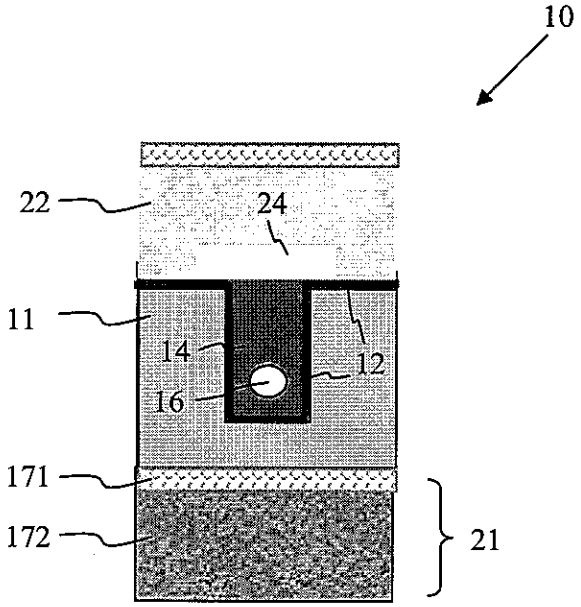


FIG. 1A

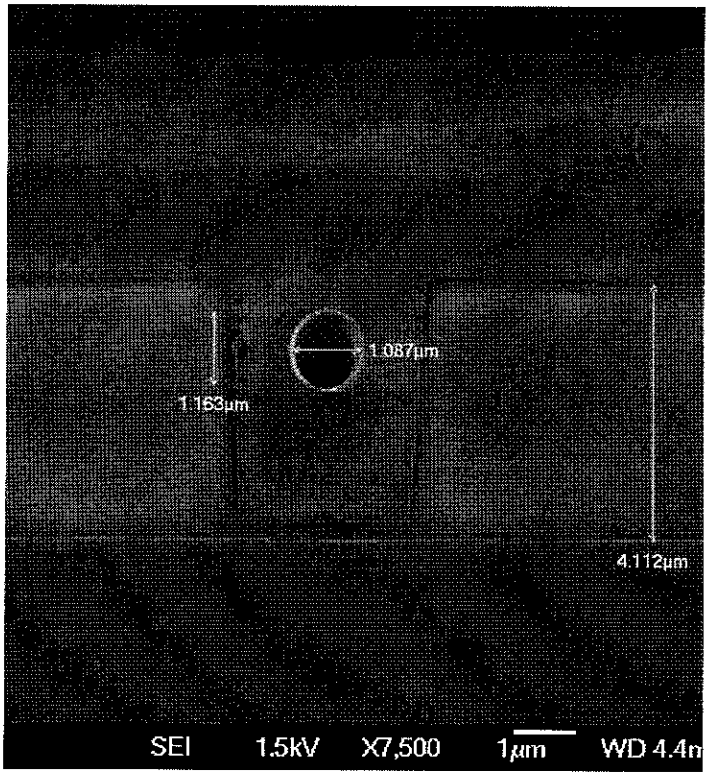


FIG. 1B

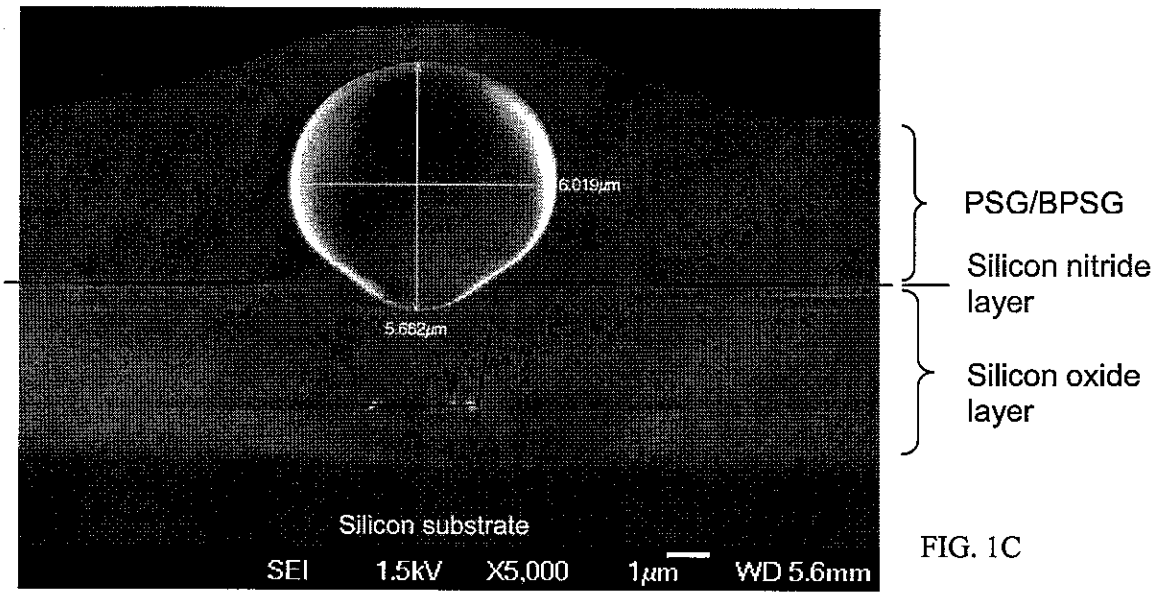

6.019μm
5.662μm
Silicon substrate
SEI 1.5kV X5,000 1μm WD 5.6mm
PSG/BPSG
Silicon nitride layer
Silicon oxide layer

FIG. 1C

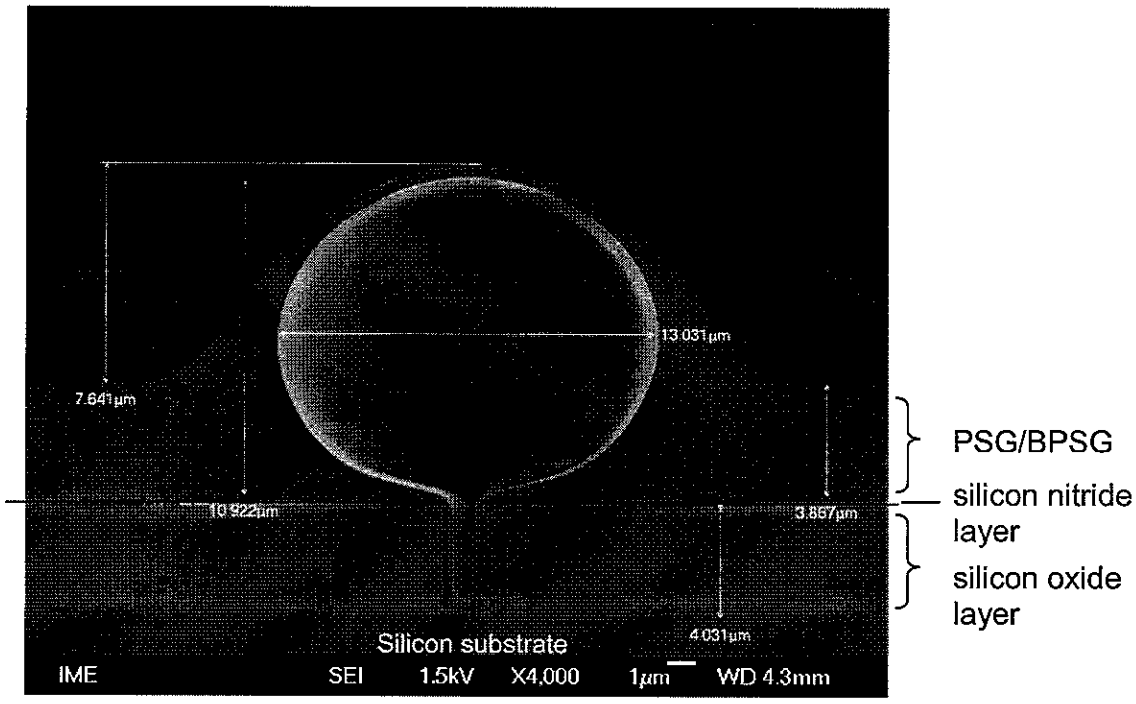

13.031μm
7.641μm
10.922μm
3.867μm
4.031μm
Silicon substrate
IME SEI 1.5kV X4,000 1μm WD 4.3mm
PSG/BPSG
silicon nitride layer
silicon oxide layer

FIG. 1D

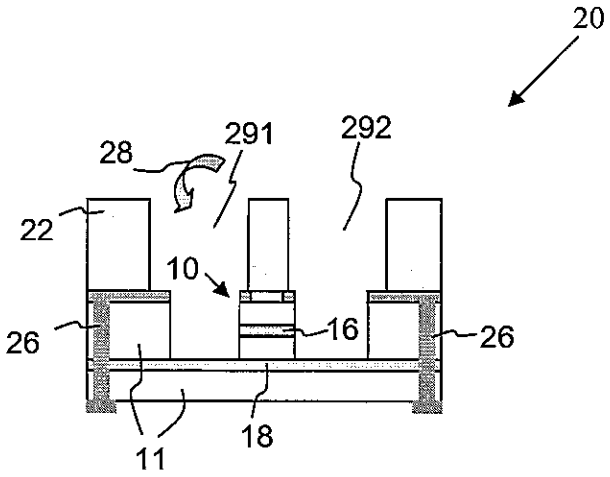


FIG. 2

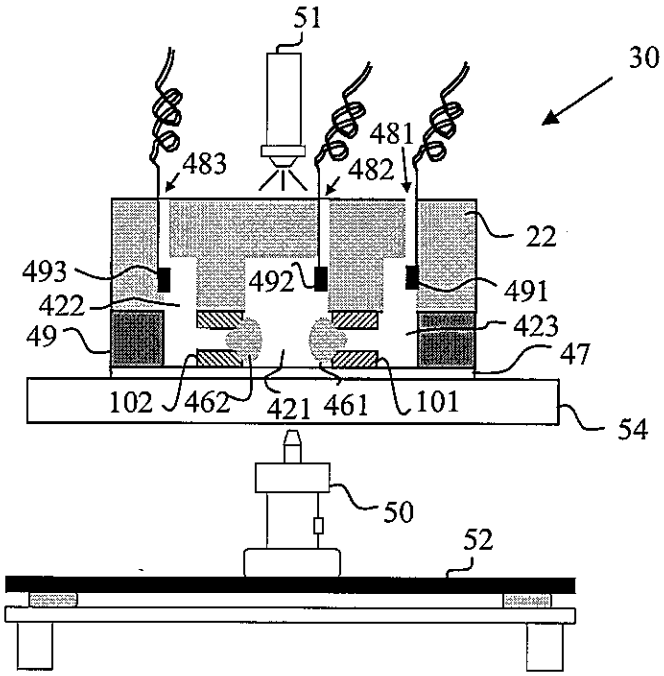

51
30
483
481
482
22
493
492
491
422
423
49
47
102
462
421
461
101
54
50
52

FIG. 3

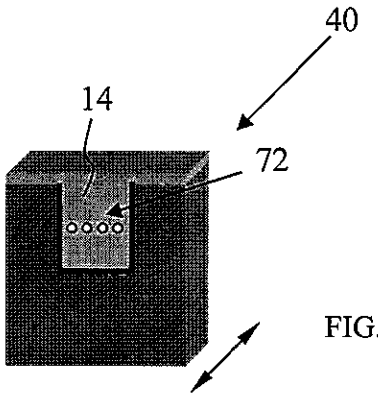


FIG. 4A

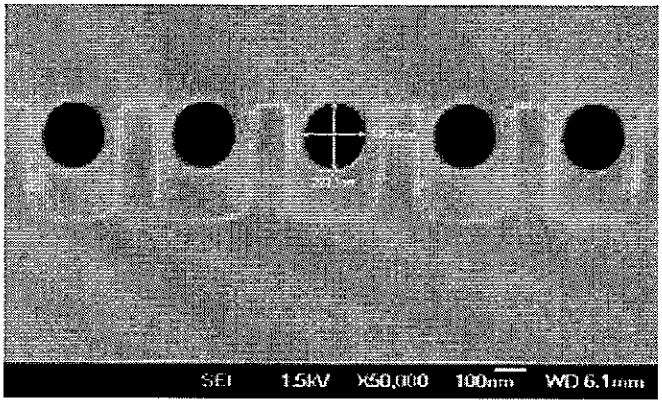


FIG. 4B

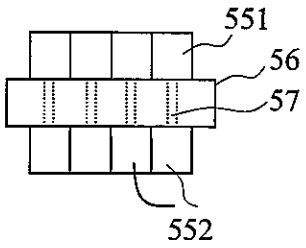


FIG. 5

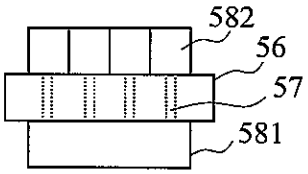


FIG. 6

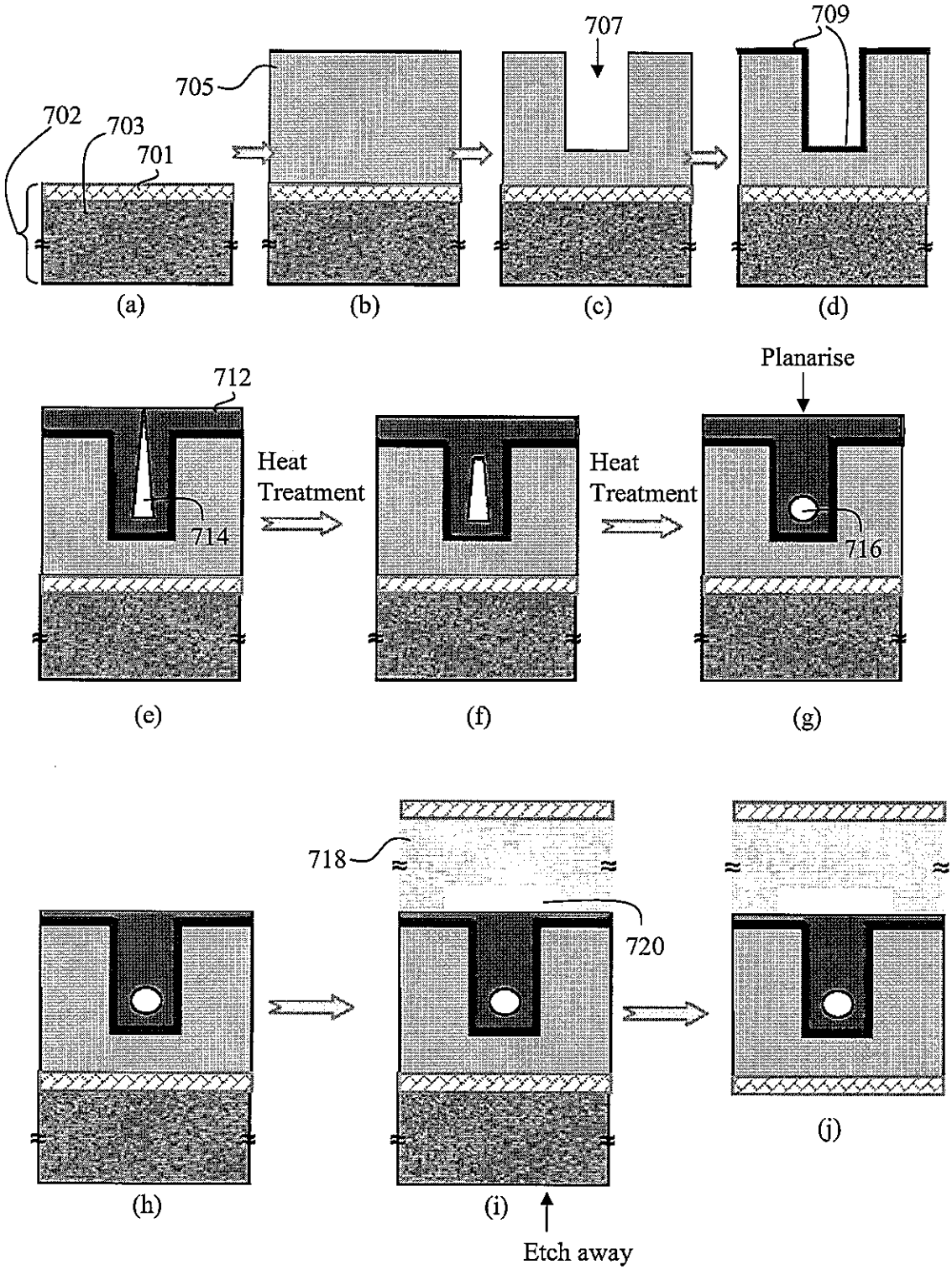
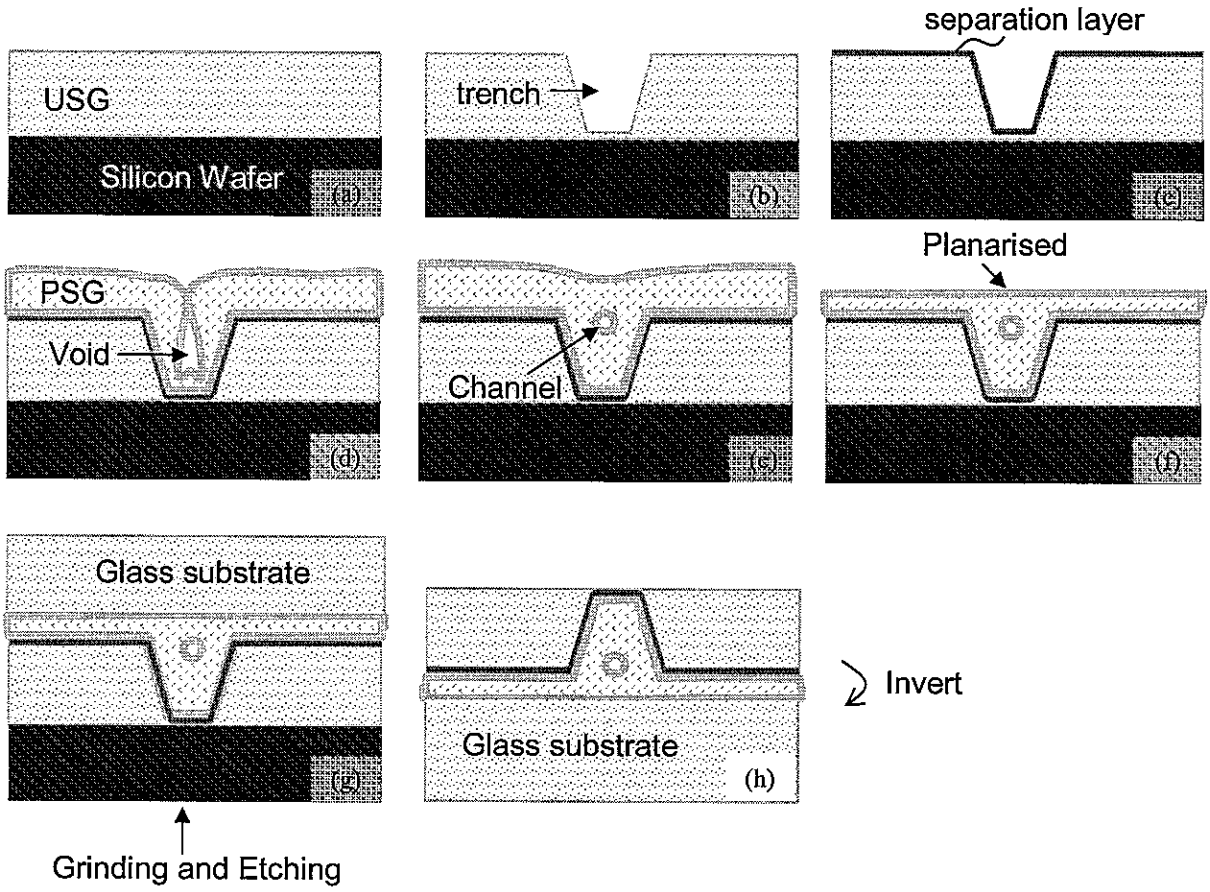

705
702
703
701
707
709
(a)
(b)
(c)
(d)
712
714
Heat
Treatment
Heat
Treatment
Planarise
716
(e)
(f)
(g)
718
720
(h)
(i)
(j)
Etch away

FIG. 7


USG
Silicon Wafer
(a)
trench
(b)
separation layer
(c)
PSG
Void
(d)
Channel
(e)
Planarised
(f)
Glass substrate
(g)
Grinding and Etching
Glass substrate
(h)
Invert

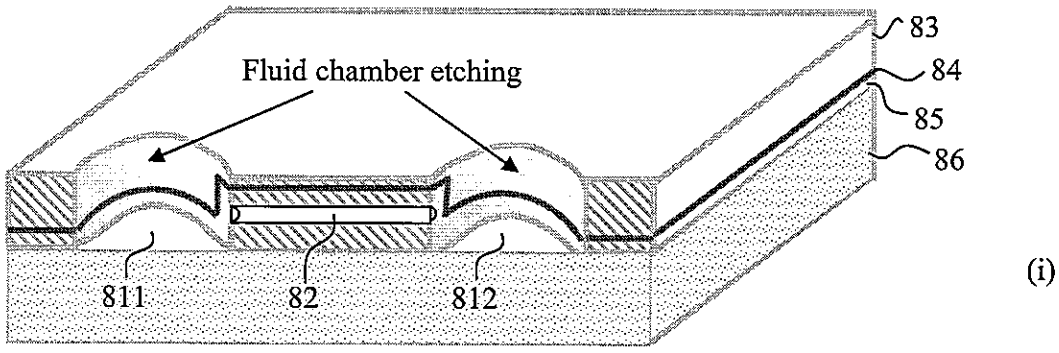

Fluid chamber etching
83
84
85
86
811
82
812
(i)

FIG. 8

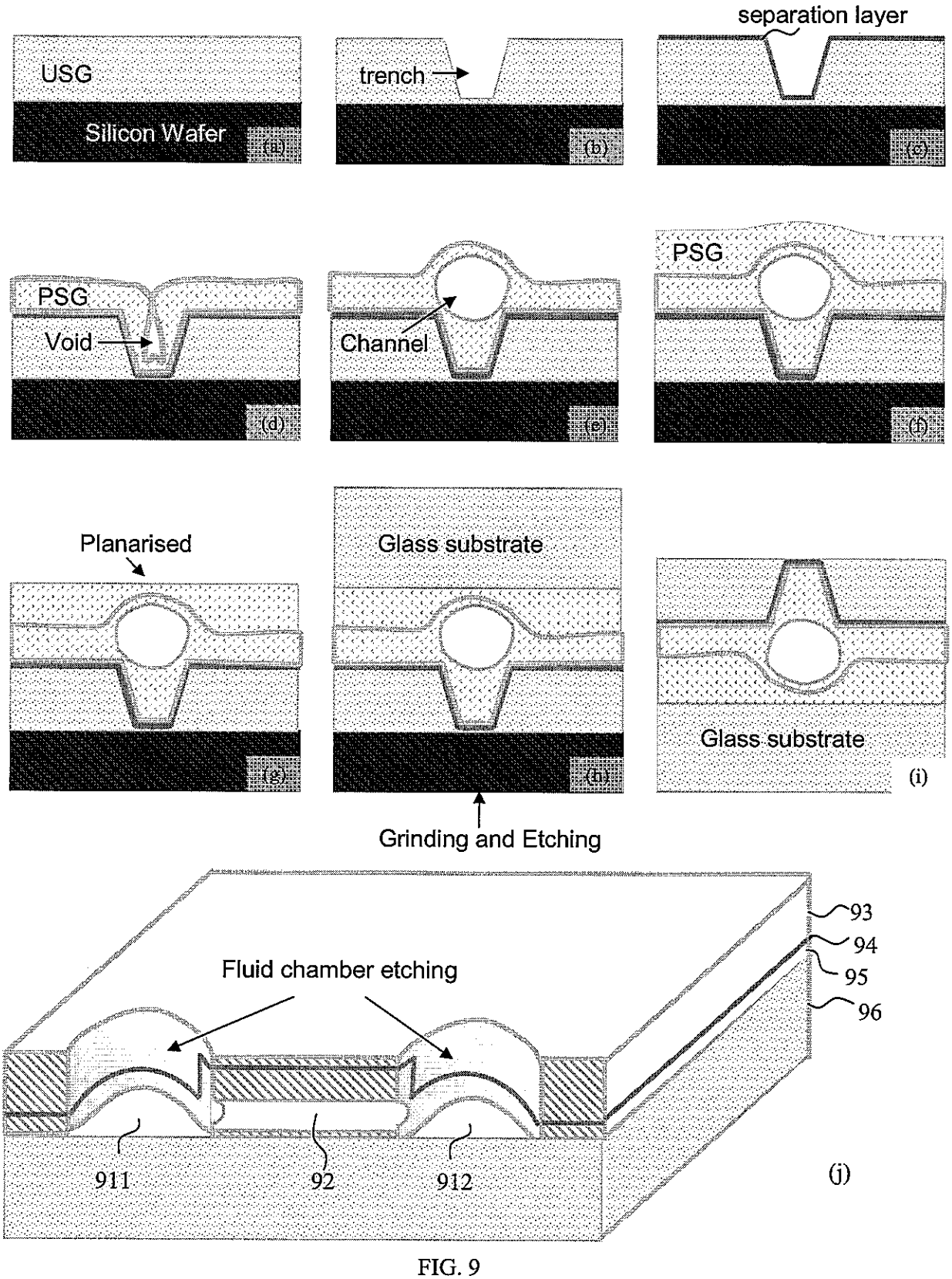

USG
Silicon Wafer
(a)
trench
(b)
separation layer
(c)
PSG
Void
(d)
Channel
(e)
PSG
(f)
Planarised
(g)
Glass substrate
(h)
Glass substrate
(i)
Grinding and Etching
Fluid chamber etching
93
94
95
96
911
92
912
(j)

FIG. 9

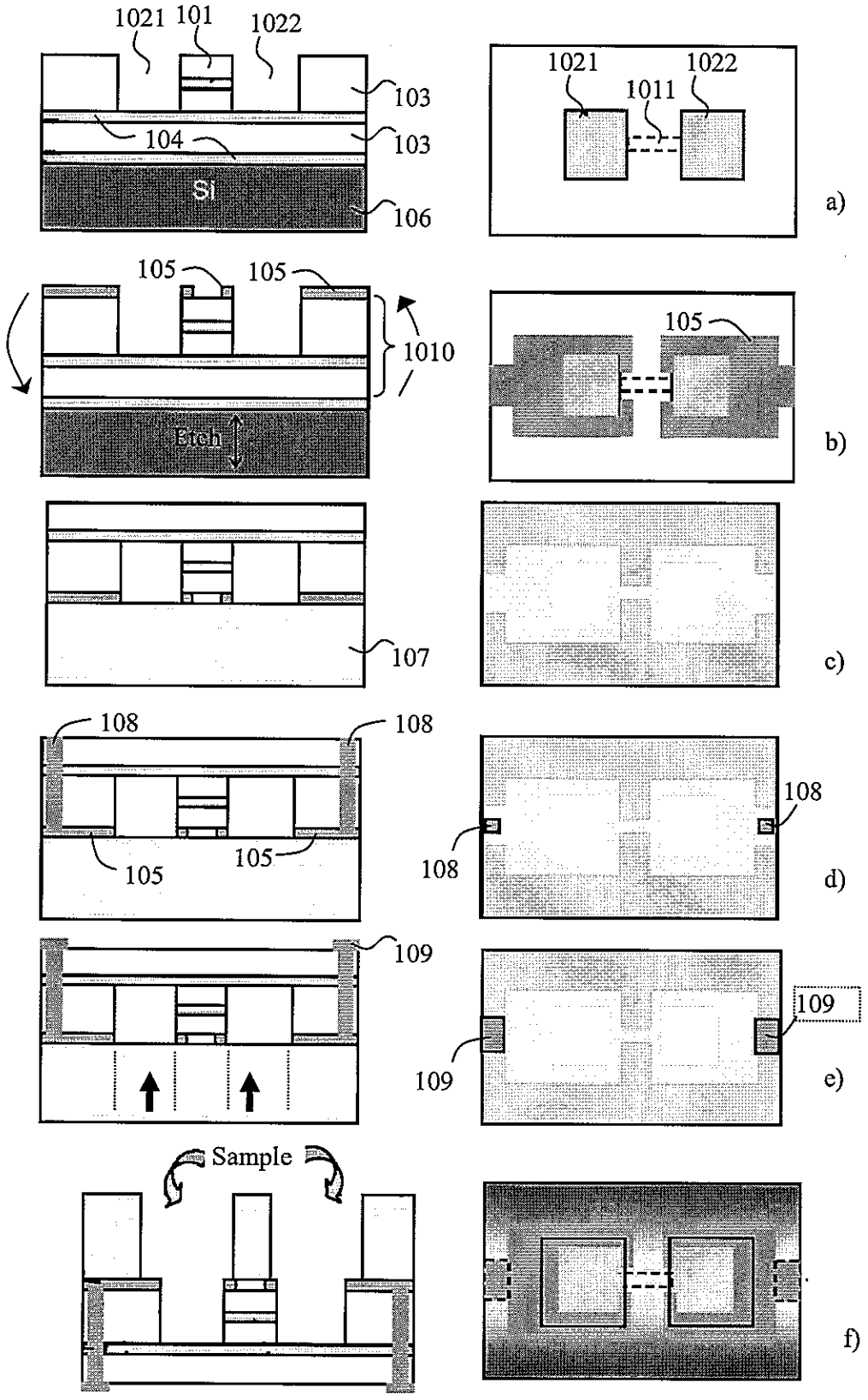

1021
101
1022
103
104
103
Si
106
a)
1021
1022
1011
105
105
1010
Etch
105
b)
107
c)
108
108
105
105
108
108
d)
109
109
109
e)
Sample
f)

FIG. 10

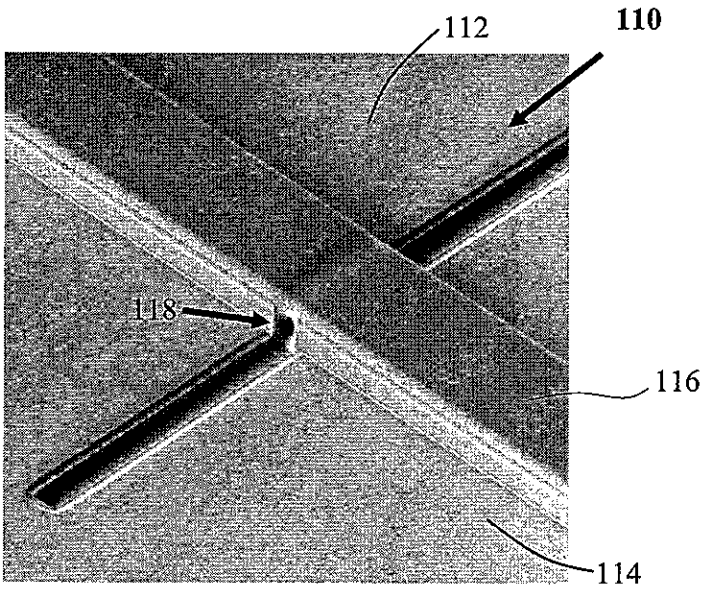


FIG. 11A

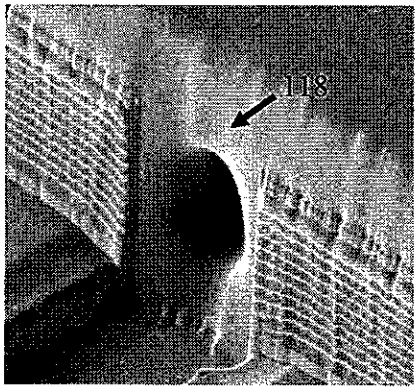


FIG. 11B

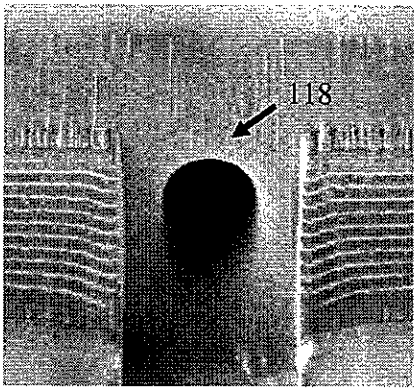


FIG. 11C

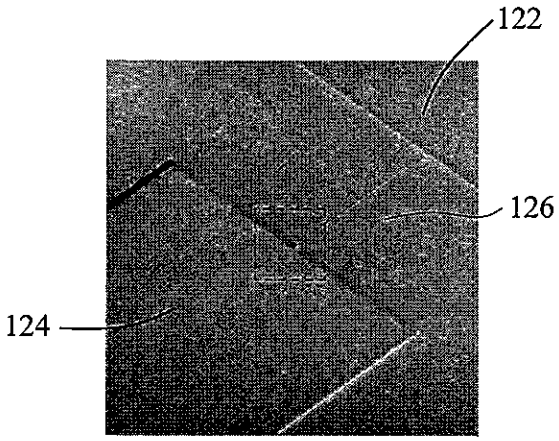


FIG. 11D

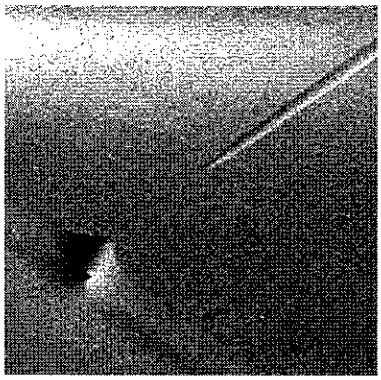


FIG. 11E

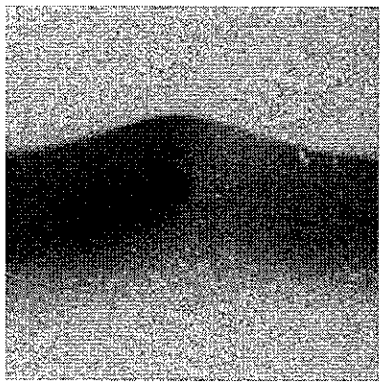


FIG. 11F

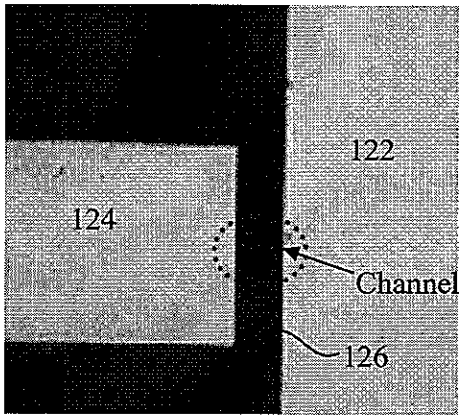


FIG. 11G

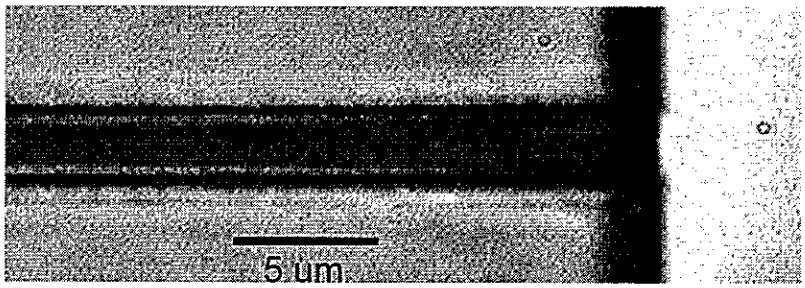


FIG. 12A

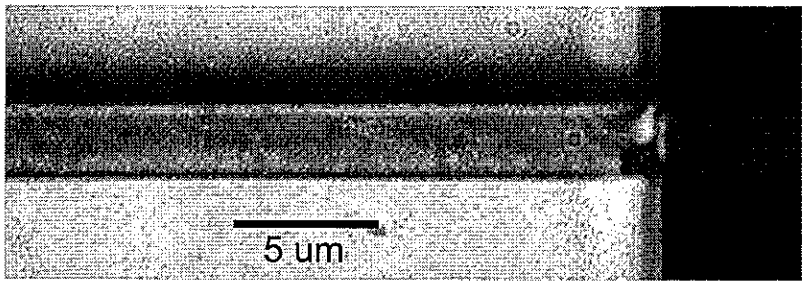


FIG. 12B