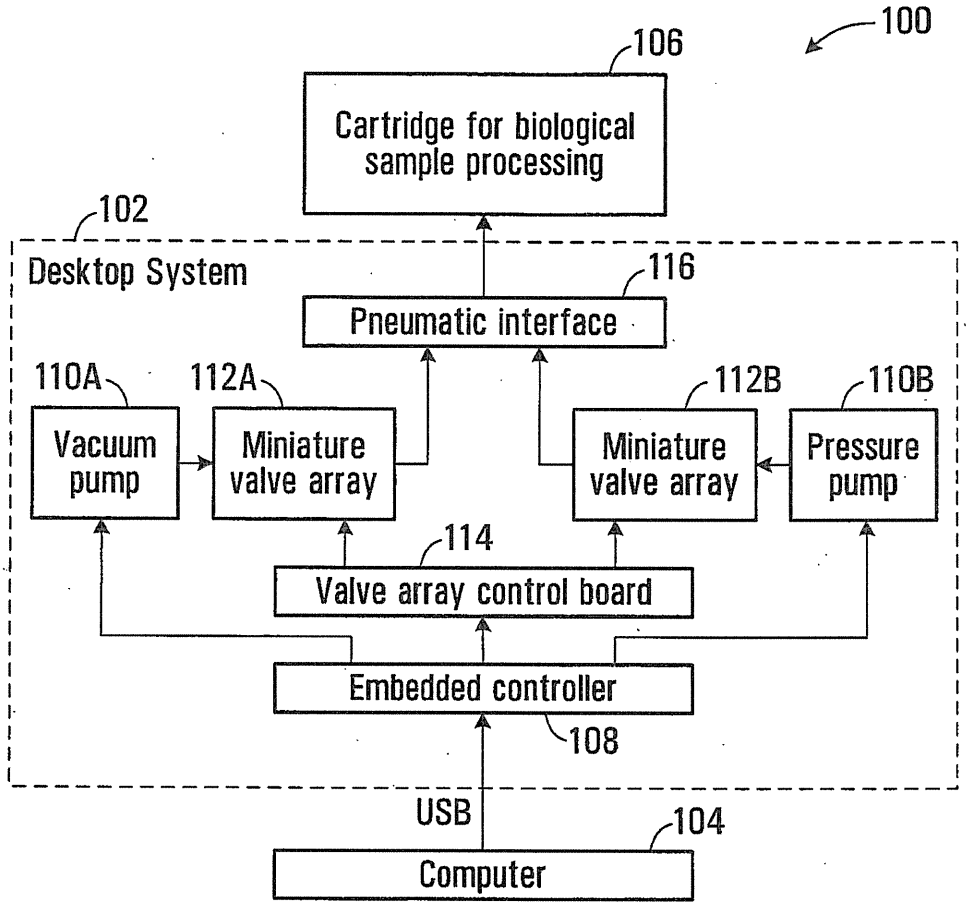

100
106
Cartridge for biological sample processing
102
Desktop System
116
Pneumatic interface
110A
112A
112B
110B
Vacuum pump
Miniature valve array
Miniature valve array
Pressure pump
114
Valve array control board
Embedded controller
108
USB
104
Computer

FIG. 1

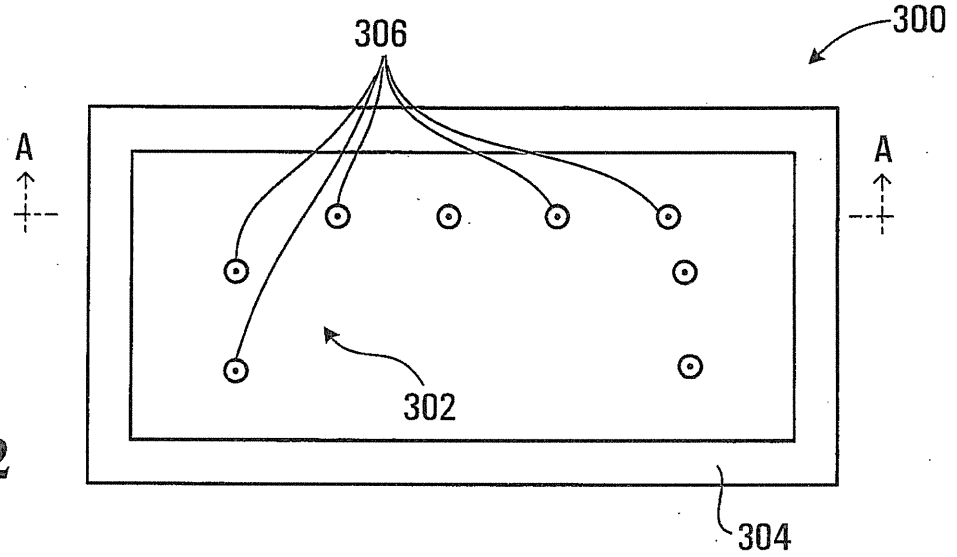


FIG. 2

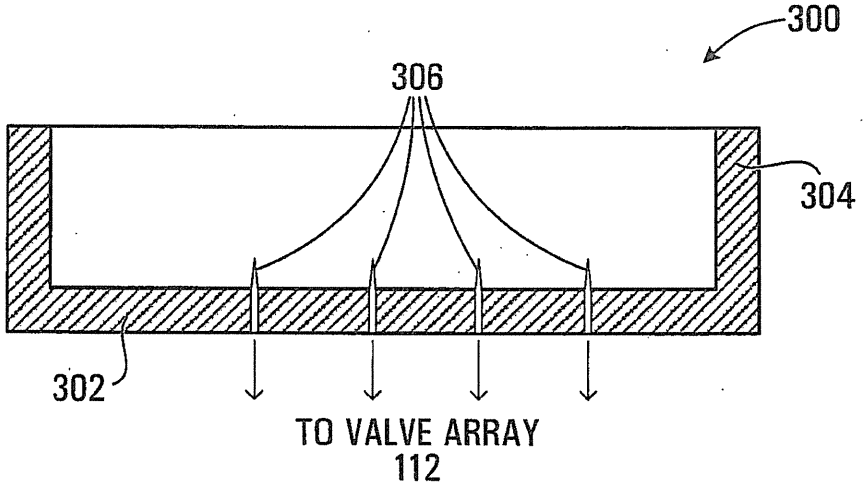


FIG. 3

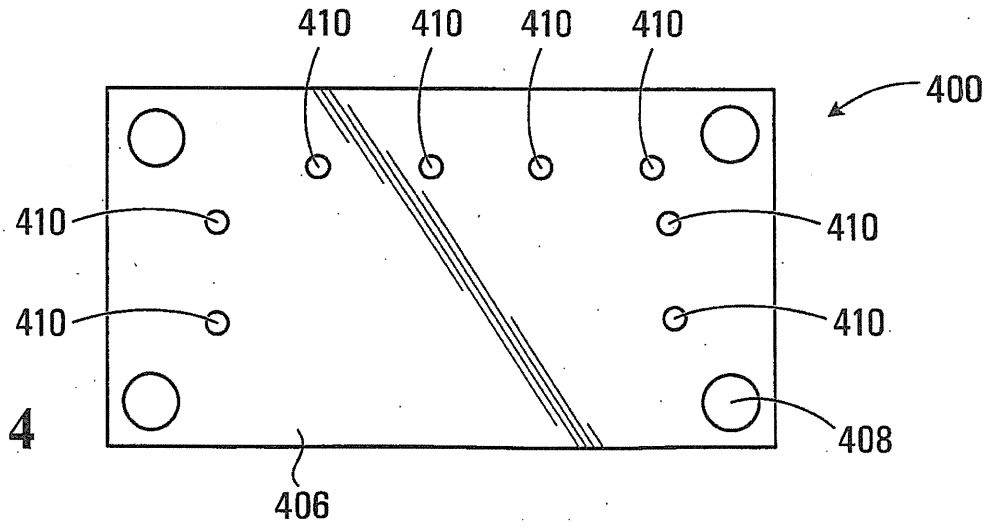


FIG. 4

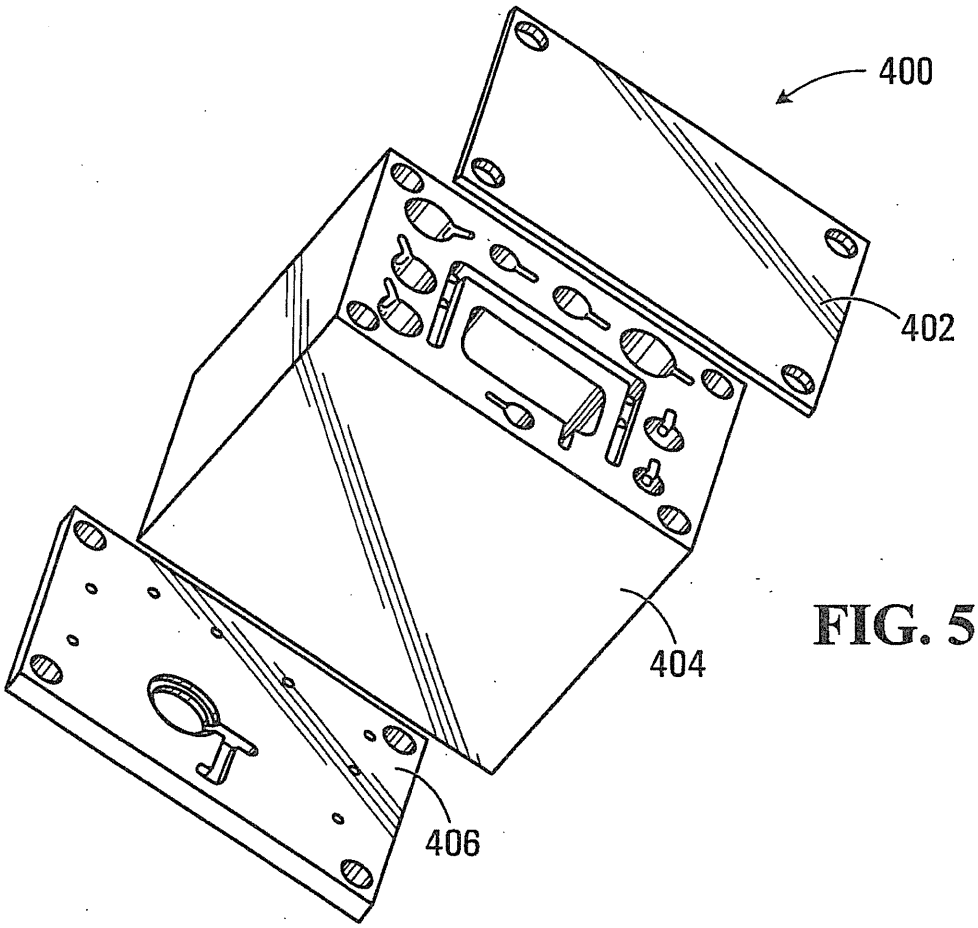


FIG. 5

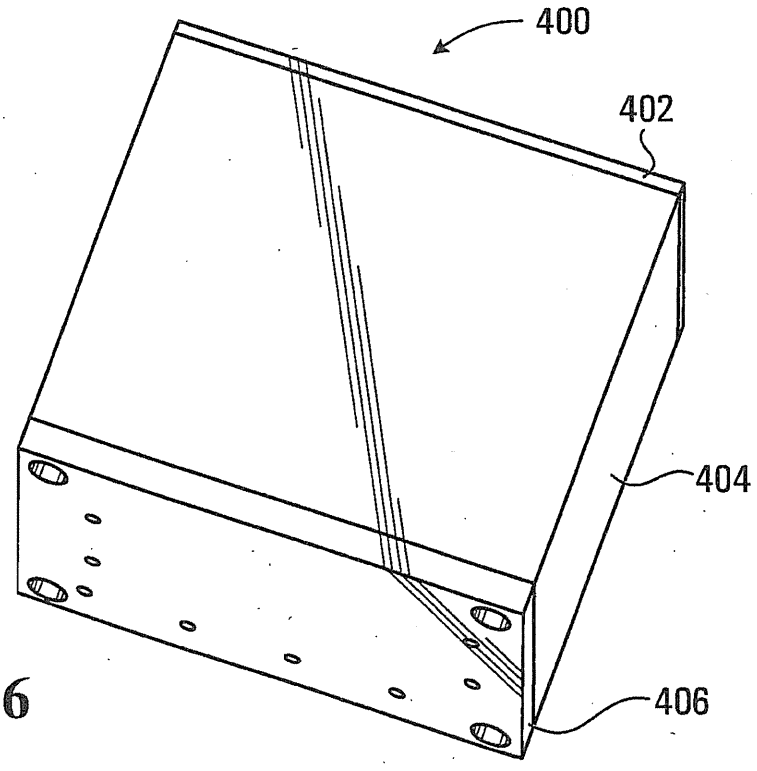


FIG. 6

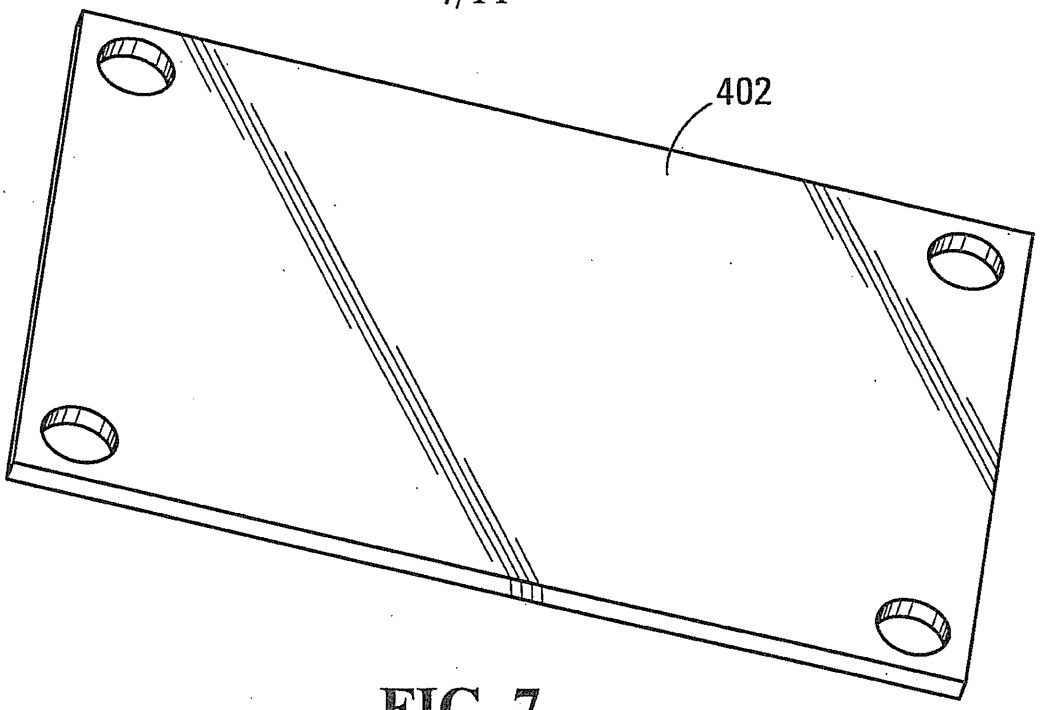


FIG. 7

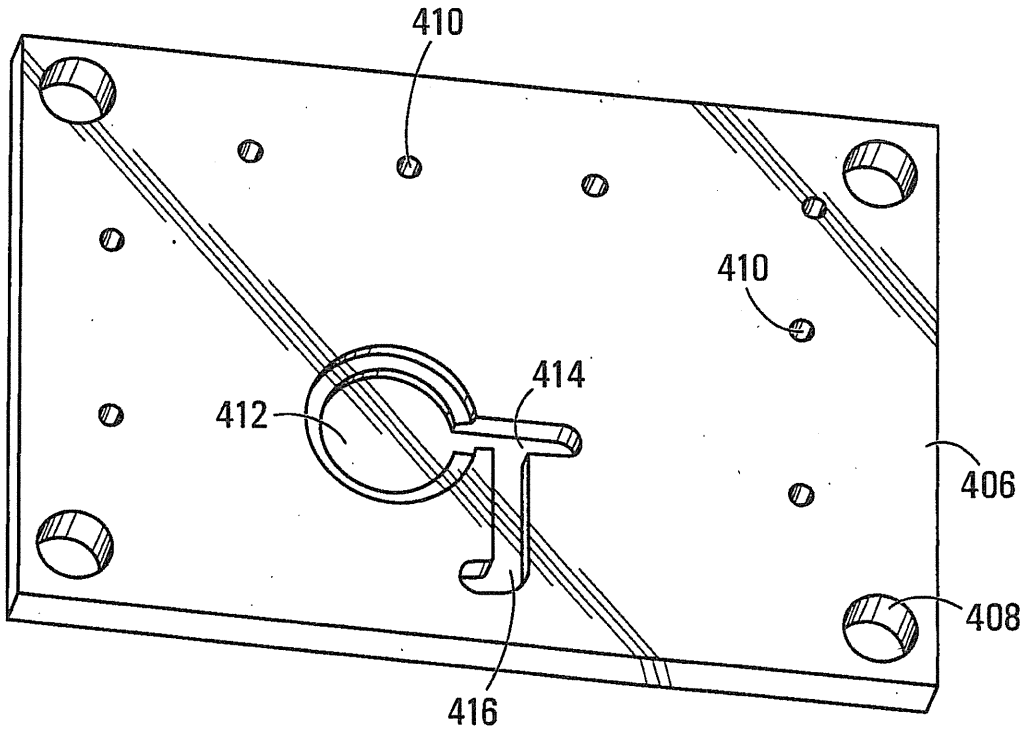


FIG. 8

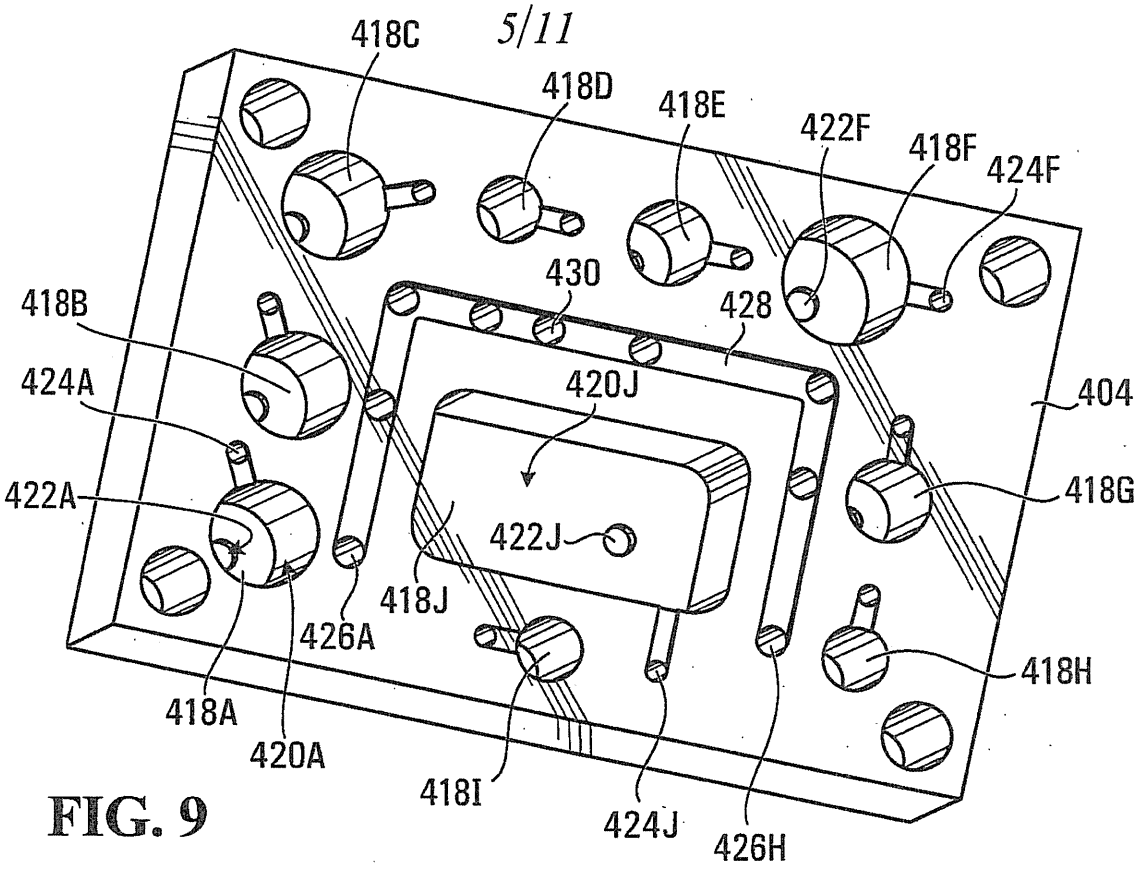

418C
418D
418E
422F
418F
424F
430
428
418B
424A
420J
404
422A
418G
422J
418J
426A
418H
418A
420A
418I
424J
426H

FIG. 9

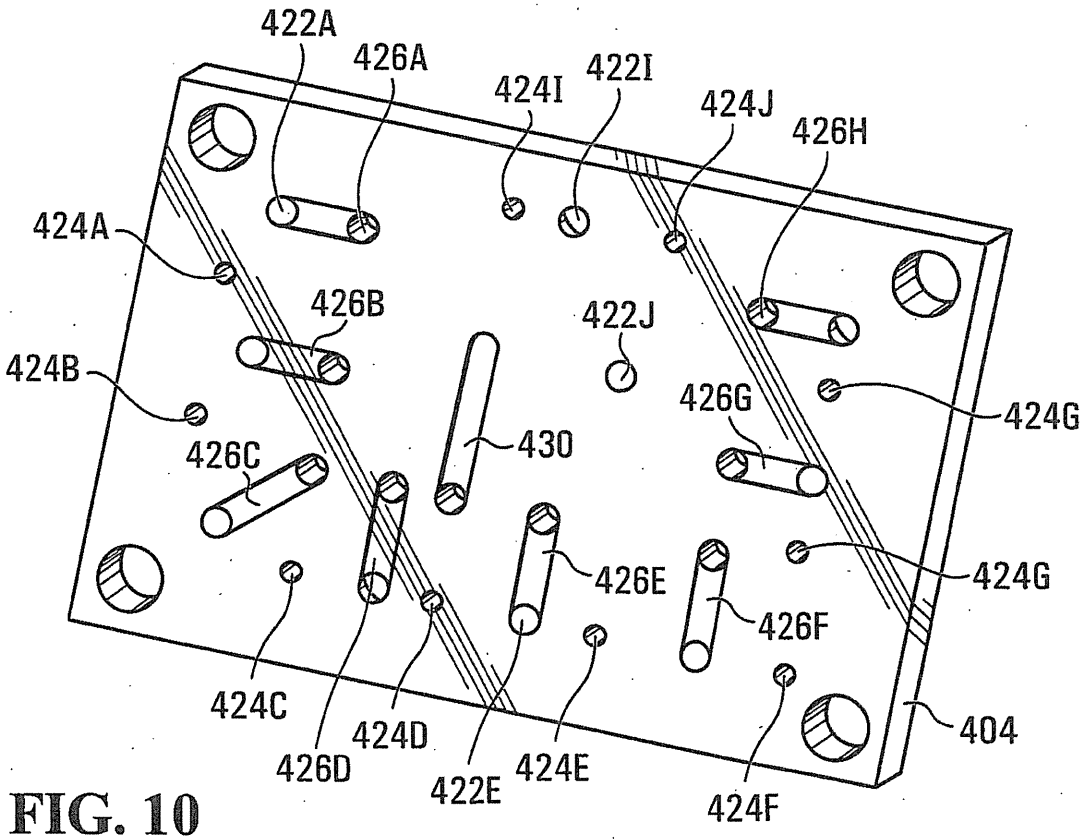

422A
426A
424I
422I
424J
426H
424A
426B
422J
424B
426G
424G
430
426C
426E
424G
426F
424C
424D
404
426D
422E
424E
424F

FIG. 10

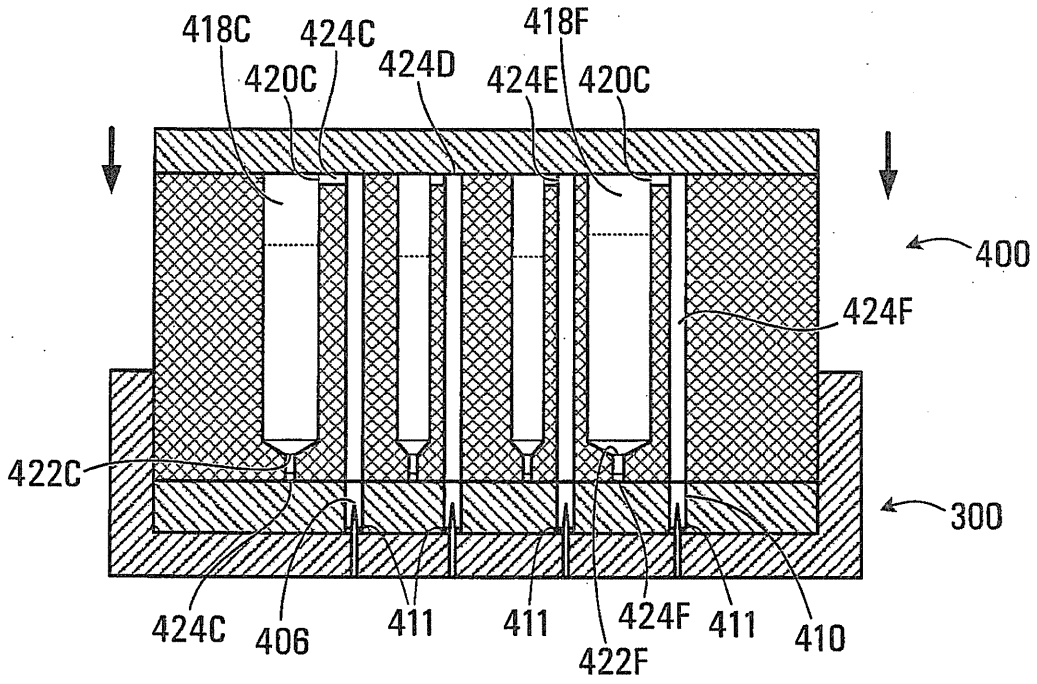

418C
424C
420C
424D
418F
424E
420C
400
424F
422C
300
424C
406
411
411
424F
422F
411
410

FIG. 11

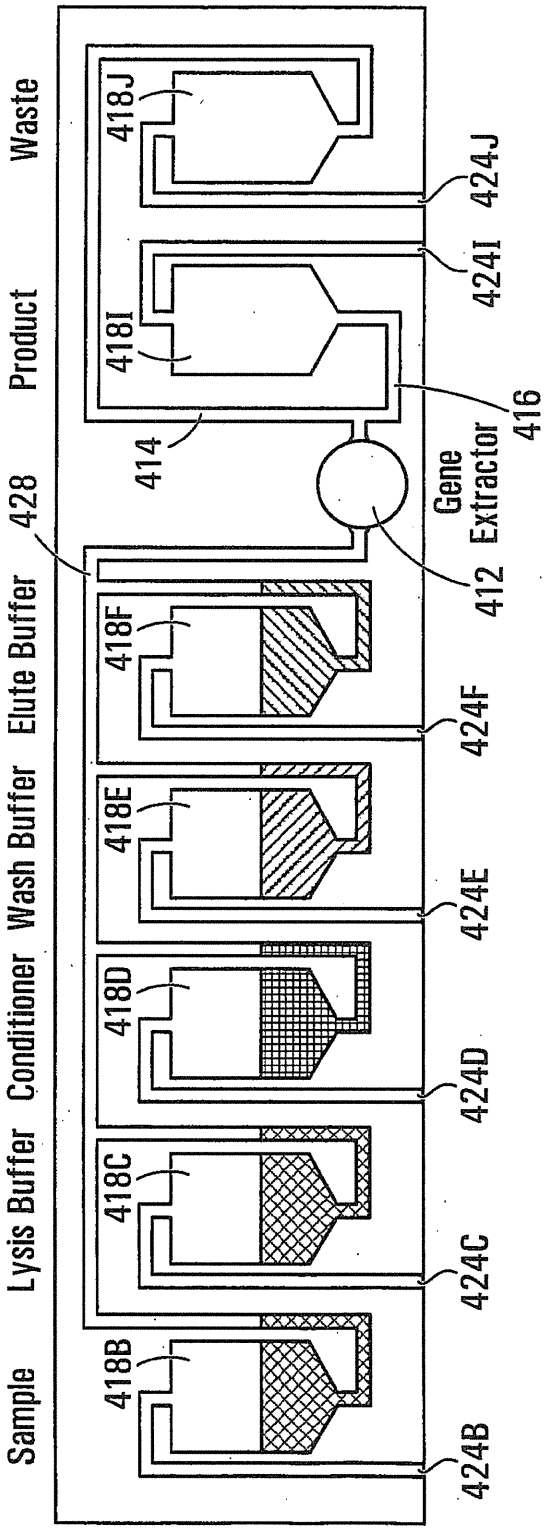

Sample
Lysis Buffer
Conditioner
Wash Buffer
Elute Buffer
428
Product
Waste
418B
418C
418D
418E
418F
418I
418J
424B
424C
424D
424E
424F
424I
424J
414
416
412
Gene Extractor

FIG. 12

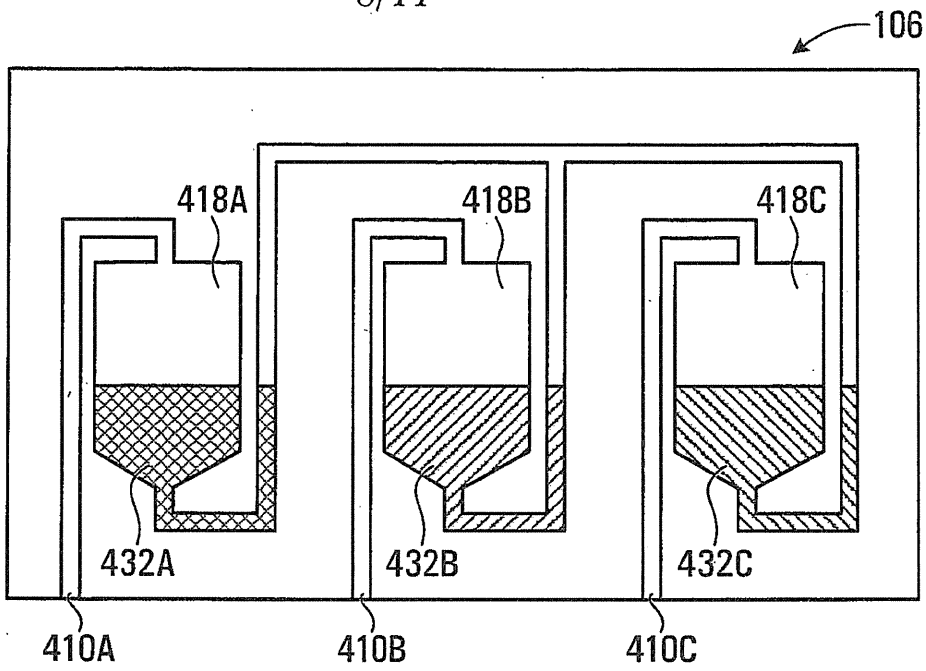

106
418A
418B
418C
432A
432B
432C
410A
410B
410C

FIG. 13

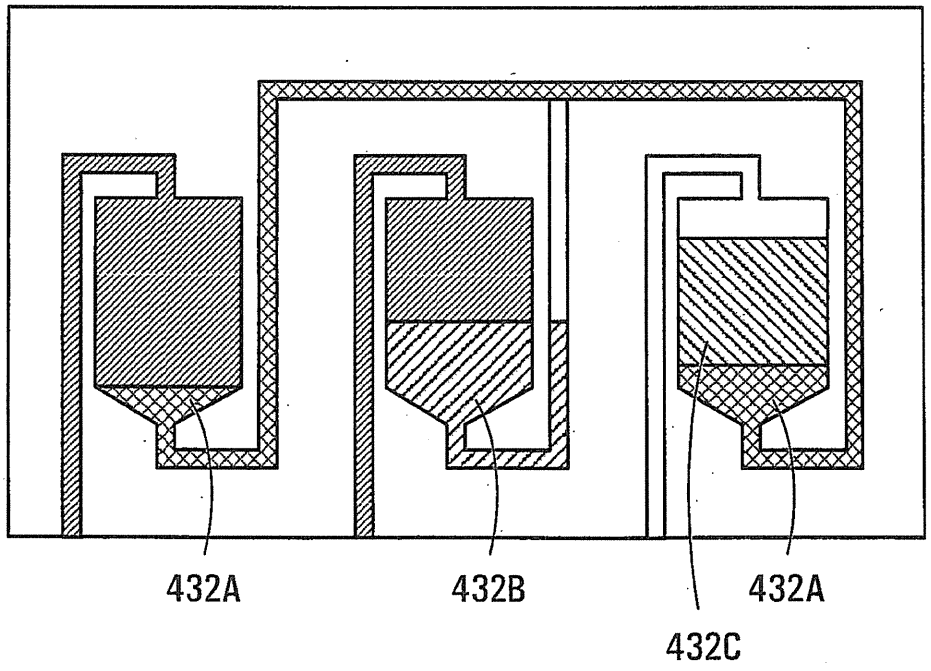

432A
432B
432A
432C

FIG. 14

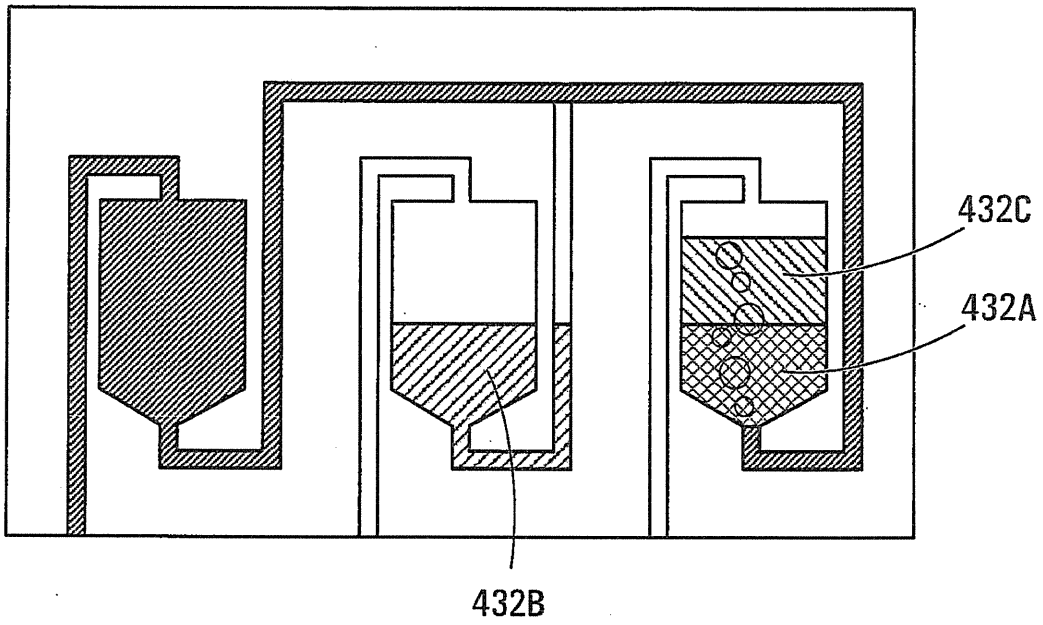


FIG. 15

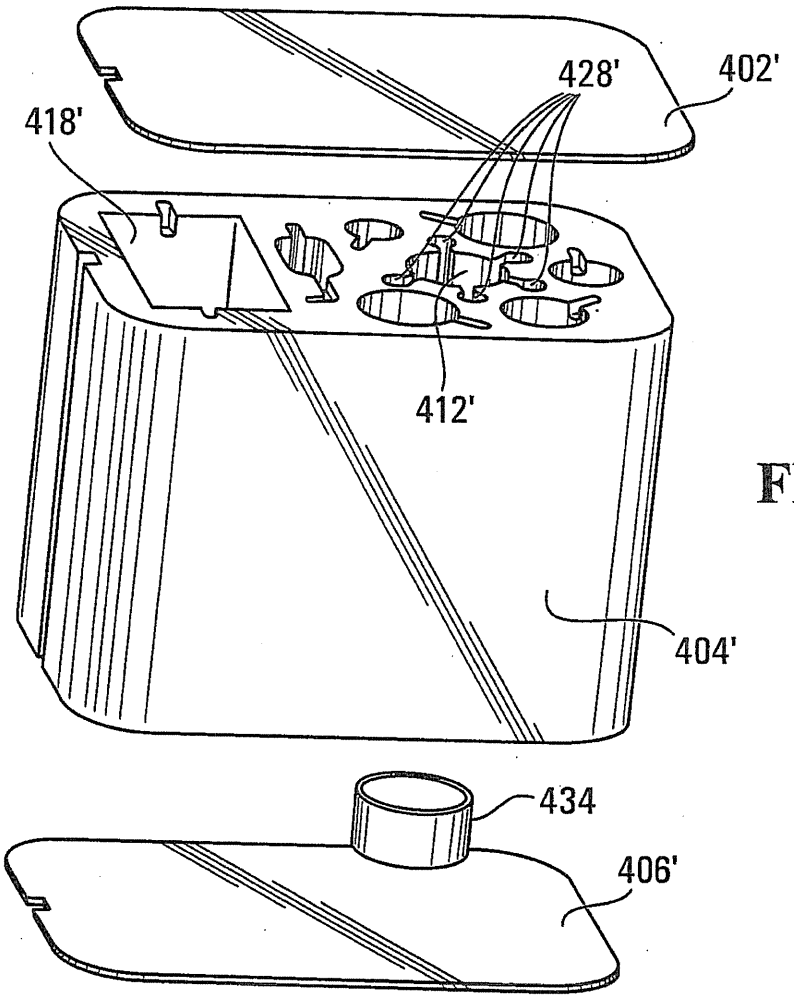


FIG. 16

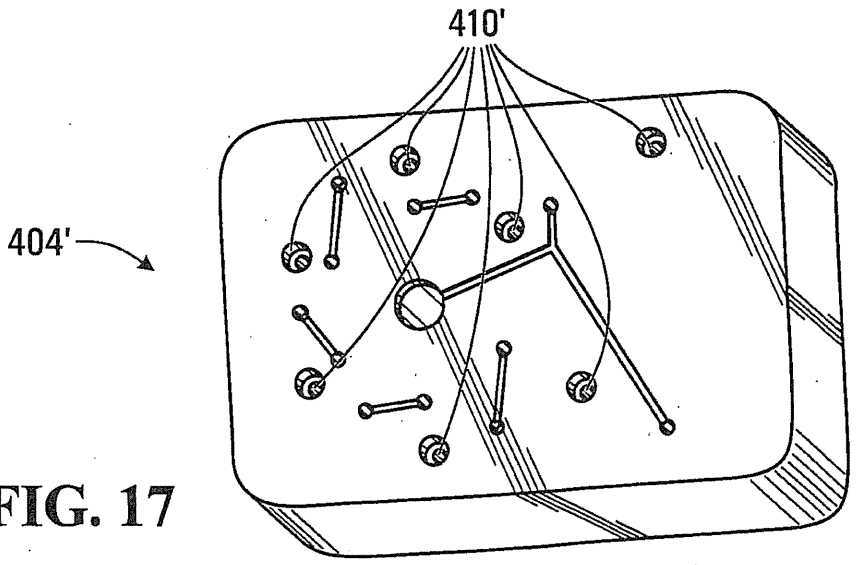


FIG. 17

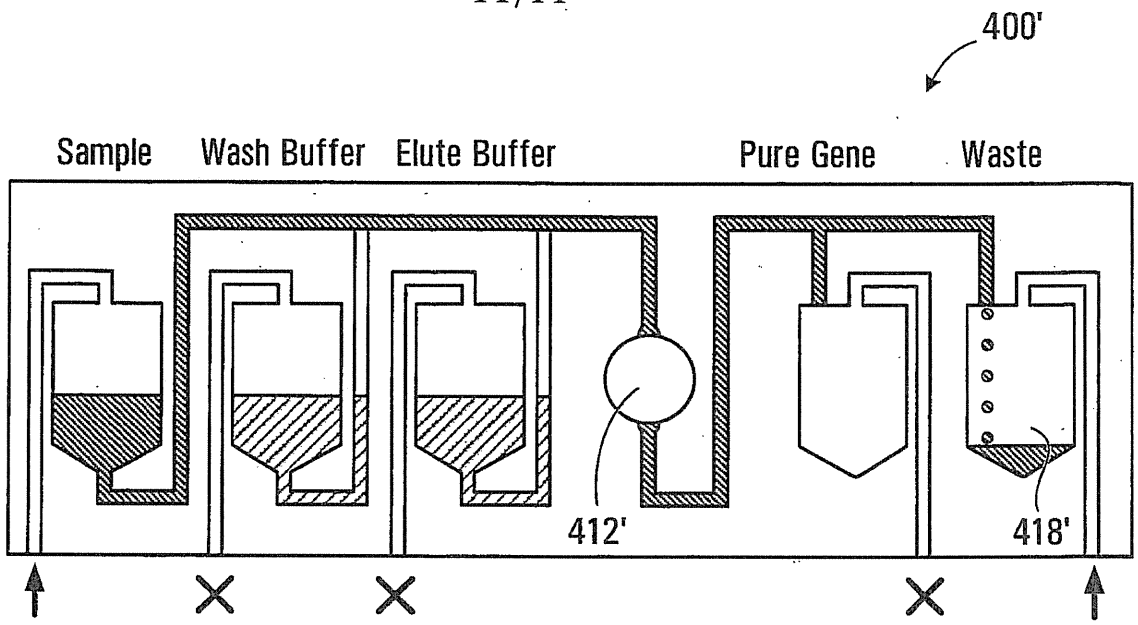

400'
Sample
Wash Buffer
Elute Buffer
Pure Gene
Waste
412'
418'

FIG. 18

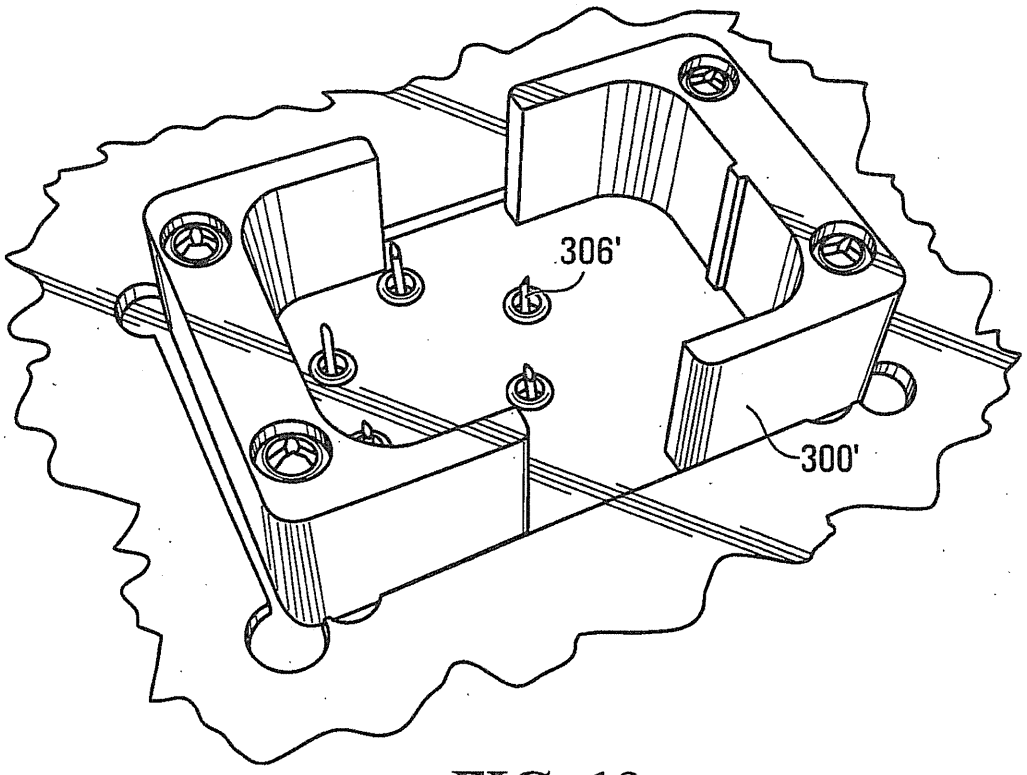

306'
300'

FIG. 19