

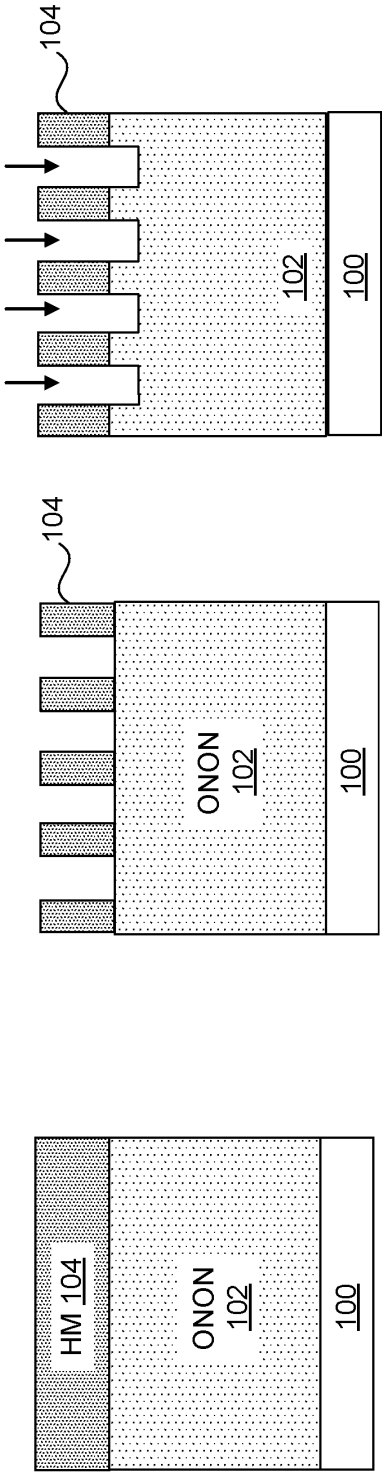


FIG. 1C

FIG. 1B

FIG. 1A

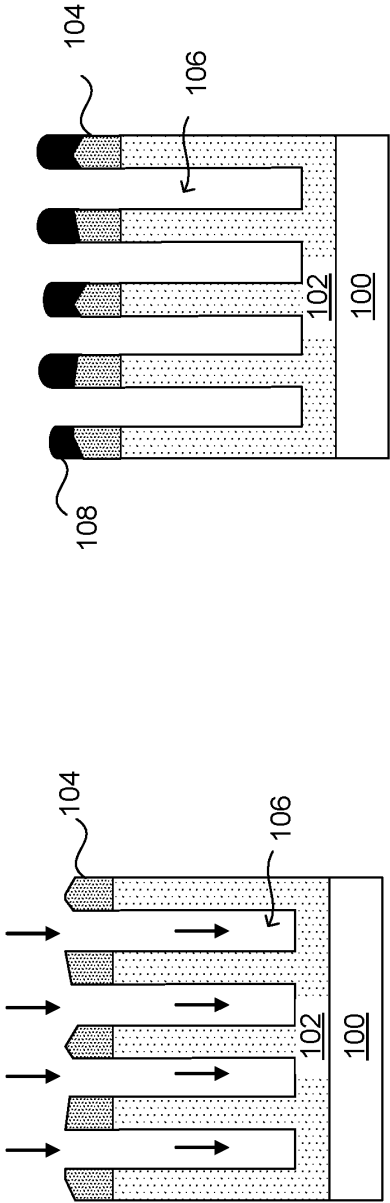


FIG. 1E

FIG. 1D

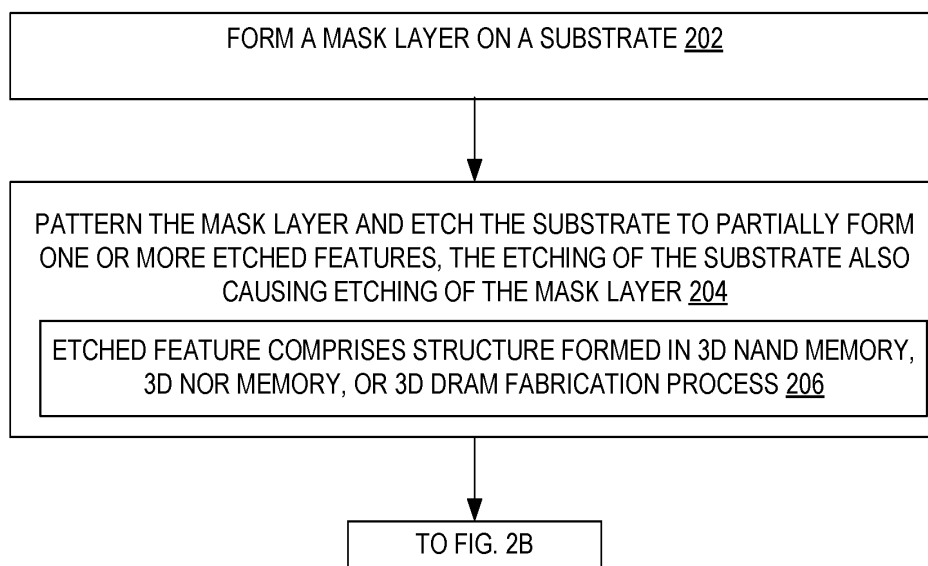
200 

FIG. 2A

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200

FROM FIG. 2A

AFTER ETCHING A PORTION OF THE ONE OR MORE ETCHED FEATURES AND PARTIALLY ETCHING THE MASK LAYER, DEPOSIT, BY PECVD, A CARBON MASK OVER THE MASK LAYER WITHOUT THE USE OF A PATTERNING STEP 208

FORM A PLASMA COMPRISING A CARBON-CONTAINING GAS AND AN INERT GAS 210

CARBON-CONTAINING GAS COMPRISES ONE OR MORE OF AN ALKANE, AN ALKENE, OR AN ALKYNE 212

CARBON-CONTAINING GAS COMPRISES ACETYLENE 214

CARBON-CONTAINING GAS COMPRISES ONE OR MORE OF A CYCLIC HYDROCARBON, AN AROMATIC, AN ALCOHOL, AN ALDEHYDE, AN ESTER, AN ETHER, A KETONE, AN ALKYL HALIDE, AN ALKYL AMINE, OR AN ALKYL DIAMINE 216

INERT GAS COMPRISES ARGON 218

FORM A PLASMA COMPRISING A HIGHER FREQUENCY RF ENERGY COMPONENT WITH A FREQUENCY OF 2MHZ OR GREATER, AND A LOWER FREQUENCY RF ENERGY COMPONENT WITH A FREQUENCY OF LESS THAN 2MHZ 220

PLASMA FURTHER COMPRISES A HYDROGEN SOURCE 222

MOLECULAR HYDROGEN 224

AMMONIA 226

PLASMA FURTHER COMPRISES NITROGEN 227

HEAT THE SUBSTRATE TO A TEMPERATURE WITHIN A RANGE OF 100 TO 690 DEGREES CELSIUS 228

MAINTAIN A PRESSURE WITHIN A RANGE OF 1-20 TORR WHILE DEPOSITING THE CARBON MASK 230

DEPOSIT THE CARBON MASK IN A SINGLE STEP 232

FIG. 2B

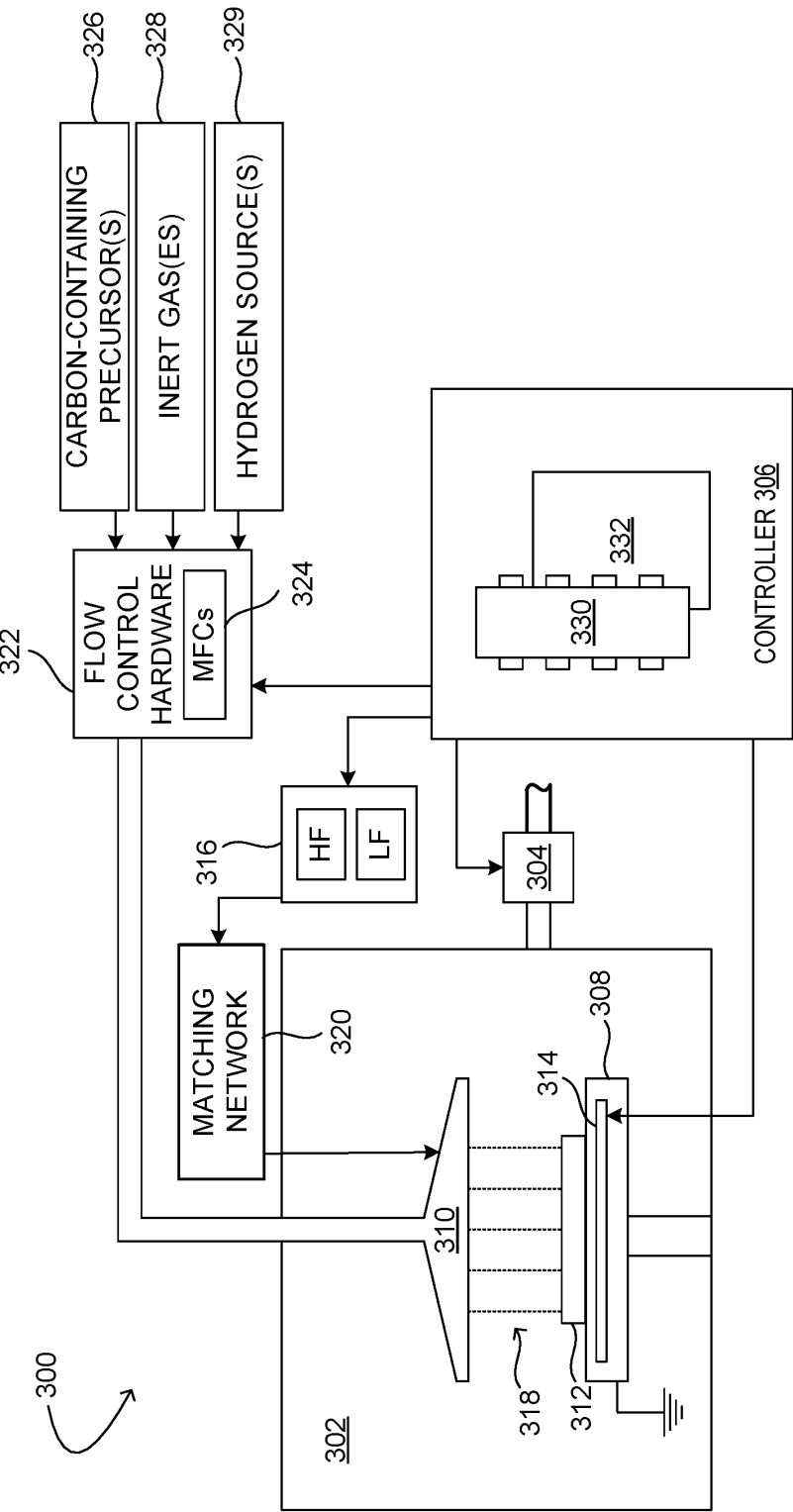


FIG. 3

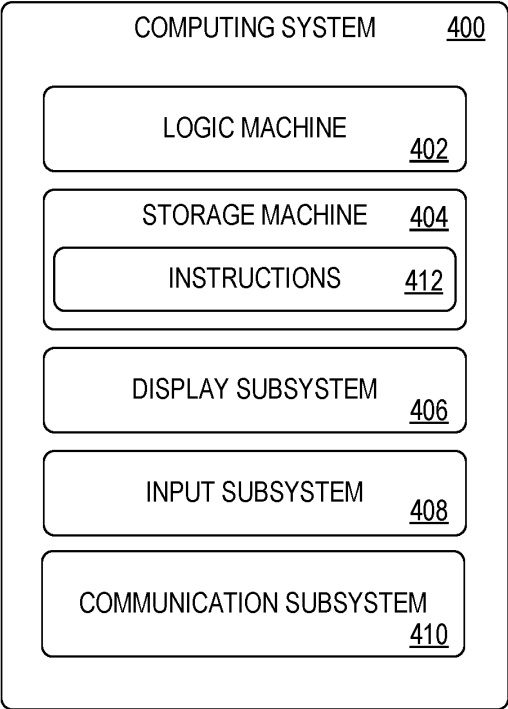


FIG. 4