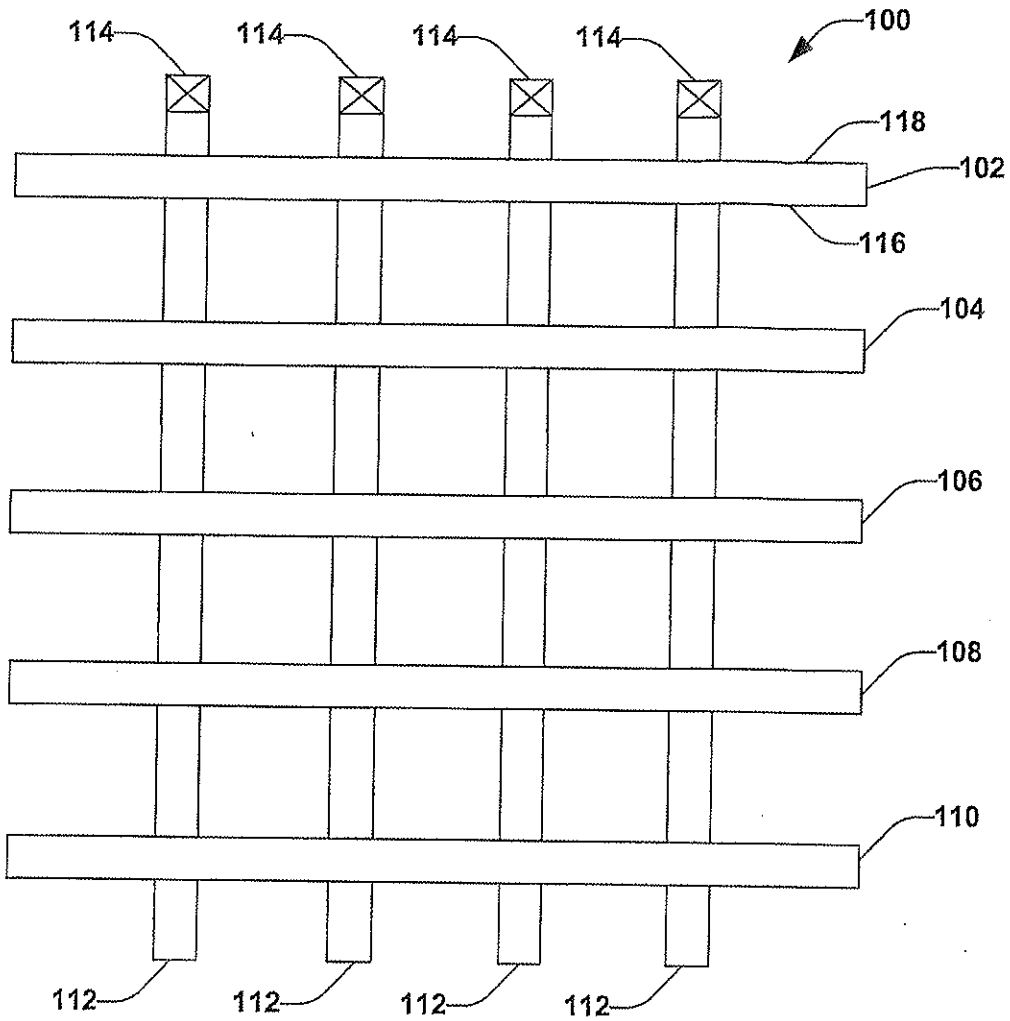


FIG. 1

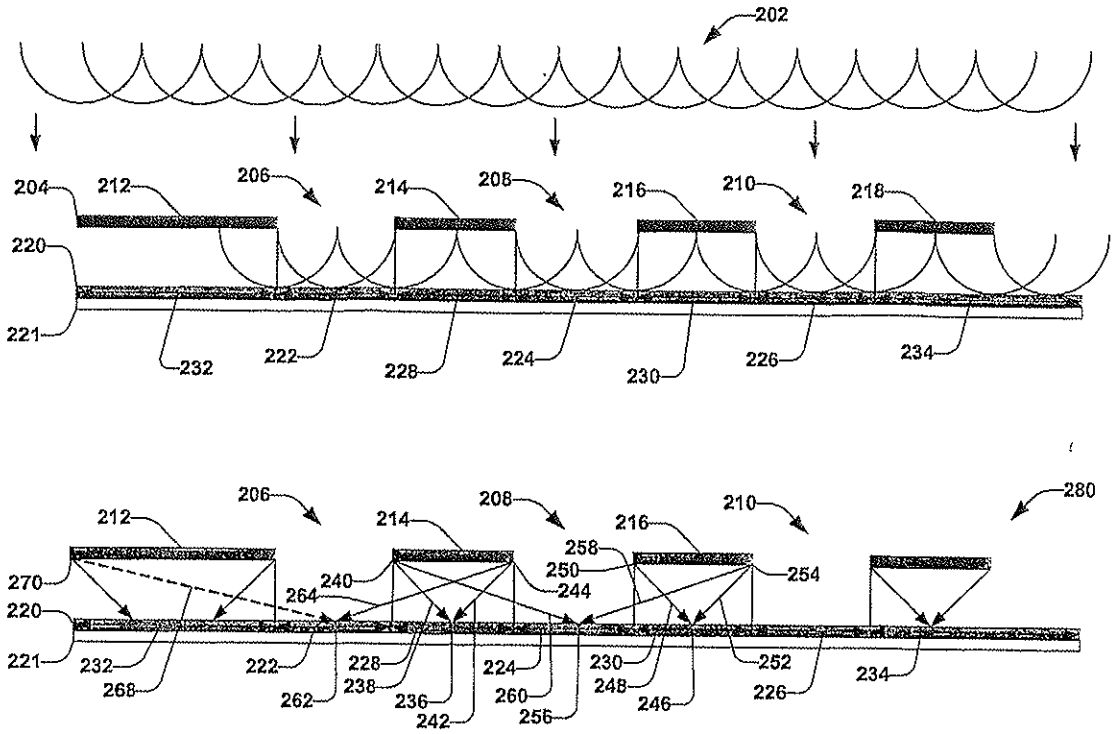

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FIG. 2

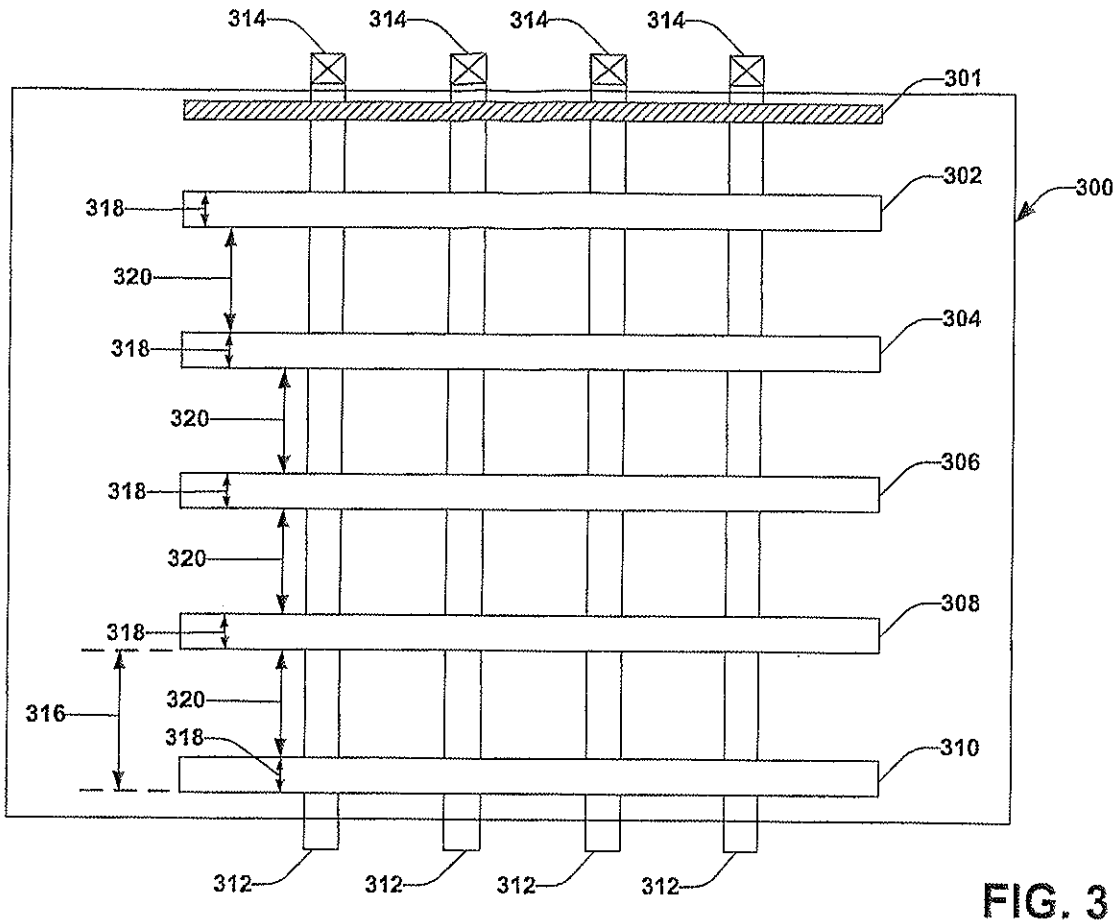

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FIG. 3

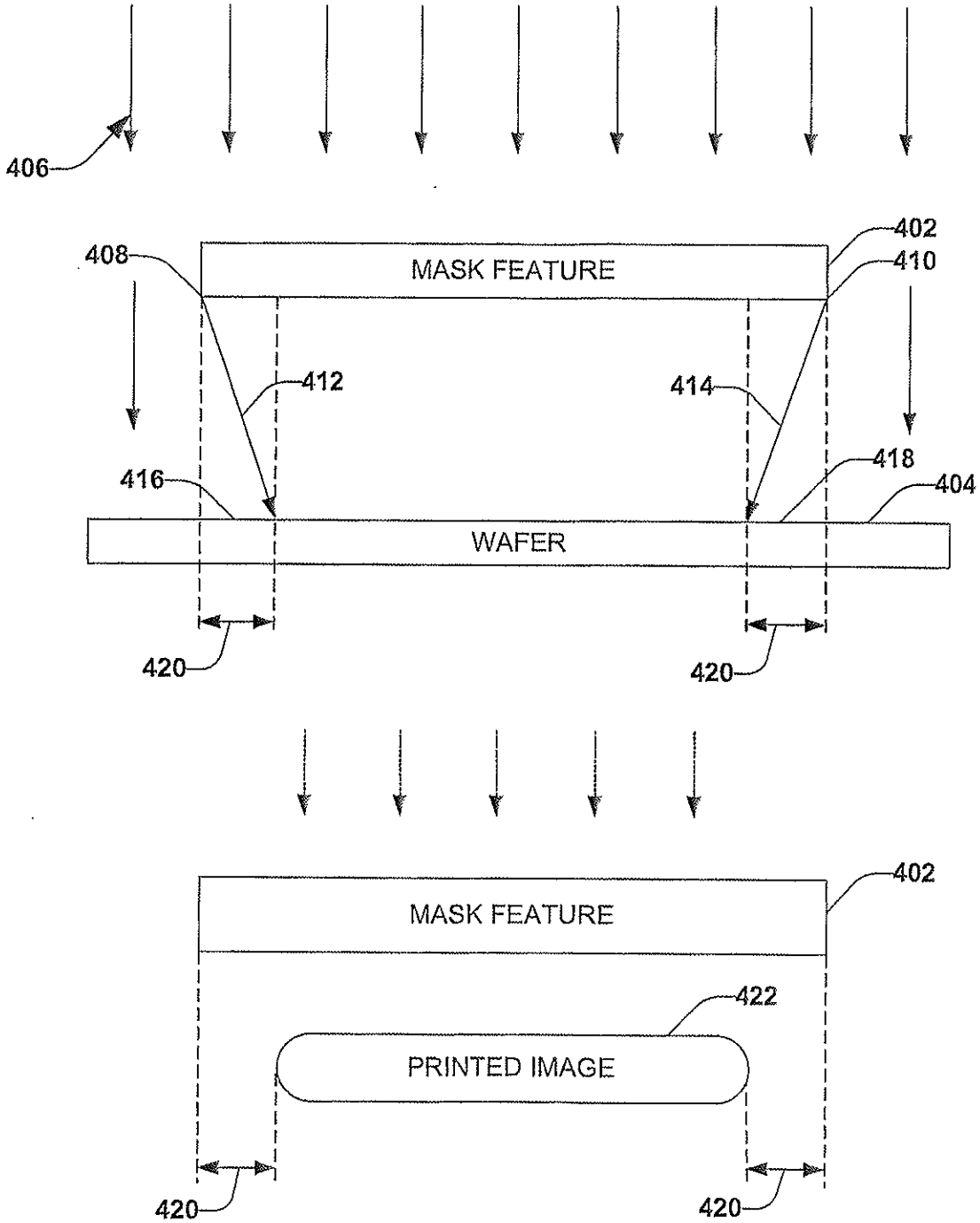

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MASK FEATURE
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WAFER
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MASK FEATURE
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422
PRINTED IMAGE
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FIG. 4

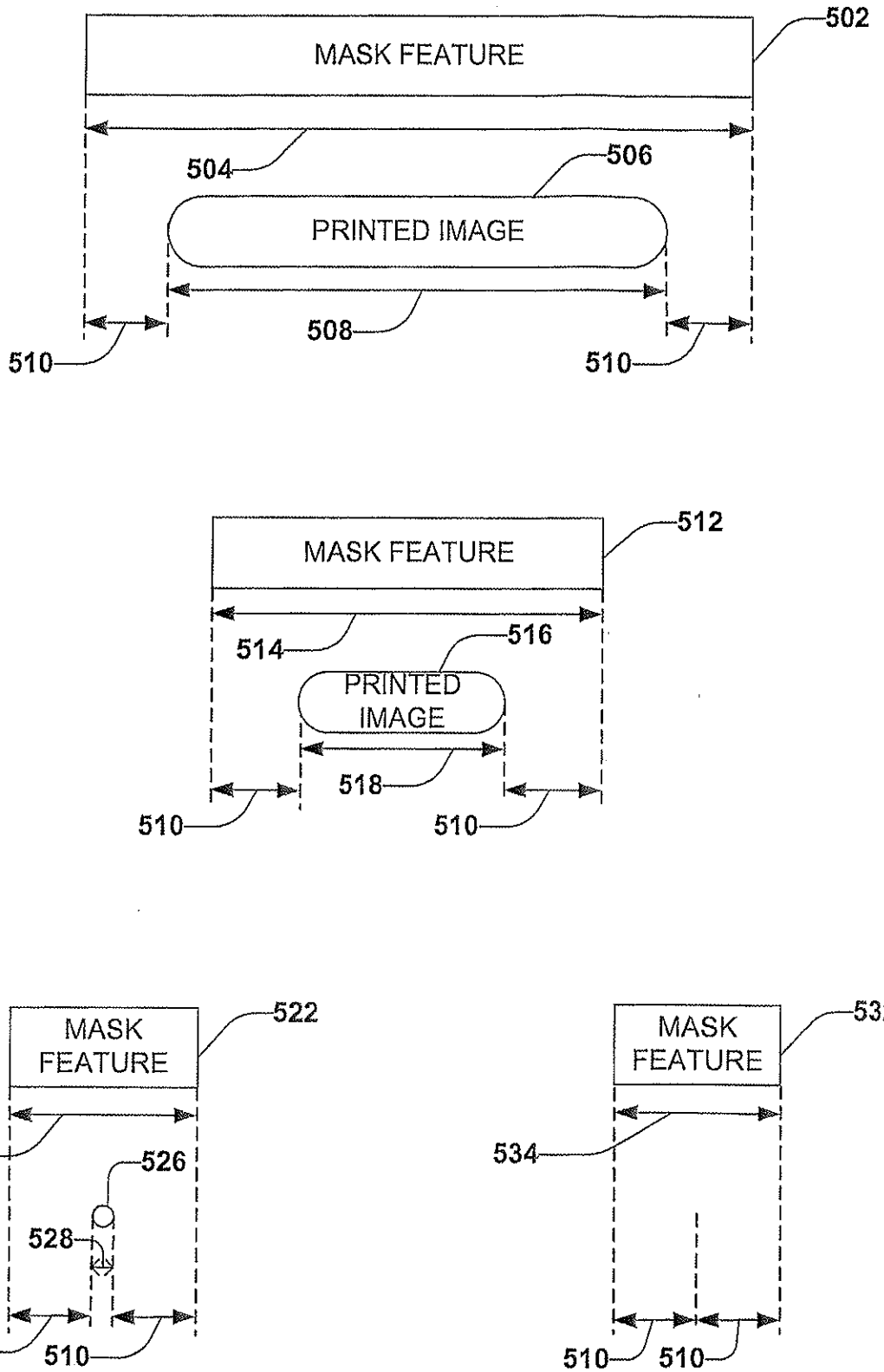

MASK FEATURE
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MASK FEATURE
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FIG. 5

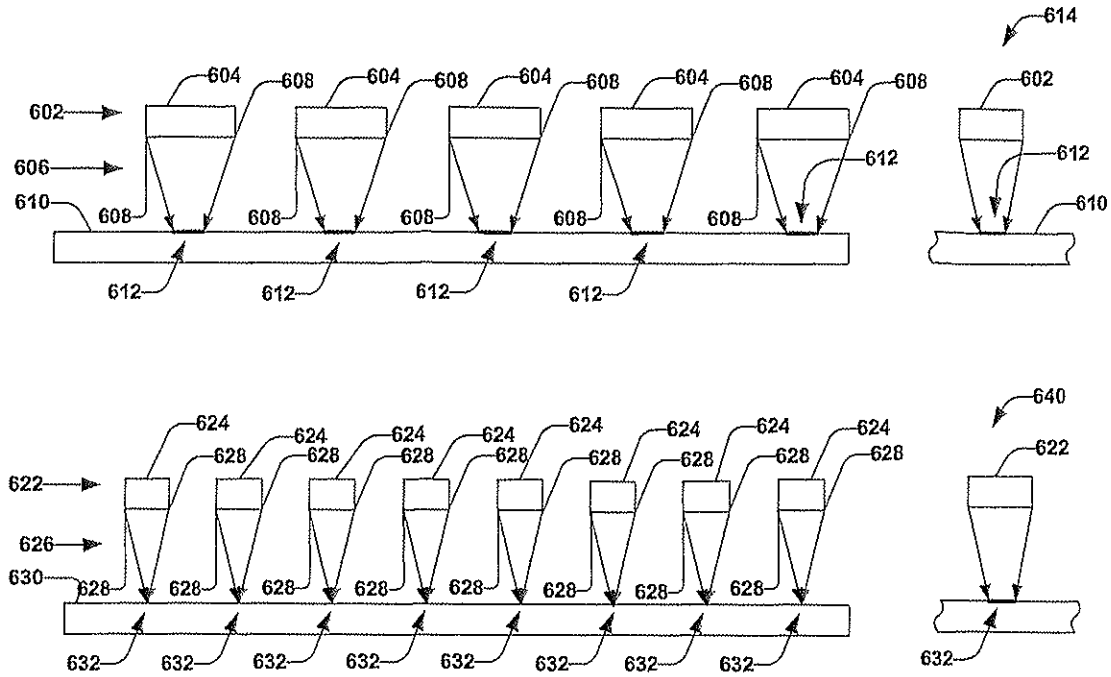


FIG. 6

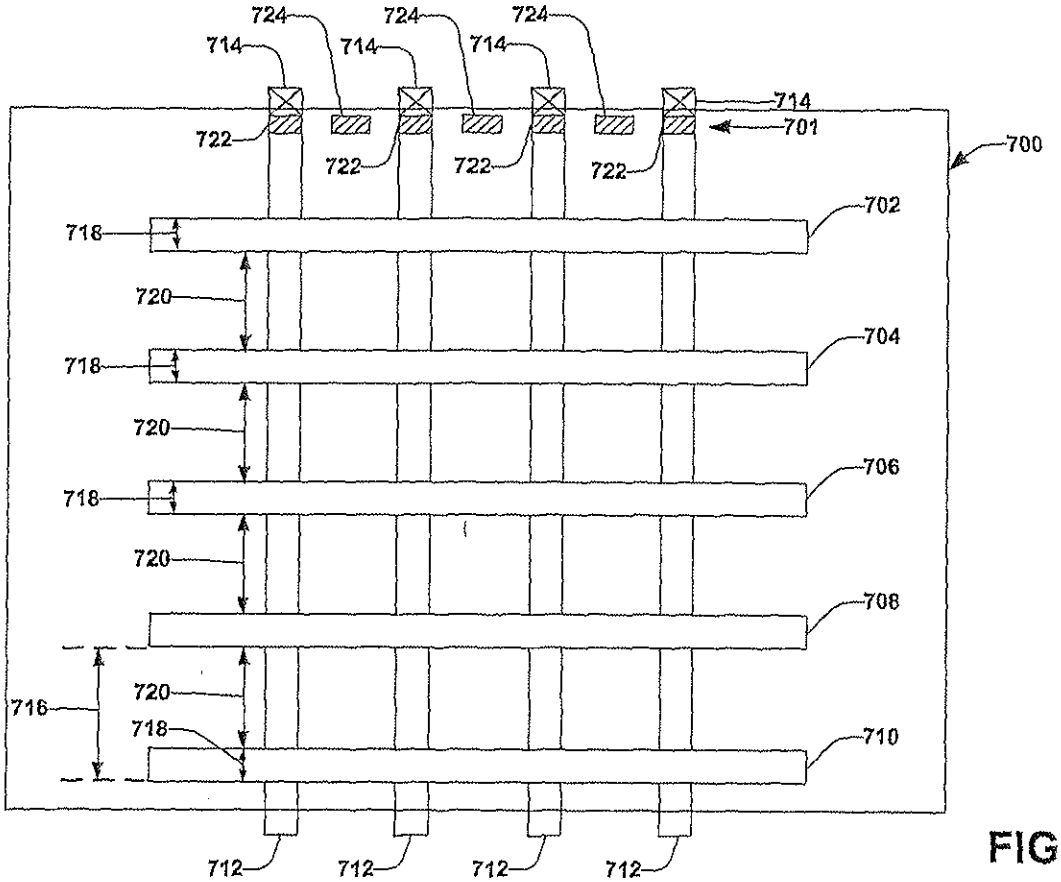

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FIG. 7

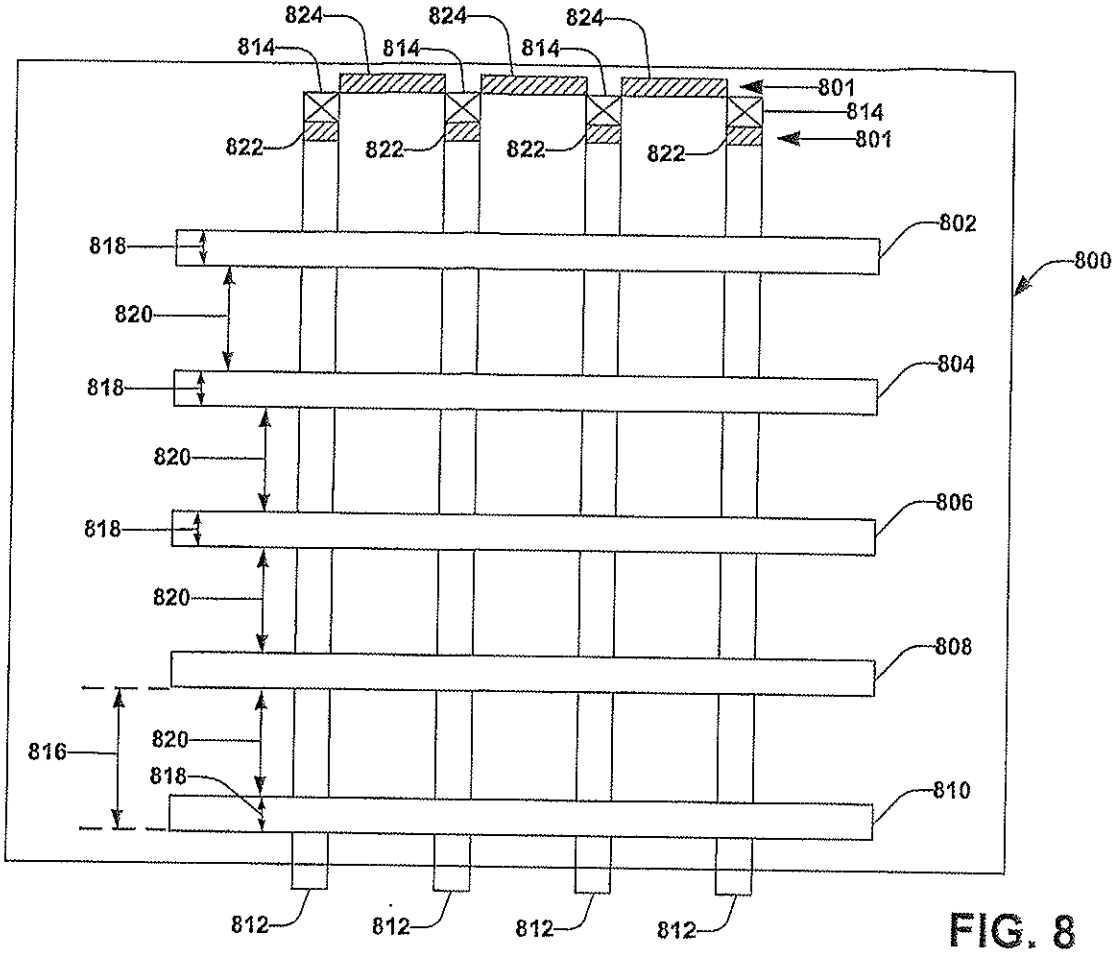

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FIG. 8

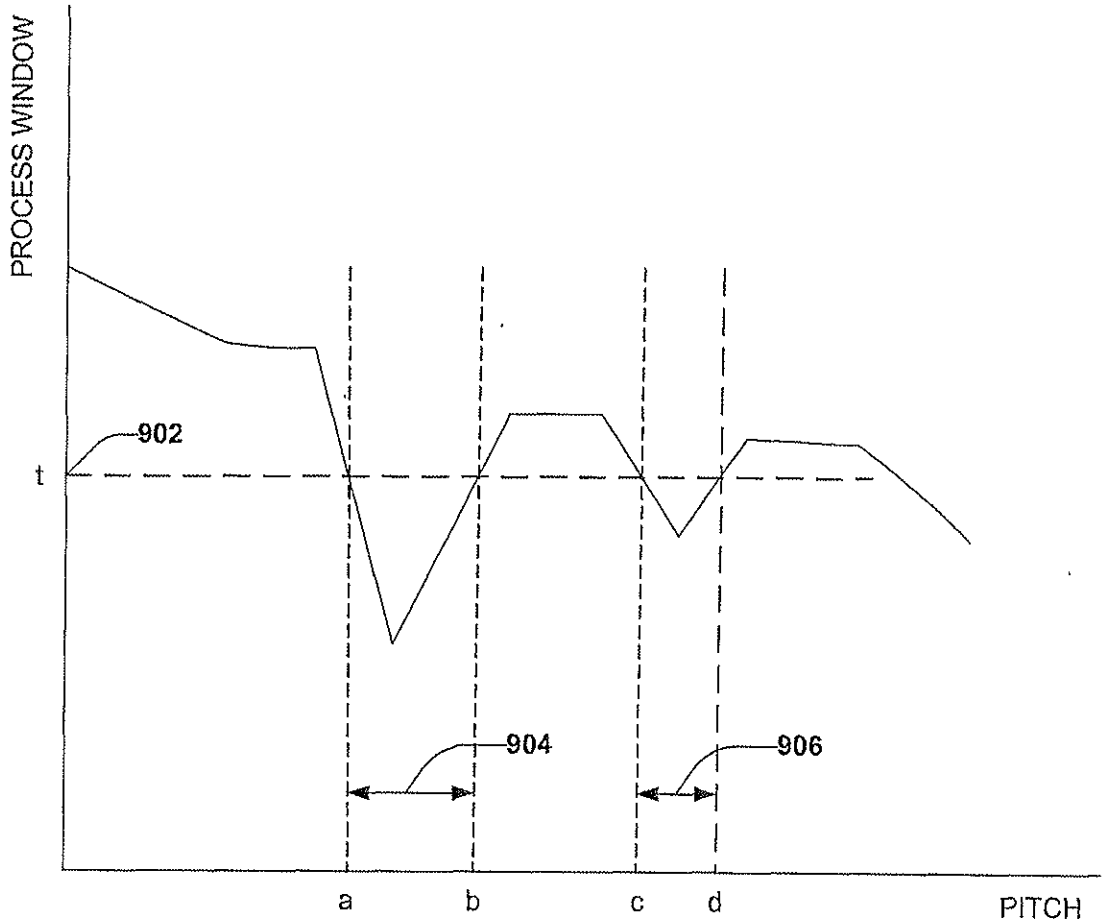


FIG. 9

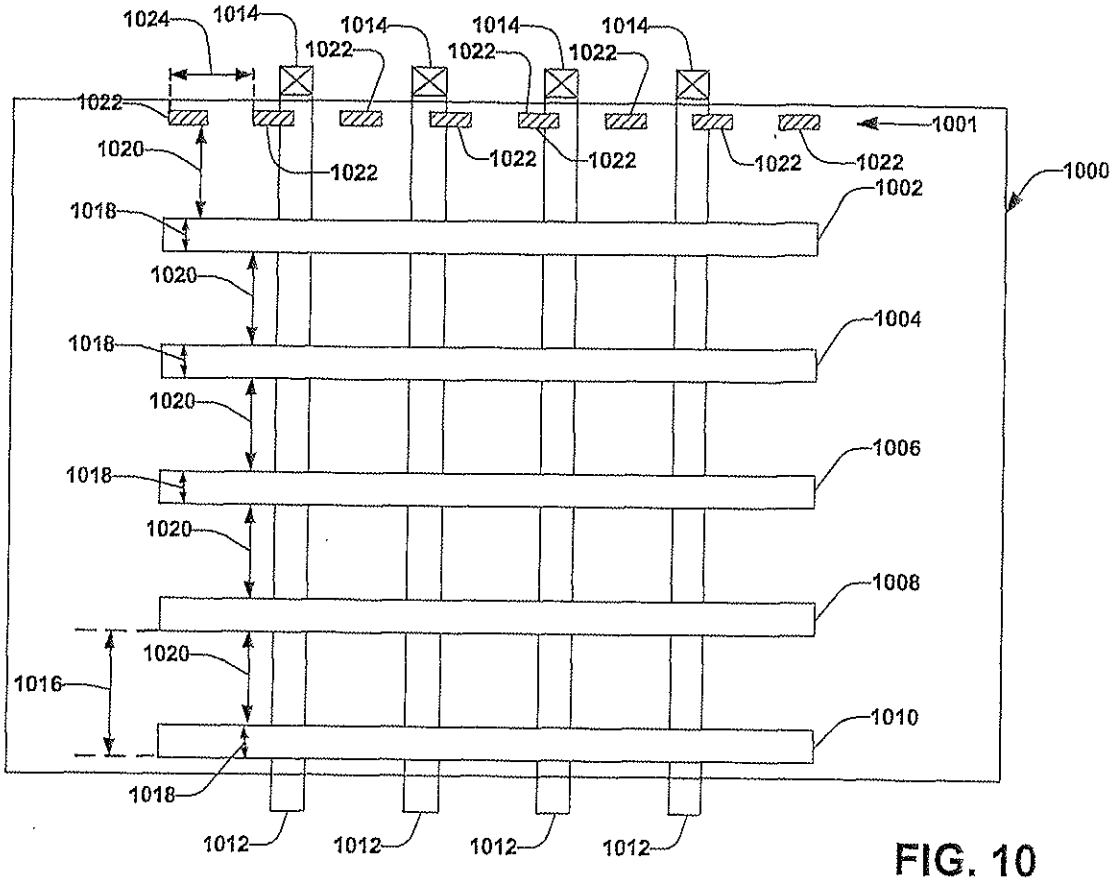

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FIG. 10

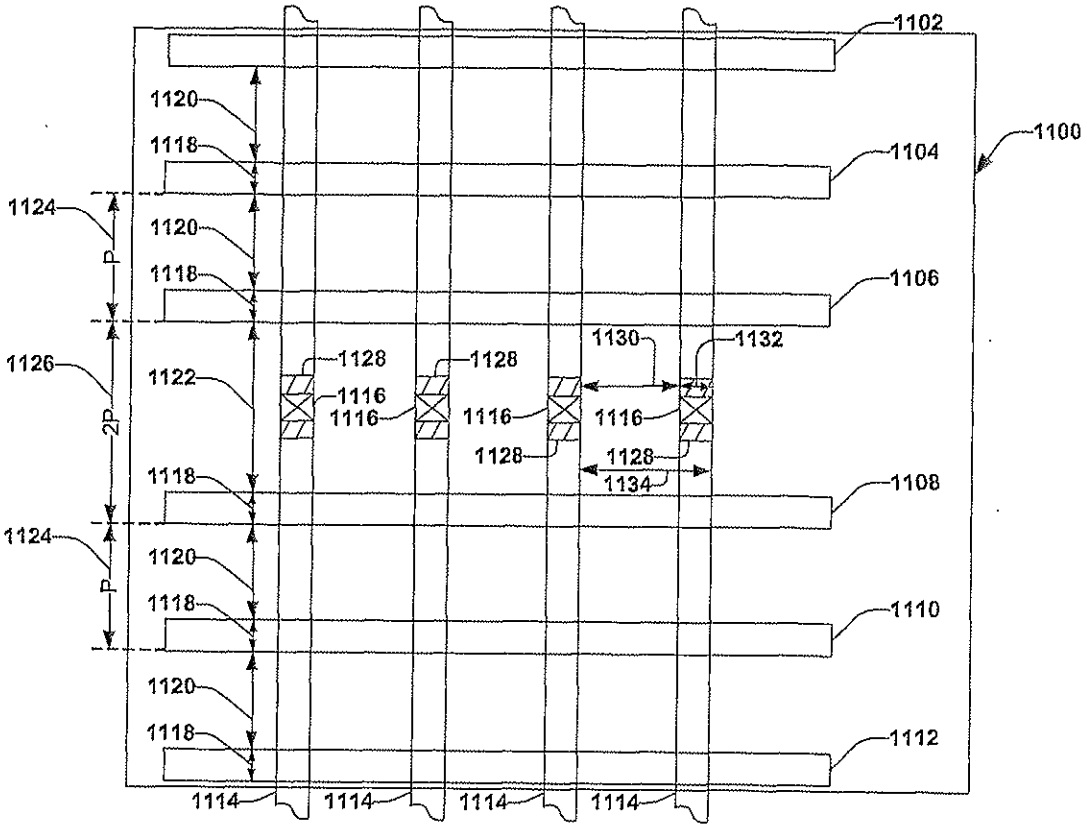

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FIG. 11

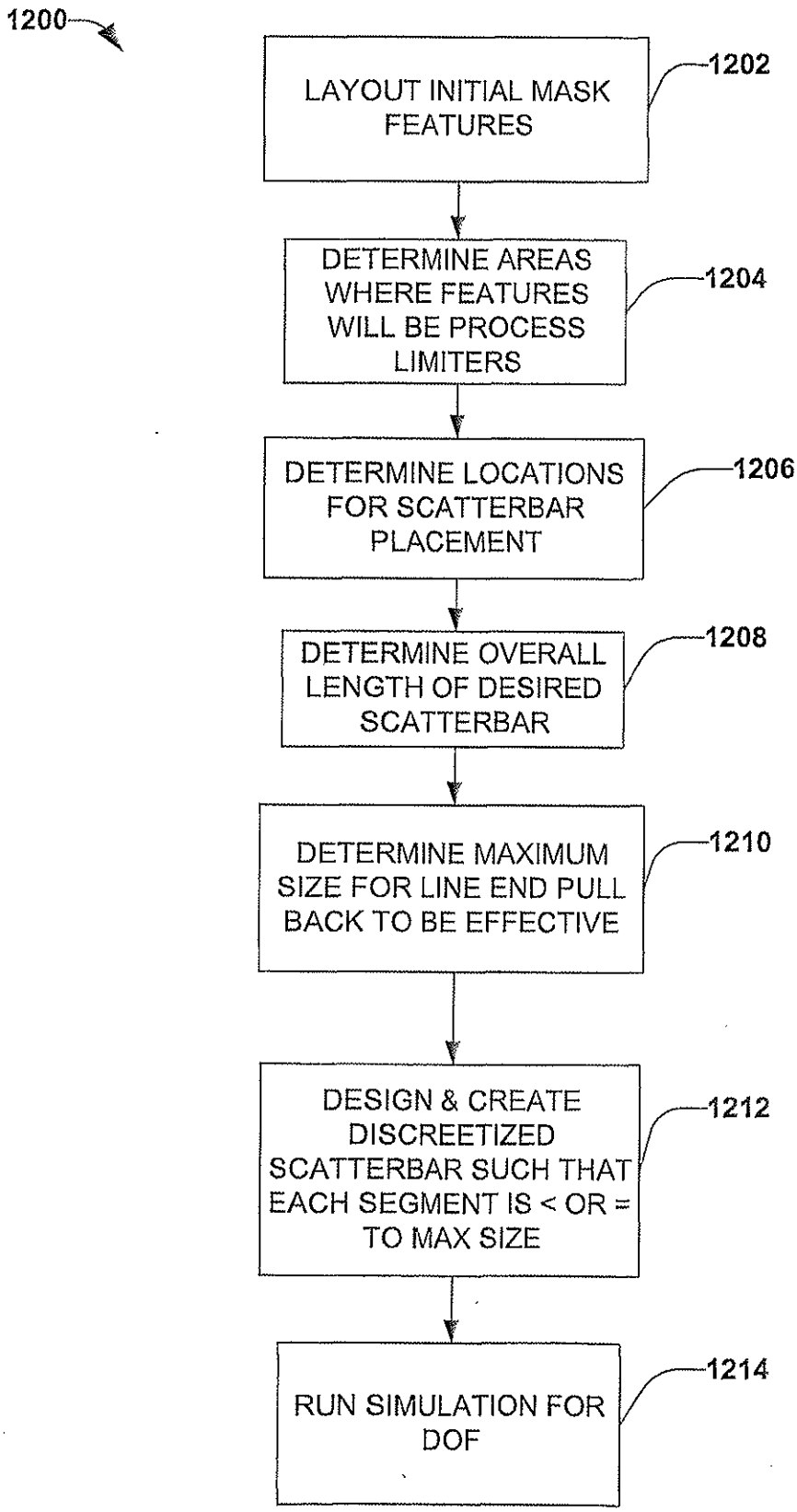

1200
LAYOUT INITIAL MASK FEATURES
1202
DETERMINE AREAS WHERE FEATURES WILL BE PROCESS LIMITERS
1204
DETERMINE LOCATIONS FOR SCATTERBAR PLACEMENT
1206
DETERMINE OVERALL LENGTH OF DESIRED SCATTERBAR
1208
DETERMINE MAXIMUM SIZE FOR LINE END PULL BACK TO BE EFFECTIVE
1210
DESIGN & CREATE DISCREETIZED SCATTERBAR SUCH THAT EACH SEGMENT IS < OR = TO MAX SIZE
1212
RUN SIMULATION FOR DOF
1214

FIG. 12

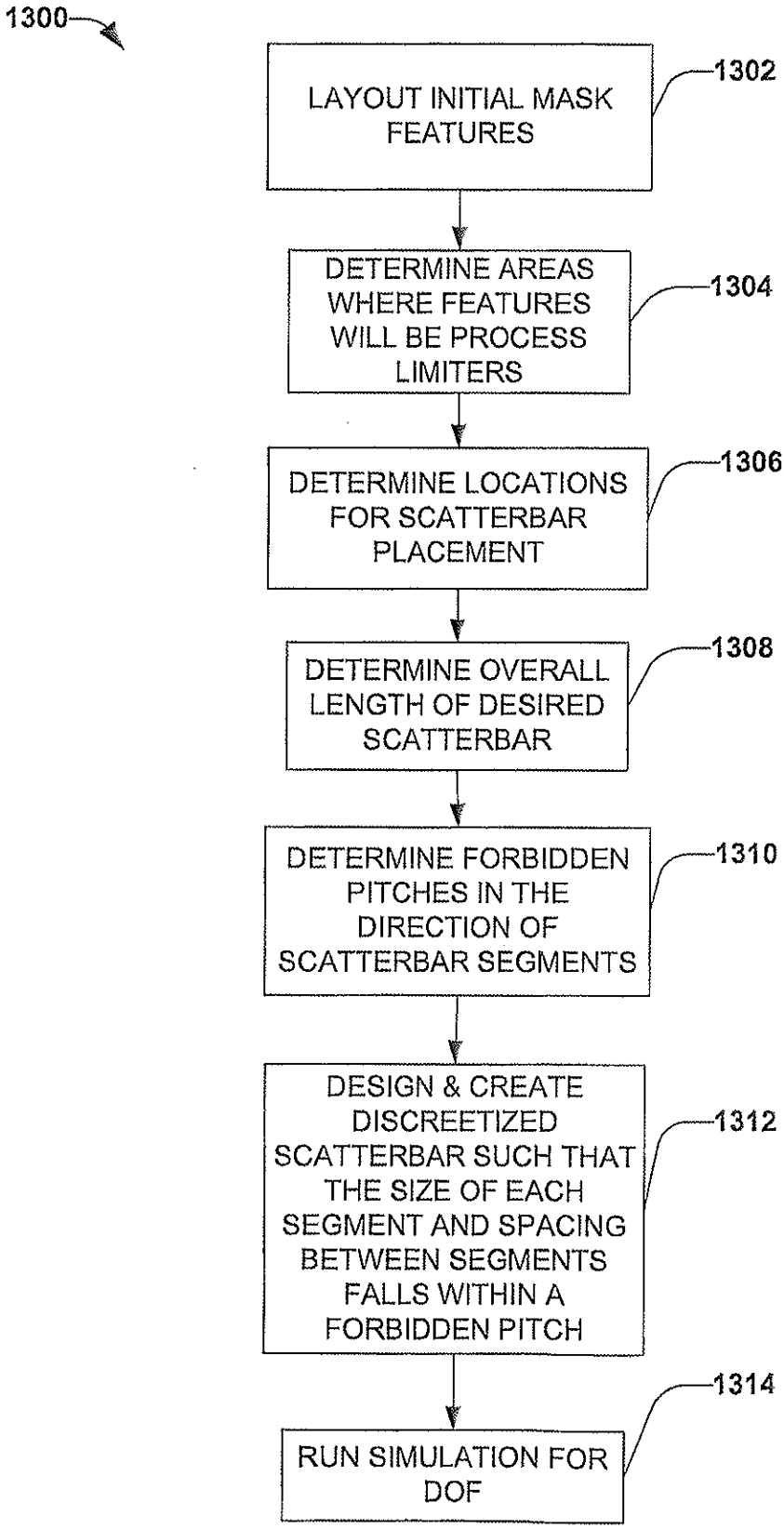

1300
LAYOUT INITIAL MASK FEATURES
1302
DETERMINE AREAS WHERE FEATURES WILL BE PROCESS LIMITERS
1304
DETERMINE LOCATIONS FOR SCATTERBAR PLACEMENT
1306
DETERMINE OVERALL LENGTH OF DESIRED SCATTERBAR
1308
DETERMINE FORBIDDEN PITCHES IN THE DIRECTION OF SCATTERBAR SEGMENTS
1310
DESIGN & CREATE DISCREETIZED SCATTERBAR SUCH THAT THE SIZE OF EACH SEGMENT AND SPACING BETWEEN SEGMENTS FALLS WITHIN A FORBIDDEN PITCH
1312
RUN SIMULATION FOR DOF
1314

FIG. 13