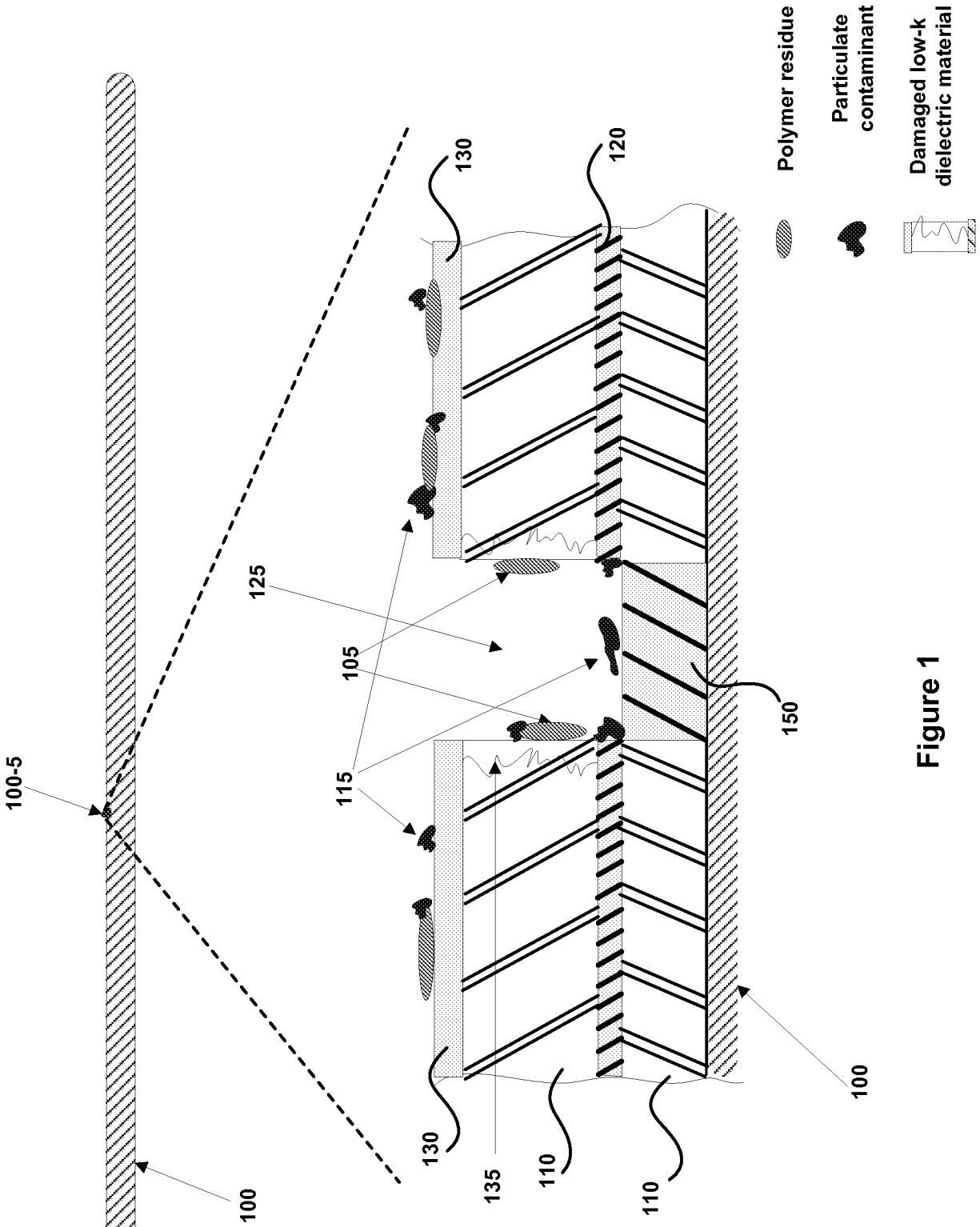

100-5
100
125
105
115
130
120
150
135
110
110
130
100
Polymer residue
Particulate contaminant
Damaged low-k dielectric material

Figure 1

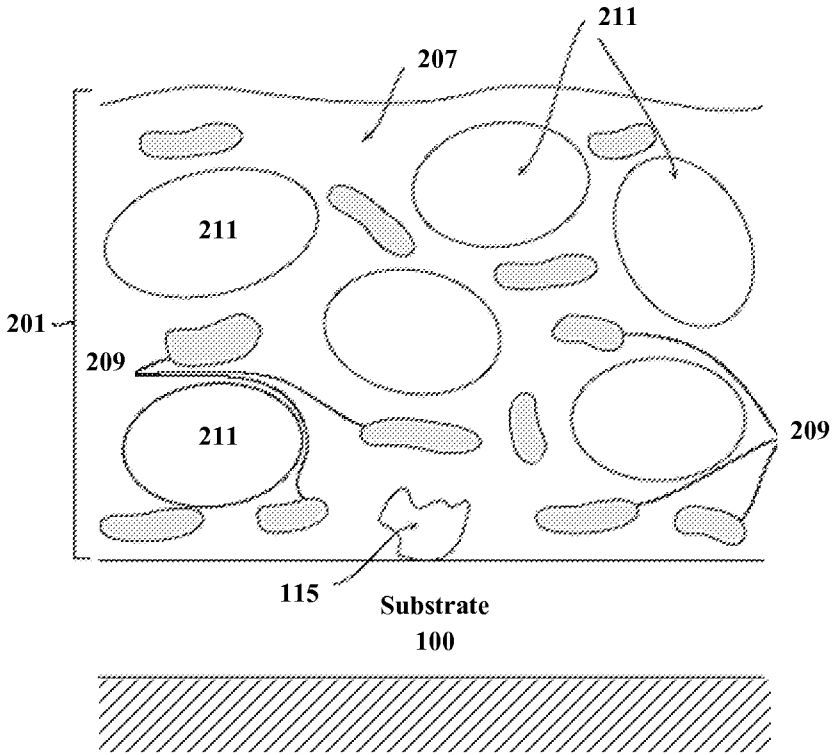


Figure 2

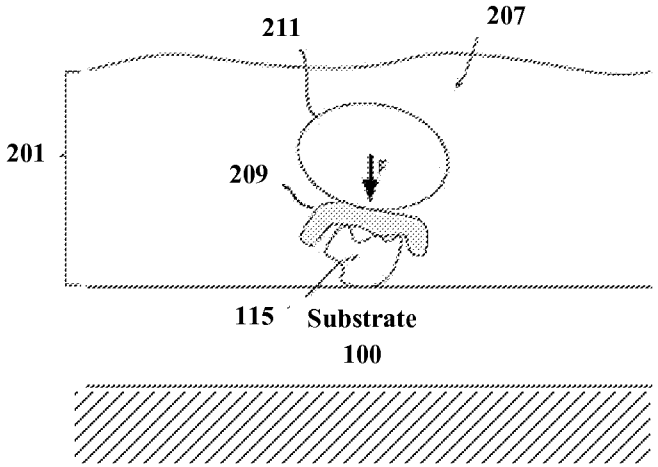


Figure 2A

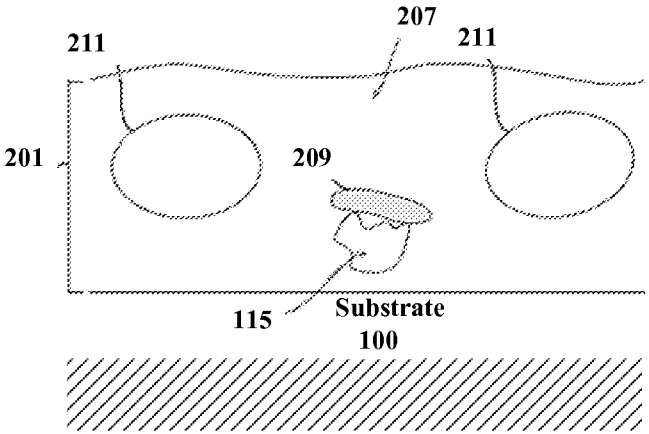


Figure 2B

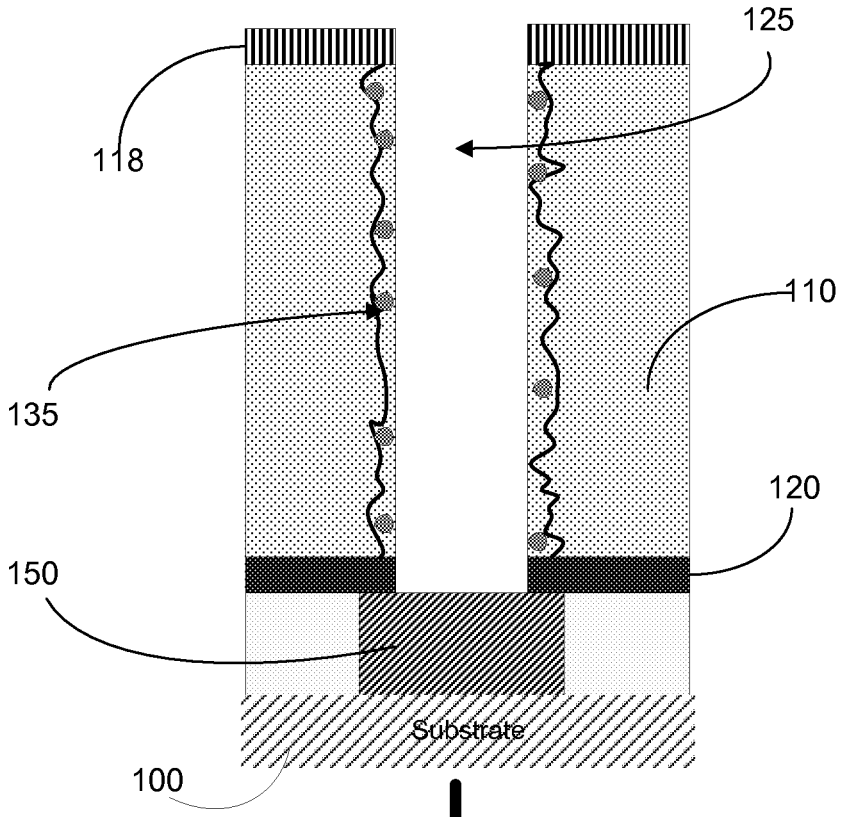


Figure 3A

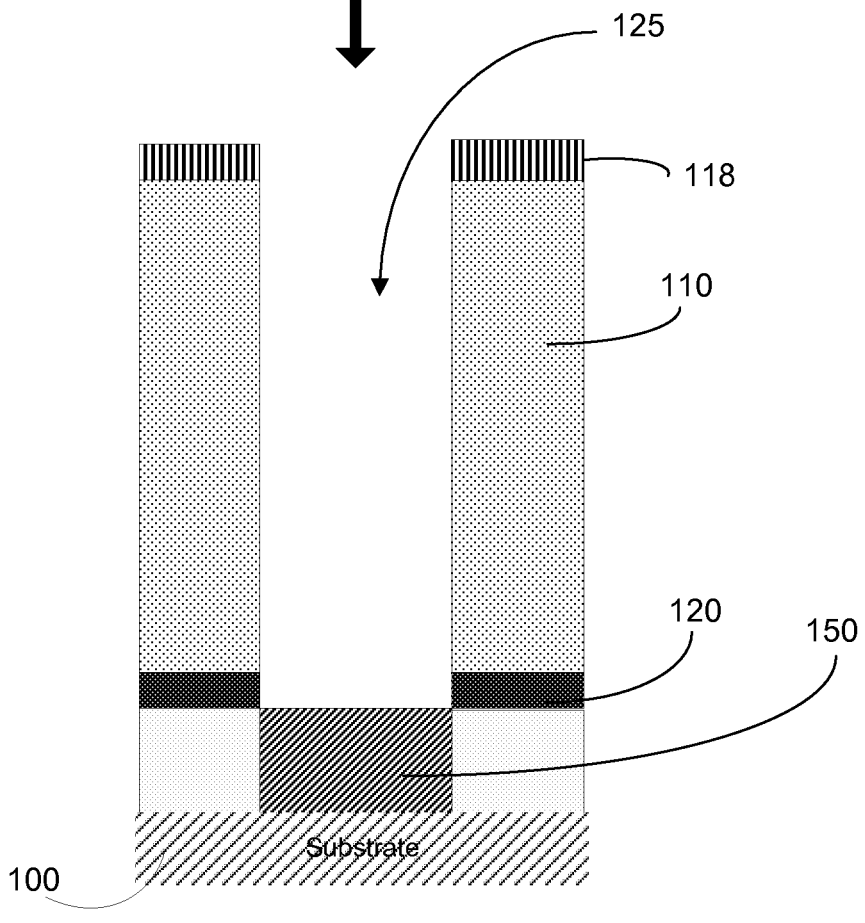


Figure 3B

Particulate removal process

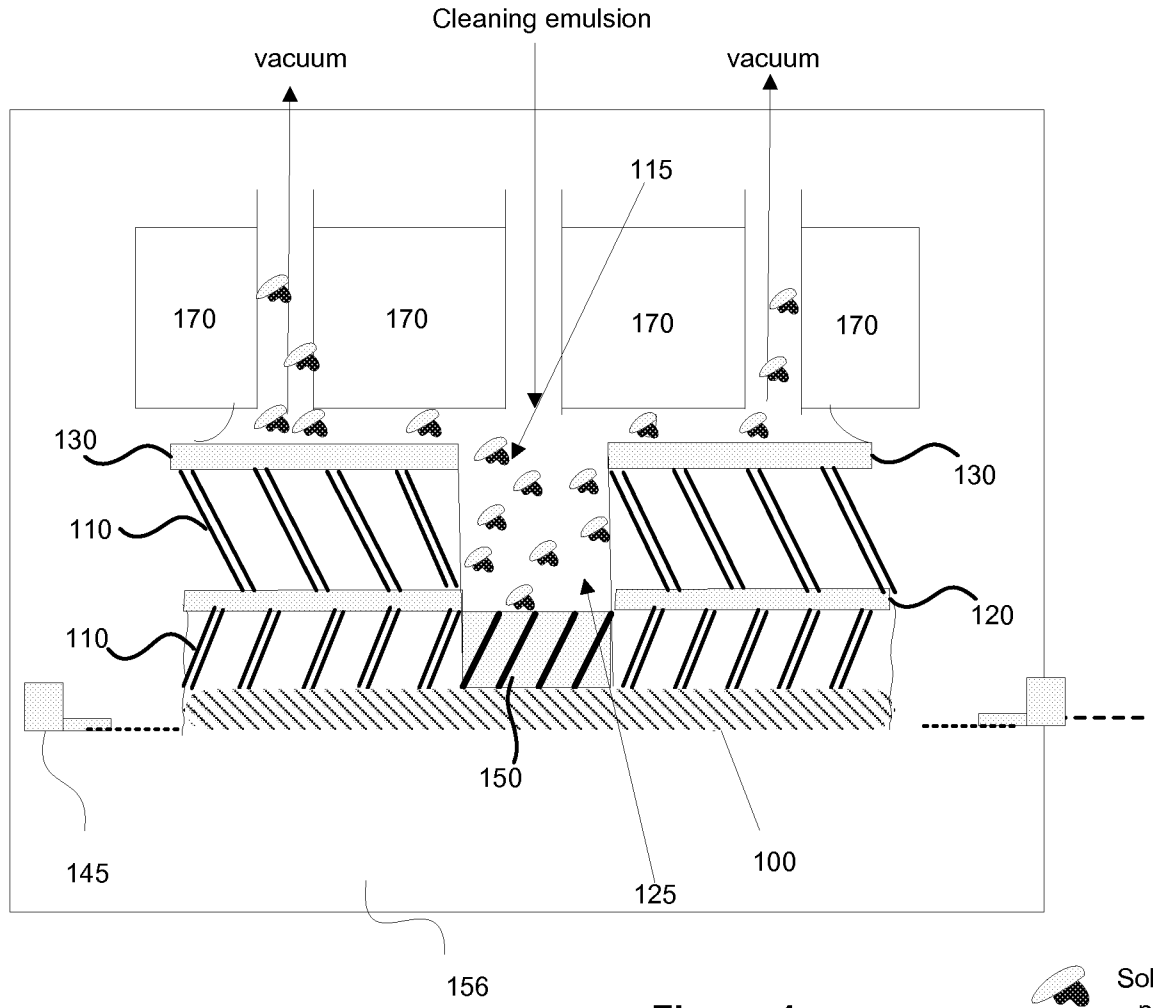


Figure 4

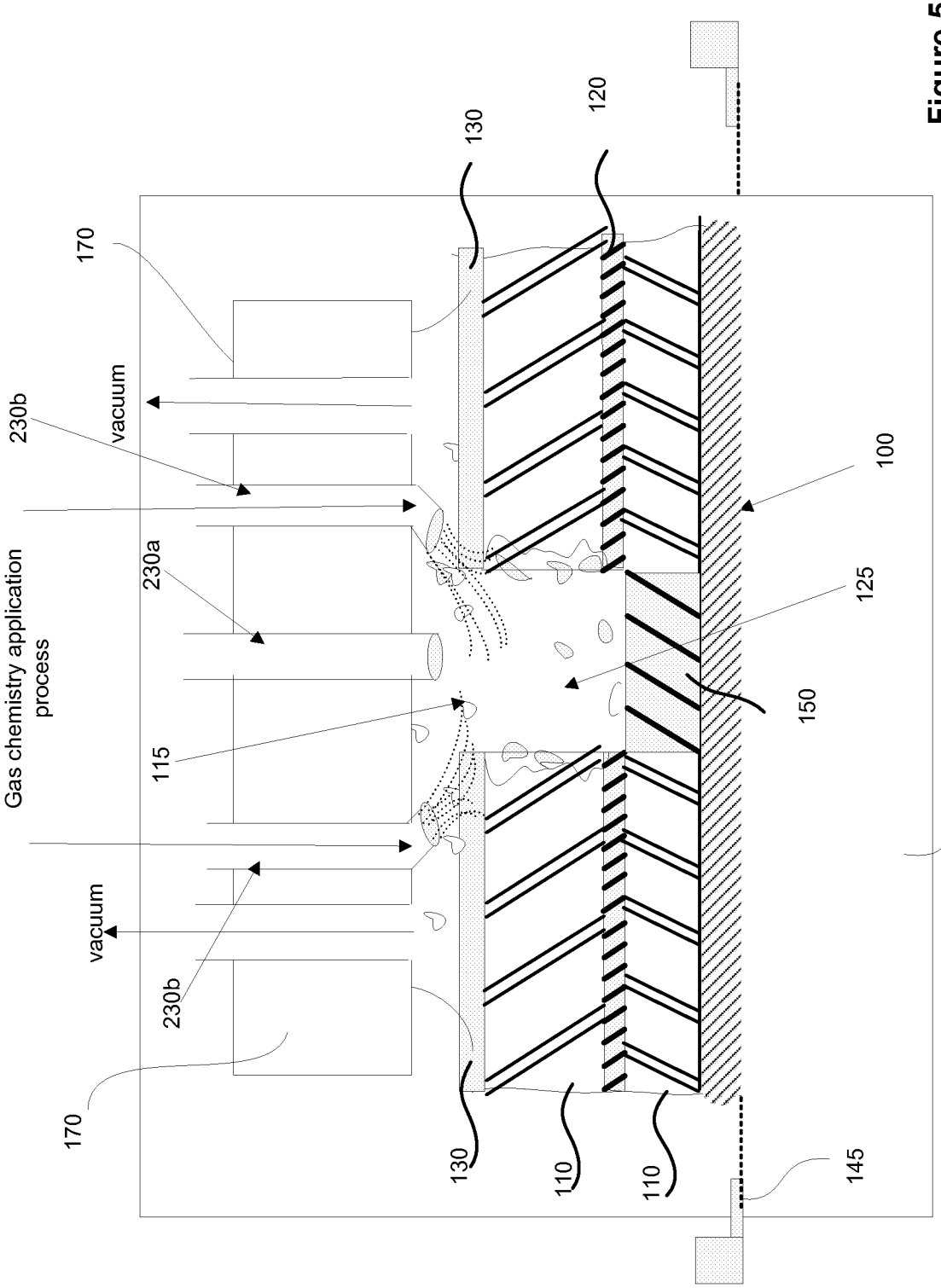

170
vacuum
230b
Gas chemistry application process
230a
115
vacuum
230b
170
130
120
100
125
150
156
130
110
110
145

Figure 5

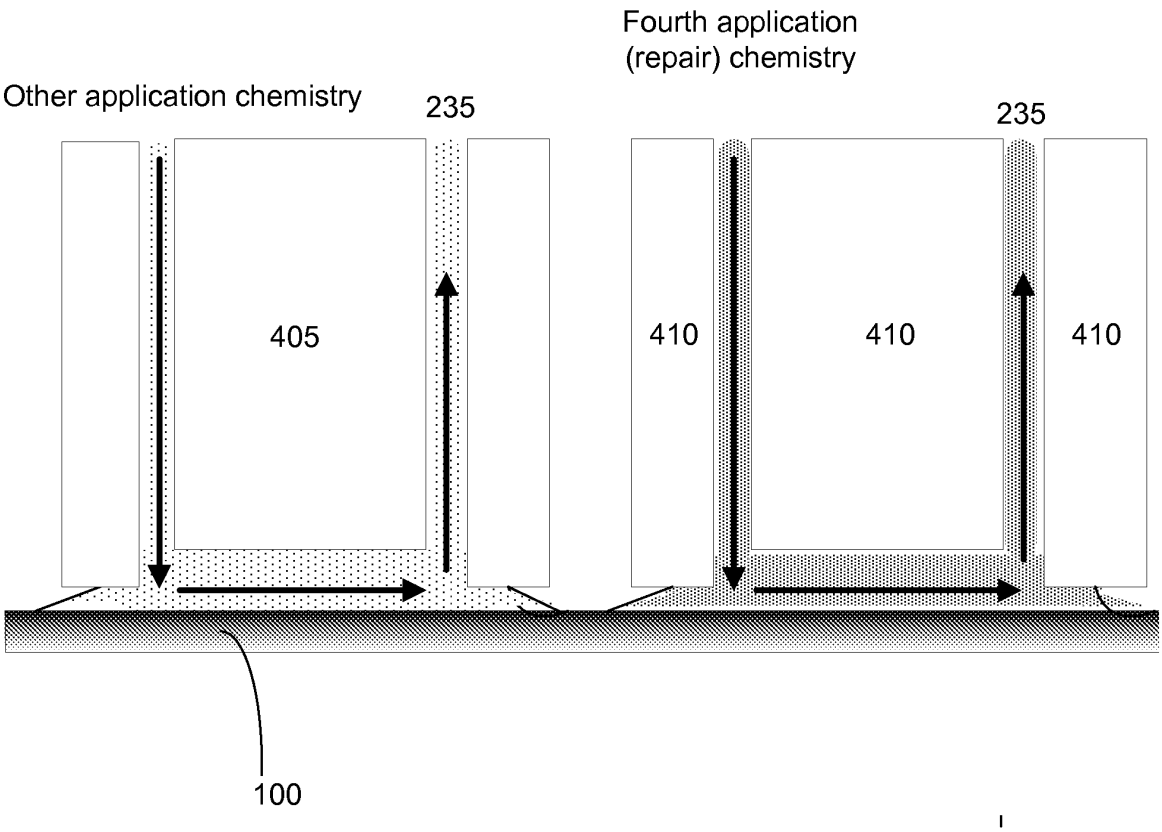

Fourth application
(repair) chemistry
Other application chemistry
235
235
405
410
410
410
100

Figure 6

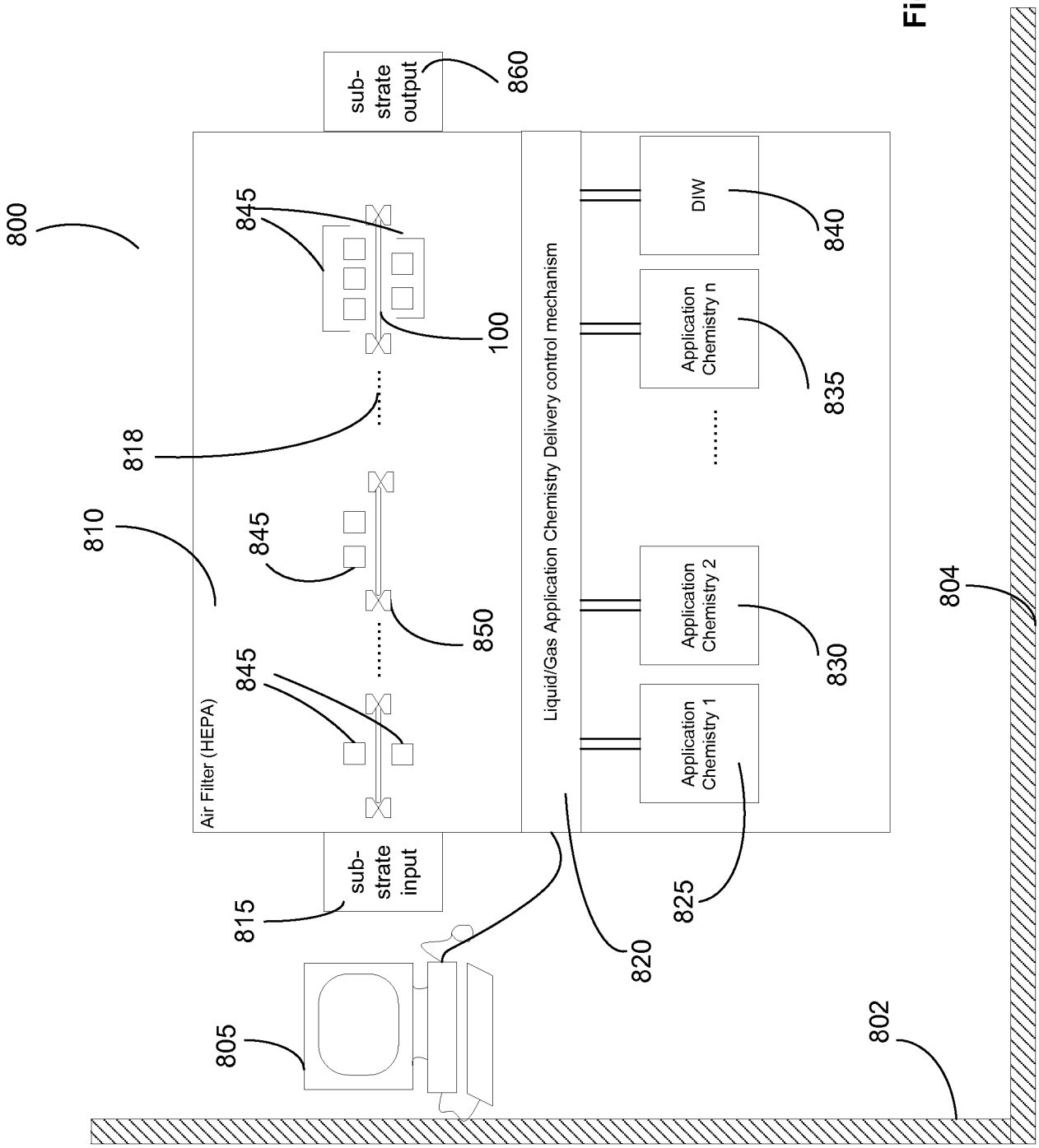

800
810
818
845
845
845
100
850
860
sub-strate output
sub-strate input
815
805
820
825
830
835
840
804
802
Air Filter (HEPA)
Liquid/Gas Application Chemistry Delivery control mechanism
Application Chemistry 1
Application Chemistry 2
Application Chemistry n
DIW

Figure 7

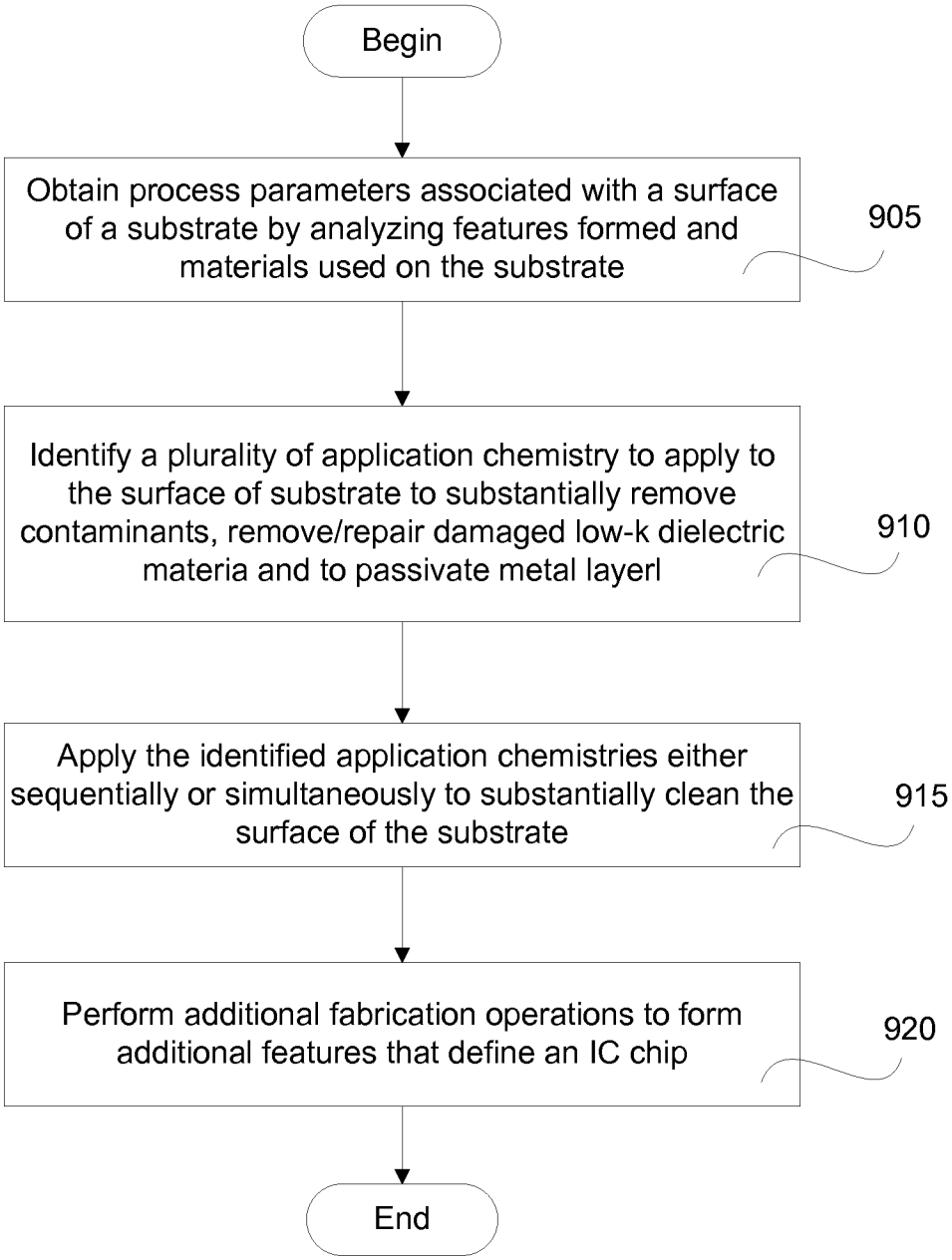

Begin
Obtain process parameters associated with a surface of a substrate by analyzing features formed and materials used on the substrate
905
Identify a plurality of application chemistry to apply to the surface of substrate to substantially remove contaminants, remove/repair damaged low-k dielectric materia and to passivate metal layerl
910
Apply the identified application chemistries either sequentially or simultaneously to substantially clean the surface of the substrate
915
Perform additional fabrication operations to form additional features that define an IC chip
920
End

Figure 8