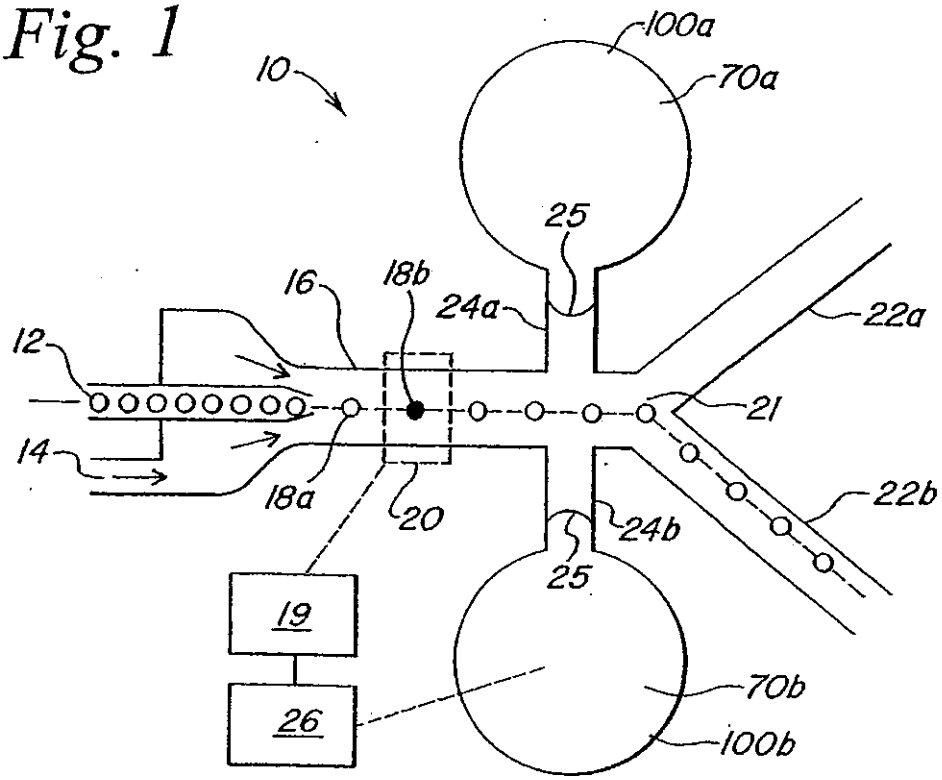
Fig. 1



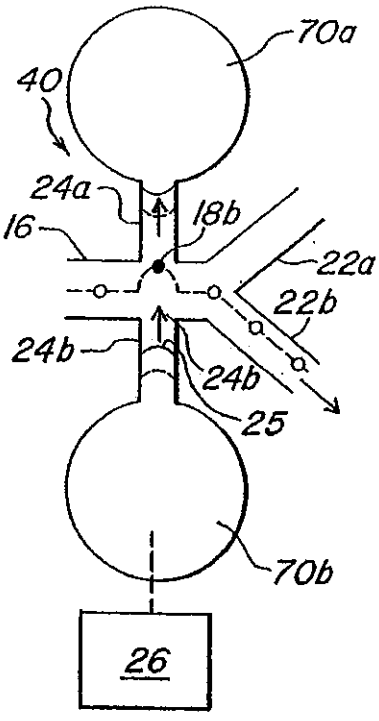


Fig. 2

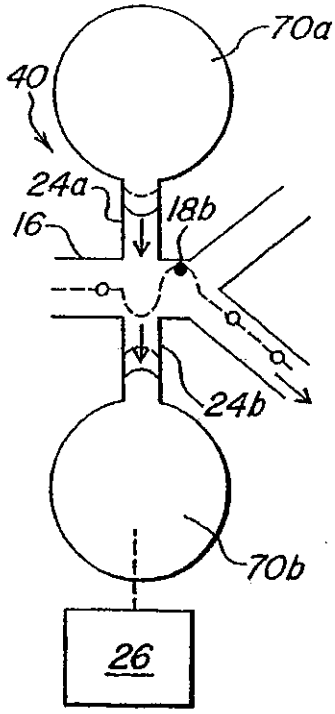


Fig. 3

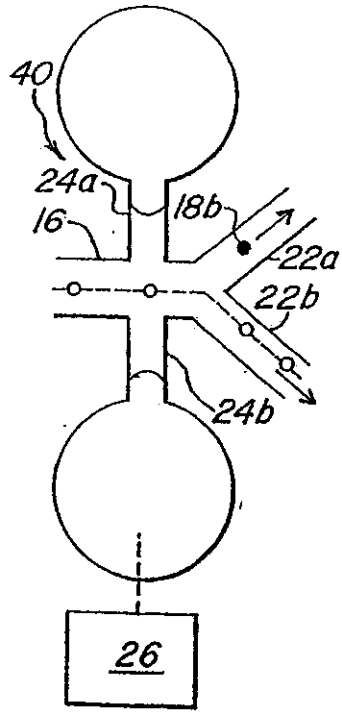


Fig. 4

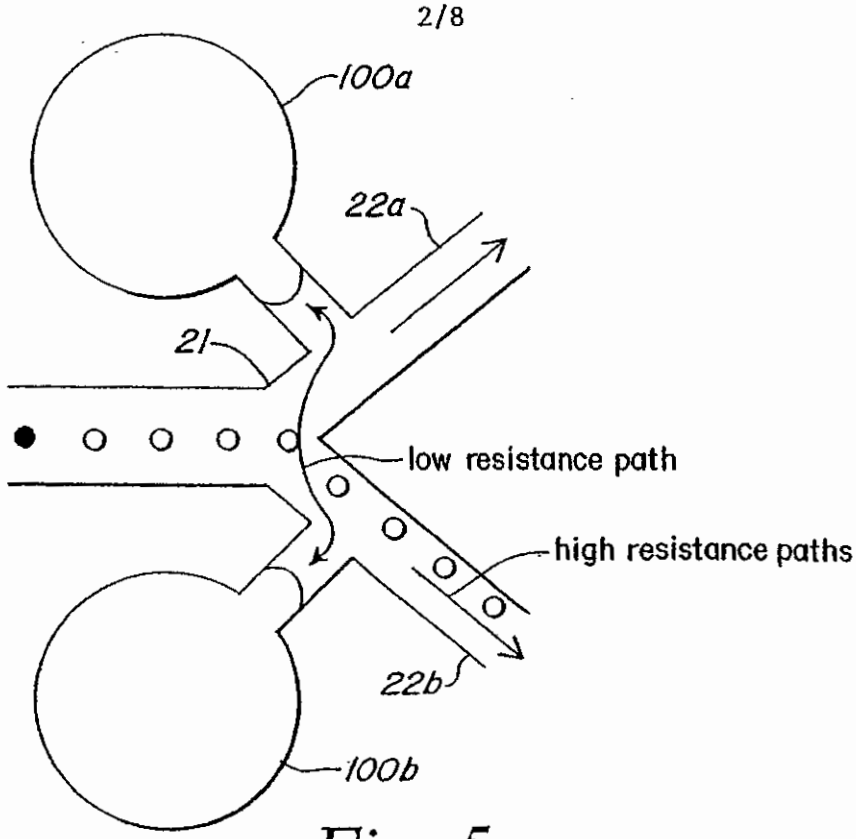

100a
22a
21
low resistance path
high resistance paths
22b
100b

Fig. 5

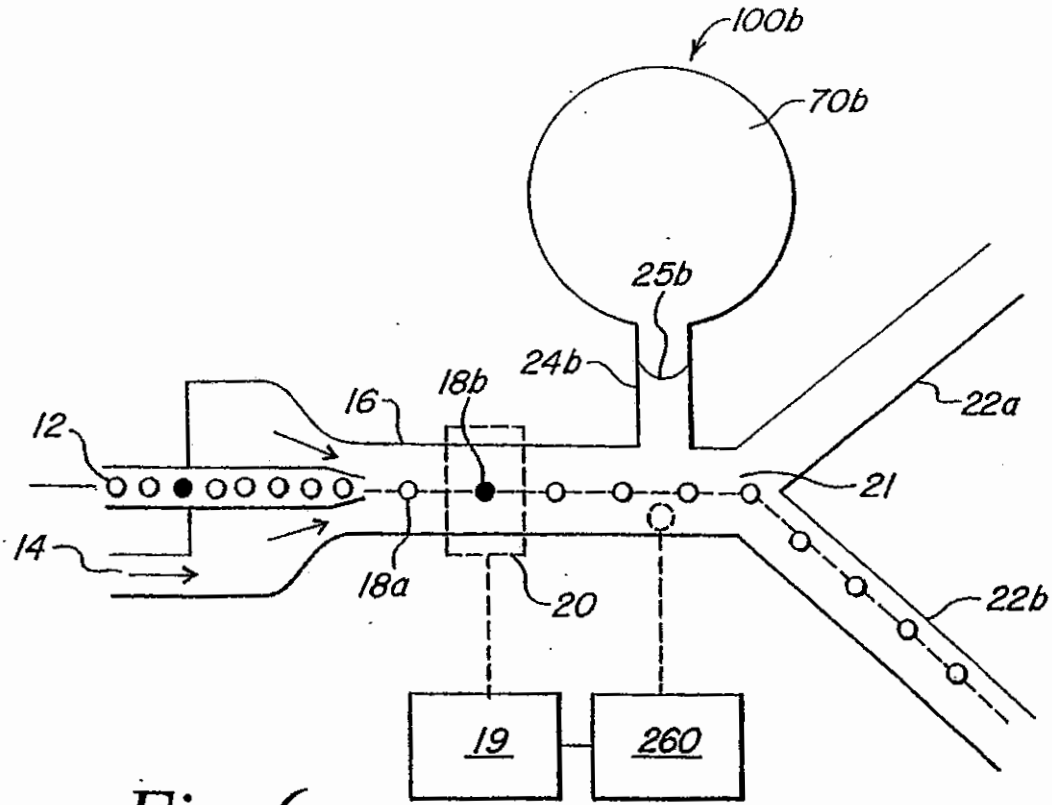

100b
70b
25b
24b
18b
16
12
22a
21
14
18a
20
22b
19
260

Fig. 6

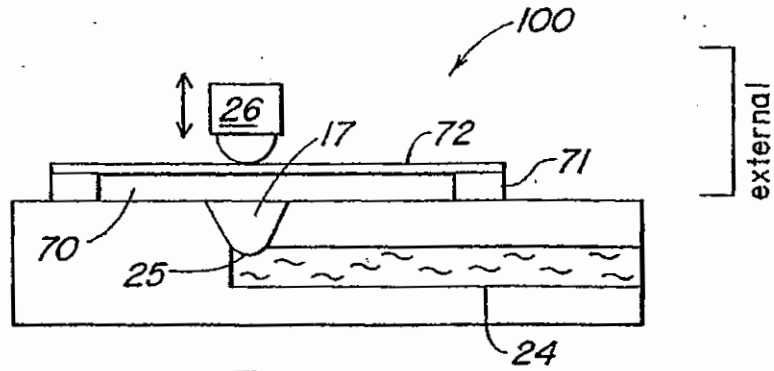


Fig. 7

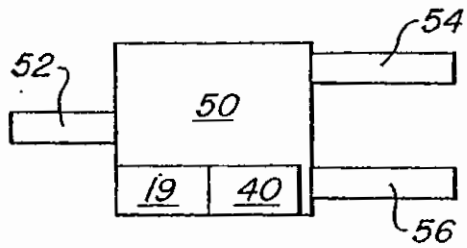


Fig. 8

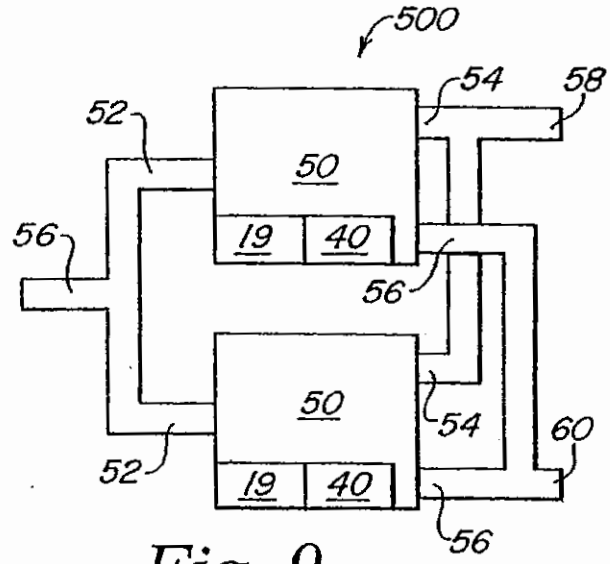


Fig. 9

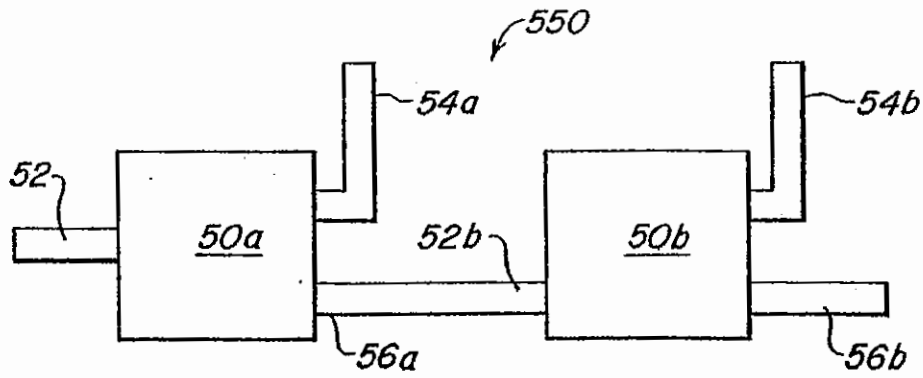


Fig. 10

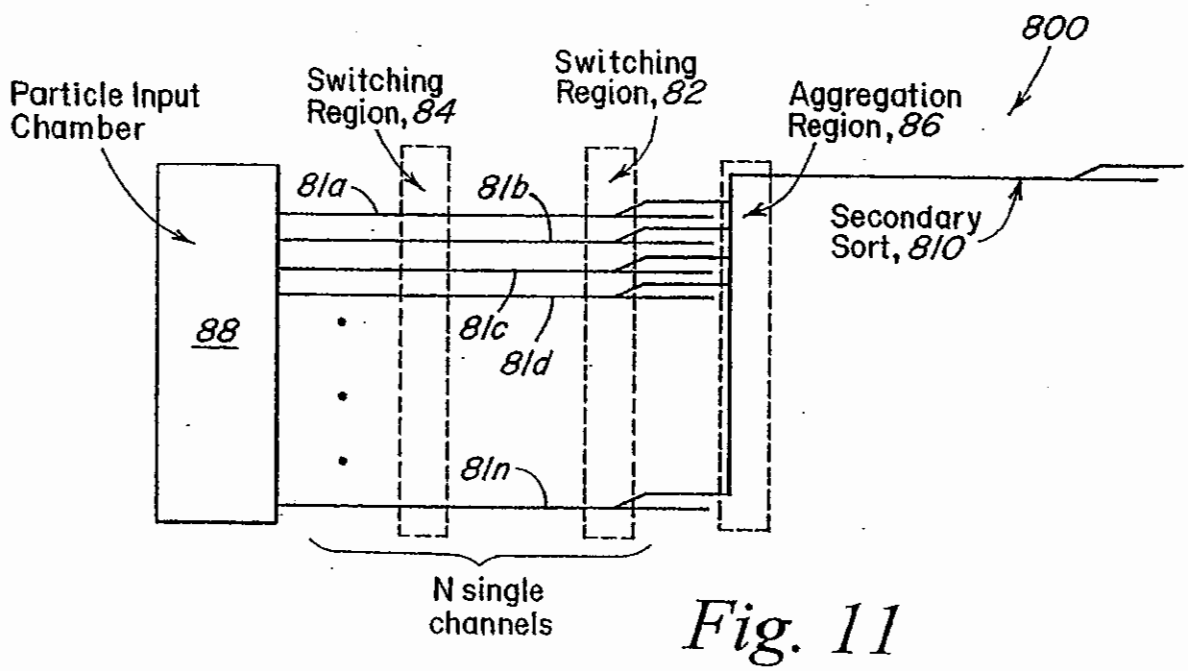


Fig. 11

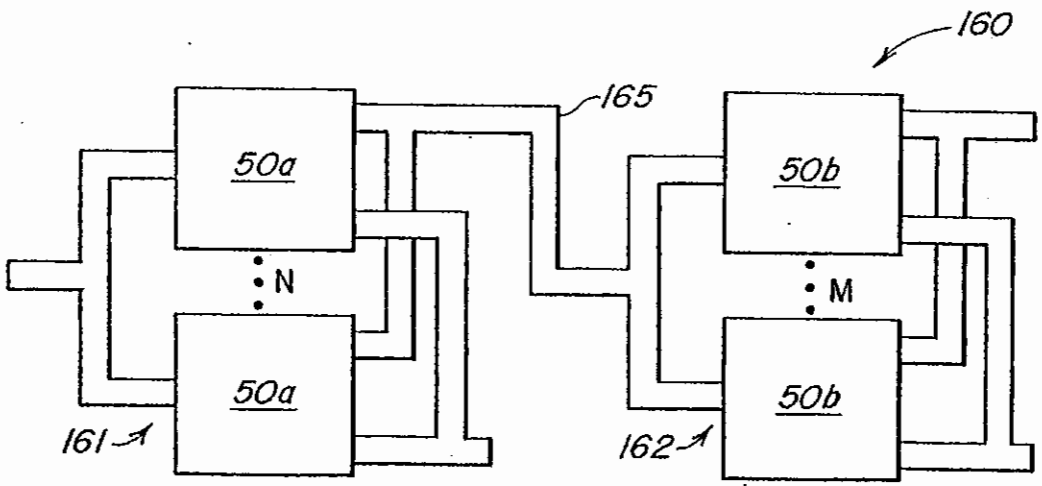


Fig. 12

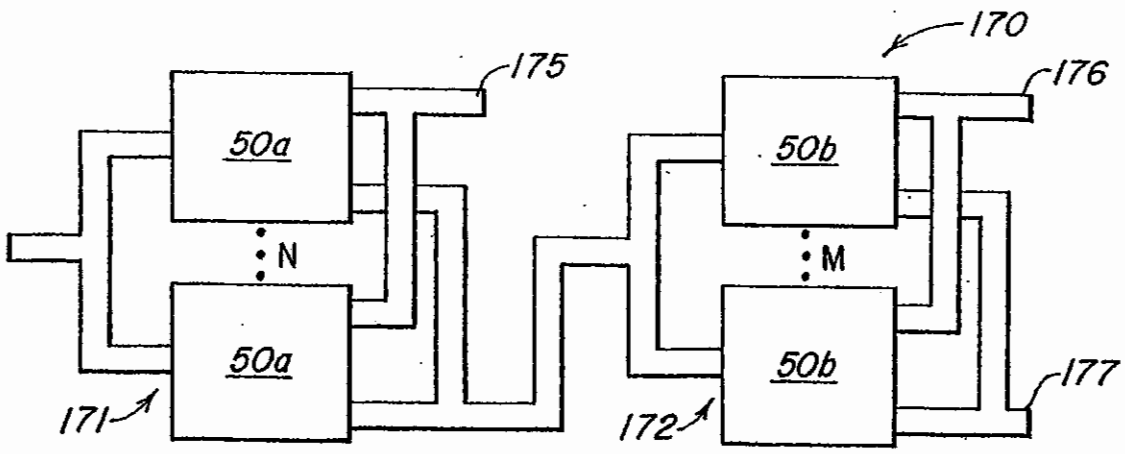


Fig. 13

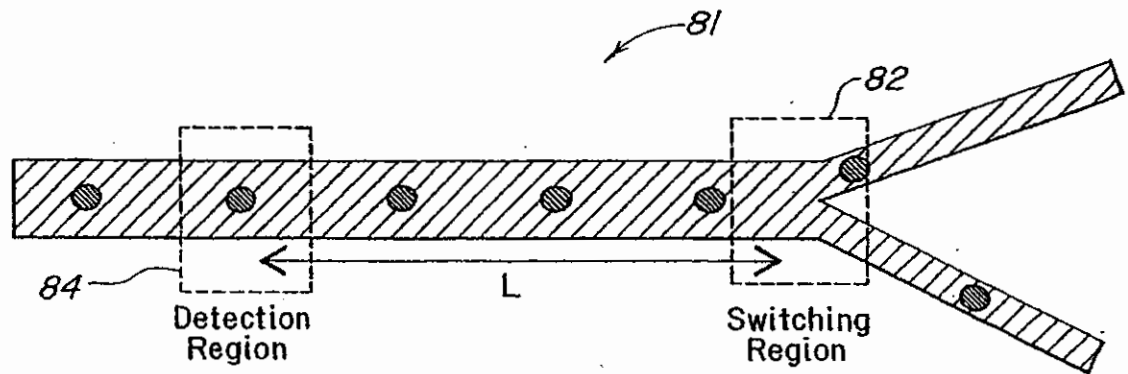


Fig. 14a

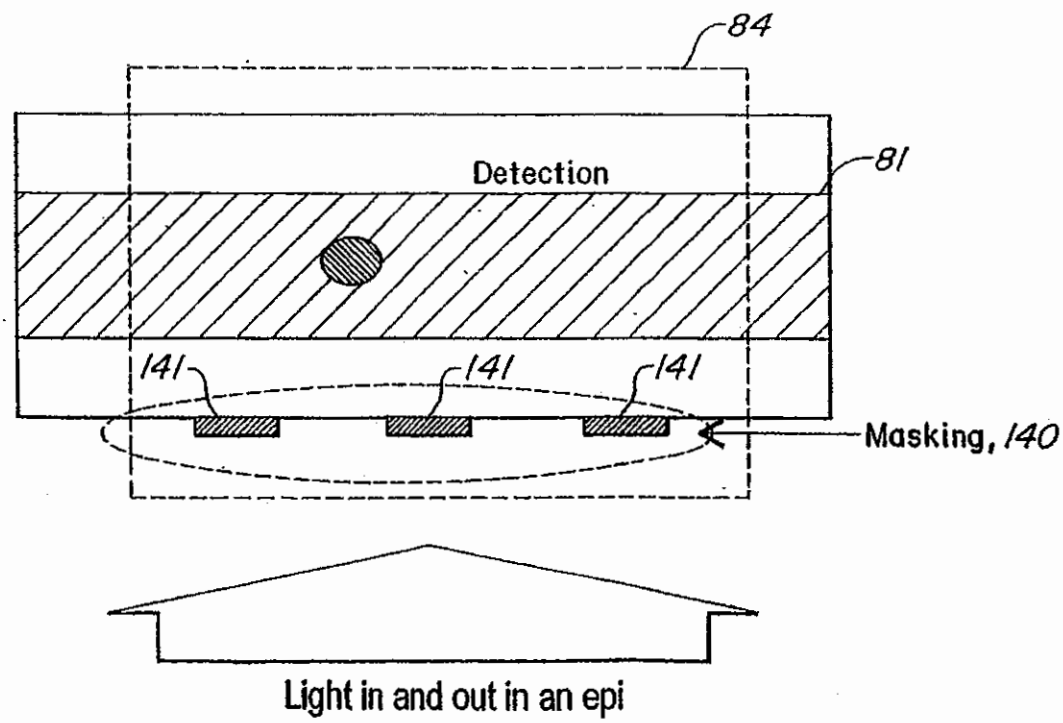


Fig. 14b

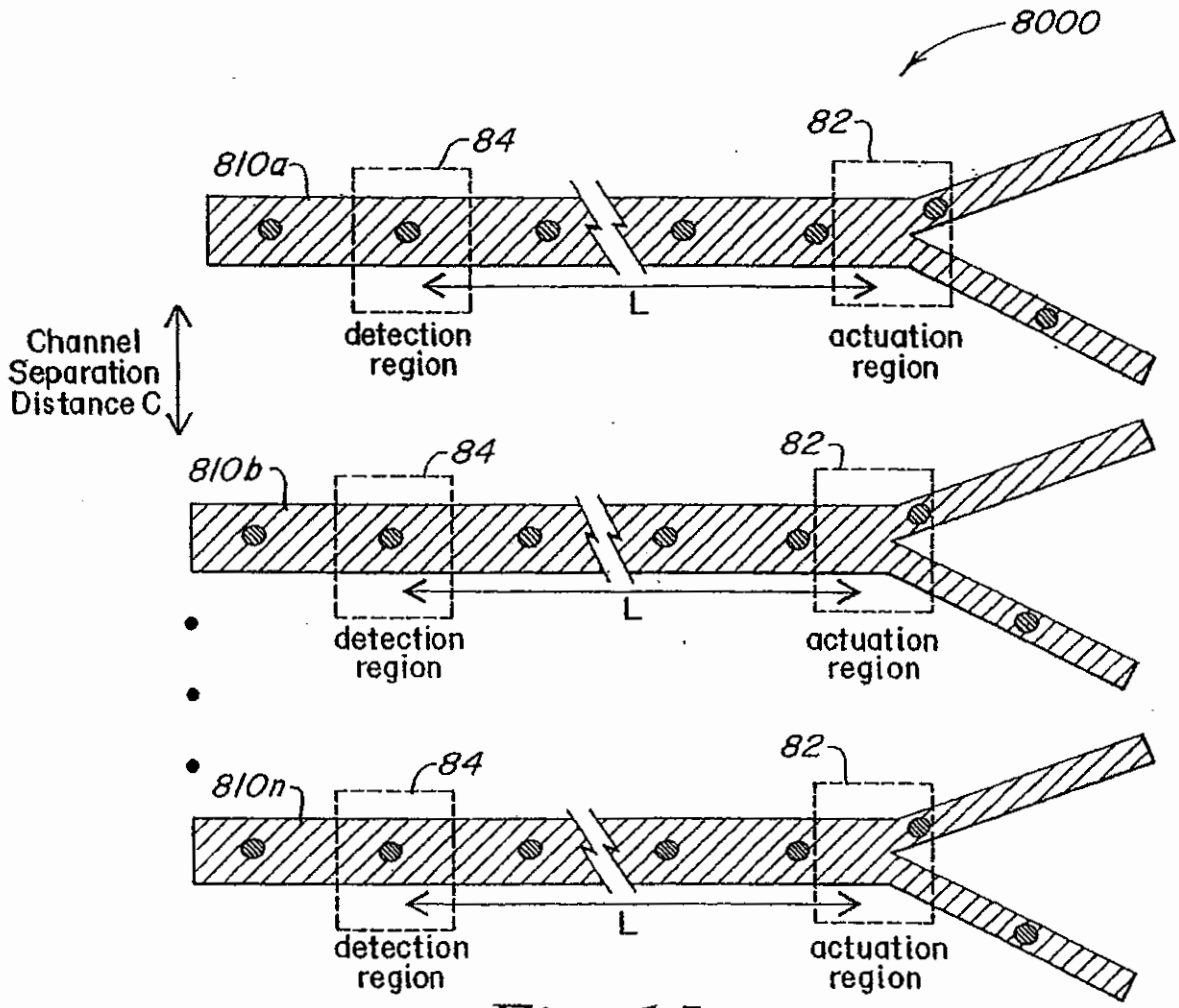

8000
82
84
810a
L
detection region
actuation region
Channel Separation Distance C
810b
810n

Fig. 15

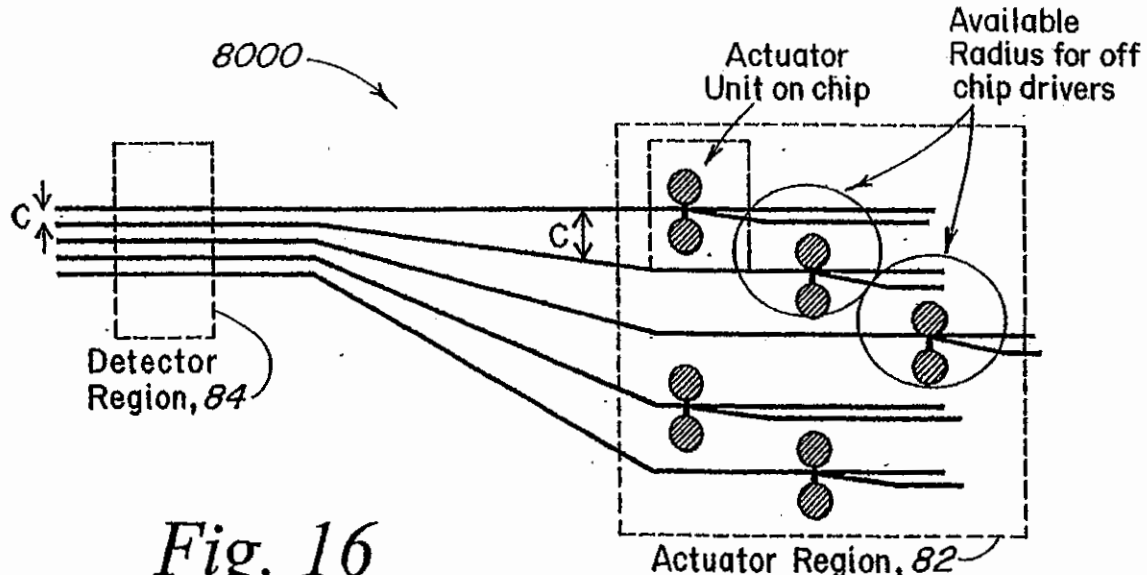

8000
Actuator Unit on chip
Available Radius for off chip drivers
C
Detector Region, 84
Actuator Region, 82

Fig. 16

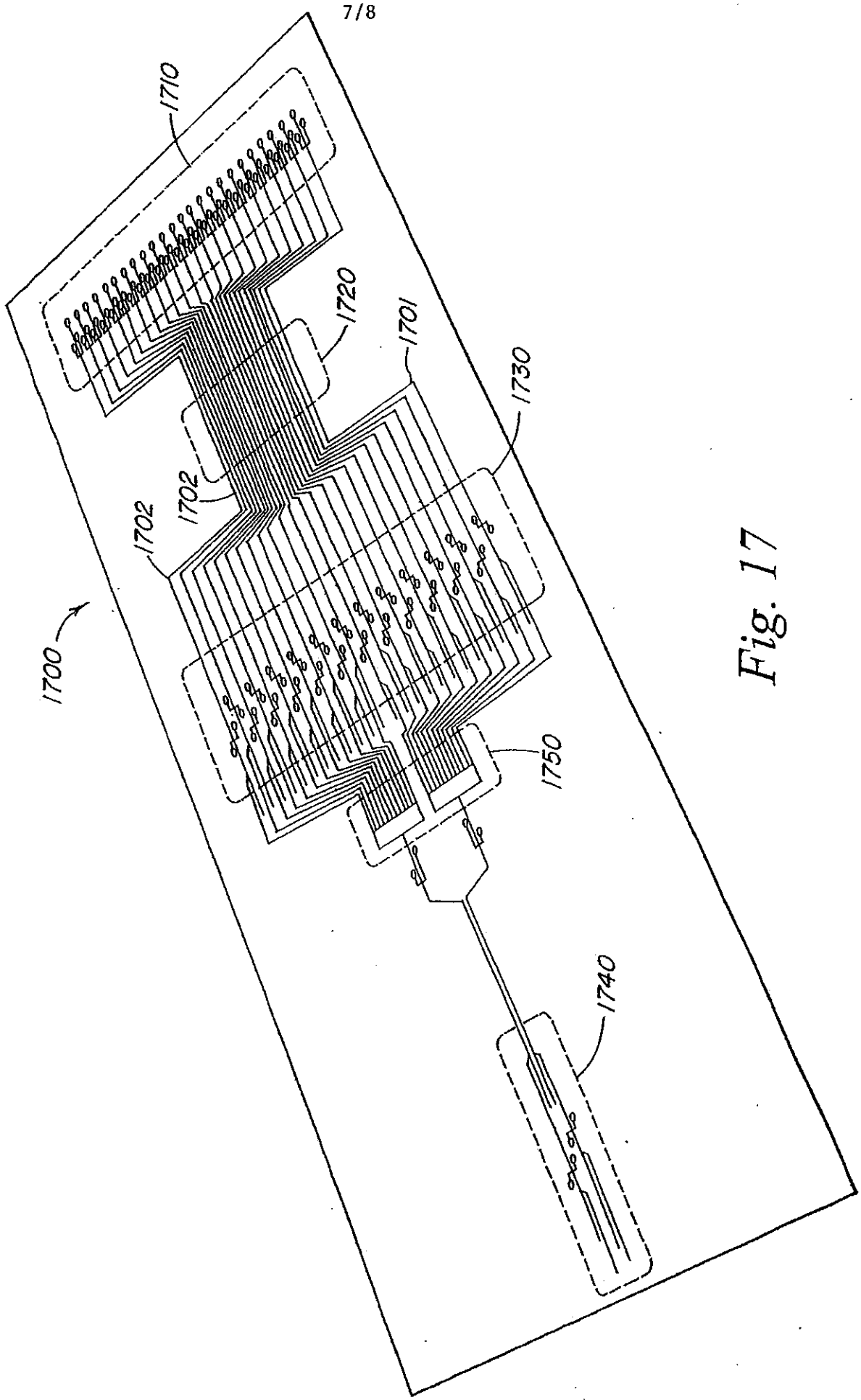


Fig. 17

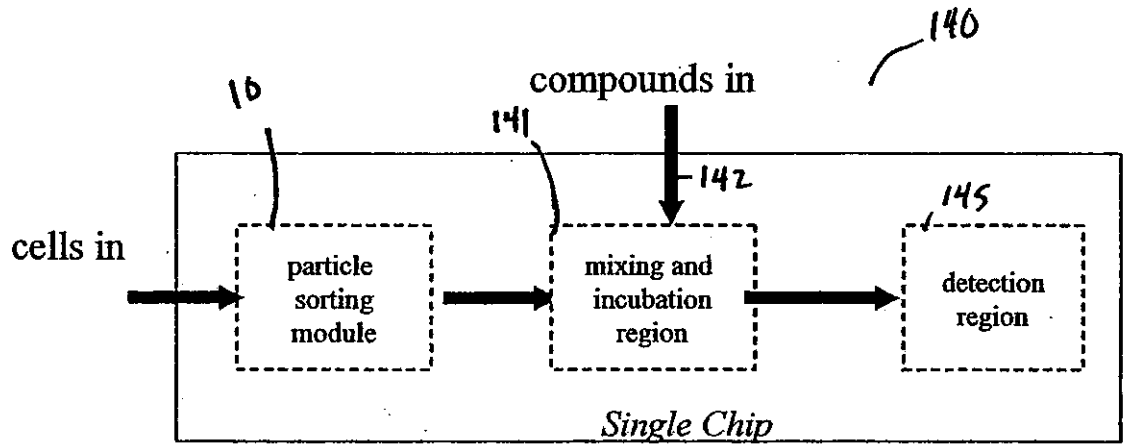

140
compounds in
10
141
142
145
cells in
particle sorting module
mixing and incubation region
detection region
Single Chip

FIGURE 18