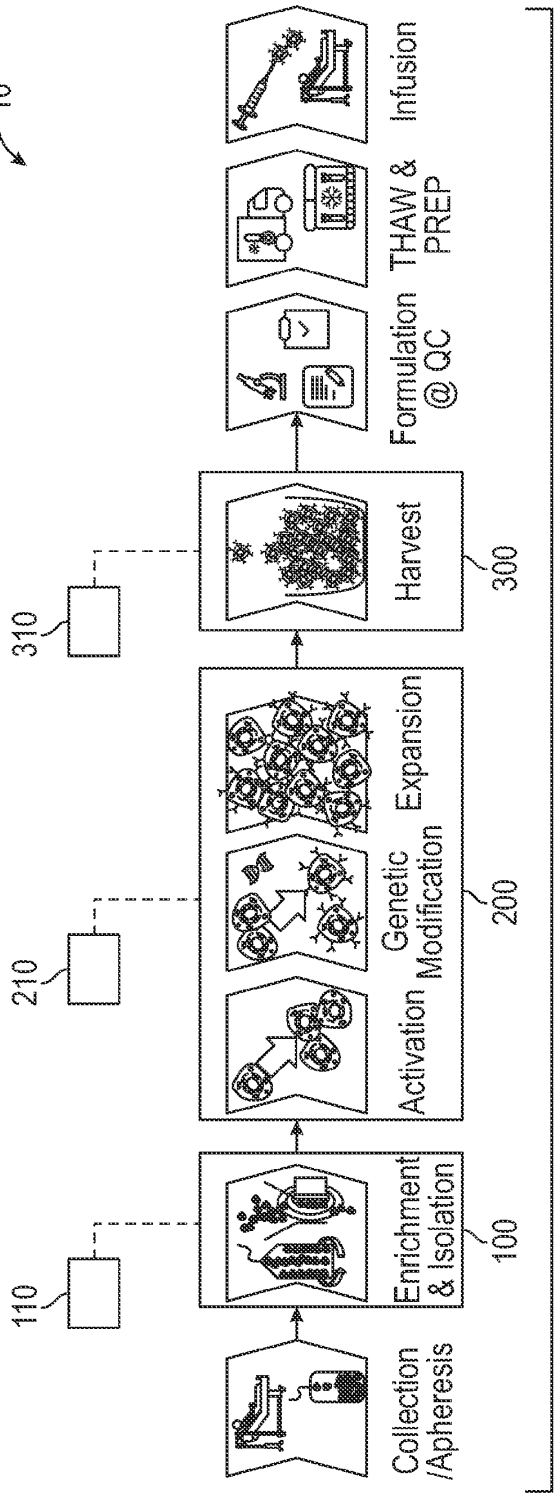

10
110
Collection /Apheresis
Enrichment & Isolation
100
210
Activation
Genetic Modification
Expansion
200
310
Harvest
300
Formulation @QC
THAW & PREP
Infusion

FIG. 1

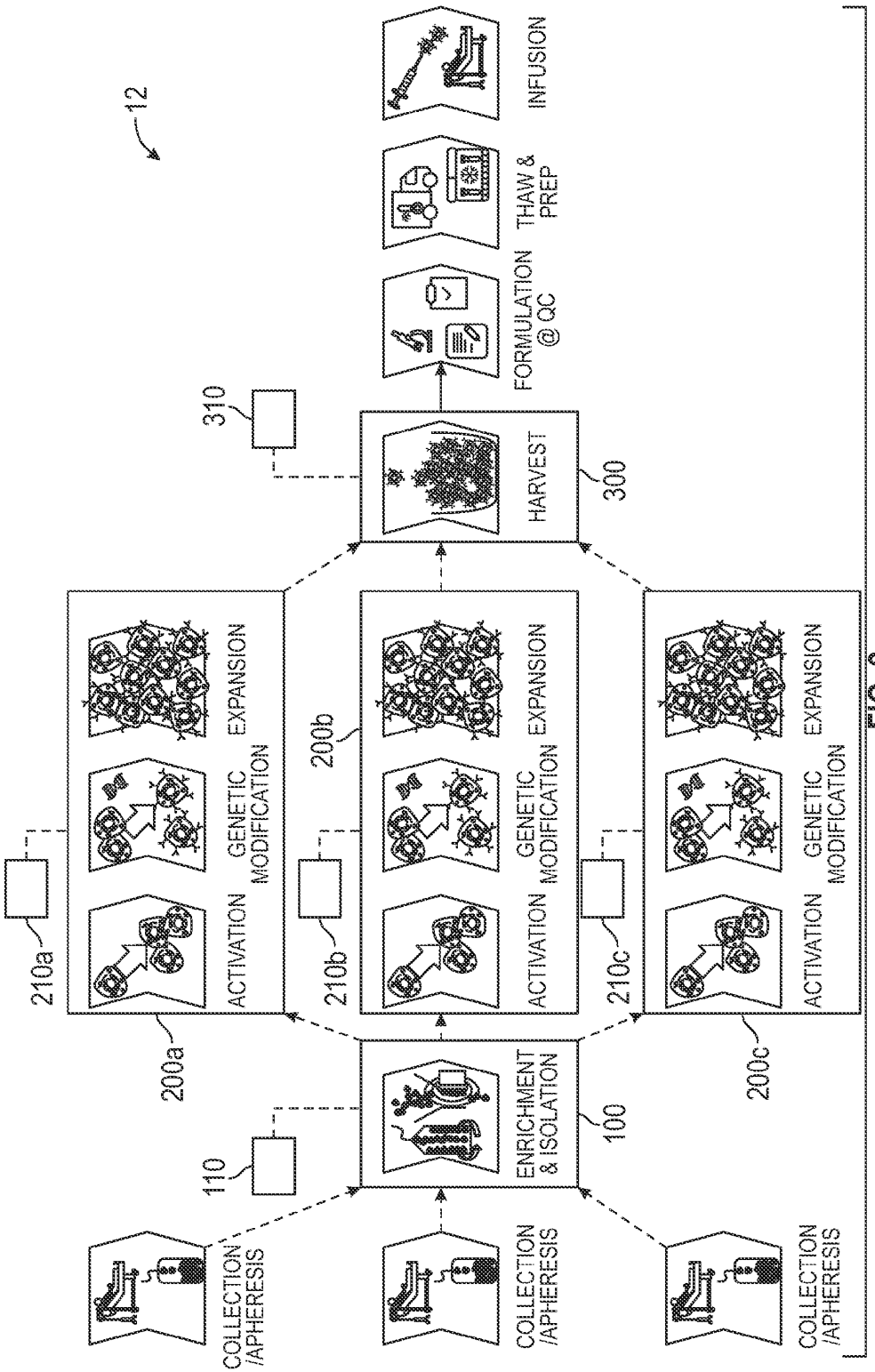

12
COLLECTION /APHERESIS
110
ENRICHMENT & ISOLATION
100
COLLECTION /APHERESIS
COLLECTION /APHERESIS
200a
ACTIVATION
GENETIC MODIFICATION
EXPANSION
210a
200b
ACTIVATION
GENETIC MODIFICATION
EXPANSION
210b
210c
200c
ACTIVATION
GENETIC MODIFICATION
EXPANSION
310
HARVEST
300
FORMULATION @ QC
THAW & PREP
INFUSION

FIG. 2

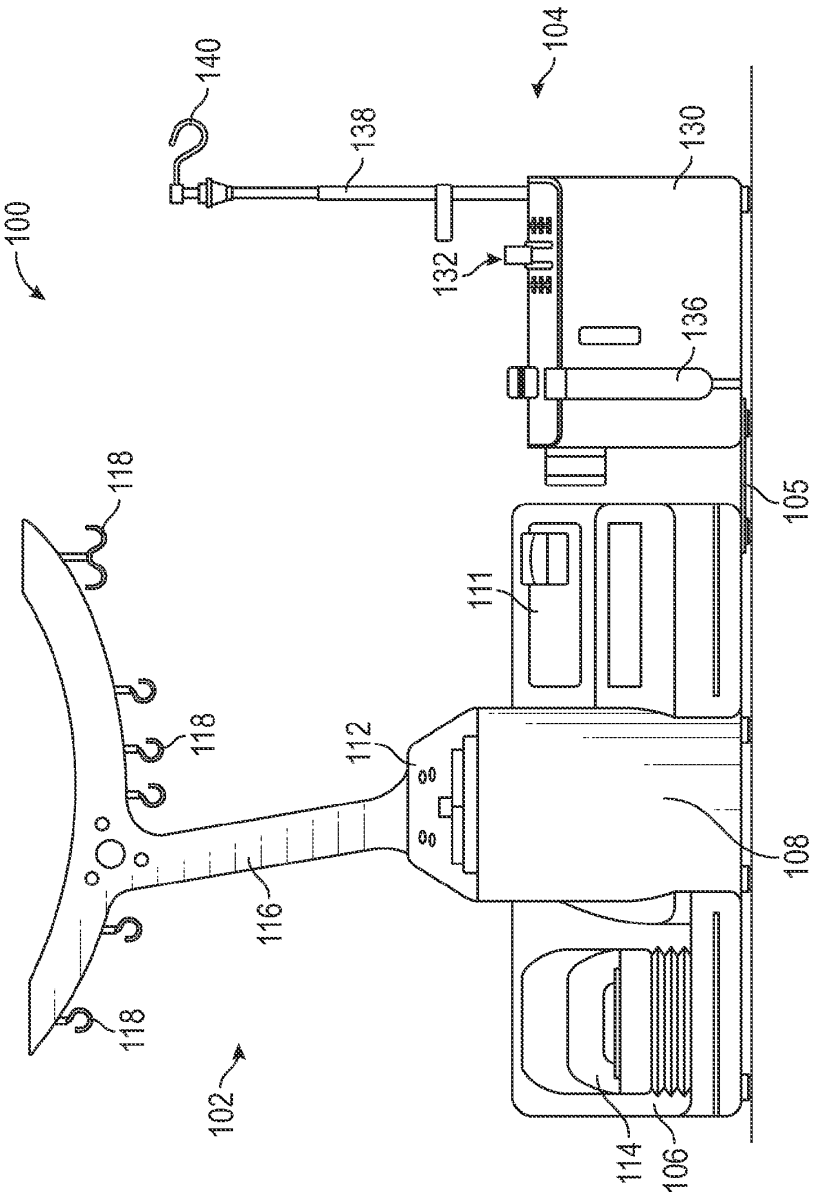

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FIG. 3

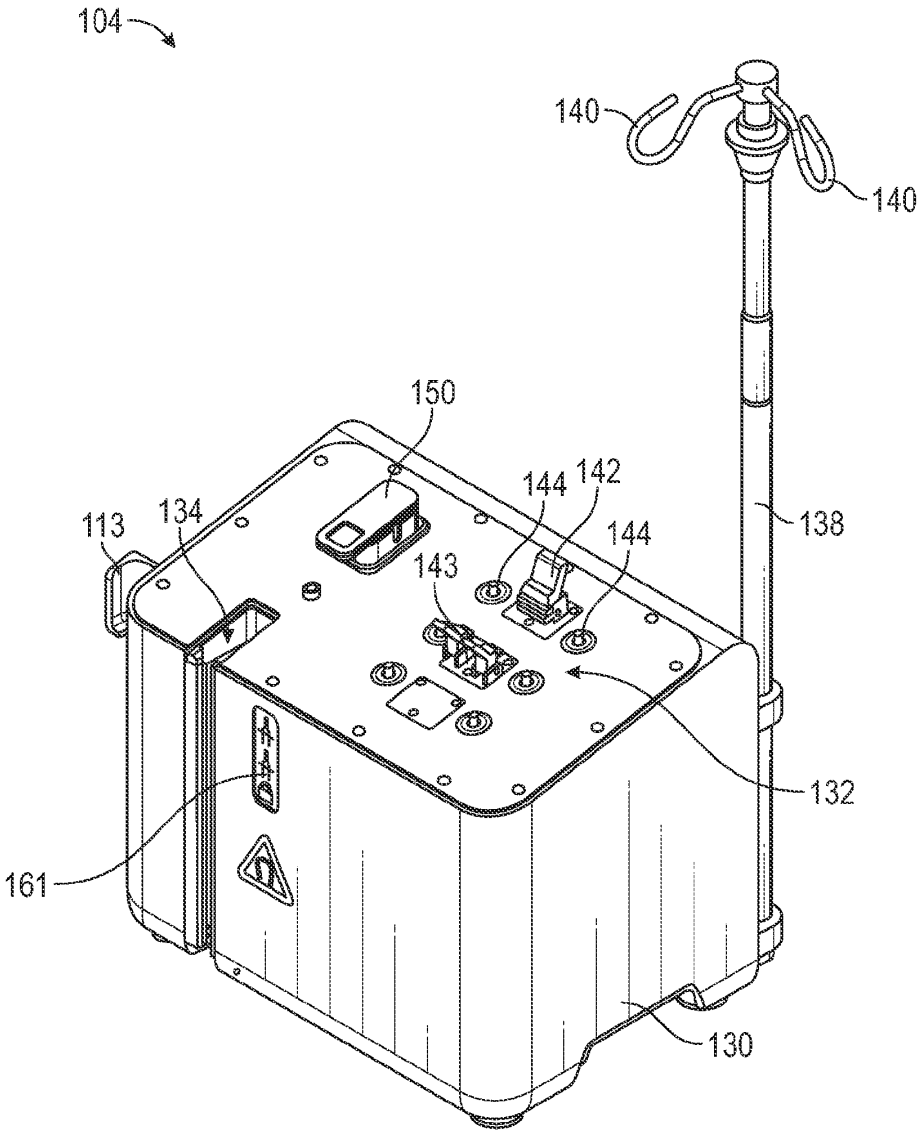


FIG. 4

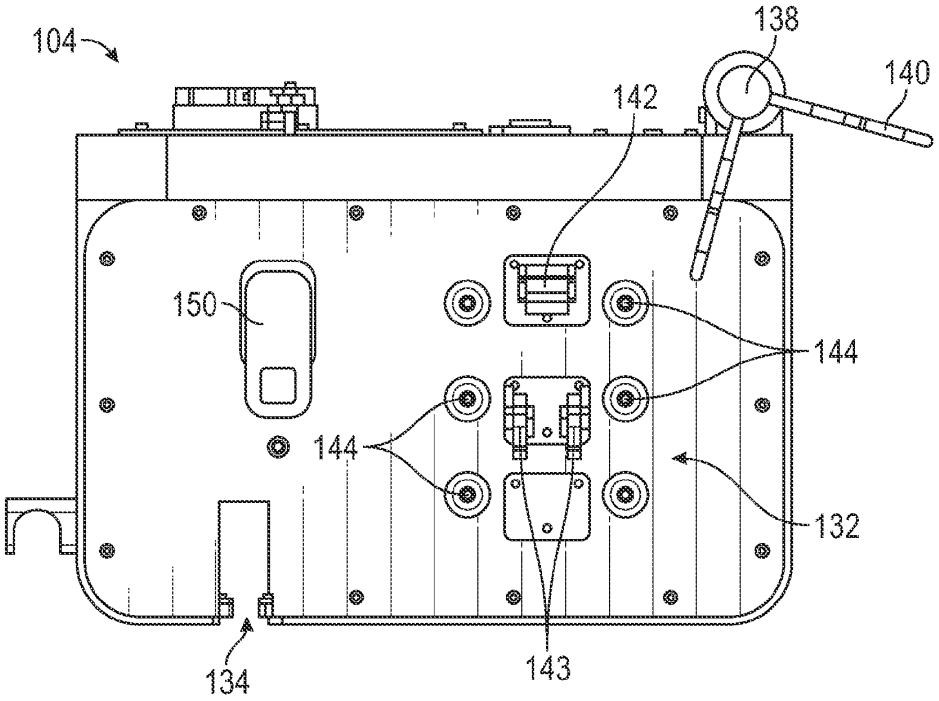

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FIG. 5

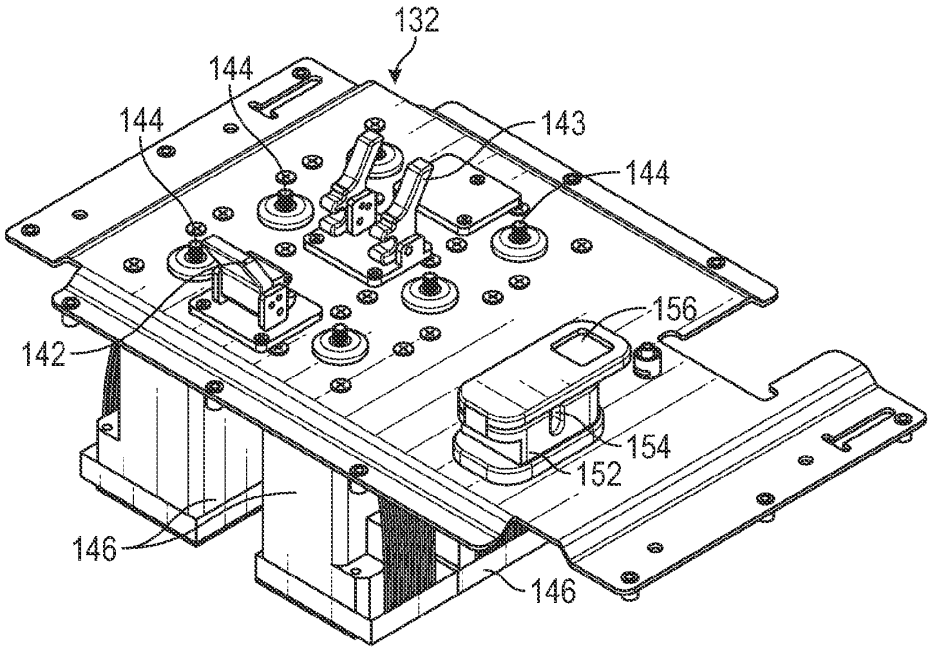

132
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FIG. 6

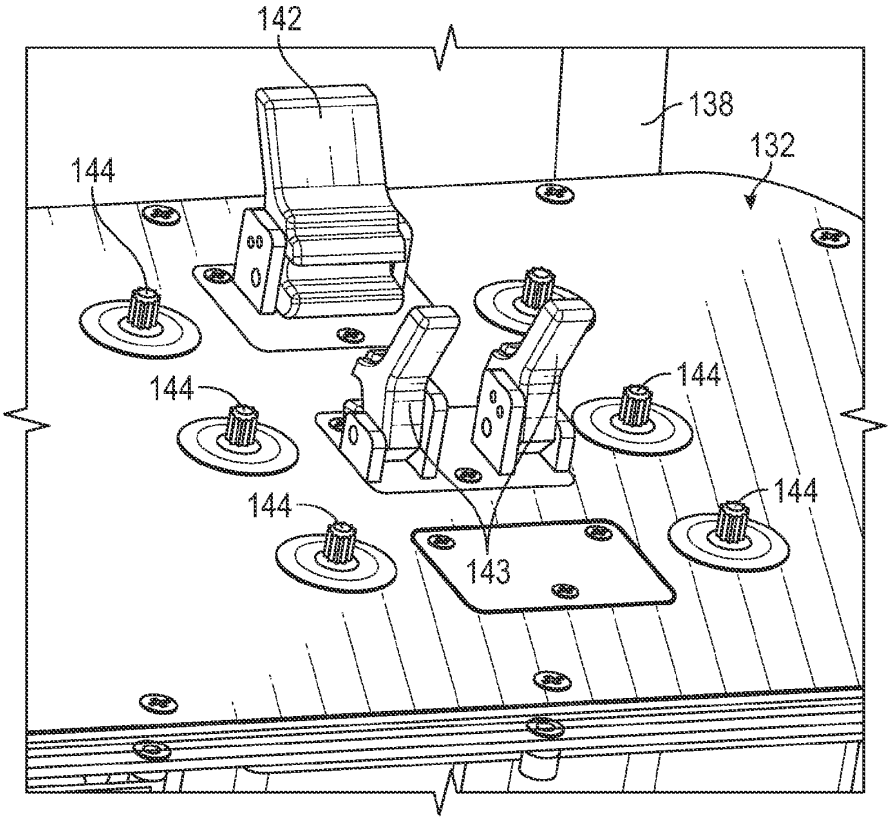


FIG. 7

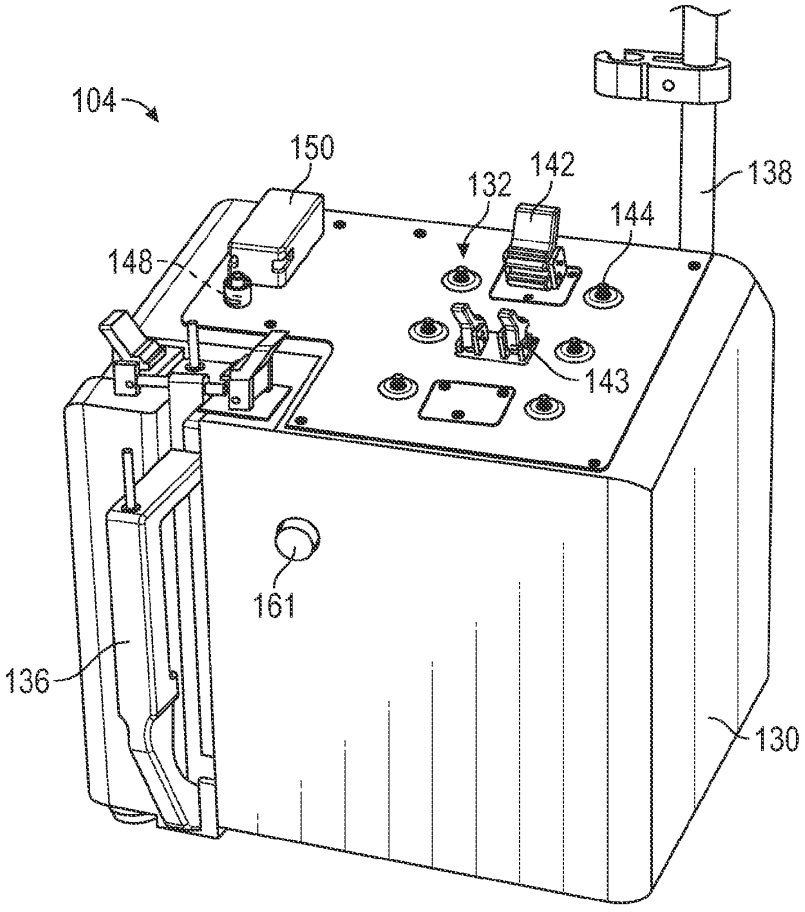


FIG. 8

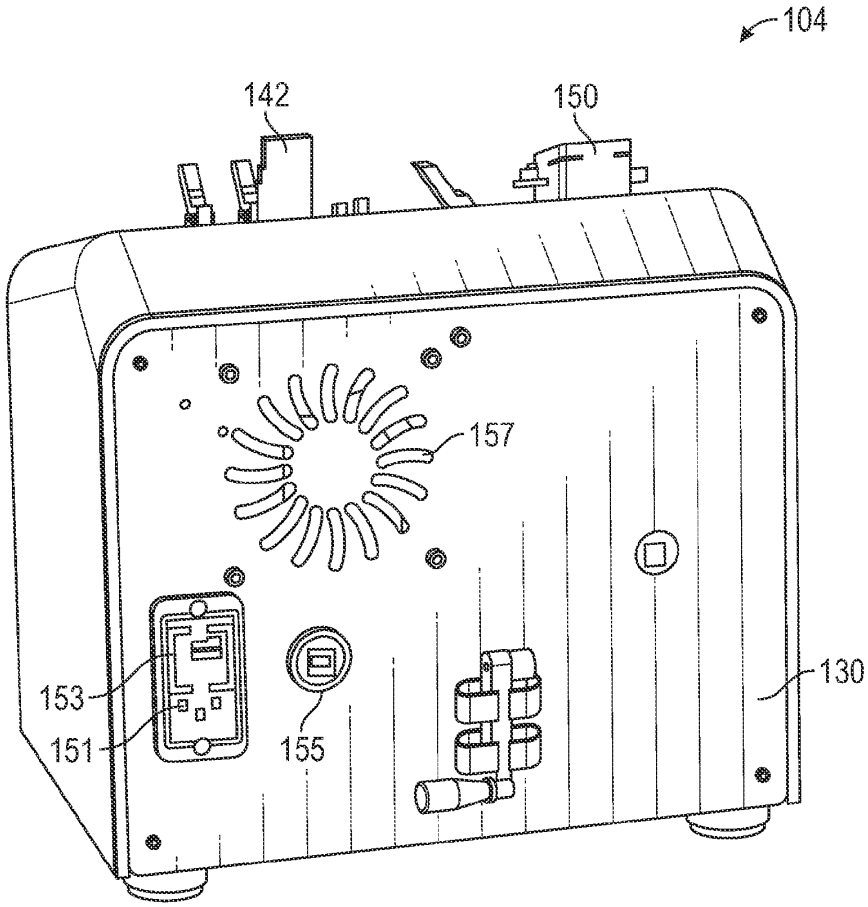


FIG. 9

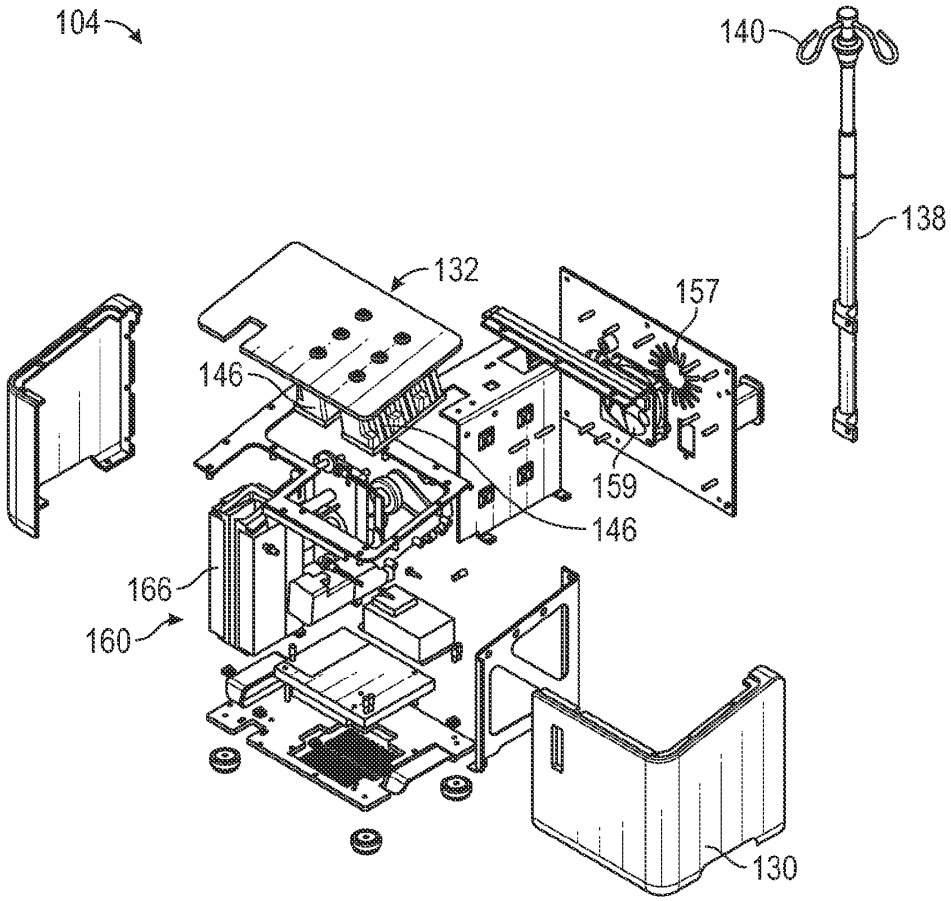


FIG. 10

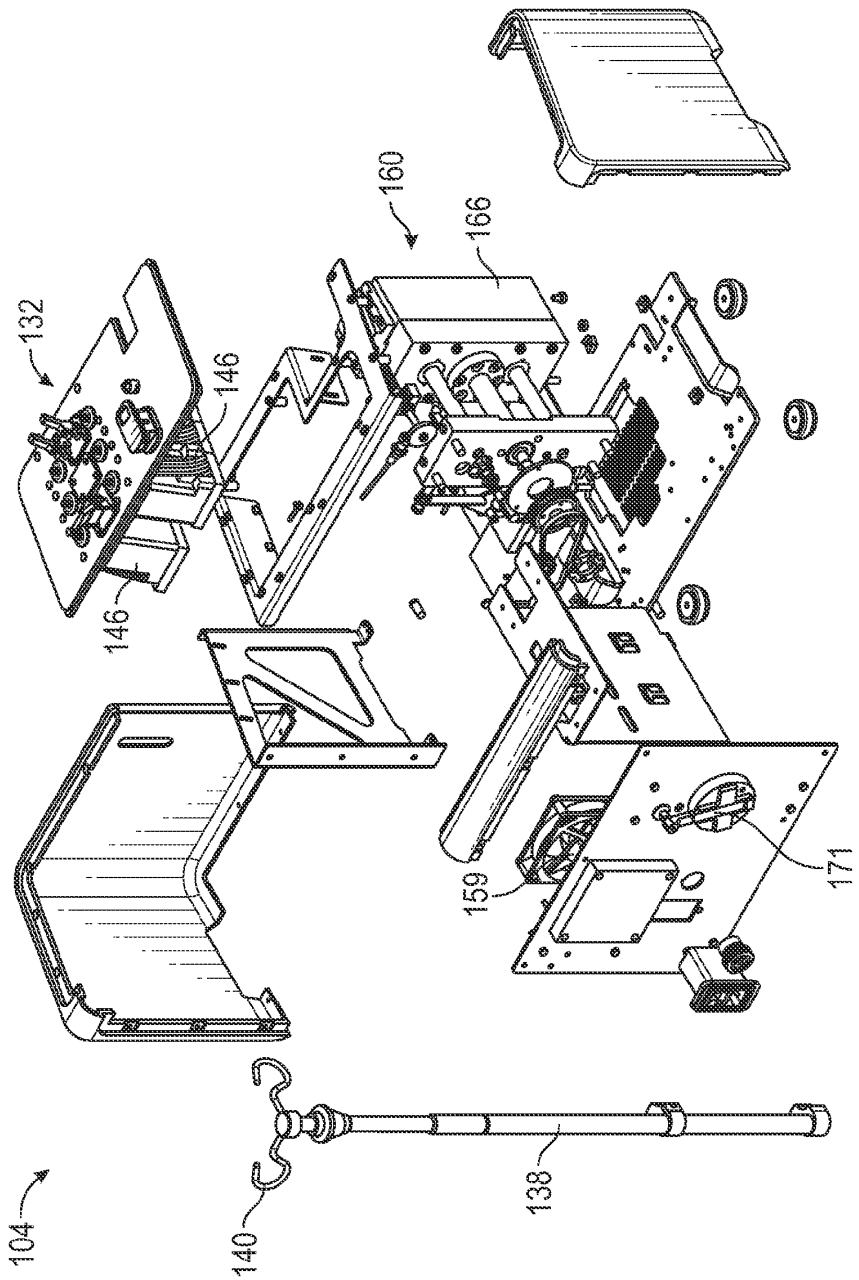


FIG. 11

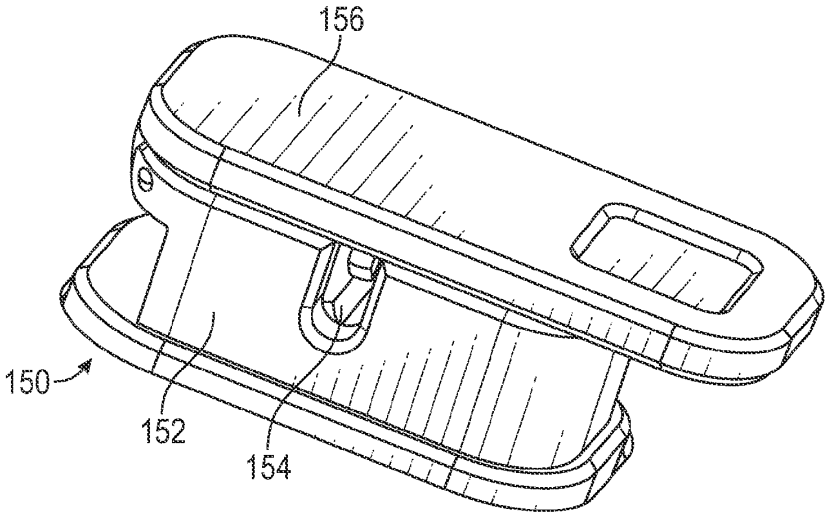


FIG. 12

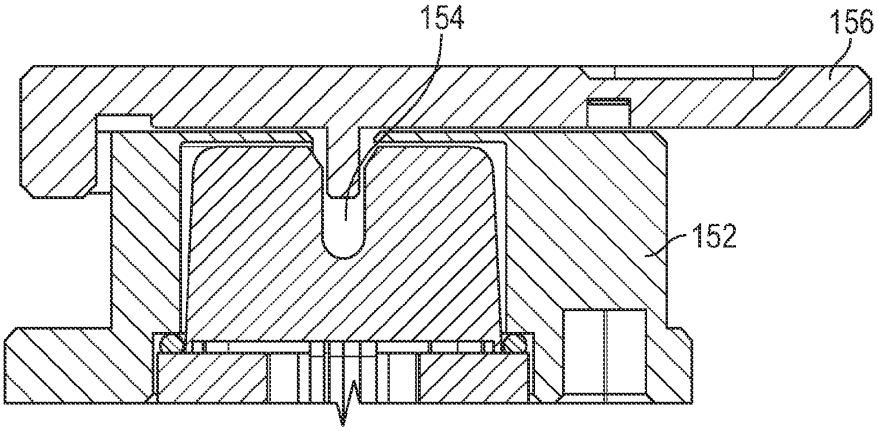


FIG. 13

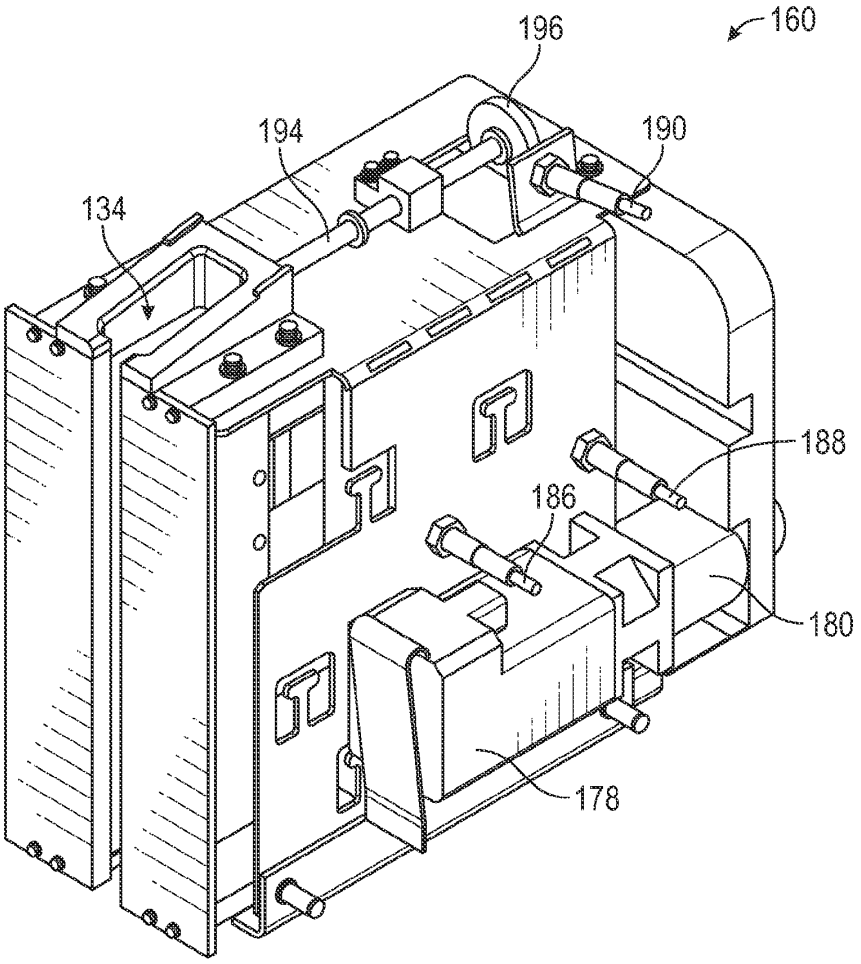


FIG. 14

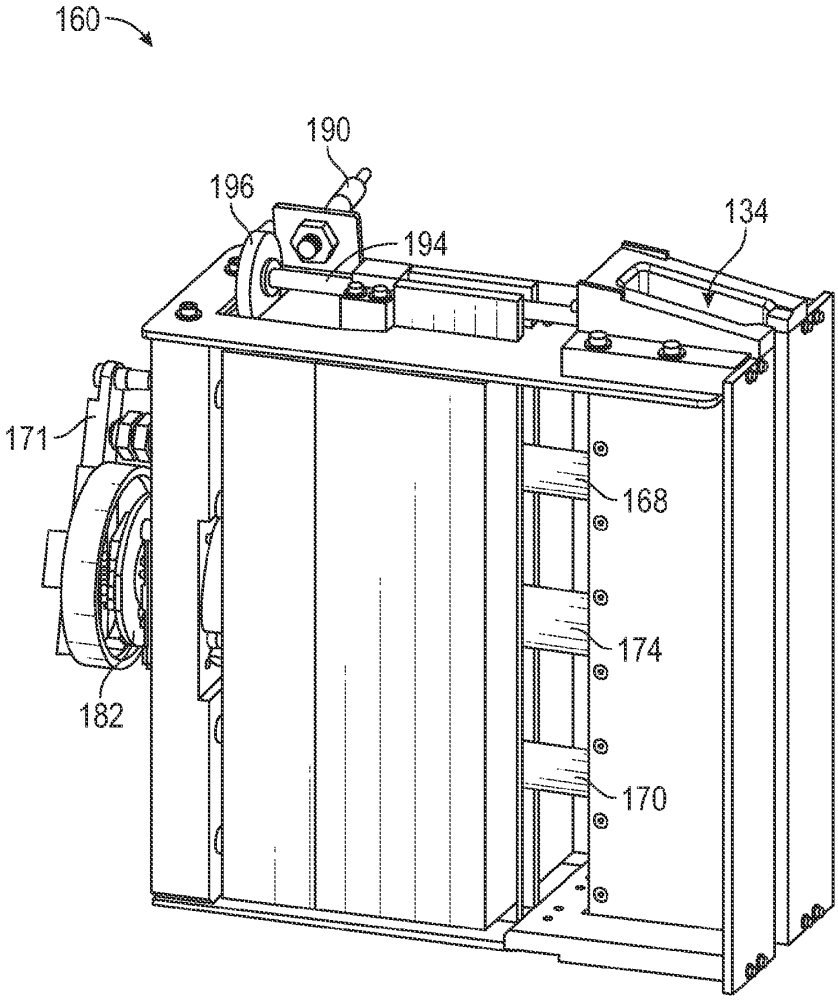


FIG. 15

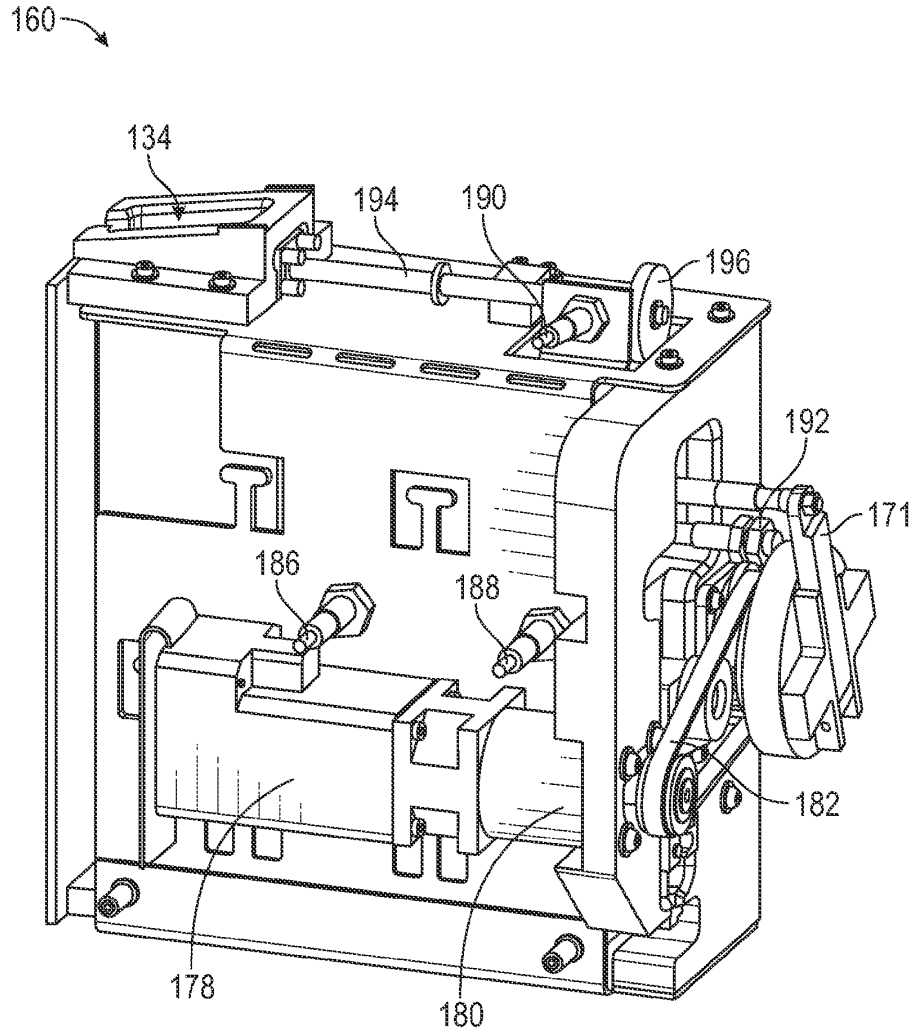


FIG. 16

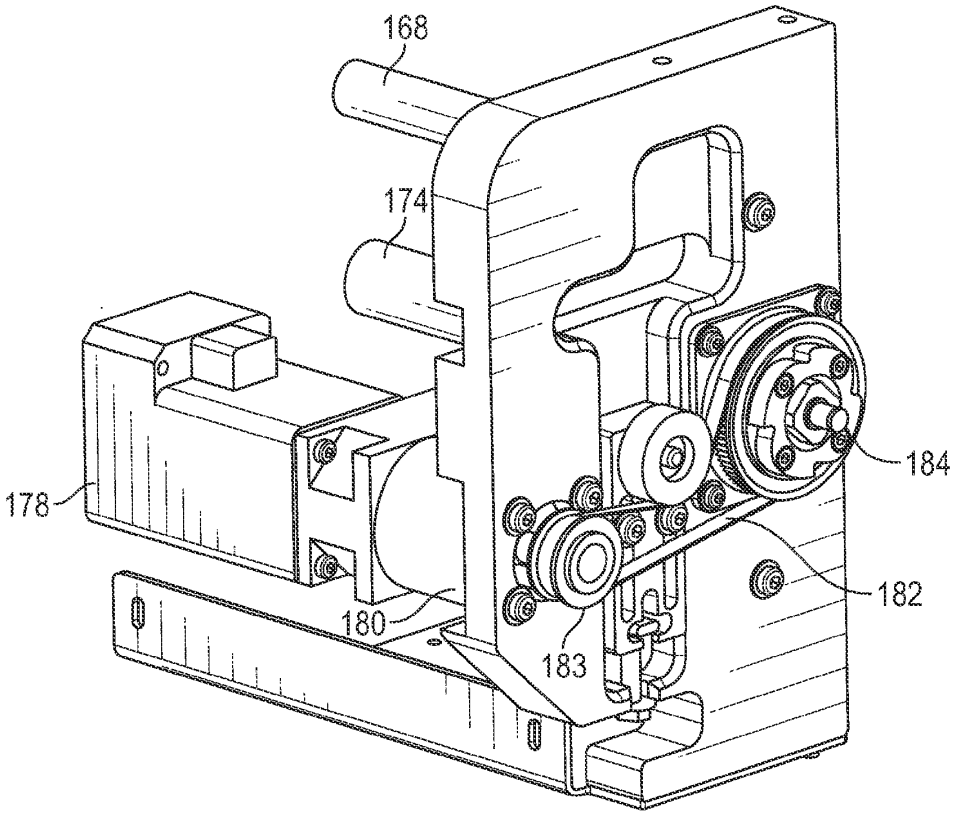


FIG. 17

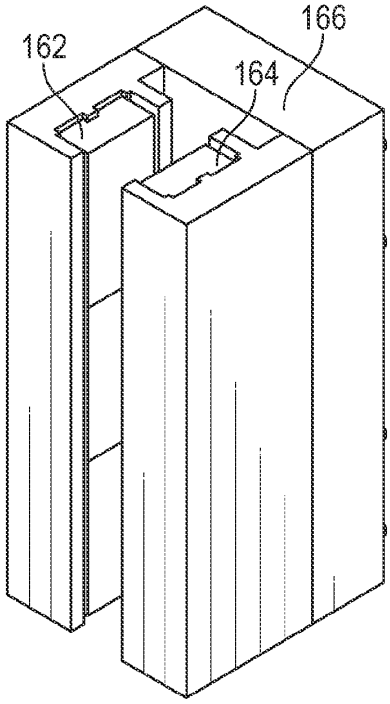


FIG. 18

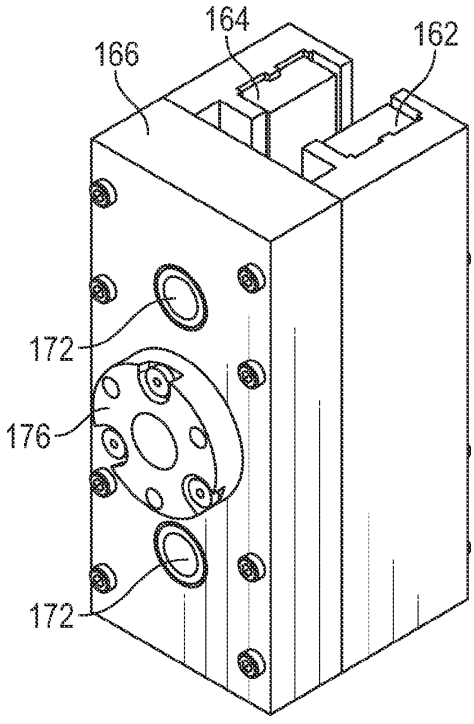


FIG. 19

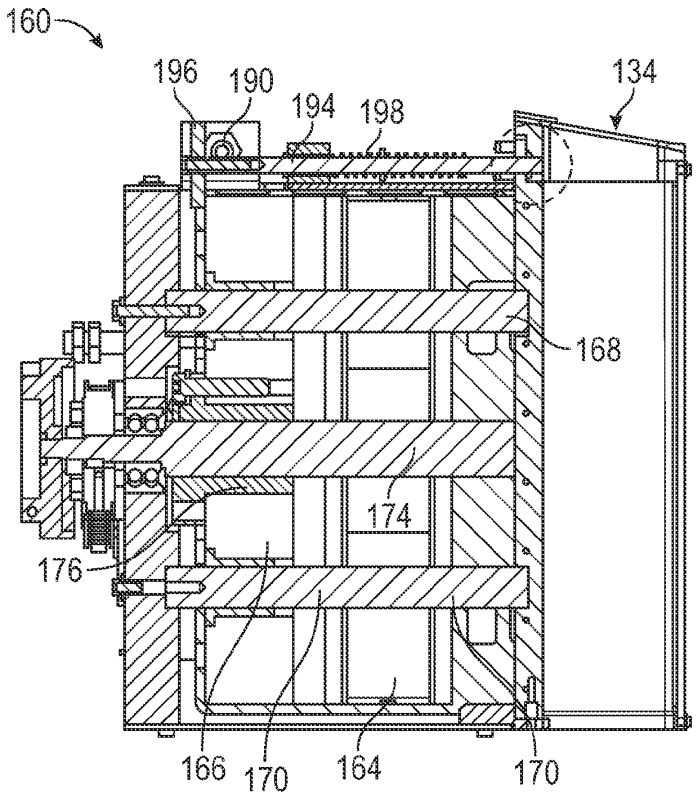


FIG. 20

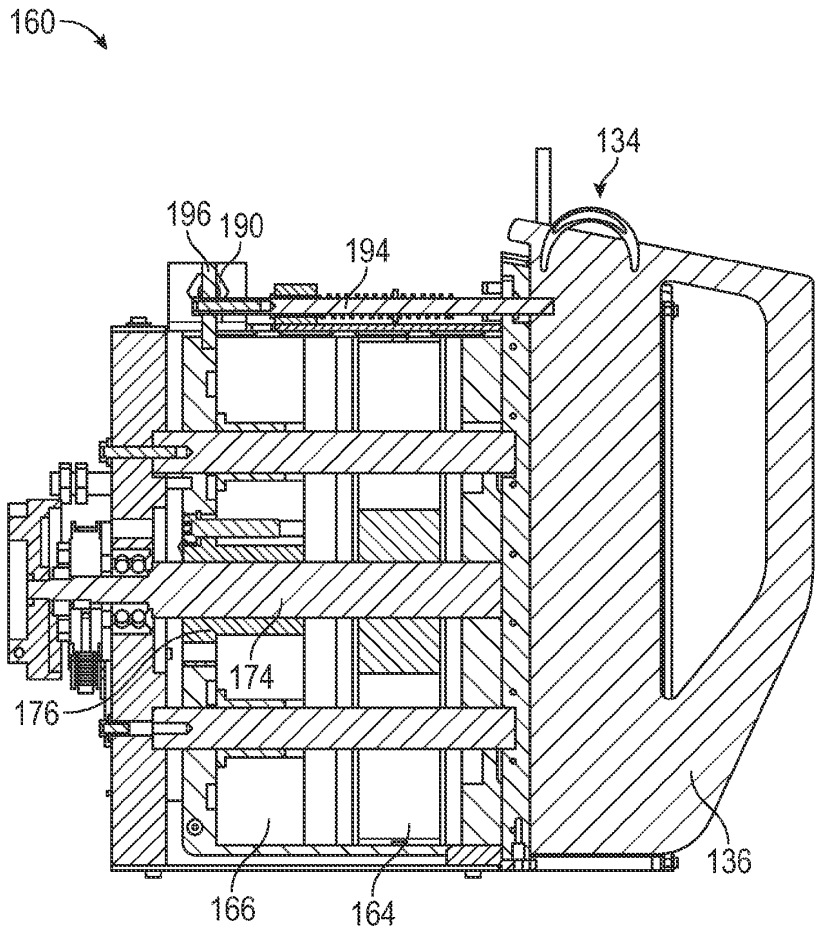


FIG. 21

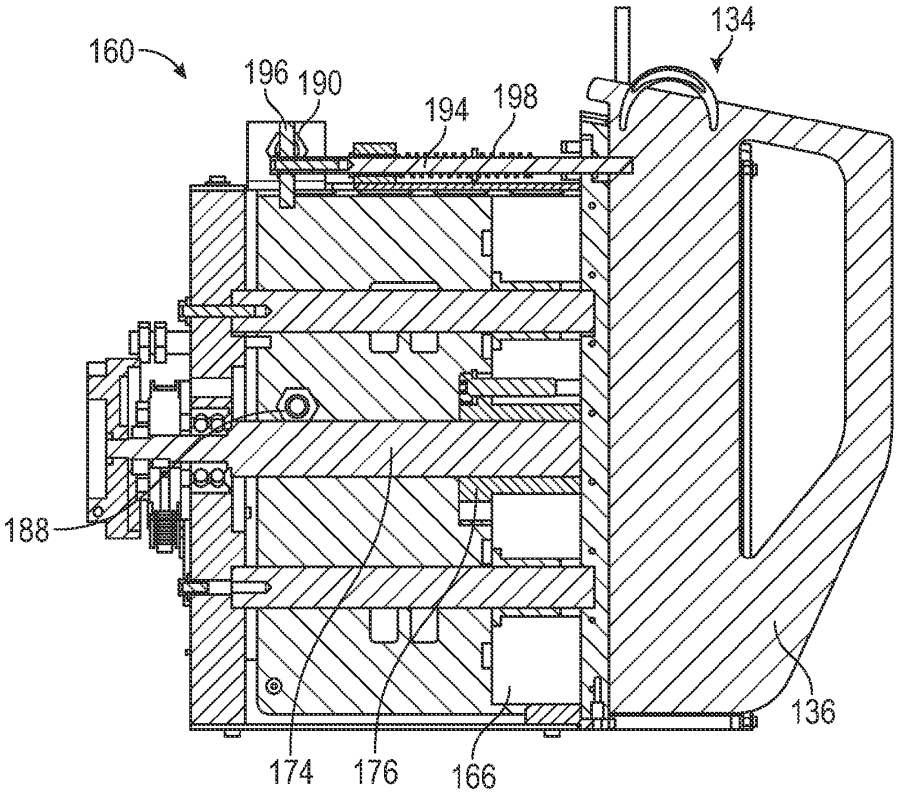


FIG. 22

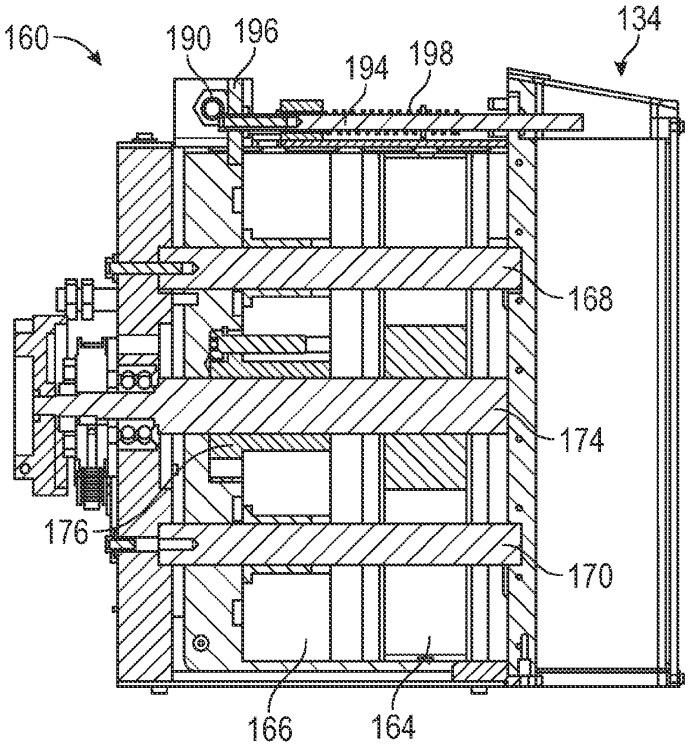


FIG. 23

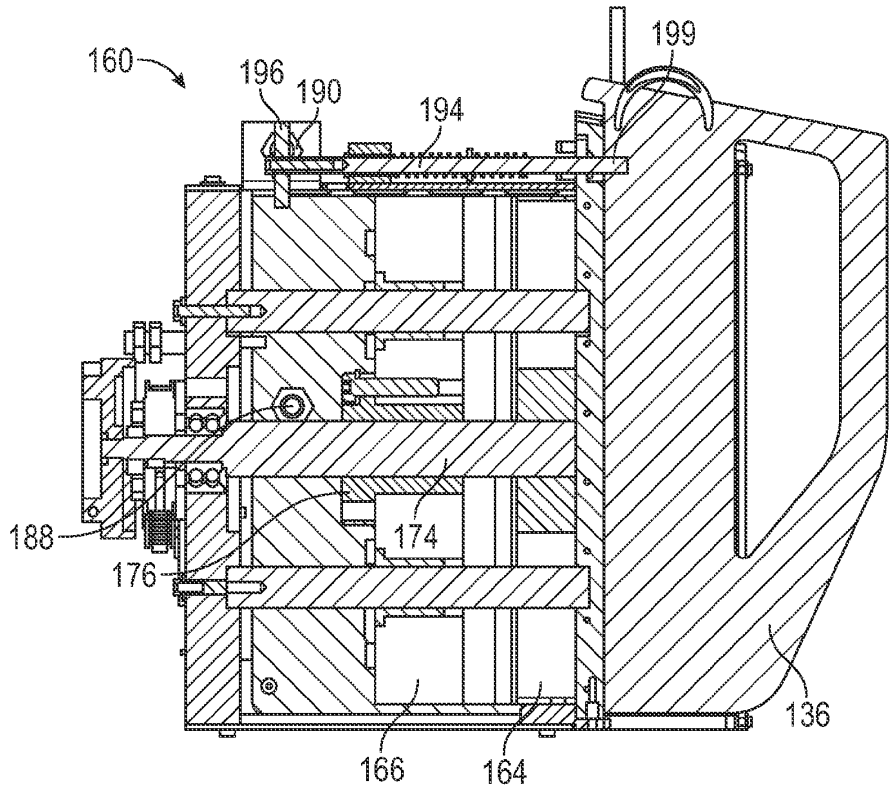


FIG. 24

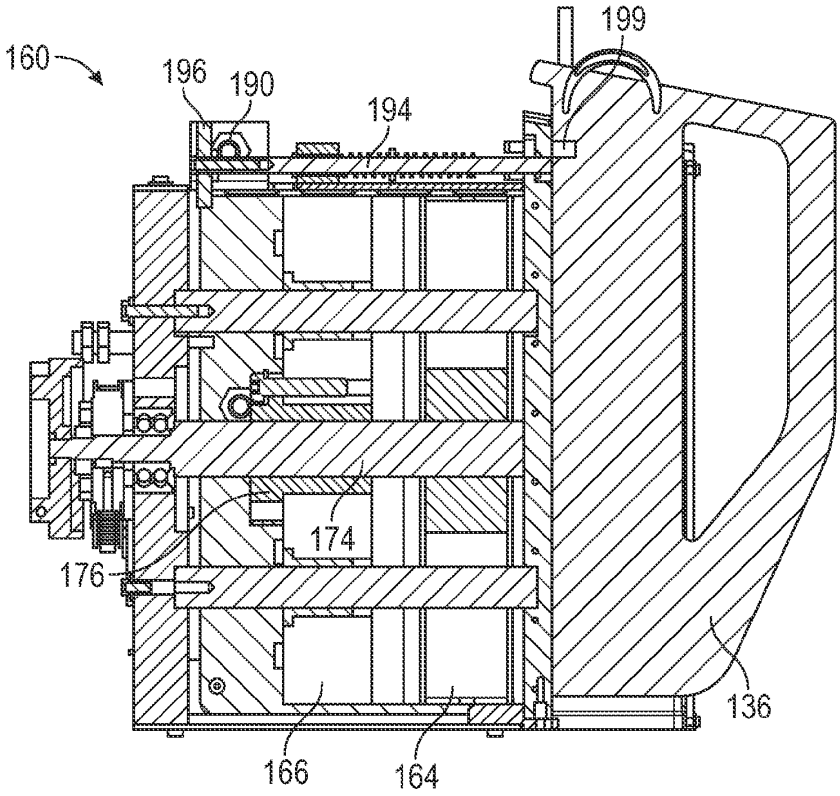


FIG. 25

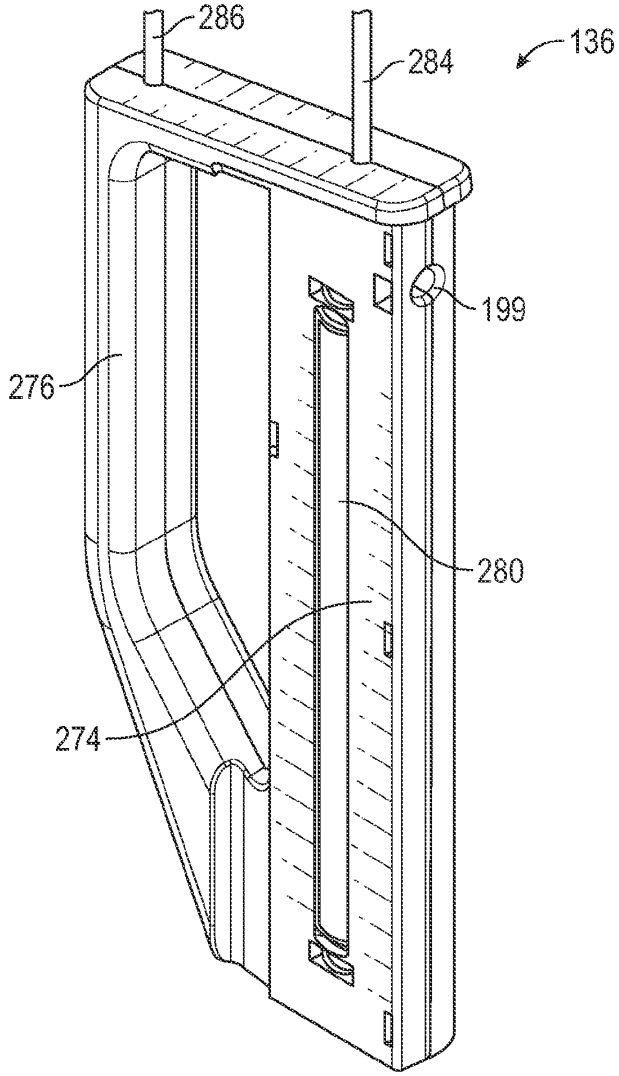


FIG. 26

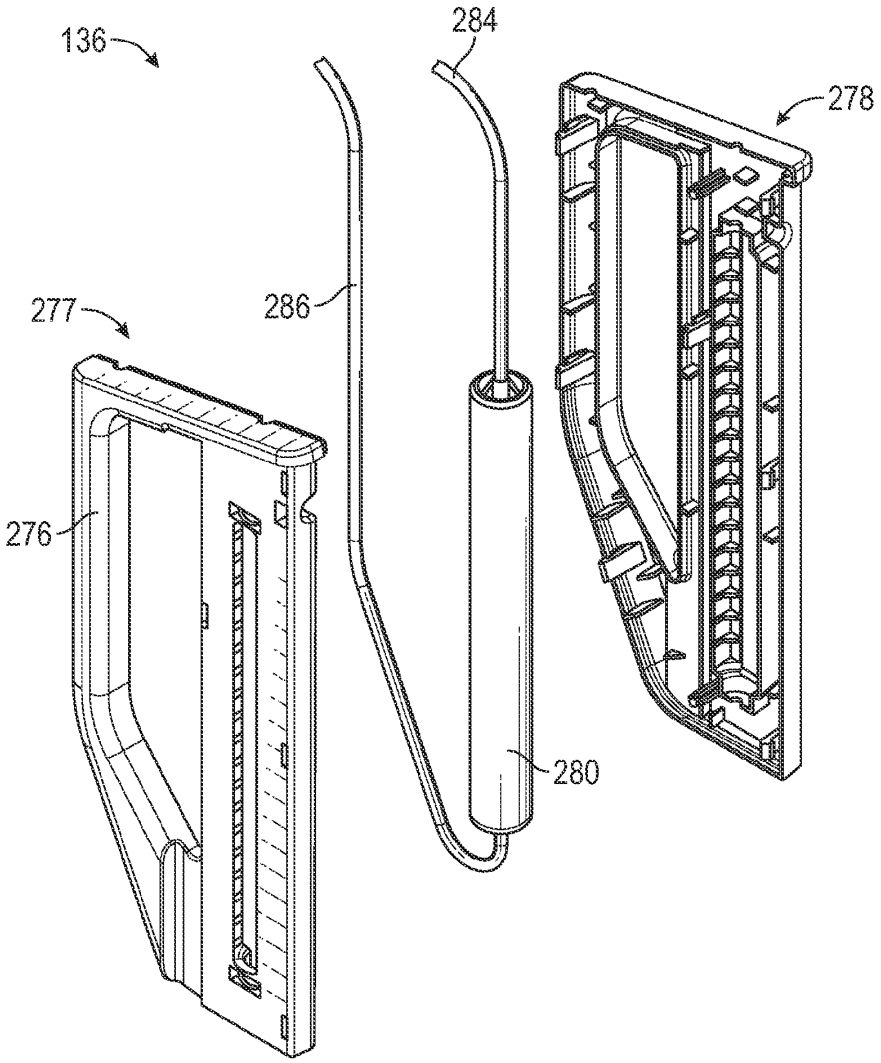


FIG. 27

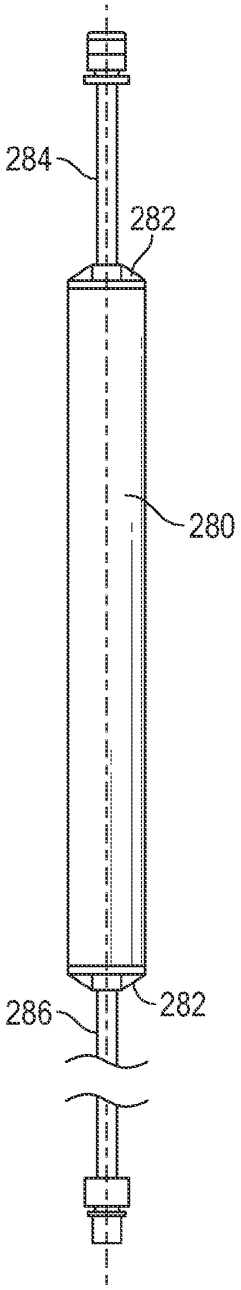


FIG. 28

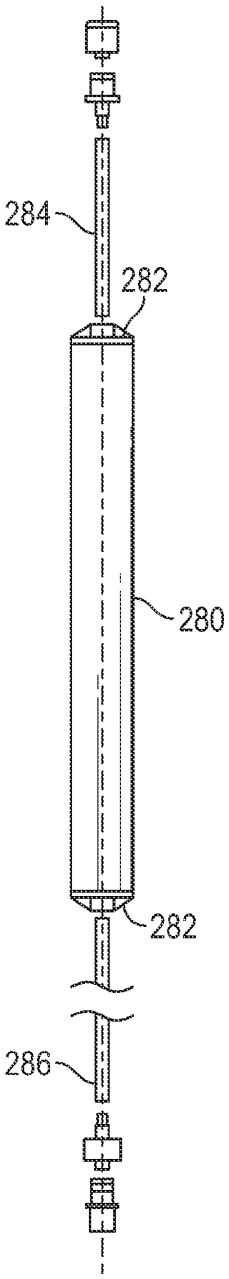


FIG. 29

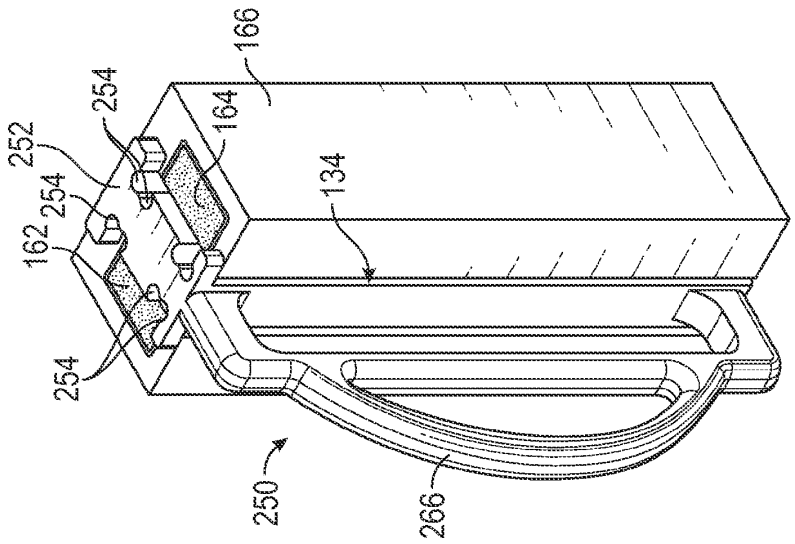

166
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FIG. 31

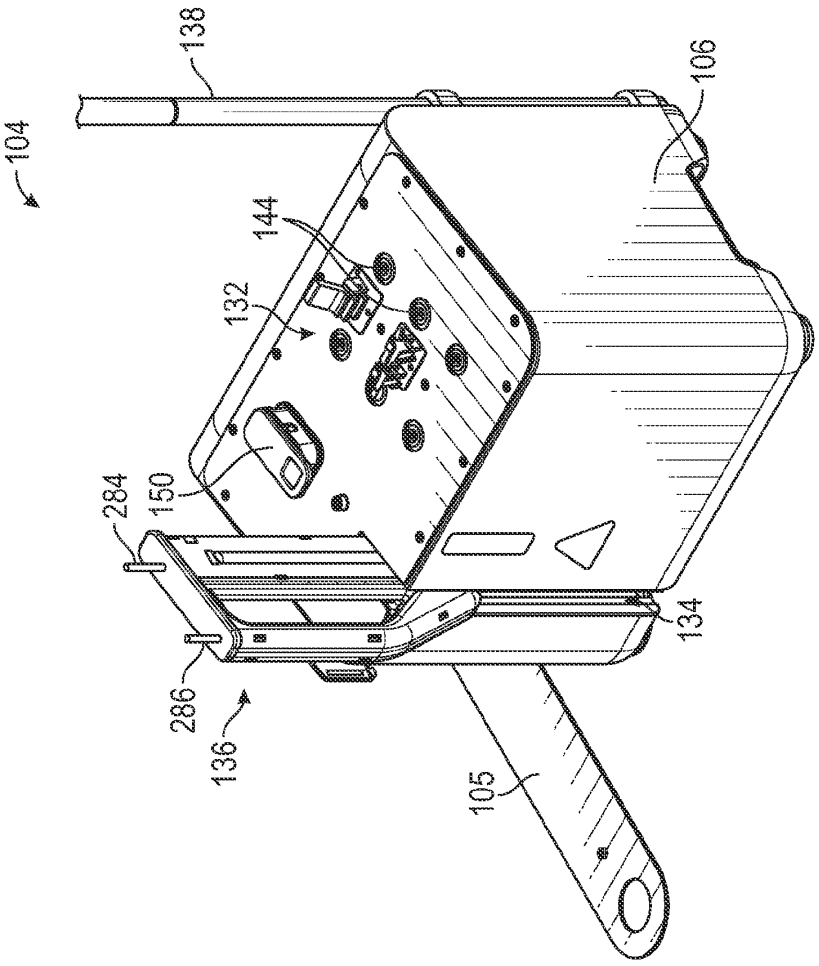

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FIG. 30

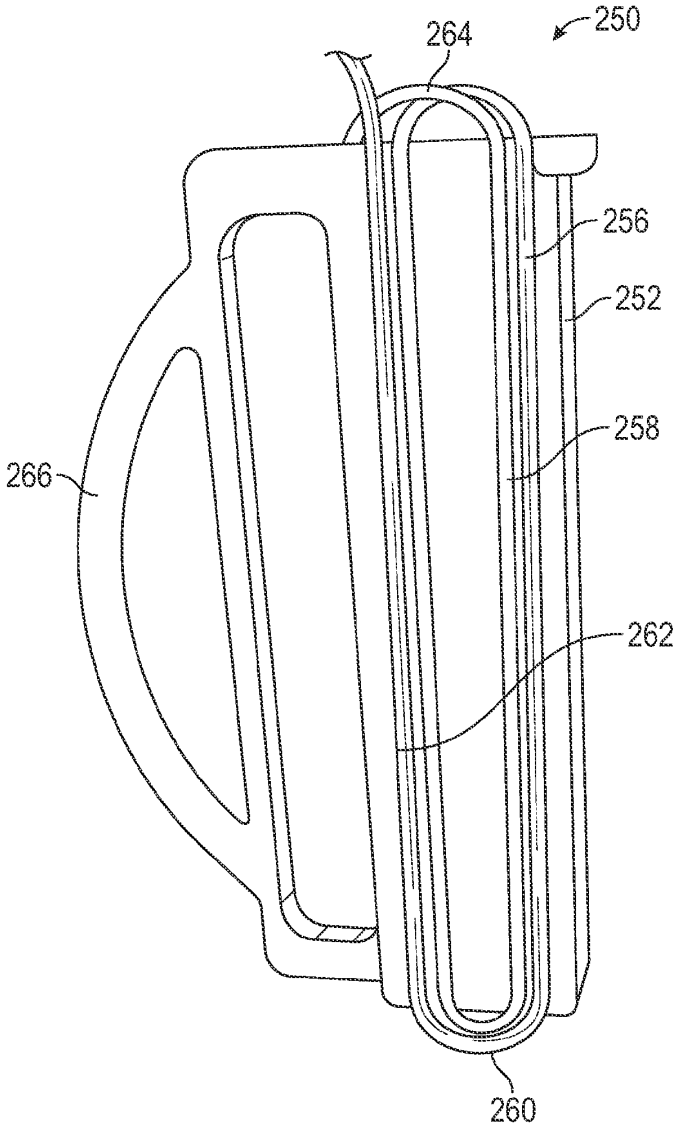


FIG. 32

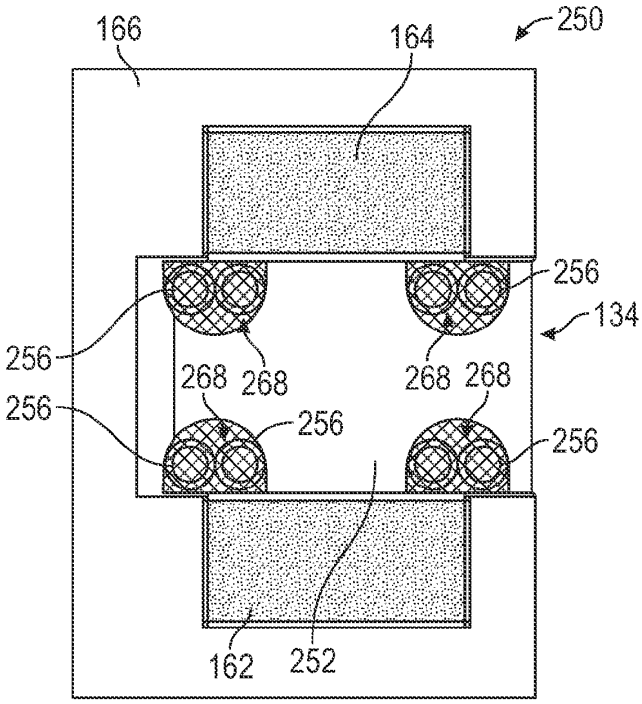


FIG. 33

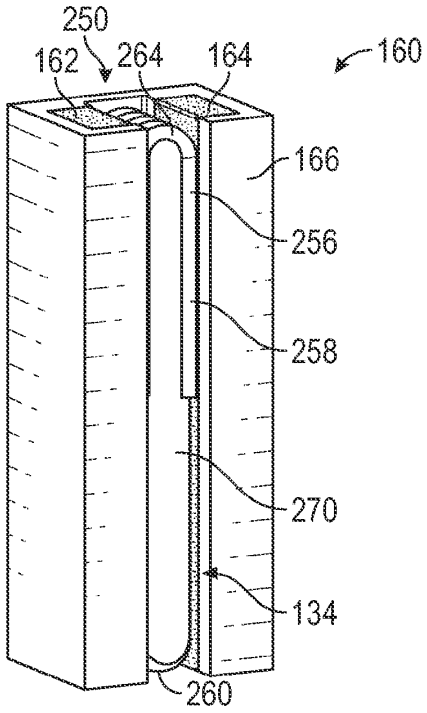

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FIG. 34

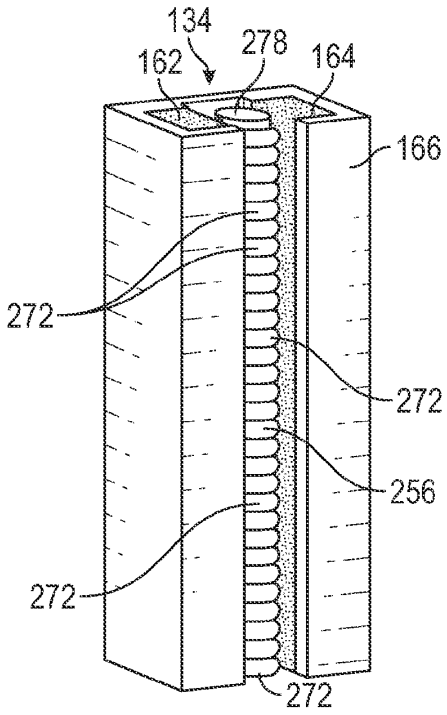

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FIG. 35

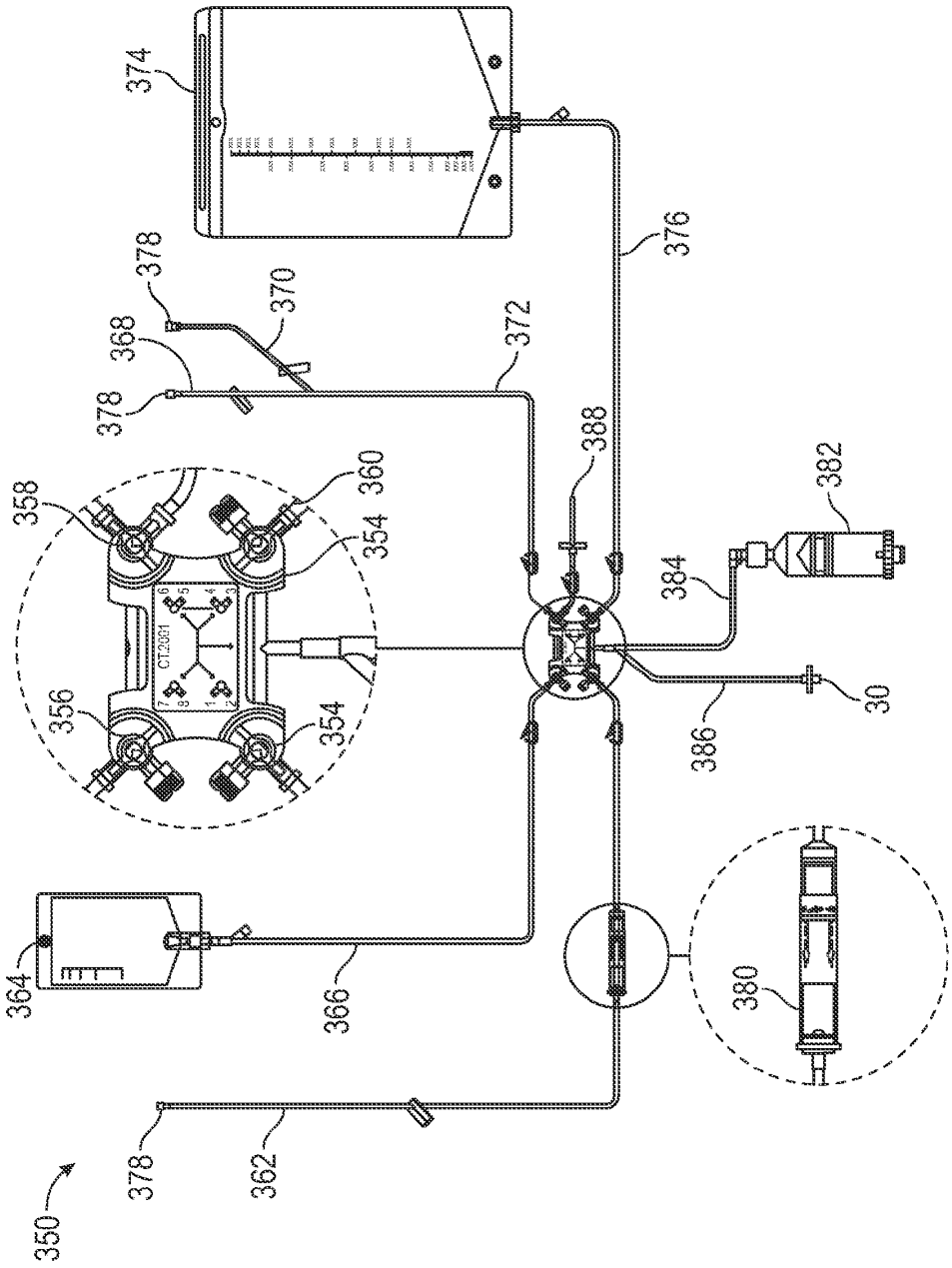

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FIG. 36

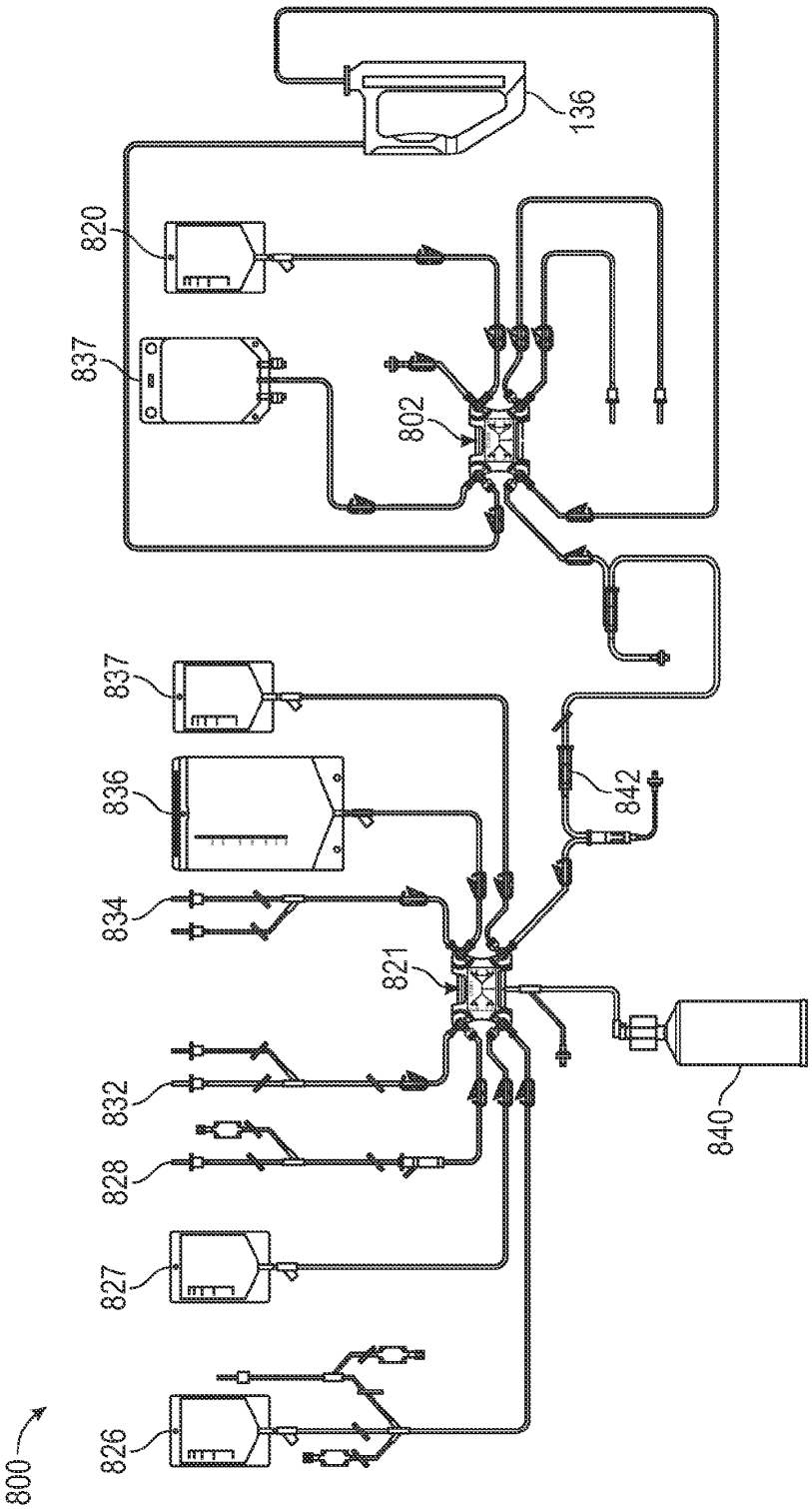


FIG. 37A

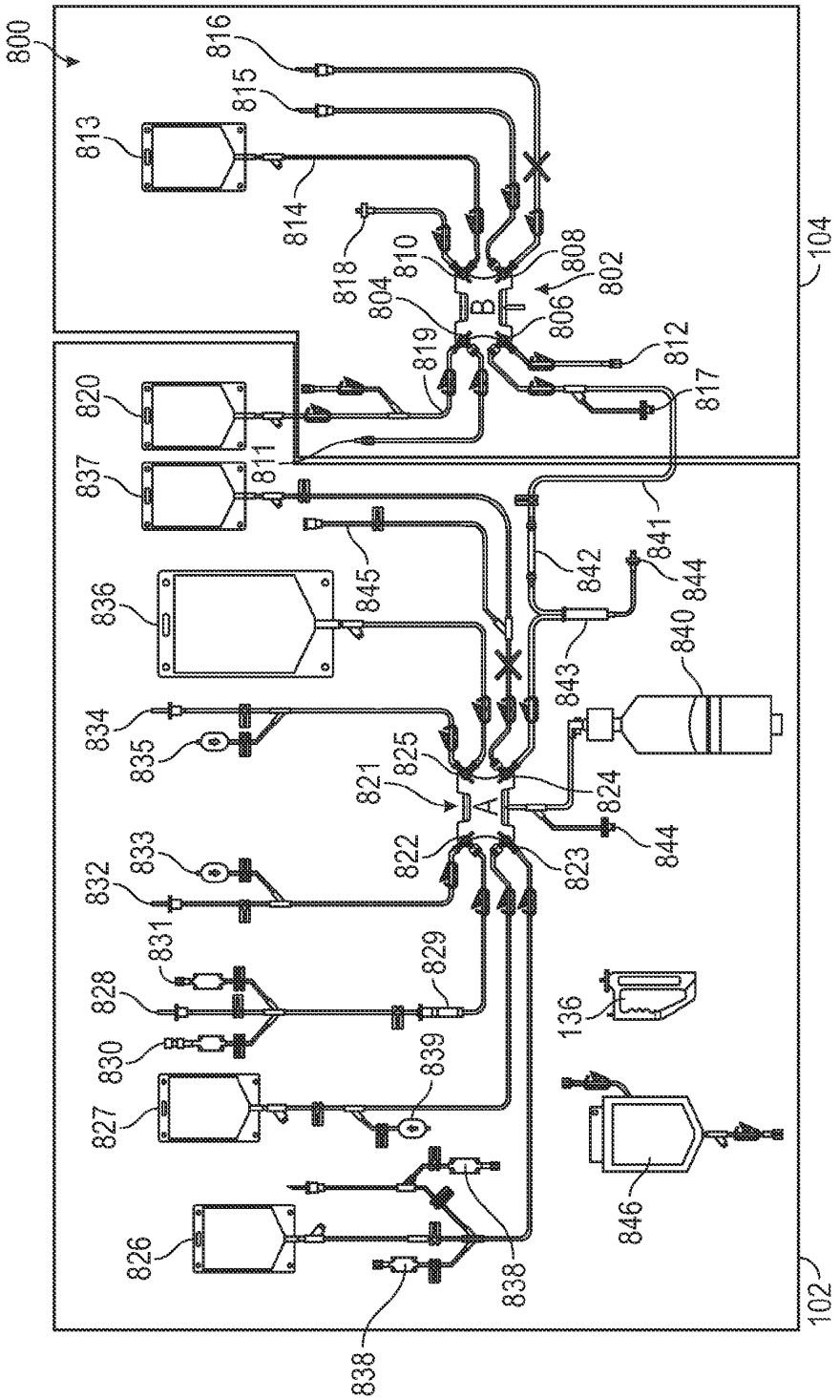

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FIG. 37B

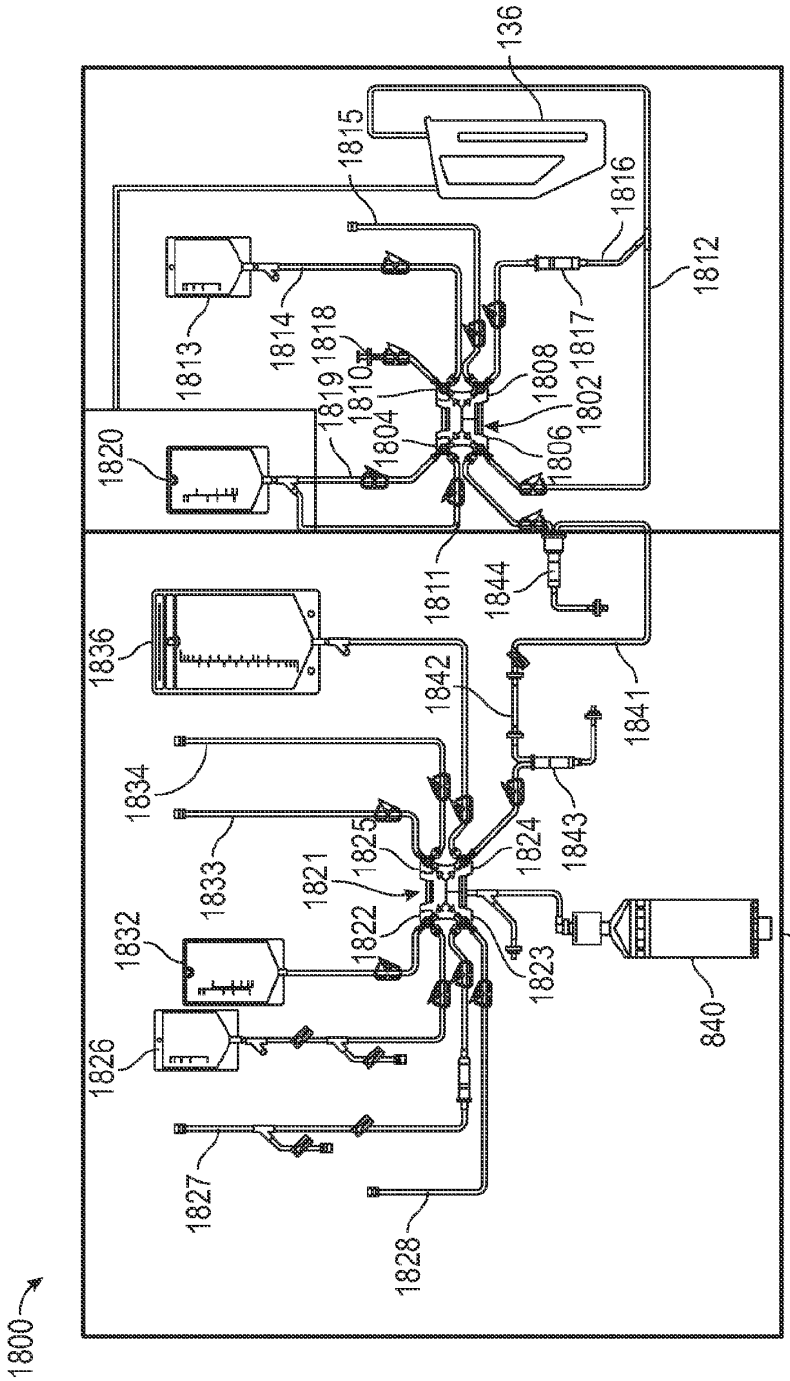

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FIG. 37C

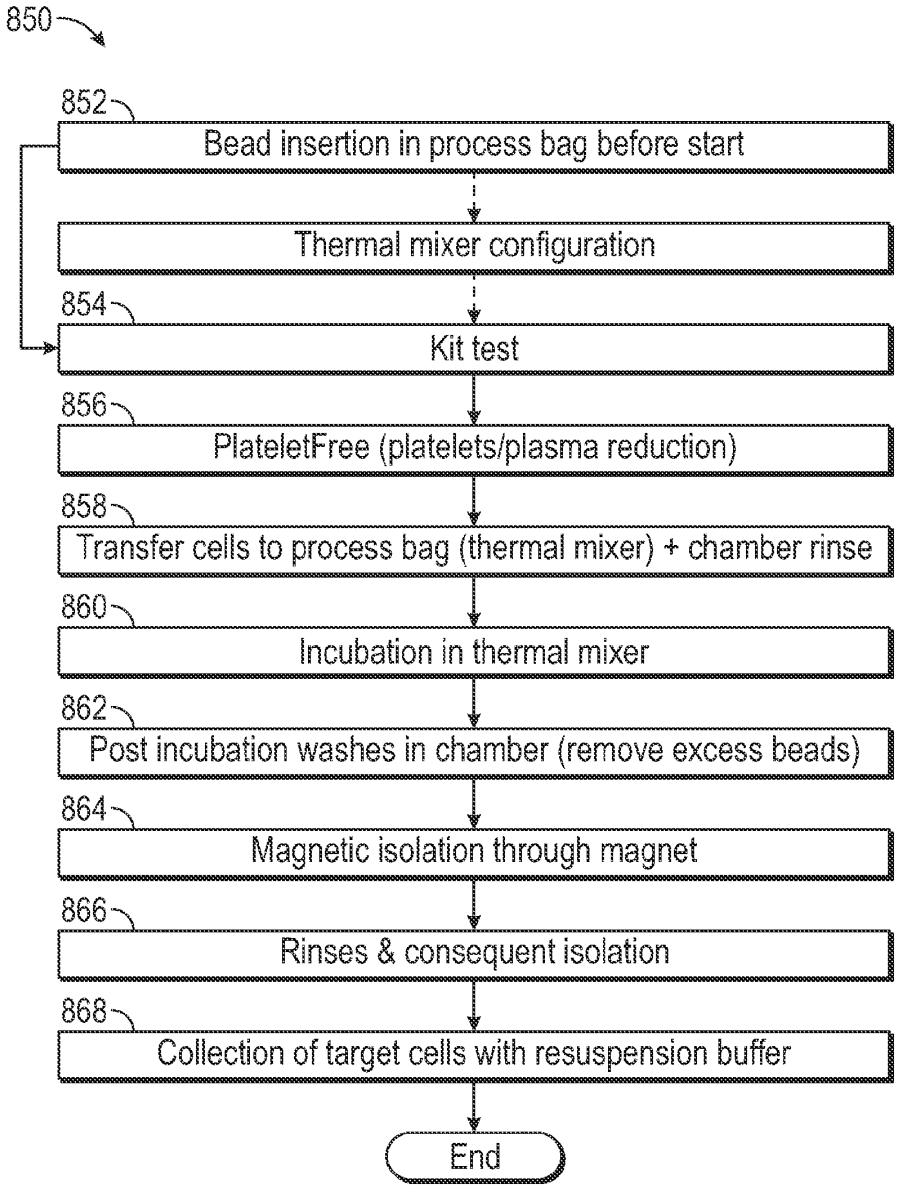

850
852
Bead insertion in process bag before start
Thermal mixer configuration
854
Kit test
856
PlateletFree (platelets/plasma reduction)
858
Transfer cells to process bag (thermal mixer) + chamber rinse
860
Incubation in thermal mixer
862
Post incubation washes in chamber (remove excess beads)
864
Magnetic isolation through magnet
866
Rinses & consequent isolation
868
Collection of target cells with resuspension buffer
End

FIG. 38A

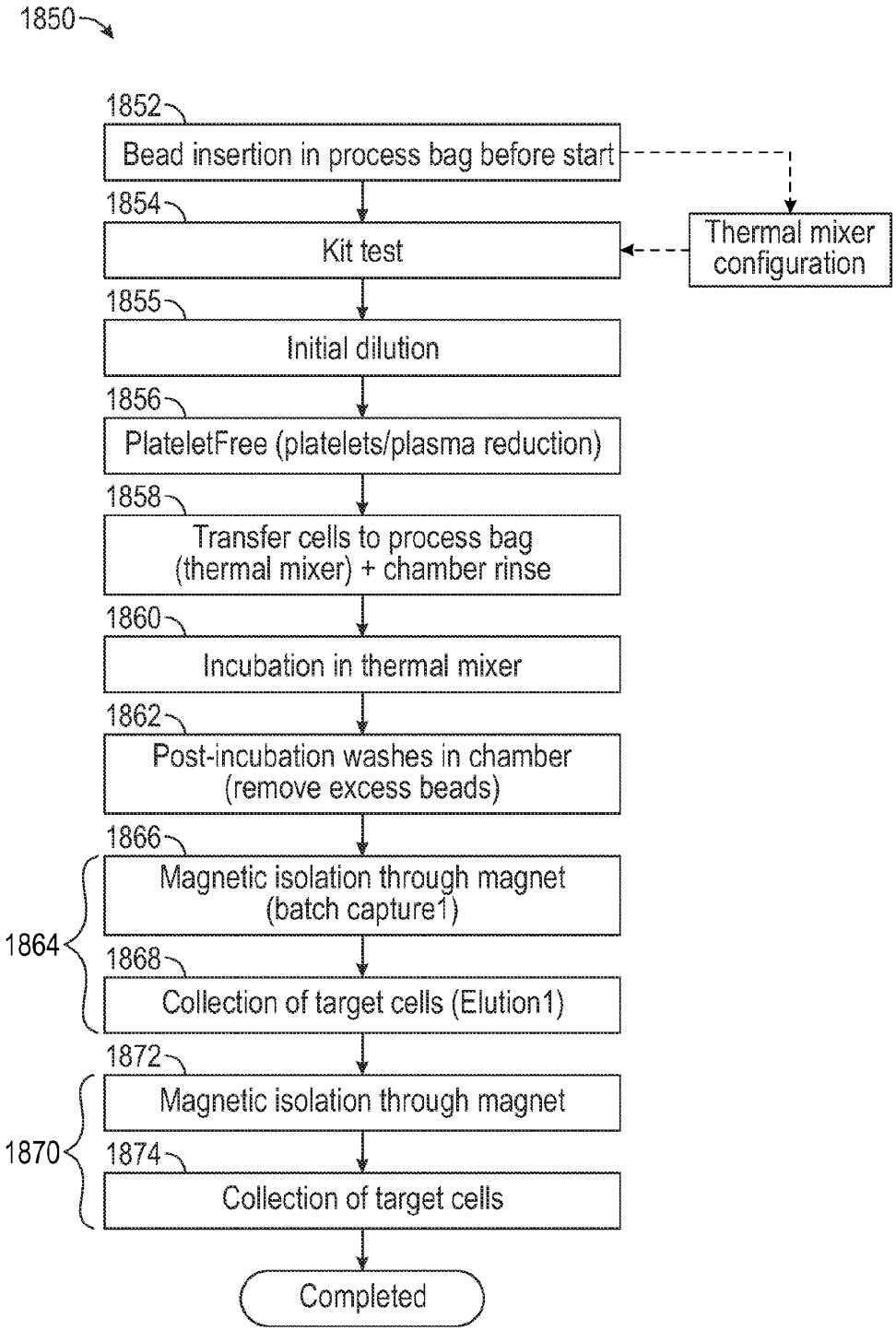

1850
1852
Bead insertion in process bag before start
1854
Kit test
Thermal mixer configuration
1855
Initial dilution
1856
PlateletFree (platelets/plasma reduction)
1858
Transfer cells to process bag (thermal mixer) + chamber rinse
1860
Incubation in thermal mixer
1862
Post-incubation washes in chamber (remove excess beads)
1866
Magnetic isolation through magnet (batch capture1)
1864
1868
Collection of target cells (Elution1)
1872
Magnetic isolation through magnet
1870
1874
Collection of target cells
Completed

FIG. 38B

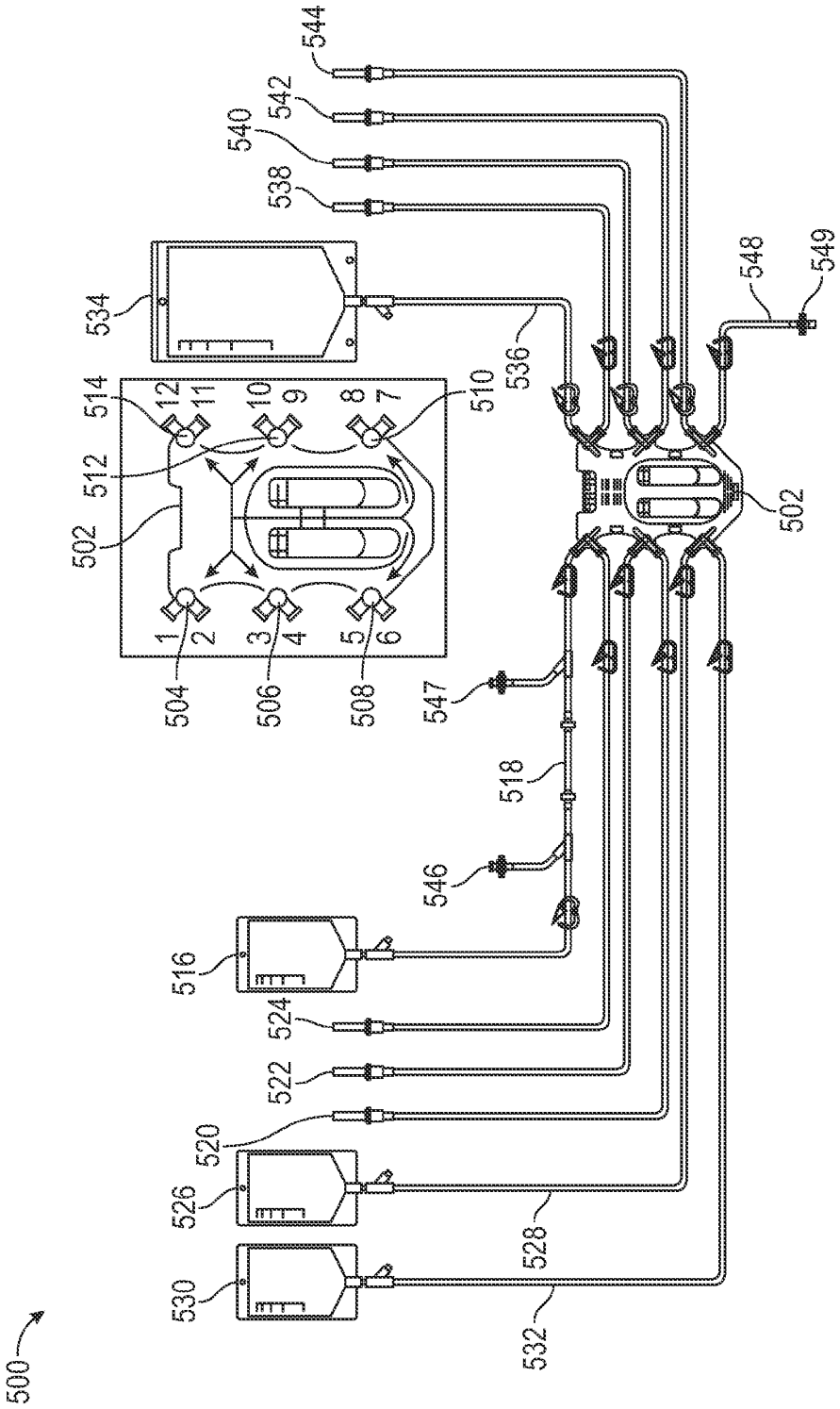

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FIG. 39

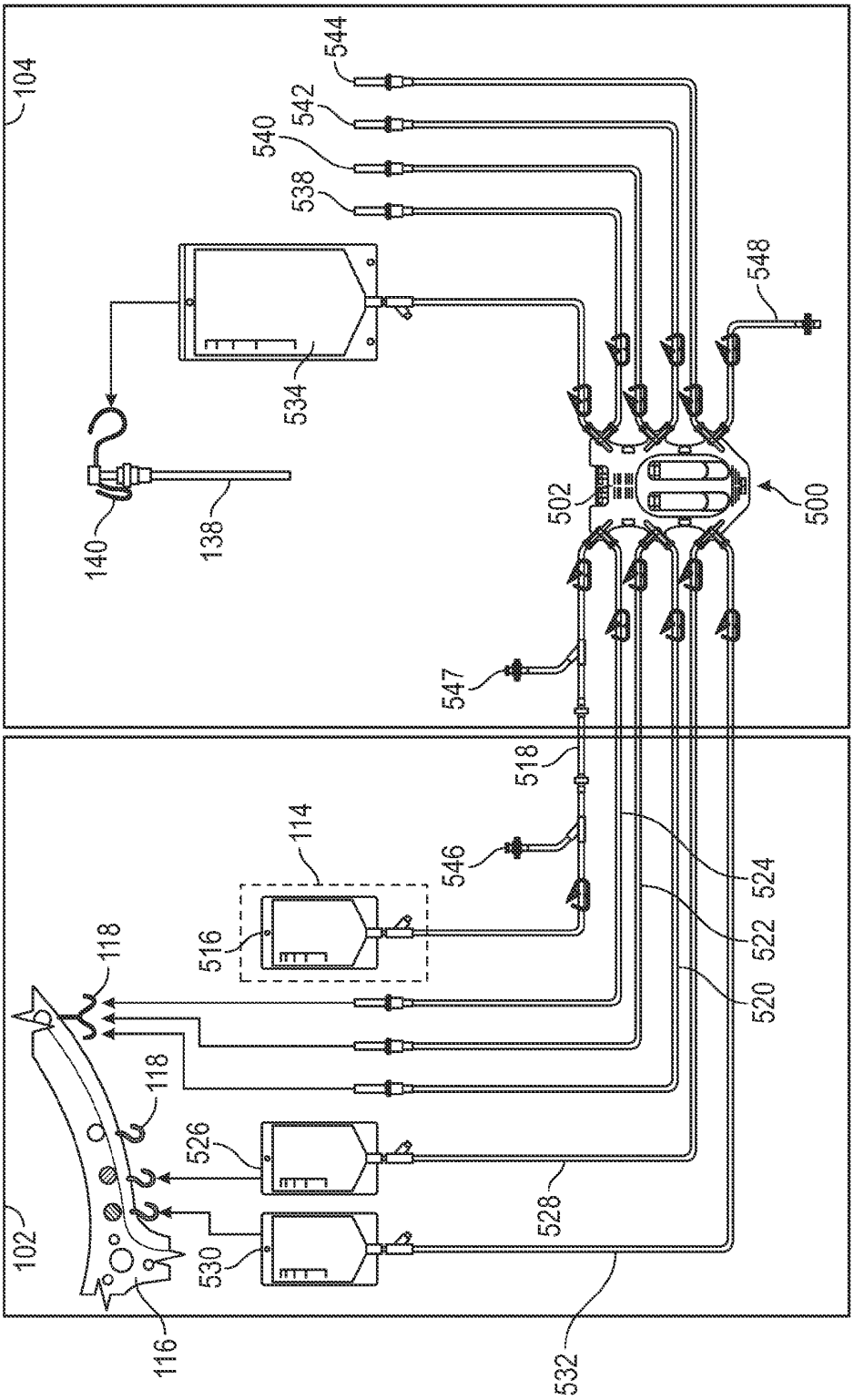

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FIG. 40

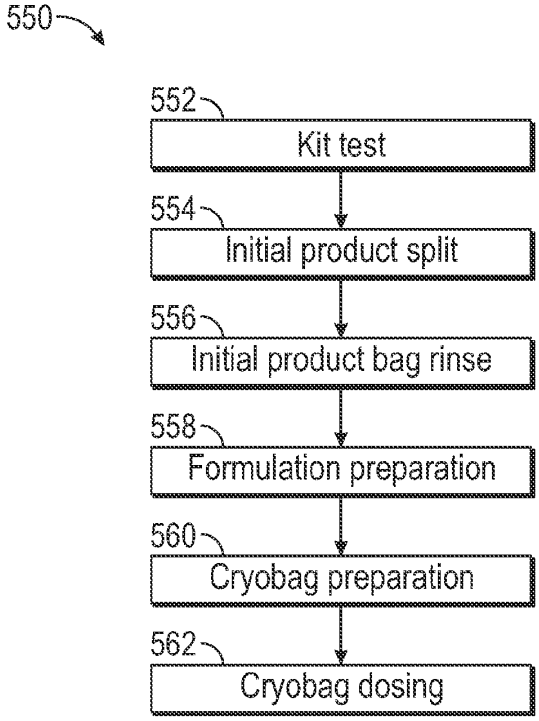

550
552
Kit test
554
Initial product split
556
Initial product bag rinse
558
Formulation preparation
560
Cryobag preparation
562
Cryobag dosing

FIG. 41

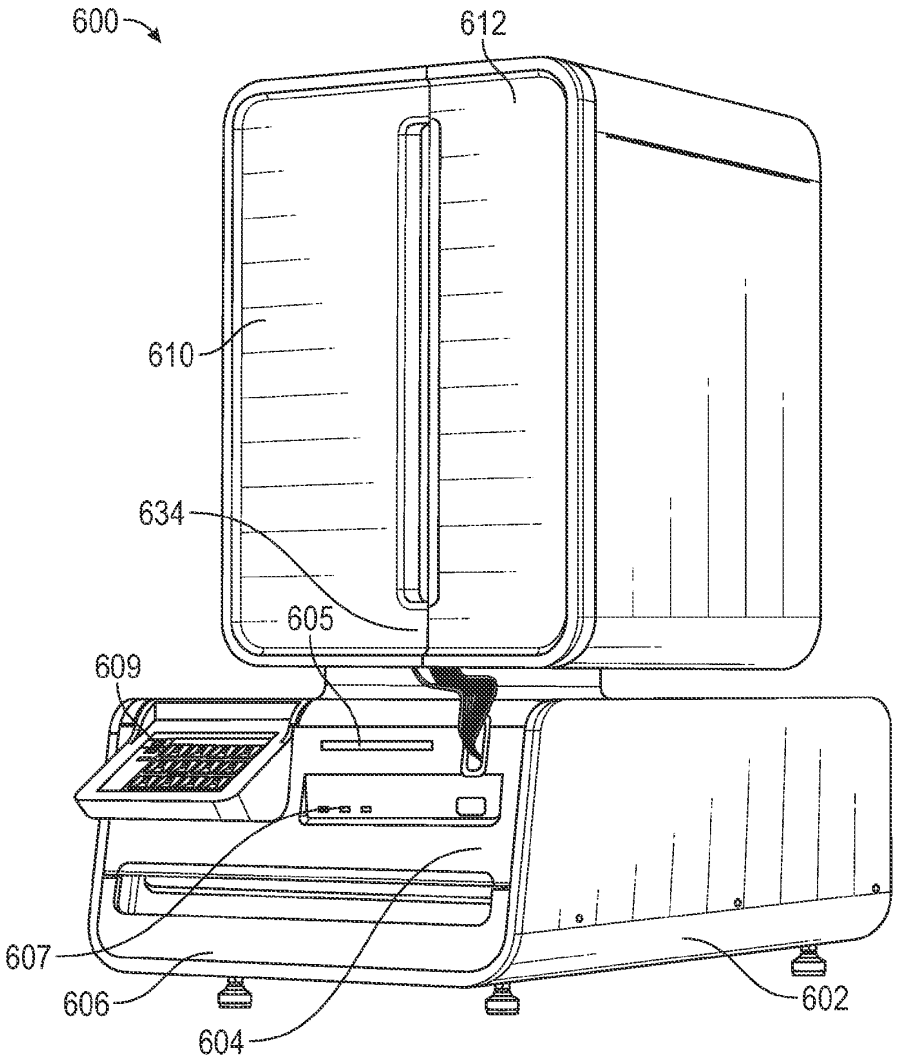


FIG. 42

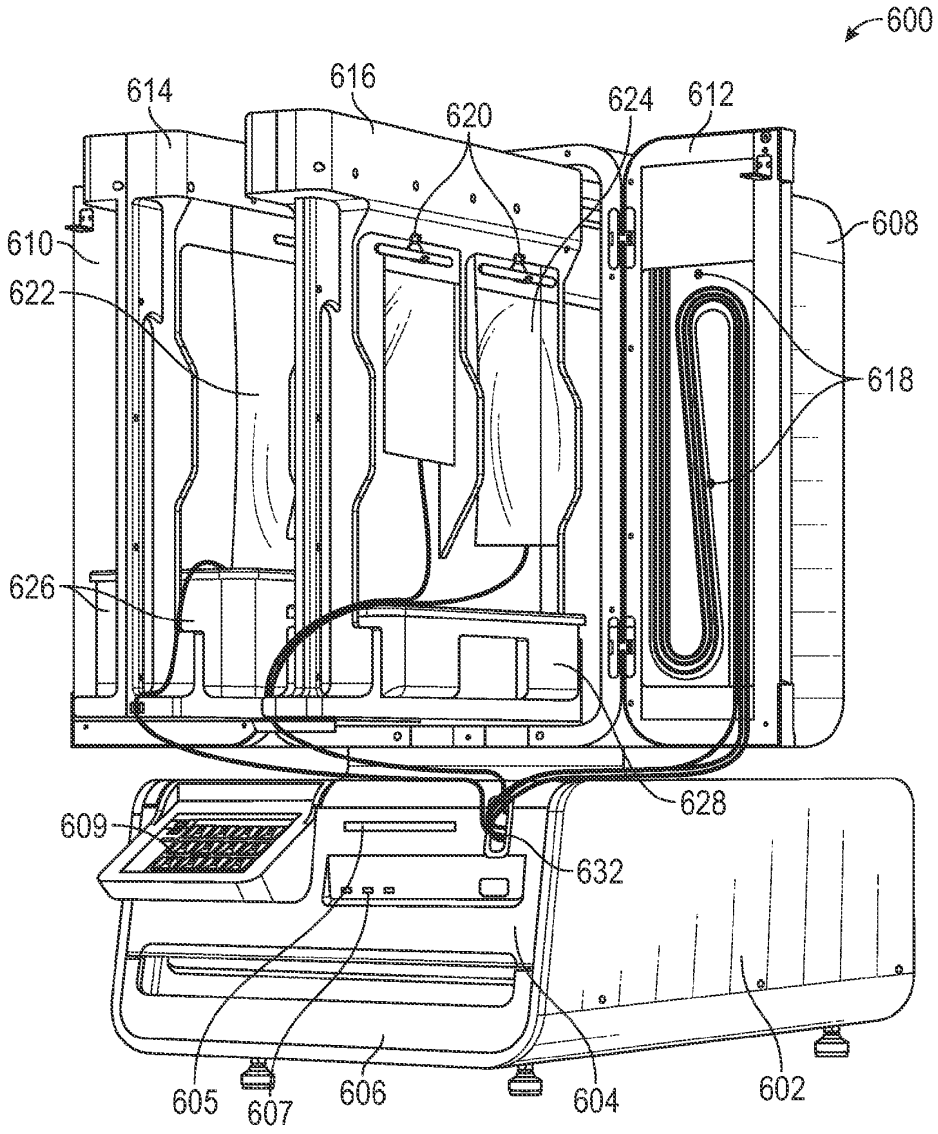

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FIG. 43

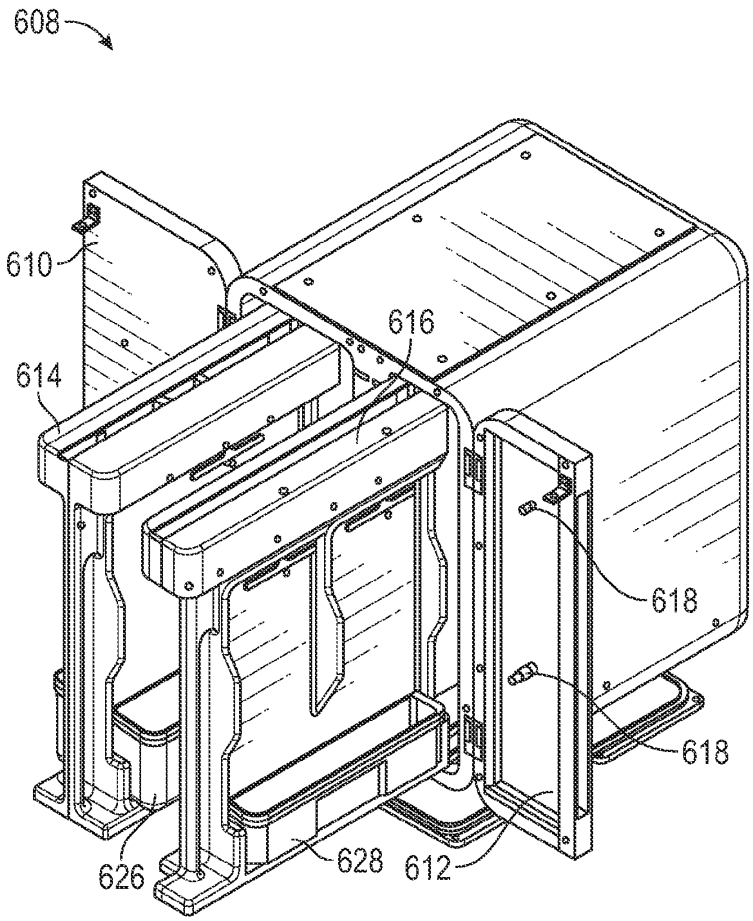


FIG. 44

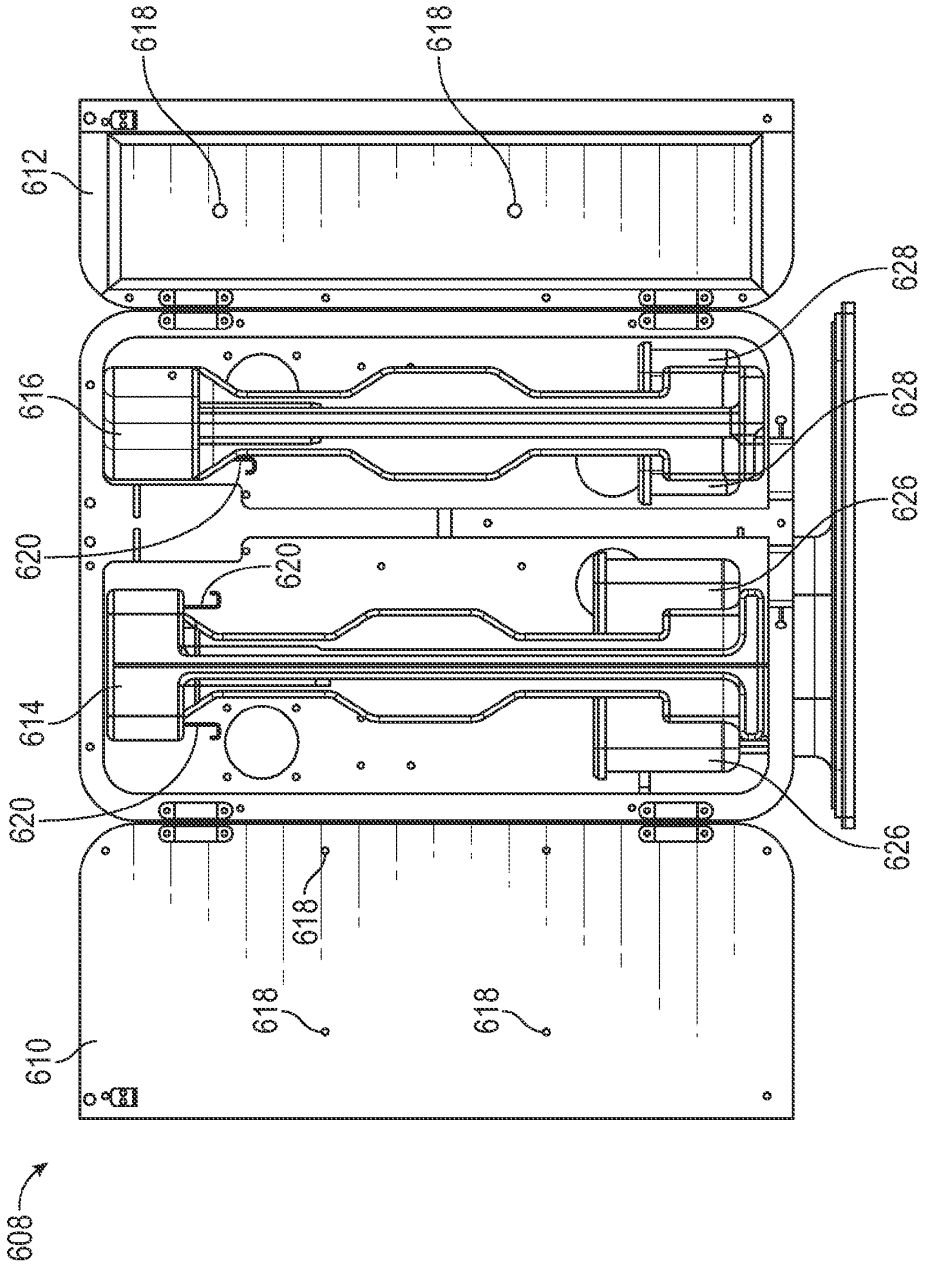

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FIG. 45

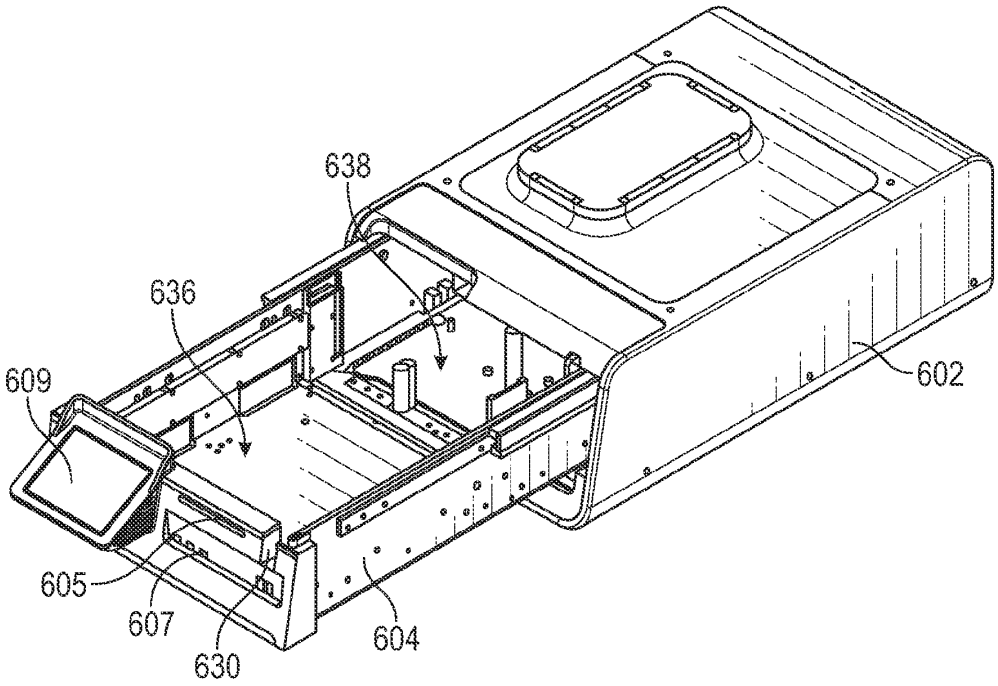


FIG. 46

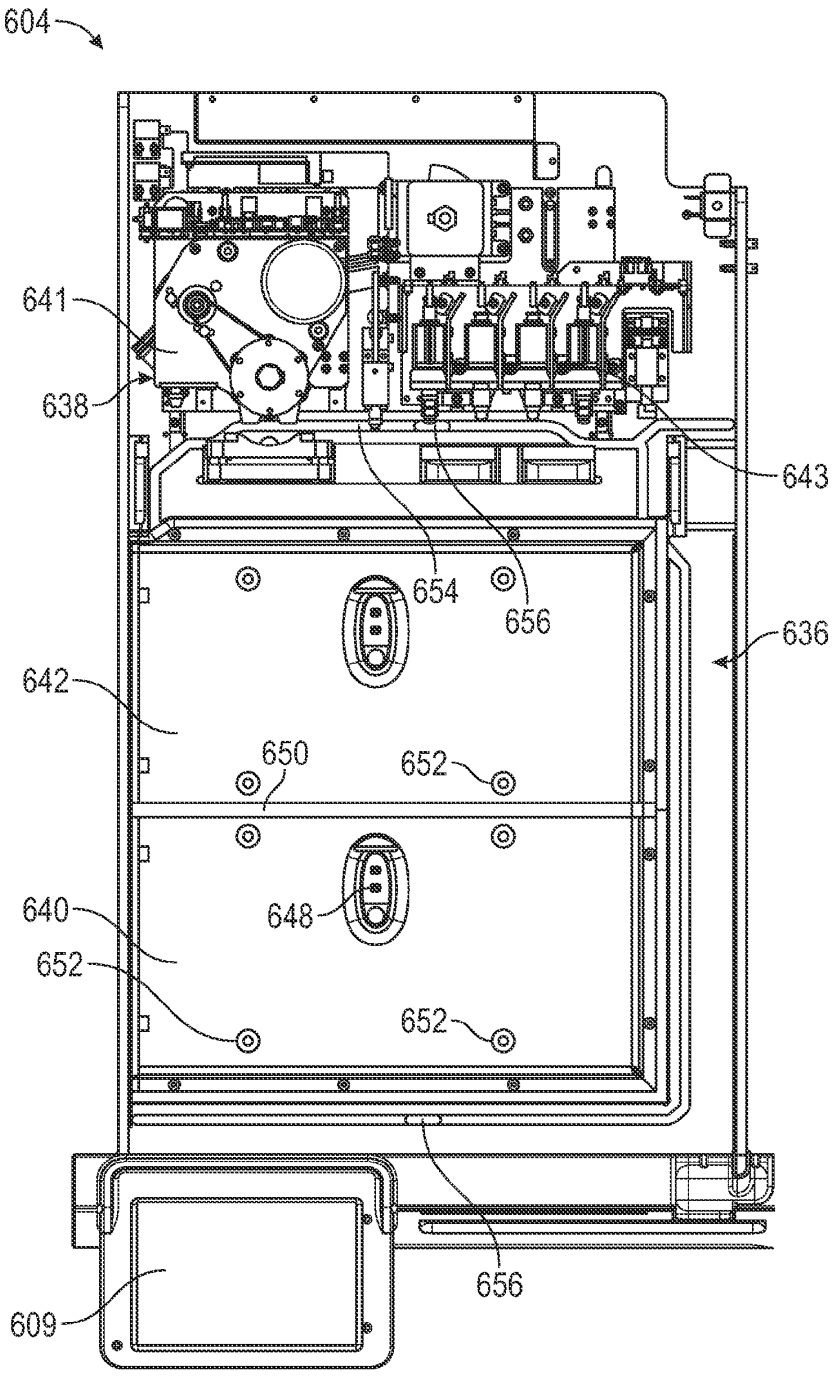


FIG. 47

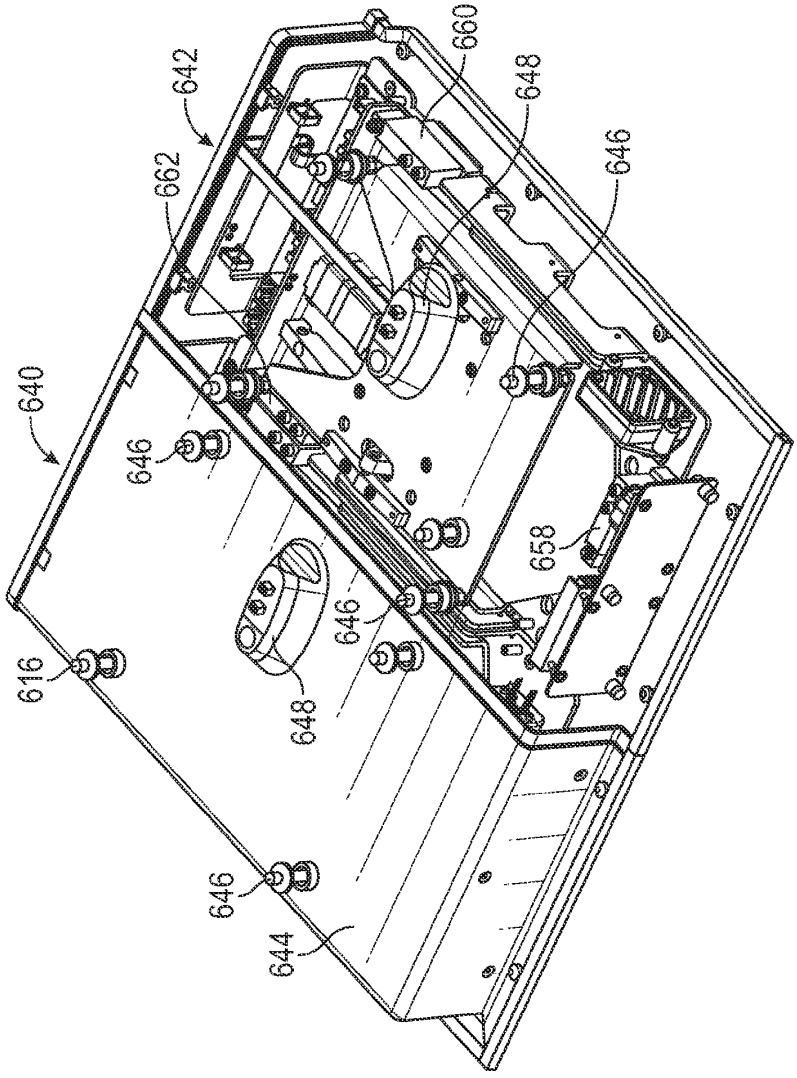


FIG. 48

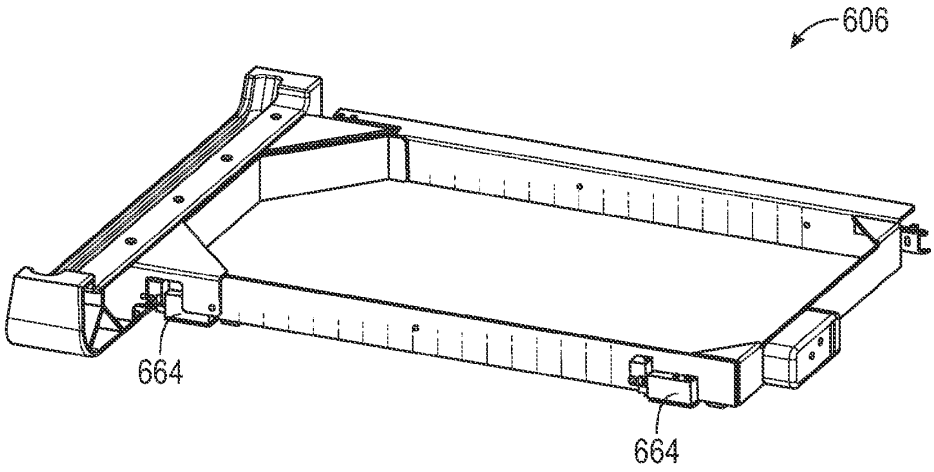


FIG. 49

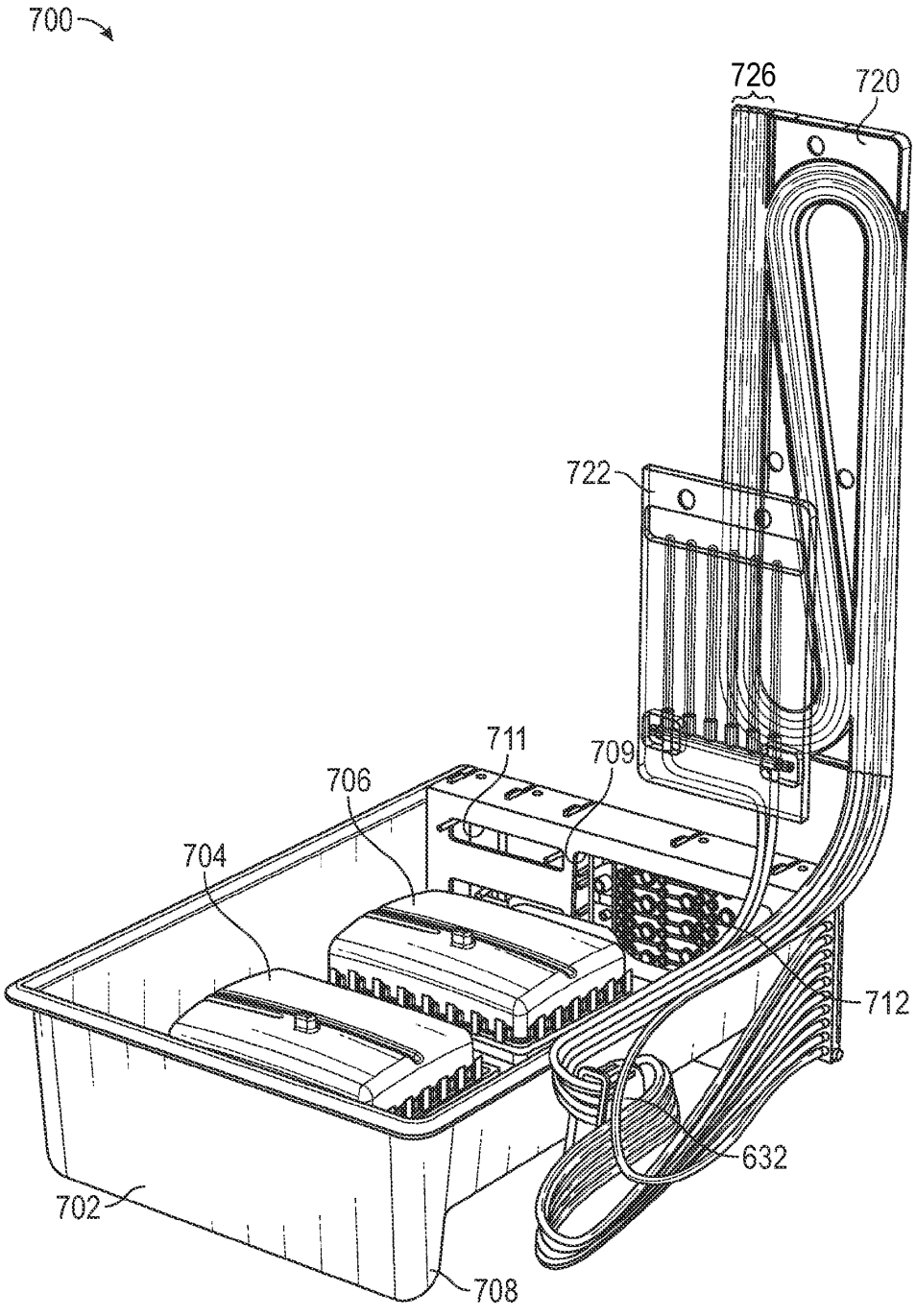


FIG. 50

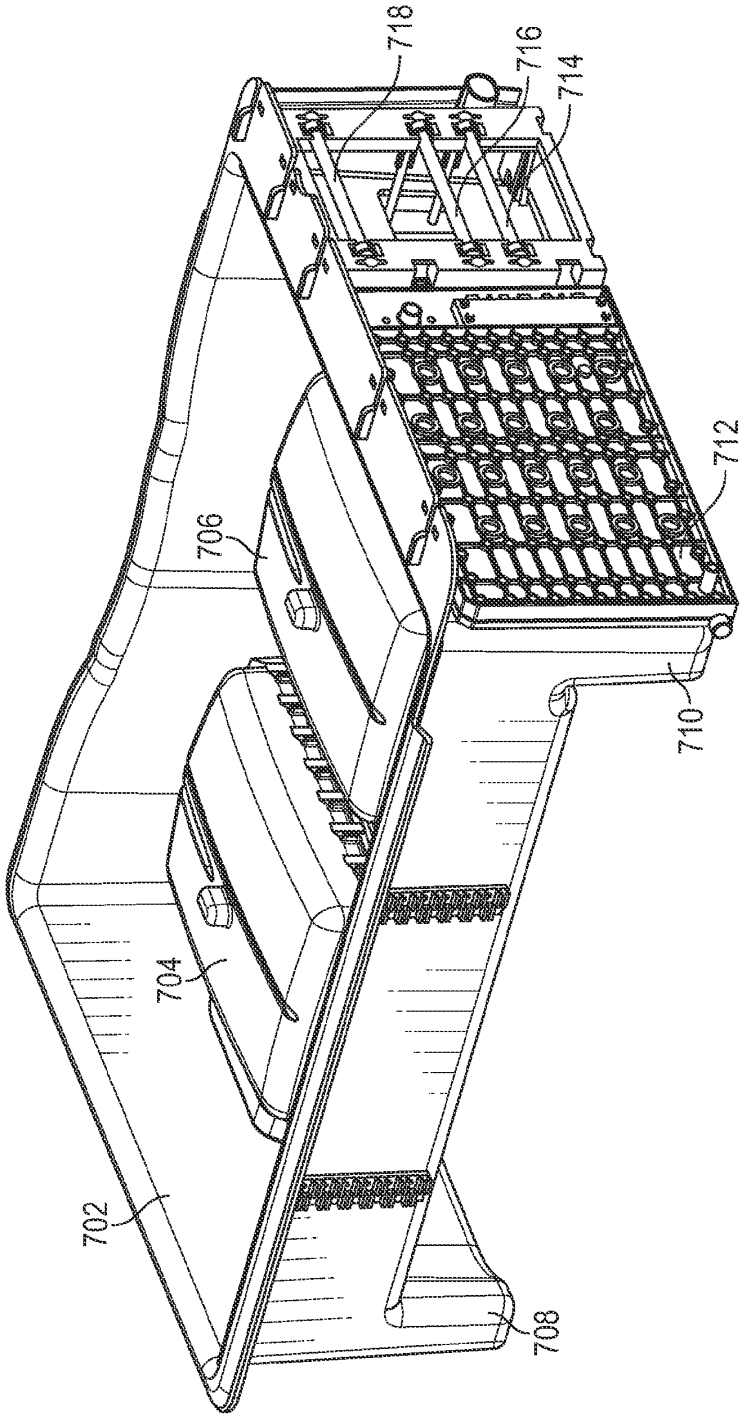


FIG. 51

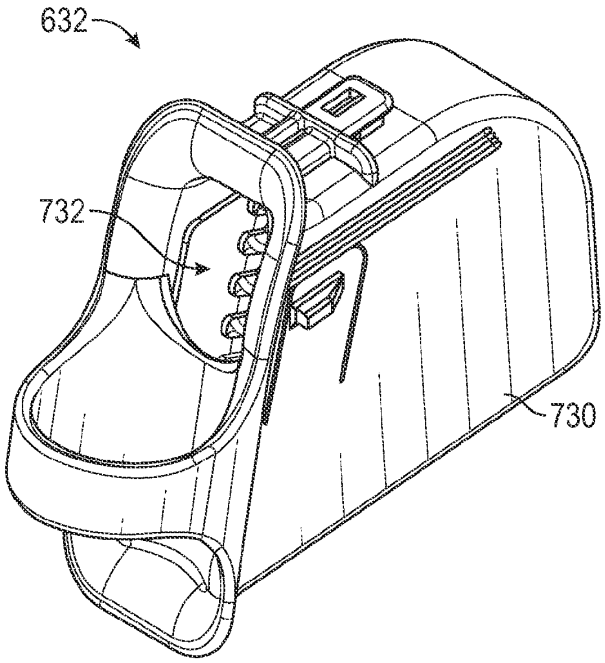


FIG. 52

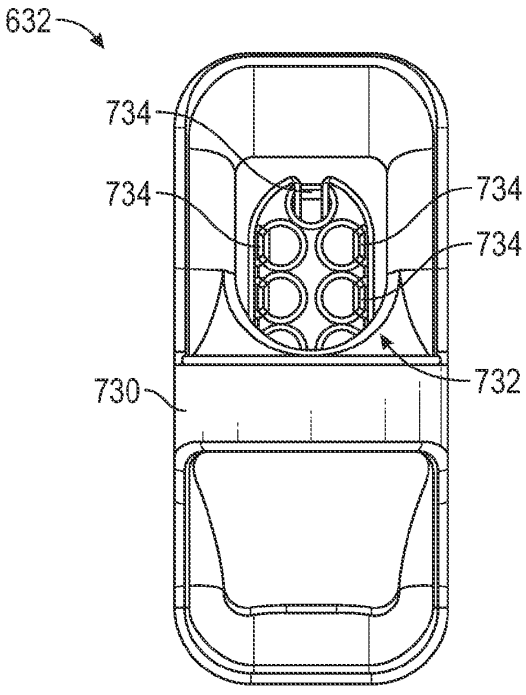


FIG. 53

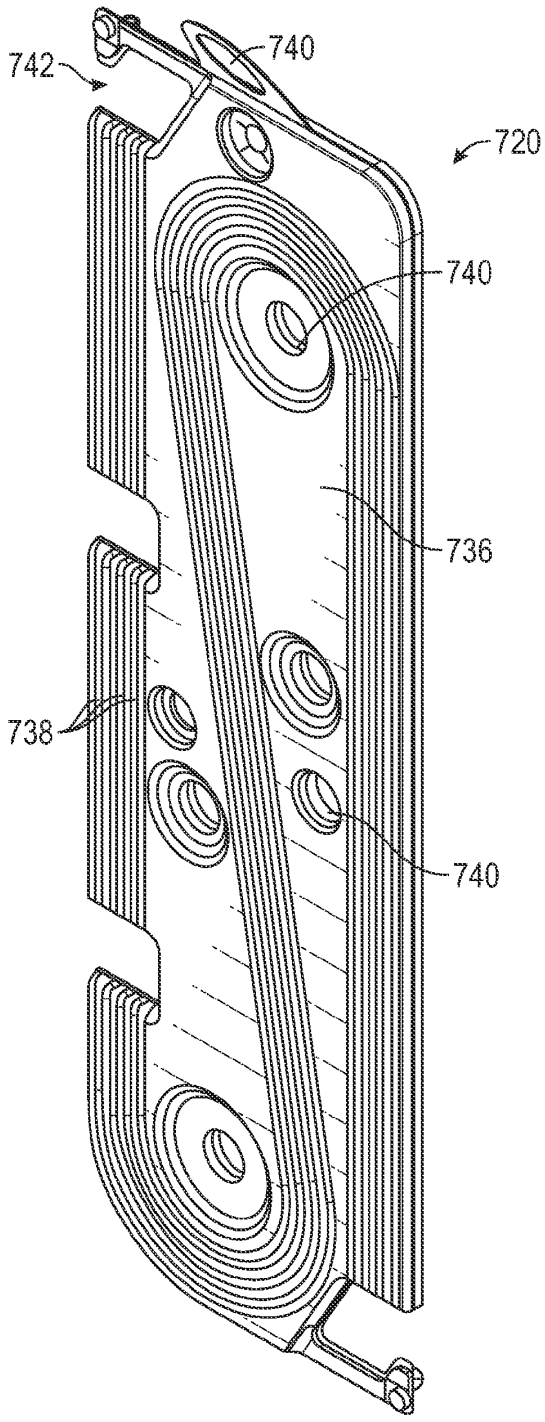


FIG. 54

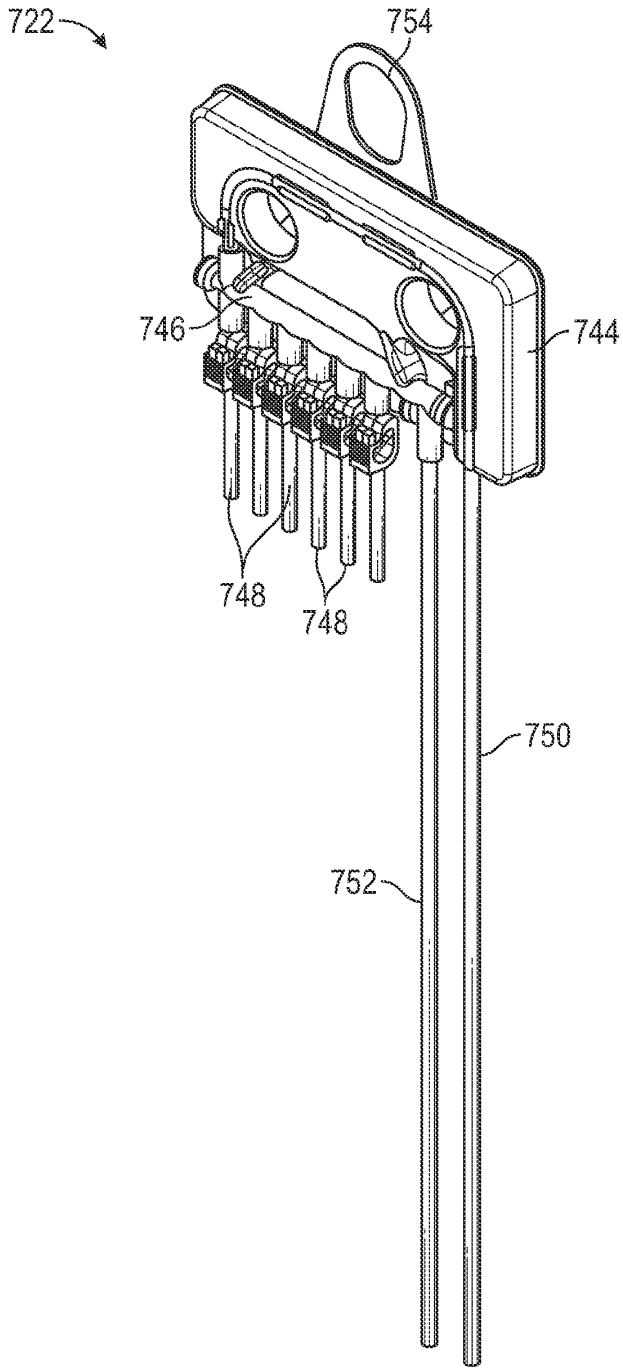


FIG. 55

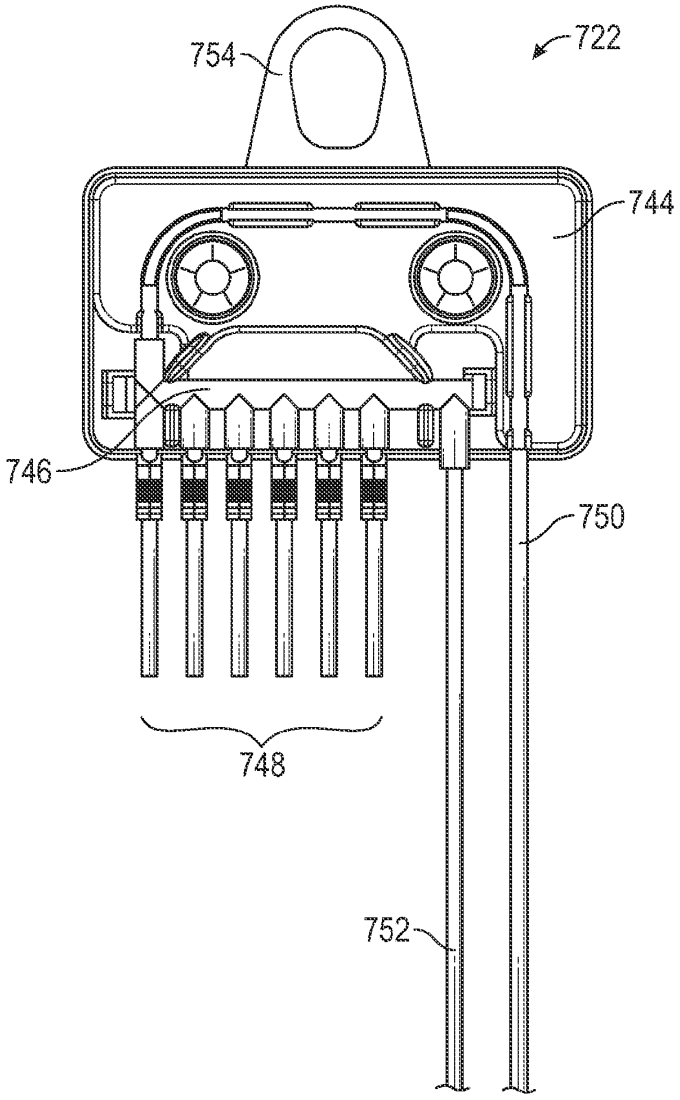


FIG. 56

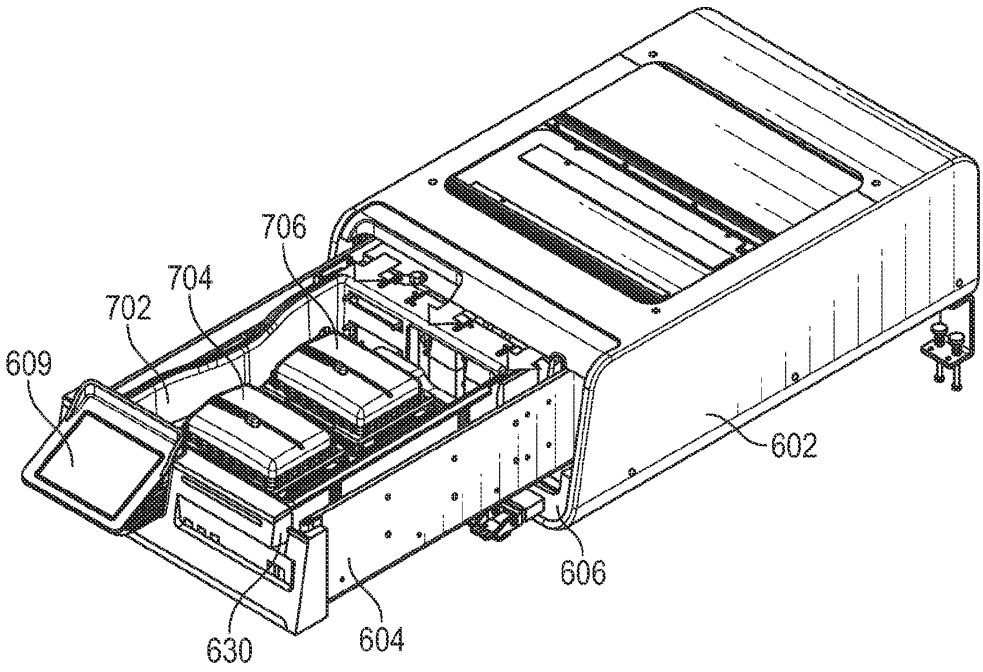


FIG. 57

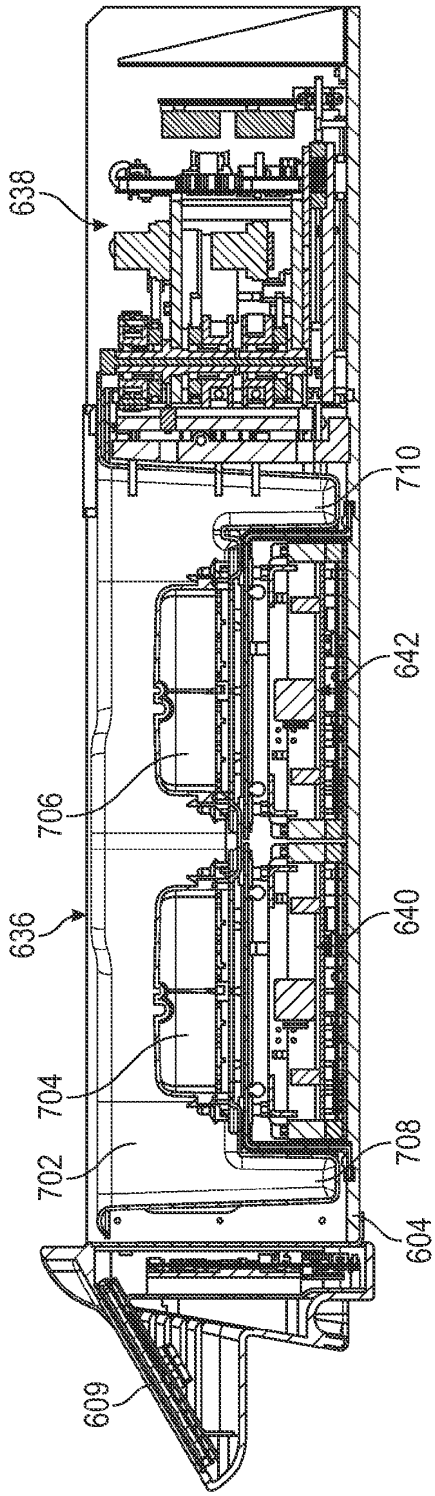


FIG. 58

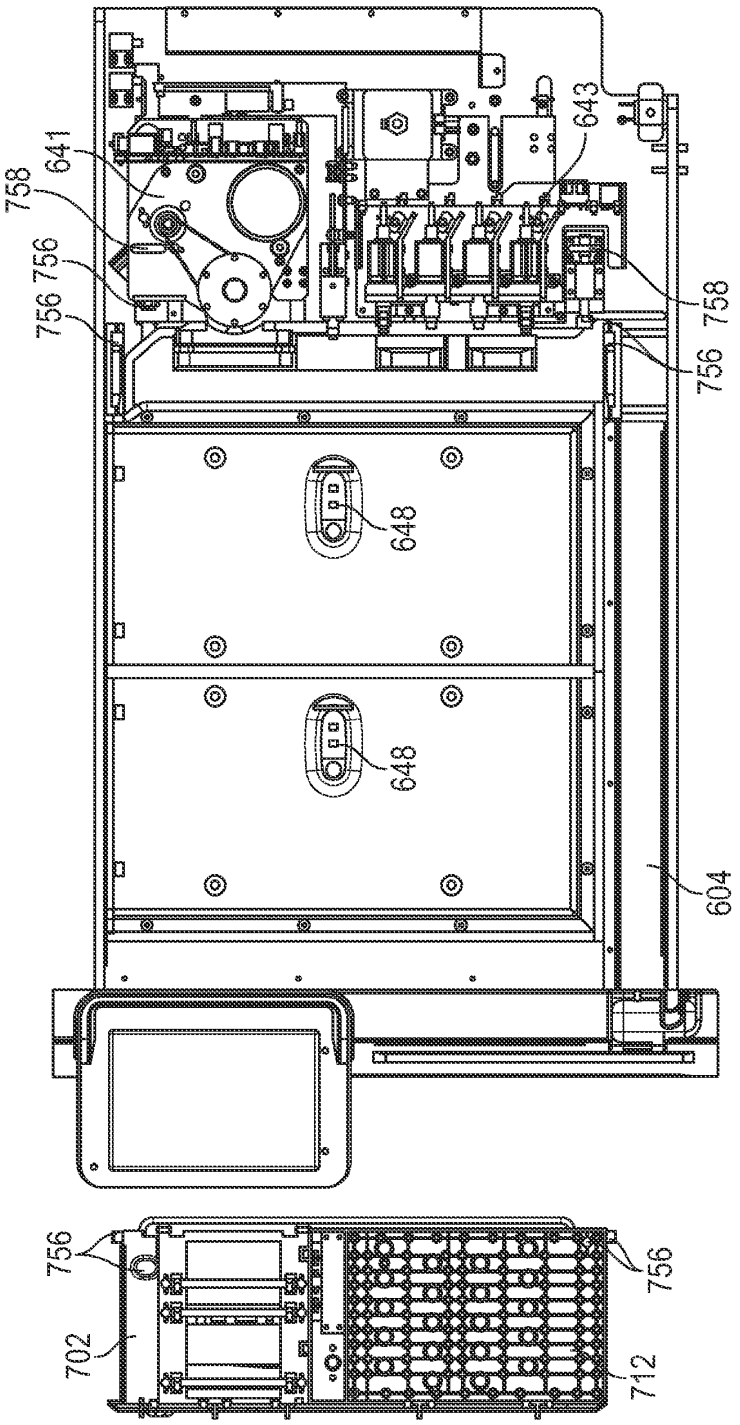


FIG. 59

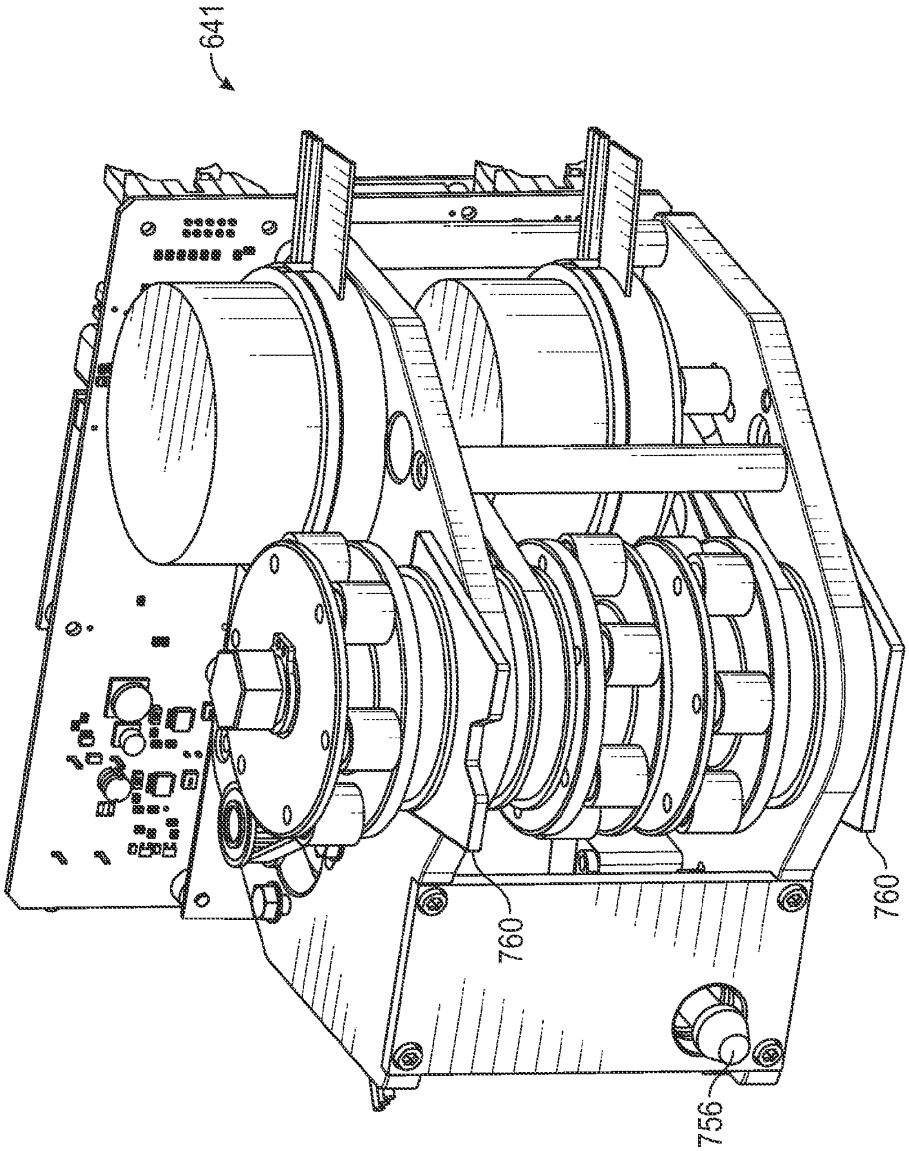


FIG. 60

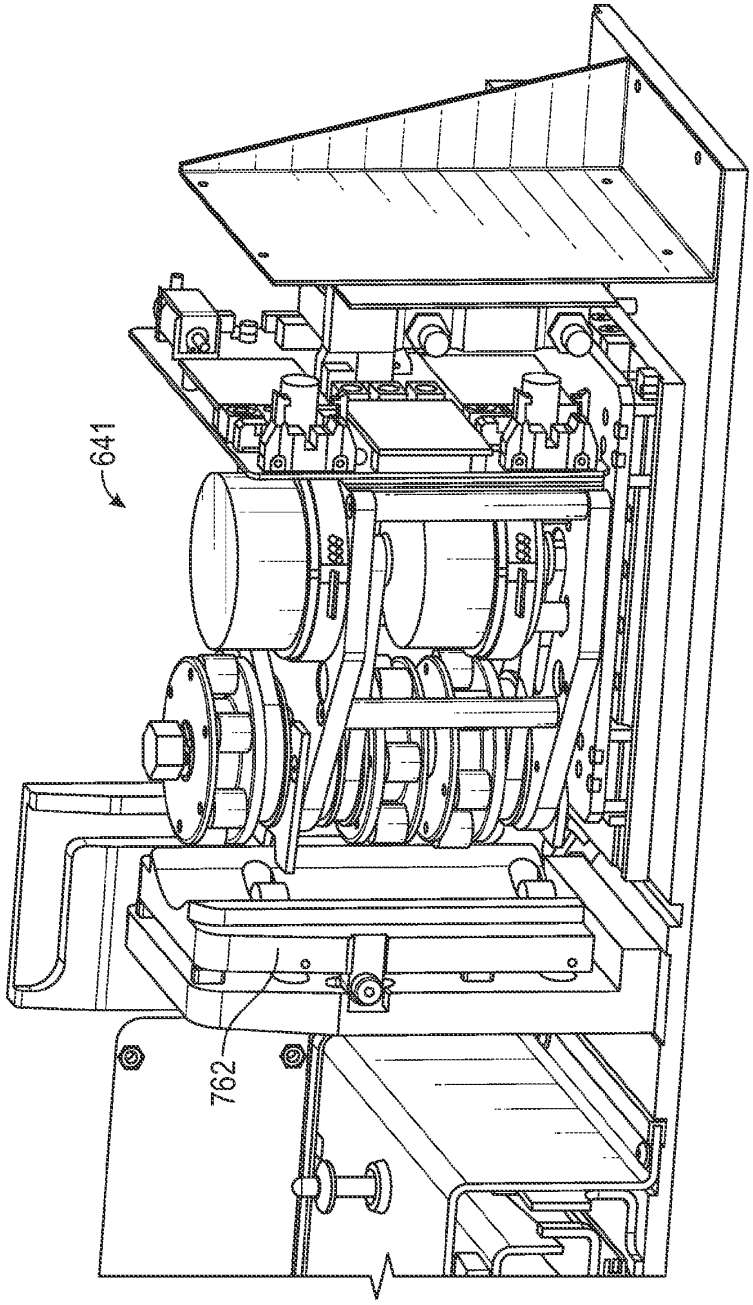


FIG. 61

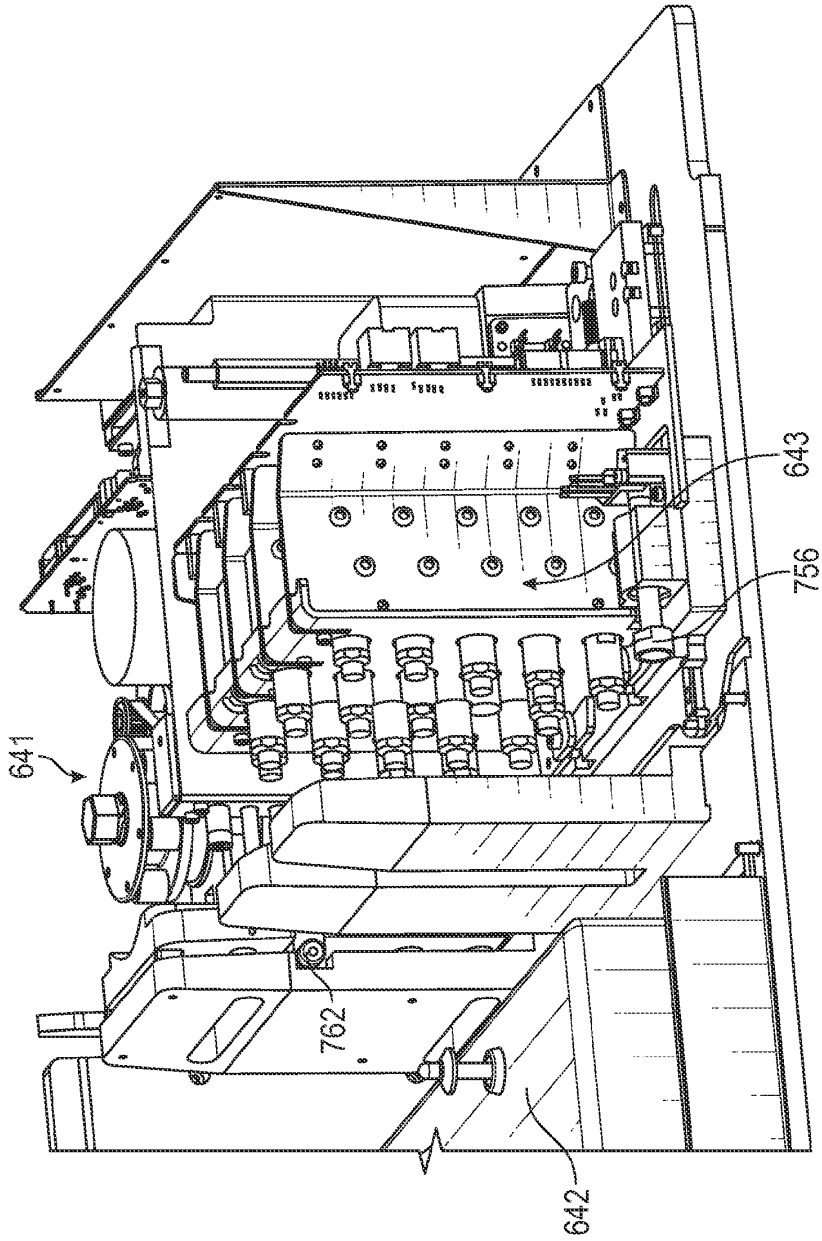


FIG. 62

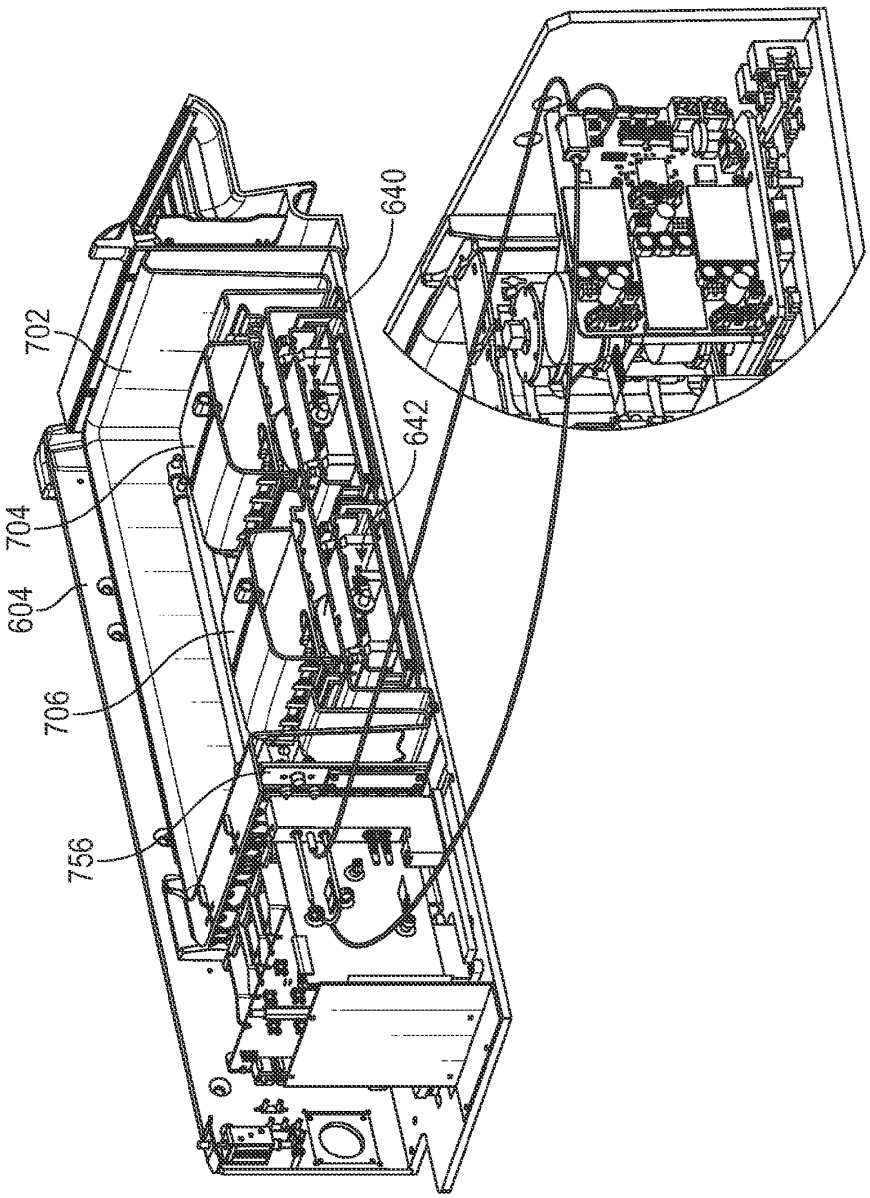


FIG. 63

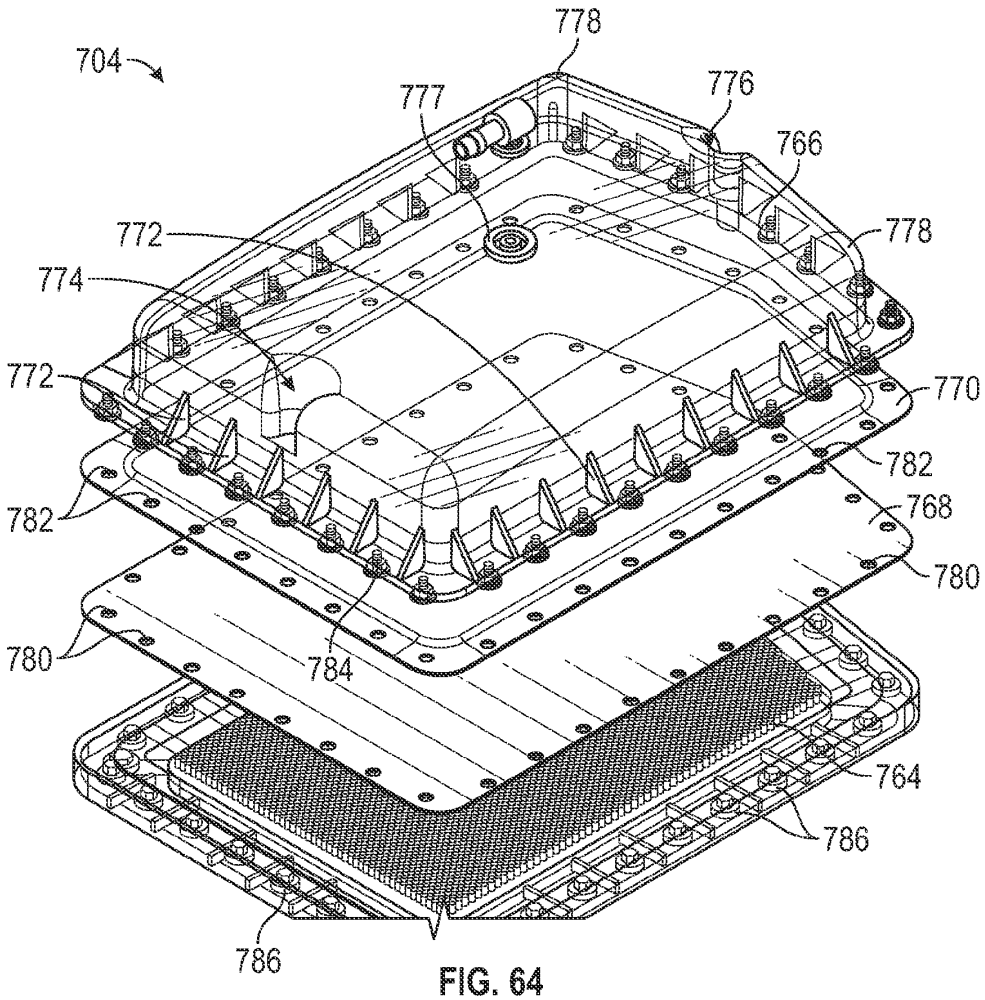

704
778
777
776
766
772
778
774
772
770
782
768
782
780
780
784
764
786
786

FIG. 64

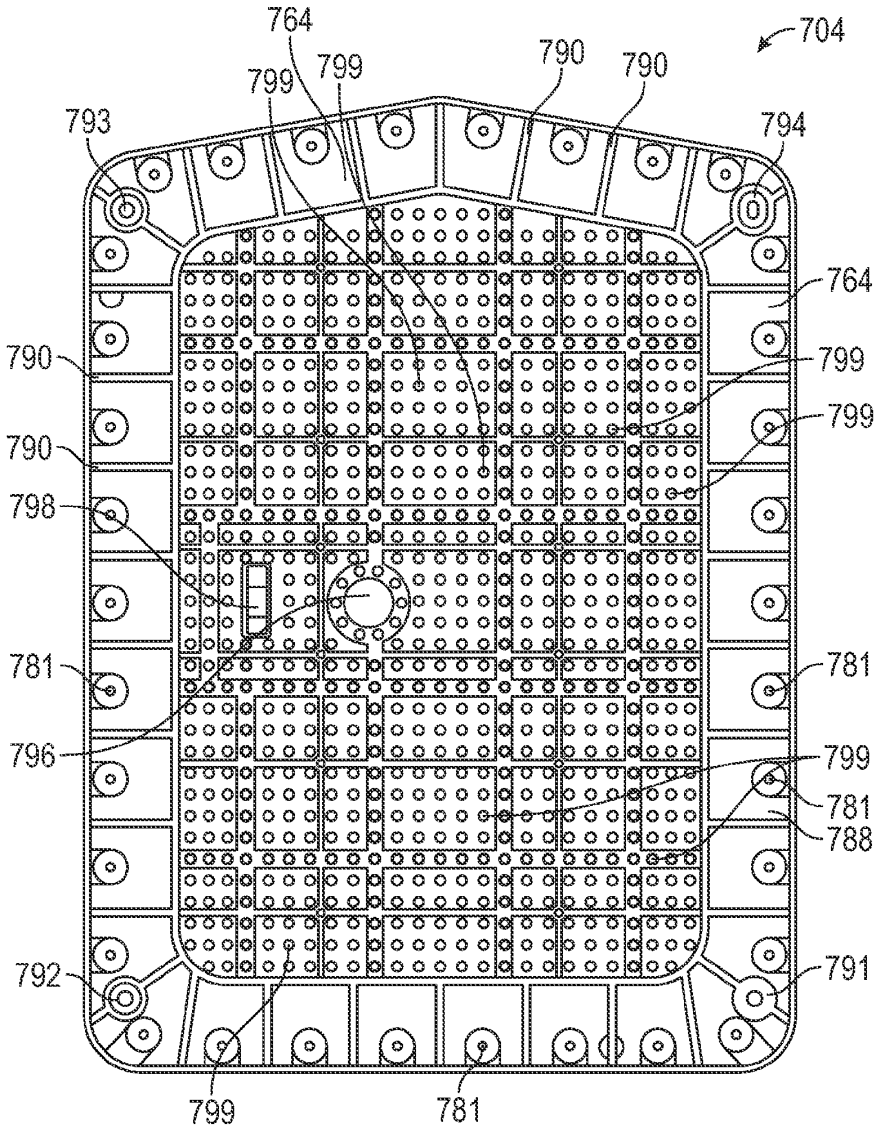

764
799
799
790
790
704
793
794
764
790
799
790
799
798
781
781
796
799
781
788
792
791
799
781

FIG. 65

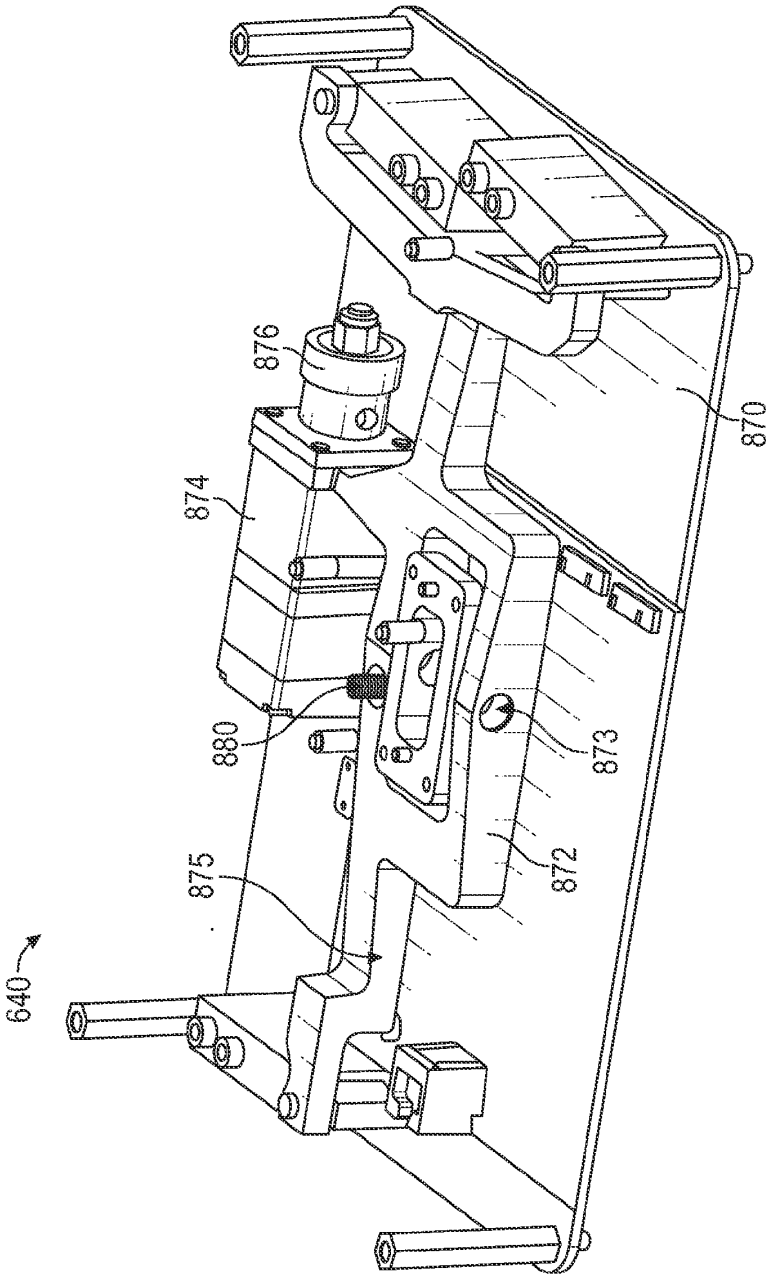


FIG. 66

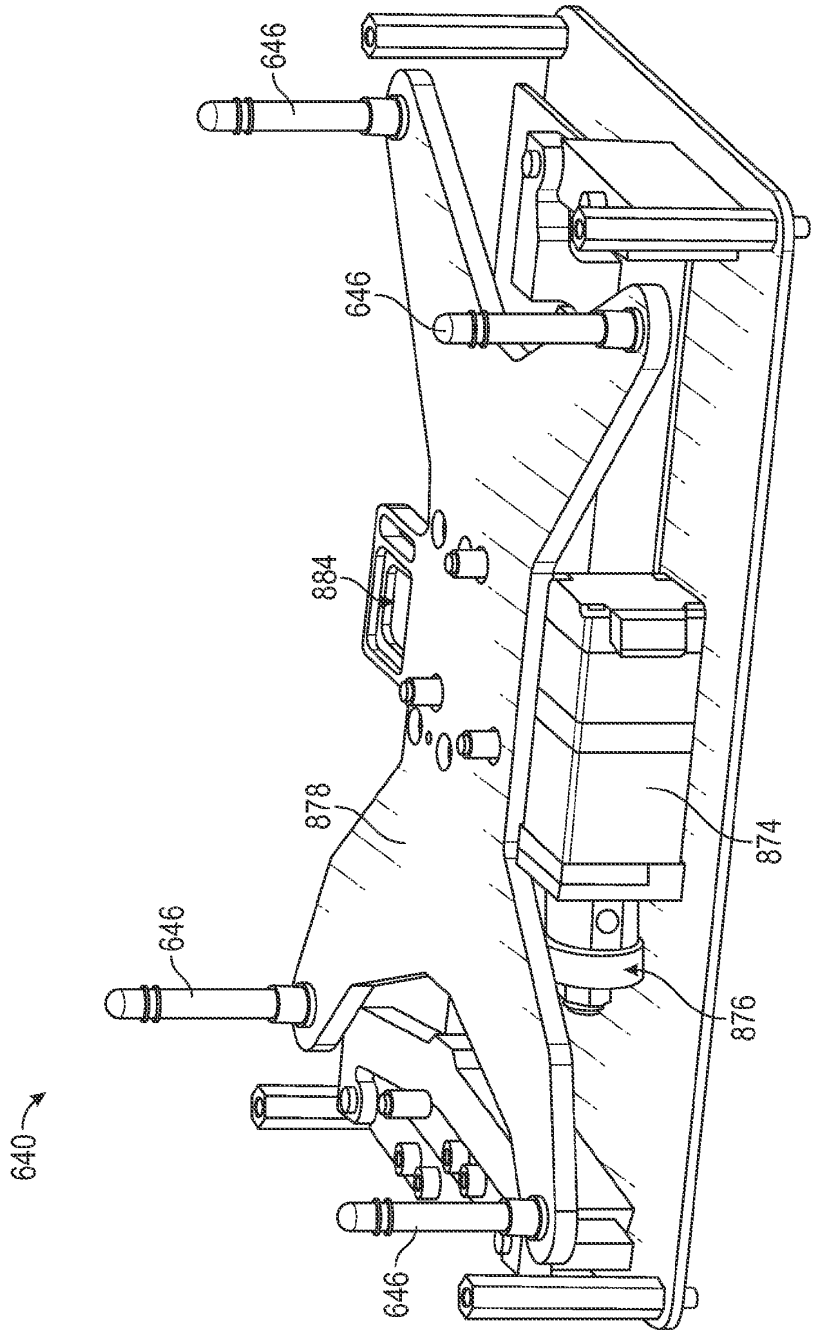


FIG. 67

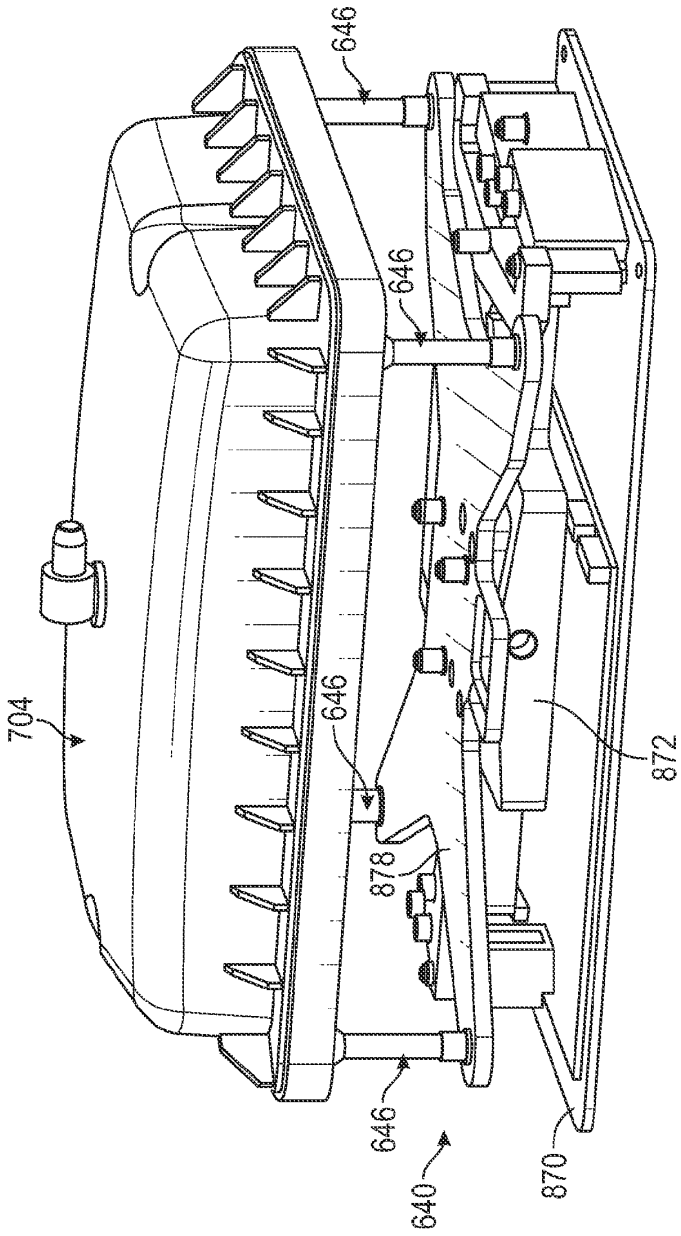


FIG. 68

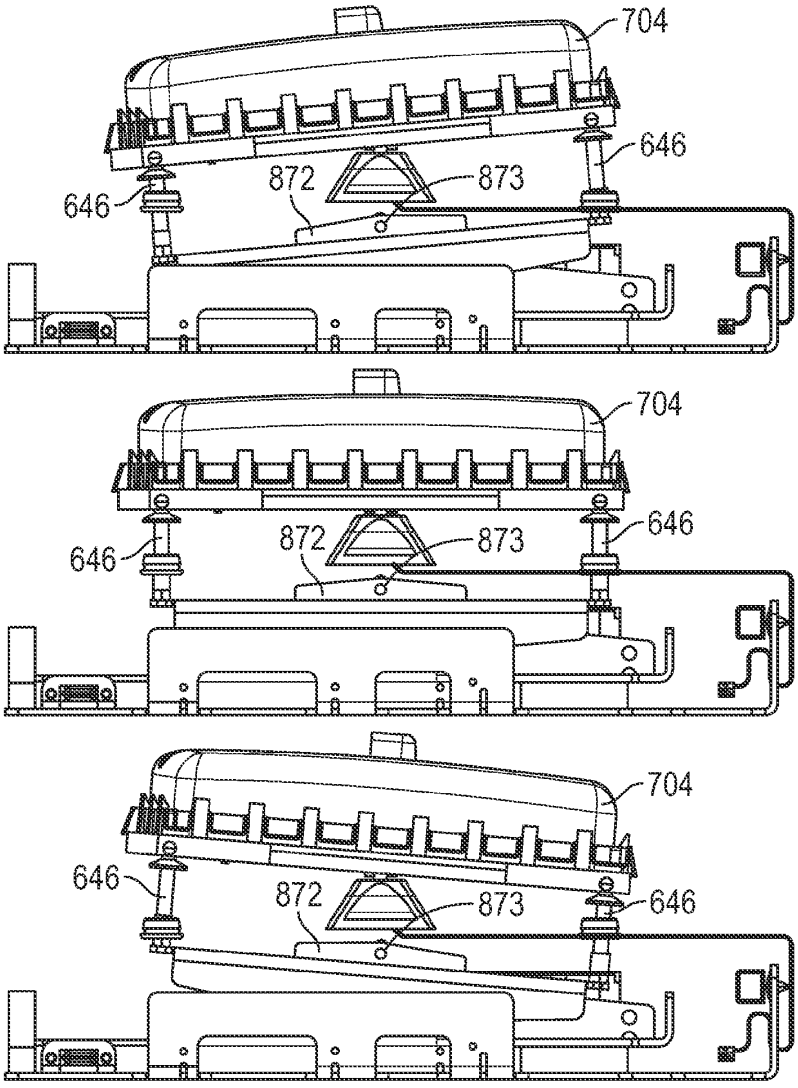


FIG. 69

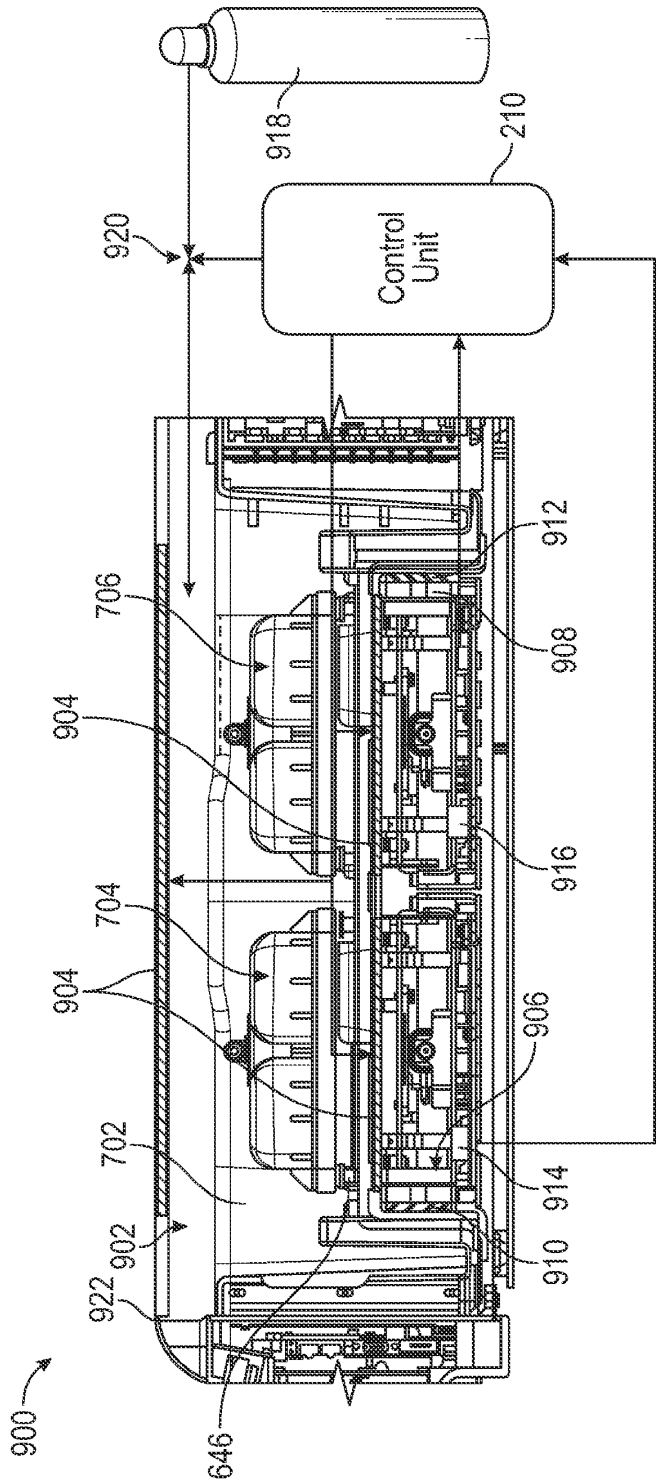

900
646
922
902
702
904
704
904
706
920
918
210
Control Unit
912
908
916
906
914
910

FIG. 70

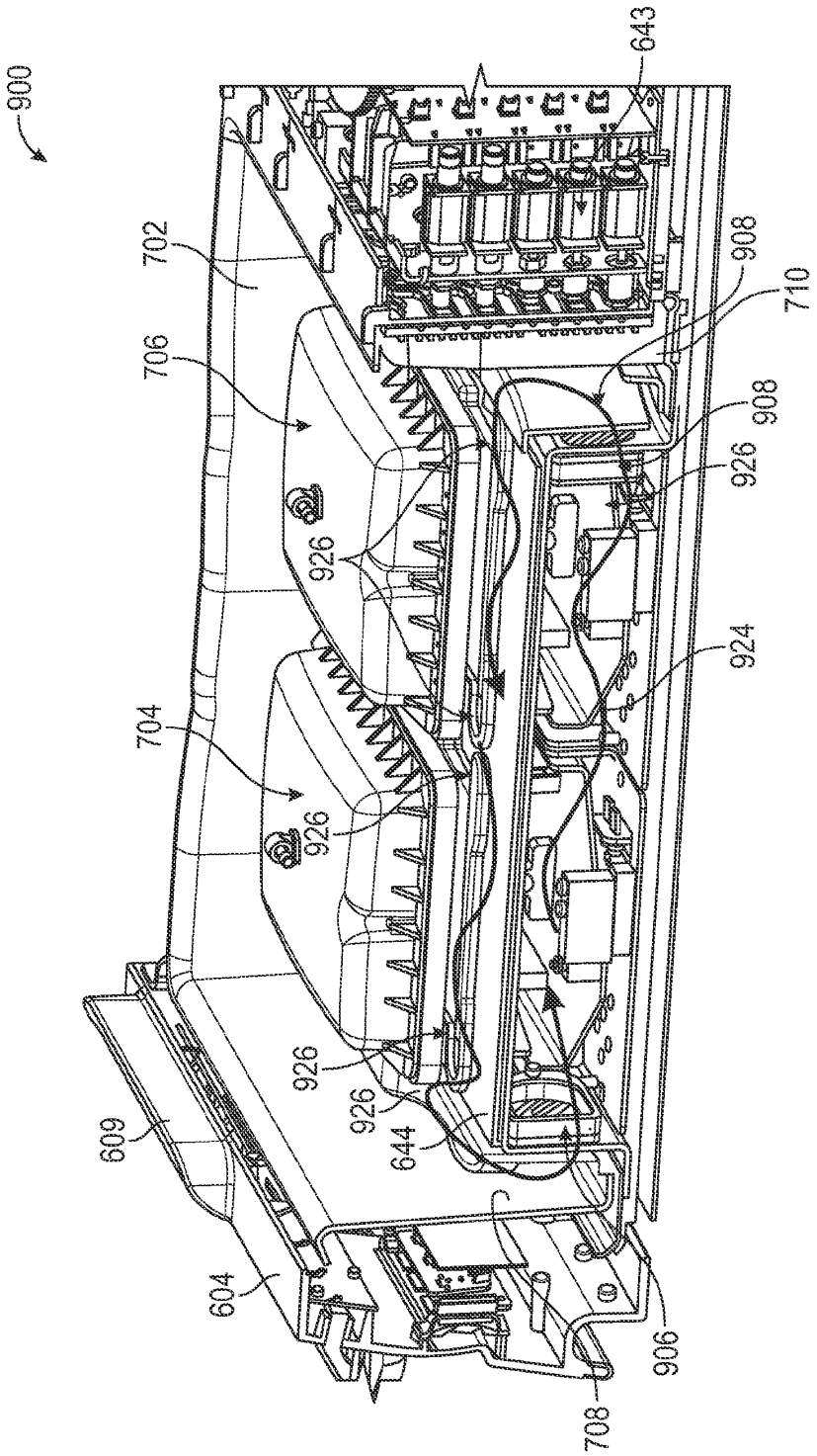

900
643
702
908
710
706
908
926
926
924
704
926
926
926
644
609
604
906
708

FIG. 71

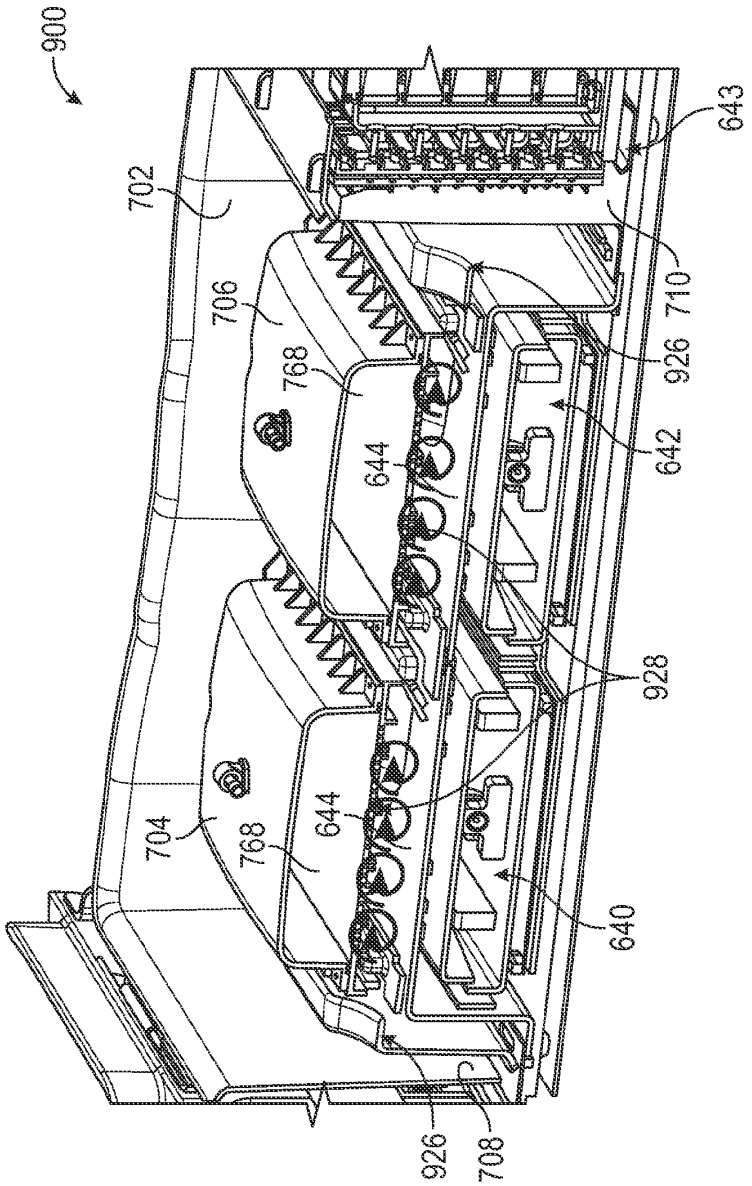


FIG. 72

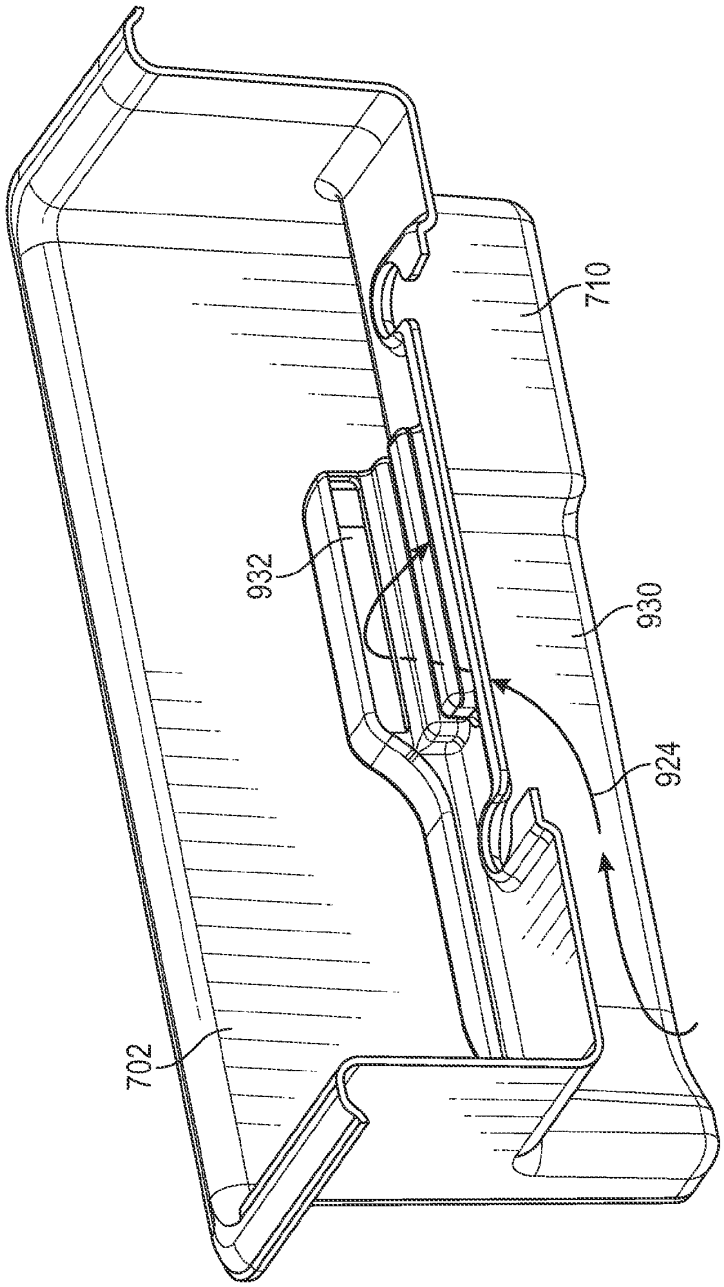


FIG. 73

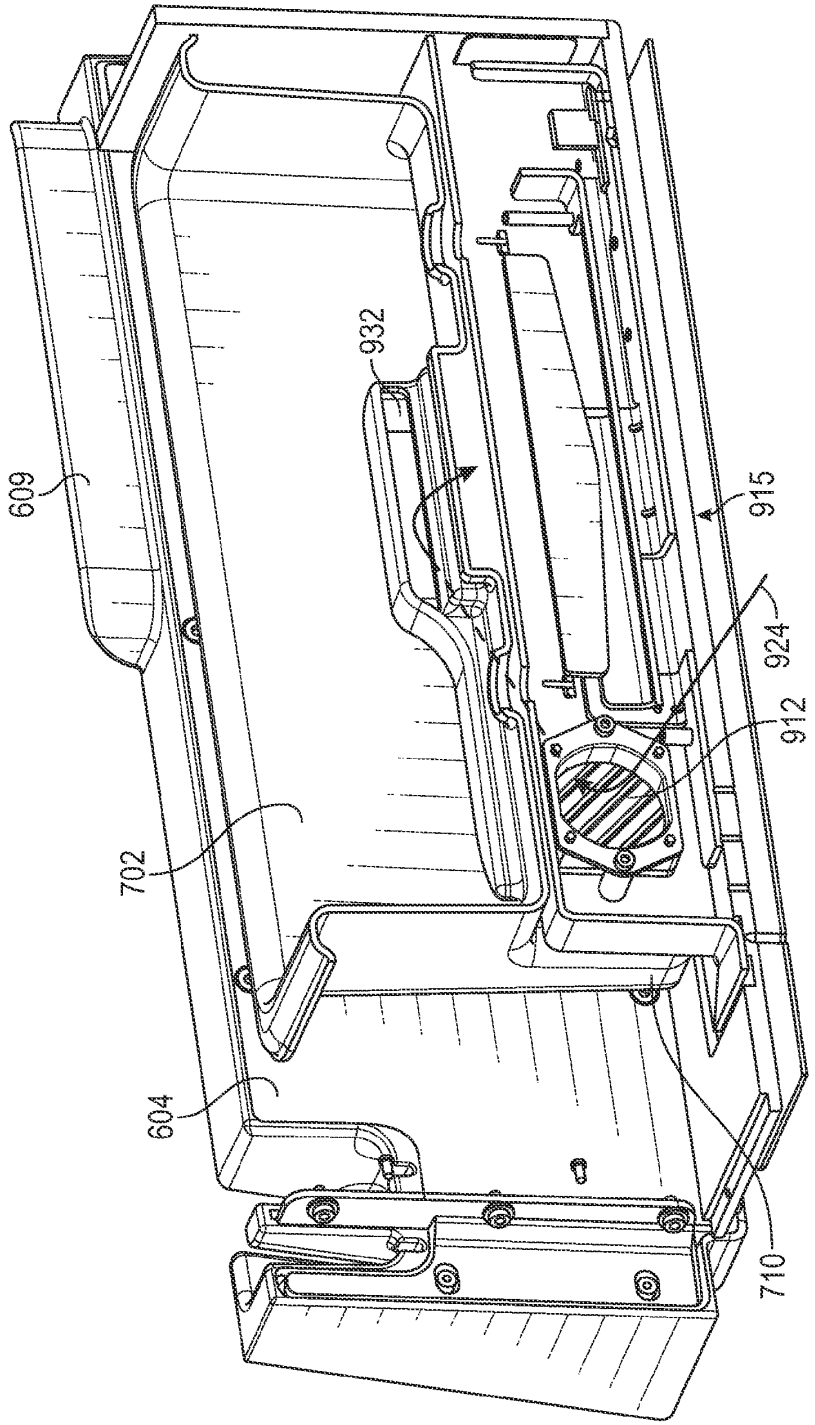


FIG. 74

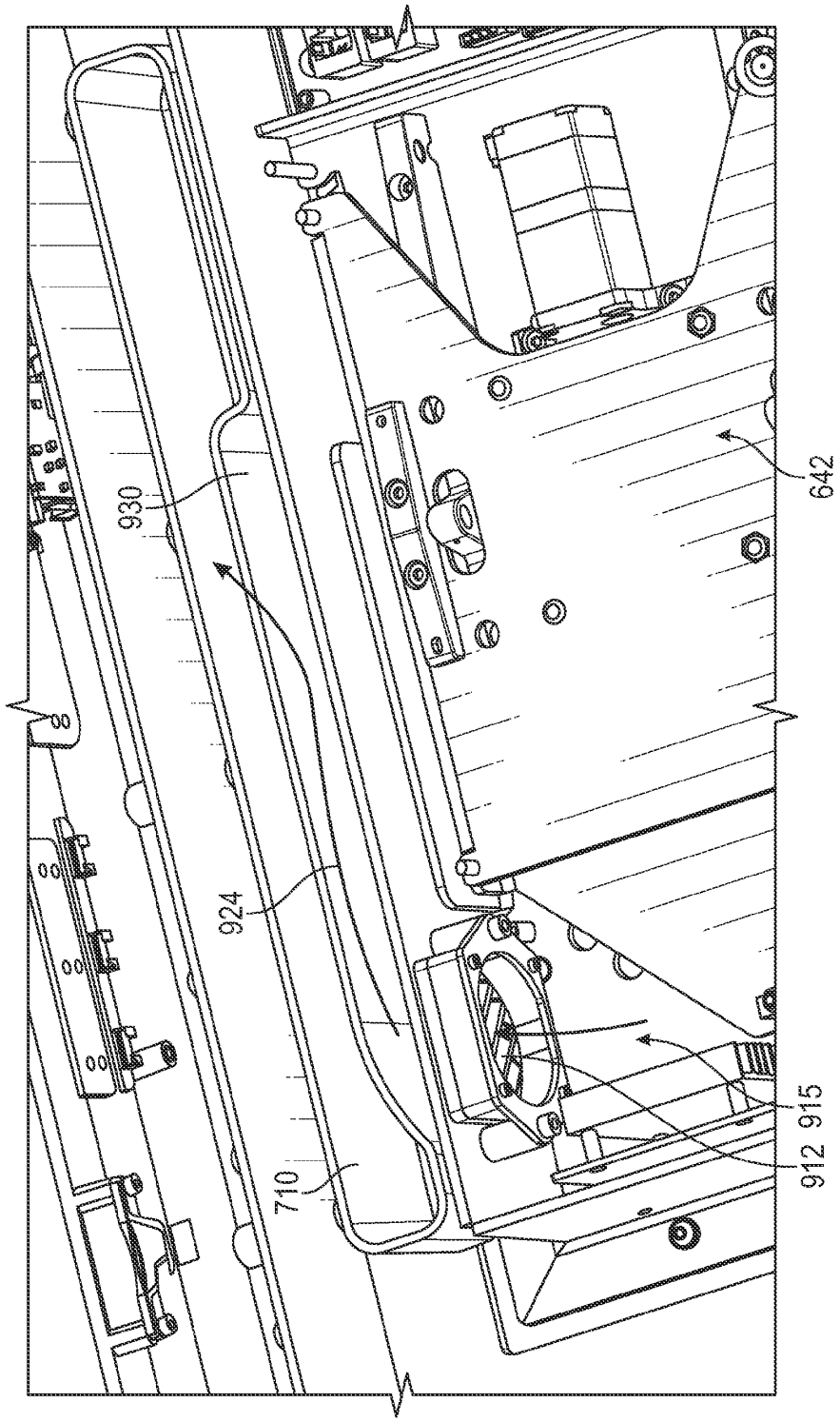


FIG. 75

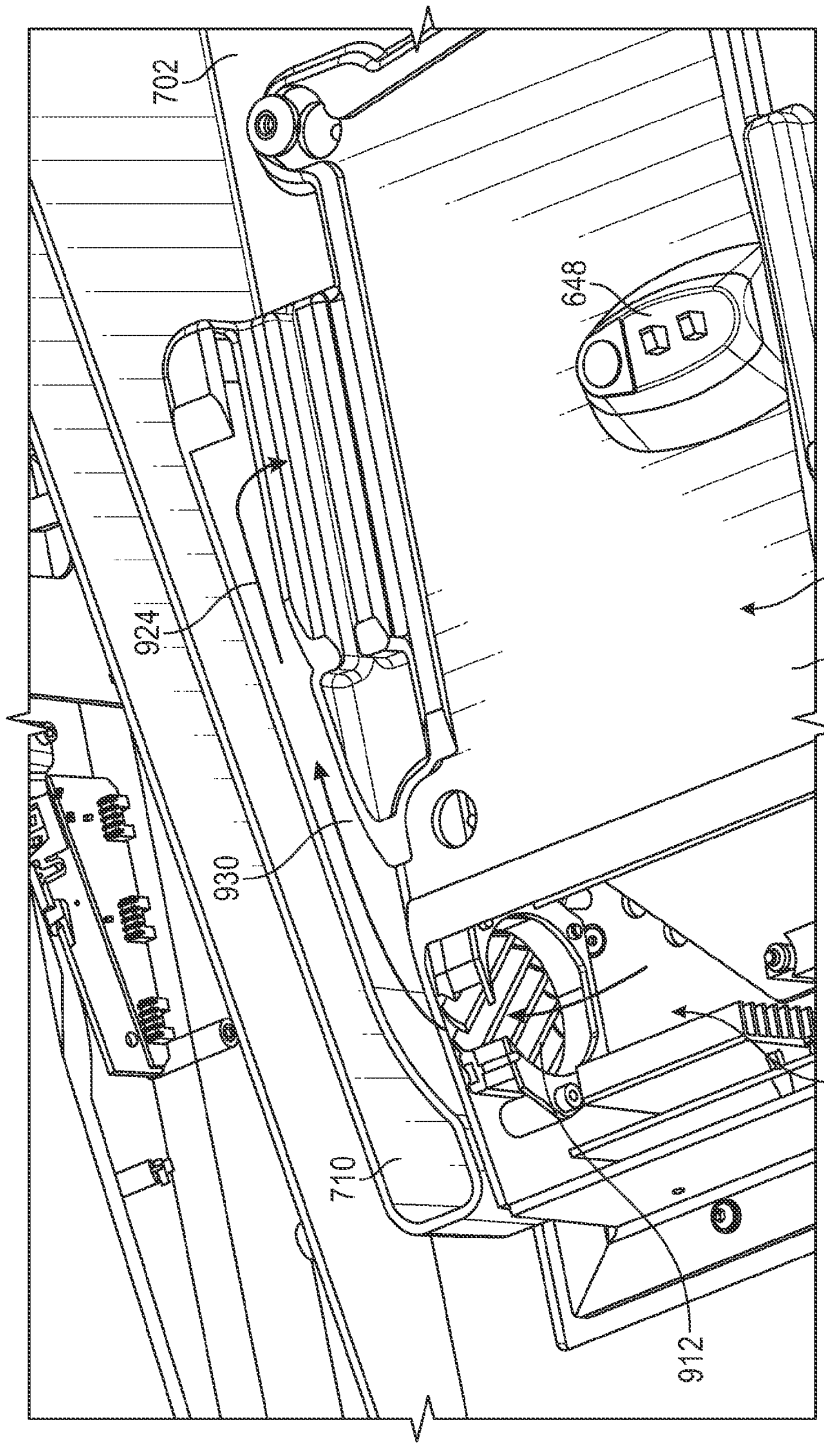


FIG. 76

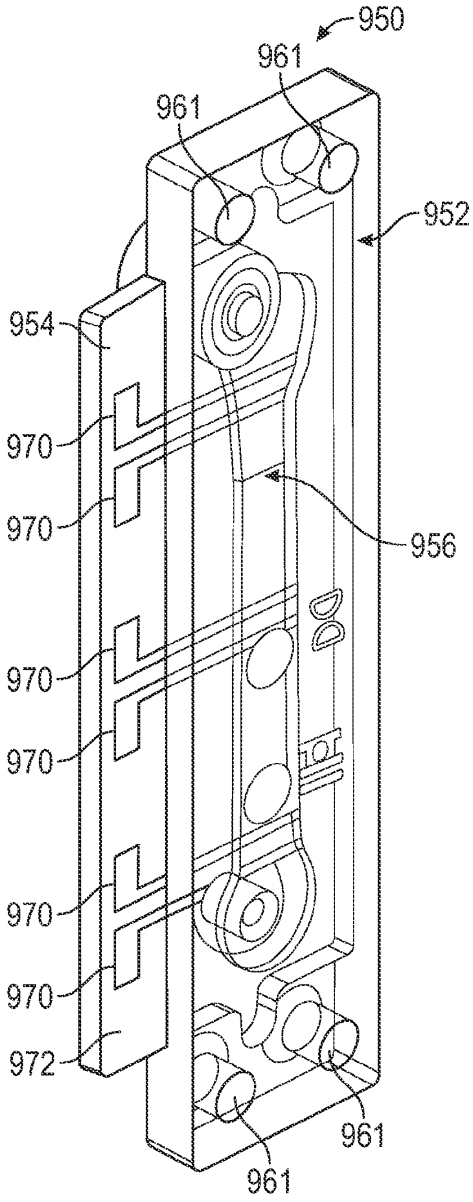

950
961
961
952
954
970
970
956
970
970
970
970
970
972
961
961

FIG. 77

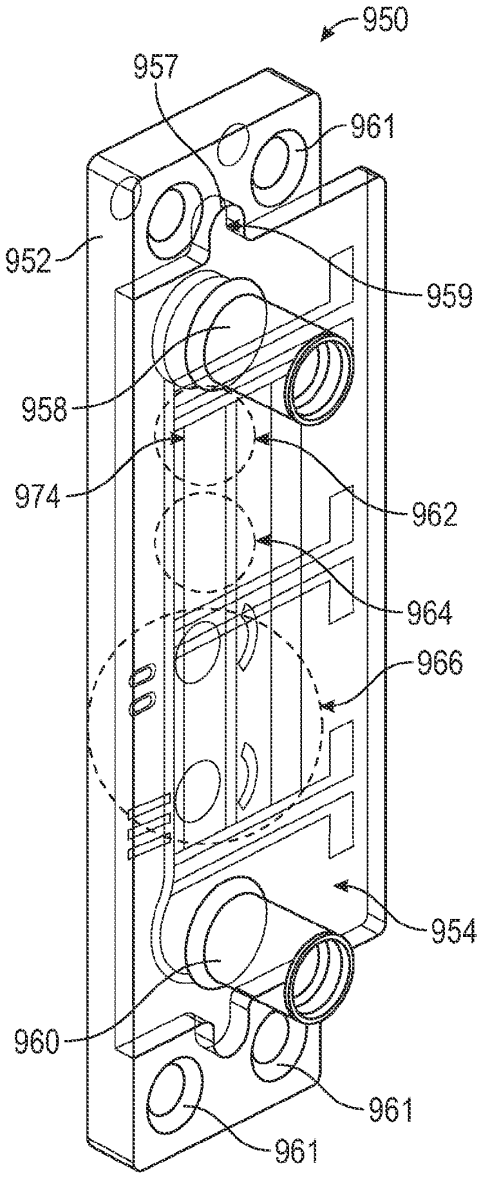

950
957
961
952
959
958
974
962
964
966
954
960
961
961

FIG. 78

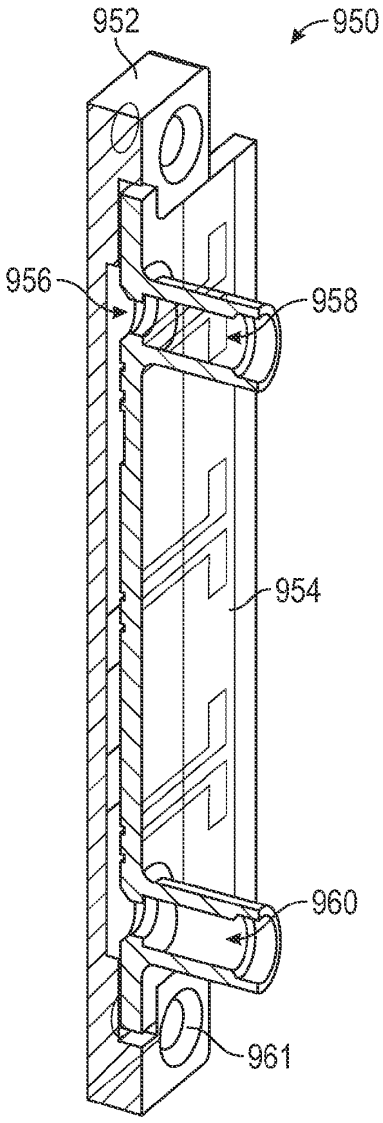

952
950
956
958
954
960
961

FIG. 79

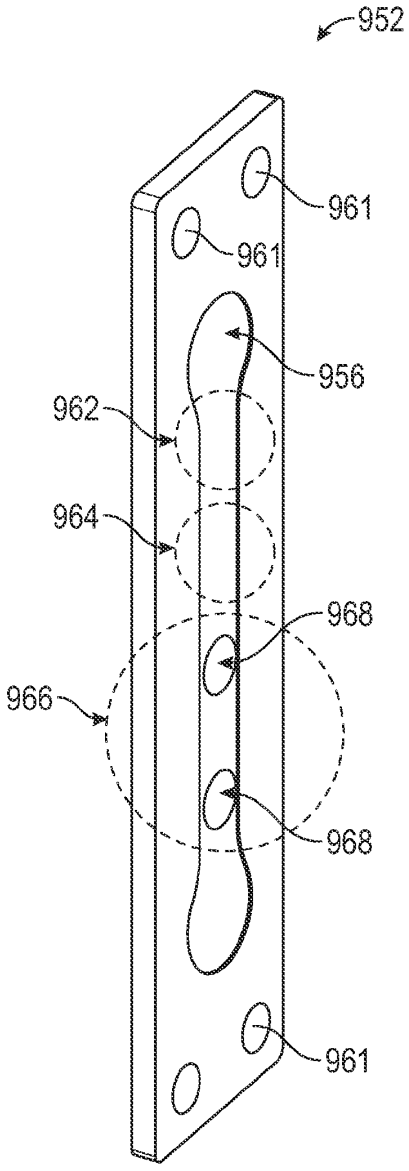

952
961
961
956
962
964
968
966
968
961

FIG. 80

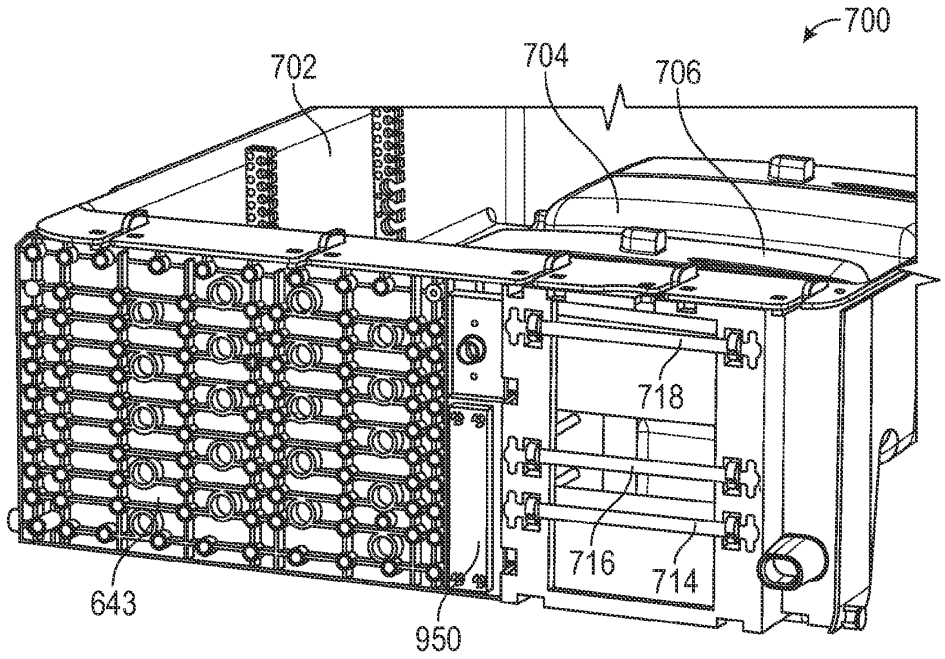


FIG. 81

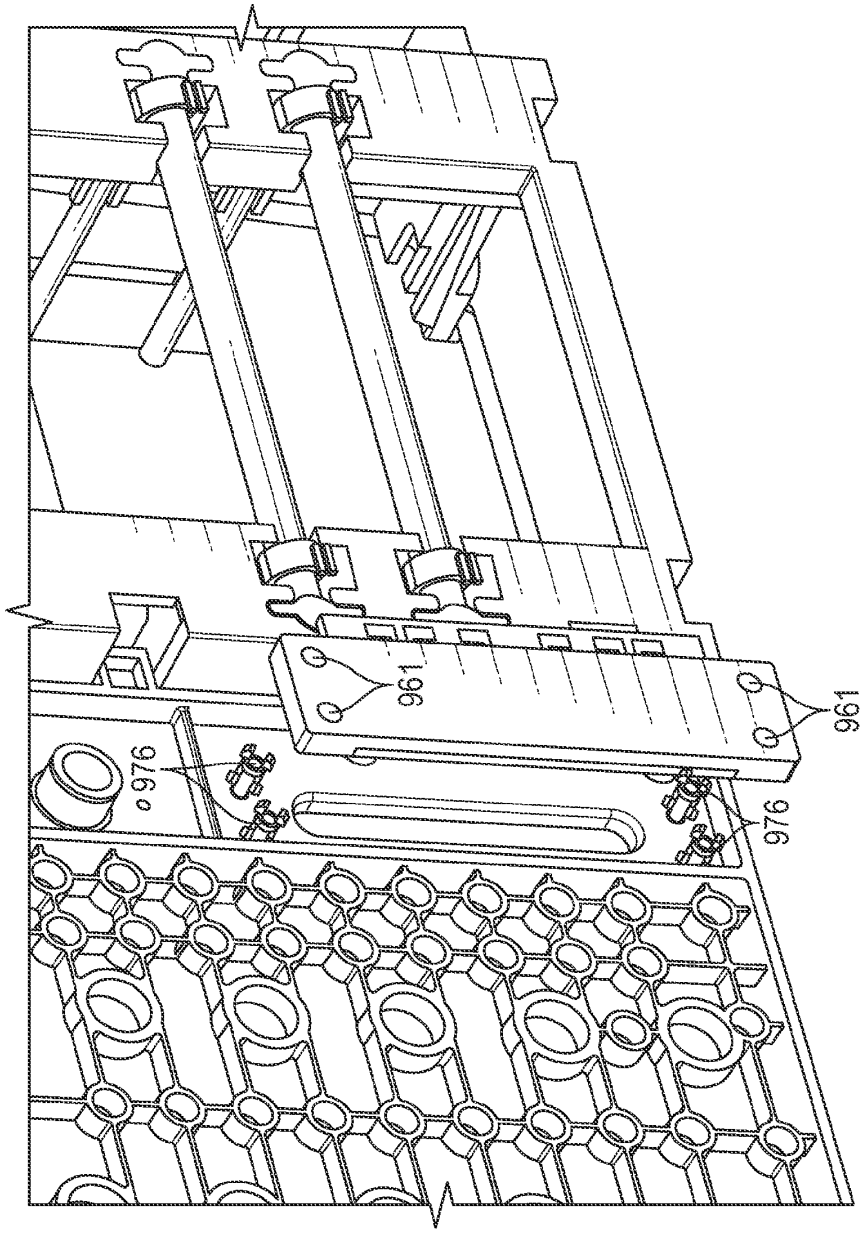


FIG. 82

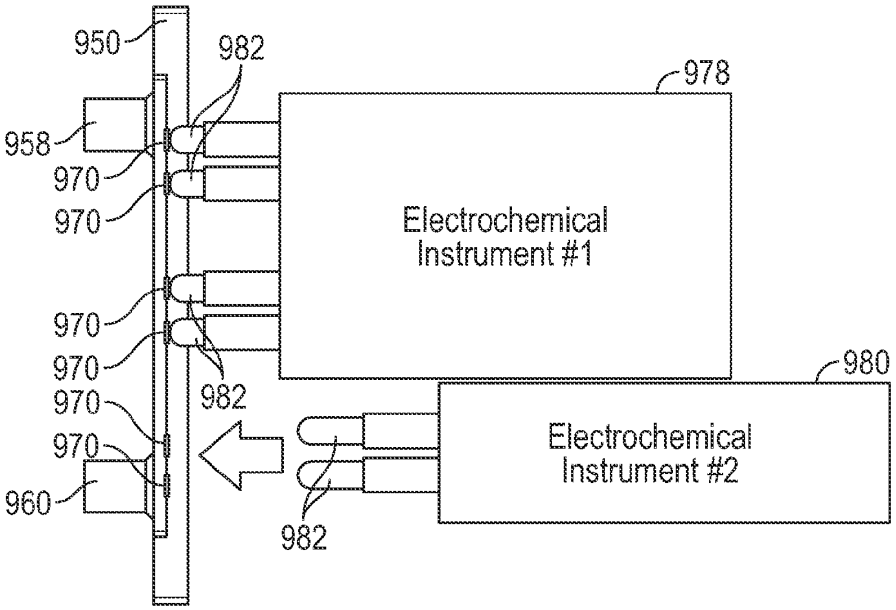

950
982
978
958
970
970
Electrochemical Instrument #1
970
970
980
982
970
970
Electrochemical Instrument #2
960
982

FIG. 83

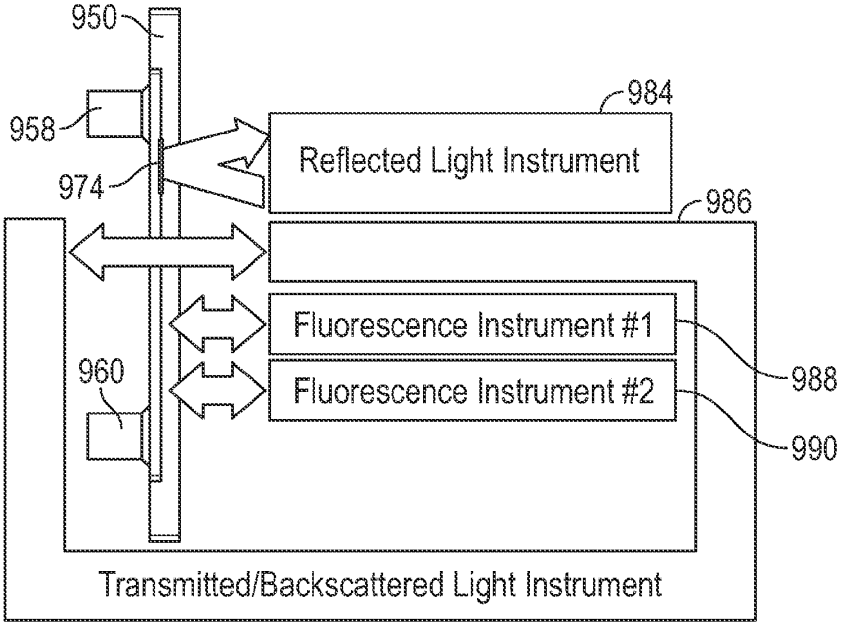

950
984
958
Reflected Light Instrument
974
986
Fluorescence Instrument #1
988
960
Fluorescence Instrument #2
990
Transmitted/Backscattered Light Instrument

FIG. 84

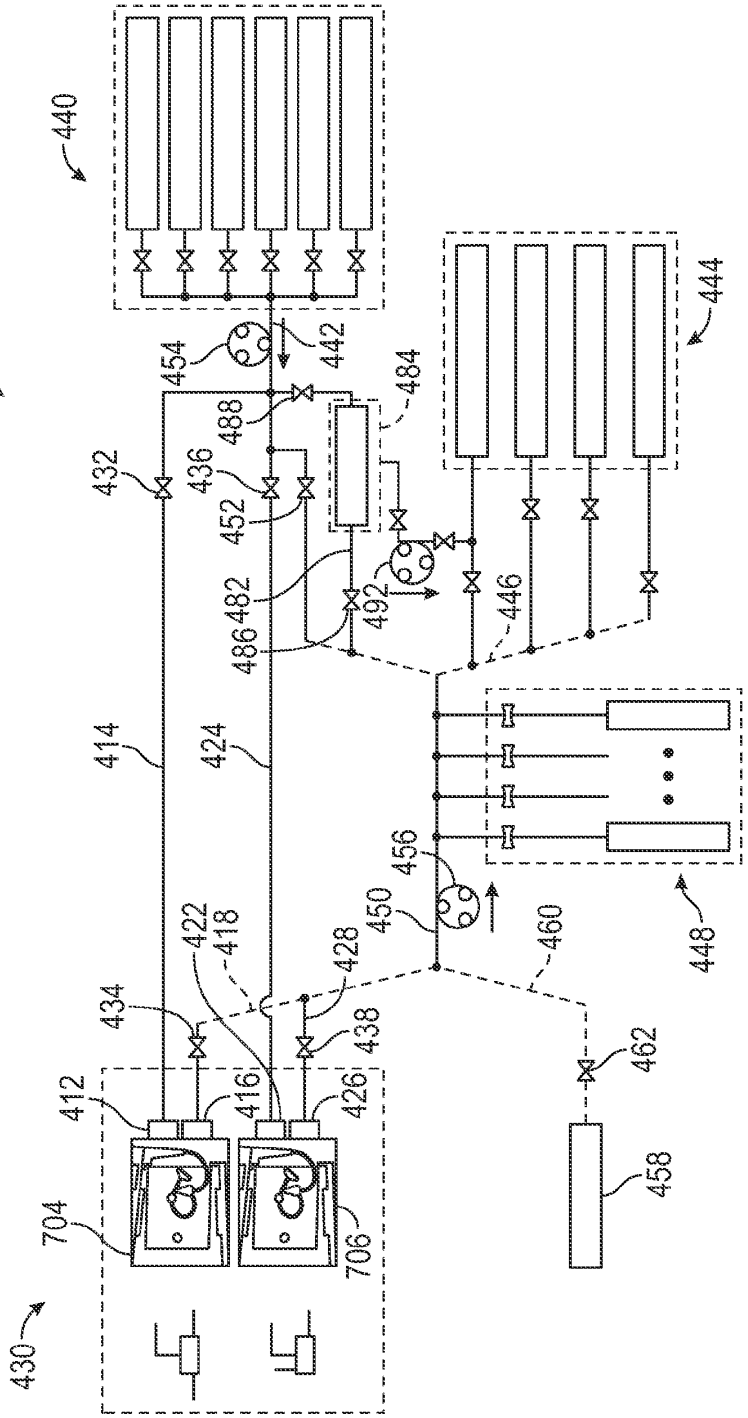

400
440
444
442
454
484
488
432
436
452
482
492
446
486
414
424
456
450
460
422
418
428
434
438
462
412
416
426
458
704
706
430
448

FIG. 85

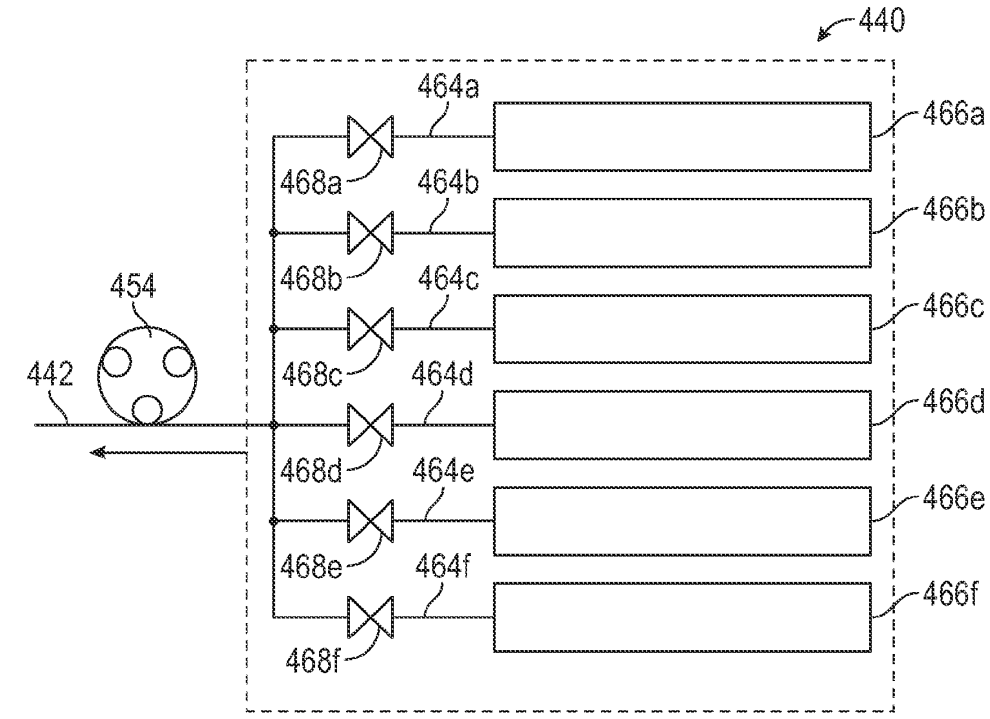

440
464a
466a
468a
464b
466b
468b
454
464c
466c
442
468c
464d
466d
468d
464e
466e
468e
464f
466f
468f

FIG. 86

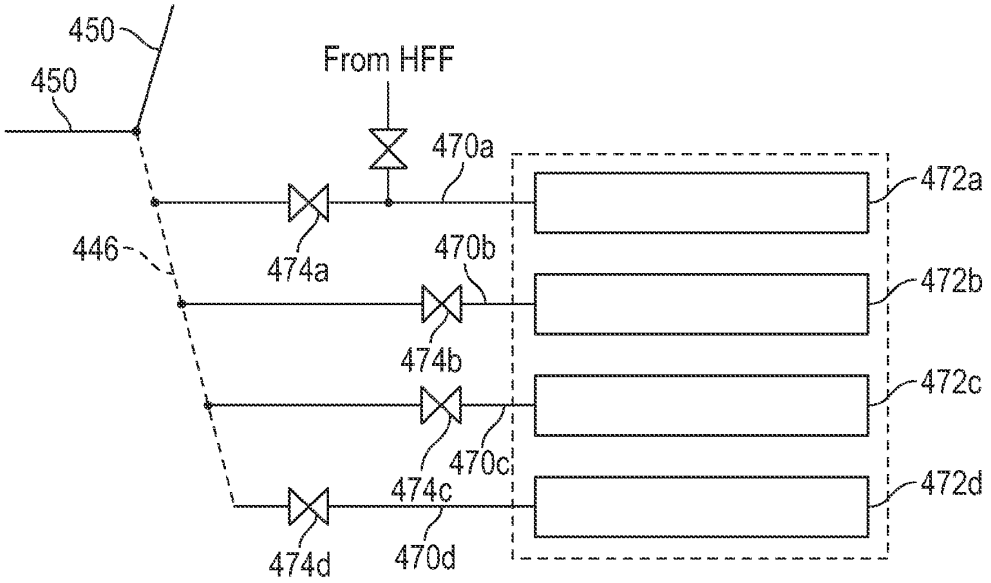

450
450
From HFF
470a
472a
446
474a
470b
472b
474b
472c
470c
474c
472d
474d
470d

FIG. 87

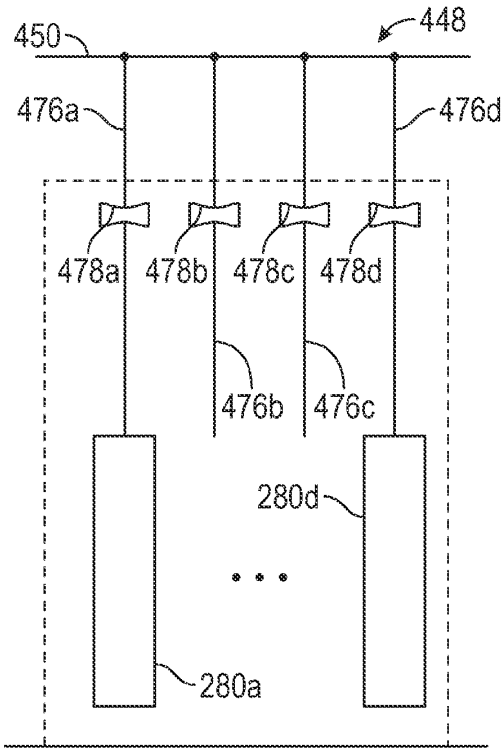

450
448
476a
476d
478a
478b
478c
478d
476b
476c
280d
280a

FIG. 88

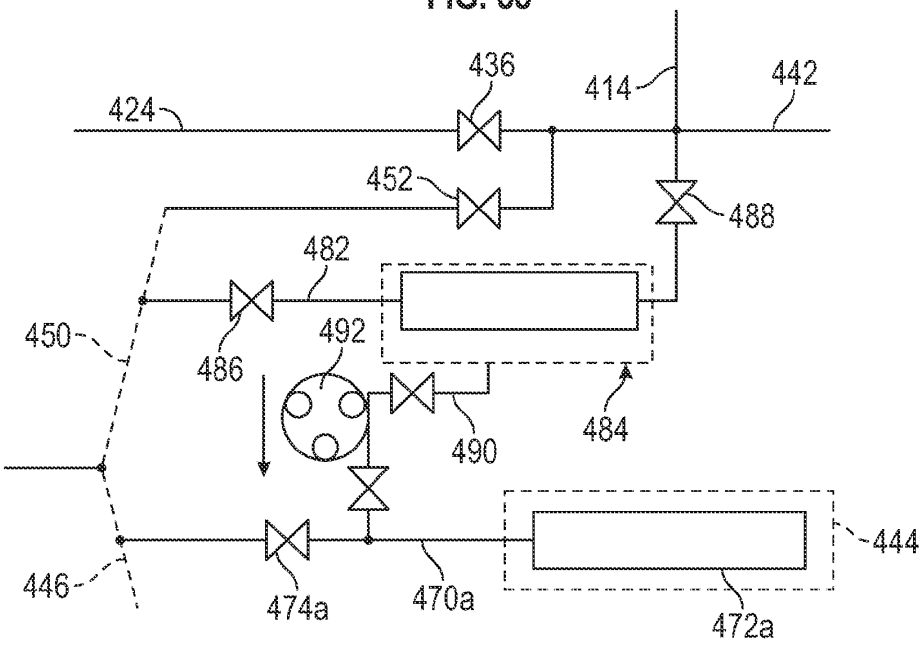

436
414
442
424
452
488
482
450
492
486
484
490
444
446
474a
470a
472a

FIG. 89

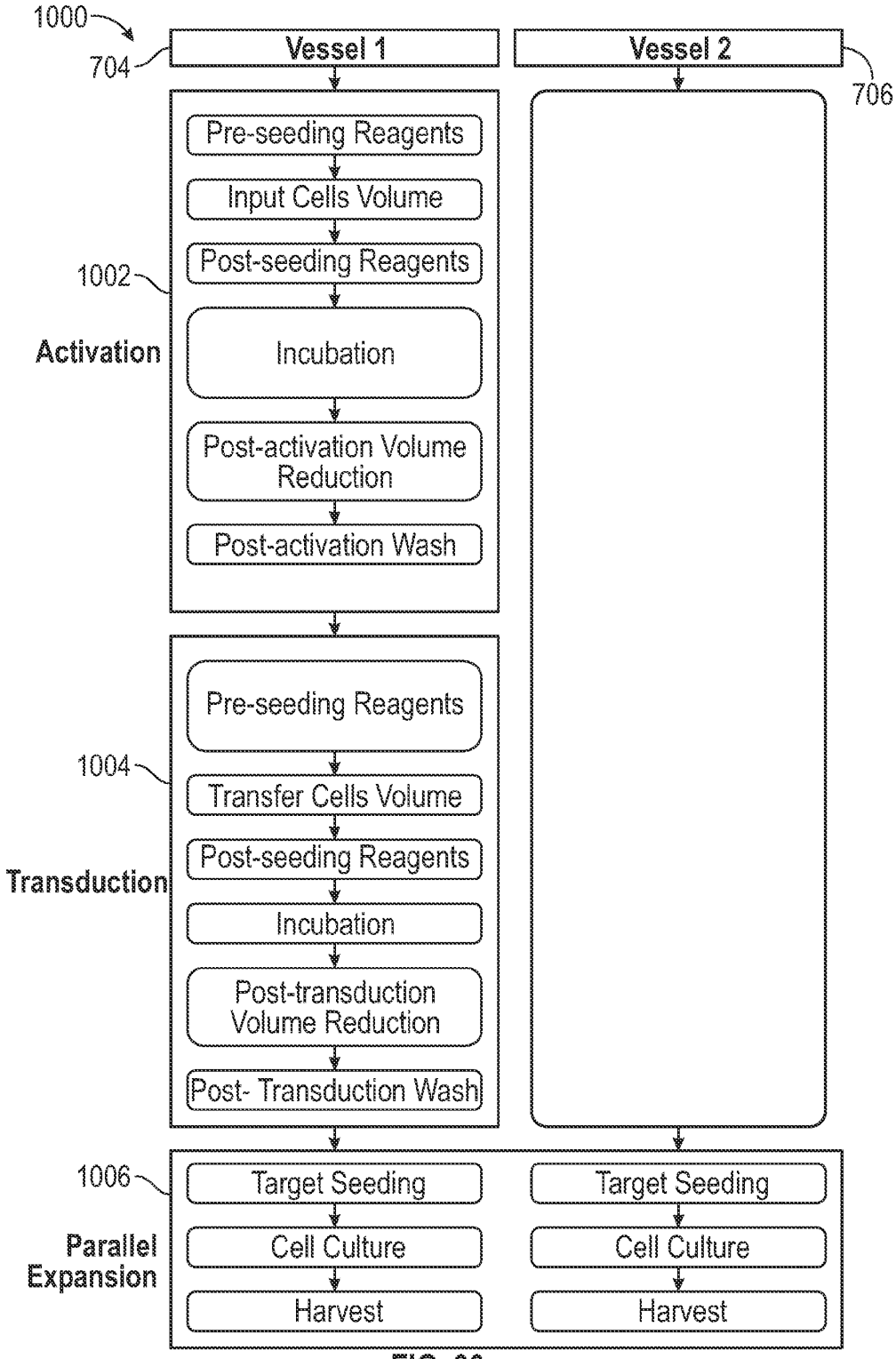

1000
704
Vessel 1
Vessel 2
706
Pre-seeding Reagents
Input Cells Volume
Post-seeding Reagents
1002
Activation
Incubation
Post-activation Volume Reduction
Post-activation Wash
Pre-seeding Reagents
1004
Transfer Cells Volume
Post-seeding Reagents
Transduction
Incubation
Post-transduction Volume Reduction
Post- Transduction Wash
1006
Target Seeding
Target Seeding
Parallel Expansion
Cell Culture
Cell Culture
Harvest
Harvest

FIG. 90

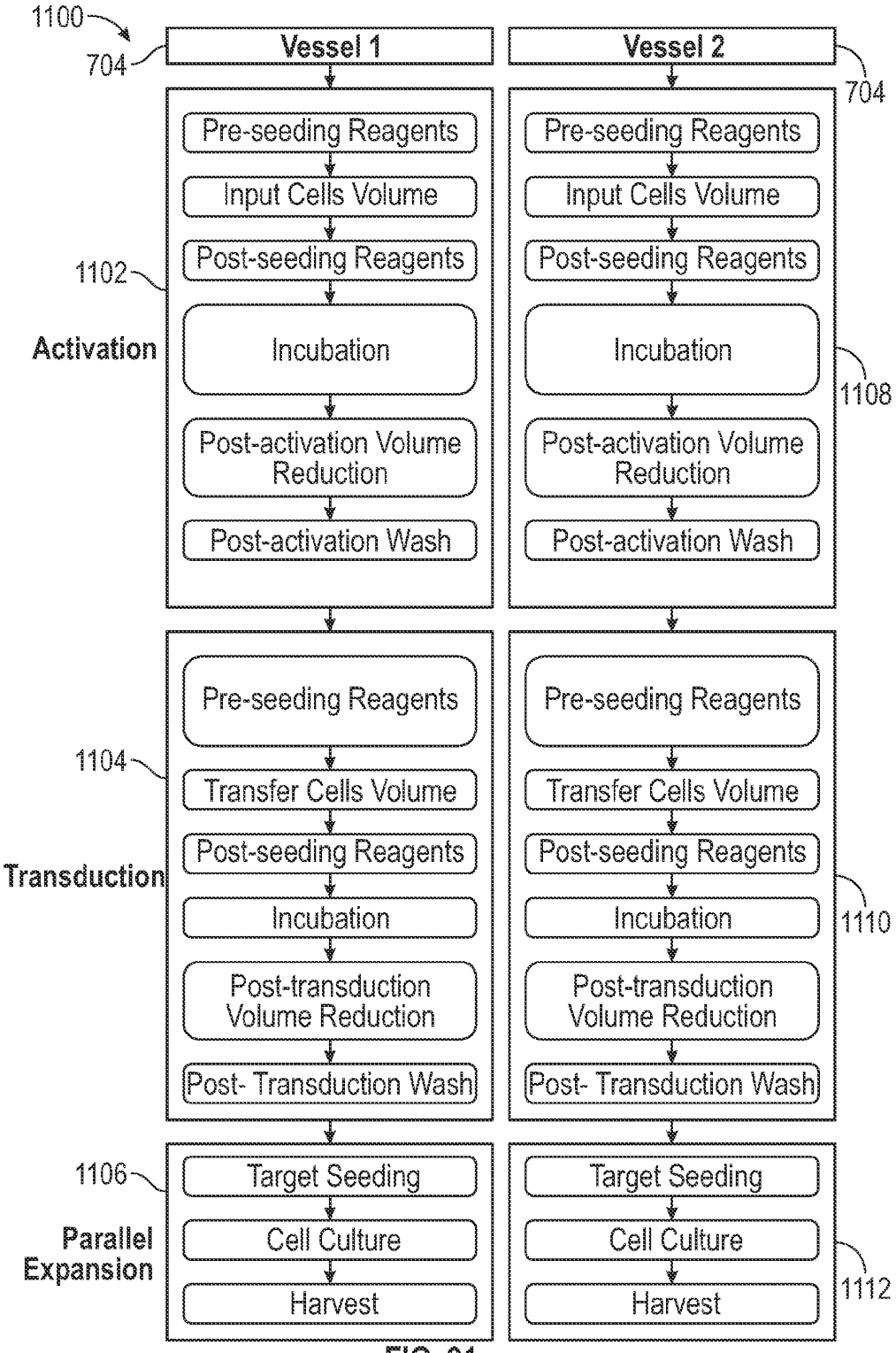

1100
704
Vessel 1
Vessel 2
704
Pre-seeding Reagents
Input Cells Volume
Post-seeding Reagents
1102
Activation
Incubation
Post-activation Volume Reduction
Post-activation Wash
1108
Pre-seeding Reagents
1104
Transfer Cells Volume
Post-seeding Reagents
Transduction
Incubation
Post-transduction Volume Reduction
Post- Transduction Wash
1110
1106
Target Seeding
Cell Culture
Parallel Expansion
Harvest
1112

FIG. 91

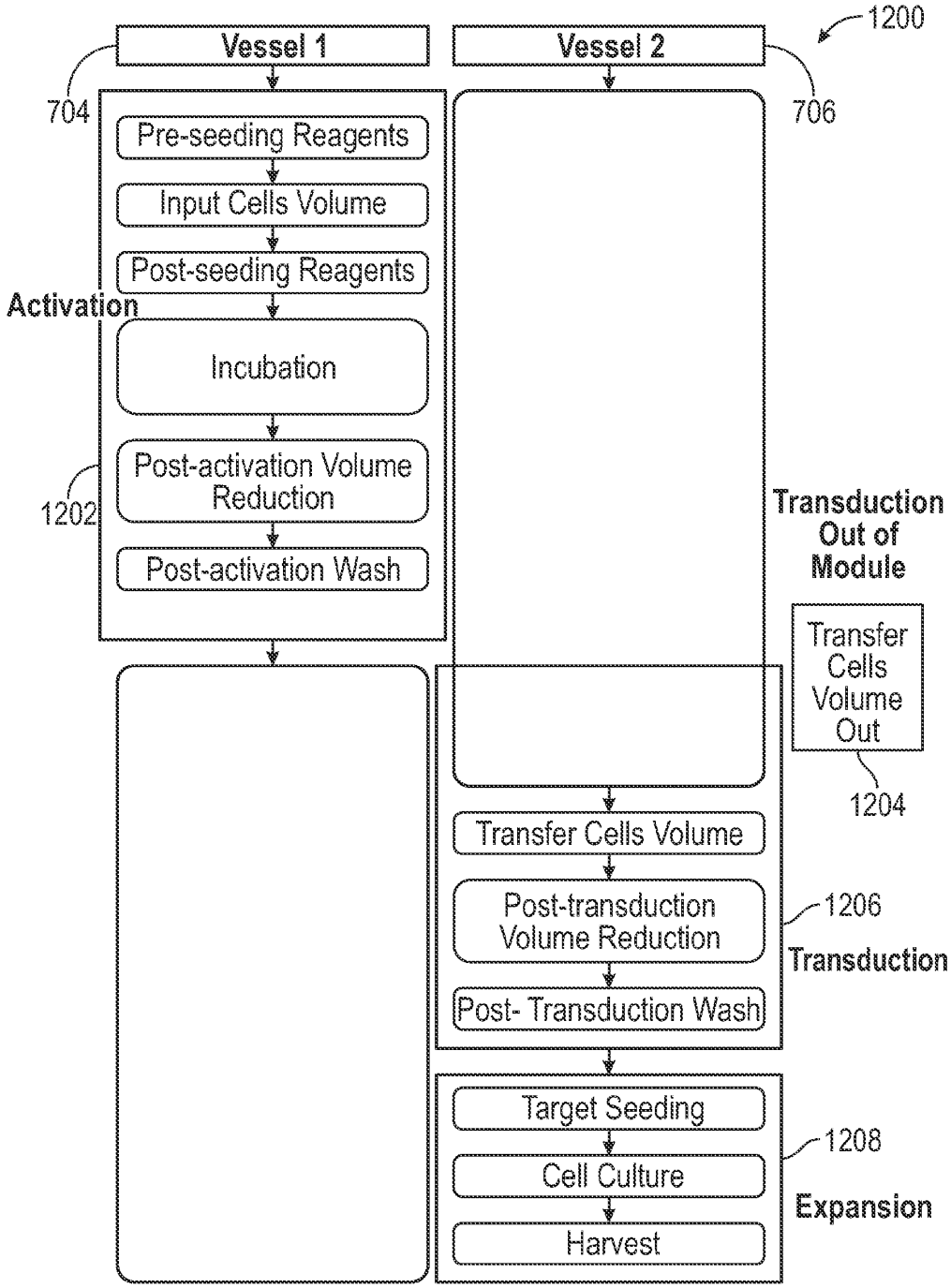

1200
Vessel 1
Vessel 2
704
706
Pre-seeding Reagents
Input Cells Volume
Post-seeding Reagents
Activation
Incubation
Post-activation Volume Reduction
1202
Post-activation Wash
Transduction Out of Module
Transfer Cells Volume Out
1204
Transfer Cells Volume
Post-transduction Volume Reduction
1206
Transduction
Post- Transduction Wash
Target Seeding
Cell Culture
Harvest
1208
Expansion

FIG. 92

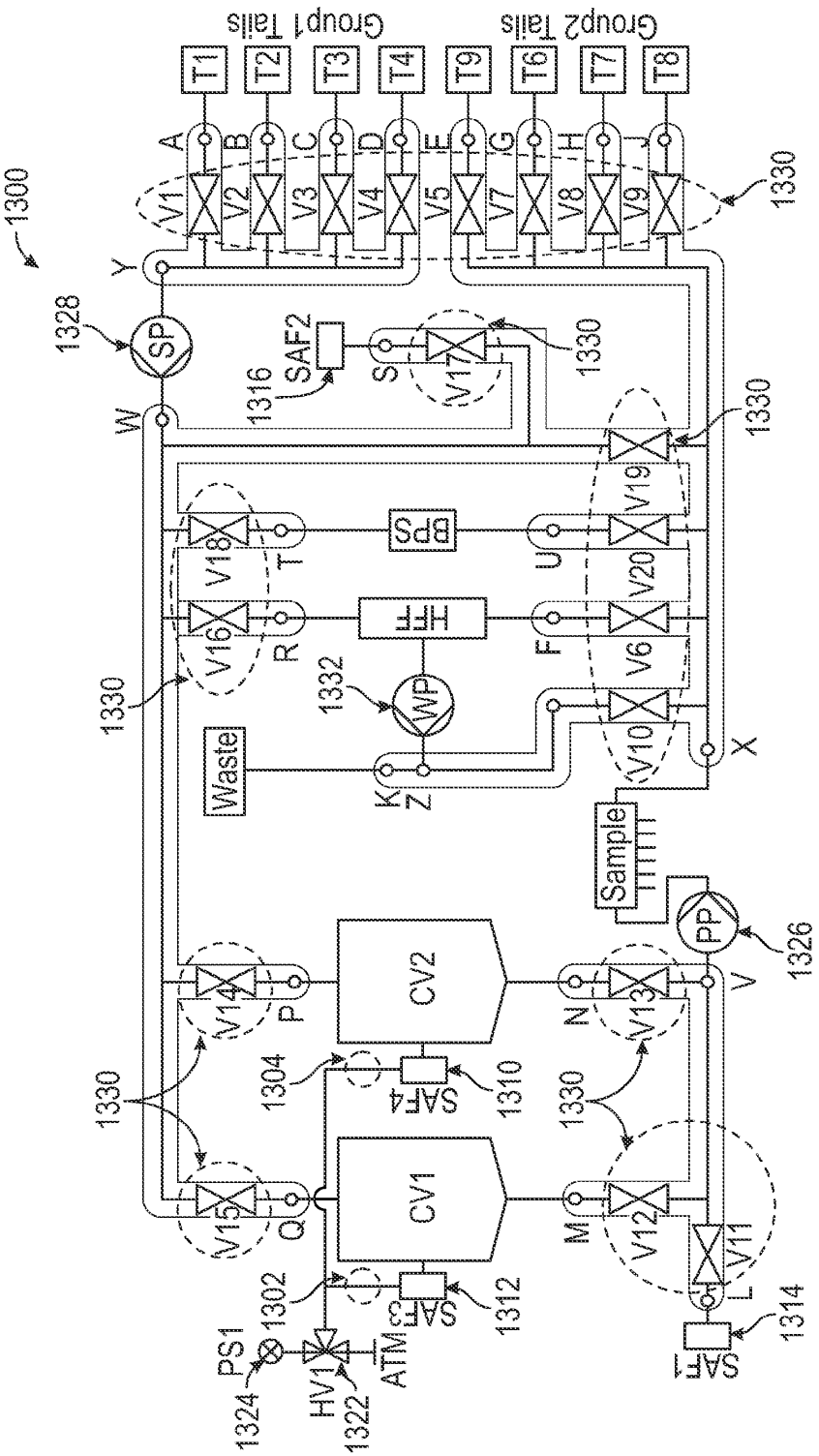

1300
Group1 Tails
Group2 Tails
T1
T2
T3
T4
T9
T6
T7
T8
A
B
C
D
E
G
H
V1
V2
V3
V4
V5
V7
V8
V9
1330
Y
1328
SP
SAF2
1316
S
V17
1330
W
1330
V19
V18
BPS
T
U
V20
V16
HFF
R
F
V6
1330
1332
WP
V10
X
Waste
K
Z
Sample
PP
1326
V14
P
CV2
N
V13
V
1330
1304
SAF4
1310
1330
V15
Q
CV1
M
V12
V11
L
1302
SAF3
1312
1314
SAF1
PS1
1324
HV1
1322
ATM

FIG. 93

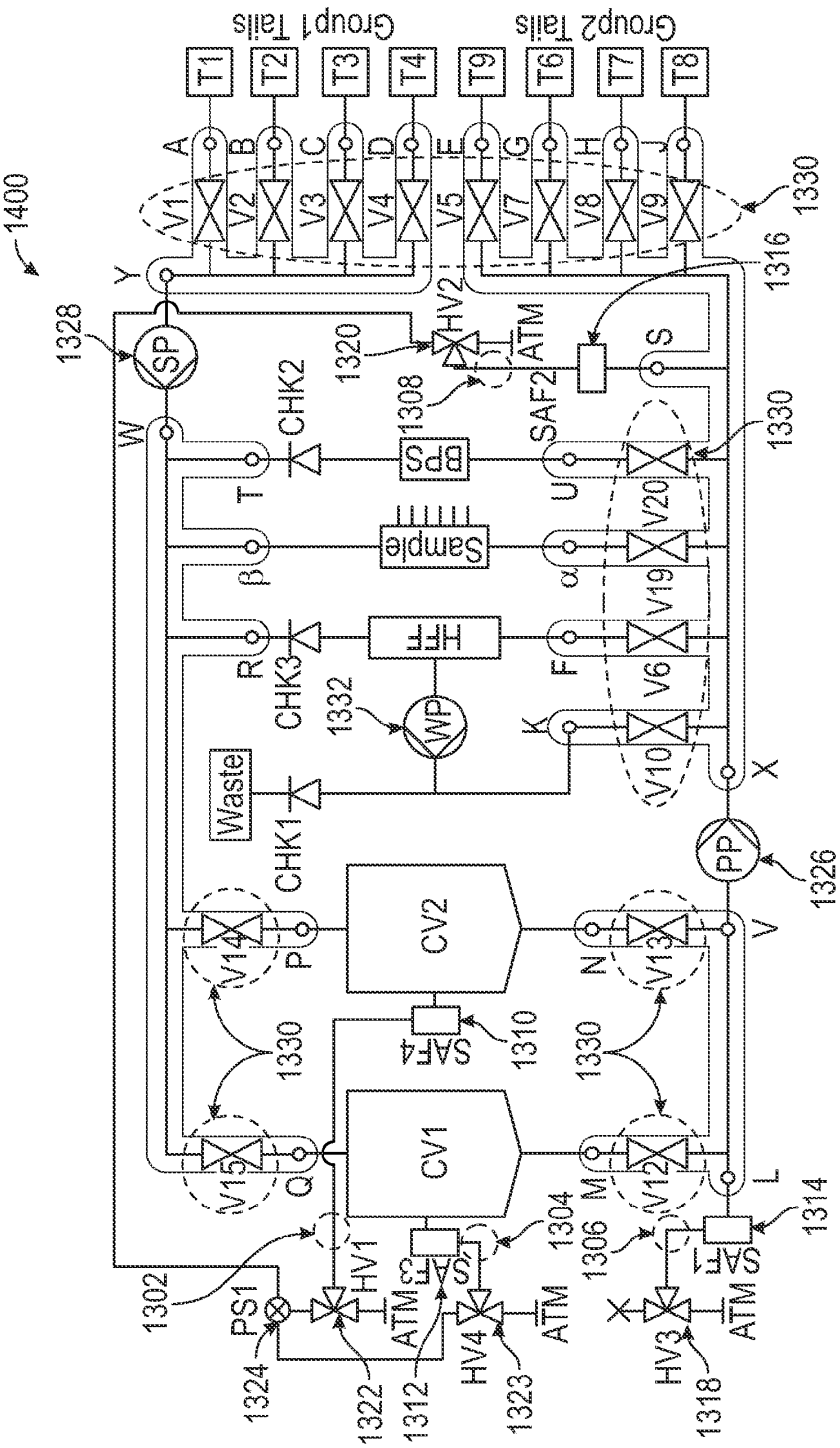

1400
Group1 Tails
Group2 Tails
T1
T2
T3
T4
T9
T6
T7
T8
A
B
C
D
E
G
H
V1
V2
V3
V4
V5
V7
V8
V9
1330
1316
Y
1328
SP
HV2
1320
ATM
SAF2
S
1308
W
CHK2
BPS
T
U
V20
1330
Sample
β
α
V19
R
CHK3
HFF
F
V6
1332
WP
K
V10
X
Waste
CHK1
PP
1326
V14
P
CV2
N
V13
V
1330
SAF4
1310
1330
V15
Q
CV1
M
V12
L
1304
1306
1314
SAF3
SAF1
1302
PS1
HV1
ATM
HV4
ATM
HV3
ATM
1324
1322
1312
1323
1318

FIG. 94

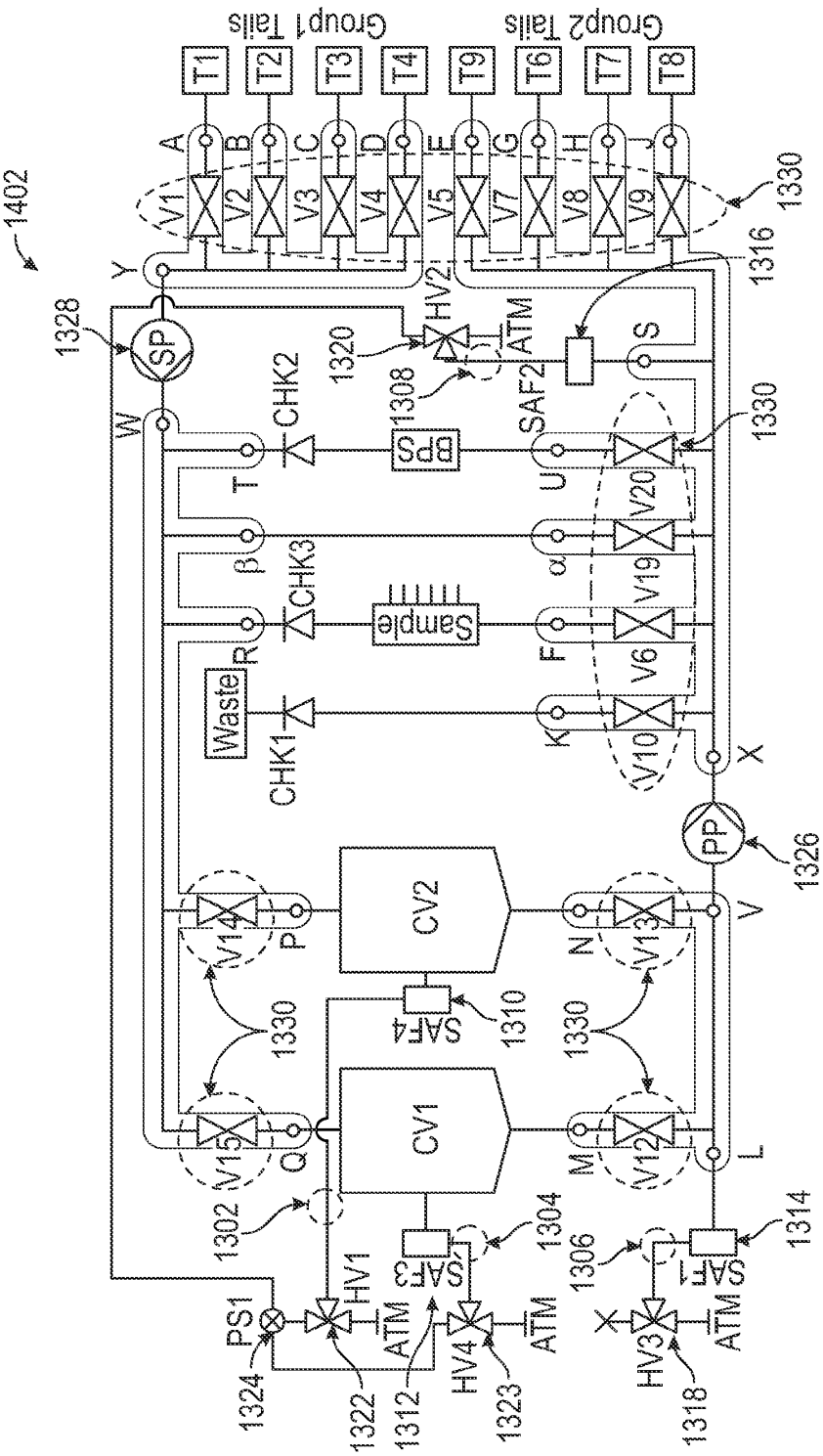

Group1 Tails
Group2 Tails
T1
T2
T3
T4
T9
T6
T7
T8
A
B
C
D
E
G
H
J
V1
V2
V3
V4
V5
V7
V8
V9
1330
1316
1402
Y
1328
SP
HV2
1320
ATM
1308
SAF2
S
W
CHK2
BPS
T
U
V20
β
CHK3
α
V19
Sample
R
F
V6
Waste
CHK1
K
V10
X
PP
1326
V14
P
CV2
N
V13
V
1330
SAF4
1310
1330
V15
Q
CV1
M
V12
L
1302
1304
1306
1314
HV1
SAF3
SAF1
PS1
ATM
ATM
HV4
HV3
ATM
1324
1322
1312
1323
1318

FIG. 95

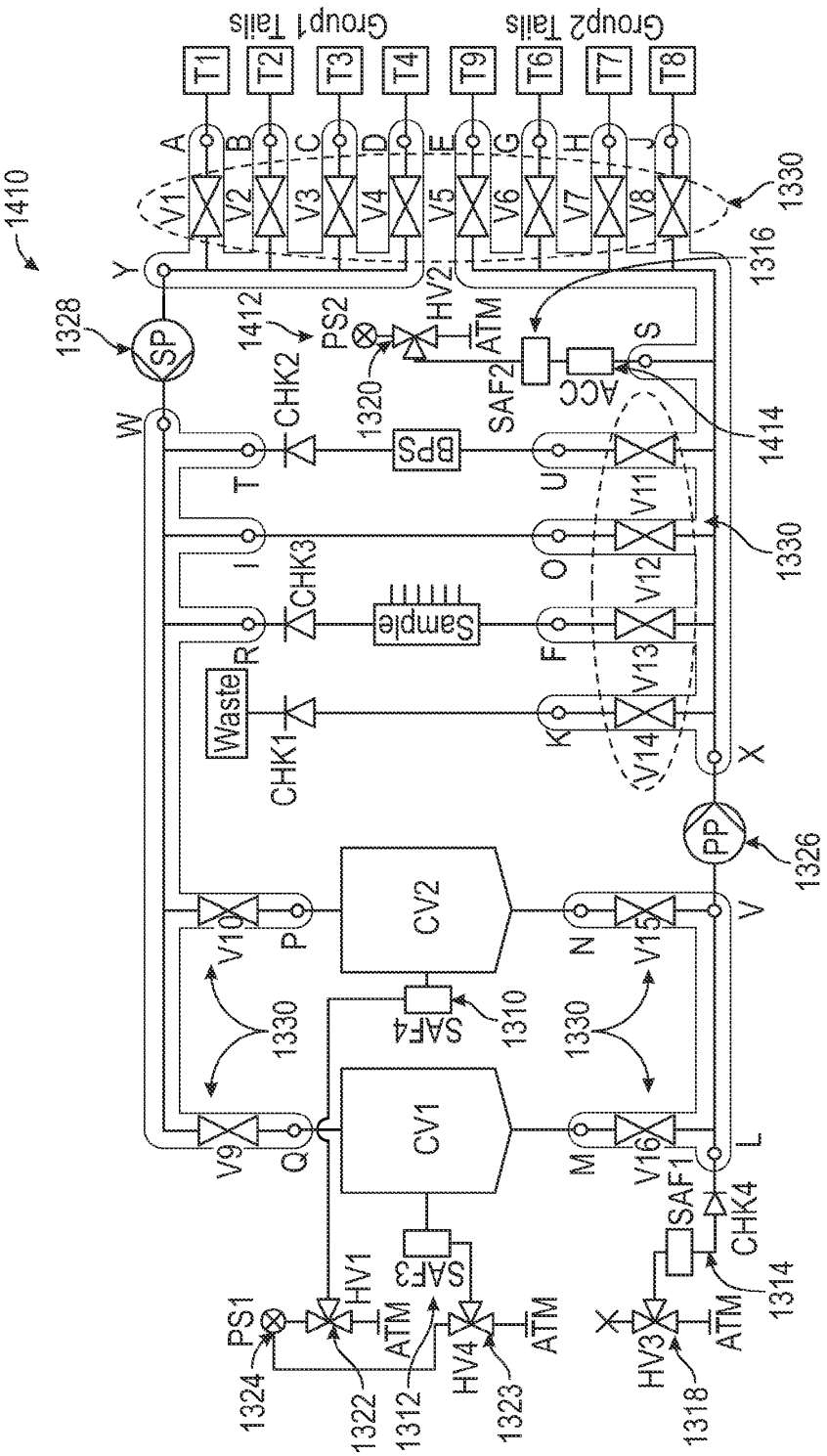

1410
Group1 Tails
Group2 Tails
T1
T2
T3
T4
T9
T6
T7
T8
A
B
C
D
E
G
H
V1
V2
V3
V4
V5
V6
V7
V8
1330
1316
Y
1328
SP
1412
PS2
HV2
ATM
SAF2
ACC
S
1320
CHK2
W
BPS
T
U
V11
1414
1330
I
O
V12
CHK3
Sample
R
F
V13
Waste
CHK1
K
V14
X
PP
1326
CV2
V10
P
N
V15
V
1330
SAF4
1310
1330
CV1
V9
Q
M
V16
L
SAF1
CHK4
1314
HV1
PS1
SAF3
ATM
HV4
ATM
HV3
ATM
1324
1322
1312
1323
1318

FIG. 96

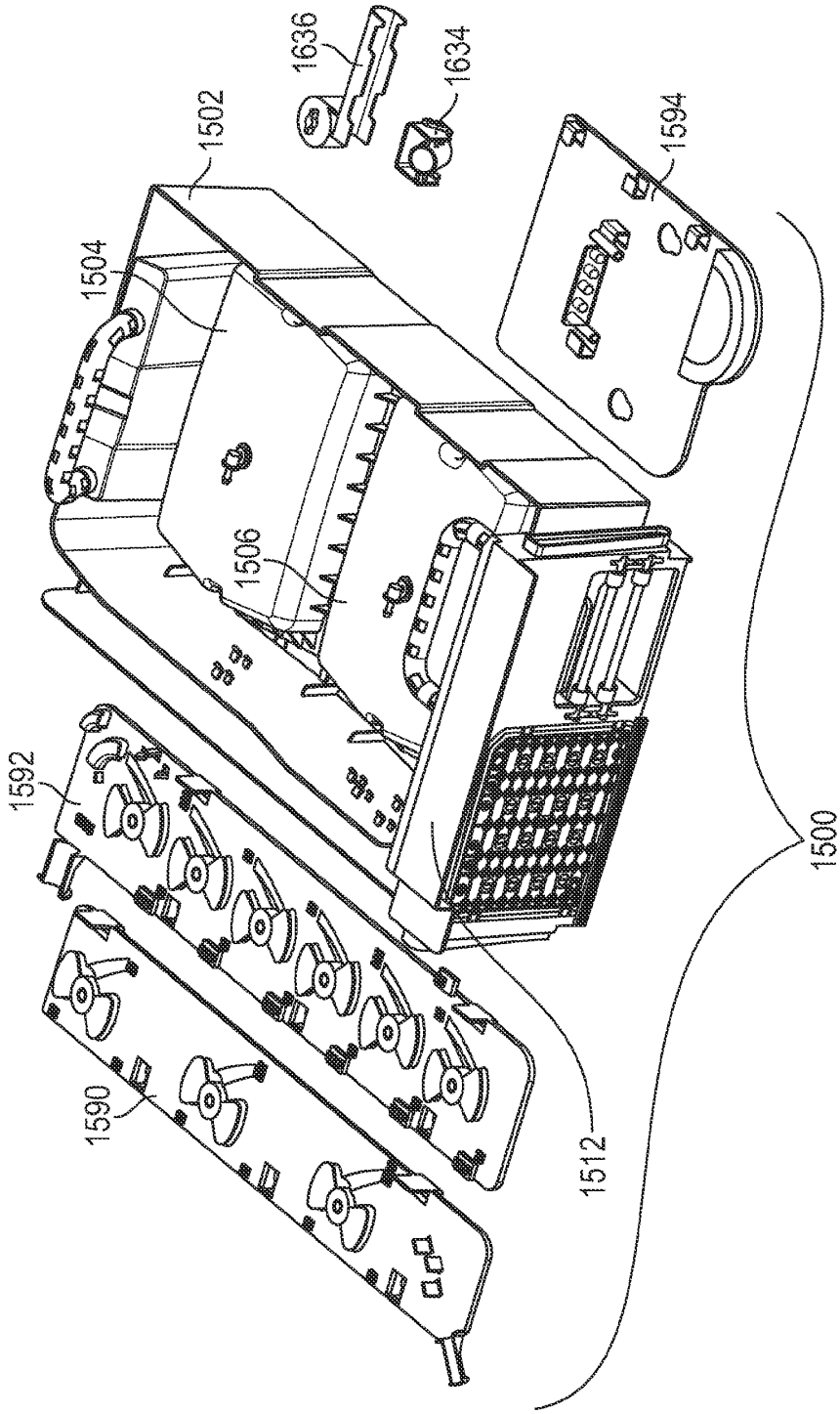


FIG. 97

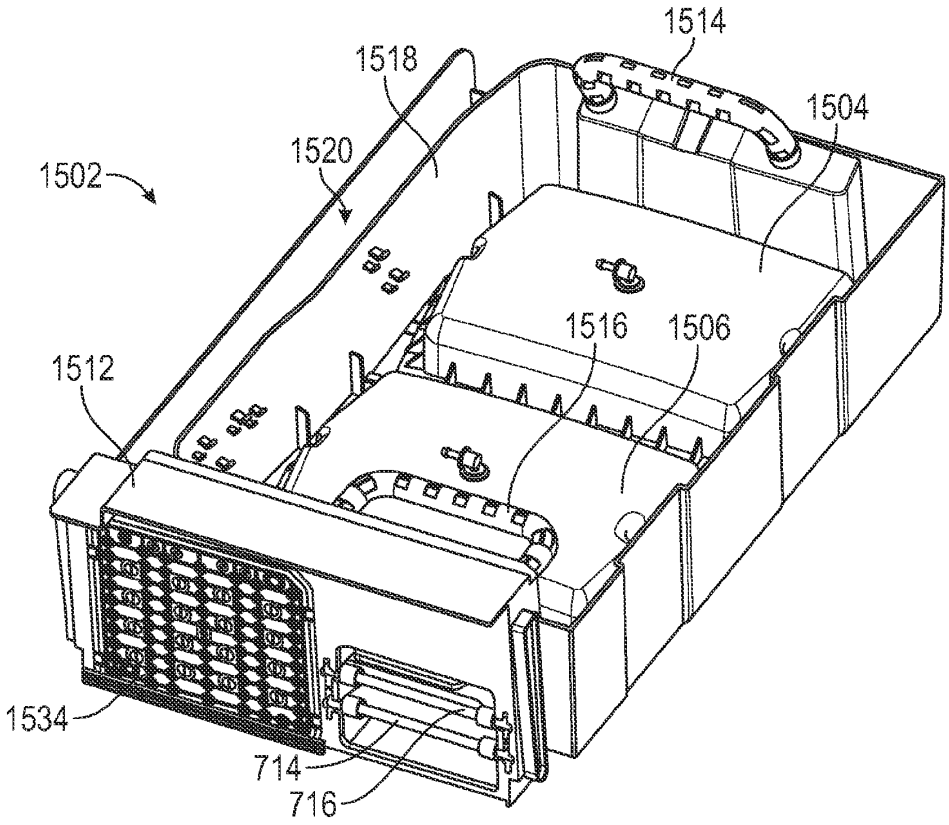


FIG. 98

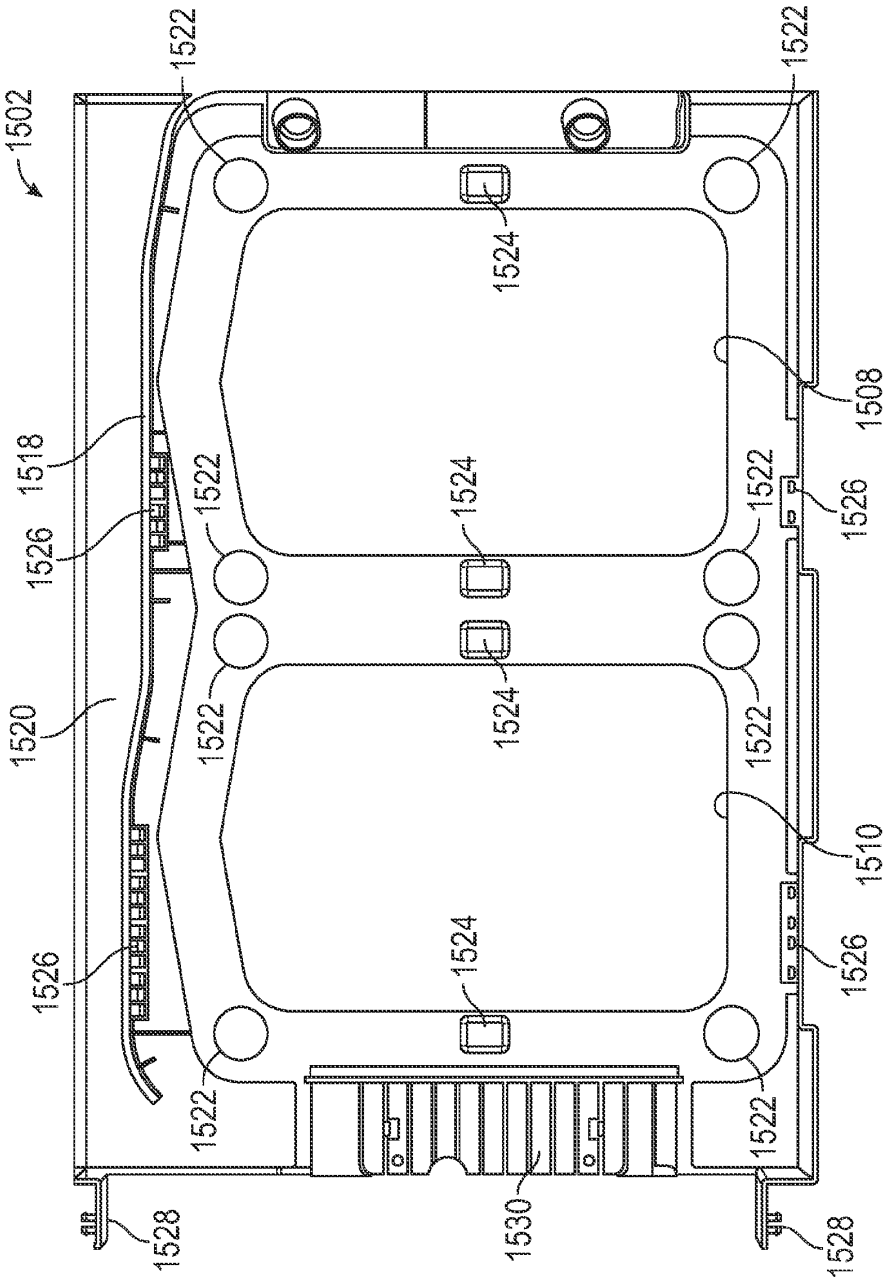


FIG. 99

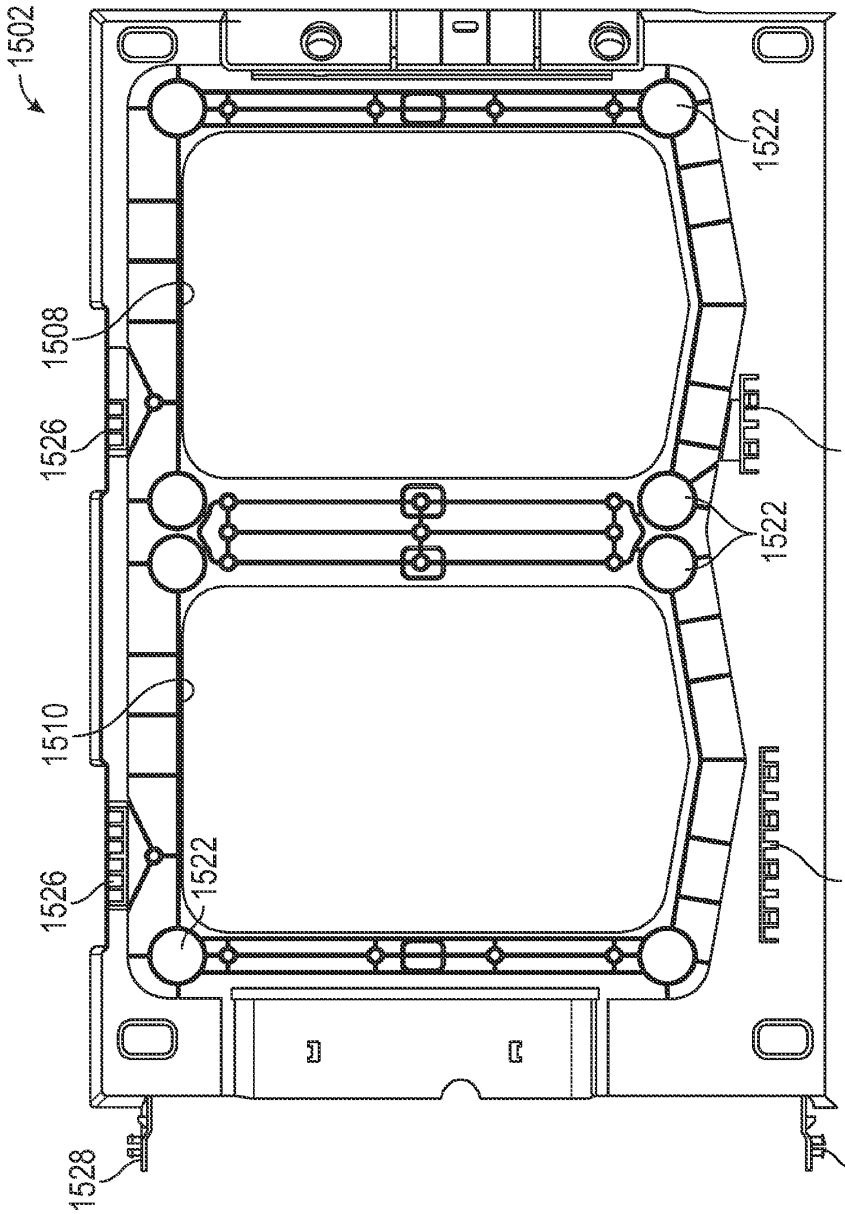


FIG. 100

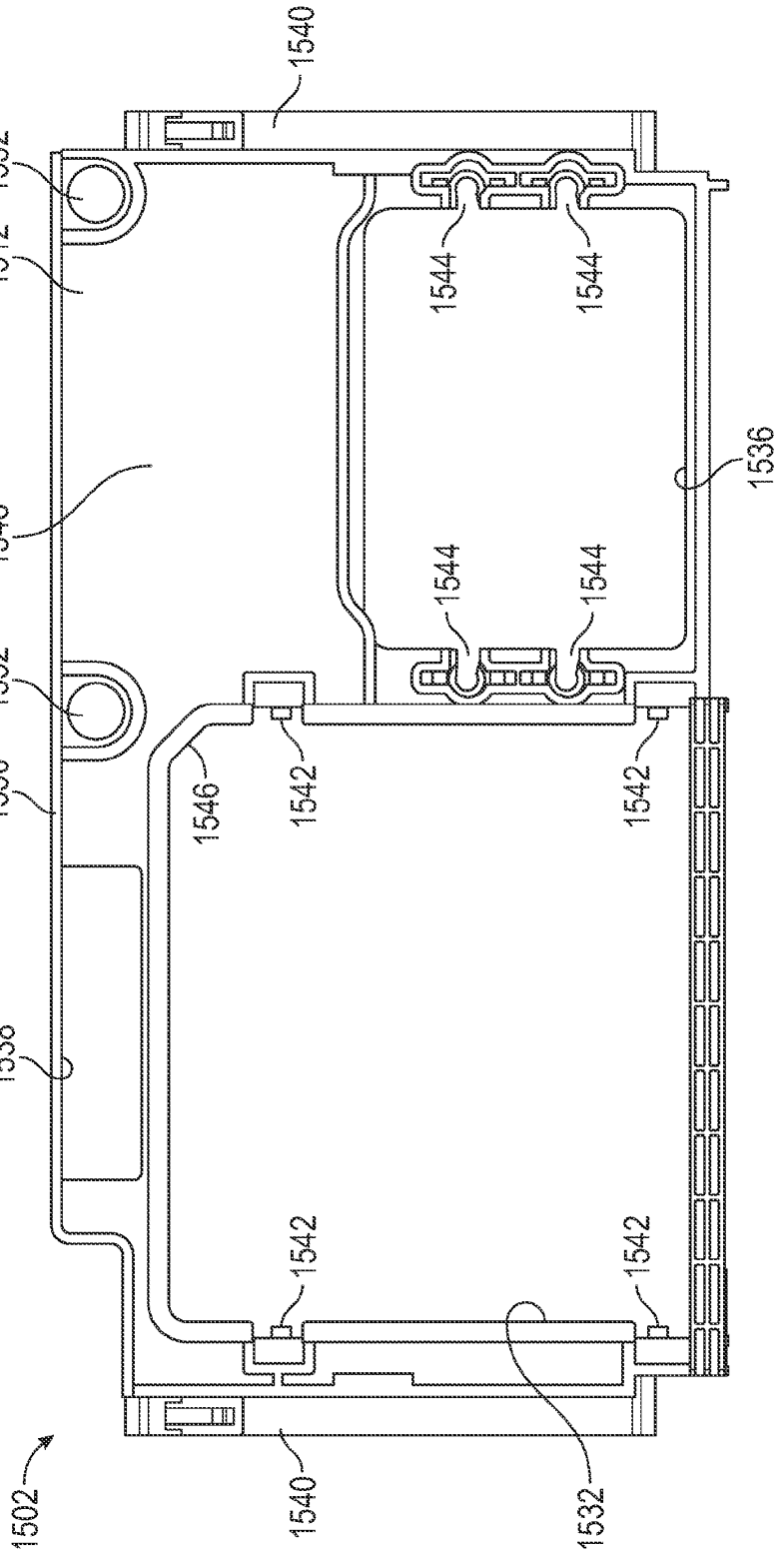

1540
1552
1512
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FIG. 101

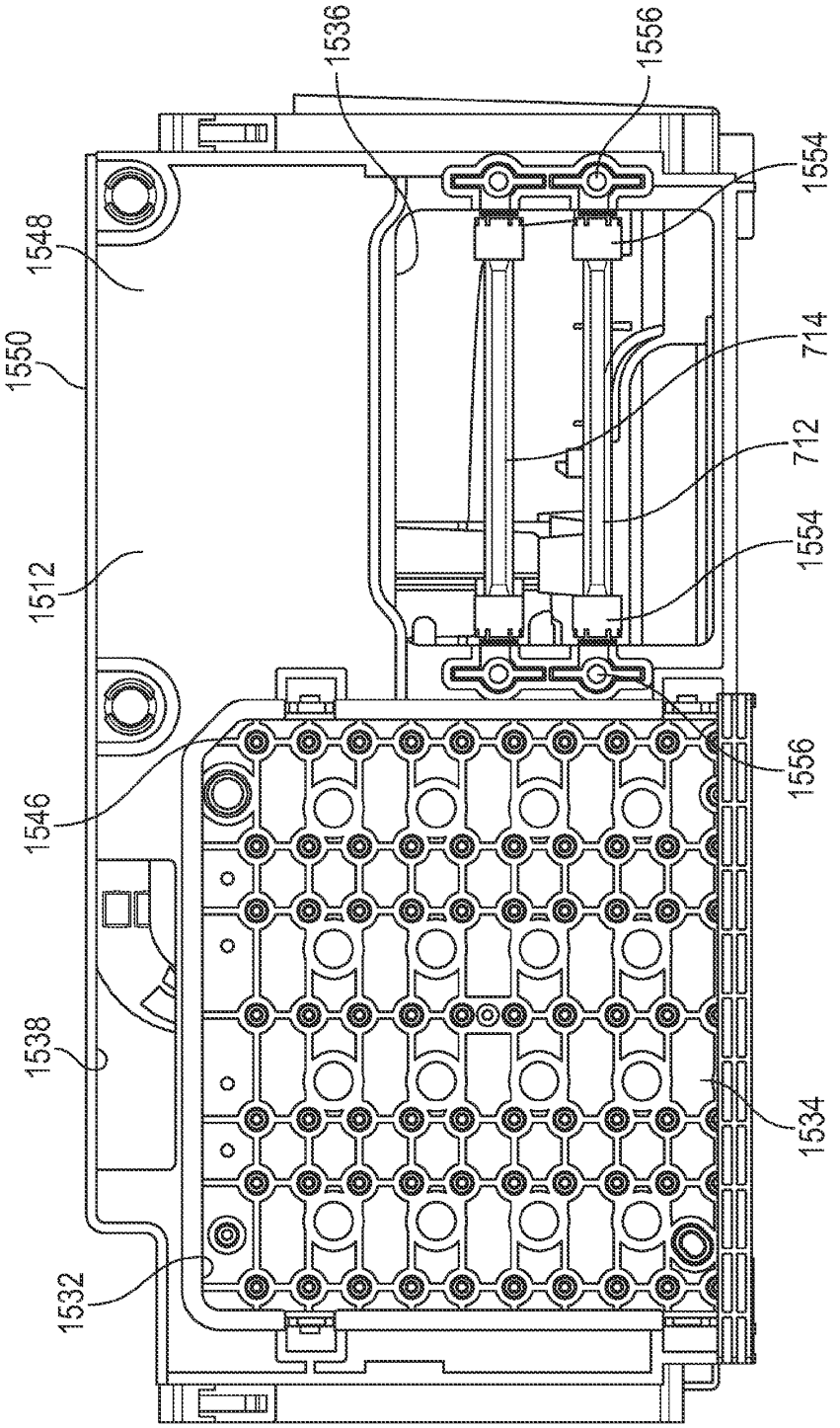

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714
712
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1512
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1546
1538
1534
1532

FIG. 102

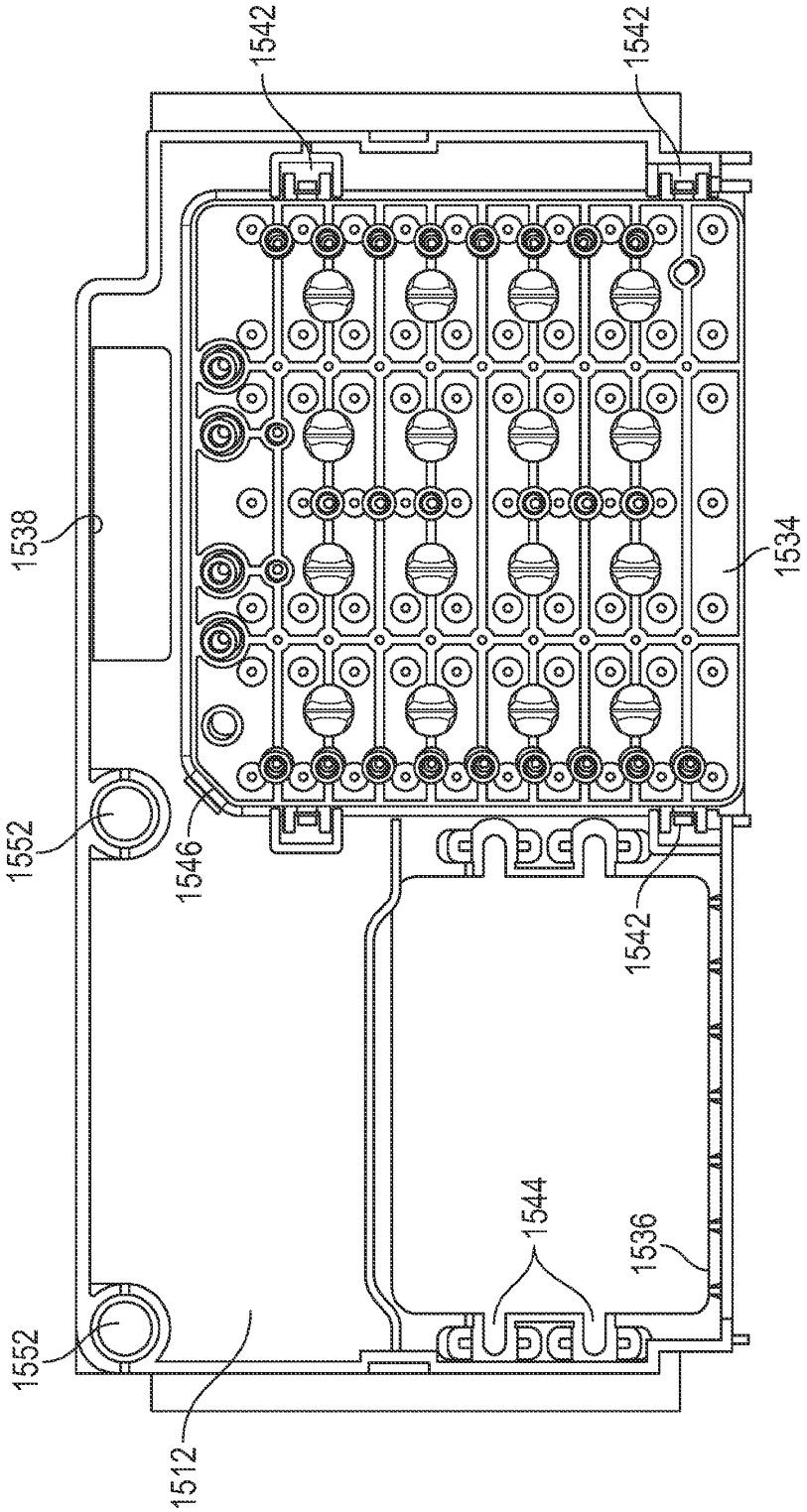


FIG. 103

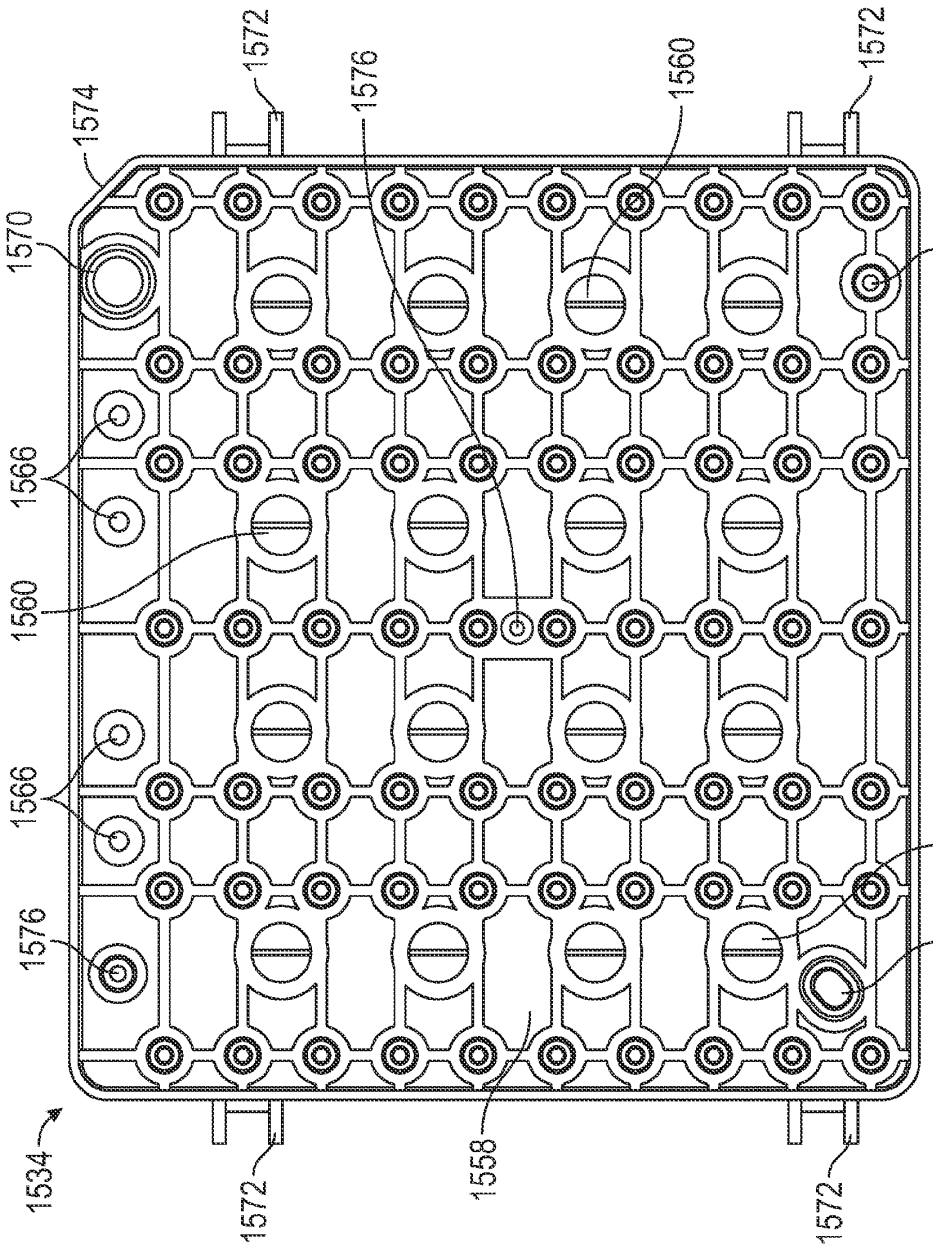

1572
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1574
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1572

FIG. 104

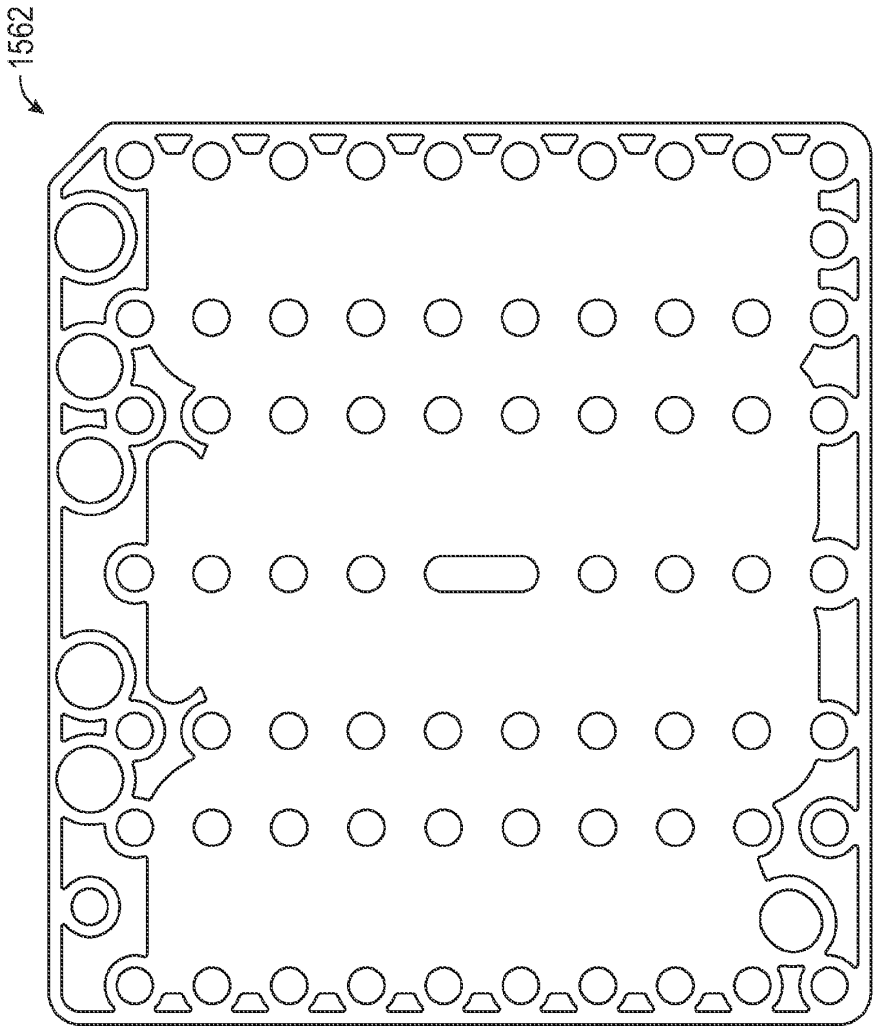


FIG. 105

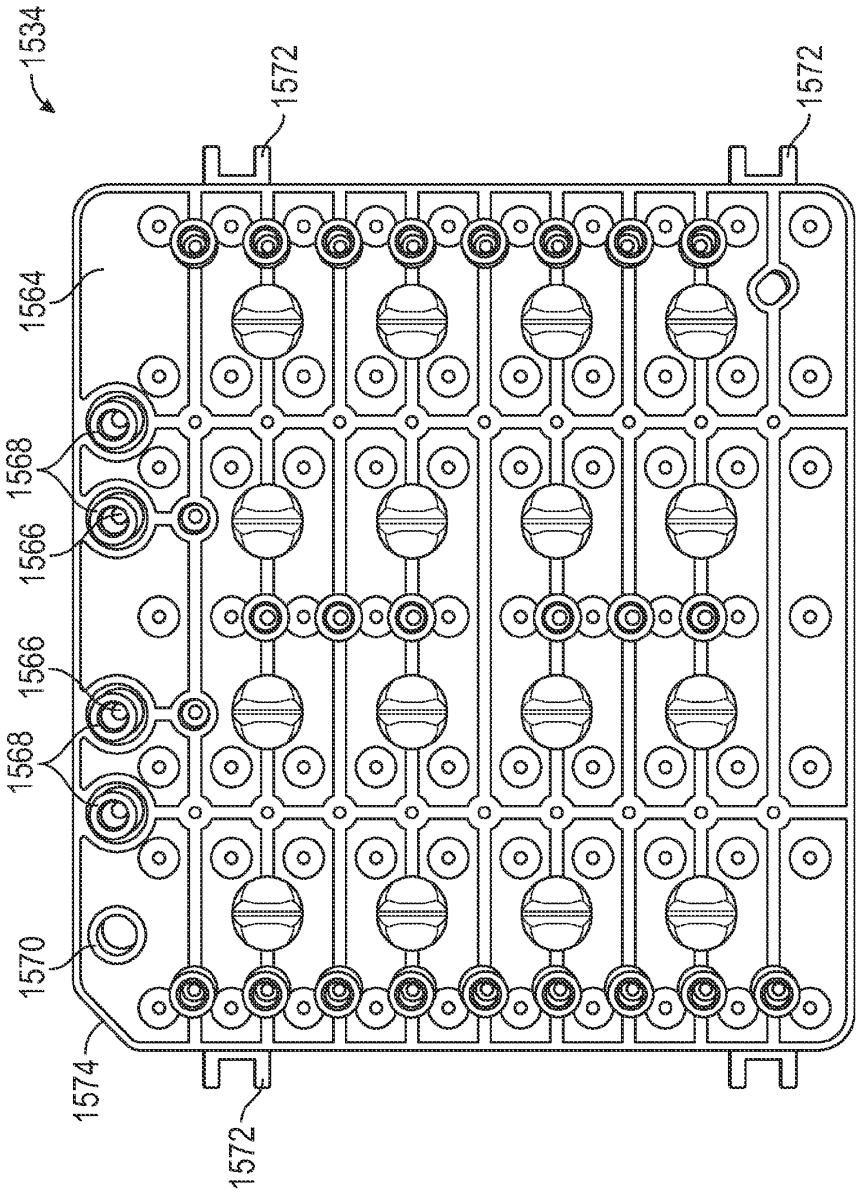


FIG. 106

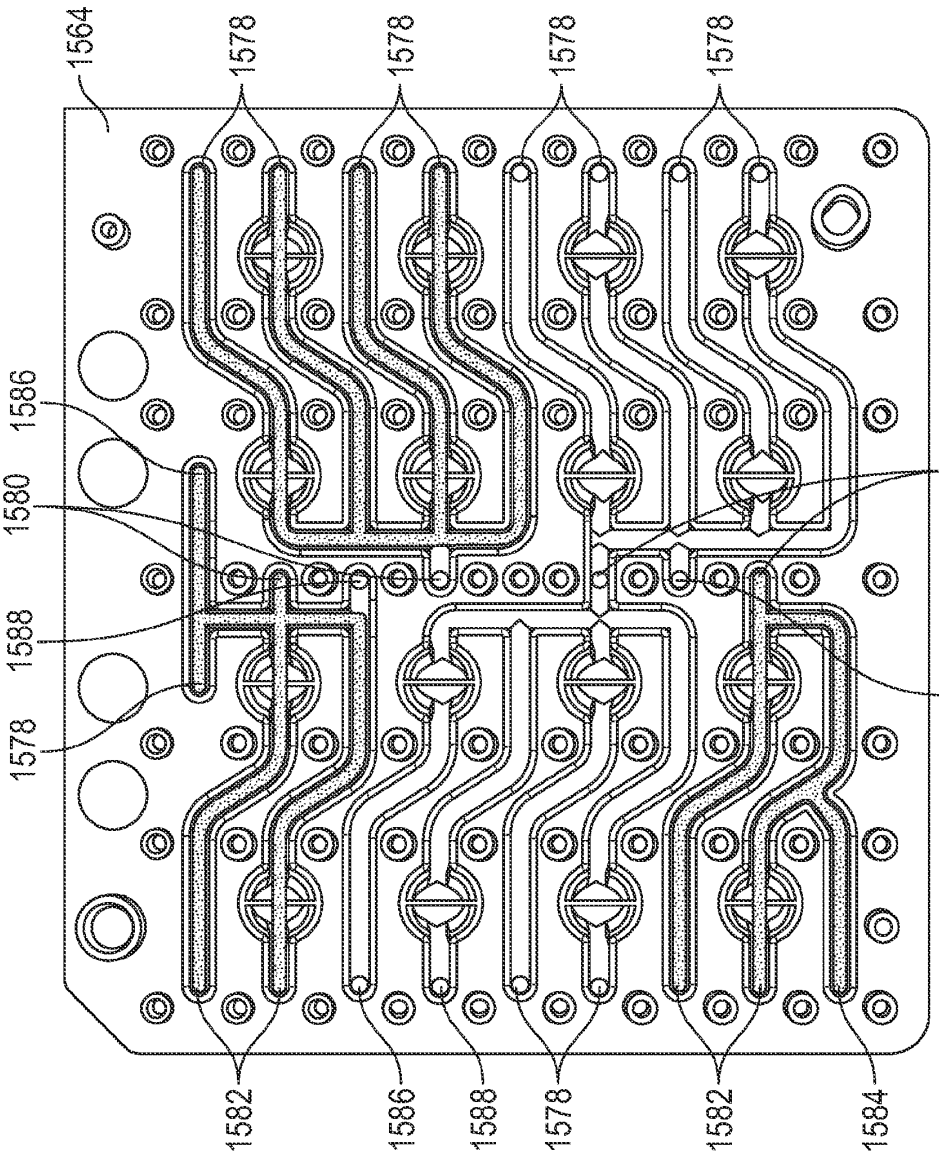

1564
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1578
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1584

FIG. 107

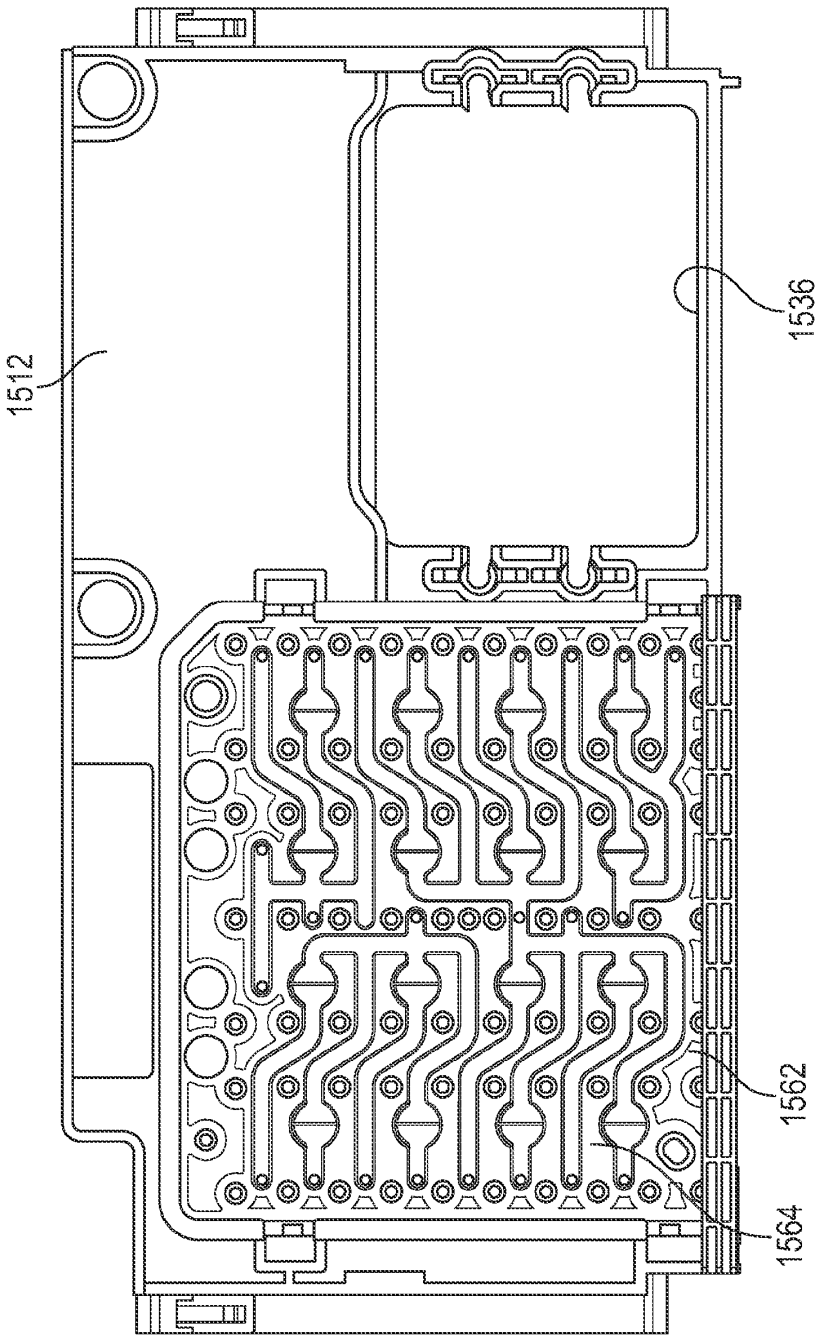


FIG. 108

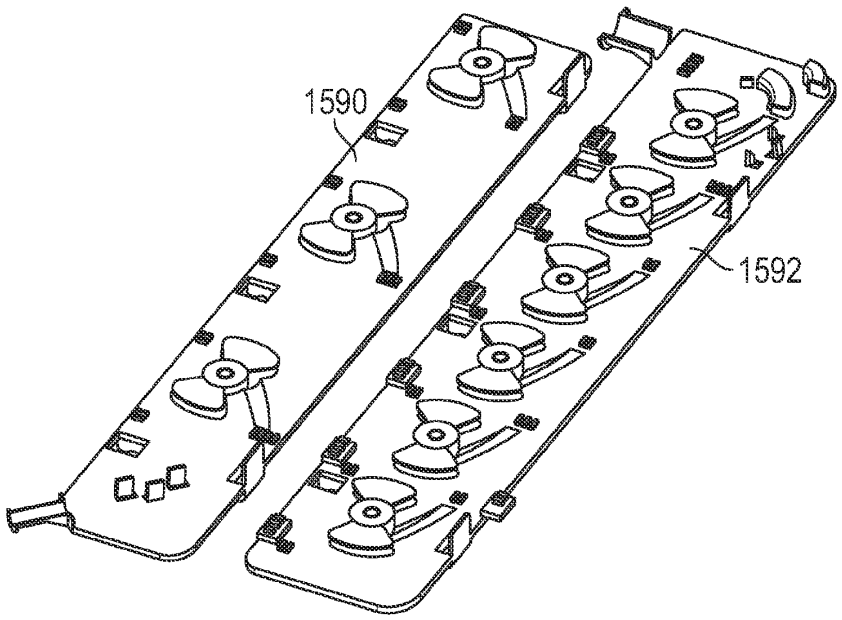


FIG. 109

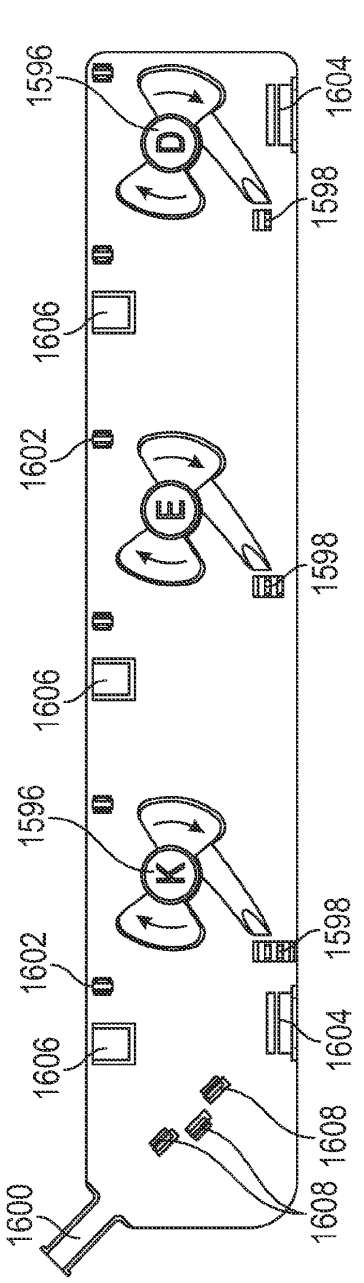


FIG. 110

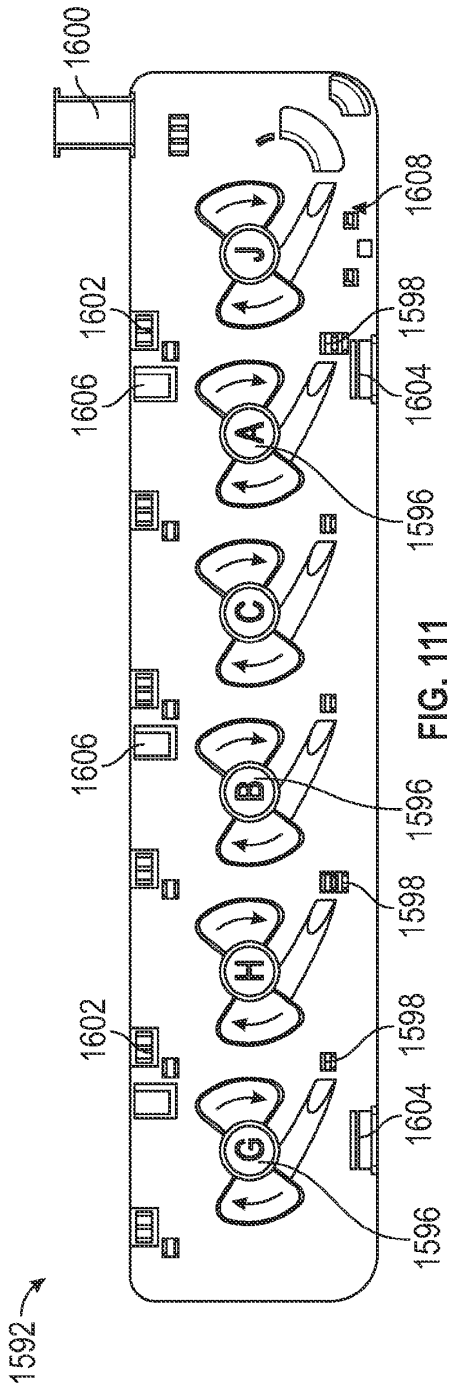


FIG. 111

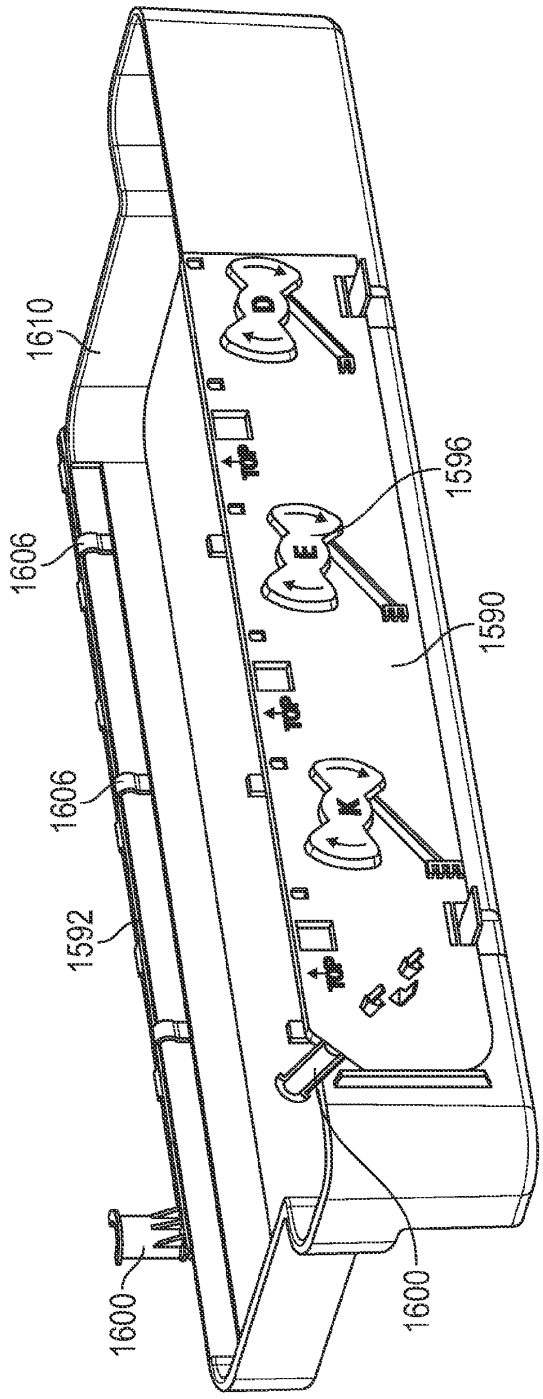


FIG. 112

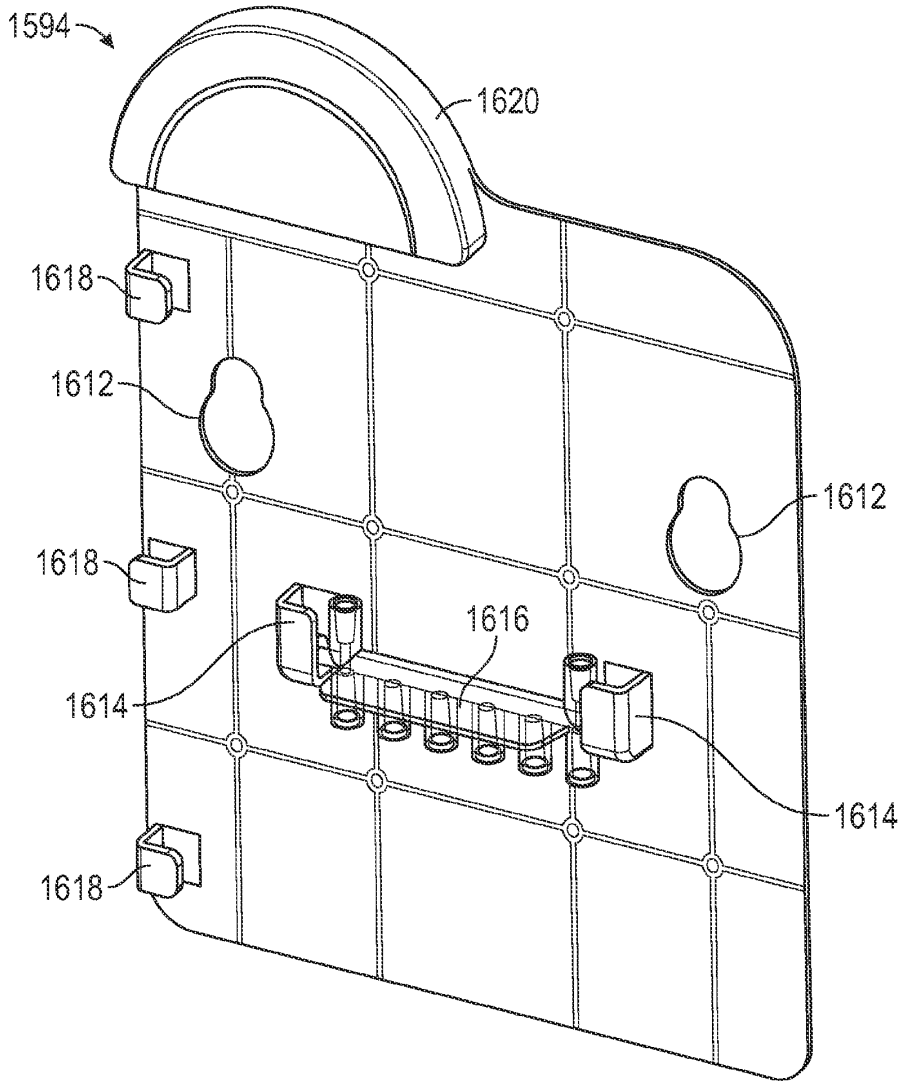


FIG. 113

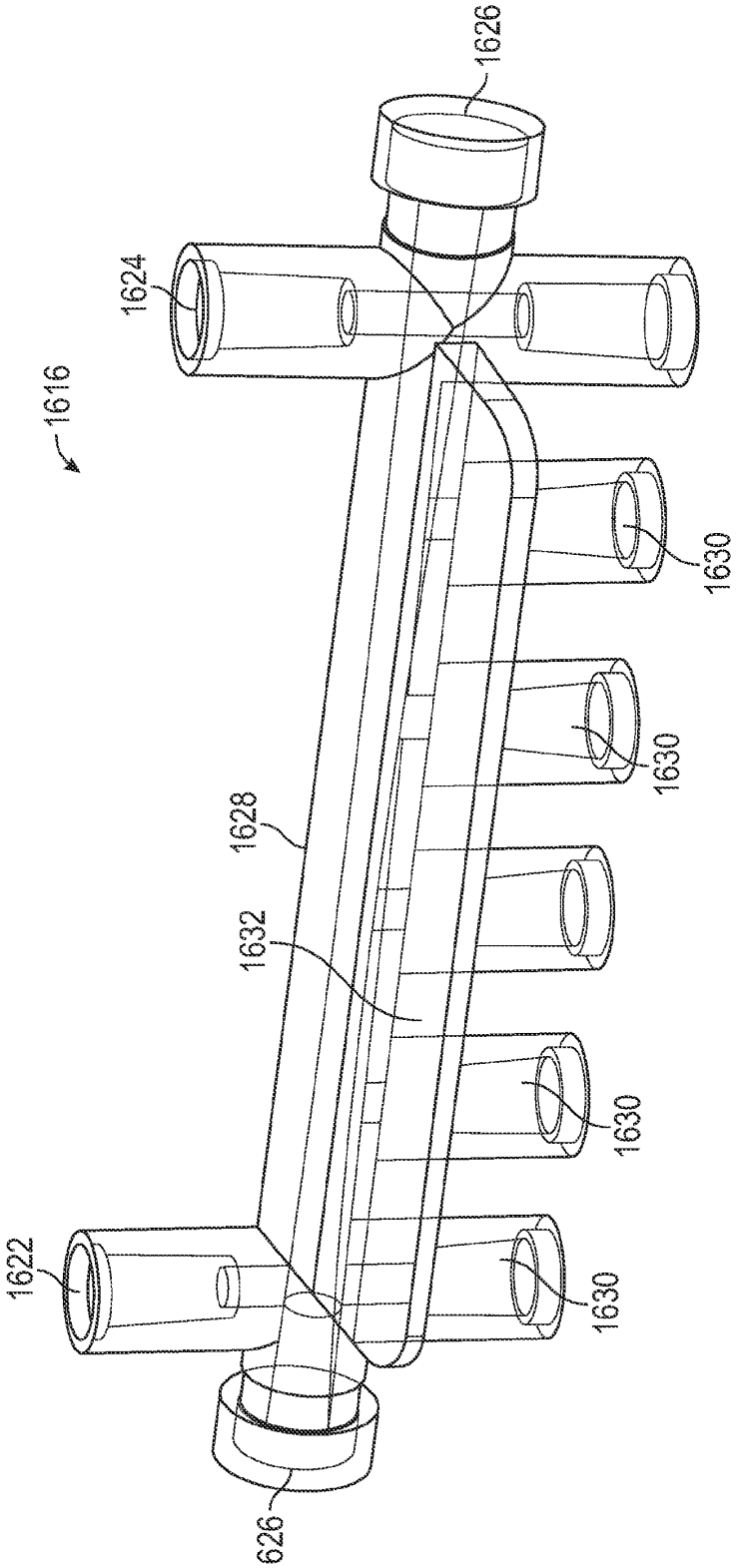


FIG. 114

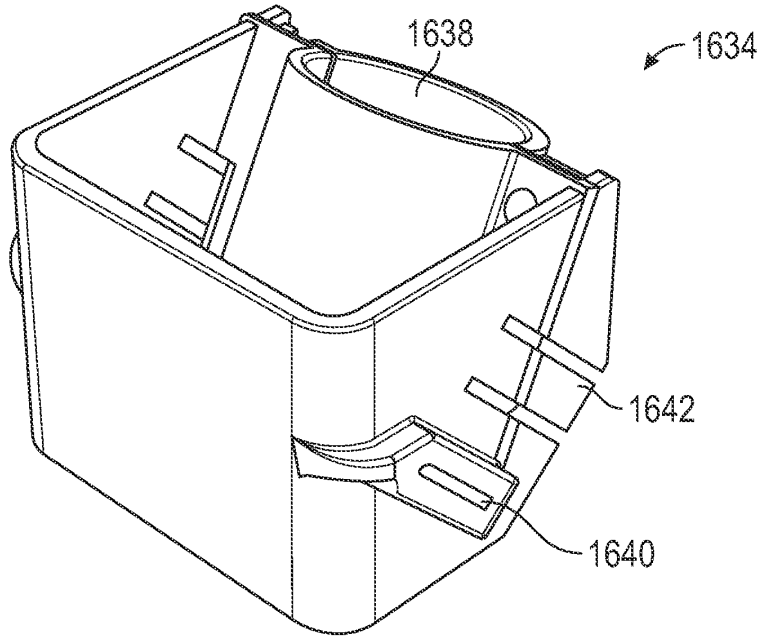


FIG. 115

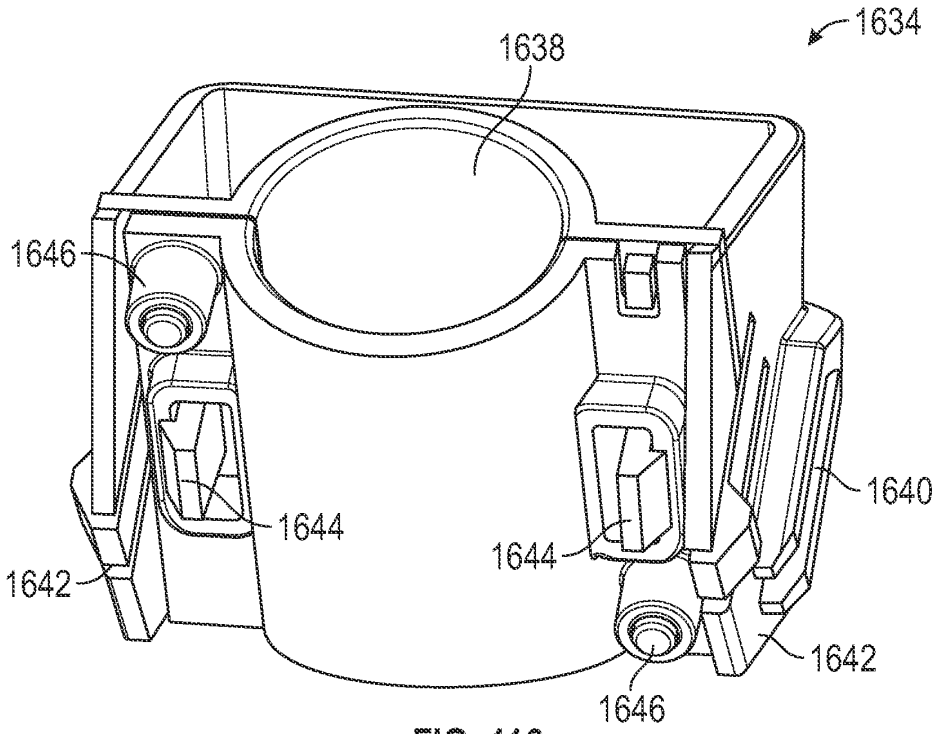


FIG. 116

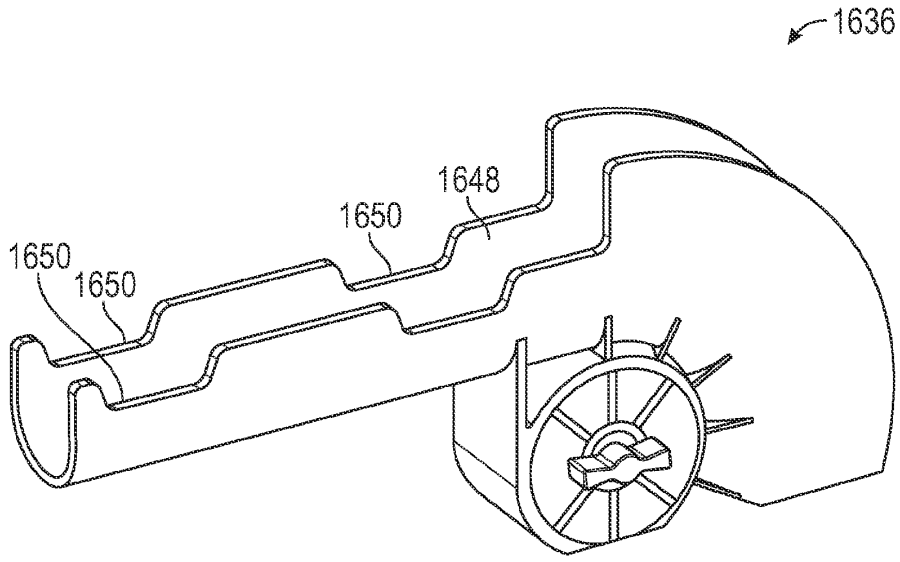


FIG. 117

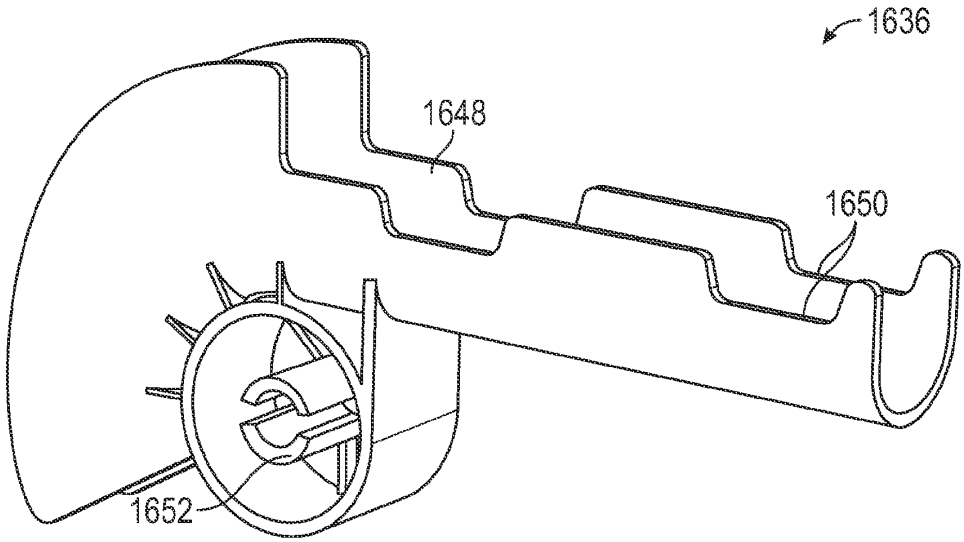


FIG. 118

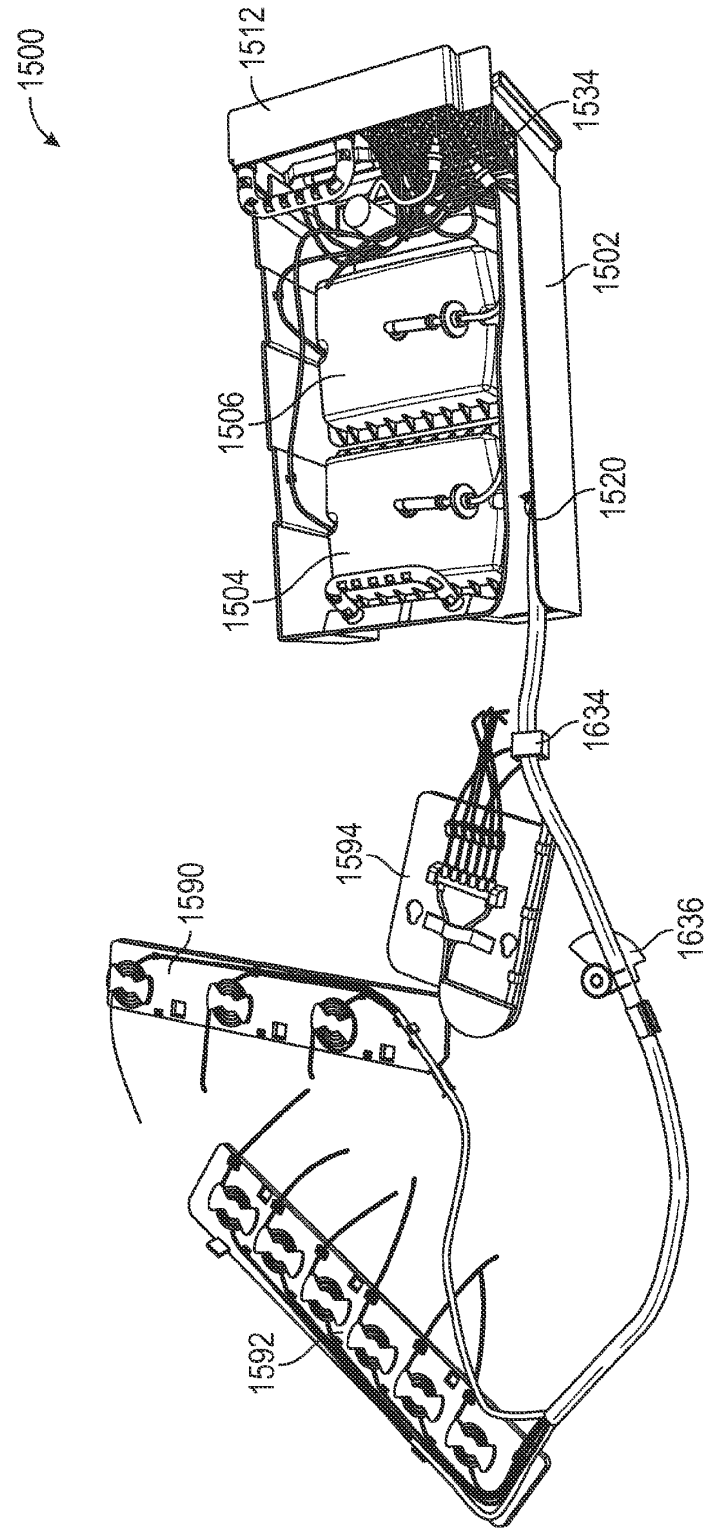


FIG. 119

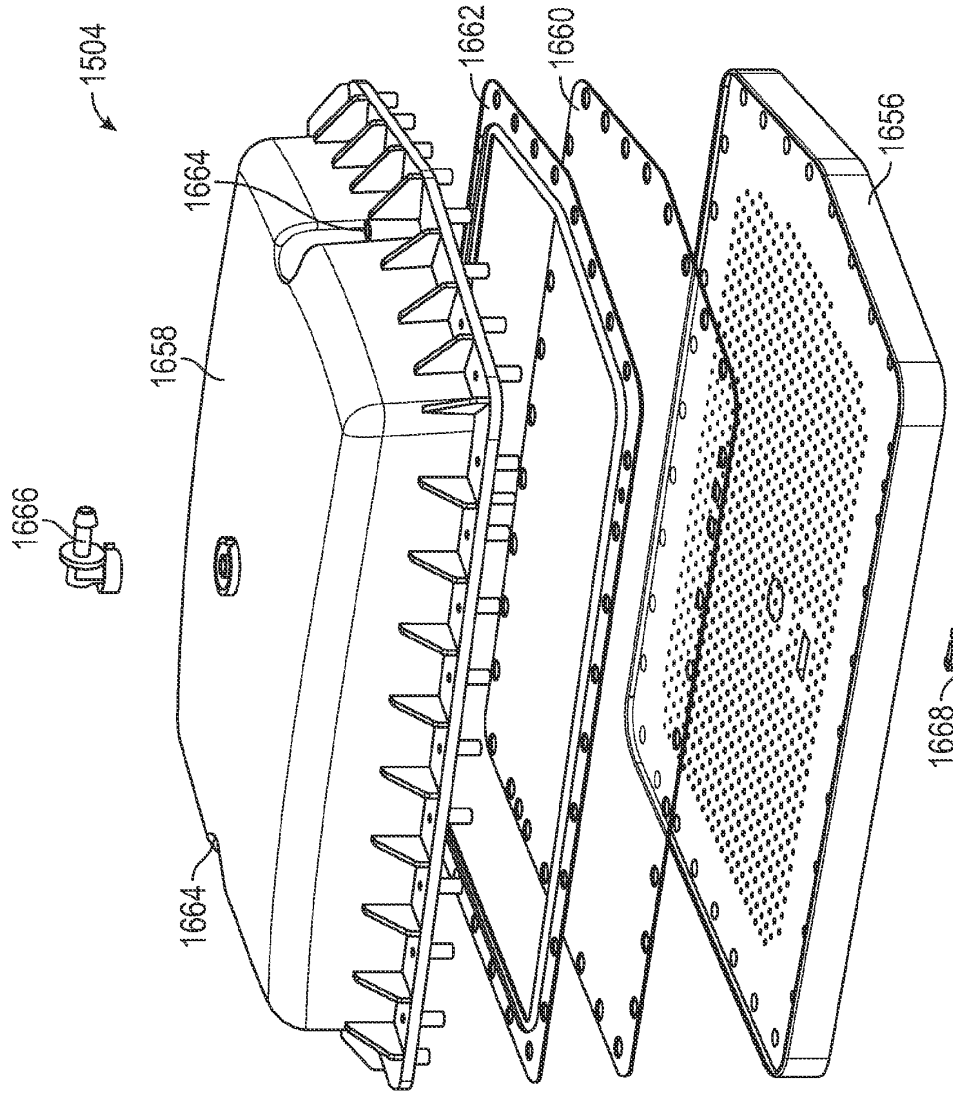


FIG. 120

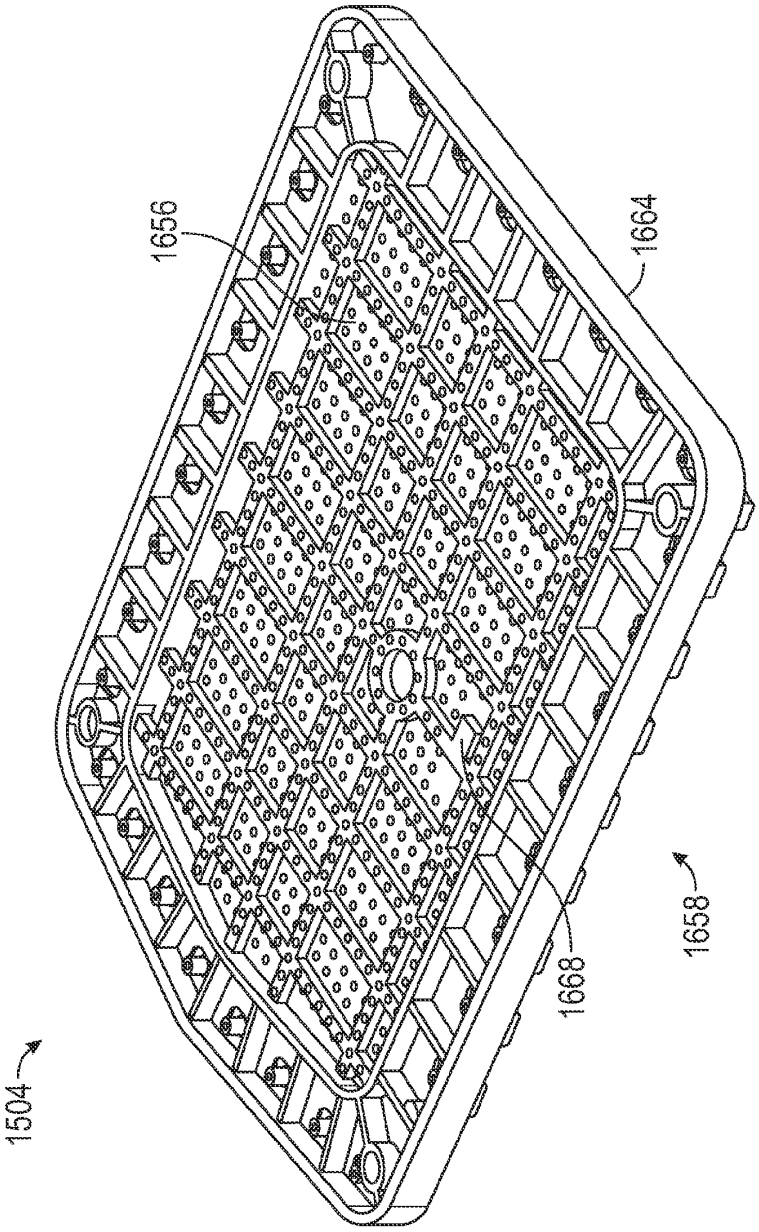


FIG. 121

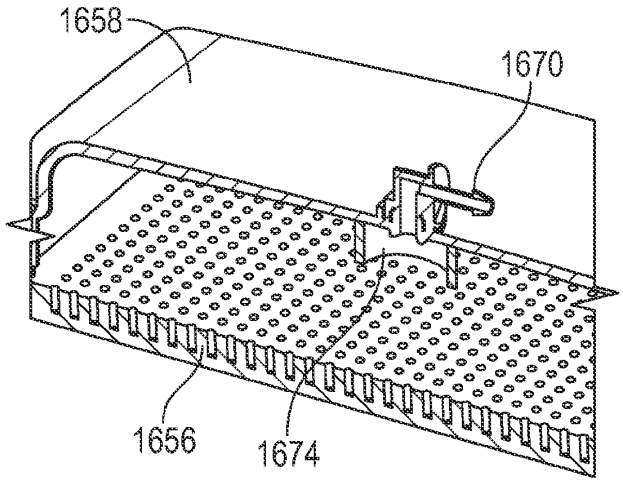


FIG. 122

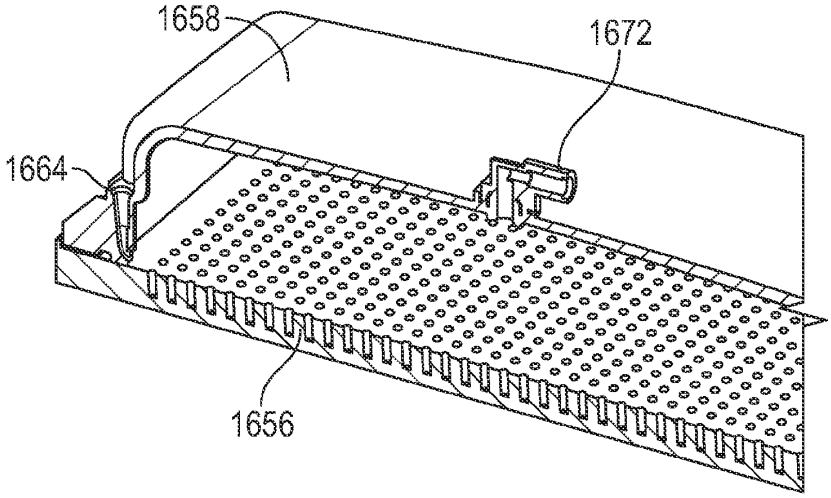


FIG. 123