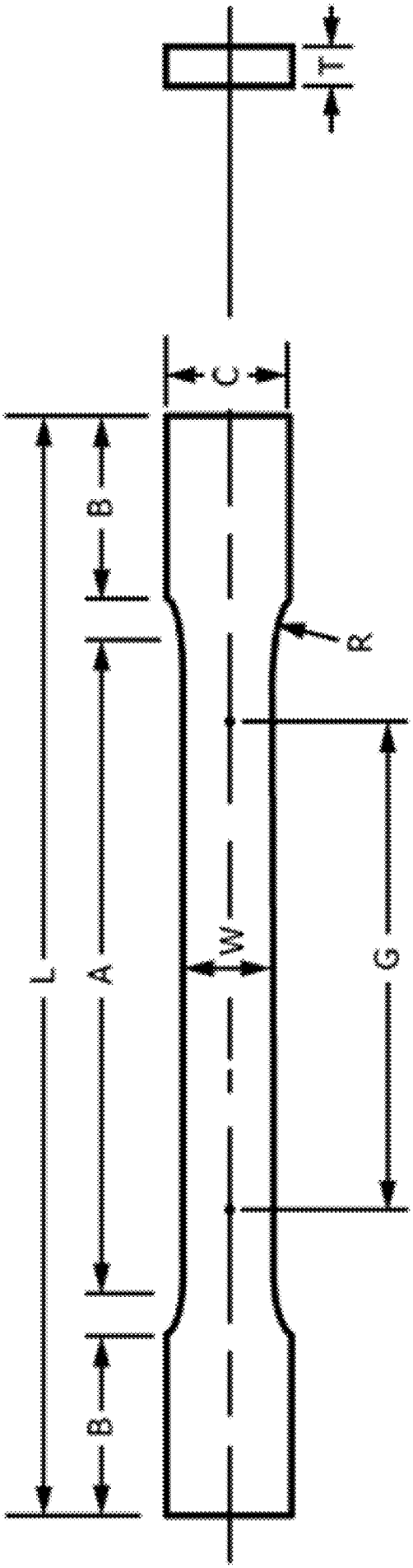


Fig. 1

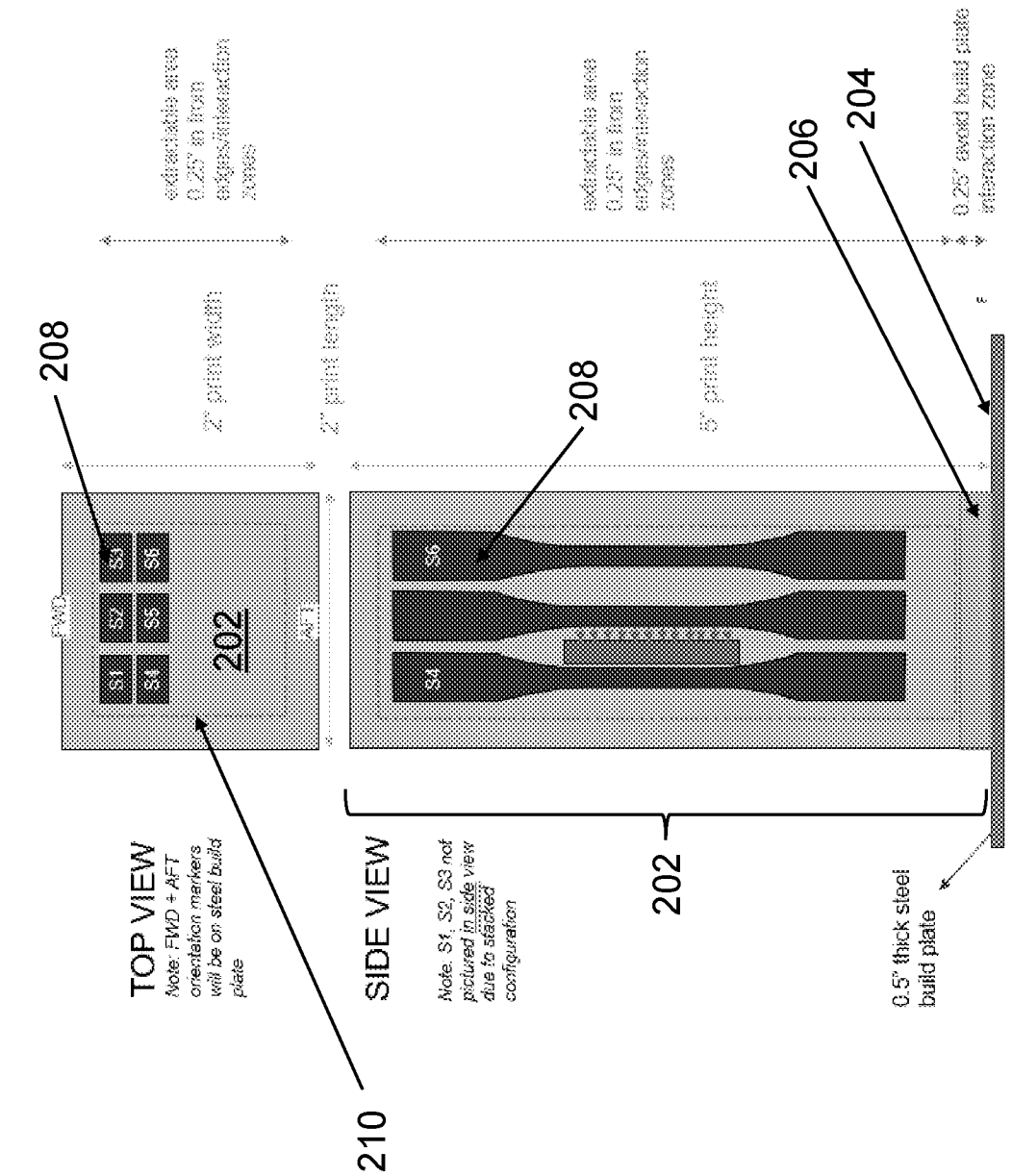

TOP VIEW
Note: FWD + AFT orientation markers will be on steel build plate
FWD
AFT
S1
S2
S3
S4
S5
S6
S7
202
208
210
2" print width
2" print length
adjacent to area 0.25" in from edges/interaction zones
SIDE VIEW
Note: S1, S2, S3 not pictured in side view due to stacked configuration
6" print height
0.25" avoid build plate interaction zone
206
204
0.5" thick steel build plate

Fig. 2

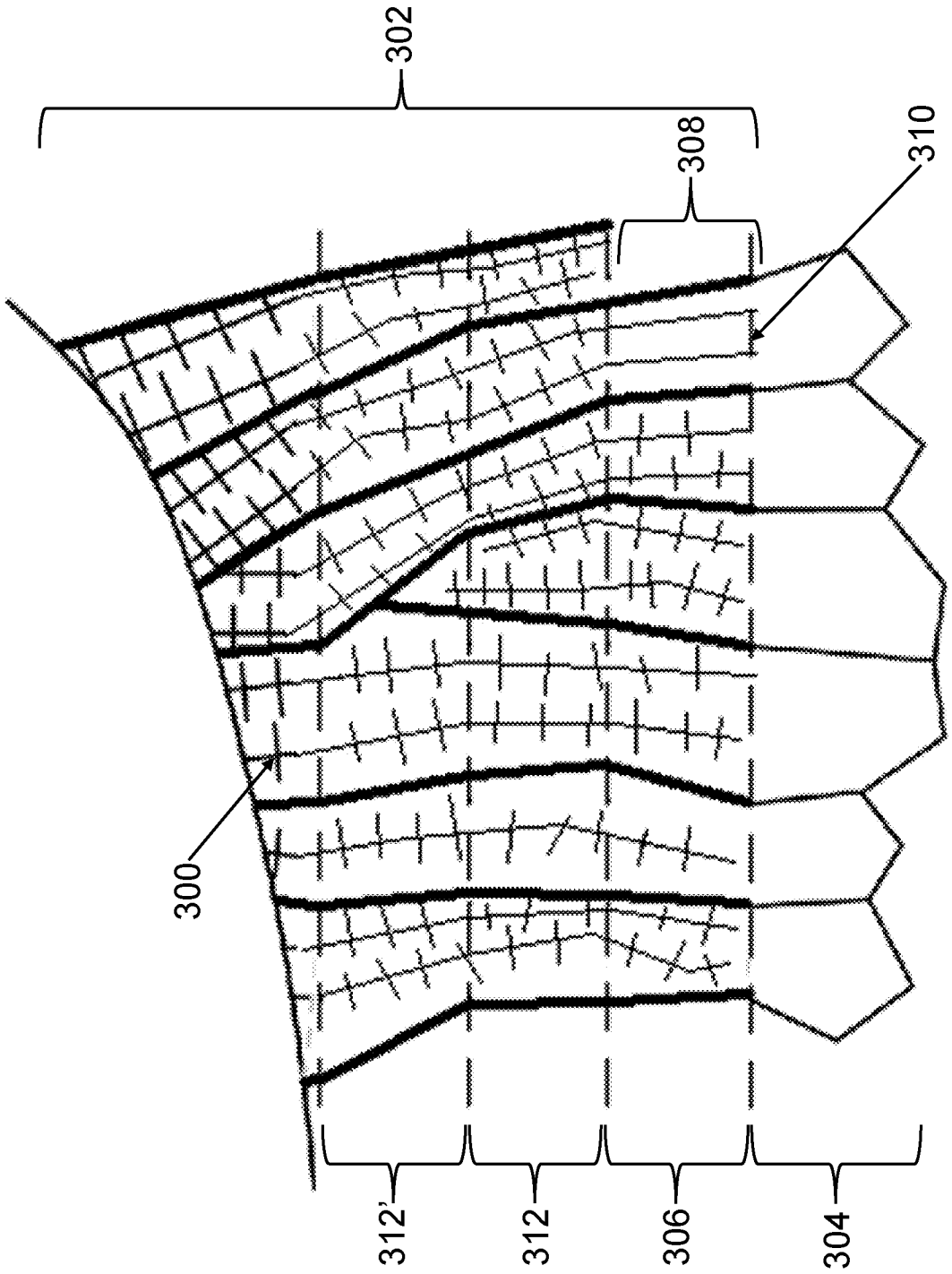


Fig. 3

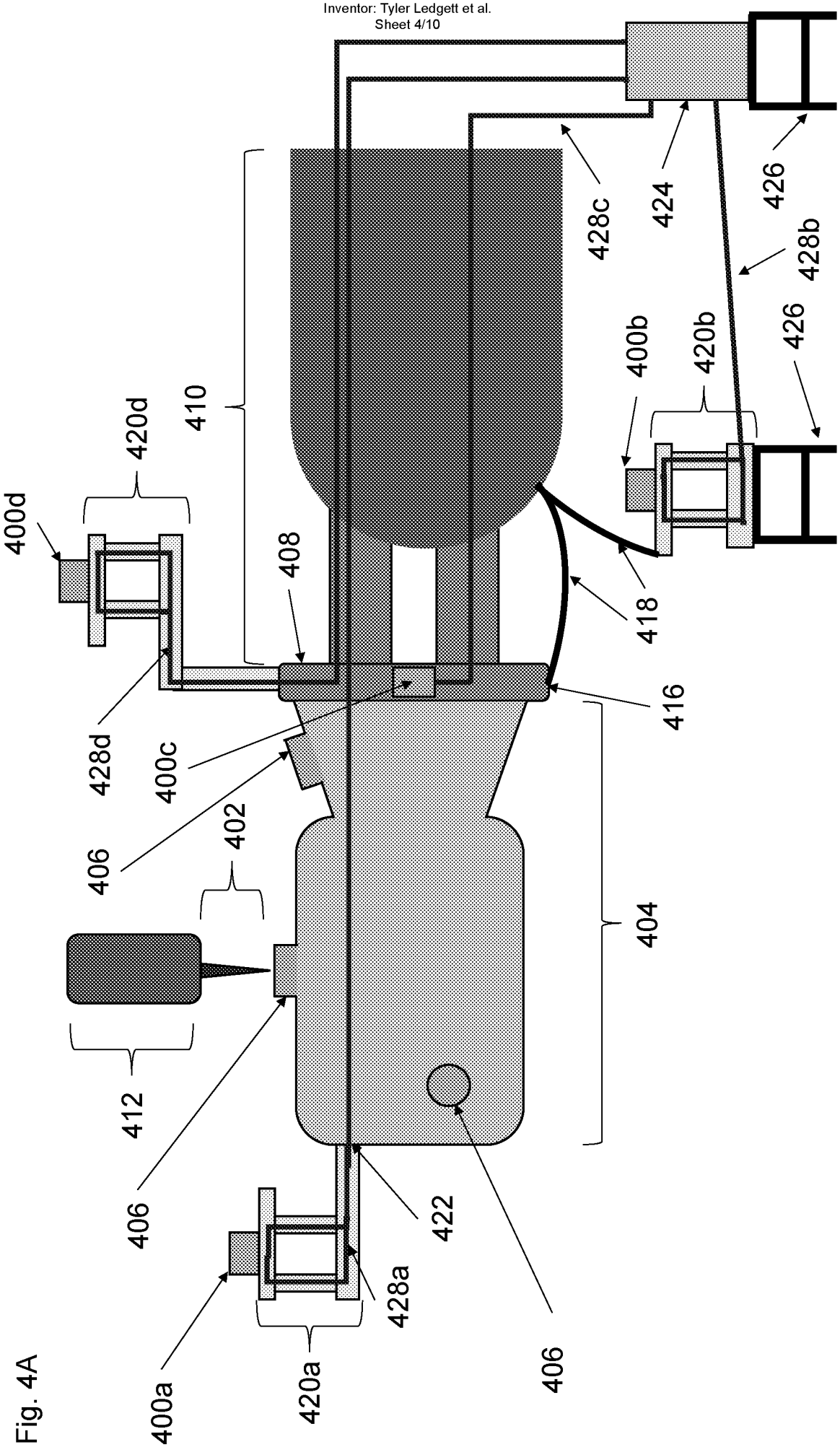

400a
420a
428a
406
422
406
412
402
406
404
400c
428d
416
418
408
400d
420d
410
400b
420b
426
428b
424
428c
426

Fig. 4A

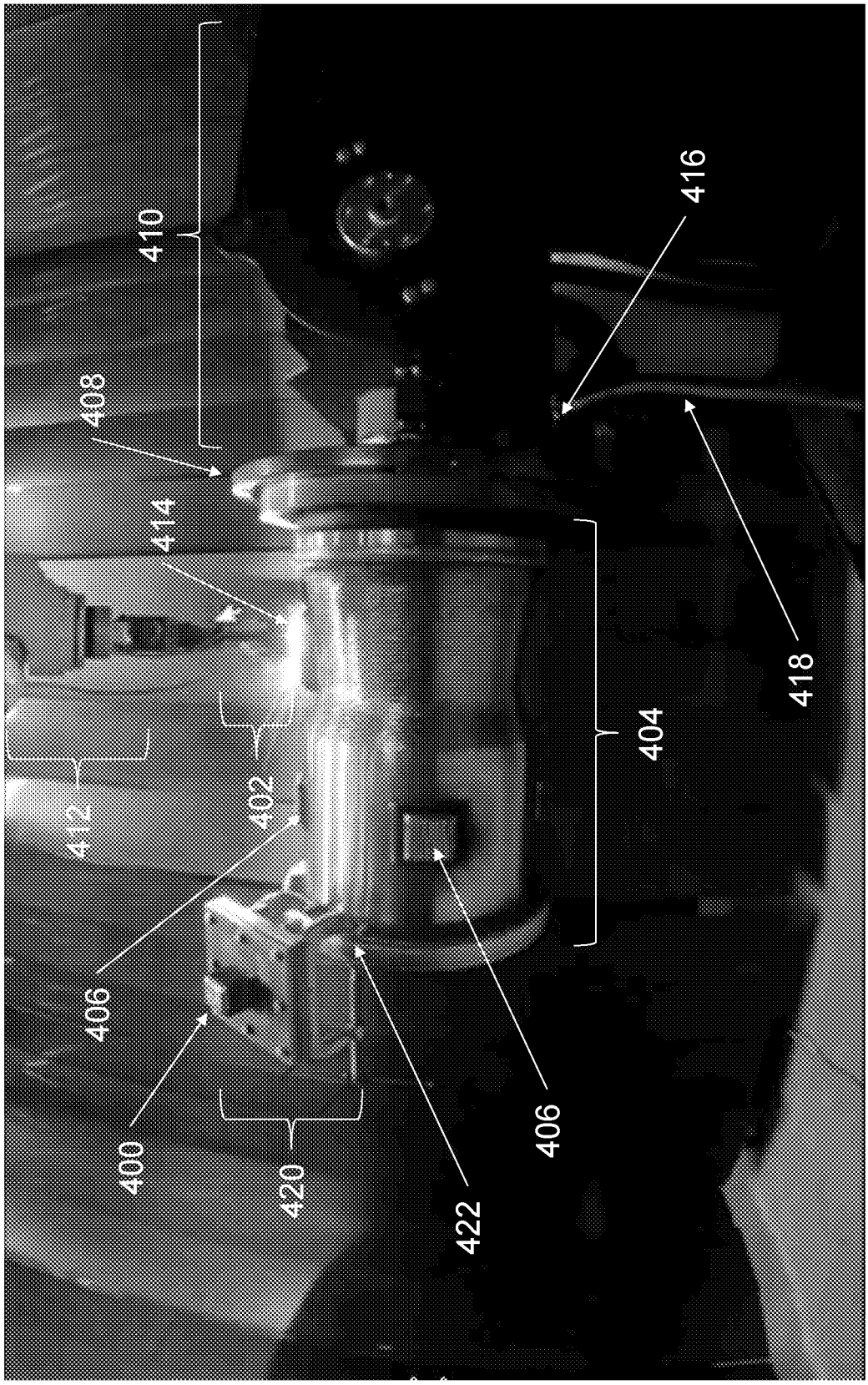


Fig. 4B

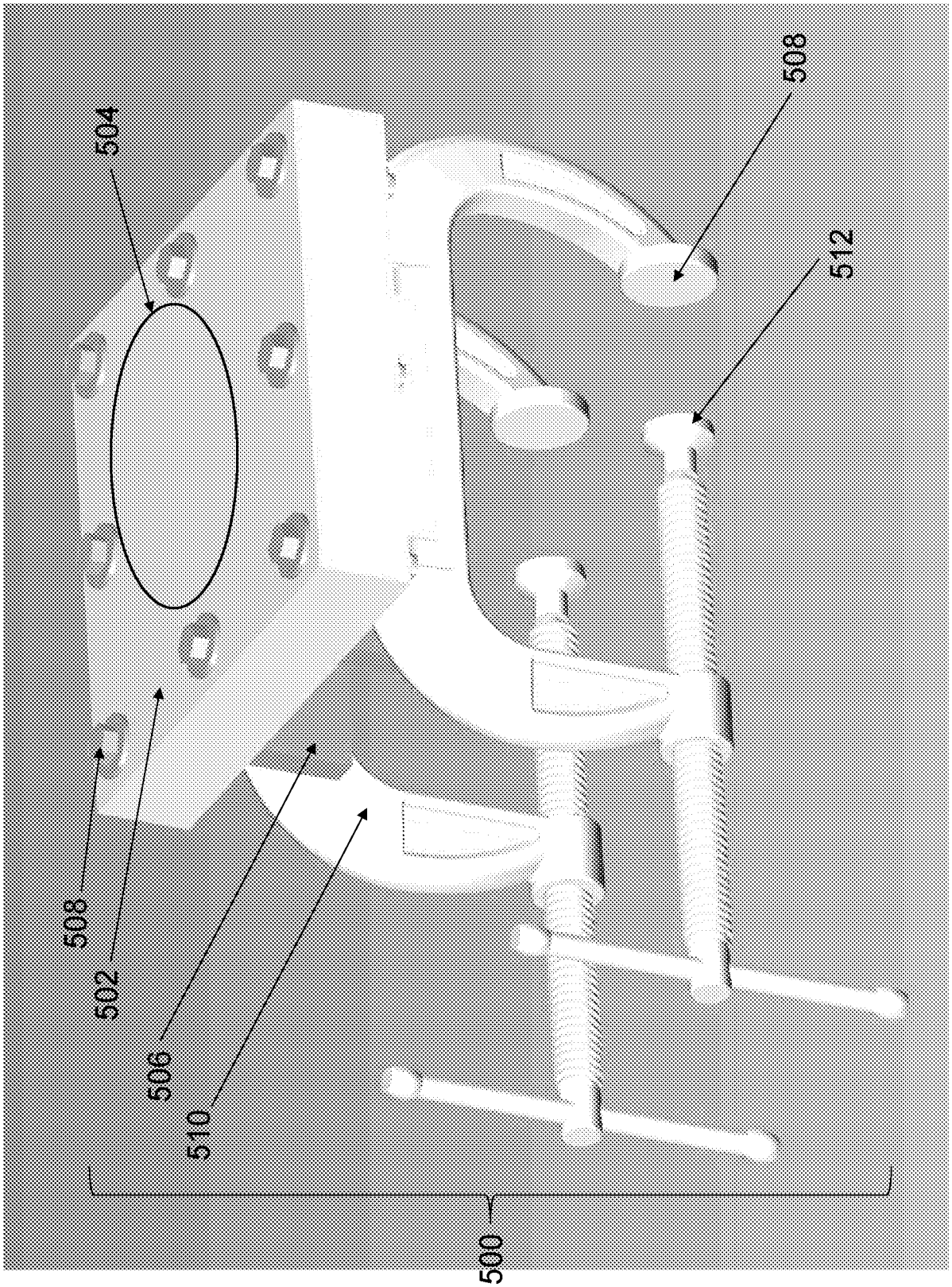


Fig. 5A

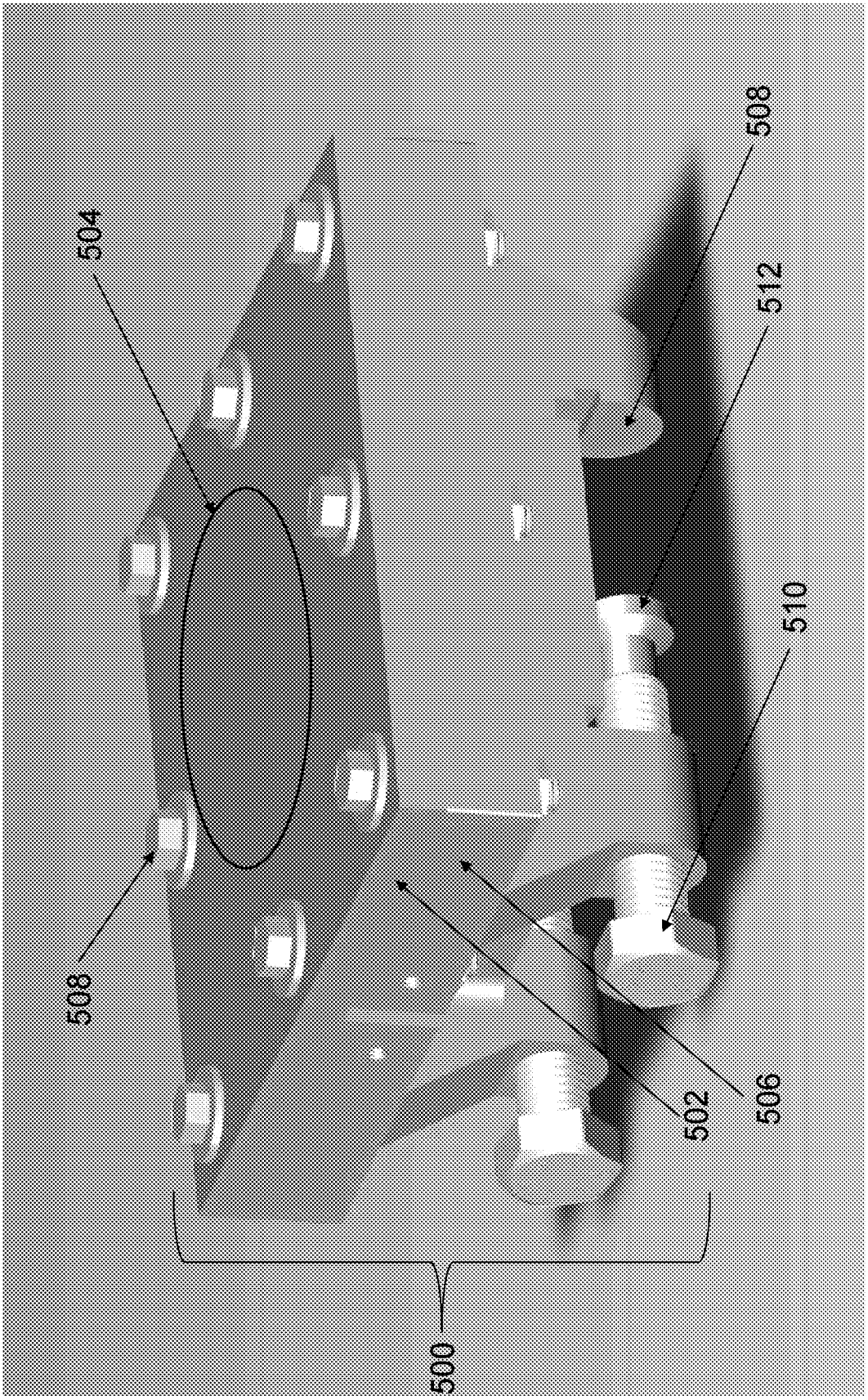


Fig. 5B

Fig. 6

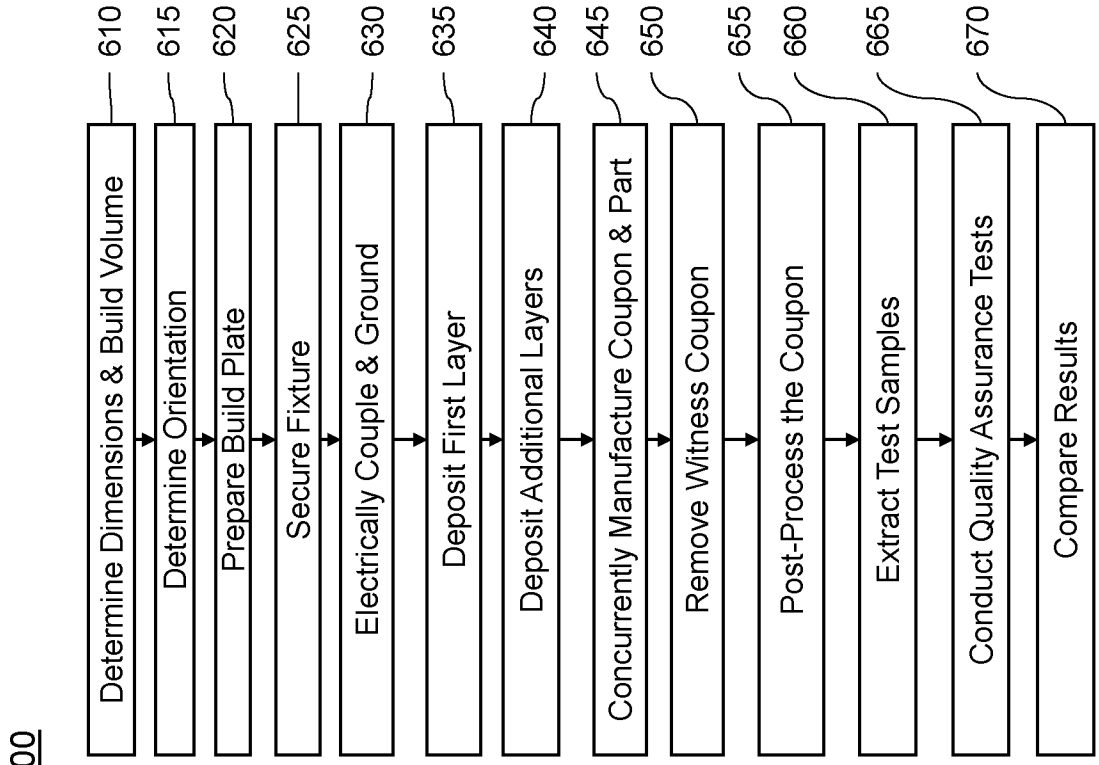

Process 600
610
Determine Dimensions & Build Volume
615
Determine Orientation
620
Prepare Build Plate
625
Secure Fixture
630
Electrically Couple & Ground
635
Deposit First Layer
640
Deposit Additional Layers
645
650
Concurrently Manufacture Coupon & Part
655
Remove Witness Coupon
660
Post-Process the Coupon
665
Extract Test Samples
670
Conduct Quality Assurance Tests
Compare Results

Fig. 7

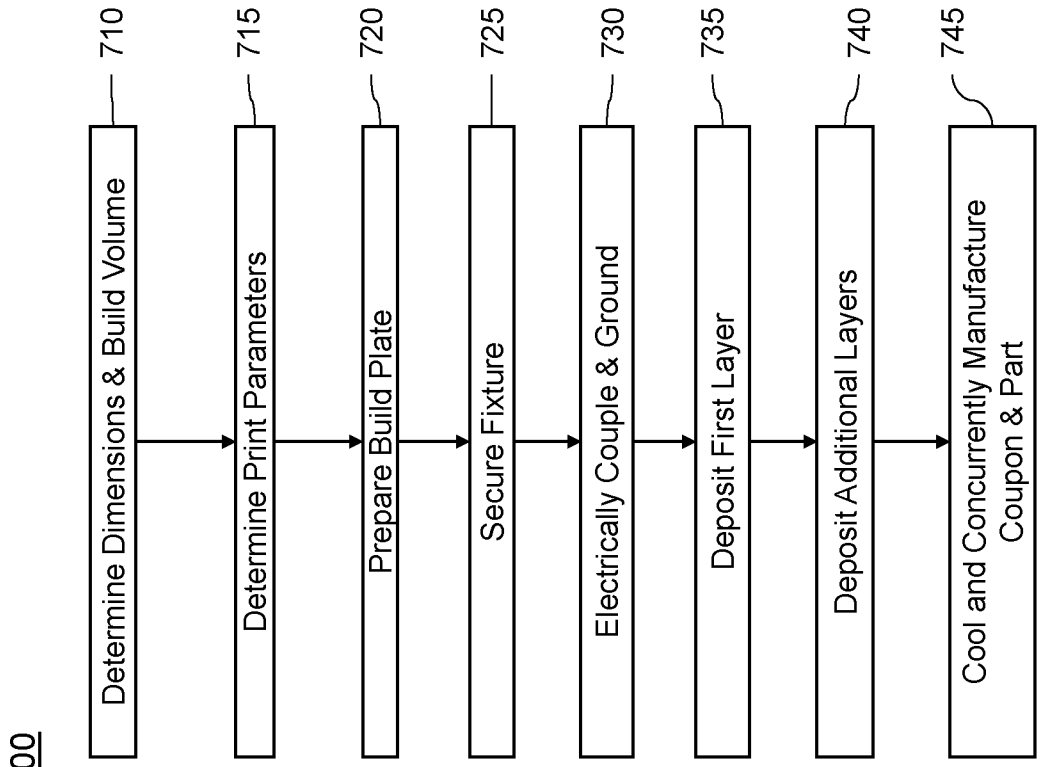
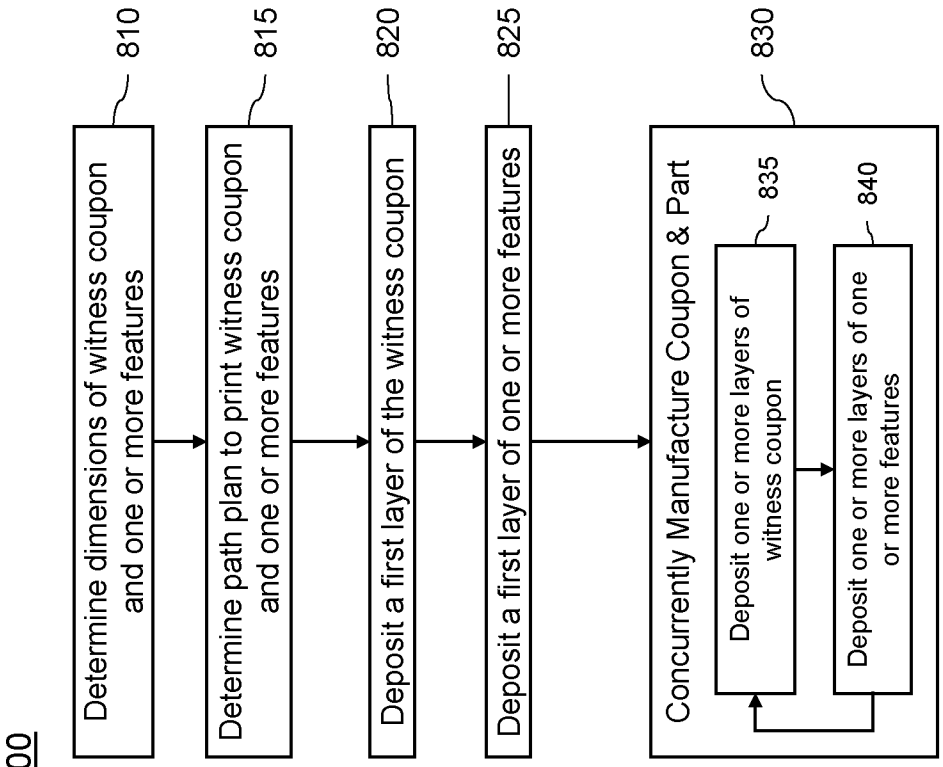

Process 700
710
Determine Dimensions & Build Volume
715
Determine Print Parameters
720
Prepare Build Plate
725
Secure Fixture
730
Electrically Couple & Ground
735
Deposit First Layer
740
Deposit Additional Layers
745
Cool and Concurrently Manufacture Coupon & Part

Fig. 8


Process 800
Determine dimensions of witness coupon and one or more features
810
Determine path plan to print witness coupon and one or more features
815
Deposit a first layer of the witness coupon
820
Deposit a first layer of one or more features
825
Concurrently Manufacture Coupon & Part
830
Deposit one or more layers of witness coupon
835
Deposit one or more layers of one or more features
840