FIG. 1

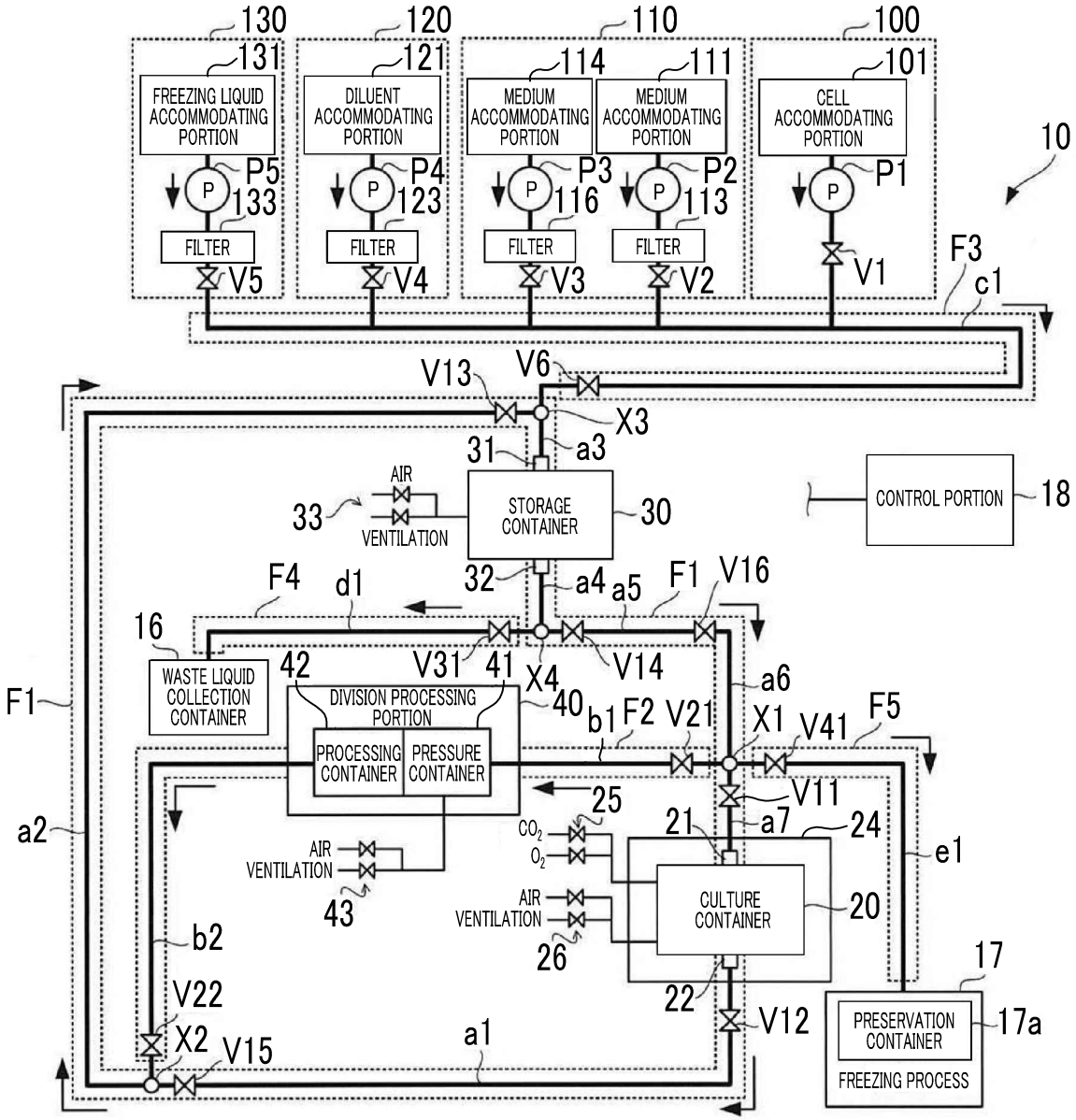

130
120
110
100
131
121
114
111
101
FREEZING LIQUID ACCOMMODATING PORTION
DILUENT ACCOMMODATING PORTION
MEDIUM ACCOMMODATING PORTION
MEDIUM ACCOMMODATING PORTION
CELL ACCOMMODATING PORTION
10
P5
P4
P3
P2
P1
P
133
123
116
113
FILTER
V5
V4
V3
V2
V1
F3
c1
V13
V6
X3
31
a3
AIR
VENTILATION
33
STORAGE CONTAINER
30
CONTROL PORTION
18
F4
d1
32
a4
a5
F1
V16
16
42
V31
41
X4
V14
a6
WASTE LIQUID COLLECTION CONTAINER
DIVISION PROCESSING PORTION
40
b1
F2
V21
X1
V41
F5
F1
PROCESSING CONTAINER
PRESSURE CONTAINER
V11
25
21
a7
24
a2
CO_2
O_2
e1
AIR
VENTILATION
43
CULTURE CONTAINER
20
AIR
VENTILATION
26
b2
17
V22
22
V12
PRESERVATION CONTAINER
17a
X2
V15
a1
FREEZING PROCESS

FIG. 2

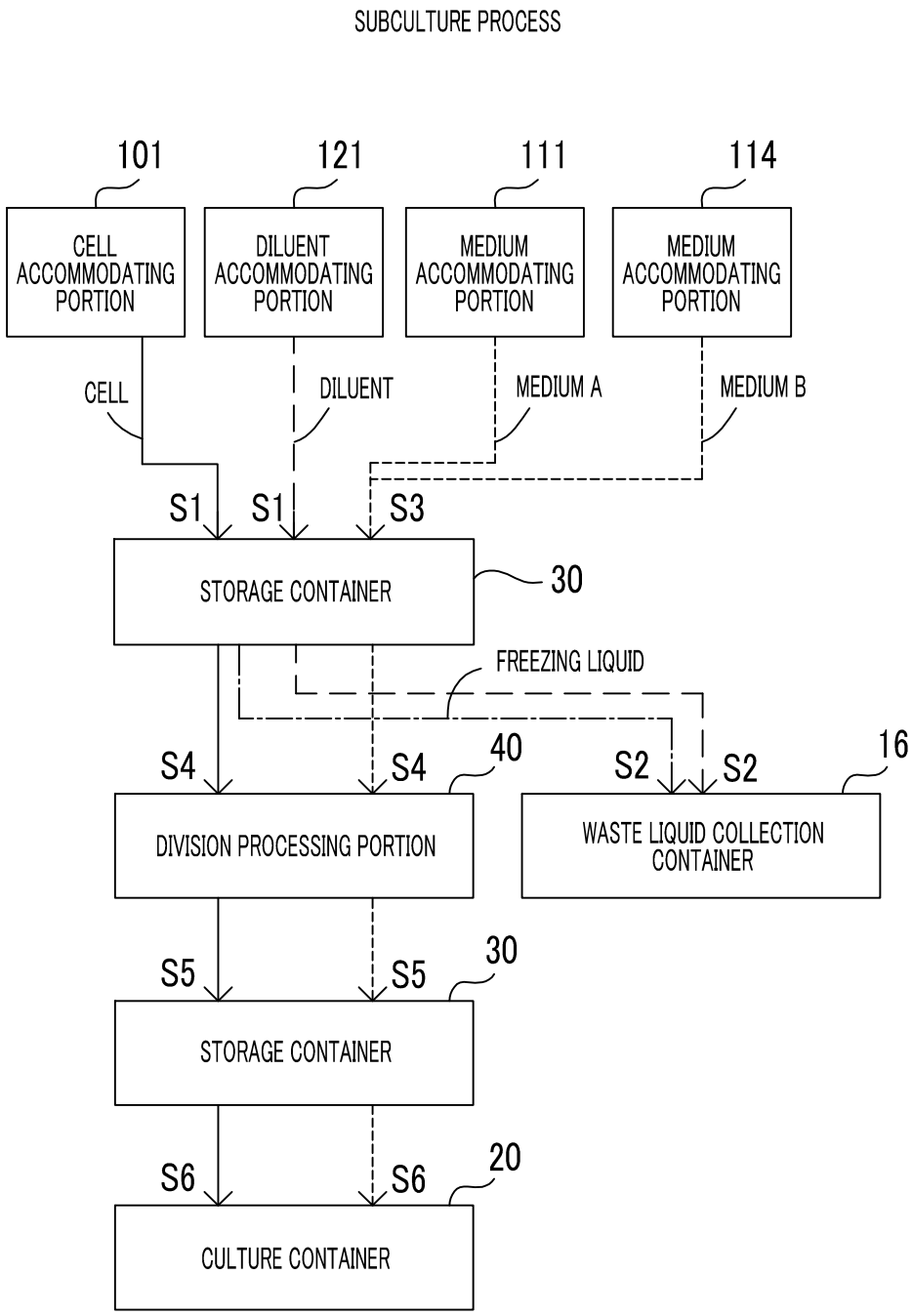

SUBCULTURE PROCESS
101
121
111
114
CELL ACCOMMODATING PORTION
DILUENT ACCOMMODATING PORTION
MEDIUM ACCOMMODATING PORTION
MEDIUM ACCOMMODATING PORTION
CELL
DILUENT
MEDIUM A
MEDIUM B
S1
S1
S3
STORAGE CONTAINER
30
FREEZING LIQUID
S4
S4
40
S2
S2
16
DIVISION PROCESSING PORTION
WASTE LIQUID COLLECTION CONTAINER
S5
S5
30
STORAGE CONTAINER
S6
S6
20
CULTURE CONTAINER

FIG. 3

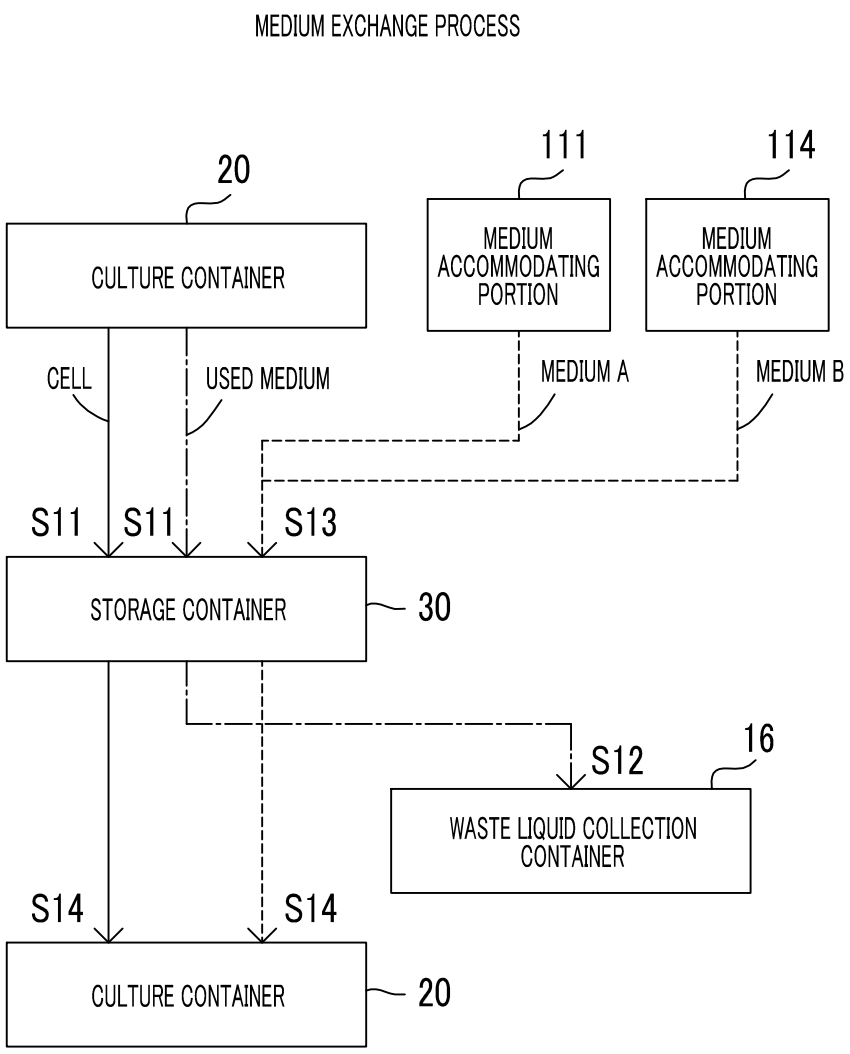

MEDIUM EXCHANGE PROCESS
20
CULTURE CONTAINER
111
MEDIUM ACCOMMODATING PORTION
114
MEDIUM ACCOMMODATING PORTION
CELL
USED MEDIUM
MEDIUM A
MEDIUM B
S11
S11
S13
STORAGE CONTAINER
30
S12
16
WASTE LIQUID COLLECTION CONTAINER
S14
S14
CULTURE CONTAINER
20

FIG. 4

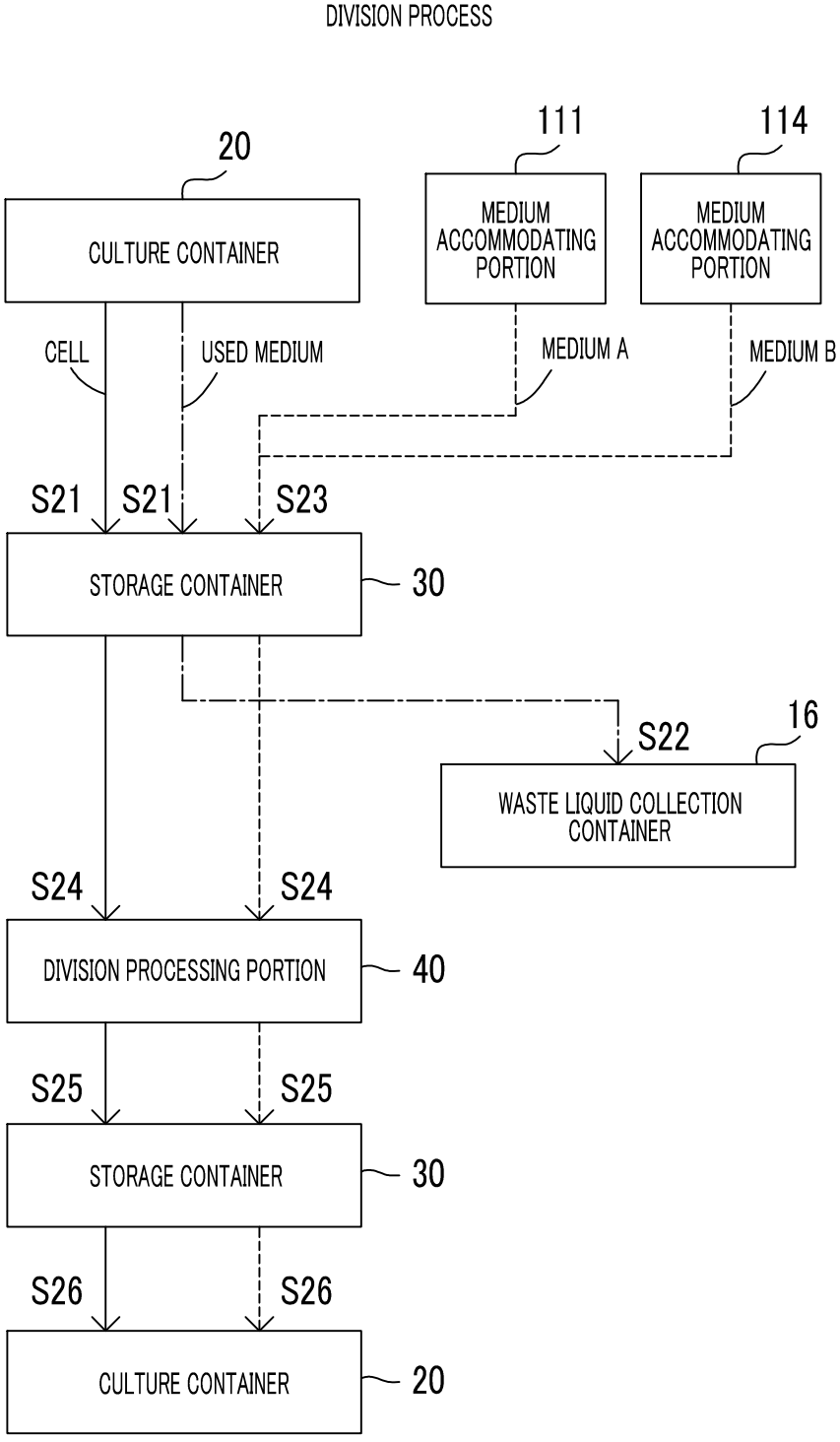

DIVISION PROCESS
20
CULTURE CONTAINER
111
MEDIUM ACCOMMODATING PORTION
114
MEDIUM ACCOMMODATING PORTION
CELL
USED MEDIUM
MEDIUM A
MEDIUM B
S21
S21
S23
STORAGE CONTAINER
30
S22
16
WASTE LIQUID COLLECTION CONTAINER
S24
S24
DIVISION PROCESSING PORTION
40
S25
S25
STORAGE CONTAINER
30
S26
S26
CULTURE CONTAINER
20

FIG. 5

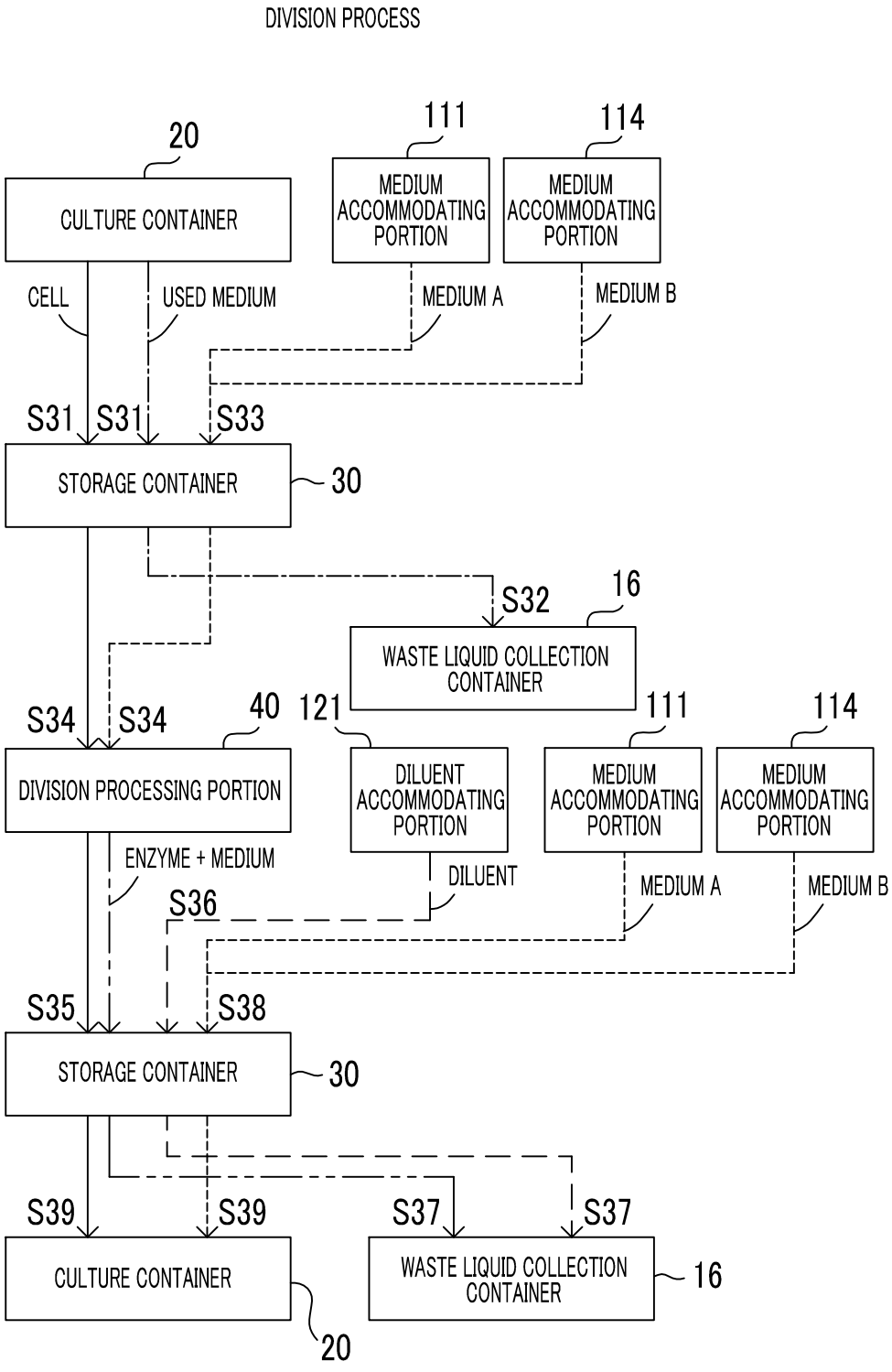

DIVISION PROCESS
20
CULTURE CONTAINER
111
MEDIUM ACCOMMODATING PORTION
114
MEDIUM ACCOMMODATING PORTION
CELL
USED MEDIUM
MEDIUM A
MEDIUM B
S31
S31
S33
STORAGE CONTAINER
30
S32
16
WASTE LIQUID COLLECTION CONTAINER
S34
S34
40
DIVISION PROCESSING PORTION
121
DILUENT ACCOMMODATING PORTION
111
MEDIUM ACCOMMODATING PORTION
114
MEDIUM ACCOMMODATING PORTION
ENZYME + MEDIUM
DILUENT
MEDIUM A
MEDIUM B
S36
S35
S38
STORAGE CONTAINER
30
S39
S39
S37
S37
CULTURE CONTAINER
WASTE LIQUID COLLECTION CONTAINER
16
20

FIG. 6

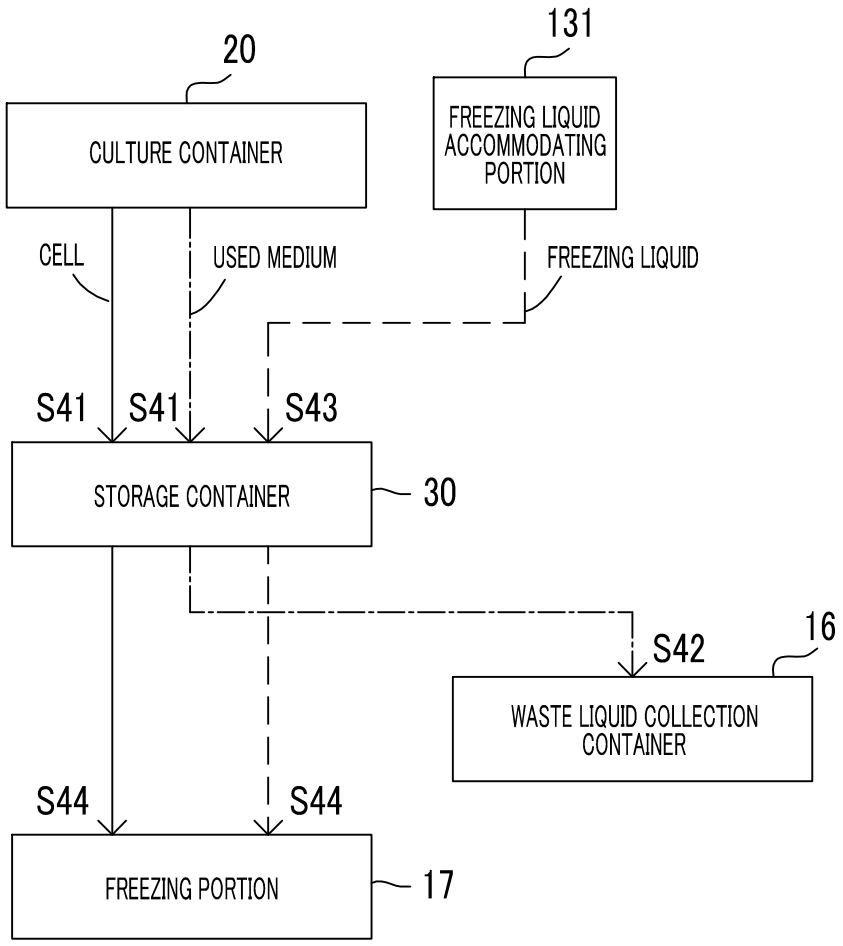

FREEZING PROCESS
20
131
CULTURE CONTAINER
FREEZING LIQUID ACCOMMODATING PORTION
CELL
USED MEDIUM
FREEZING LIQUID
S41
S41
S43
STORAGE CONTAINER
30
16
S42
WASTE LIQUID COLLECTION CONTAINER
S44
S44
FREEZING PORTION
17

FIG. 7

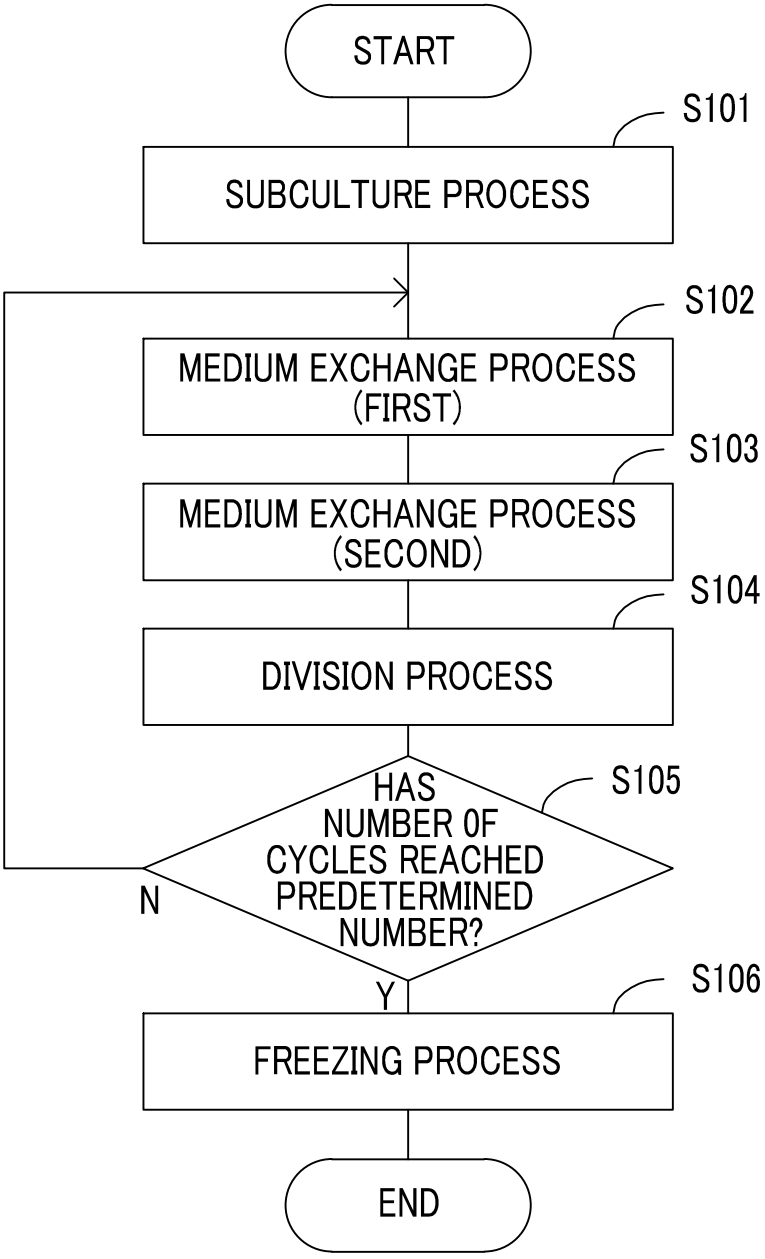

START
S101
SUBCULTURE PROCESS
S102
MEDIUM EXCHANGE PROCESS (FIRST)
S103
MEDIUM EXCHANGE PROCESS (SECOND)
S104
DIVISION PROCESS
S105
HAS NUMBER 0F CYCLES REACHED PREDETERMINED NUMBER?
N
Y
S106
FREEZING PROCESS
END

FIG. 8

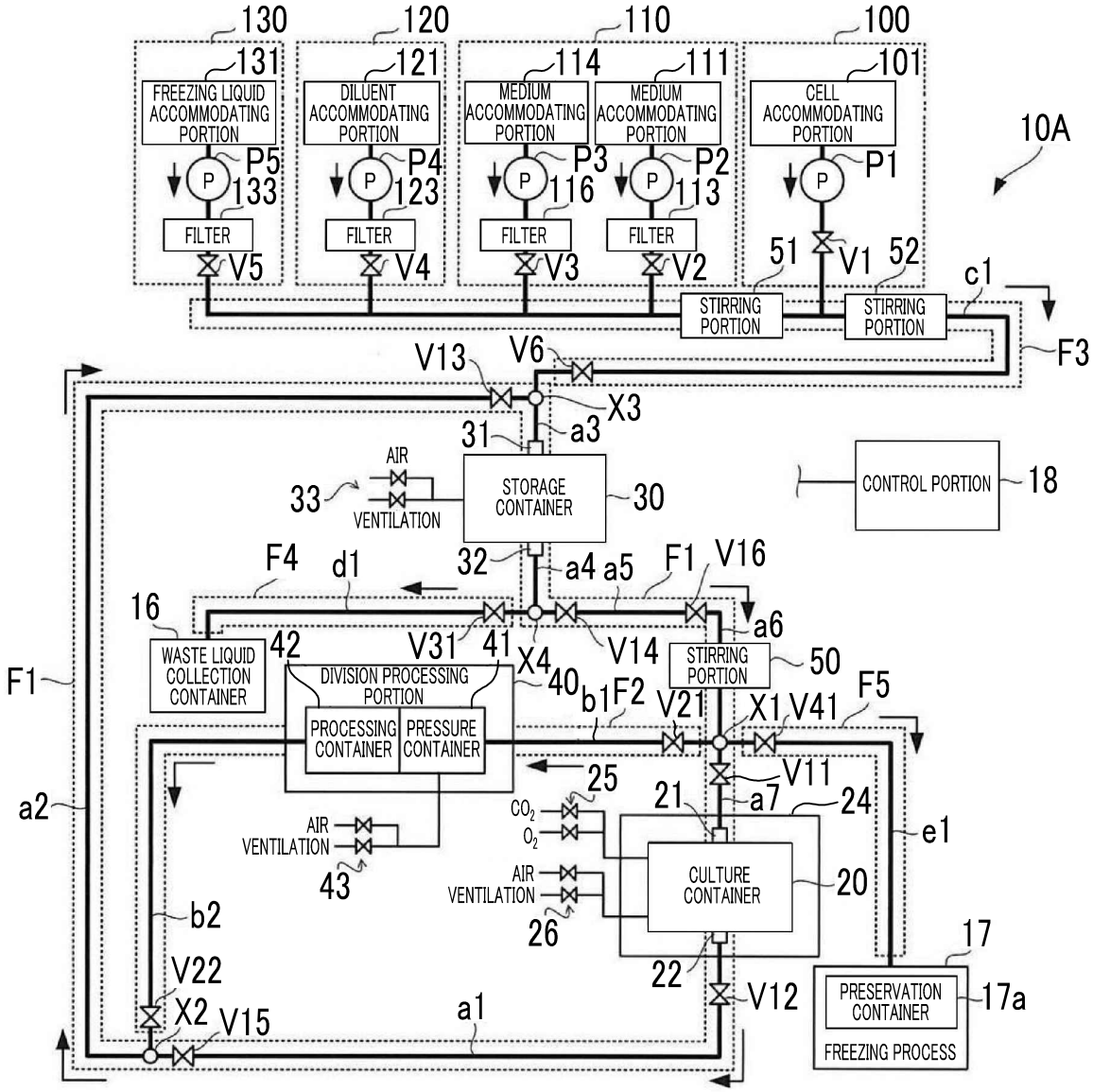

130
120
110
100
131
121
114
111
101
FREEZING LIQUID ACCOMMODATING PORTION
DILUENT ACCOMMODATING PORTION
MEDIUM ACCOMMODATING PORTION
MEDIUM ACCOMMODATING PORTION
CELL ACCOMMODATING PORTION
10A
P5
P4
P3
P2
P1
133
123
116
113
FILTER
FILTER
FILTER
FILTER
V5
V4
V3
V2
51
V1
52
c1
STIRRING PORTION
STIRRING PORTION
F3
V13
V6
X3
a3
31
AIR
33
VENTILATION
STORAGE CONTAINER
30
CONTROL PORTION
18
F4
d1
32
a4
a5
F1
V16
16
a6
WASTE LIQUID COLLECTION CONTAINER
42
V31
41
X4
V14
STIRRING PORTION
50
F1
DIVISION PROCESSING PORTION
40
b1
F2
V21
X1
V41
F5
PROCESSING CONTAINER
PRESSURE CONTAINER
25
V11
a2
21
a7
24
CO2
O2
AIR
VENTILATION
43
e1
AIR
VENTILATION
CULTURE CONTAINER
20
b2
26
17
22
V22
V12
PRESERVATION CONTAINER
17a
X2
V15
a1
FREEZING PROCESS

FIG. 9

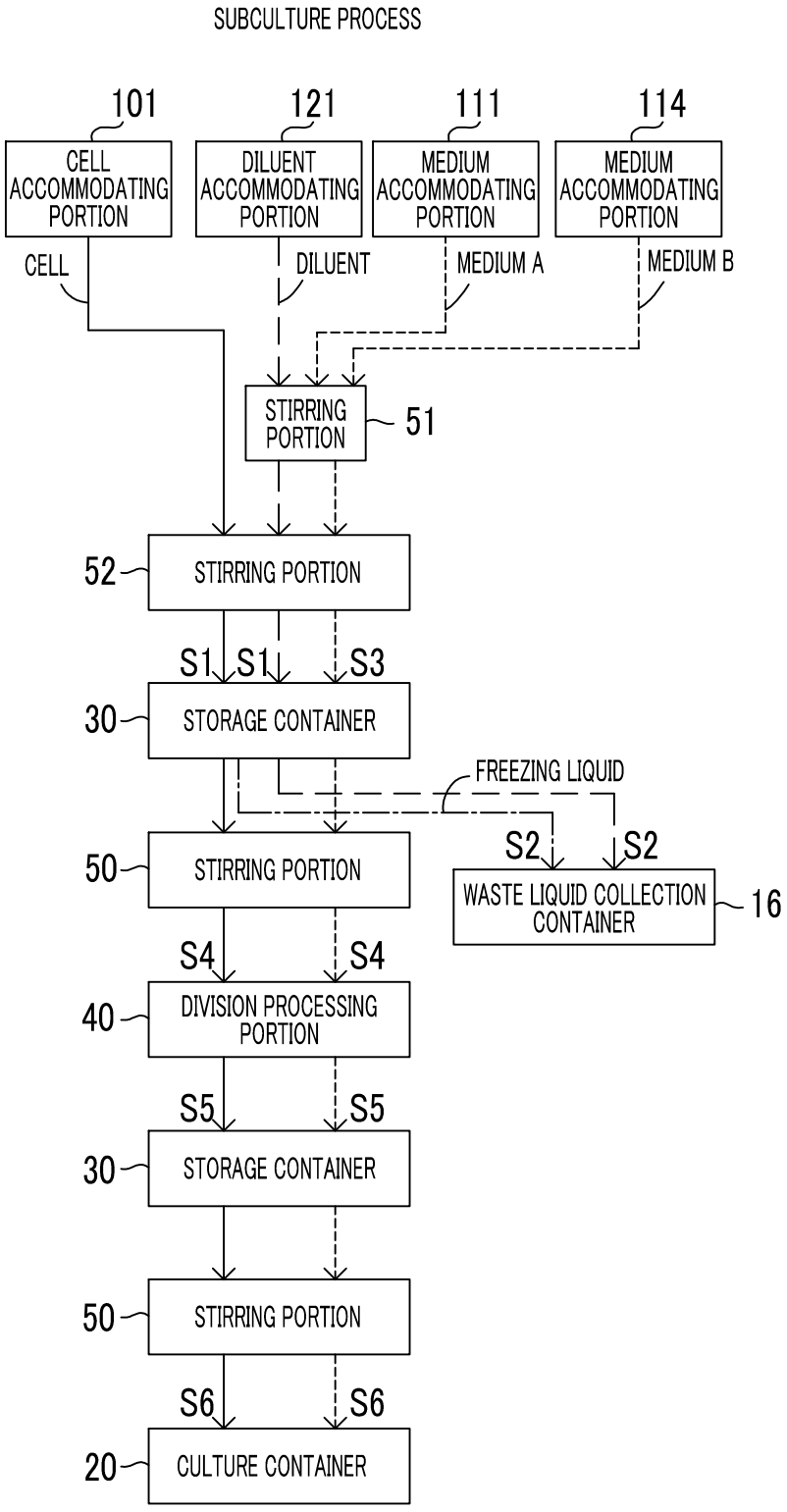

SUBCULTURE PROCESS
101
121
111
114
CELL ACCOMMODATING PORTION
DILUENT ACCOMMODATING PORTION
MEDIUM ACCOMMODATING PORTION
MEDIUM ACCOMMODATING PORTION
CELL
DILUENT
MEDIUM A
MEDIUM B
STIRRING PORTION
51
52
STIRRING PORTION
S1
S1
S3
30
STORAGE CONTAINER
FREEZING LIQUID
50
STIRRING PORTION
S2
S2
WASTE LIQUID COLLECTION CONTAINER
16
S4
S4
40
DIVISION PROCESSING PORTION
S5
S5
30
STORAGE CONTAINER
50
STIRRING PORTION
S6
S6
20
CULTURE CONTAINER

FIG. 10

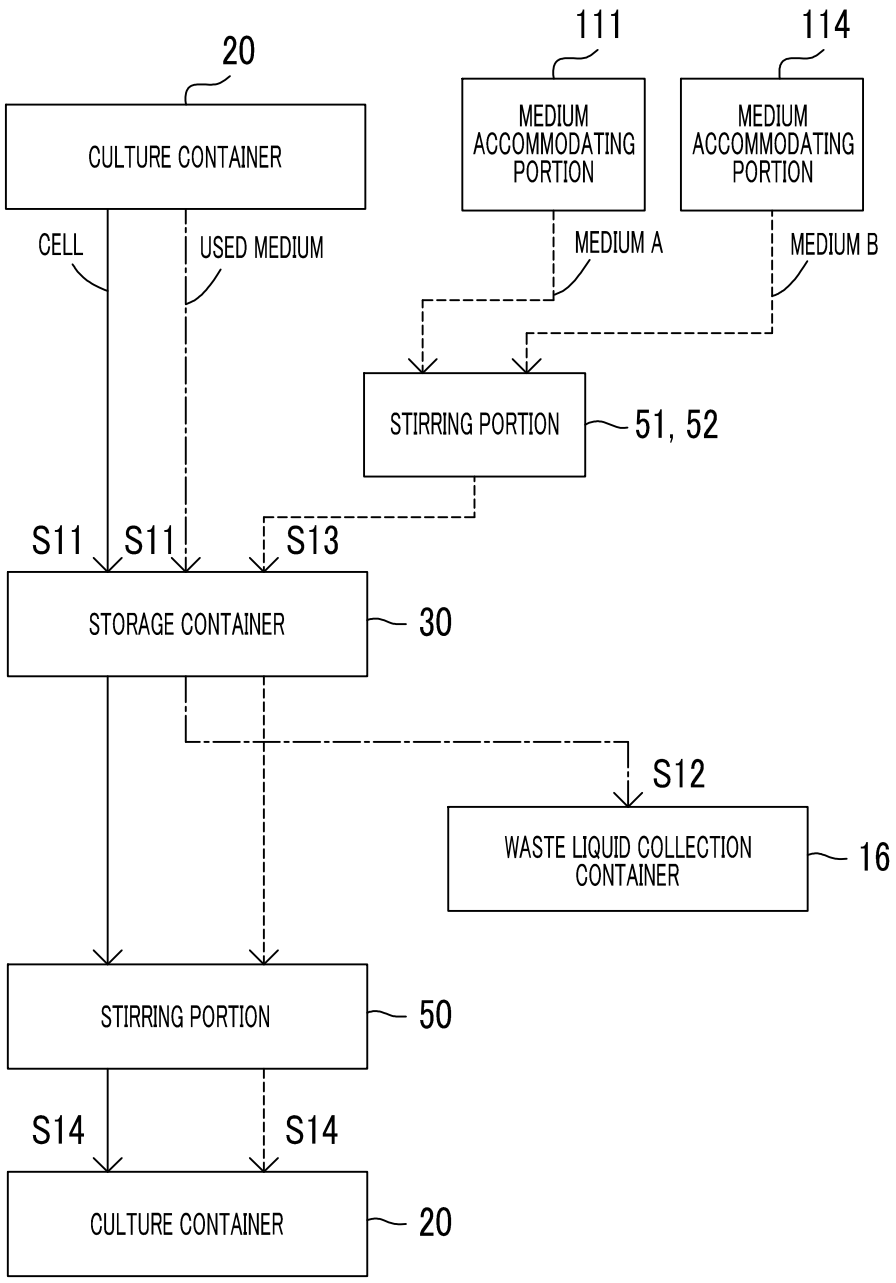

MEDIUM EXCHANGE PROCESS
20
CULTURE CONTAINER
111
MEDIUM ACCOMMODATING PORTION
114
MEDIUM ACCOMMODATING PORTION
CELL
USED MEDIUM
MEDIUM A
MEDIUM B
STIRRING PORTION
51, 52
S11
S11
S13
STORAGE CONTAINER
30
S12
WASTE LIQUID COLLECTION CONTAINER
16
STIRRING PORTION
50
S14
S14
CULTURE CONTAINER
20

FIG. 11

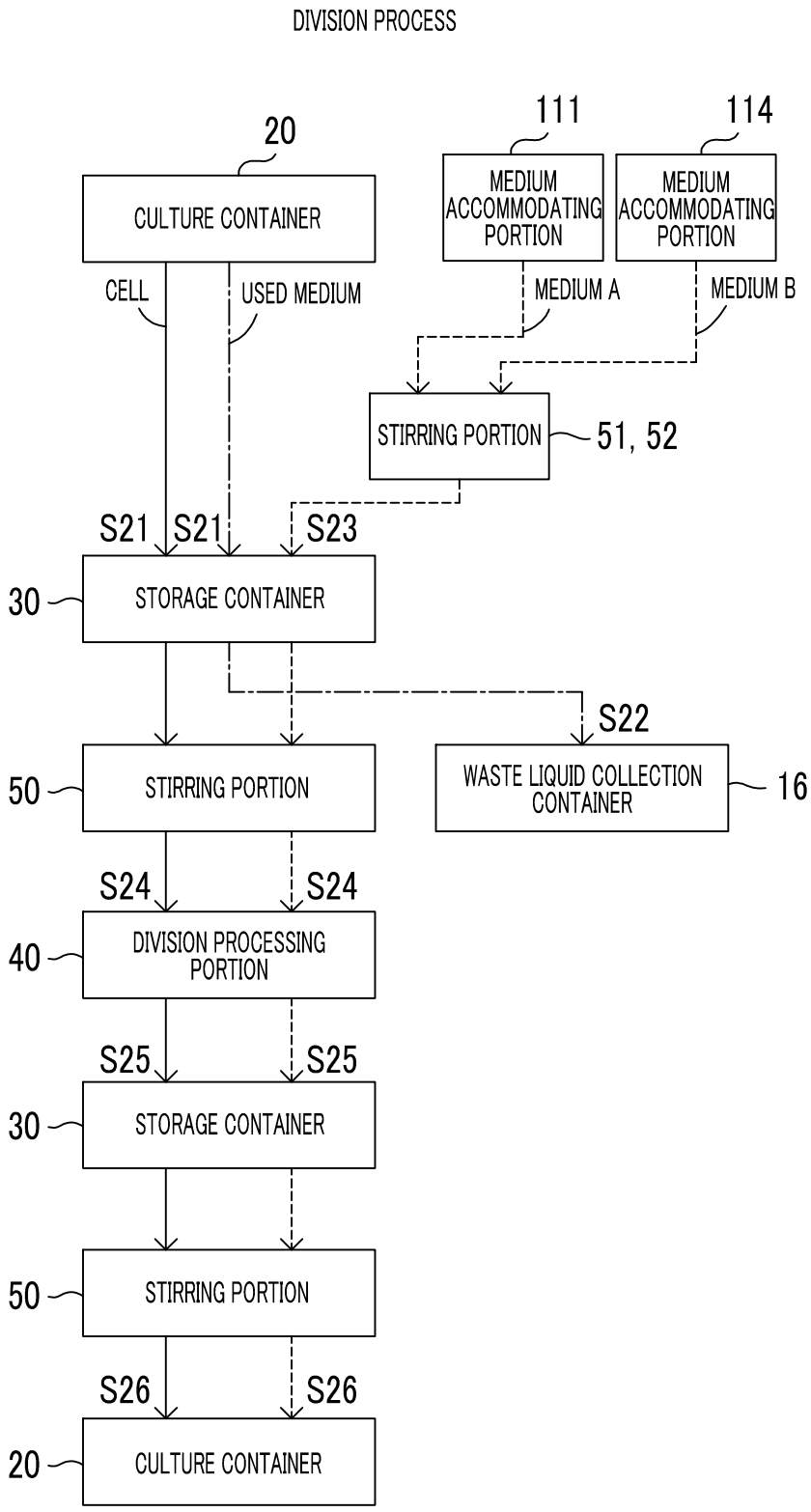

DIVISION PROCESS
20
CULTURE CONTAINER
111
MEDIUM ACCOMMODATING PORTION
114
MEDIUM ACCOMMODATING PORTION
CELL
USED MEDIUM
MEDIUM A
MEDIUM B
STIRRING PORTION
51, 52
S21
S21
S23
30
STORAGE CONTAINER
S22
50
STIRRING PORTION
WASTE LIQUID COLLECTION CONTAINER
16
S24
S24
40
DIVISION PROCESSING PORTION
S25
S25
30
STORAGE CONTAINER
50
STIRRING PORTION
S26
S26
20
CULTURE CONTAINER

FIG. 12

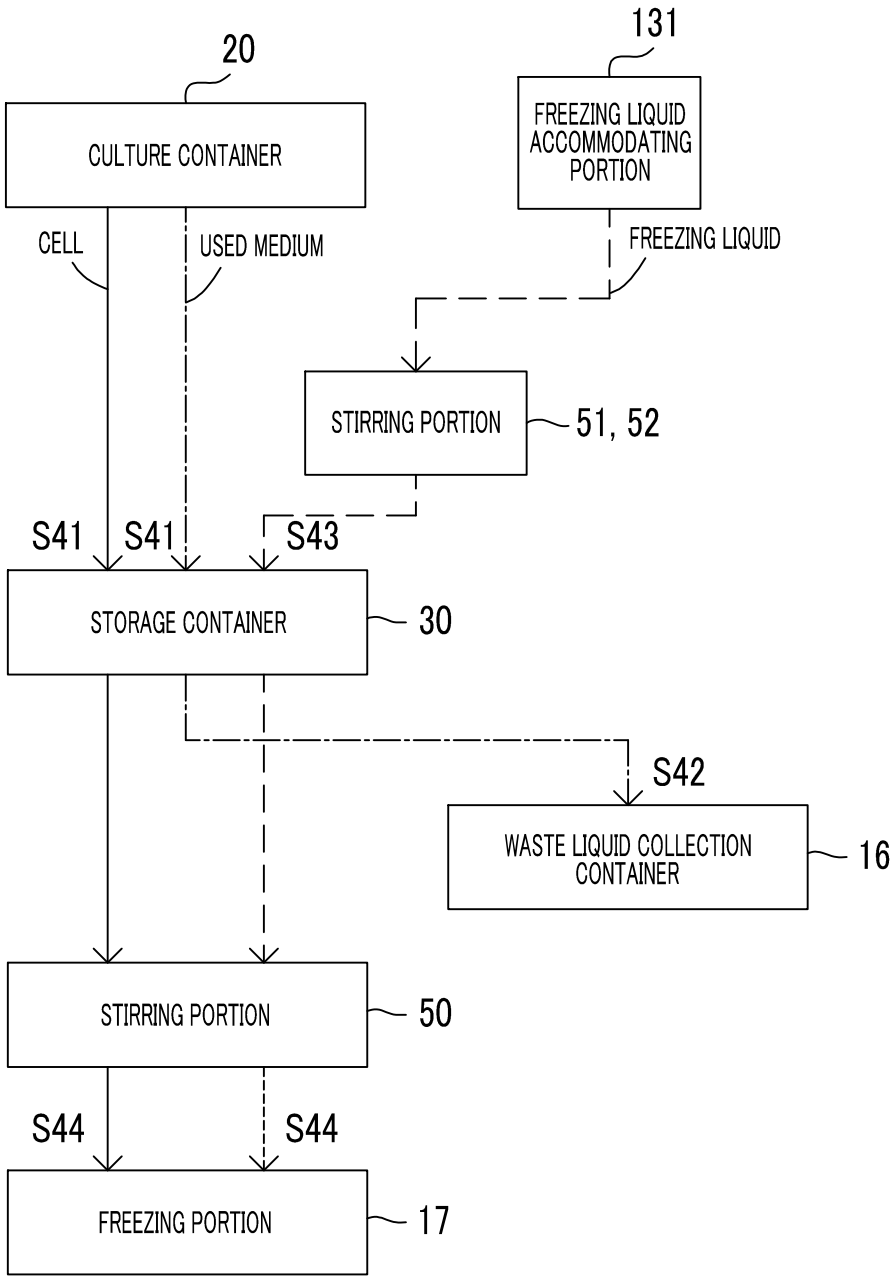

FREEZING PROCESS
20
131
CULTURE CONTAINER
FREEZING LIQUID ACCOMMODATING PORTION
CELL
USED MEDIUM
FREEZING LIQUID
STIRRING PORTION
51, 52
S41
S41
S43
STORAGE CONTAINER
30
S42
WASTE LIQUID COLLECTION CONTAINER
16
STIRRING PORTION
50
S44
S44
FREEZING PORTION
17

FIG. 13

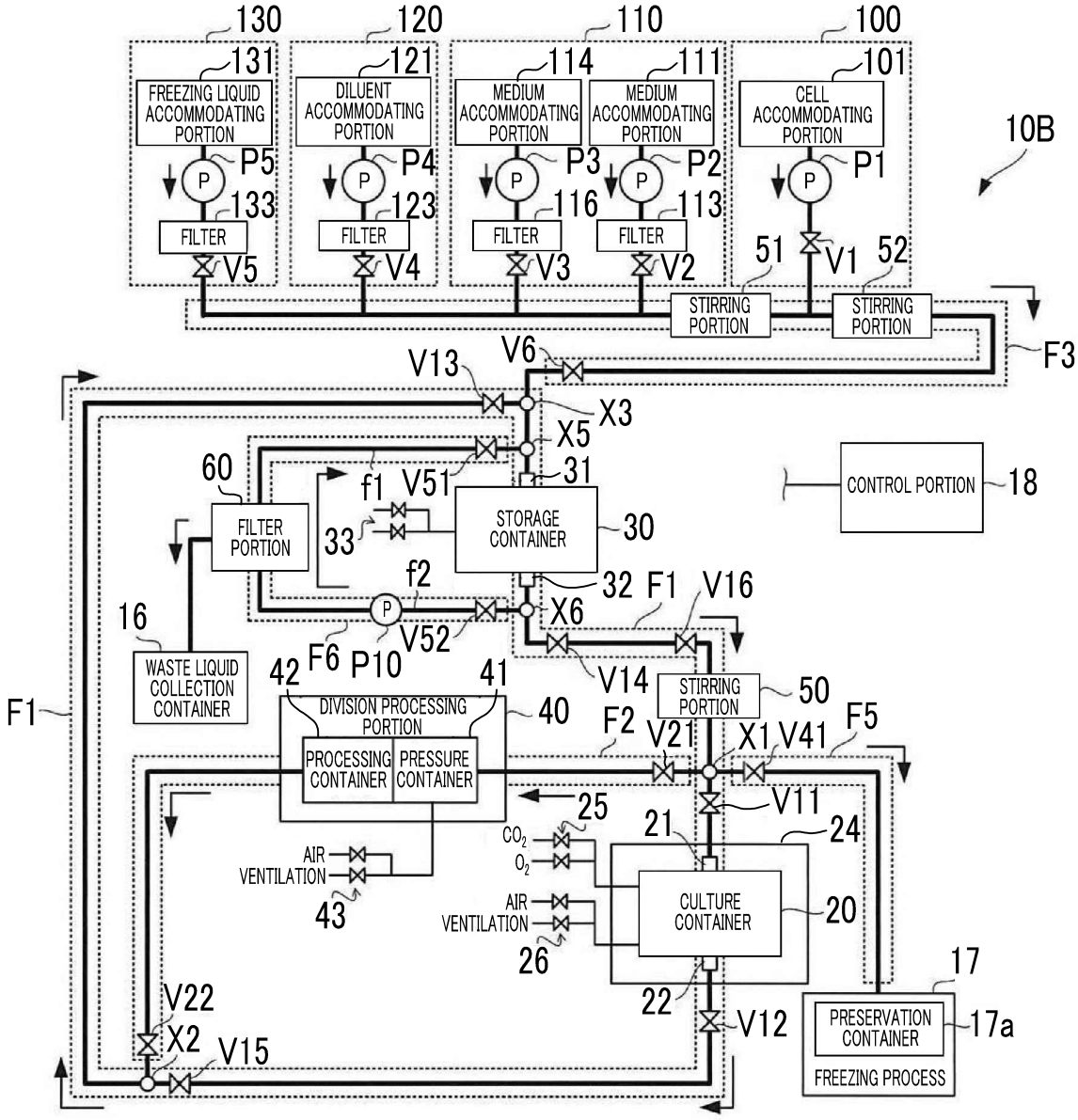

130
120
110
100
131
121
114
111
101
FREEZING LIQUID ACCOMMODATING PORTION
DILUENT ACCOMMODATING PORTION
MEDIUM ACCOMMODATING PORTION
MEDIUM ACCOMMODATING PORTION
CELL ACCOMMODATING PORTION
10B
P5
P4
P3
P2
P1
133
123
116
113
FILTER
FILTER
FILTER
FILTER
V5
V4
V3
V2
51
V1
52
STIRRING PORTION
STIRRING PORTION
F3
V13
V6
X3
X5
60
f1
V51
31
CONTROL PORTION
18
FILTER PORTION
33
STORAGE CONTAINER
30
f2
32
F1
V16
16
X6
F6
P10
V52
V14
WASTE LIQUID COLLECTION CONTAINER
42
41
STIRRING PORTION
50
F1
DIVISION PROCESSING PORTION
40
F2
V21
X1
V41
F5
PROCESSING CONTAINER
PRESSURE CONTAINER
25
V11
21
24
CO_2
O_2
AIR VENTILATION
43
AIR VENTILATION
CULTURE CONTAINER
20
26
17
22
V12
PRESERVATION CONTAINER
17a
V22
X2
V15
FREEZING PROCESS

FIG. 14

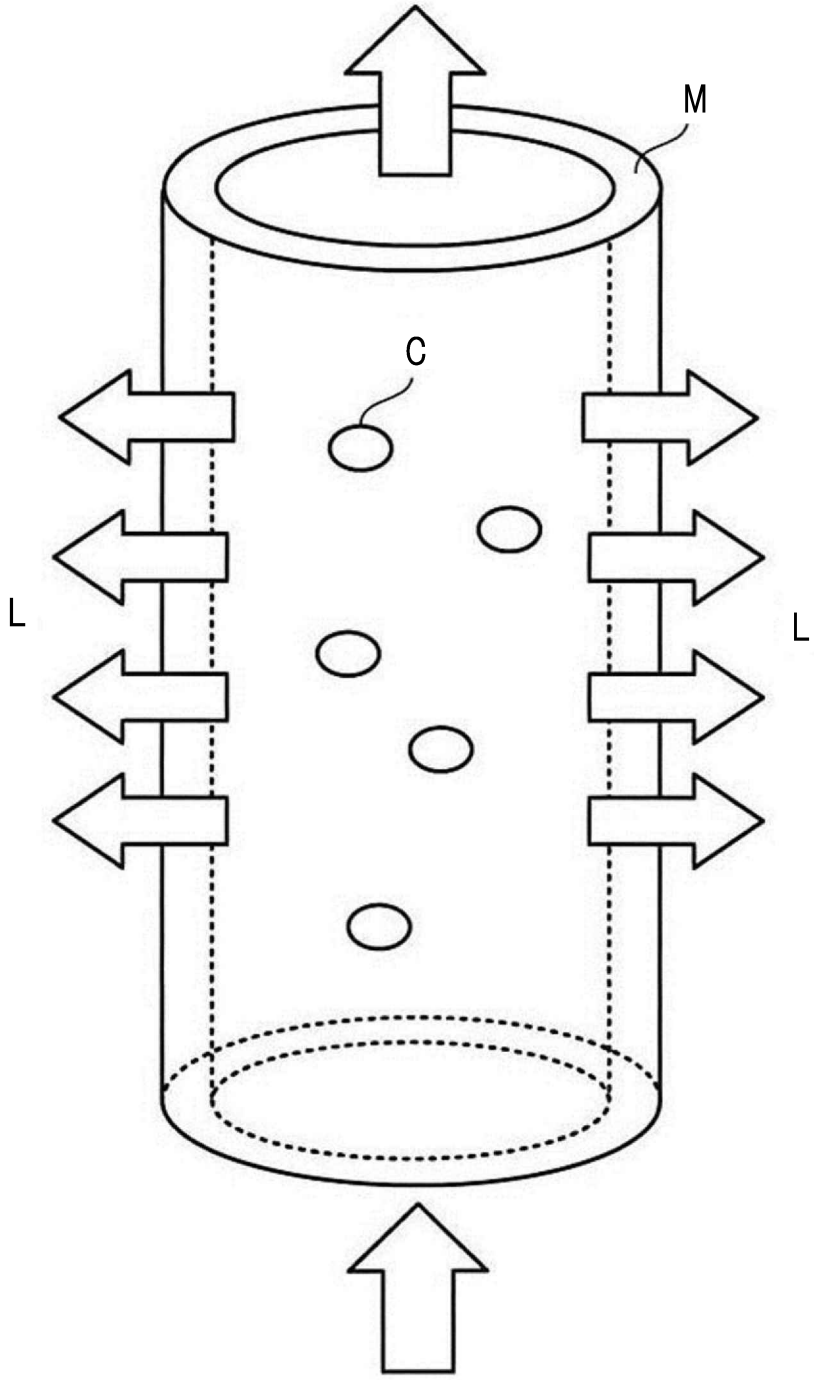


FIG. 15

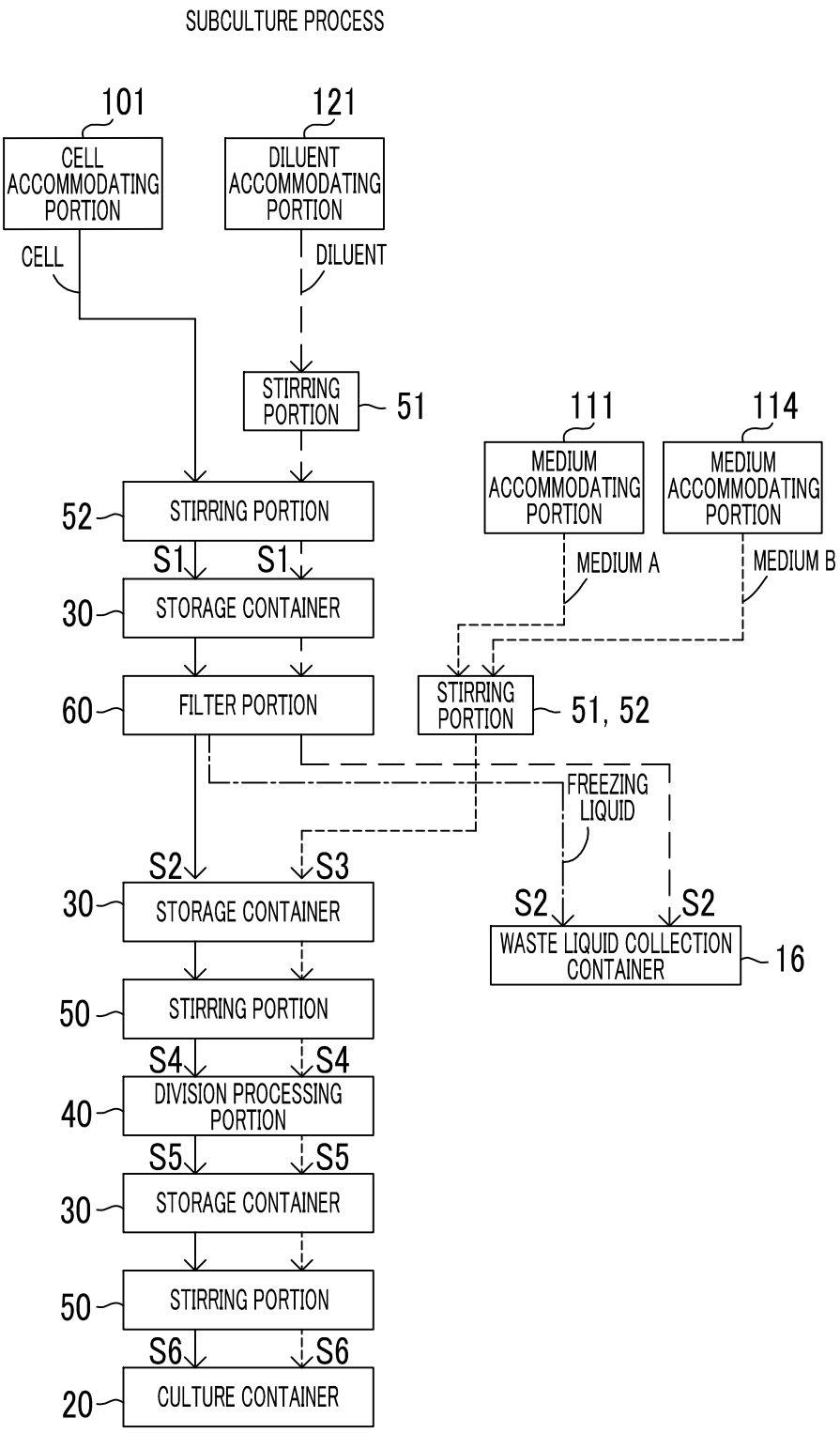

SUBCULTURE PROCESS
101
CELL ACCOMMODATING PORTION
CELL
121
DILUENT ACCOMMODATING PORTION
DILUENT
STIRRING PORTION
51
111
MEDIUM ACCOMMODATING PORTION
MEDIUM A
114
MEDIUM ACCOMMODATING PORTION
MEDIUM B
52
STIRRING PORTION
S1
S1
30
STORAGE CONTAINER
60
FILTER PORTION
STIRRING PORTION
51, 52
FREEZING LIQUID
S2
S3
30
STORAGE CONTAINER
S2
S2
WASTE LIQUID COLLECTION CONTAINER
16
50
STIRRING PORTION
S4
S4
40
DIVISION PROCESSING PORTION
S5
S5
30
STORAGE CONTAINER
50
STIRRING PORTION
S6
S6
20
CULTURE CONTAINER

FIG. 16

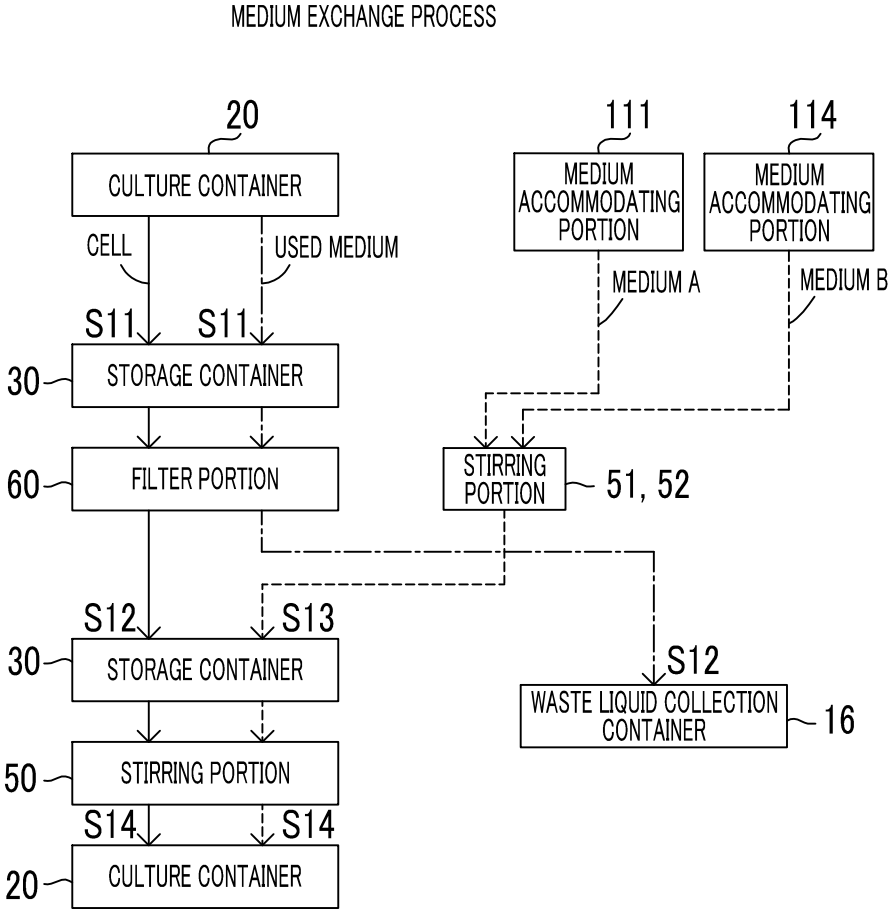

MEDIUM EXCHANGE PROCESS
20
CULTURE CONTAINER
CELL
USED MEDIUM
S11
S11
30
STORAGE CONTAINER
60
FILTER PORTION
S12
S13
30
STORAGE CONTAINER
50
STIRRING PORTION
S14
S14
20
CULTURE CONTAINER
111
MEDIUM ACCOMMODATING PORTION
114
MEDIUM ACCOMMODATING PORTION
MEDIUM A
MEDIUM B
STIRRING PORTION
51, 52
S12
WASTE LIQUID COLLECTION CONTAINER
16

FIG. 17

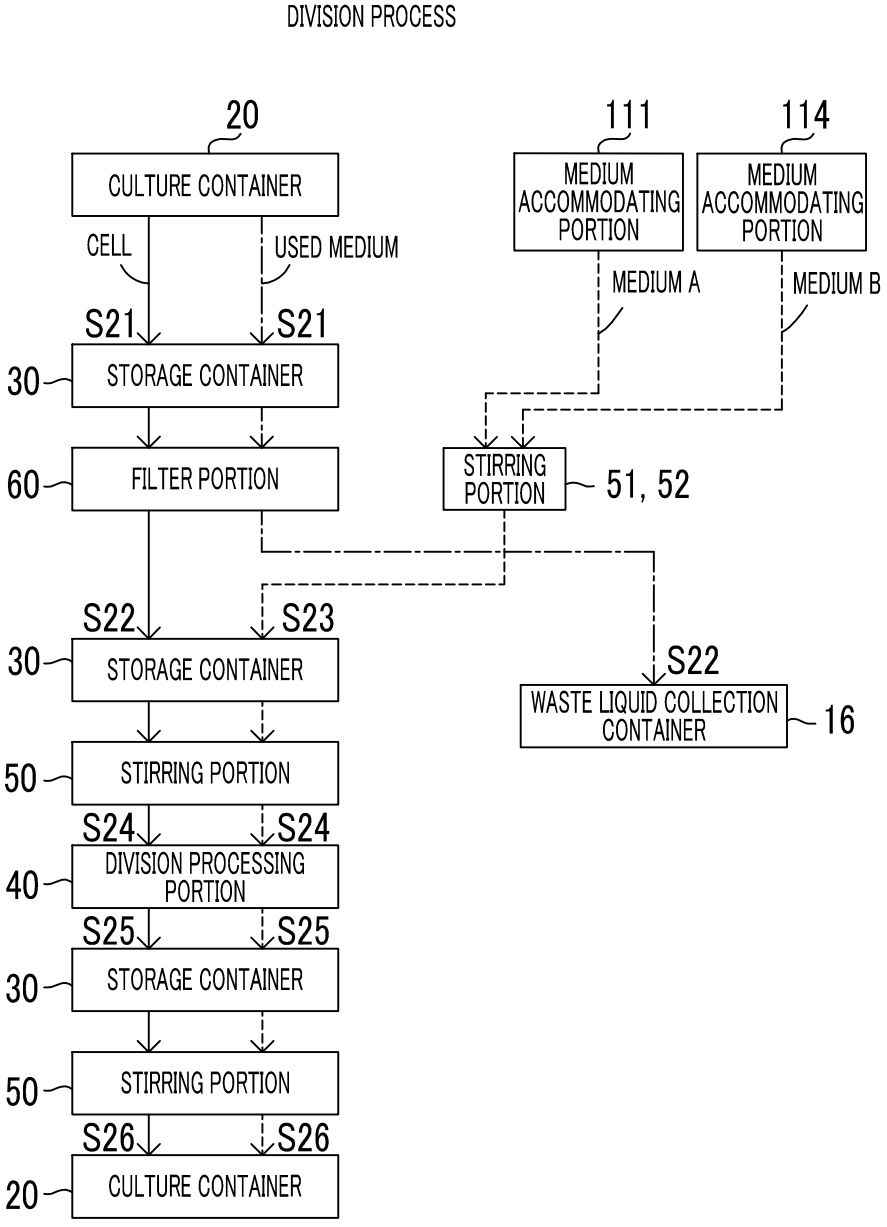

DIVISION PROCESS
20
CULTURE CONTAINER
CELL
USED MEDIUM
S21
S21
30
STORAGE CONTAINER
60
FILTER PORTION
111
MEDIUM ACCOMMODATING PORTION
114
MEDIUM ACCOMMODATING PORTION
MEDIUM A
MEDIUM B
STIRRING PORTION
51, 52
S22
S23
30
STORAGE CONTAINER
S22
WASTE LIQUID COLLECTION CONTAINER
16
50
STIRRING PORTION
S24
S24
40
DIVISION PROCESSING PORTION
S25
S25
30
STORAGE CONTAINER
50
STIRRING PORTION
S26
S26
20
CULTURE CONTAINER

FIG. 18

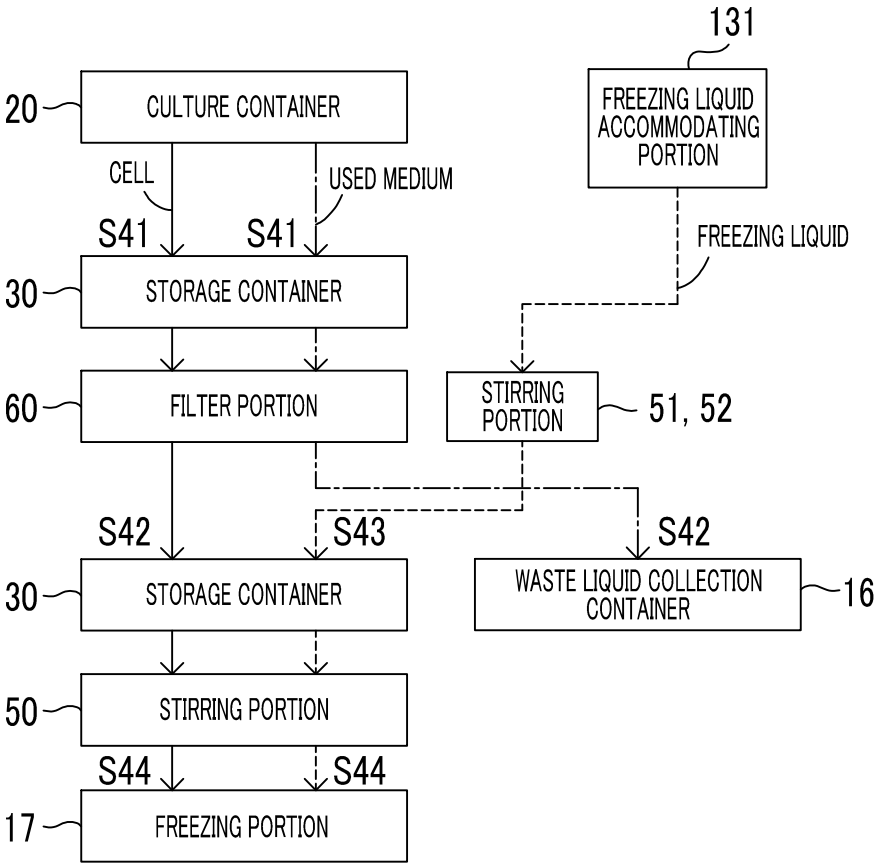

FREEZING PROCESS
131
20
CULTURE CONTAINER
FREEZING LIQUID ACCOMMODATING PORTION
CELL
USED MEDIUM
S41
S41
FREEZING LIQUID
30
STORAGE CONTAINER
60
FILTER PORTION
STIRRING PORTION
51, 52
S42
S43
S42
30
STORAGE CONTAINER
WASTE LIQUID COLLECTION CONTAINER
16
50
STIRRING PORTION
S44
S44
17
FREEZING PORTION

FIG. 19

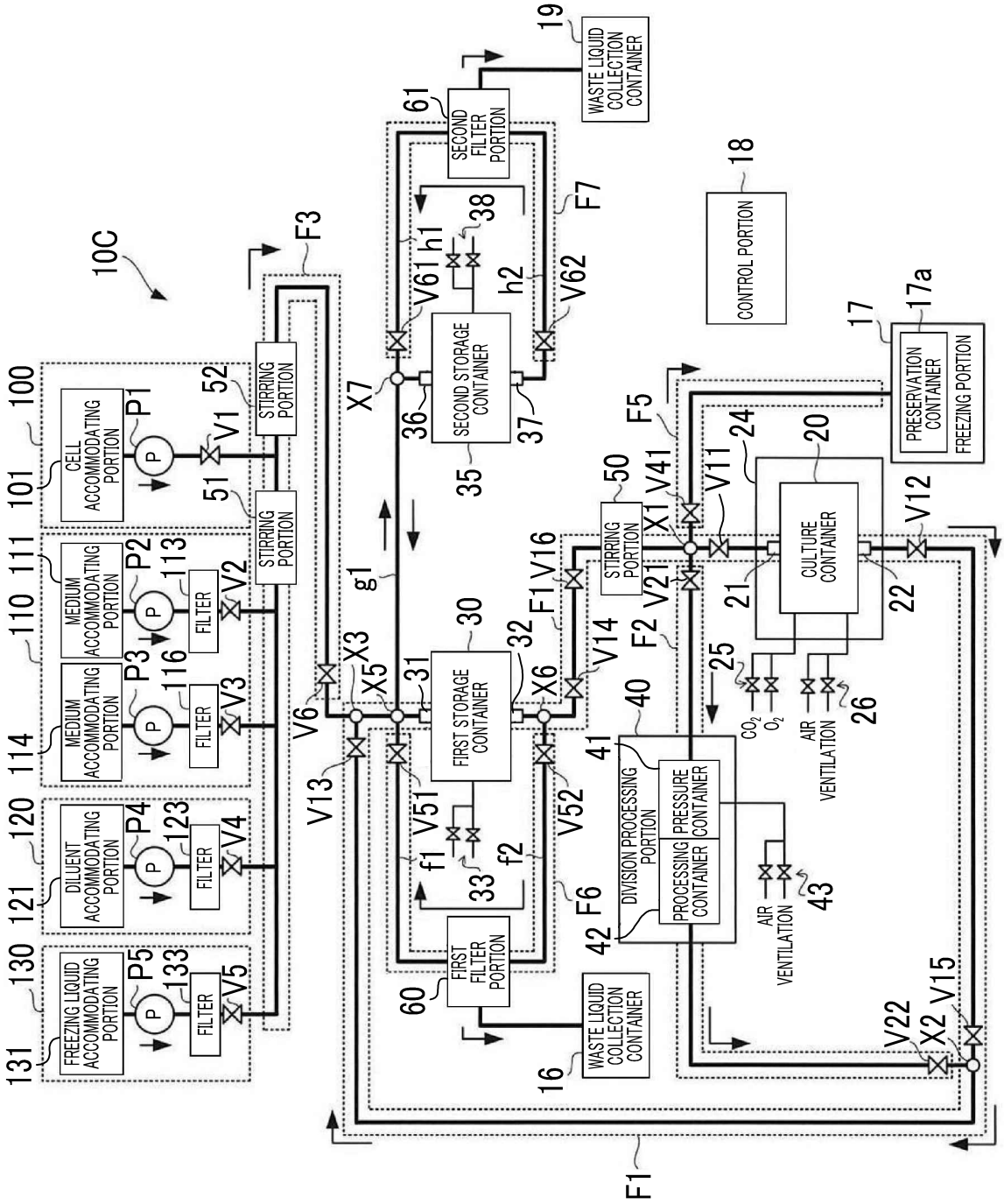

10C
CELL ACCOMMODATING PORTION
MEDIUM ACCOMMODATING PORTION
MEDIUM ACCOMMODATING PORTION
DILUENT ACCOMMODATING PORTION
FREEZING LIQUID ACCOMMODATING PORTION
FILTER
FILTER
FILTER
FILTER
FILTER
STIRRING PORTION
STIRRING PORTION
STIRRING PORTION
FIRST STORAGE CONTAINER
SECOND STORAGE CONTAINER
FIRST FILTER PORTION
SECOND FILTER PORTION
WASTE LIQUID COLLECTION CONTAINER
WASTE LIQUID COLLECTION CONTAINER
DIVISION PROCESSING PORTION
PRESSURE CONTAINER
PROCESSING CONTAINER
CULTURE CONTAINER
PRESERVATION CONTAINER
FREEZING PORTION
CONTROL PORTION
AIR VENTILATION
AIR VENTILATION
CO_2
O_2
P1
P2
P3
P4
P5
V1
V2
V3
V4
V5
V6
V11
V12
V13
V14
V15
V16
V21
V22
V41
V51
V52
V61
V62
X1
X2
X3
X5
X6
X7
F1
F2
F3
F5
F6
F7
f1
f2
g1
h1
h2

FIG. 20

CONCENTRATION PROCESS

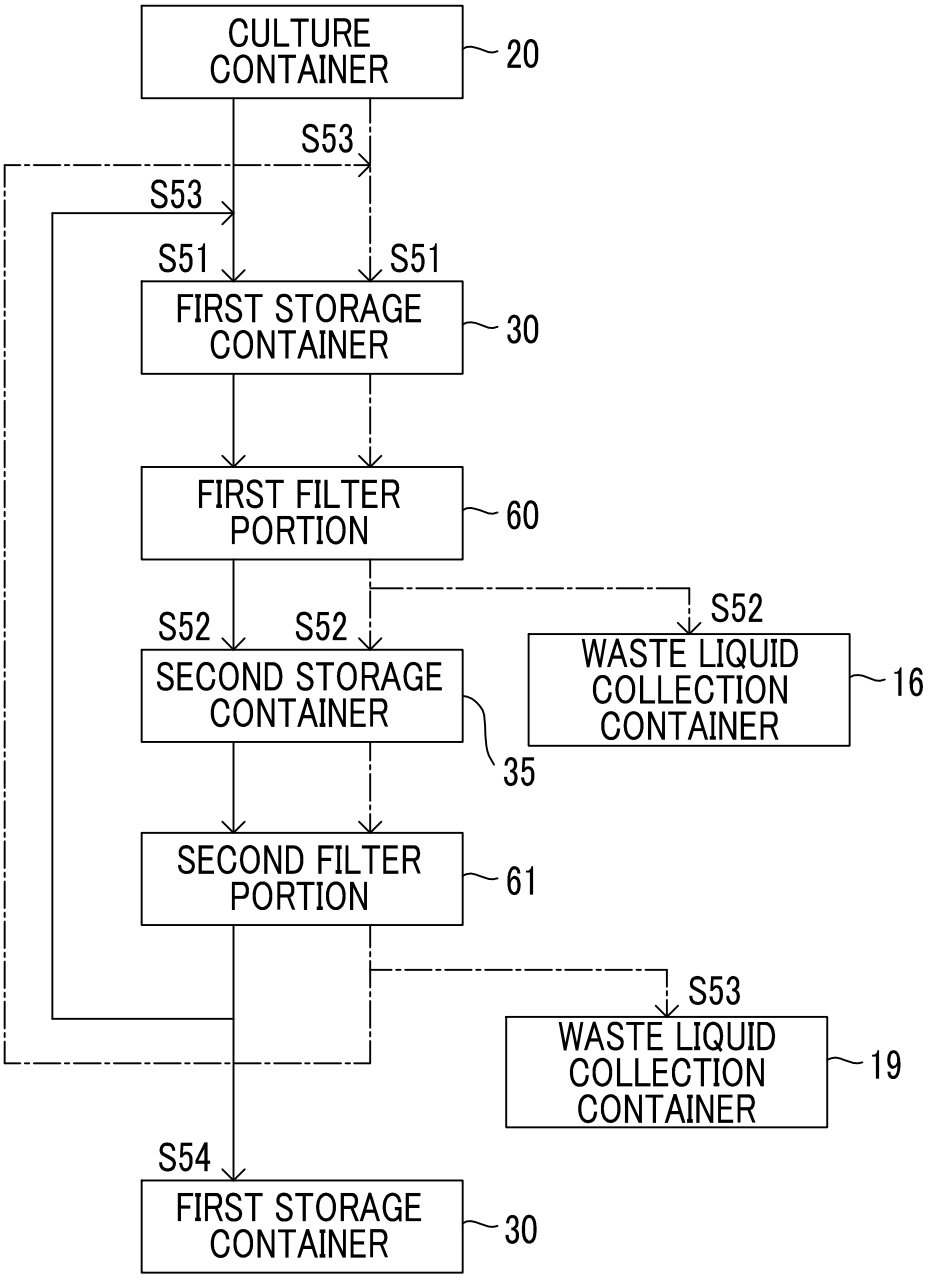


FIG. 21

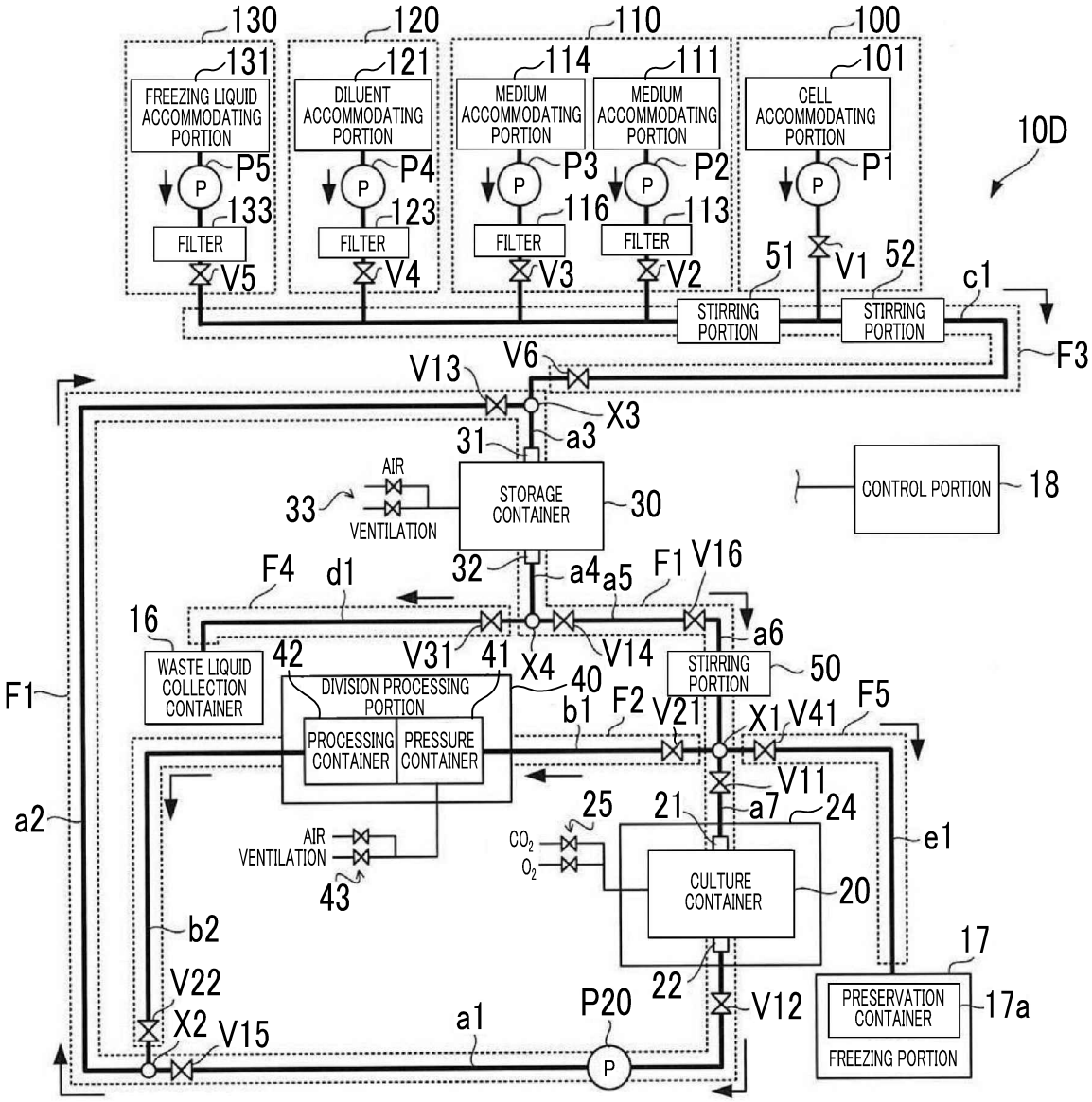

130
120
110
100
131
121
114
111
101
FREEZING LIQUID ACCOMMODATING PORTION
DILUENT ACCOMMODATING PORTION
MEDIUM ACCOMMODATING PORTION
MEDIUM ACCOMMODATING PORTION
CELL ACCOMMODATING PORTION
10D
P5
P4
P3
P2
P1
133
123
116
113
FILTER
FILTER
FILTER
FILTER
V5
V4
V3
V2
51
V1
52
c1
STIRRING PORTION
STIRRING PORTION
F3
V13
V6
X3
a3
31
AIR
VENTILATION
33
STORAGE CONTAINER
30
CONTROL PORTION
18
F4
d1
32
a4
a5
F1
V16
16
a6
42
V31
41
X4
V14
40
STIRRING PORTION
50
WASTE LIQUID COLLECTION CONTAINER
DIVISION PROCESSING PORTION
PROCESSING CONTAINER
PRESSURE CONTAINER
F1
b1
F2
V21
X1
V41
F5
V11
25
21
a7
24
e1
a2
AIR
VENTILATION
43
CO_2
O_2
CULTURE CONTAINER
20
b2
17
V22
X2
V15
a1
P20
22
V12
PRESERVATION CONTAINER
17a
FREEZING PORTION
P

FIG. 22

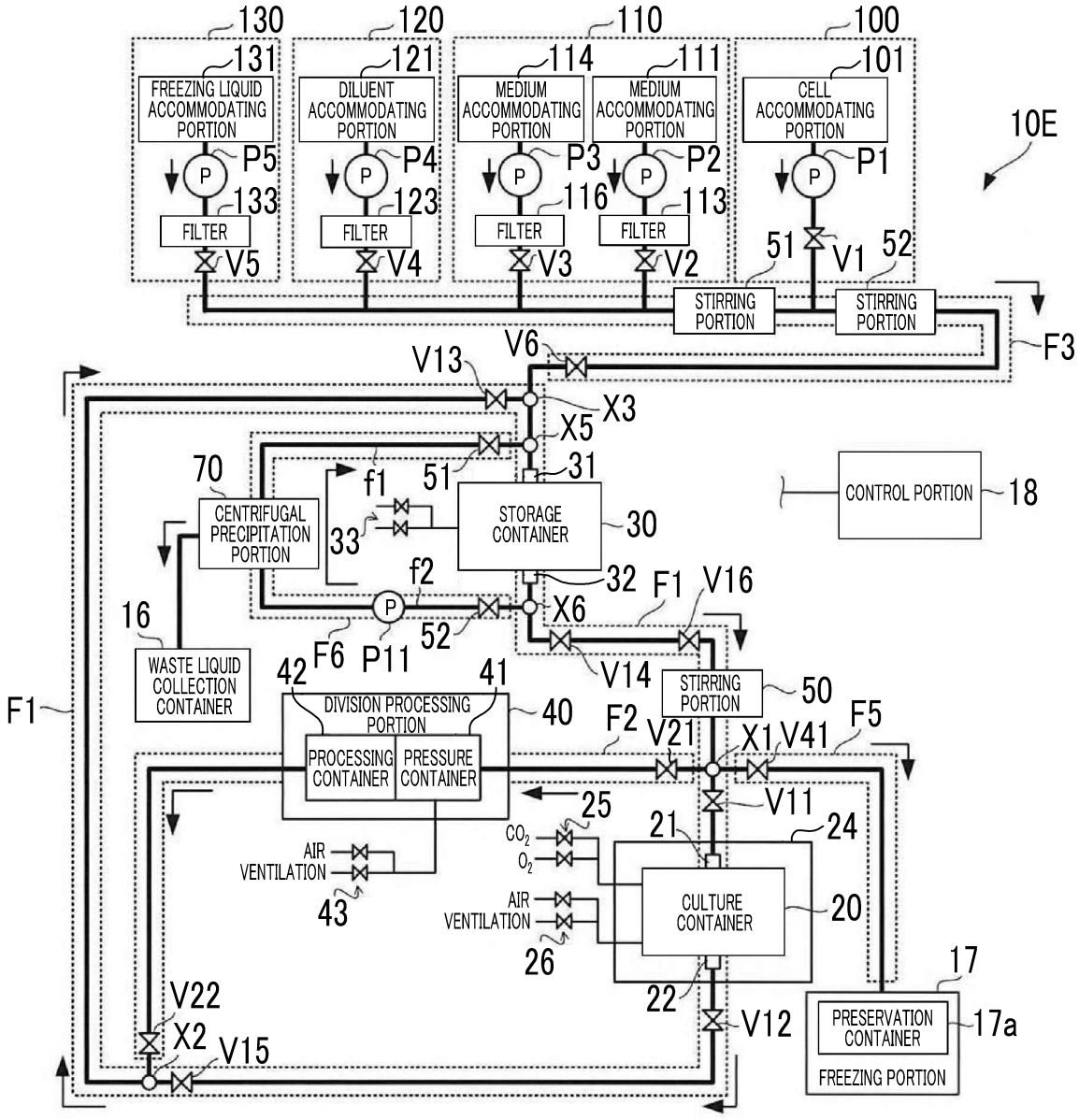
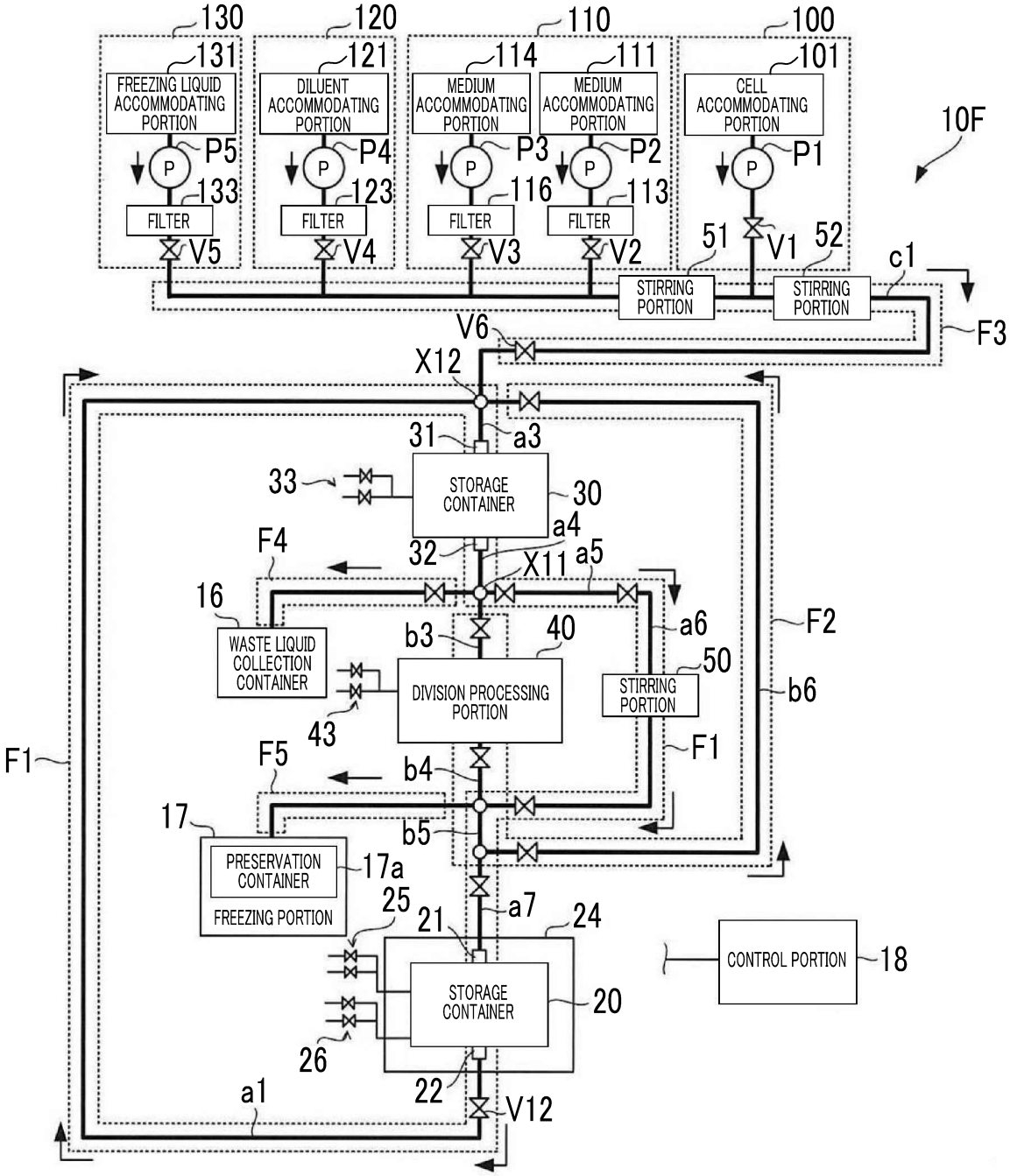

130
120
110
100
131
121
114
111
101
FREEZING LIQUID ACCOMMODATING PORTION
DILUENT ACCOMMODATING PORTION
MEDIUM ACCOMMODATING PORTION
MEDIUM ACCOMMODATING PORTION
CELL ACCOMMODATING PORTION
10E
P5
P4
P3
P2
P1
133
123
116
113
FILTER
FILTER
FILTER
FILTER
V5
V4
V3
V2
51
V1
52
STIRRING PORTION
STIRRING PORTION
F3
V6
V13
X3
X5
70
f1
51
31
CONTROL PORTION
18
CENTRIFUGAL PRECIPITATION PORTION
33
STORAGE CONTAINER
30
f2
32
F1
V16
16
P
F6
P11
52
X6
WASTE LIQUID COLLECTION CONTAINER
42
41
V14
STIRRING PORTION
50
F1
DIVISION PROCESSING PORTION
40
F2
V21
X1
V41
F5
PROCESSING CONTAINER
PRESSURE CONTAINER
25
V11
21
24
CO_2
O_2
AIR VENTILATION
43
AIR VENTILATION
CULTURE CONTAINER
20
26
22
17
V22
X2
V15
V12
PRESERVATION CONTAINER
17a
FREEZING PORTION

FIG. 23


130
120
110
100
131
121
114
111
101
FREEZING LIQUID ACCOMMODATING PORTION
DILUENT ACCOMMODATING PORTION
MEDIUM ACCOMMODATING PORTION
MEDIUM ACCOMMODATING PORTION
CELL ACCOMMODATING PORTION
10F
P5
P4
P3
P2
P1
133
123
116
113
FILTER
FILTER
FILTER
FILTER
V5
V4
V3
V2
51
V1
52
c1
STIRRING PORTION
STIRRING PORTION
F3
V6
X12
31
a3
33
STORAGE CONTAINER
30
a4
F4
32
X11
a5
16
a6
F2
WASTE LIQUID COLLECTION CONTAINER
b3
40
50
DIVISION PROCESSING PORTION
STIRRING PORTION
b6
43
F1
F1
F5
b4
17
b5
PRESERVATION CONTAINER
17a
FREEZING PORTION
25
21
a7
24
CONTROL PORTION
18
STORAGE CONTAINER
20
26
22
a1
V12