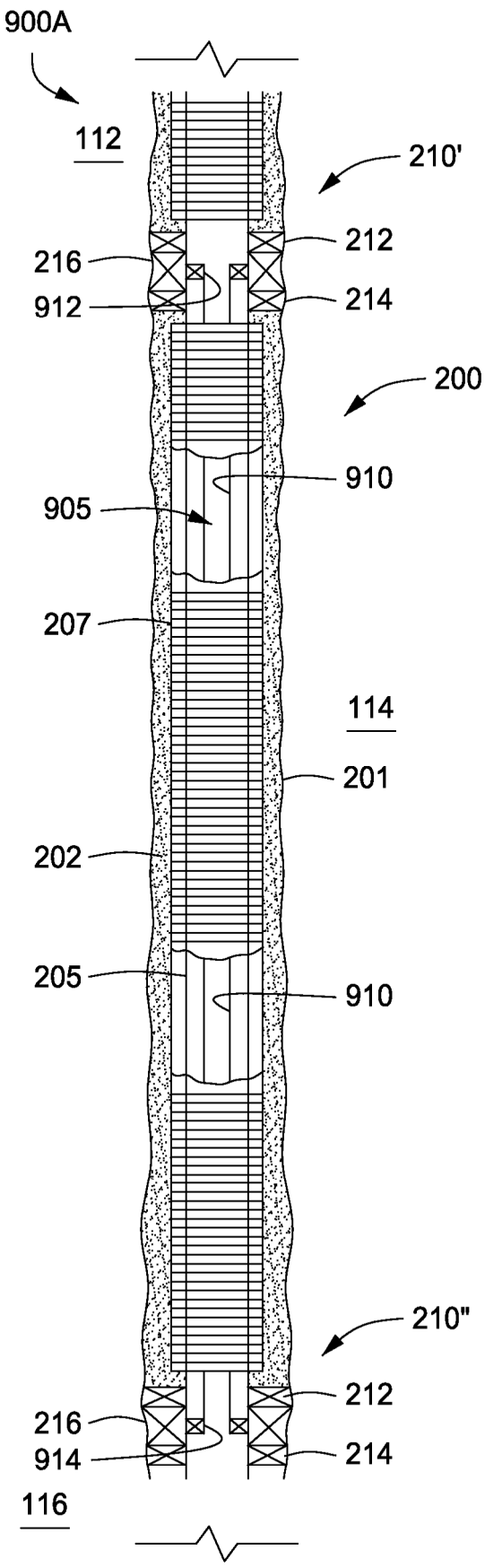

900A
112
210'
212
216
912
214
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910
905
207
114
201
202
205
910
210"
212
216
914
214
116

FIG. 9A

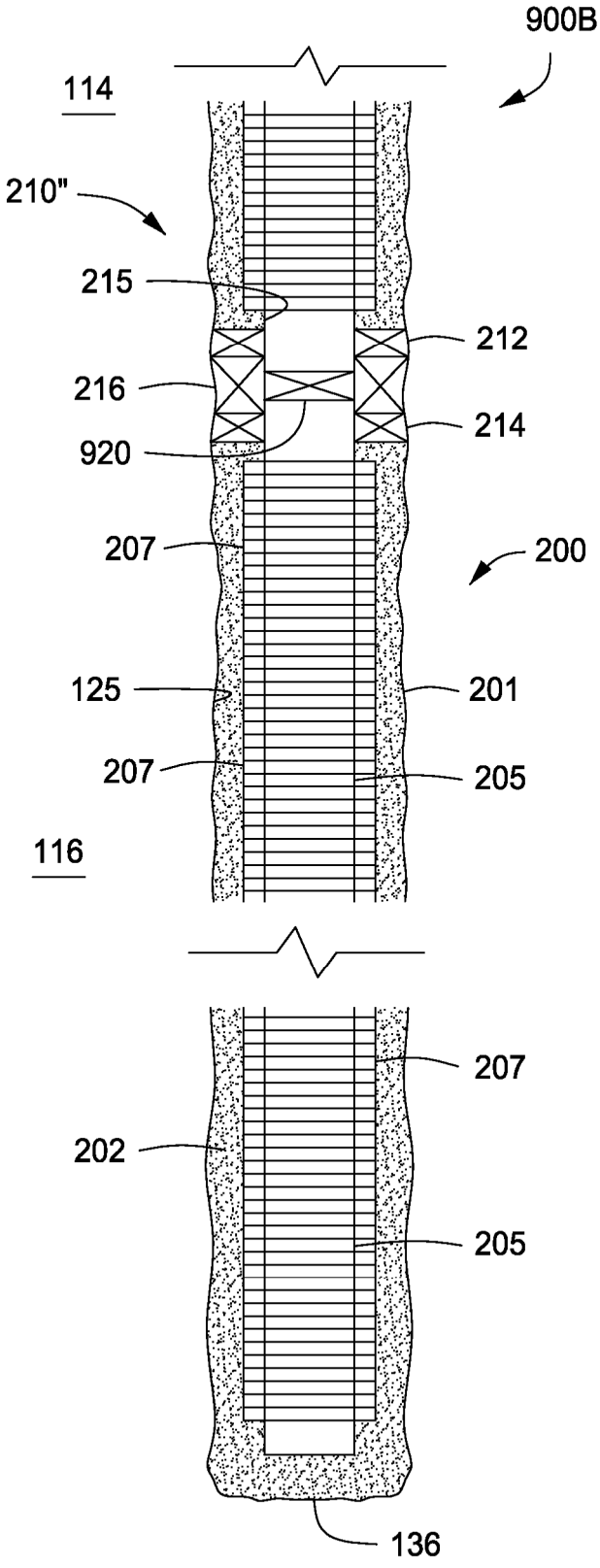

900B
114
210"
215
212
216
214
920
207
200
125
201
207
205
116
207
202
205
136

FIG. 9B

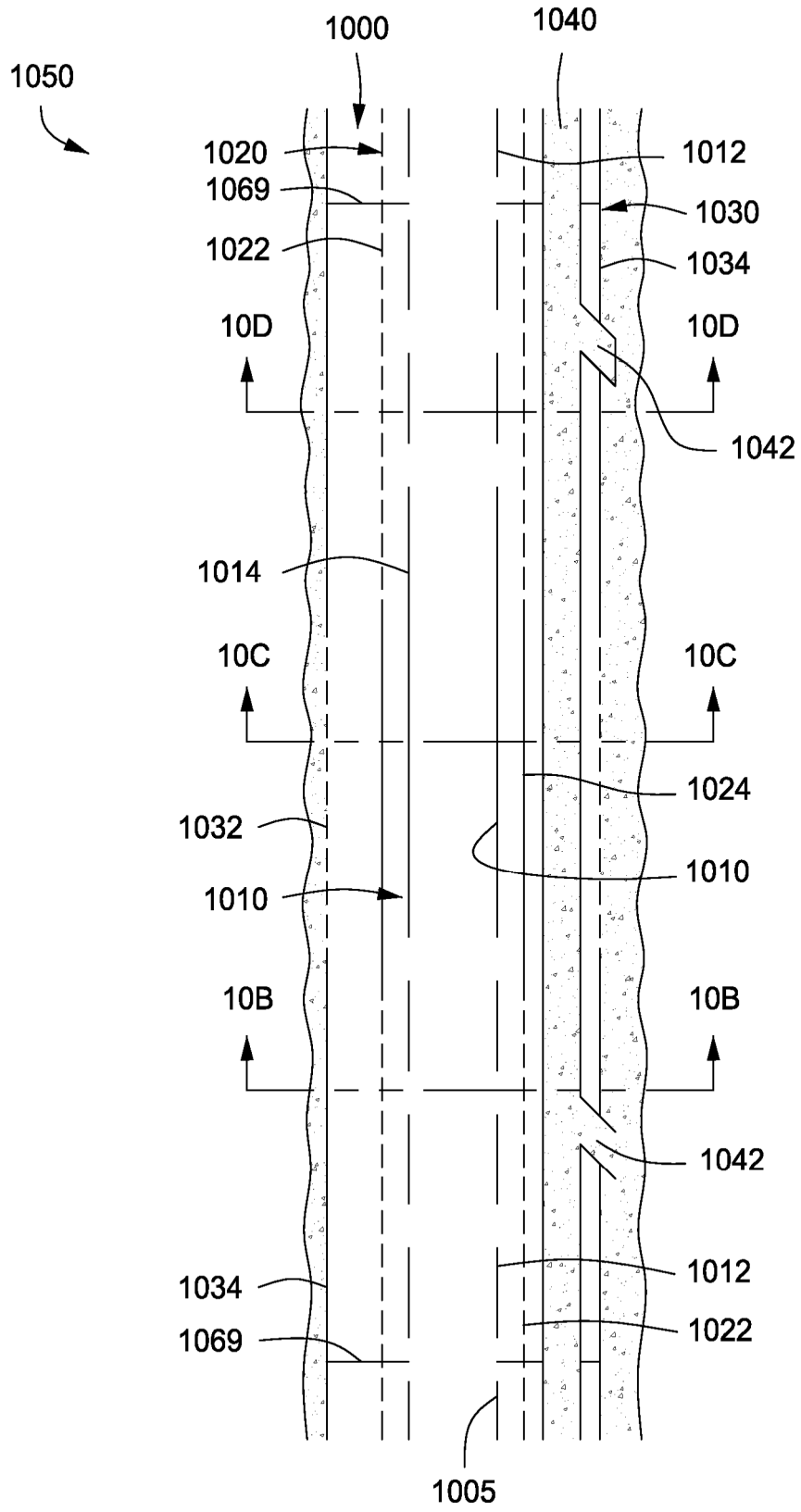

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1012
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1030
1022
1034
10D
10D
1042
1014
10C
10C
1024
1032
1010
1010
10B
10B
1042
1012
1034
1022
1069
1005

FIG. 10A

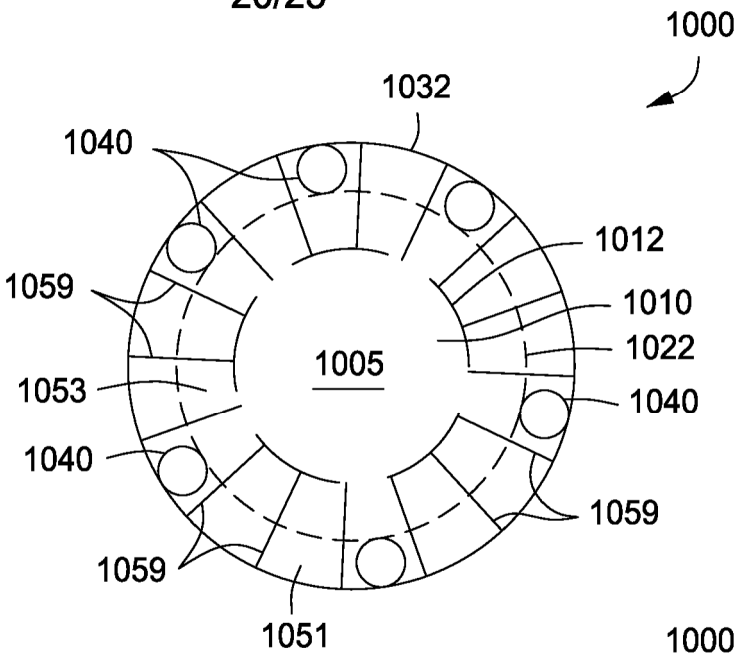


FIG. 10B

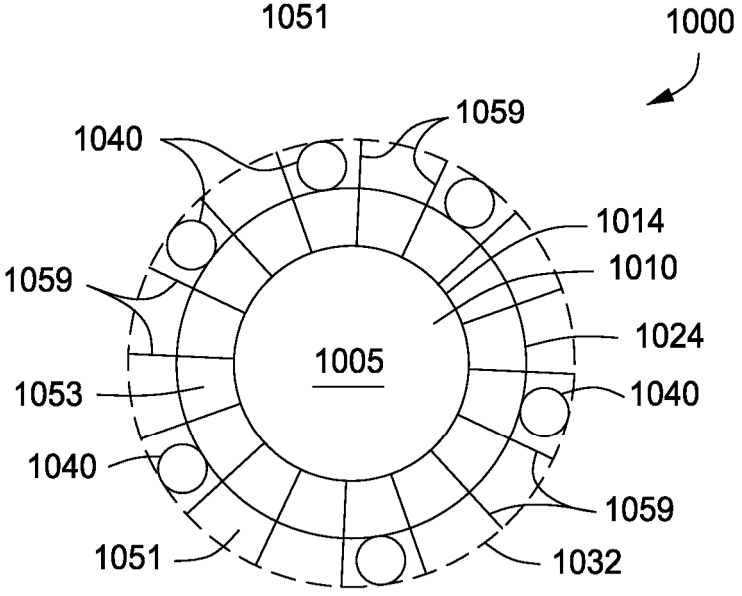


FIG. 10C

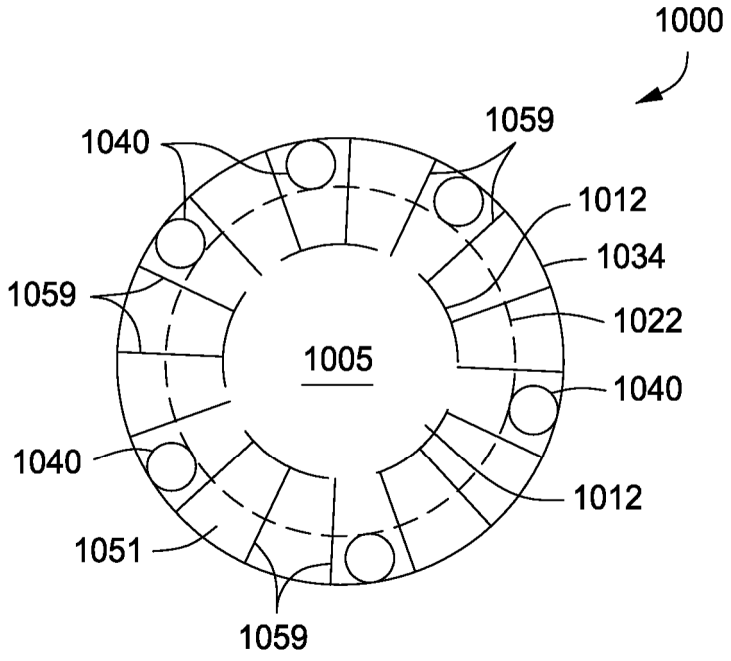


FIG. 10D

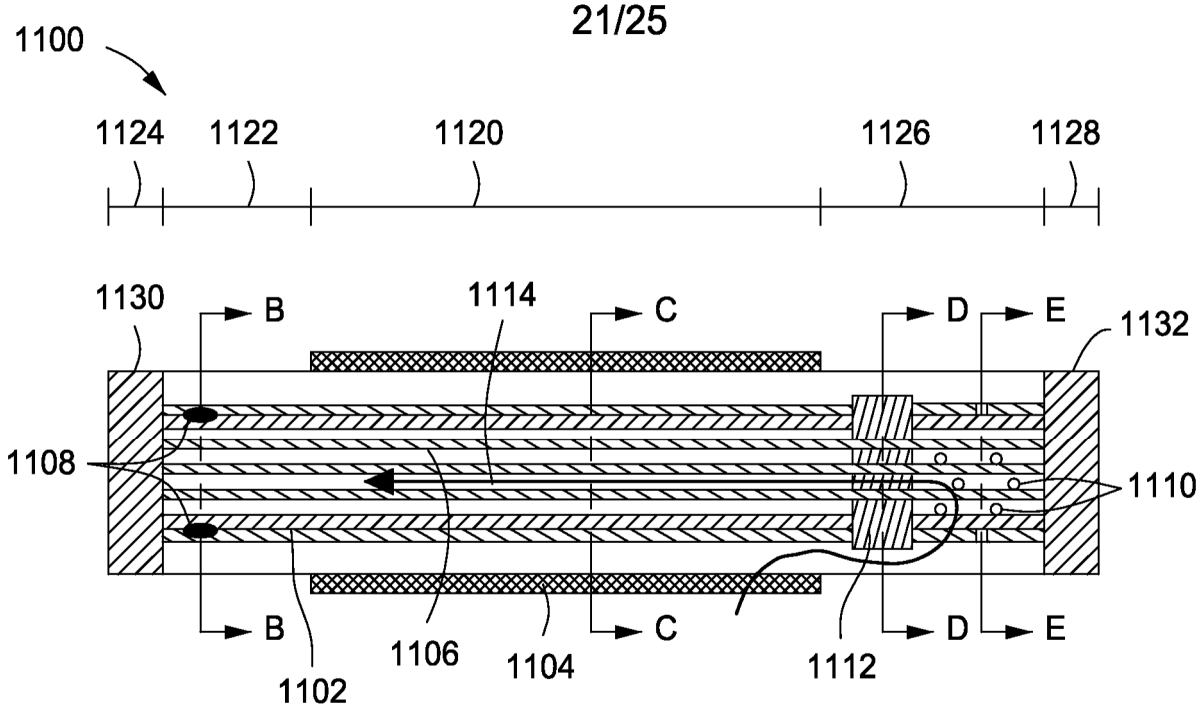


FIG. 11A

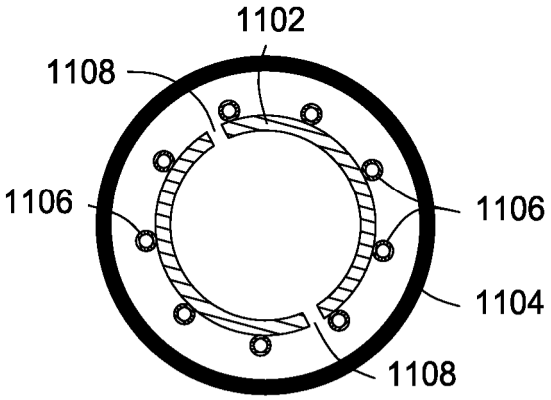


FIG. 11B

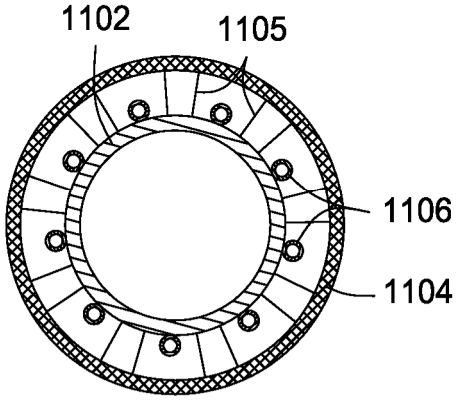


FIG. 11C

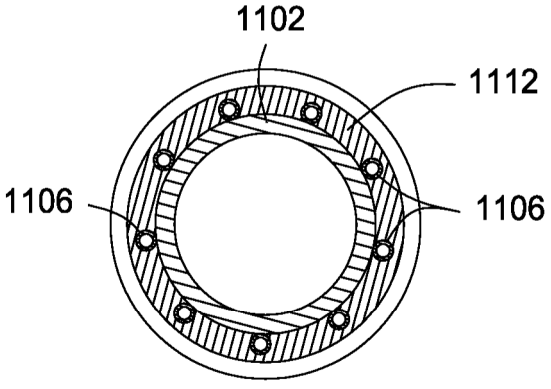


FIG. 11D

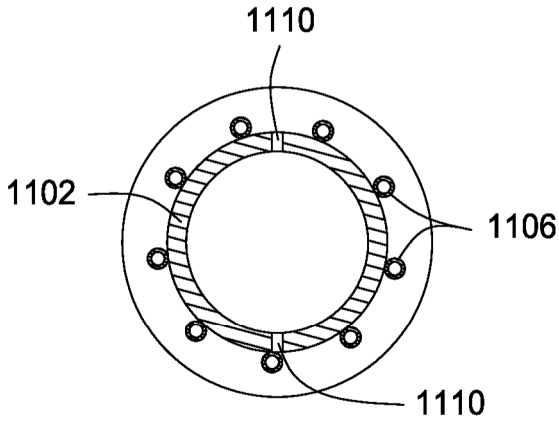


FIG. 11E

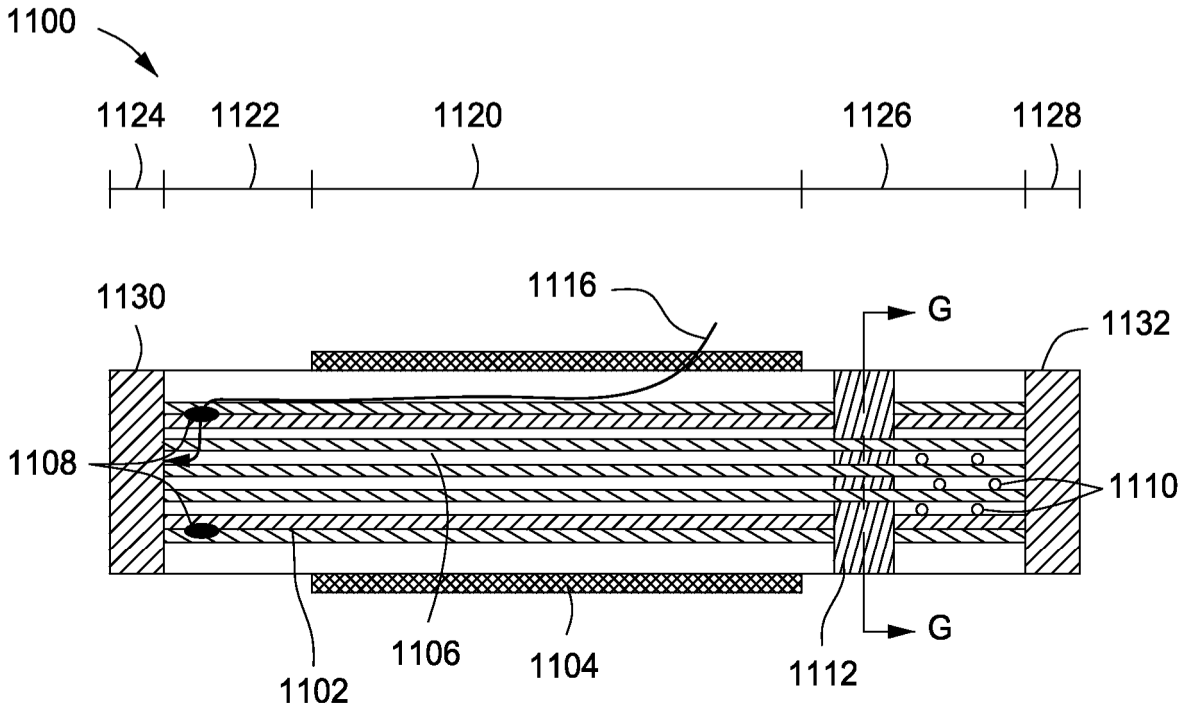


FIG. 11F

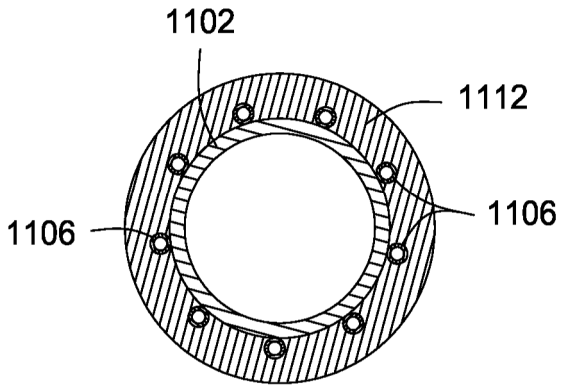


FIG. 11G

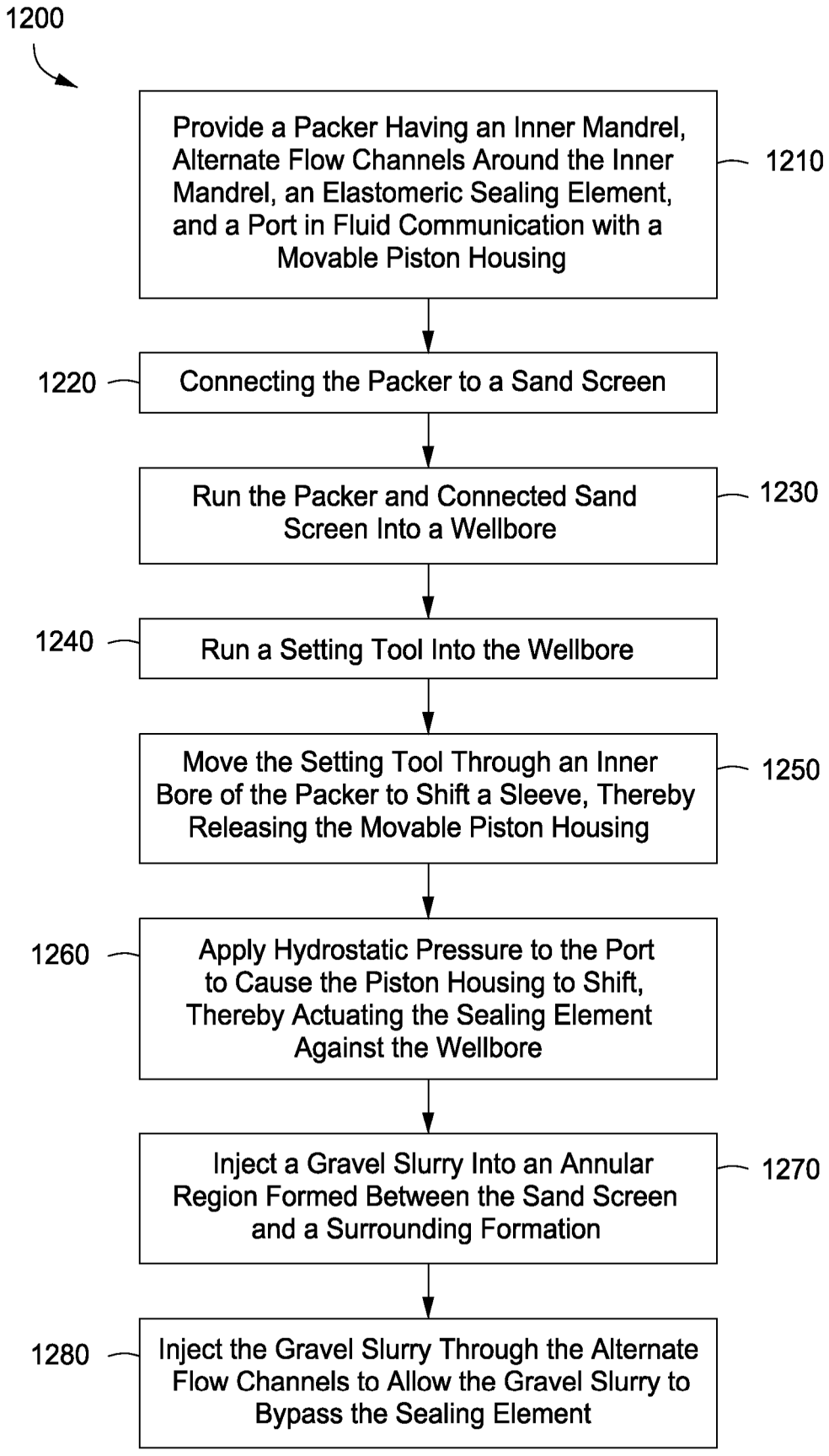

1200
Provide a Packer Having an Inner Mandrel, Alternate Flow Channels Around the Inner Mandrel, an Elastomeric Sealing Element, and a Port in Fluid Communication with a Movable Piston Housing
1210
1220
Connecting the Packer to a Sand Screen
Run the Packer and Connected Sand Screen Into a Wellbore
1230
1240
Run a Setting Tool Into the Wellbore
Move the Setting Tool Through an Inner Bore of the Packer to Shift a Sleeve, Thereby Releasing the Movable Piston Housing
1250
1260
Apply Hydrostatic Pressure to the Port to Cause the Piston Housing to Shift, Thereby Actuating the Sealing Element Against the Wellbore
Inject a Gravel Slurry Into an Annular Region Formed Between the Sand Screen and a Surrounding Formation
1270
1280
Inject the Gravel Slurry Through the Alternate Flow Channels to Allow the Gravel Slurry to Bypass the Sealing Element

FIG. 12

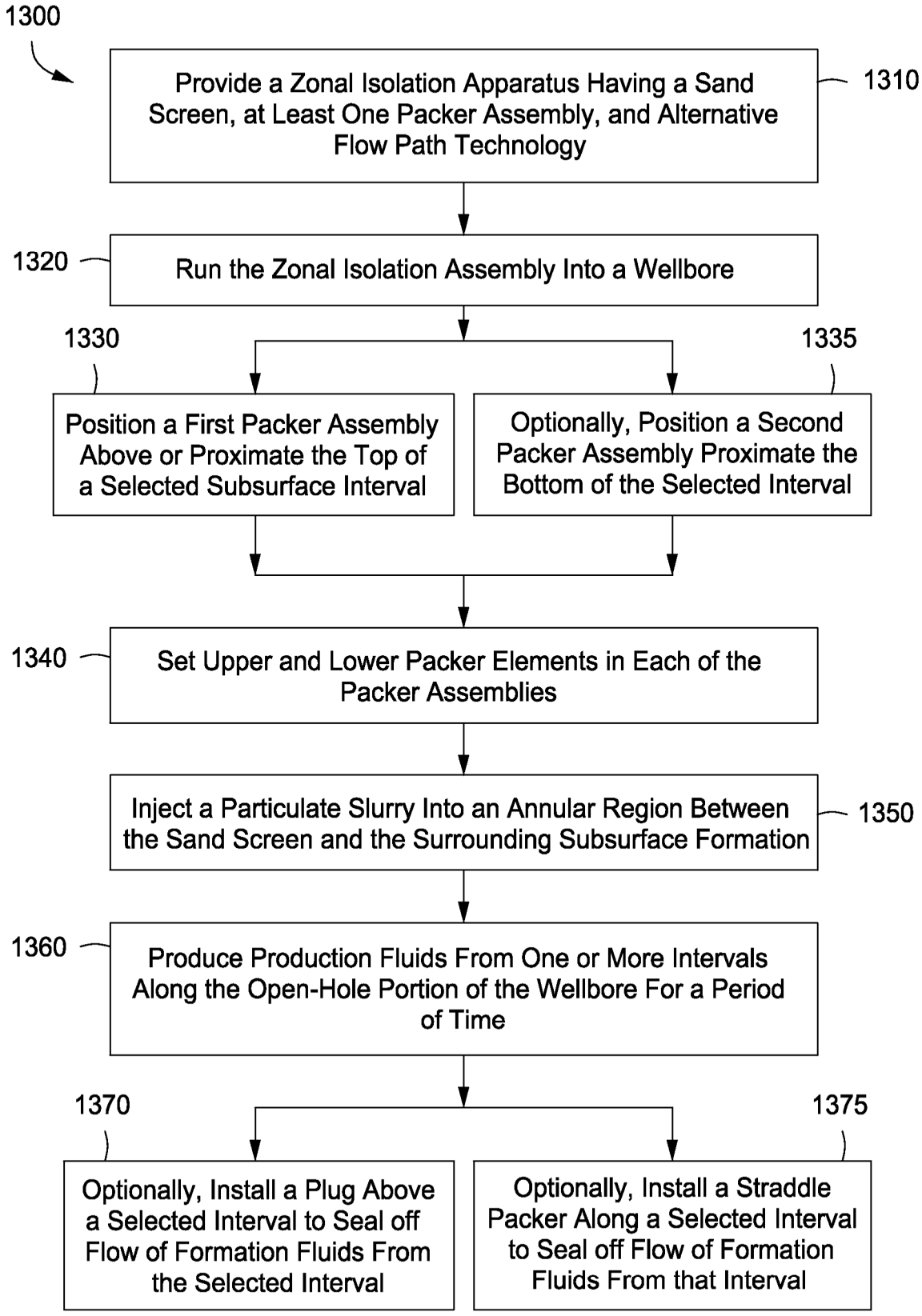

1300
Provide a Zonal Isolation Apparatus Having a Sand Screen, at Least One Packer Assembly, and Alternative Flow Path Technology
1310
Run the Zonal Isolation Assembly Into a Wellbore
1320
1330
Position a First Packer Assembly Above or Proximate the Top of a Selected Subsurface Interval
1335
Optionally, Position a Second Packer Assembly Proximate the Bottom of the Selected Interval
Set Upper and Lower Packer Elements in Each of the Packer Assemblies
1340
Inject a Particulate Slurry Into an Annular Region Between the Sand Screen and the Surrounding Subsurface Formation
1350
Produce Production Fluids From One or More Intervals Along the Open-Hole Portion of the Wellbore For a Period of Time
1360
1370
Optionally, Install a Plug Above a Selected Interval to Seal off Flow of Formation Fluids From the Selected Interval
1375
Optionally, Install a Straddle Packer Along a Selected Interval to Seal off Flow of Formation Fluids From that Interval

FIG. 13

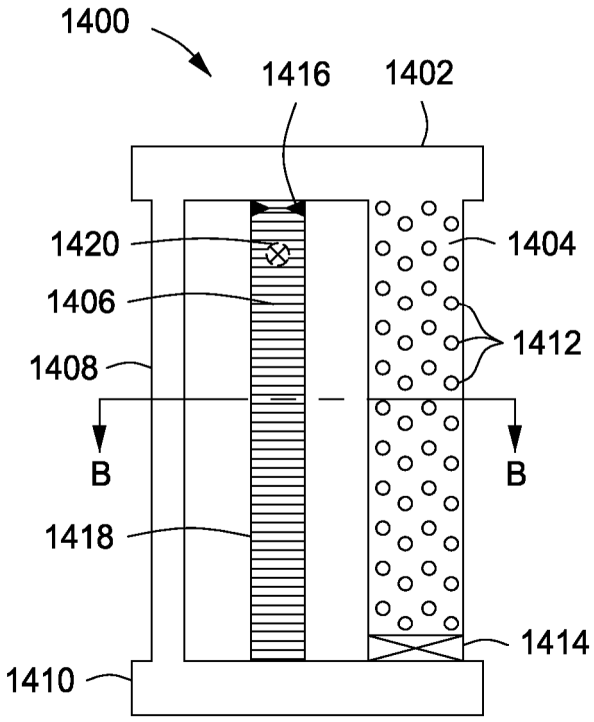


FIG. 14A

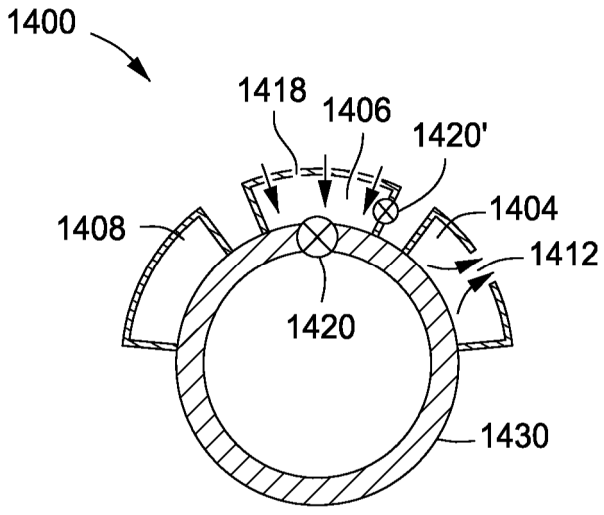


FIG. 14B