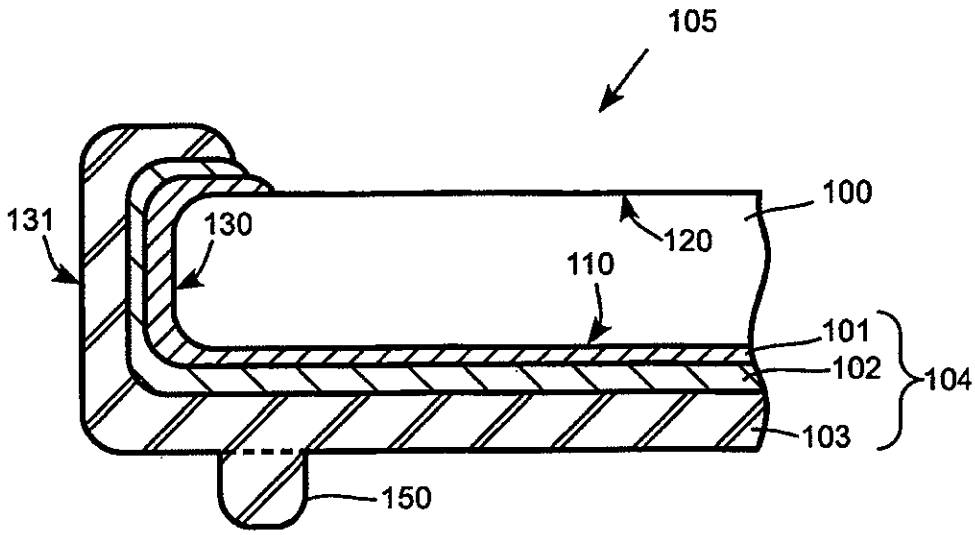
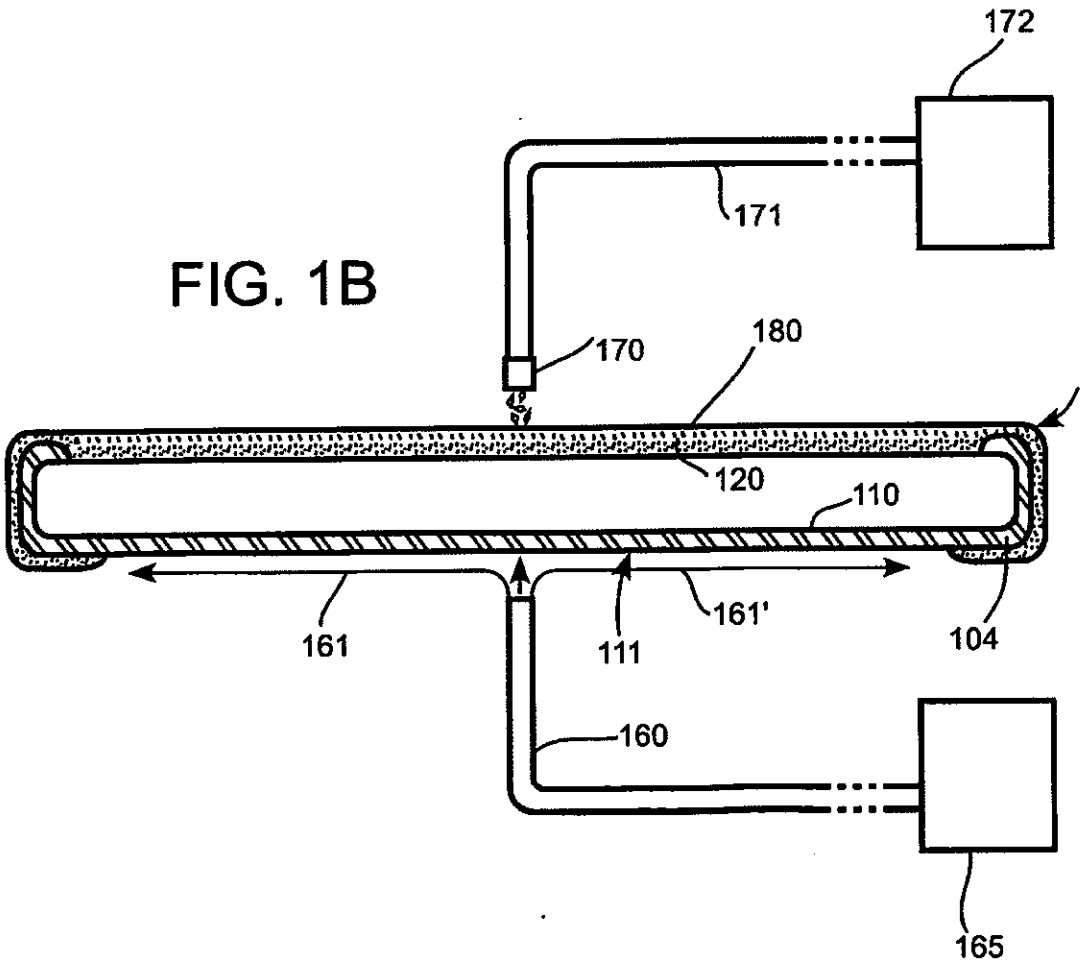

105
131
130
120
100
110
101
102
104
103
150

FIG. 1A

FIG. 1B


172
171
170
180
120
110
161
111
161'
104
160
165

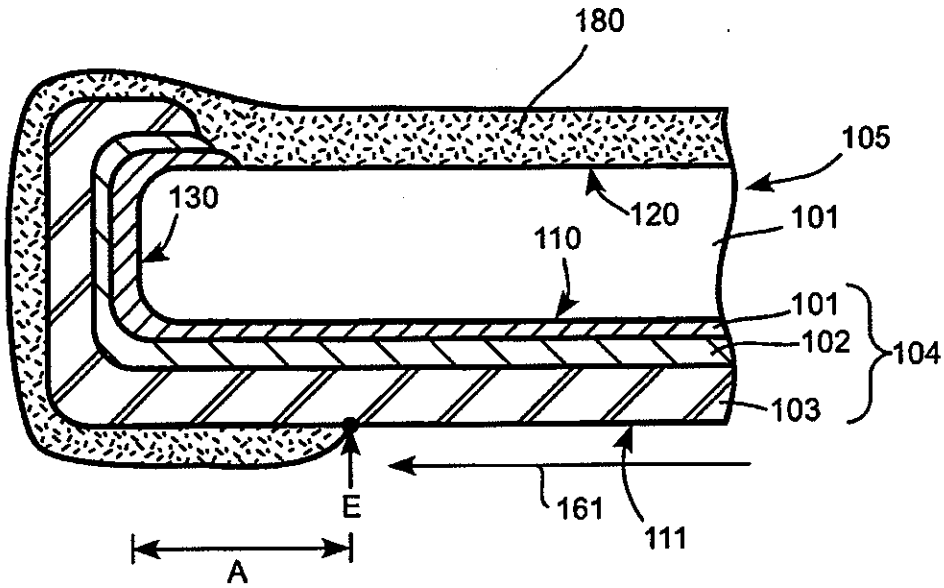

180
105
130
120
101
110
101
102
104
103
E
161
111
A

FIG. 1C

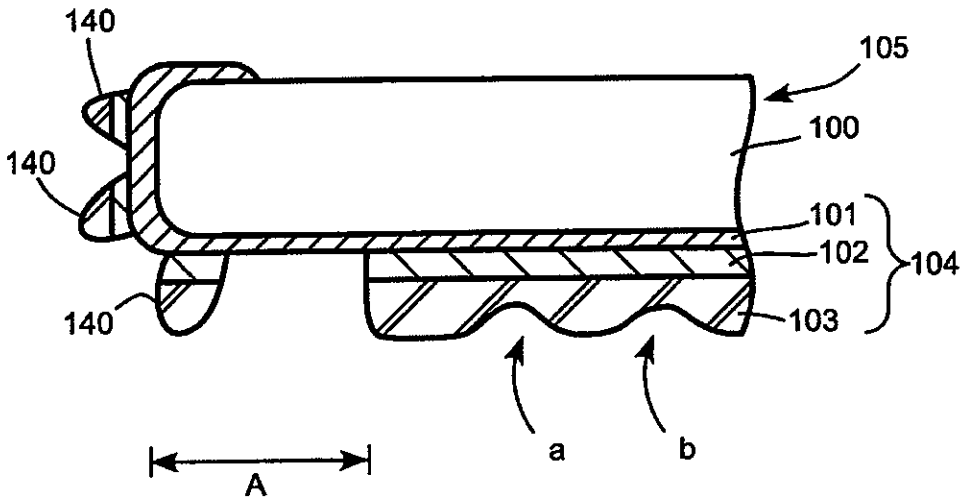

140
105
100
140
101
102
104
140
103
a
b
A

FIG. 1D

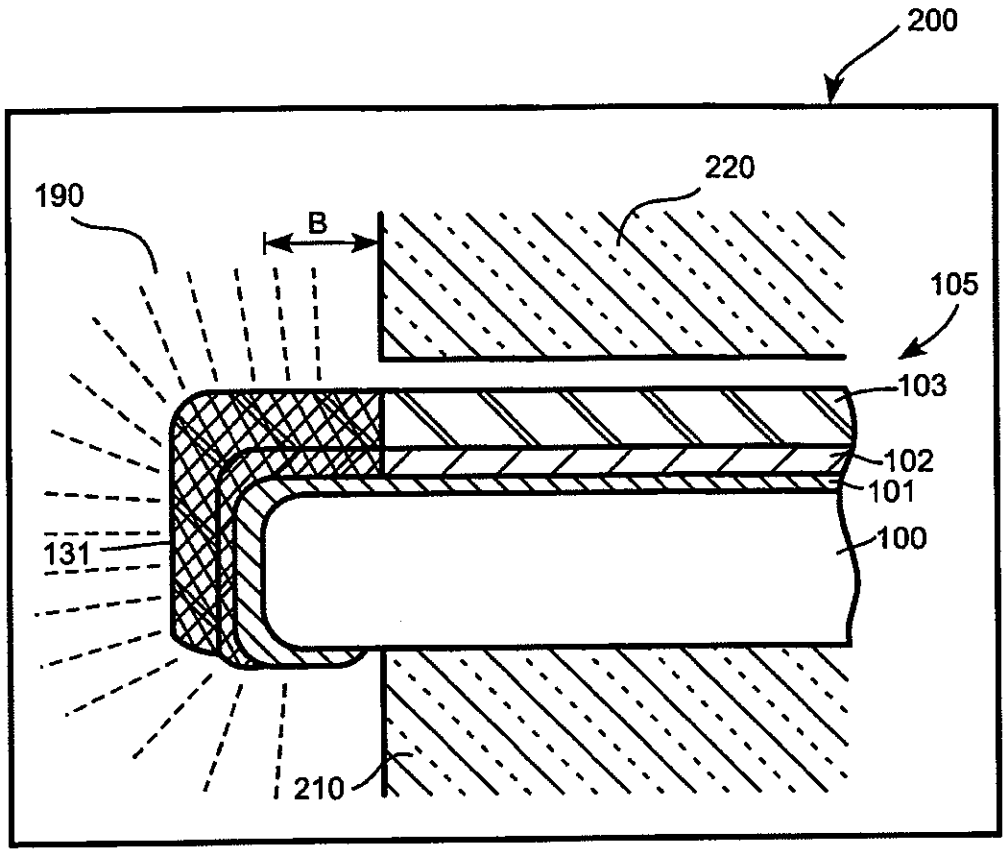


FIG. 2A

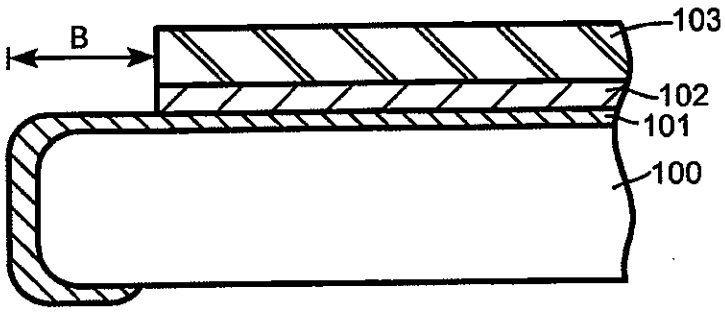


FIG. 2B

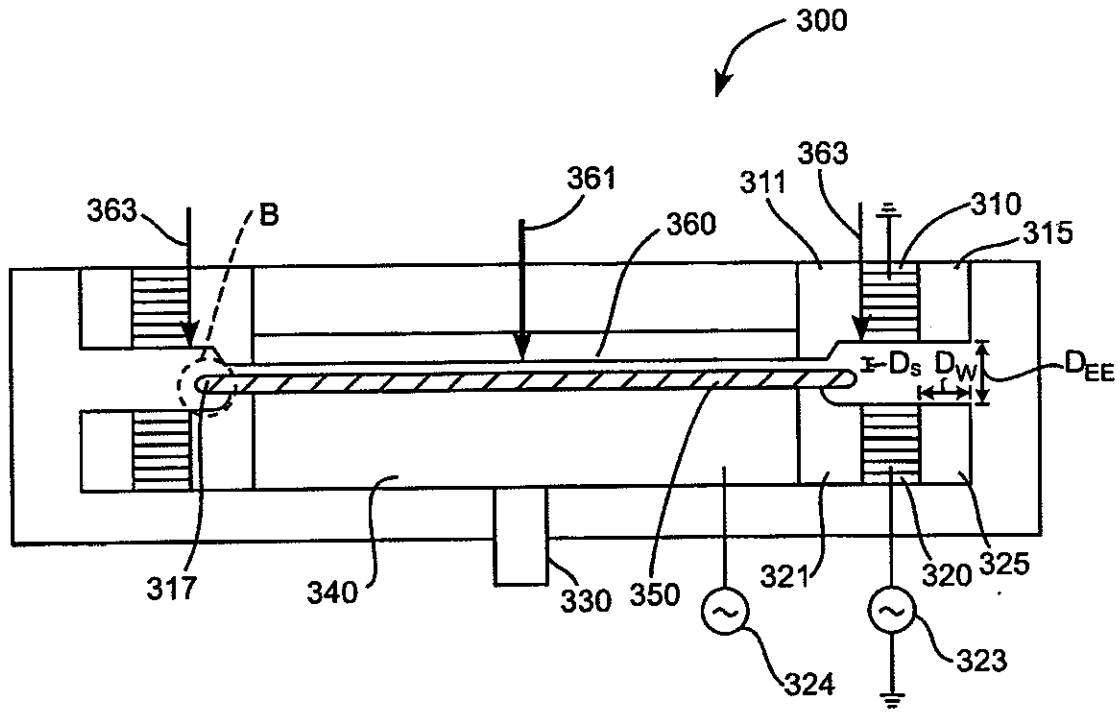

300
363
B
361
360
311
363
310
315
D_S
D_W
D_{EE}
317
340
330
350
321
320
325
324
323

FIG. 3

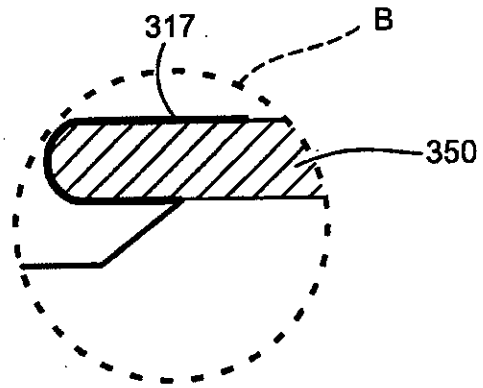

317
B
350

FIG. 3A

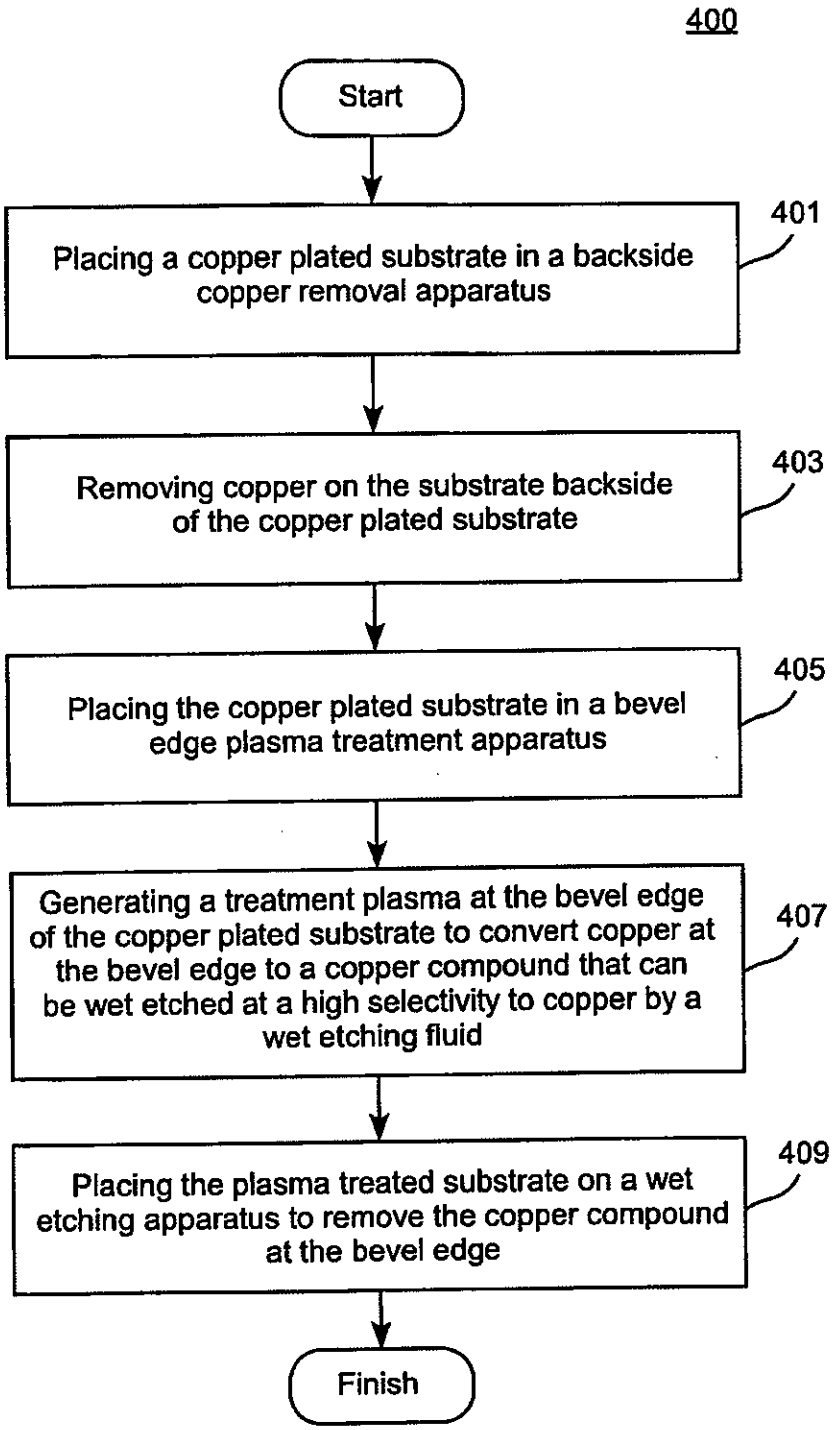

400
Start
Placing a copper plated substrate in a backside copper removal apparatus
401
Removing copper on the substrate backside of the copper plated substrate
403
Placing the copper plated substrate in a bevel edge plasma treatment apparatus
405
Generating a treatment plasma at the bevel edge of the copper plated substrate to convert copper at the bevel edge to a copper compound that can be wet etched at a high selectivity to copper by a wet etching fluid
407
Placing the plasma treated substrate on a wet etching apparatus to remove the copper compound at the bevel edge
409
Finish

FIG. 4A

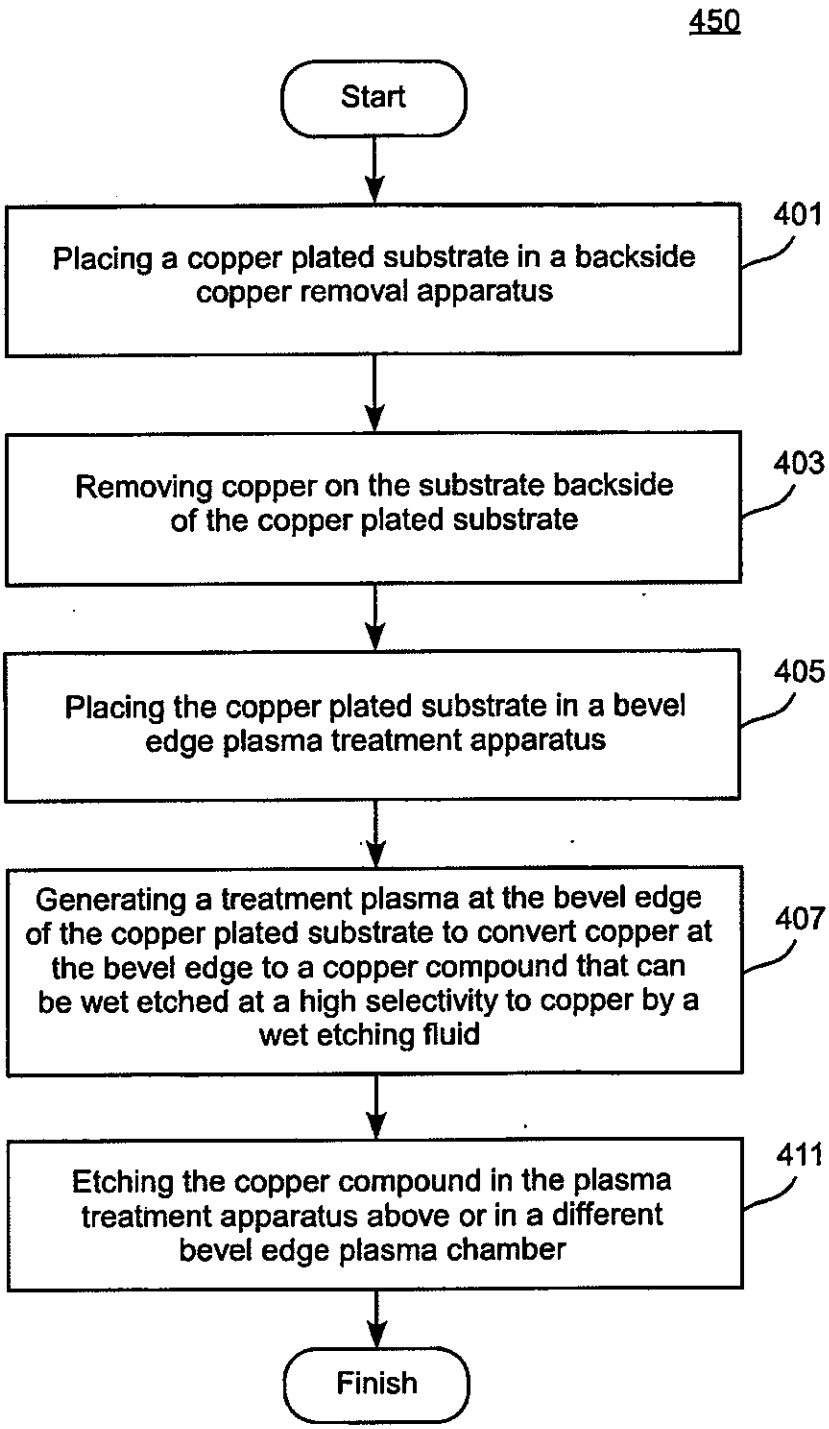

450
Start
Placing a copper plated substrate in a backside copper removal apparatus
401
Removing copper on the substrate backside of the copper plated substrate
403
Placing the copper plated substrate in a bevel edge plasma treatment apparatus
405
Generating a treatment plasma at the bevel edge of the copper plated substrate to convert copper at the bevel edge to a copper compound that can be wet etched at a high selectivity to copper by a wet etching fluid
407
Etching the copper compound in the plasma treatment apparatus above or in a different bevel edge plasma chamber
411
Finish

FIG. 4B