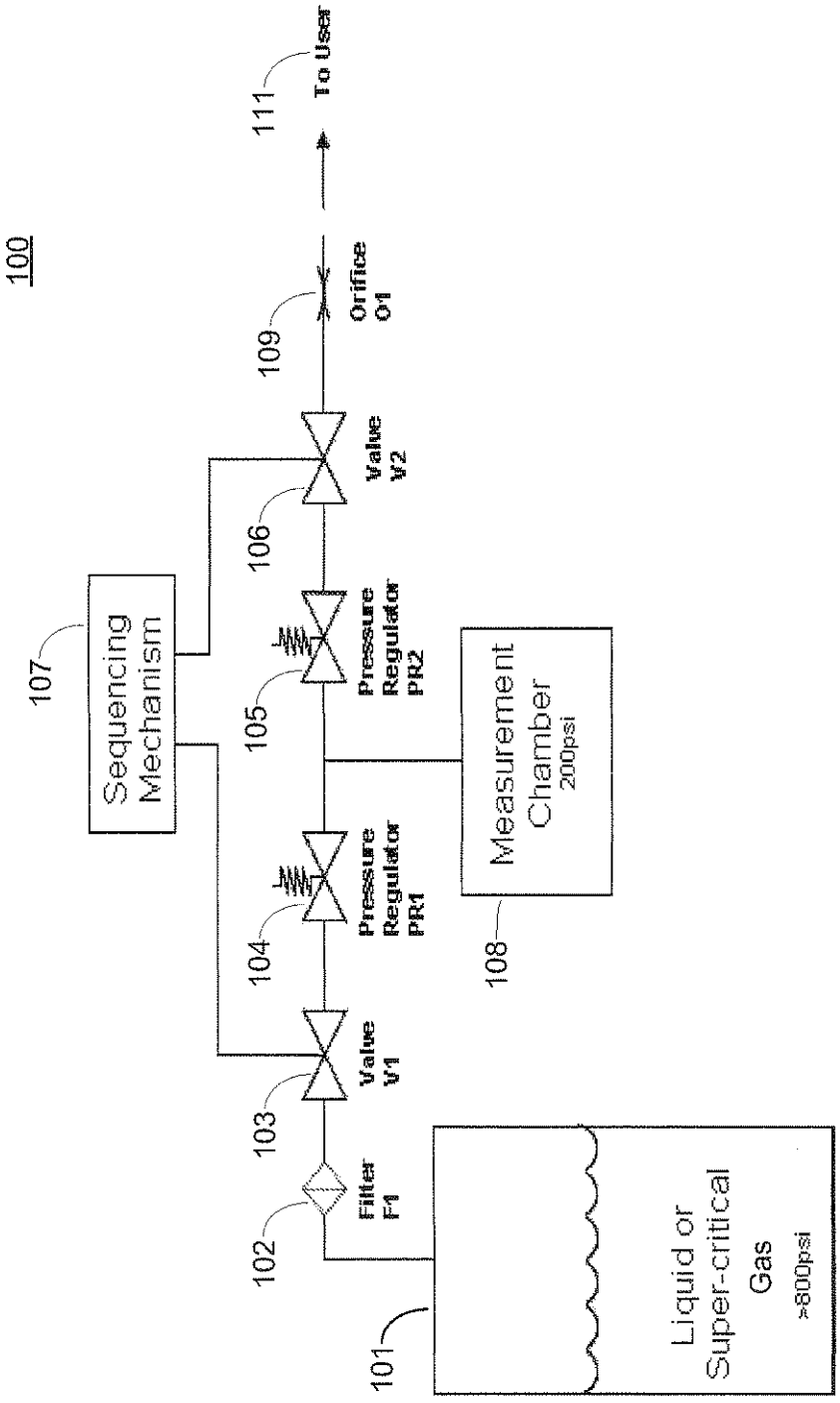

100
111
To User
109
Orifice
O1
106
Valve
V2
105
Pressure
Regulator
PR2
104
Pressure
Regulator
PR1
103
Valve
V1
102
Filter
F1
101
Liquid or
Super-critical
Gas
>800psi
107
Sequencing
Mechanism
108
Measurement
Chamber
200psi

Fig. 1

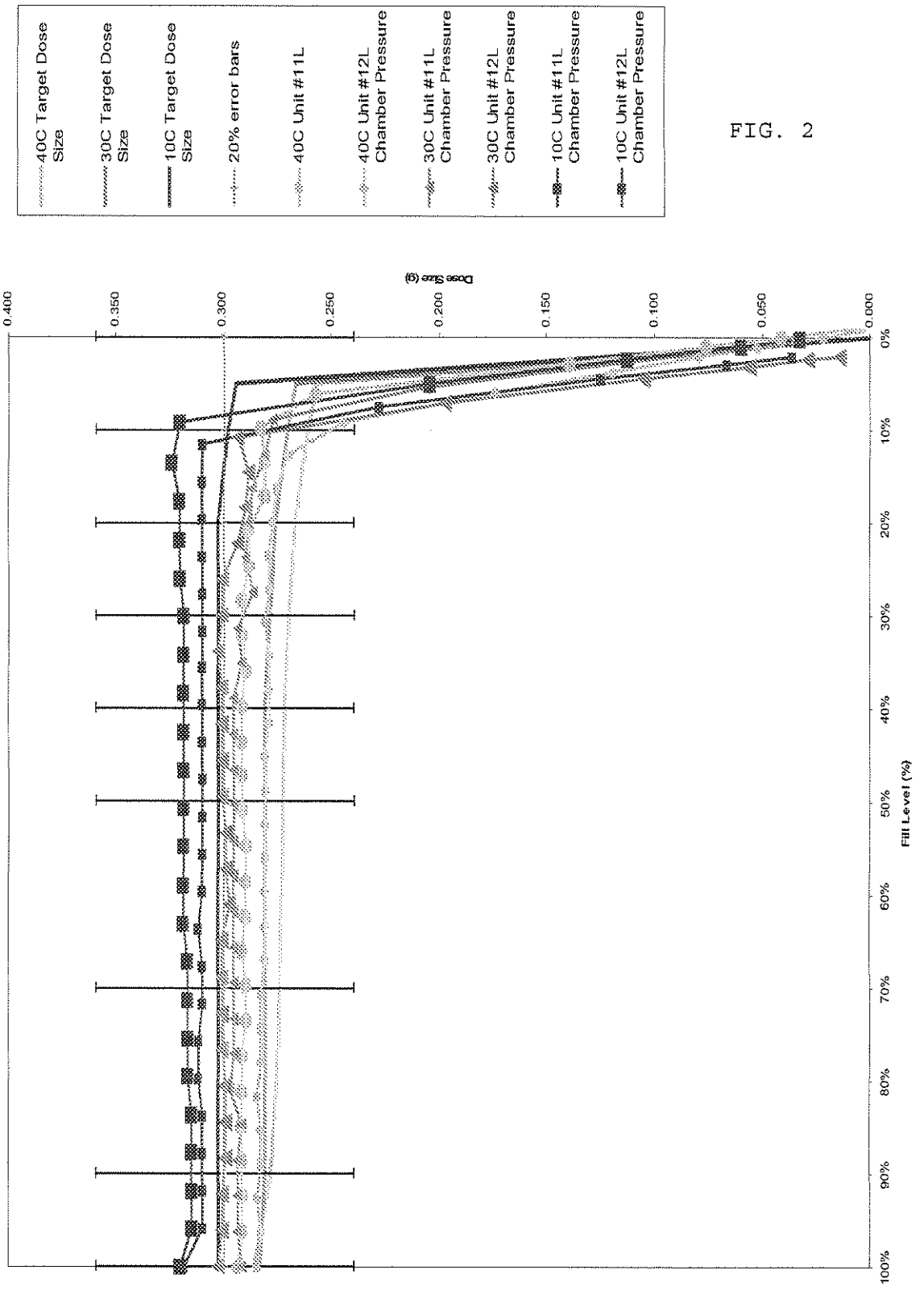

40C Target Dose Size
30C Target Dose Size
10C Target Dose Size
20% error bars
40C Unit #11L
40C Unit #12L Chamber Pressure
30C Unit #11L Chamber Pressure
30C Unit #12L Chamber Pressure
10C Unit #11L Chamber Pressure
10C Unit #12L Chamber Pressure
Dose Size (g)
0.400
0.350
0.300
0.250
0.200
0.150
0.100
0.050
0.000
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Fill Level (%)

FIG. 2

300

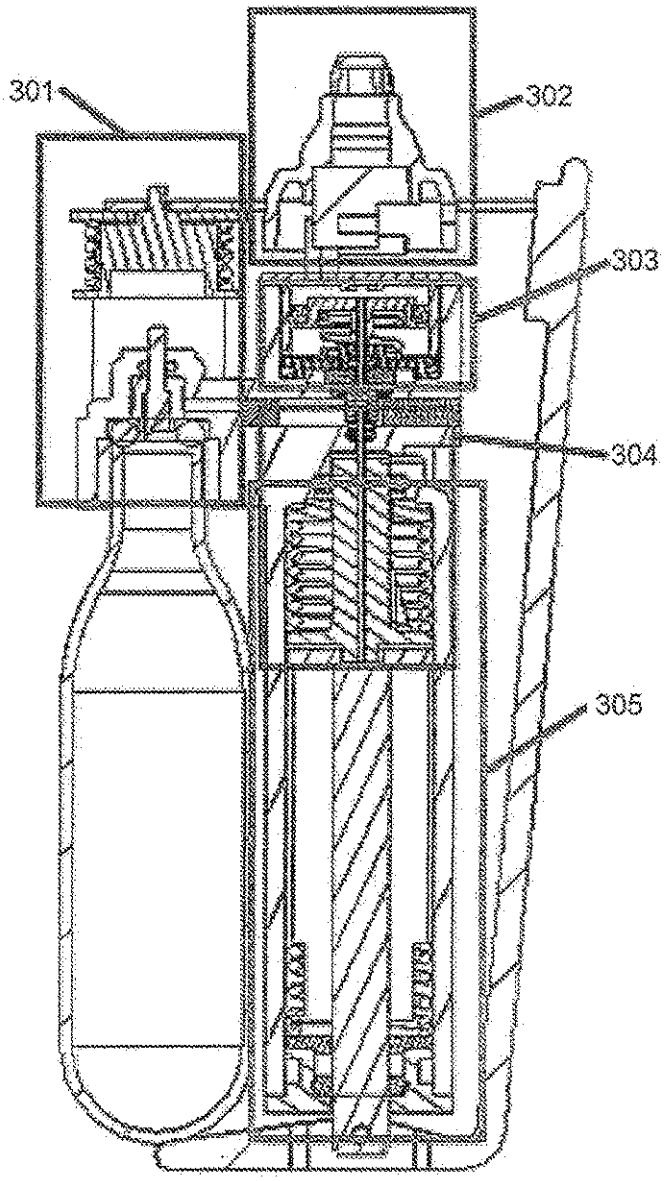


Fig. 3

400

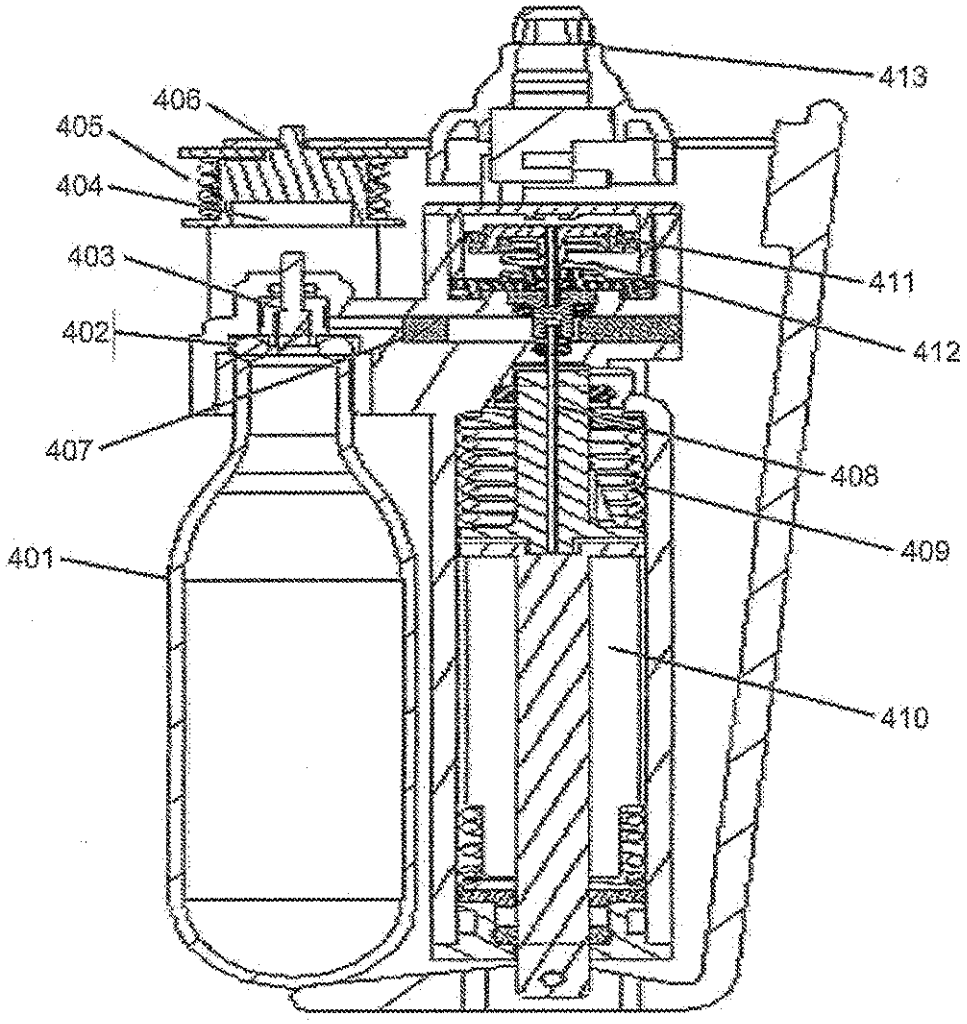
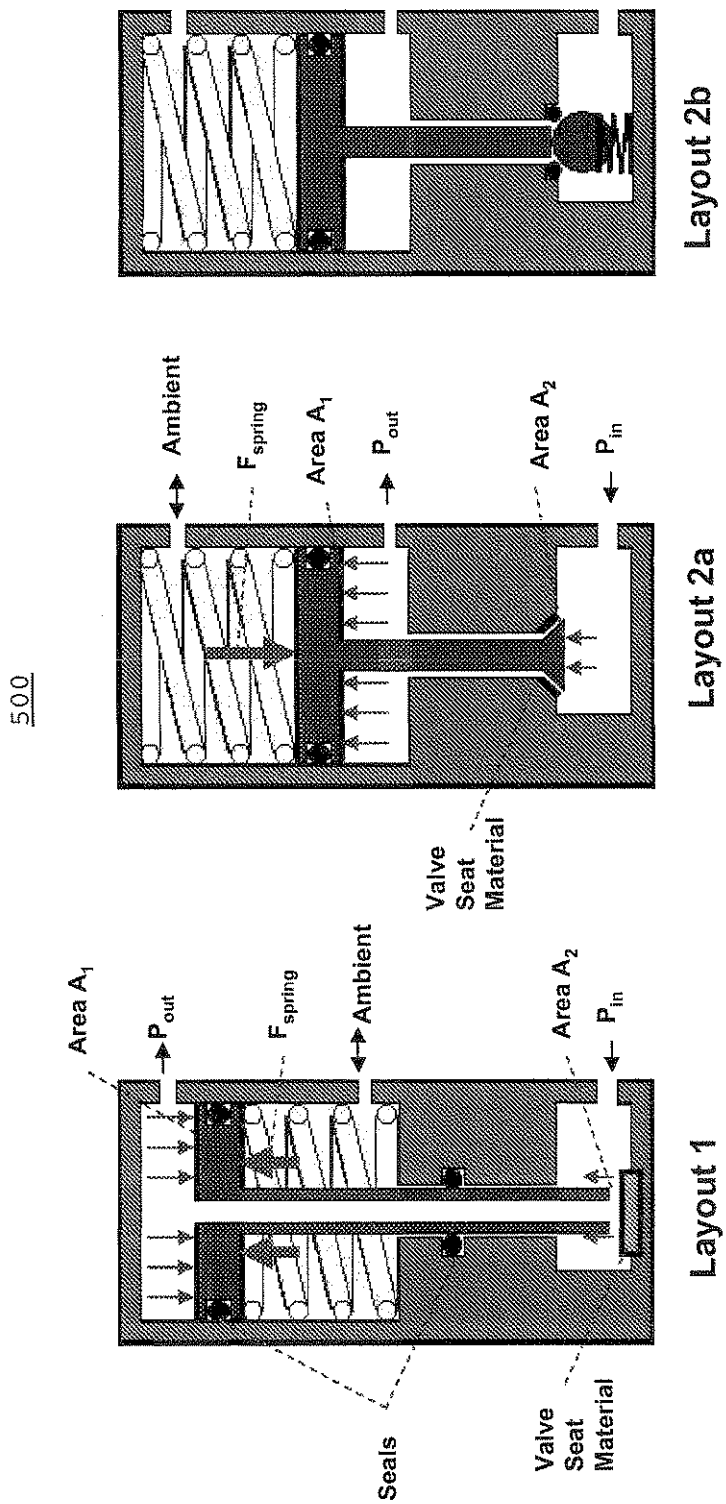


Fig. 4



$$P_{out} = \frac{F_{spring}}{A_1} + P_{in}\frac{A_2}{A_1}$$

$$P_{out} = \frac{F_{spring}}{A_1} - P_{in}\frac{A_2}{A_1}$$

FIG. 5

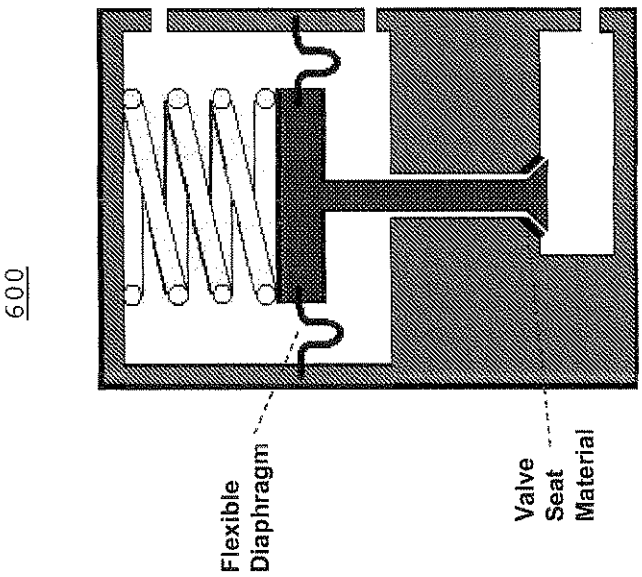


FIG. 6

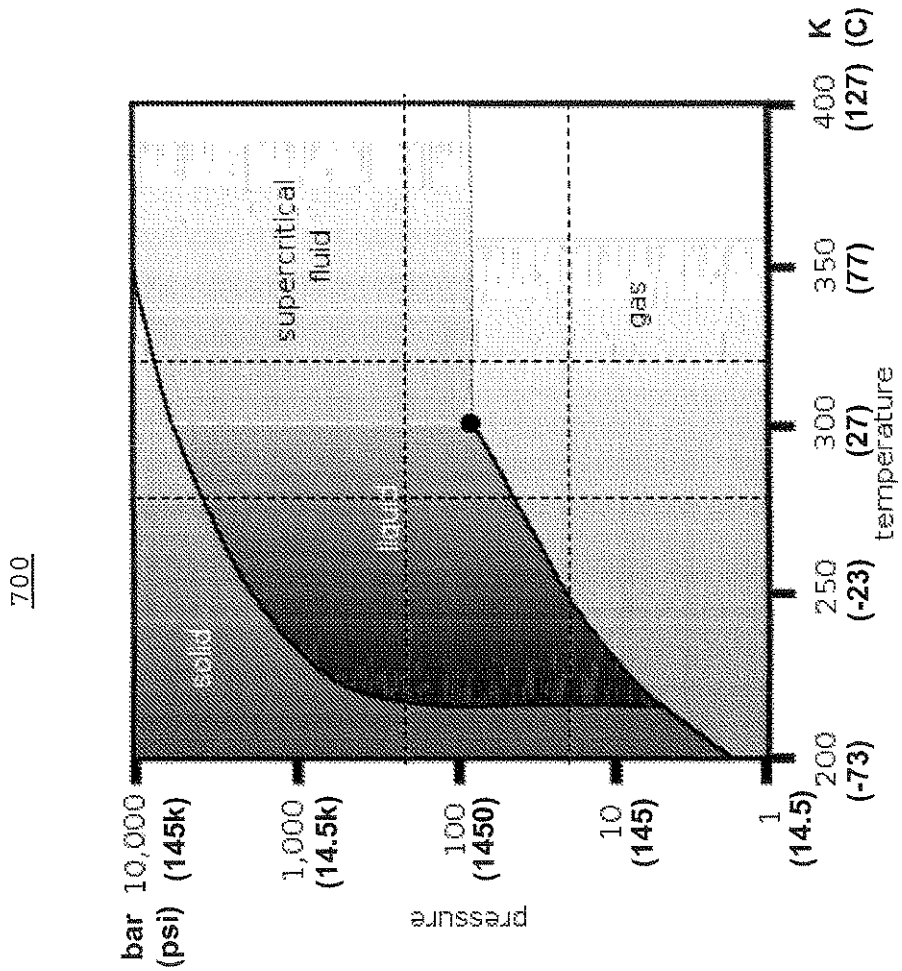

700
bar
(psi)
10,000
(145k)
1,000
(14.5k)
100
(1450)
10
(145)
1
(14.5)
pressure
200
(-73)
250
(-23)
300
(27)
350
(77)
400
(127)
K
(C)
temperature
solid
liquid
supercritical
fluid
gas

FIG. 7