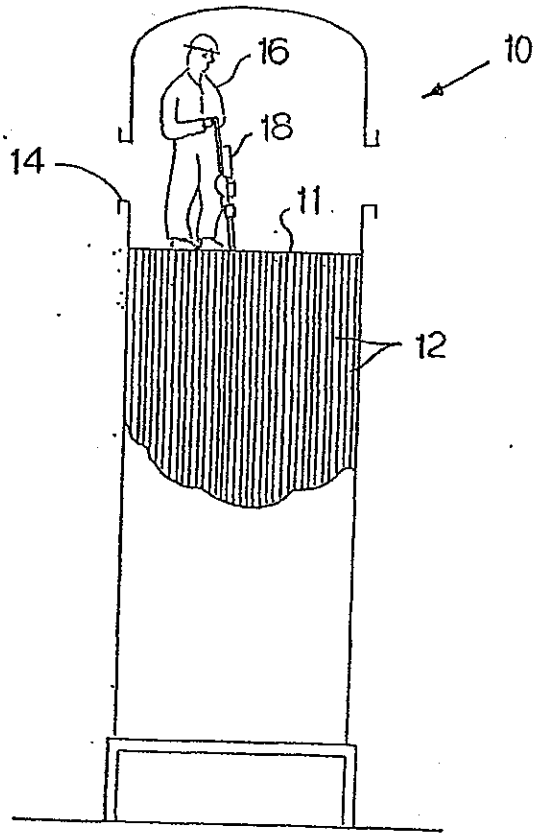


FIG. 1

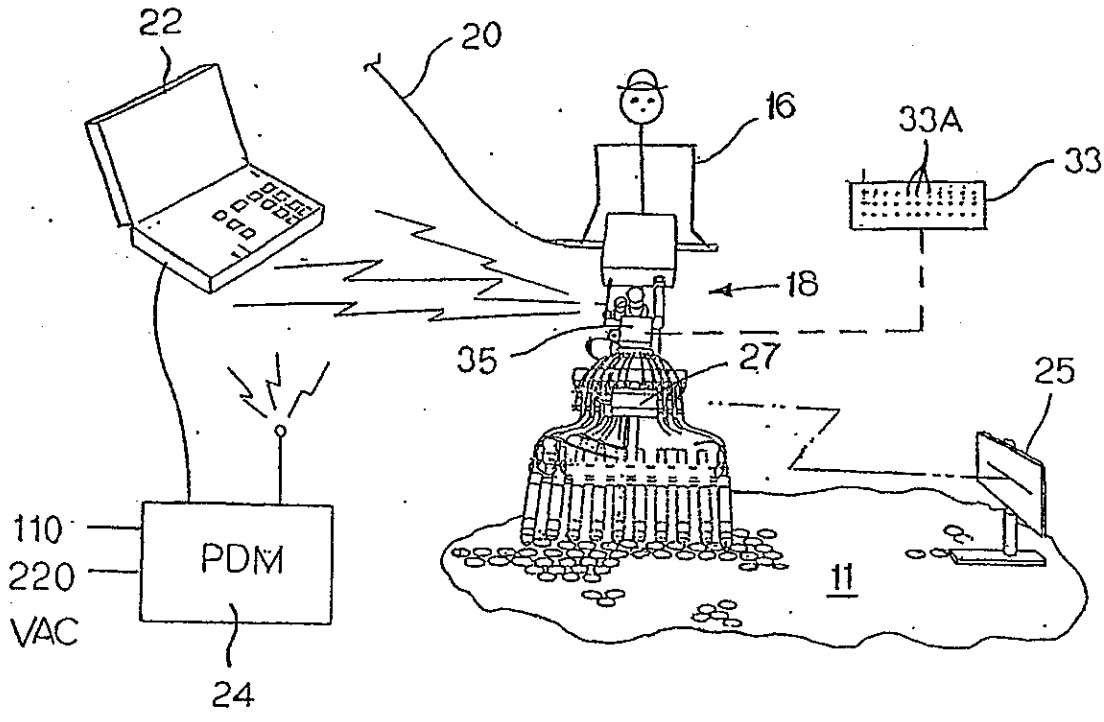


FIG. 2

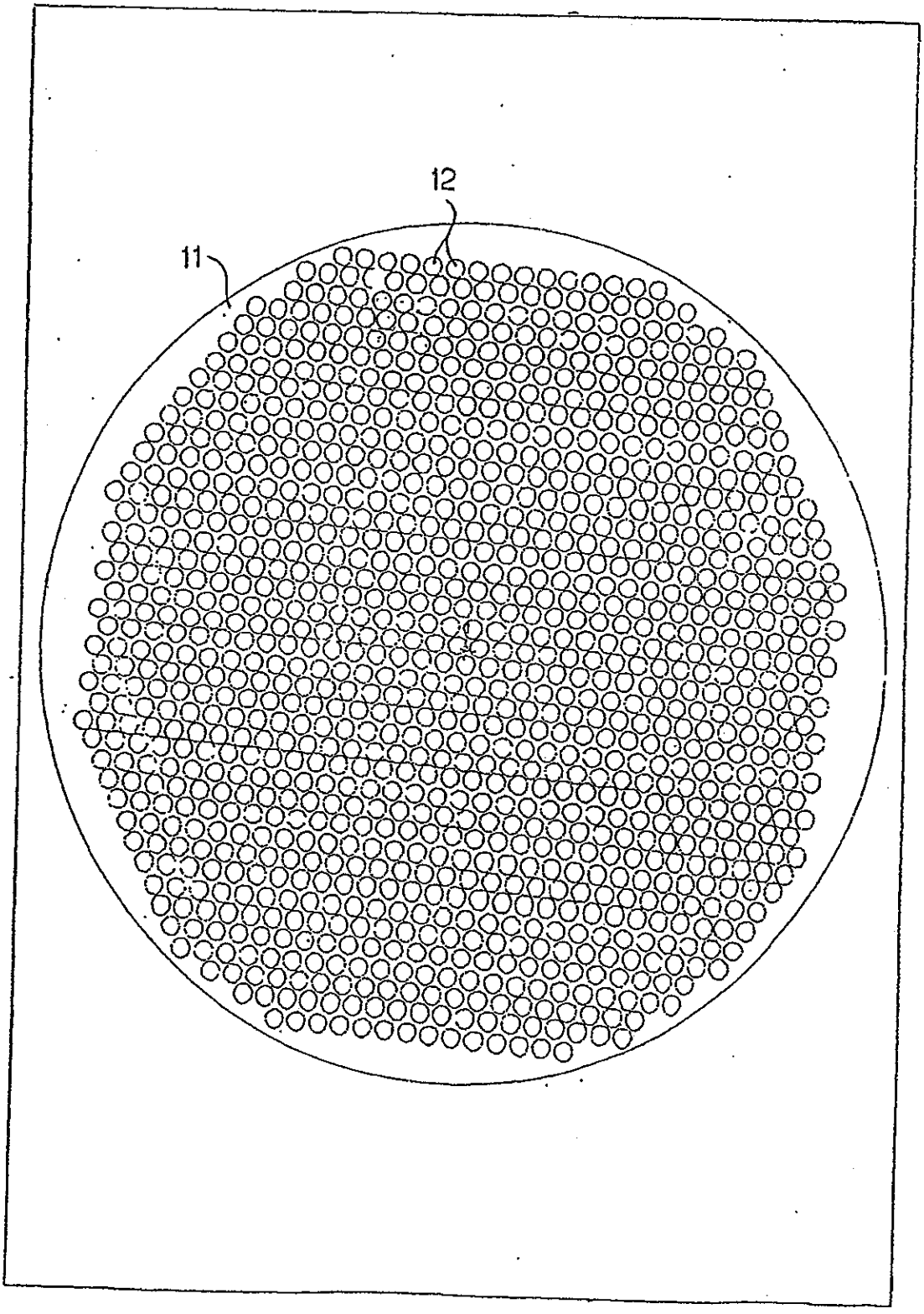


FIG.3

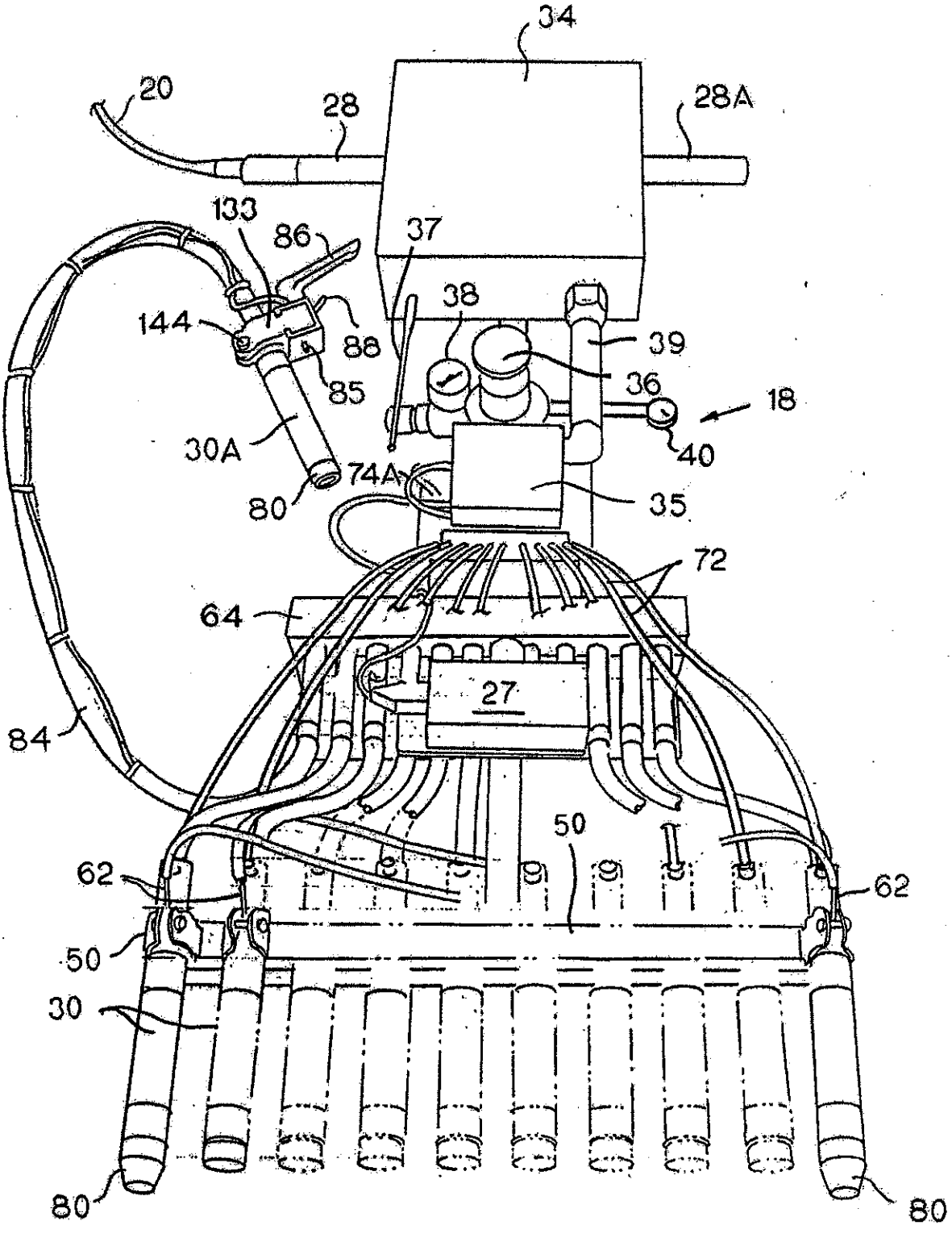

34
20
28
28A
133
86
37
144
88
38
39
85
36
18
30A
40
74A
80
35
72
64
27
84
50
62
62
50
30
80
80

FIG.4

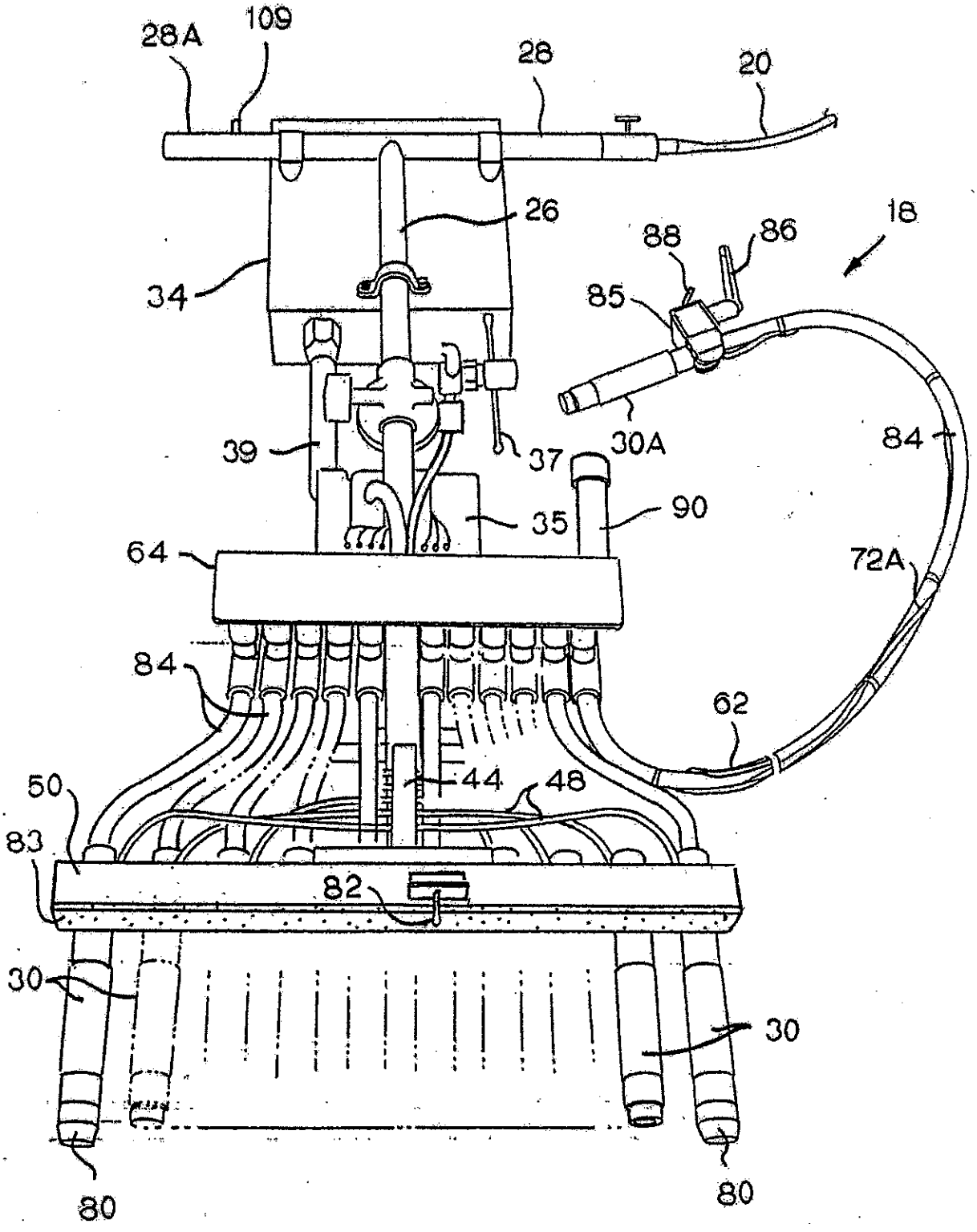

28A
109
28
20
26
18
88
86
85
34
30A
84
39
37
35
90
64
72A
84
62
44
48
50
83
82
30
30
80
80

FIG. 5

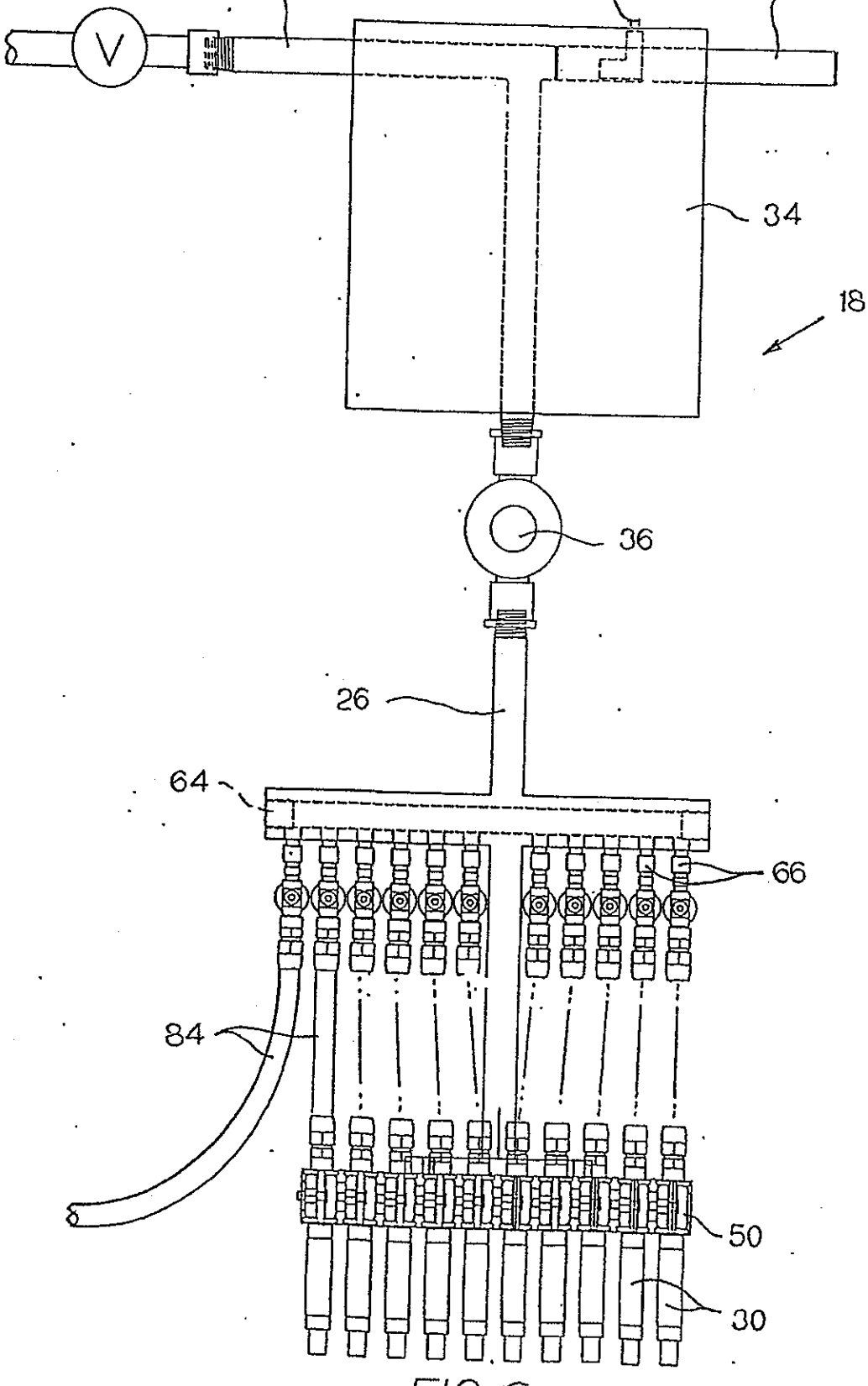


FIG.6

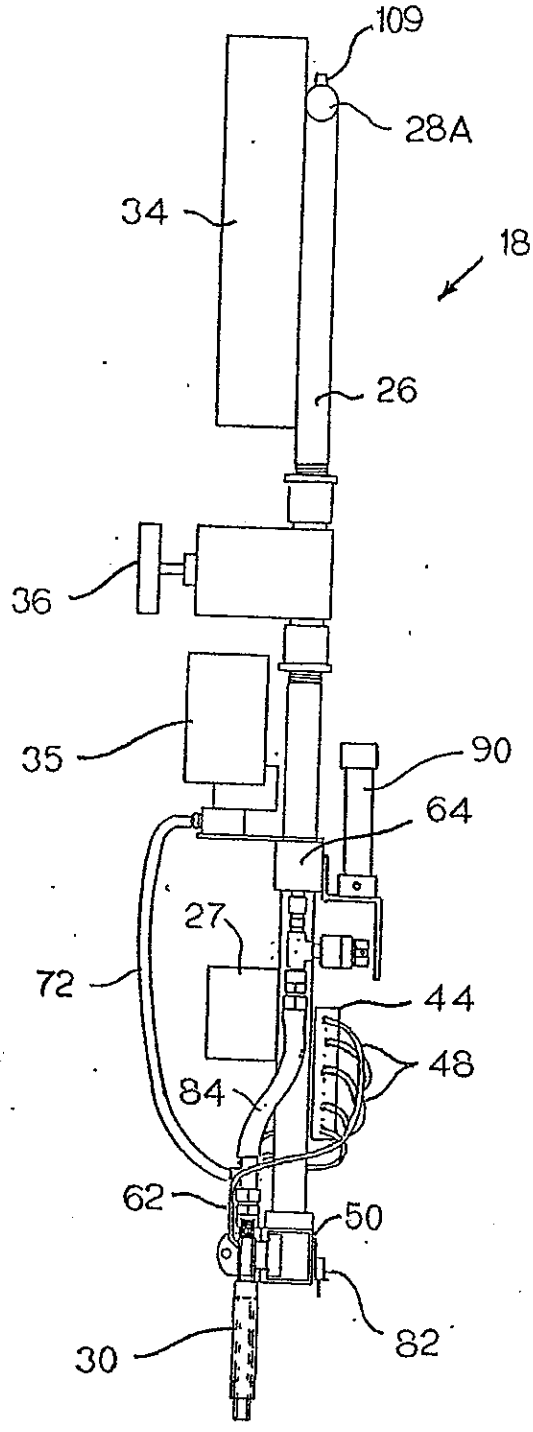


FIG. 7

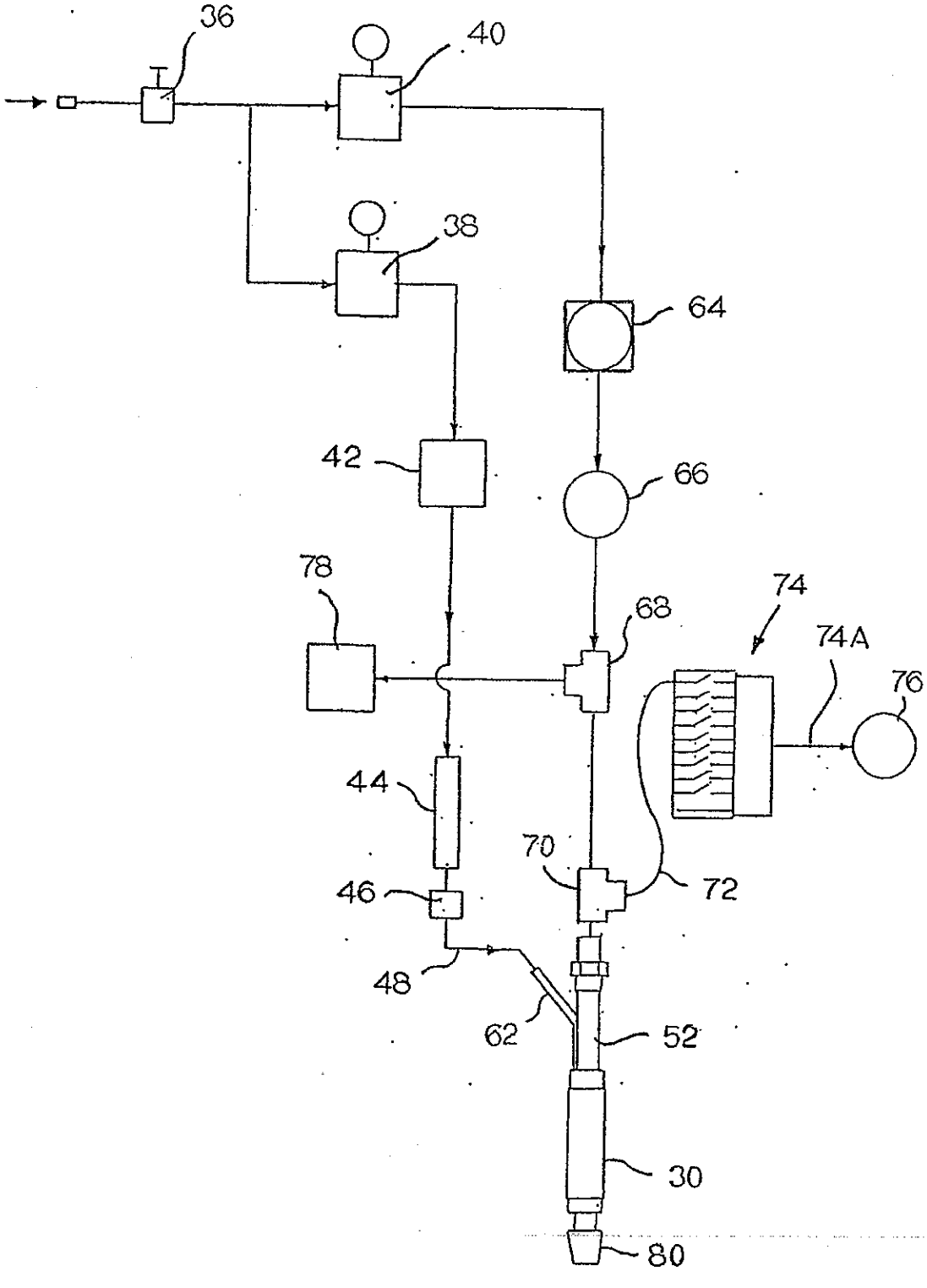


FIG. 8

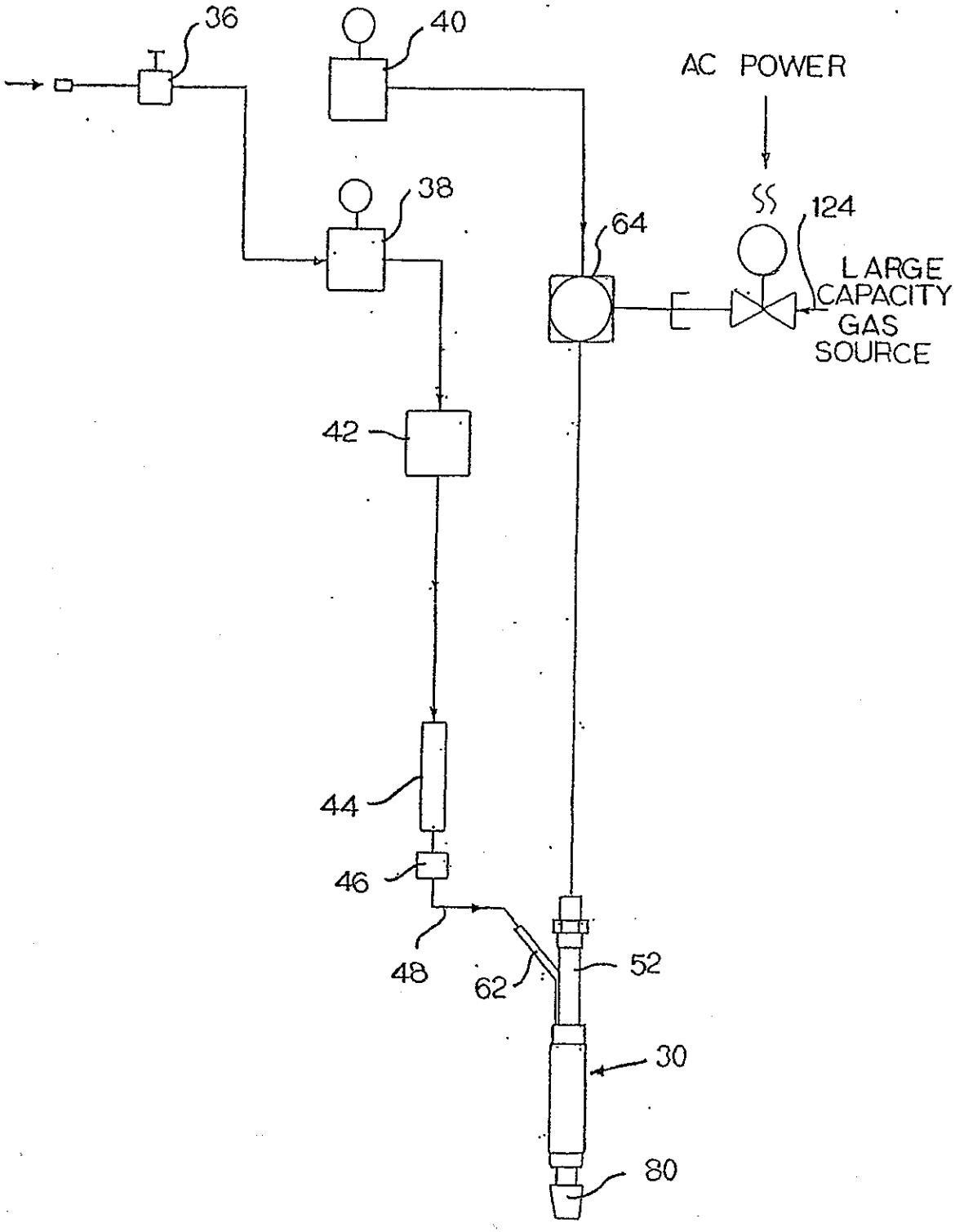

36
40
AC POWER
38
124
64
LARGE CAPACITY GAS SOURCE
42
44
46
48
62
52
30
80

FIG. 8A

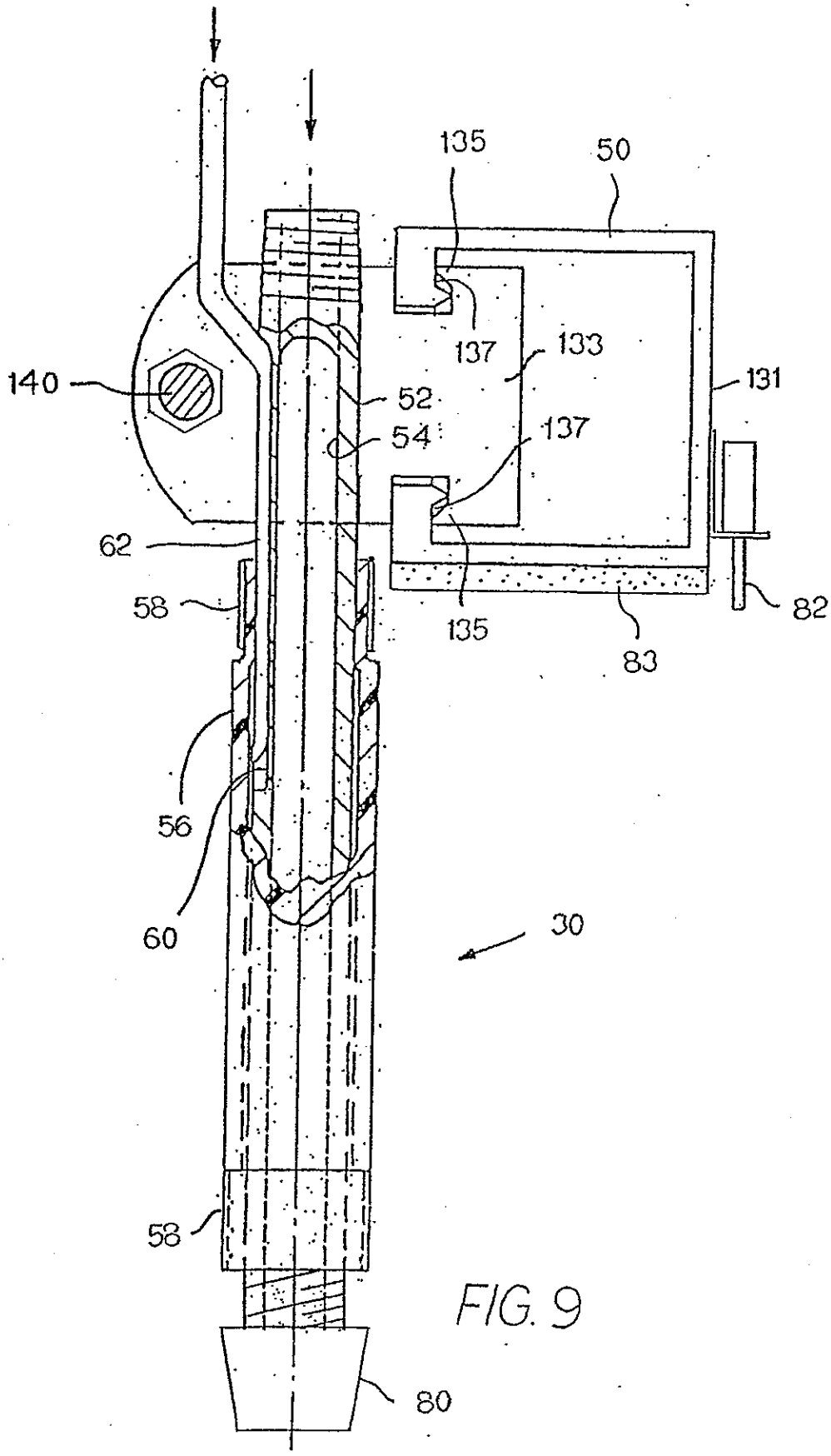


FIG. 9

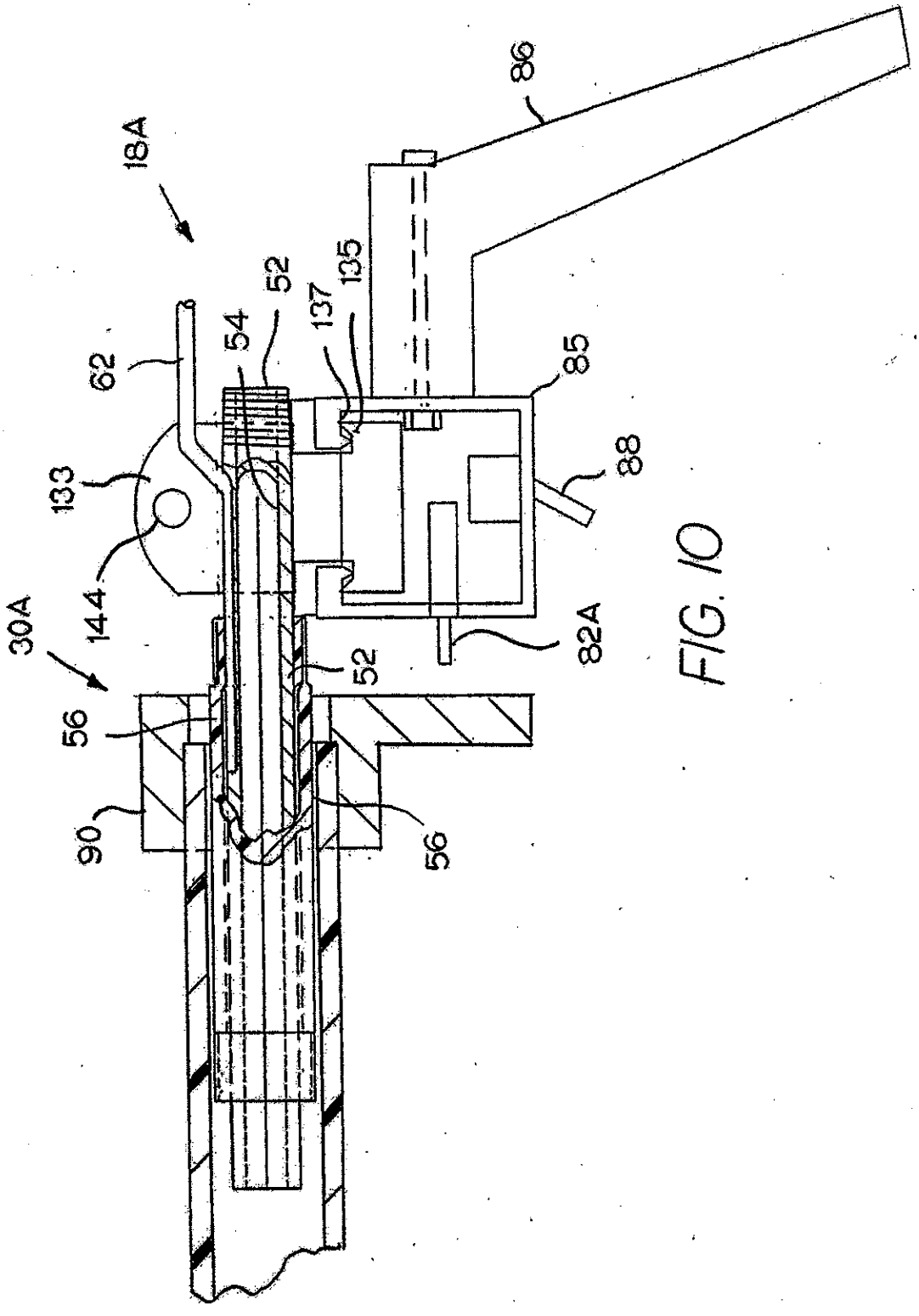


FIG. 10

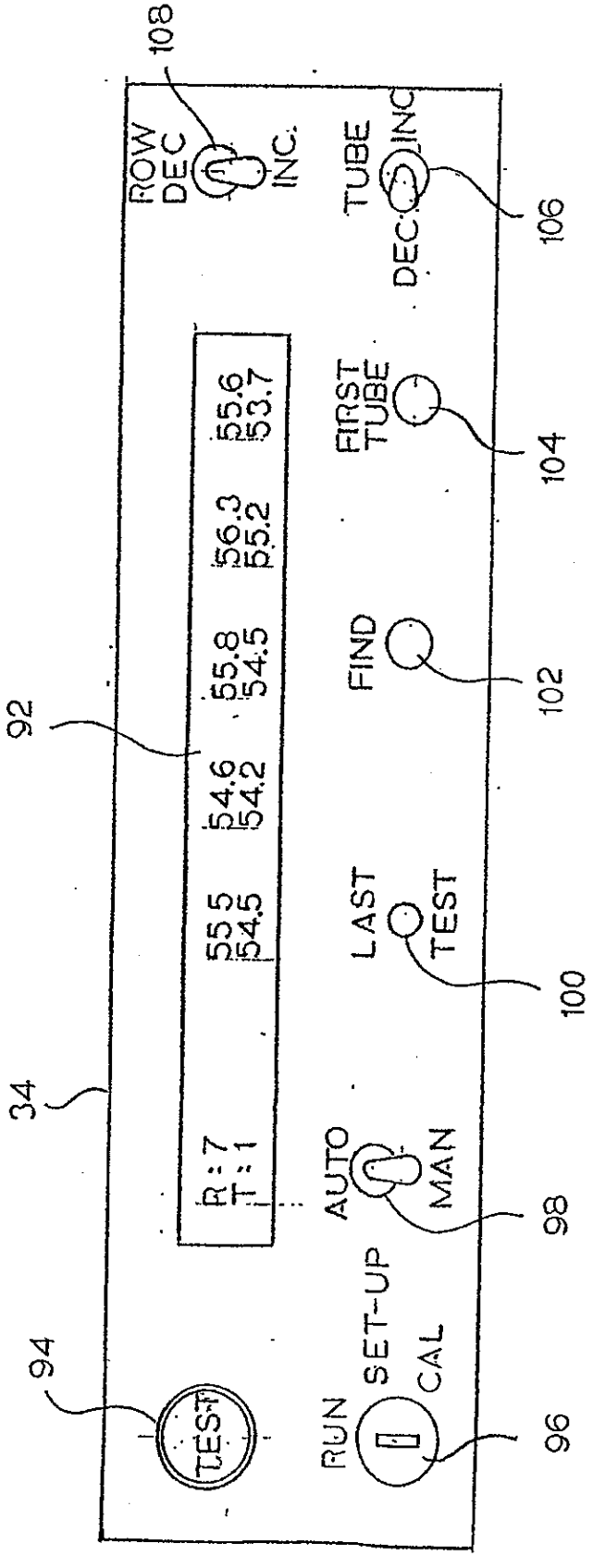

108
ROW
DEC
INC.
TUBE
DEC
INC
106
FIRST
TUBE
104
FIND
102
LAST
TEST
100
AUTO
MAN
98
SET-UP
CAL
RUN
96
TEST
94
92
34
R:7
T:1
55.5
54.5
54.6
54.2
55.8
54.5
56.3
55.2
55.6
53.7

FIG. 11

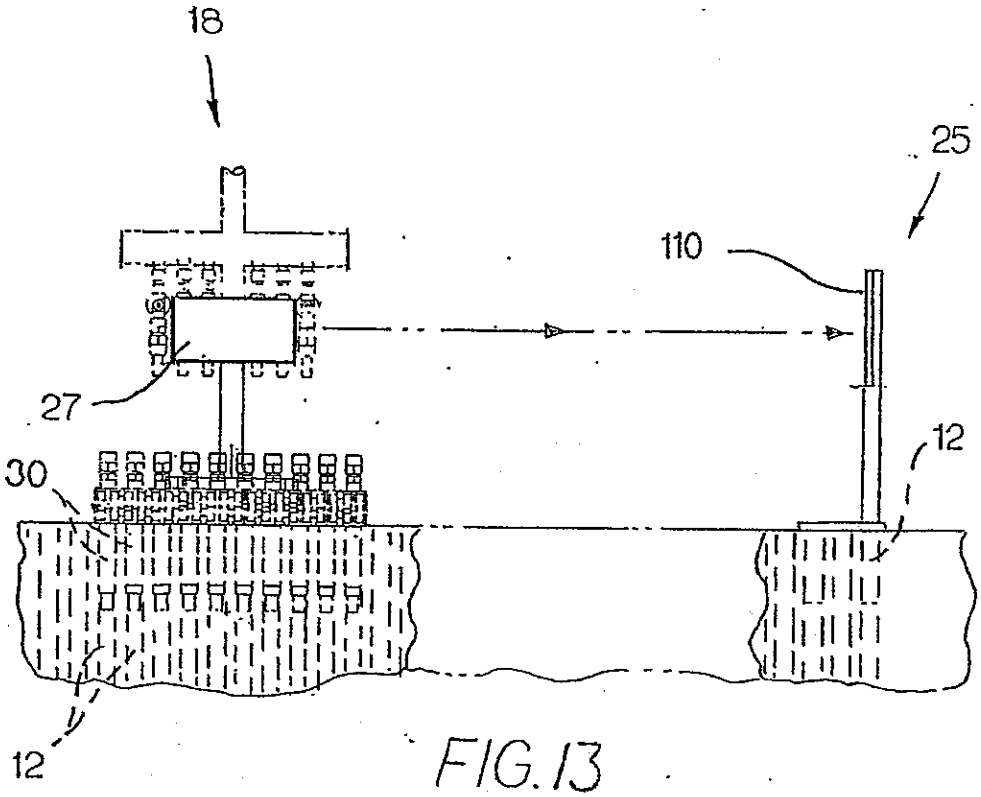


FIG. 13

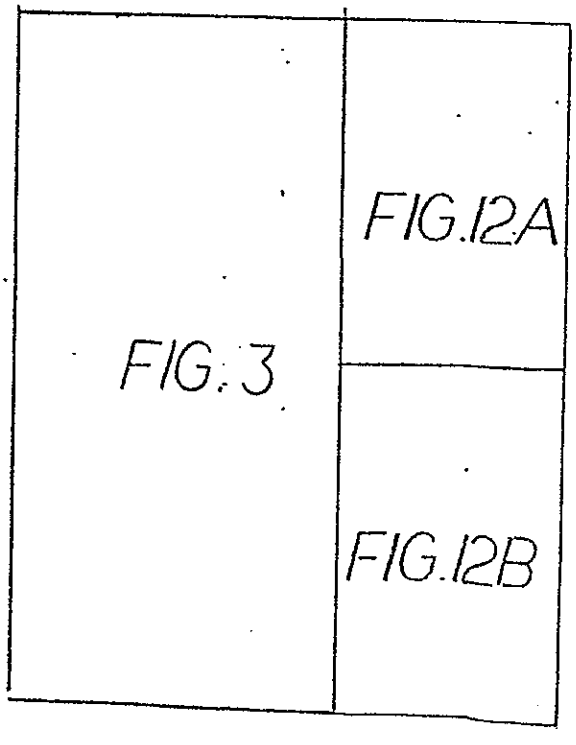


FIG. 12

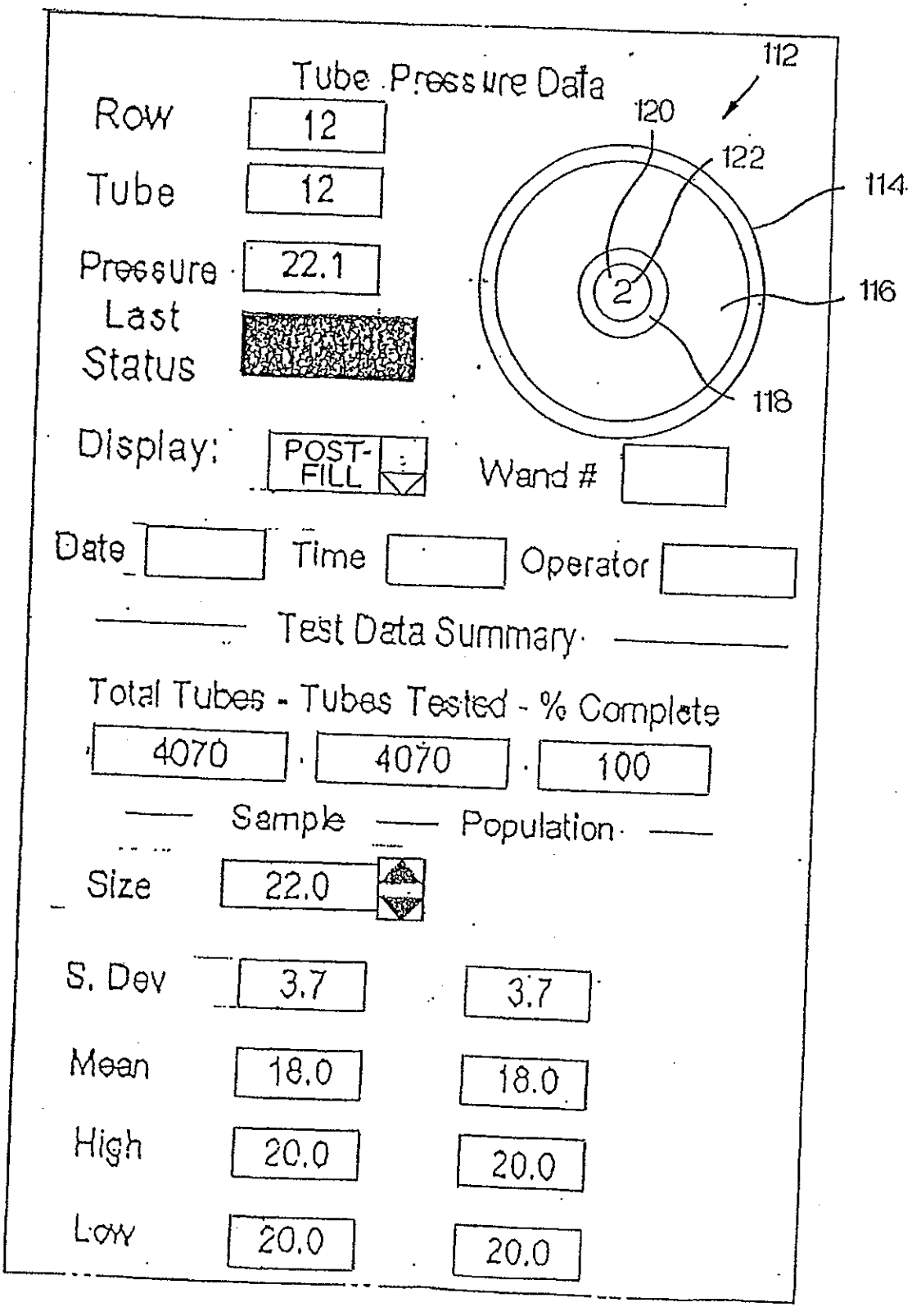

Tube Pressure Data
Row
12
Tube
12
Pressure
22.1
Last
Status
Display:
POST-FILL
Wand #
Date
Time
Operator
Test Data Summary
Total Tubes - Tubes Tested - % Complete
4070
4070
100
Sample
Population
Size
22.0
S. Dev
3.7
3.7
Mean
18.0
18.0
High
20.0
20.0
Low
20.0
20.0
112
120
122
114
116
118
2

FIG. 12A

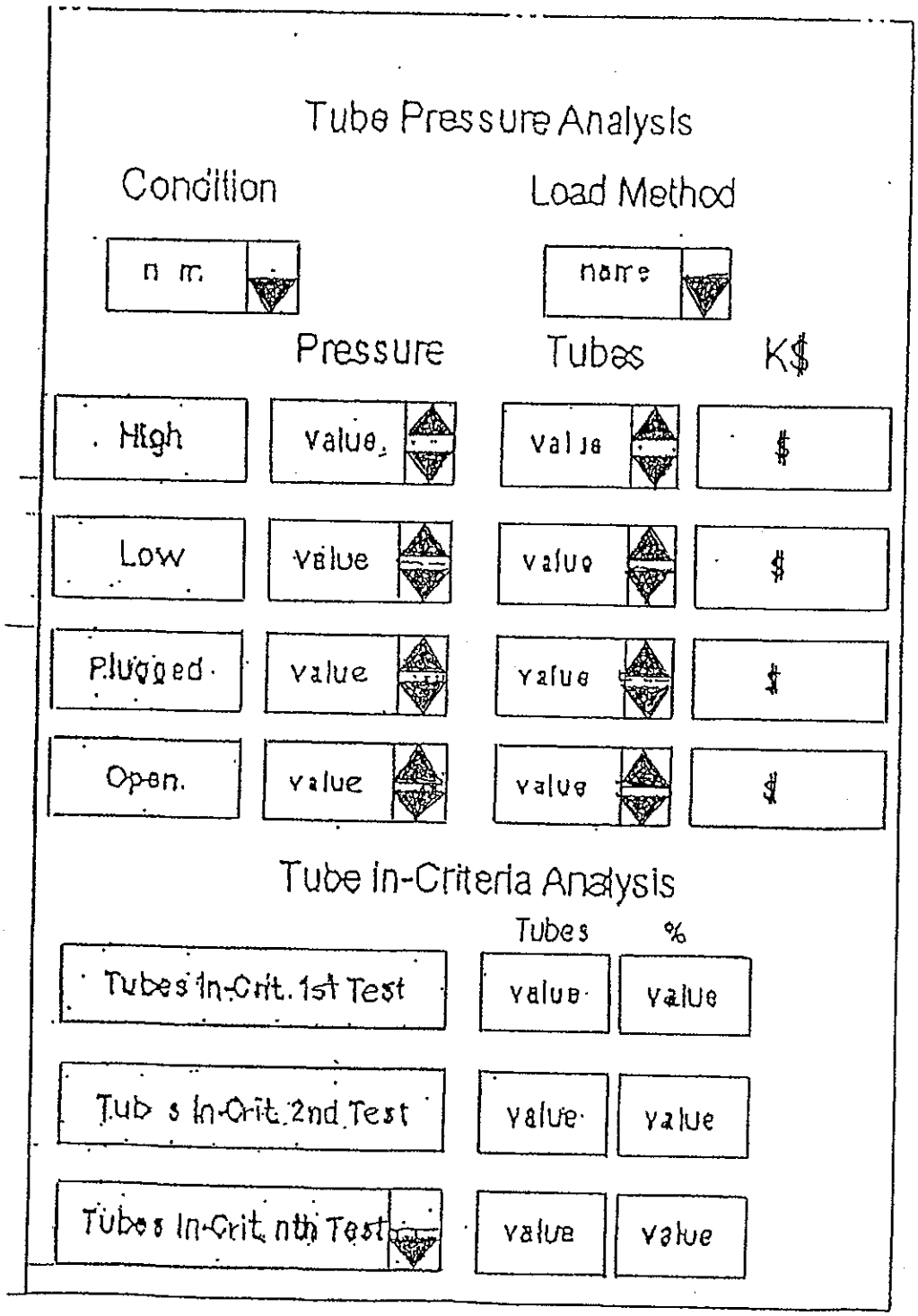

Tube Pressure Analysis
Condition
Load Method
name
Pressure
Tubes
K$
High
Low
Plugged
Open
Tube In-Criteria Analysis
Tubes
%
Tubes In-Crit. 1st Test
Tubes In-Crit. 2nd Test
Tubes In-Crit. nth Test
value

FIG. 12B

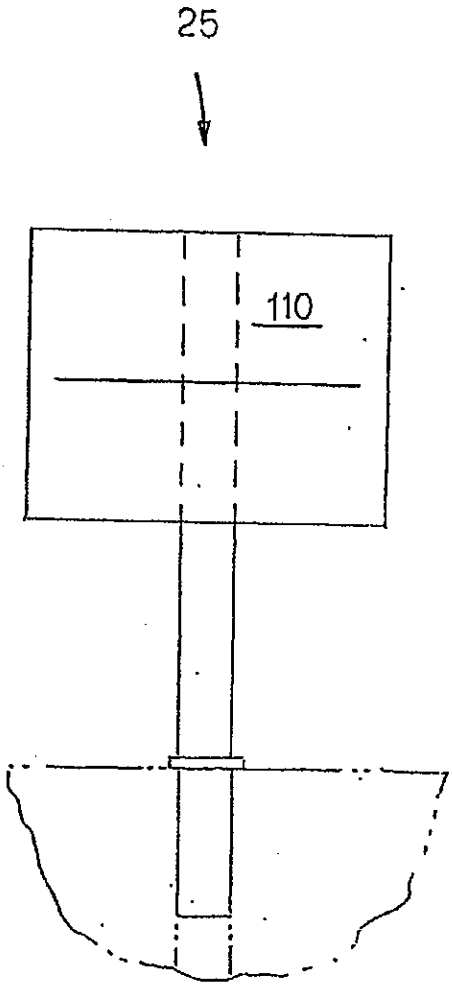


FIG. 14

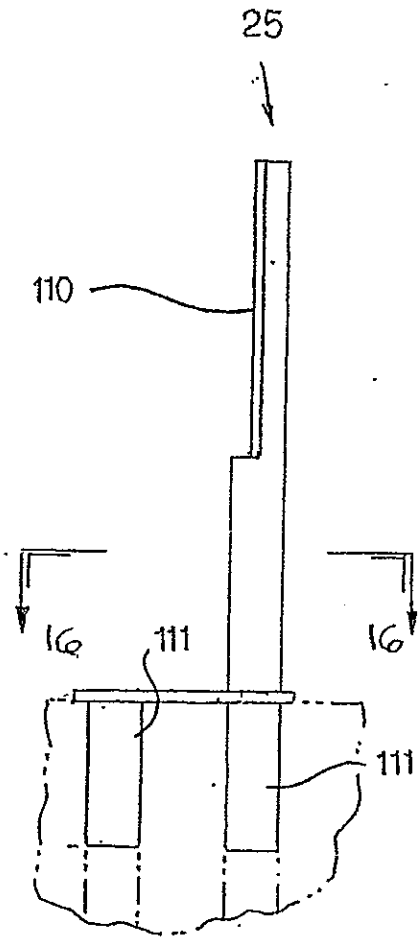


FIG. 15

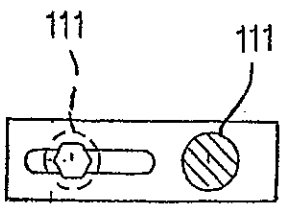


FIG. 16

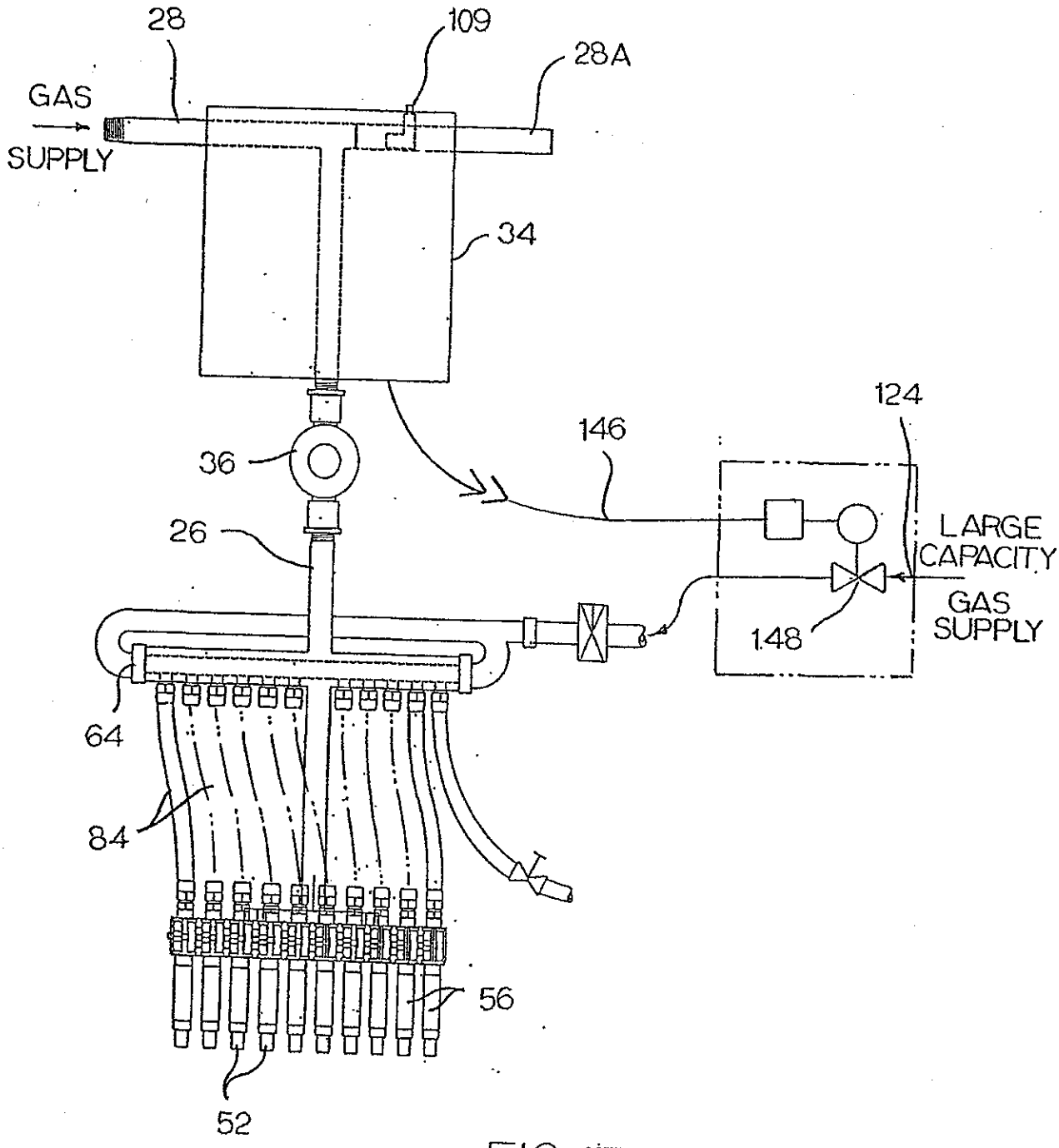

28
109
28A
GAS
SUPPLY
34
124
146
36
26
LARGE
CAPACITY
GAS
SUPPLY
148
64
84
56
52

FIG.17

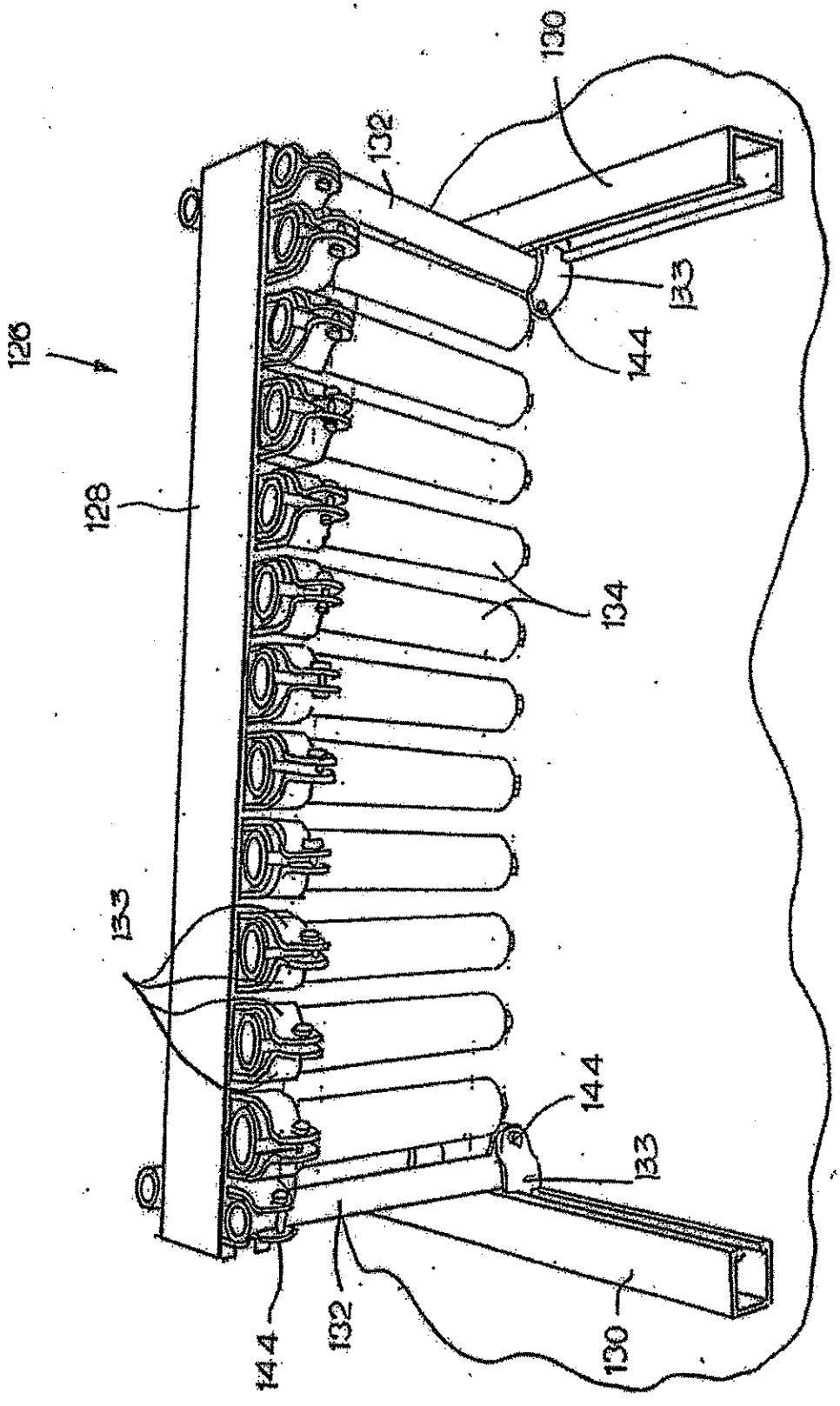


FIG. 18

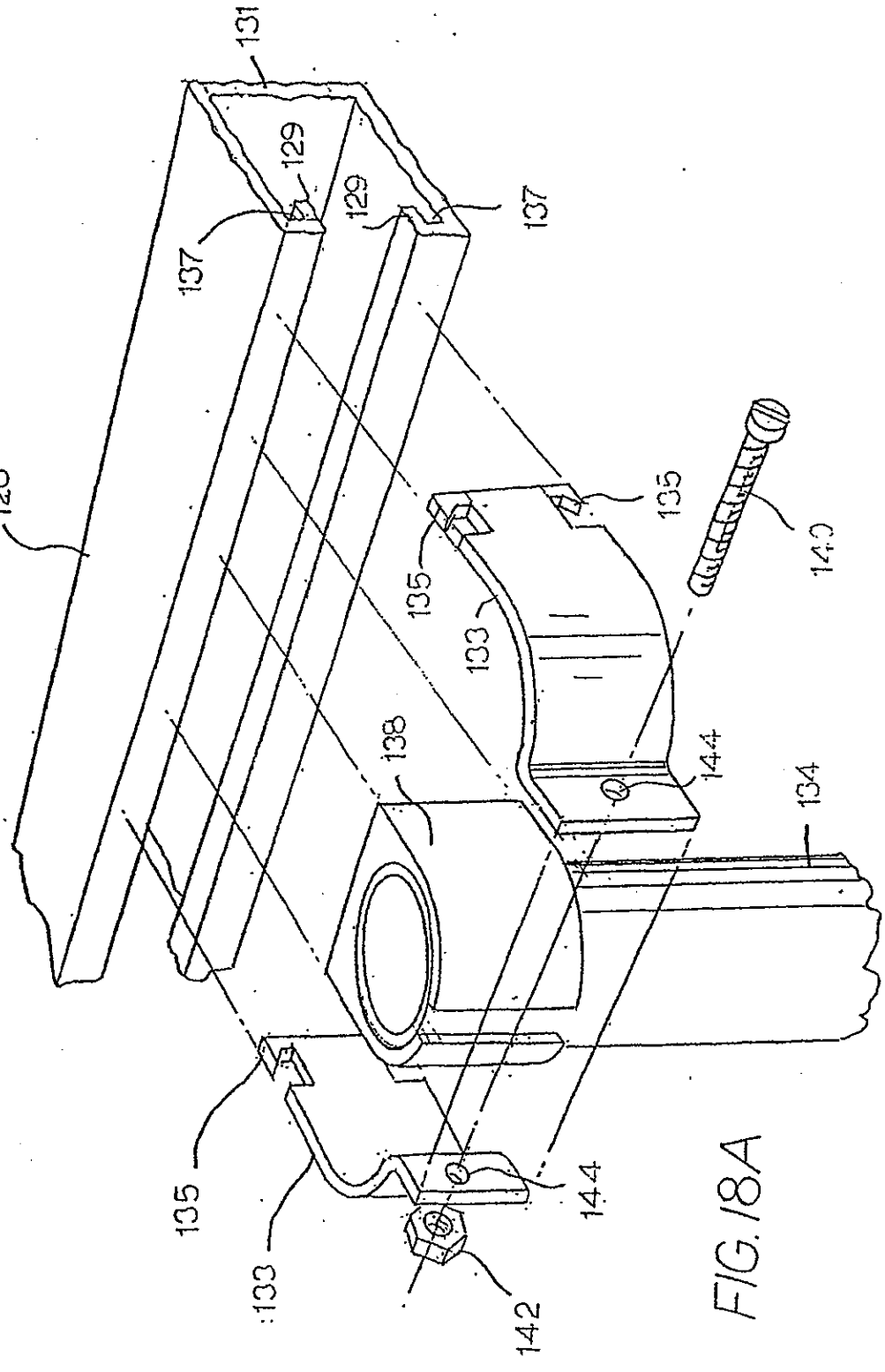

131
129
129
137
137
128
135
140
135
133
138
144
134
135
144
133
142

FIG. 18A

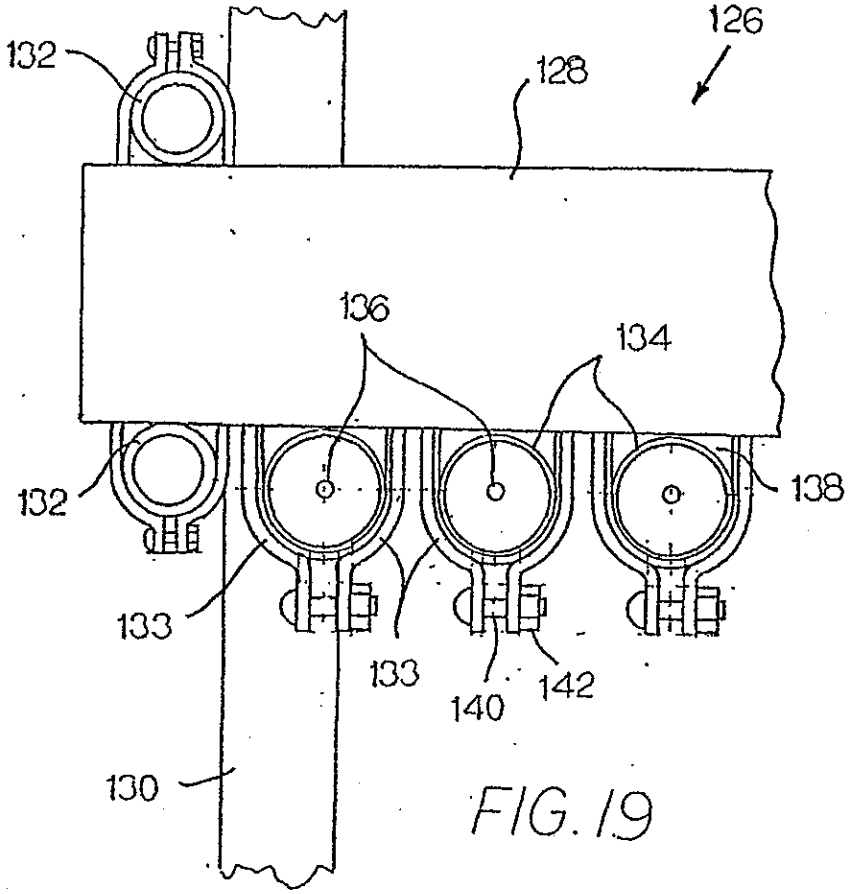


FIG. 19

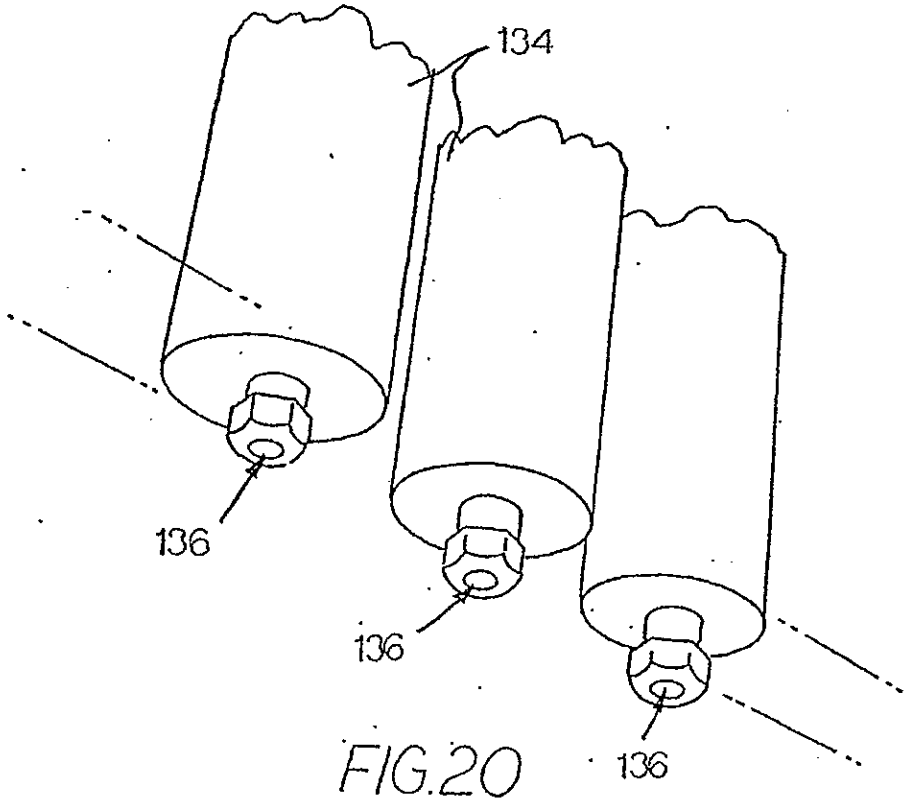


FIG. 20

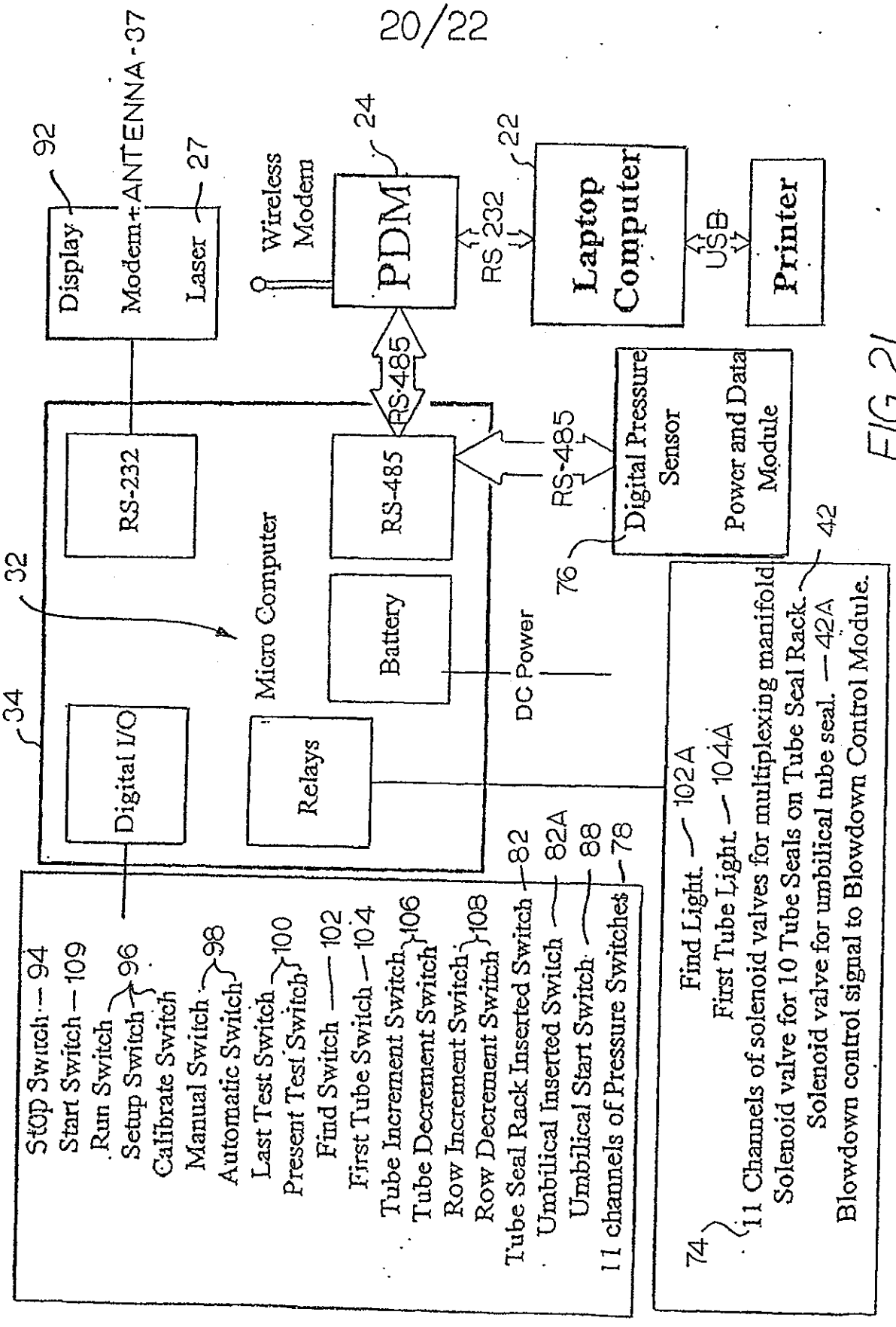

Display
92
Modem+ANTENNA-37
Laser
27
Wireless Modem
PDM
24
RS 232
22
Laptop Computer
USB
Printer
RS-485
RS-232
RS-485
Micro Computer
32
34
Digital I/O
Relays
Battery
DC Power
RS-485
76
Digital Pressure Sensor
Power and Data Module
42
Stop Switch 94
Start Switch 109
Run Switch
Setup Switch 96
Calibrate Switch
Manual Switch 98
Automatic Switch
Last Test Switch 100
Present Test Switch
Find Switch 102
First Tube Switch 104
Tube Increment Switch 106
Tube Decrement Switch
Row Increment Switch 108
Row Decrement Switch
Tube Seal Rack Inserted Switch 82
Umbilical Inserted Switch 82A
Umbilical Start Switch 88
11 channels of Pressure Switches 78
74
Find Light 102A
First Tube Light 104A
11 Channels of solenoid valves for multiplexing manifold
Solenoid valve for 10 Tube Seals on Tube Seal Rack 42A
Solenoid valve for umbilical tube seal.
Blowdown control signal to Blowdown Control Module.

FIG. 21

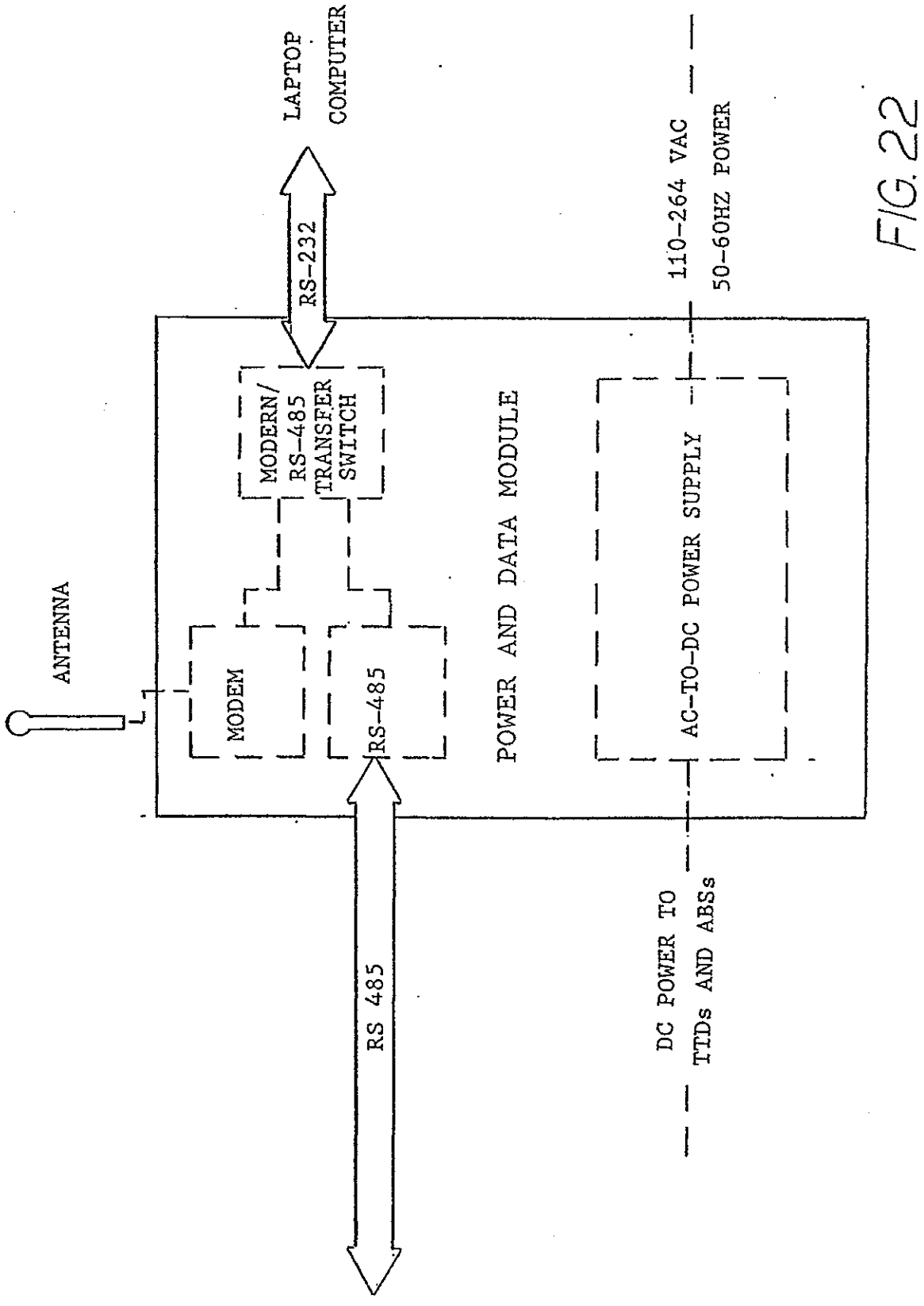

LAPTOP COMPUTER
RS-232
110-264 VAC
50-60HZ POWER
ANTENNA
MODEM
MODERN/ RS-485 TRANSFER SWITCH
RS-485
POWER AND DATA MODULE
AC-TO-DC POWER SUPPLY
RS 485
DC POWER TO TTDs AND ABSs

FIG. 22

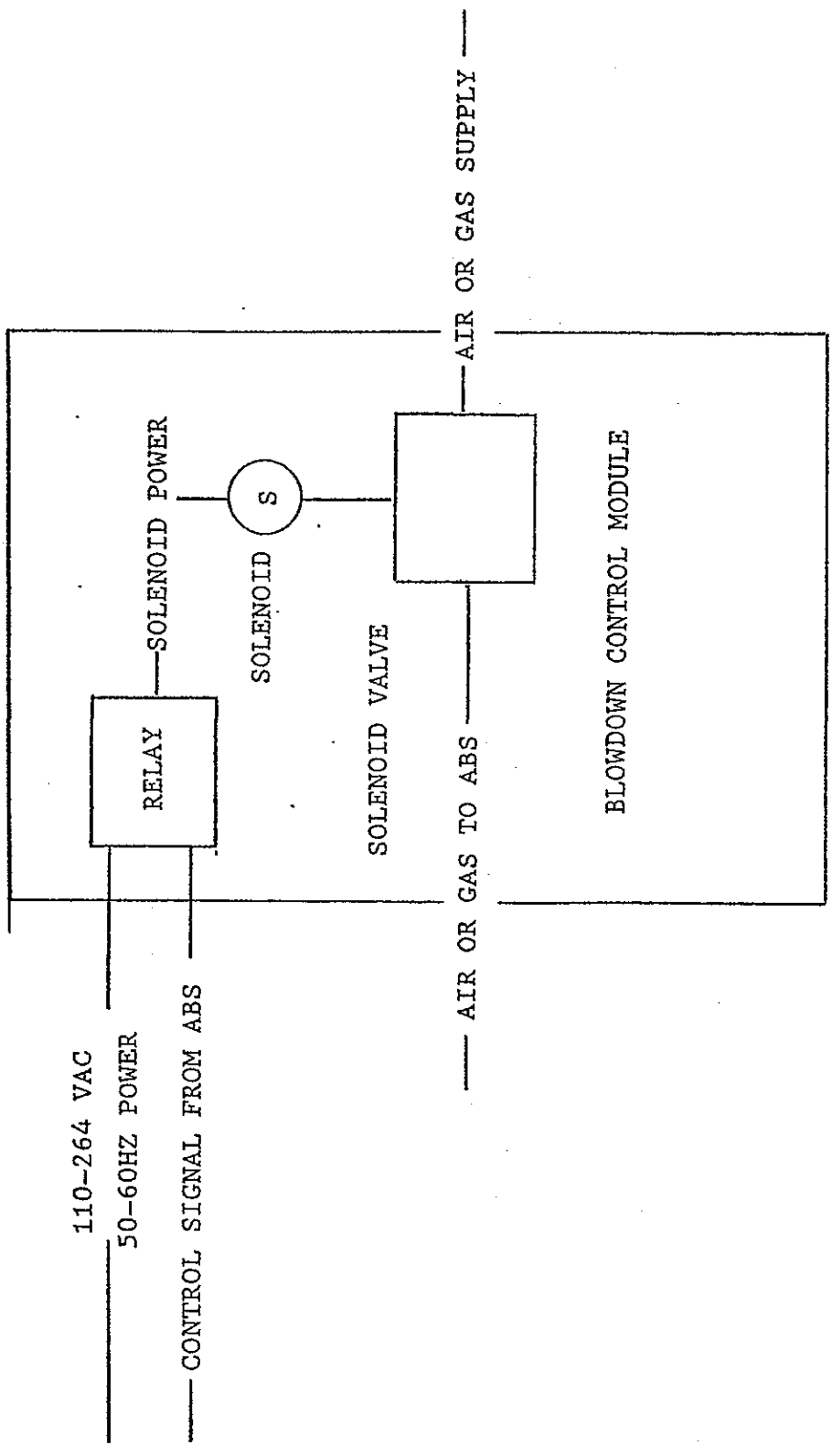

AIR OR GAS SUPPLY
SOLENOID POWER
S
SOLENOID
SOLENOID VALVE
BLOWDOWN CONTROL MODULE
RELAY
AIR OR GAS TO ABS
110-264 VAC
50-60HZ POWER
CONTROL SIGNAL FROM ABS

FIG. 23