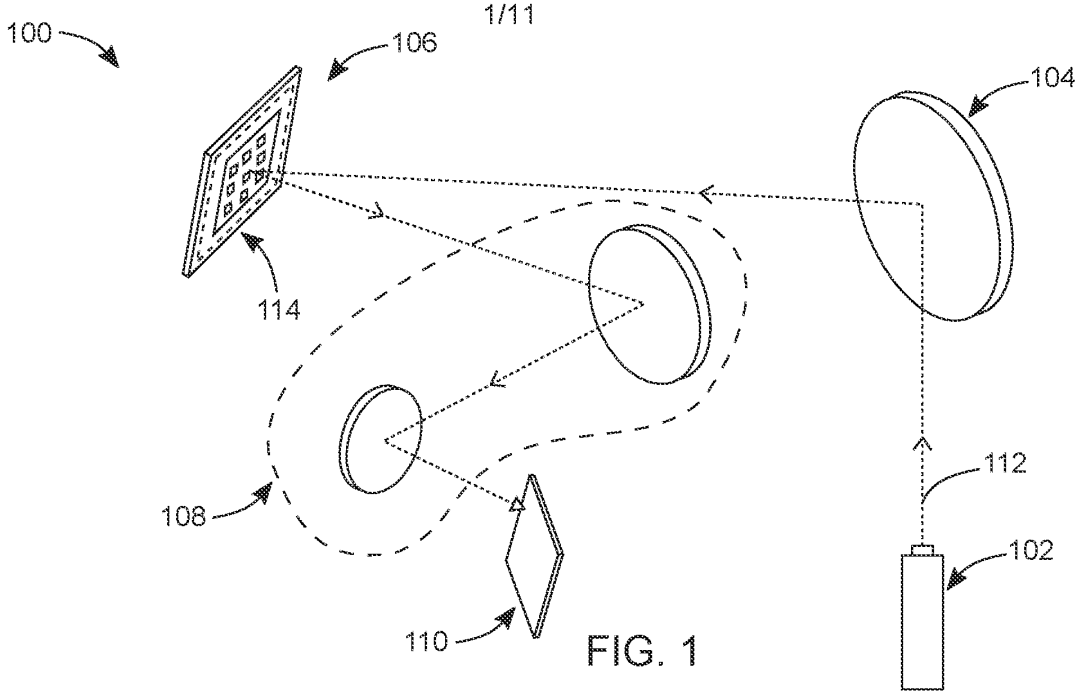


FIG. 1

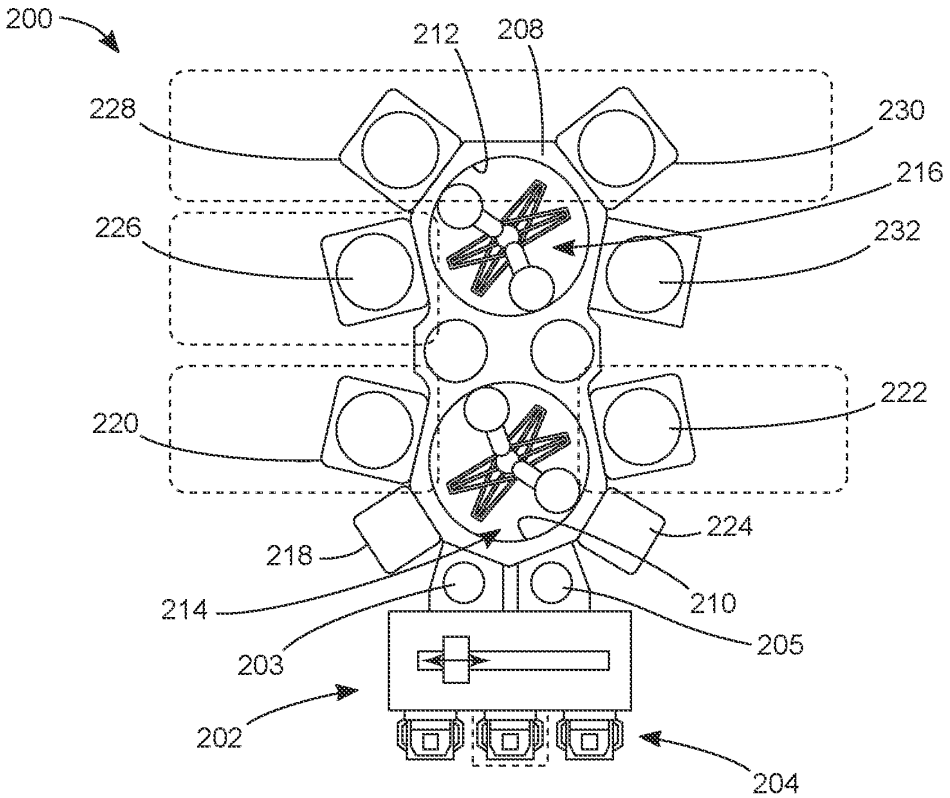


FIG. 2 (Prior Art)

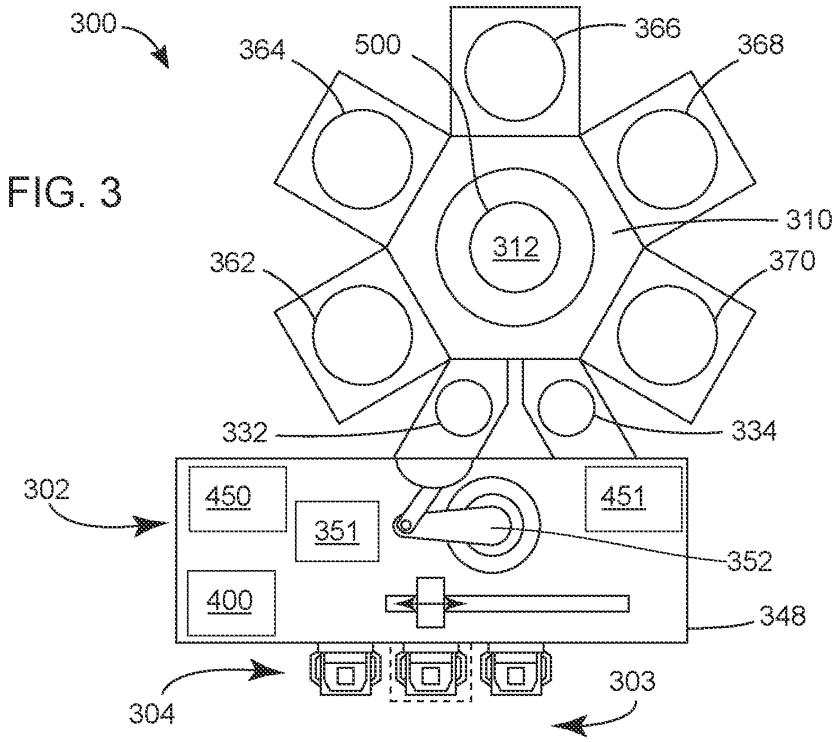

300
364
500
366
368
312
310
362
370
332
334
302
450
351
451
352
400
348
304
303

FIG. 3

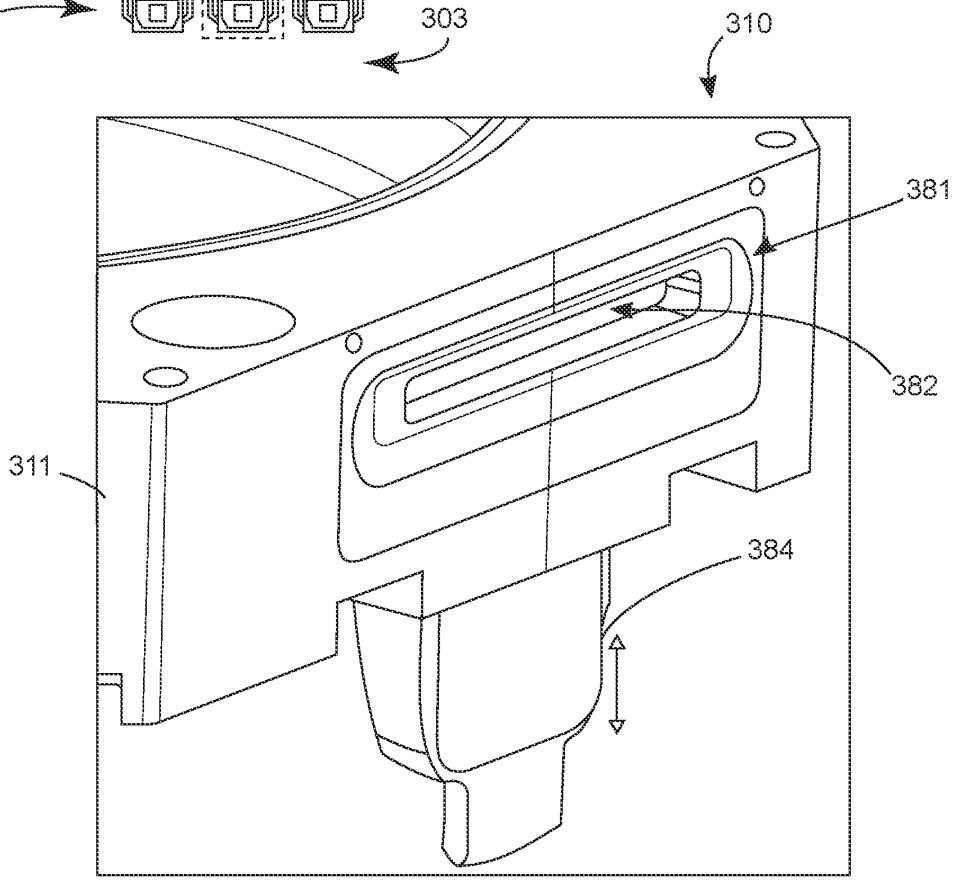

310
381
382
311
384

FIG. 4

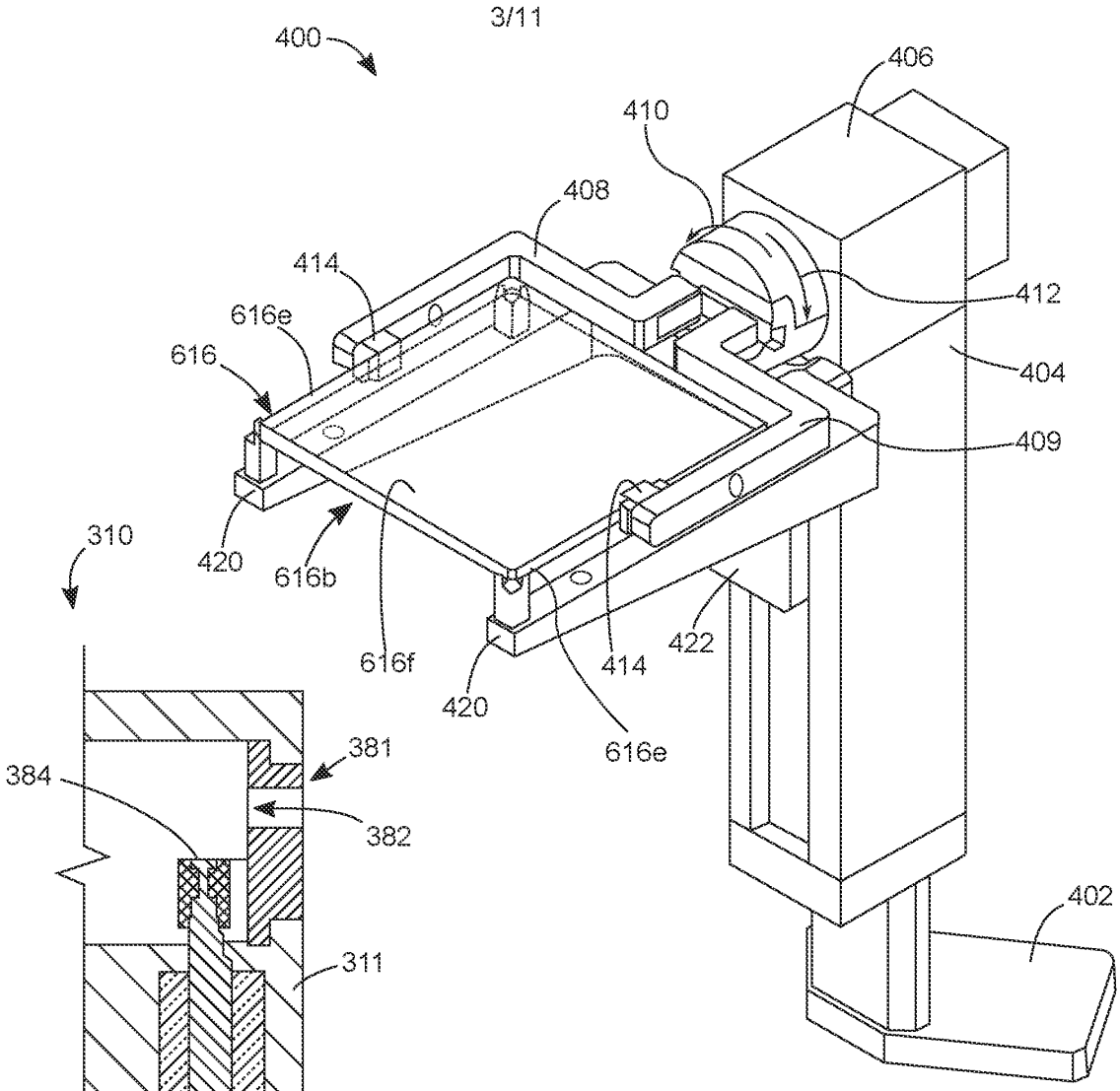

400
406
410
408
414
412
616e
616
404
409
310
420
616b
616f
414
422
420
616e
381
384
382
311
402

FIG. 6

FIG. 5

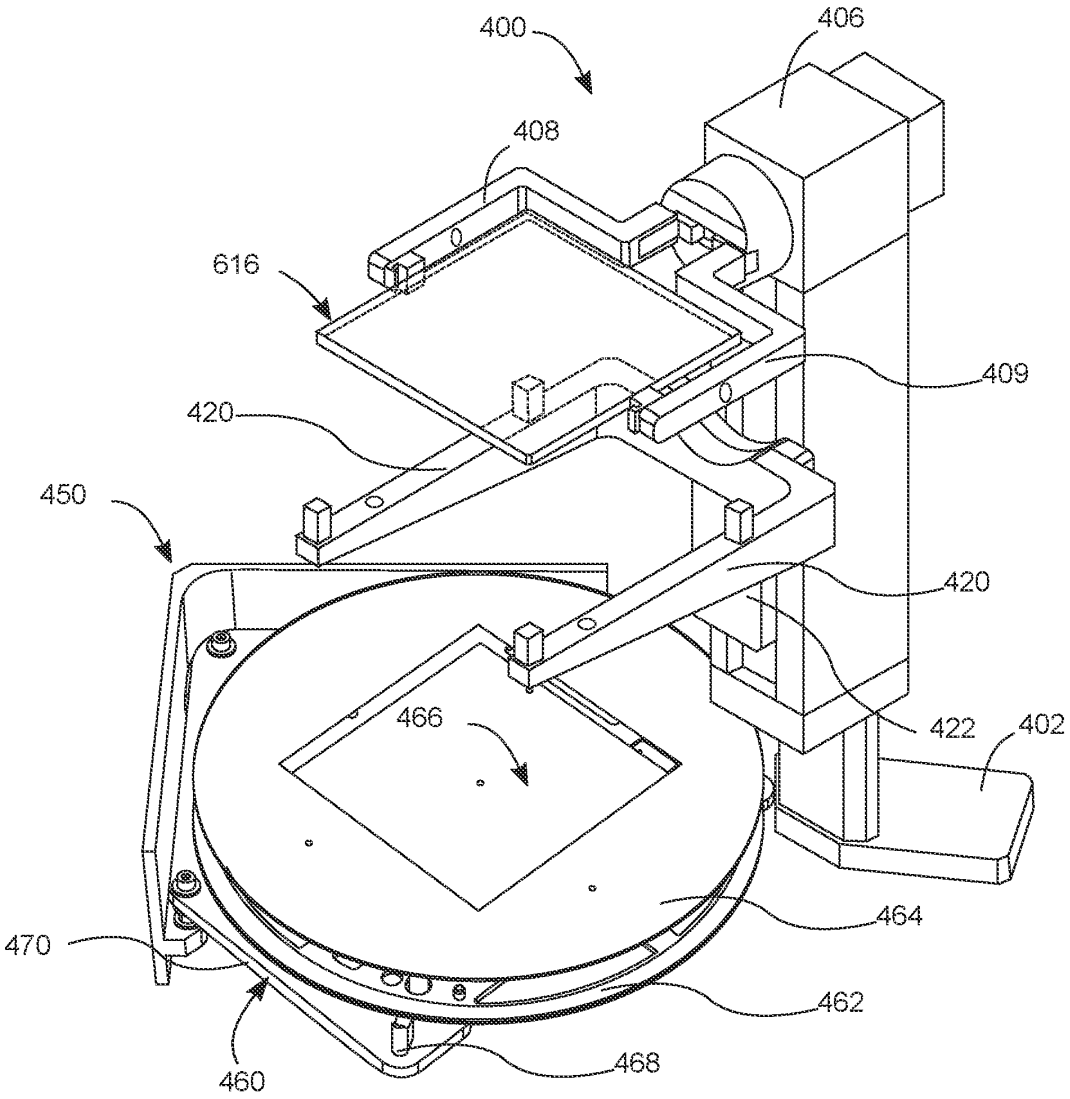


FIG. 7

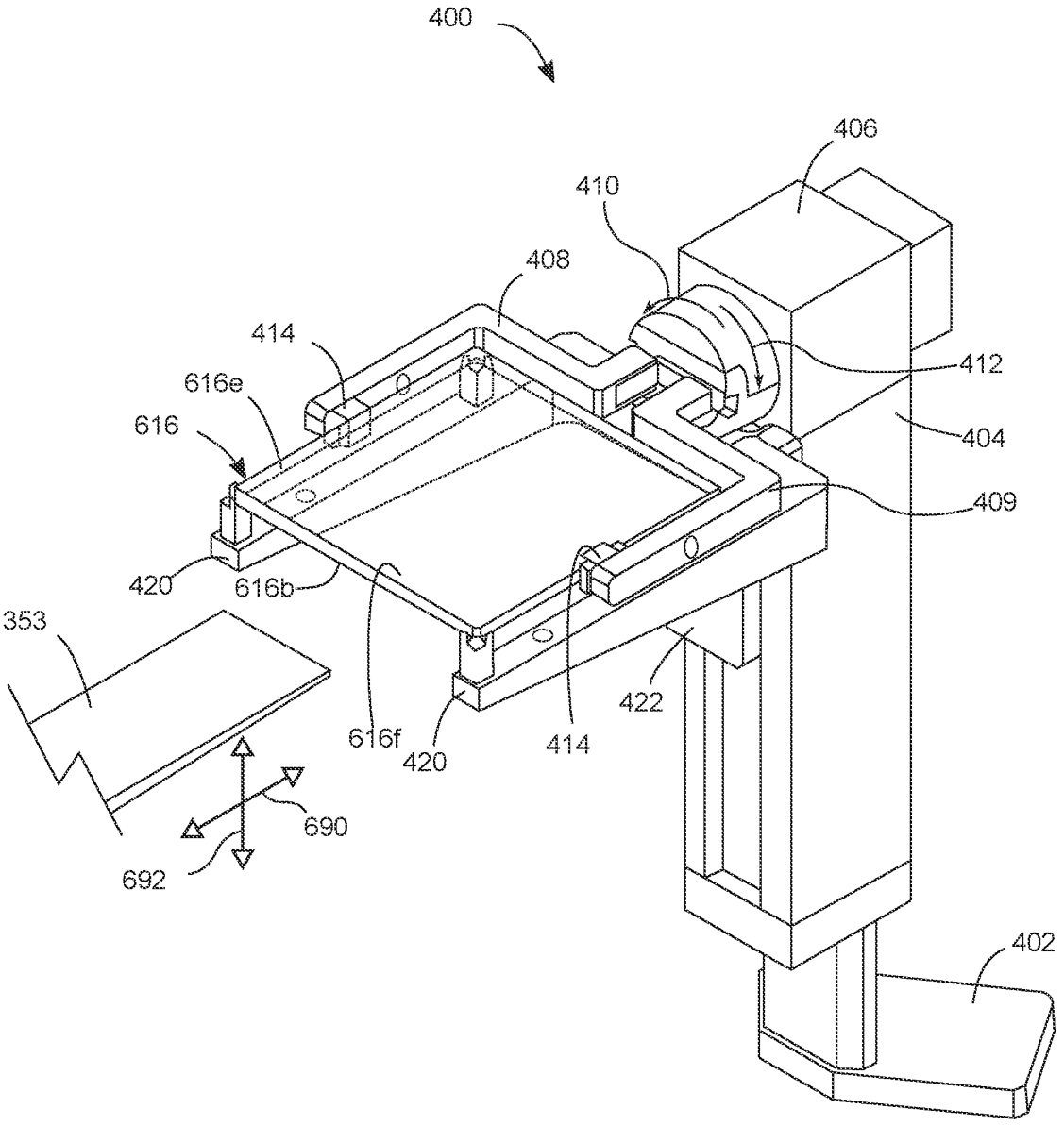

400
406
410
408
414
412
616e
616
404
409
420
616b
353
616f
420
414
422
690
692
402

FIG. 8

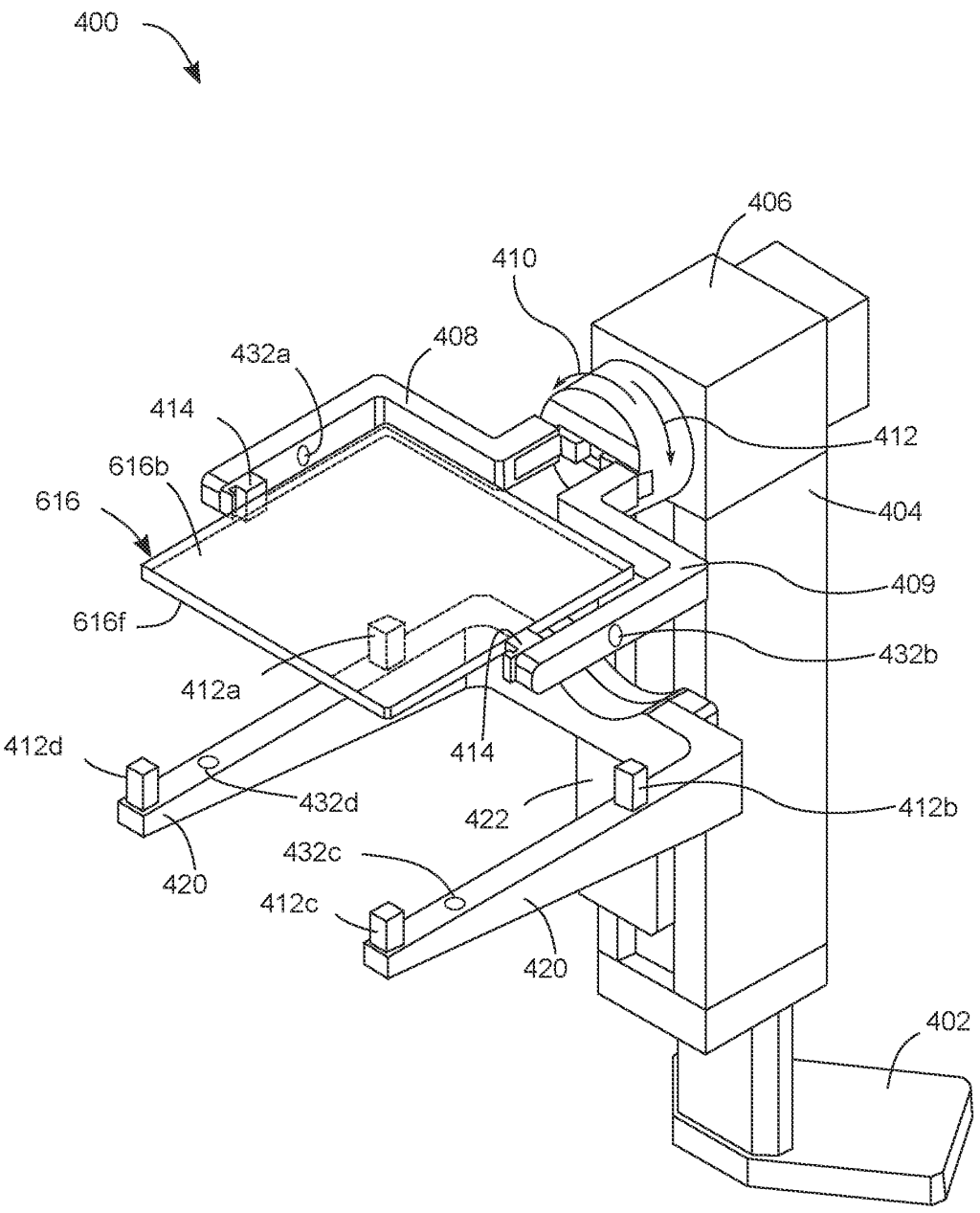

400
406
410
408
432a
414
412
616b
404
616
409
616f
432b
412a
414
412d
422
412b
432d
420
432c
412c
420
402

FIG. 9

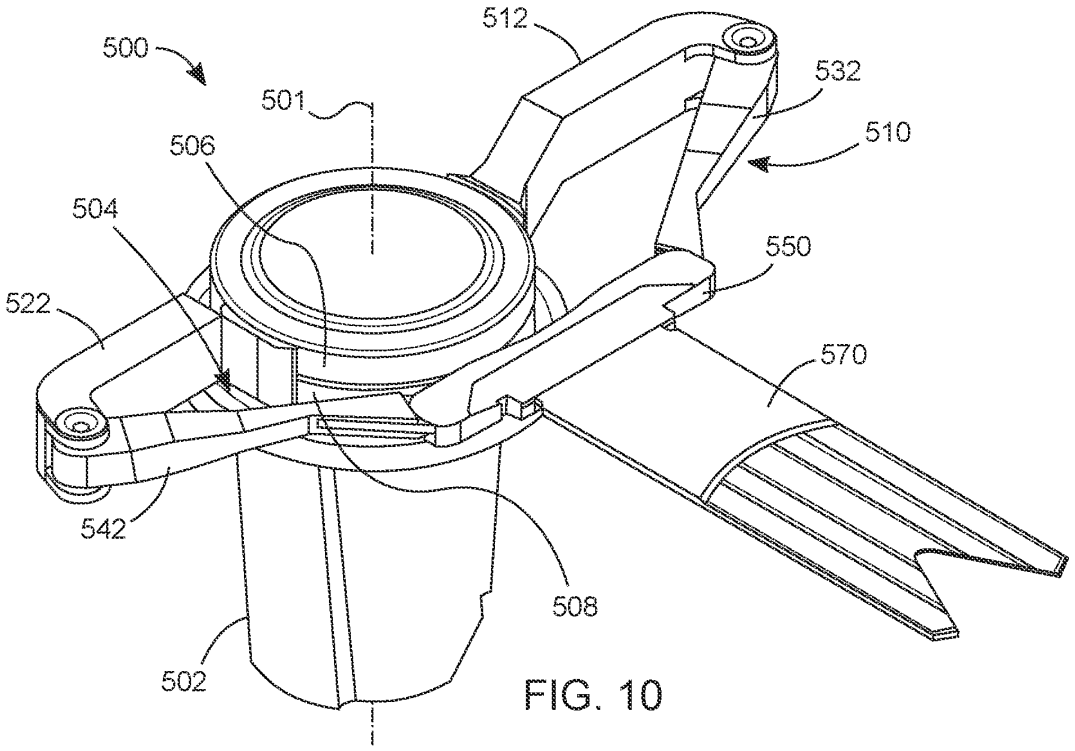

500
501
512
532
510
506
504
550
522
570
542
508
502

FIG. 10

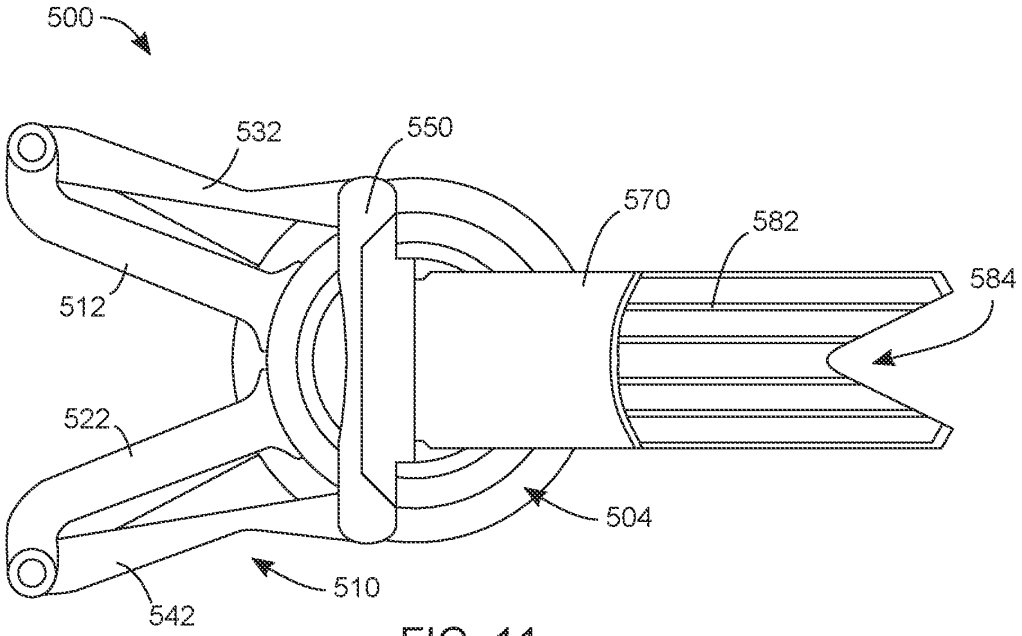

500
532
550
570
582
584
512
522
504
510
542

FIG. 11

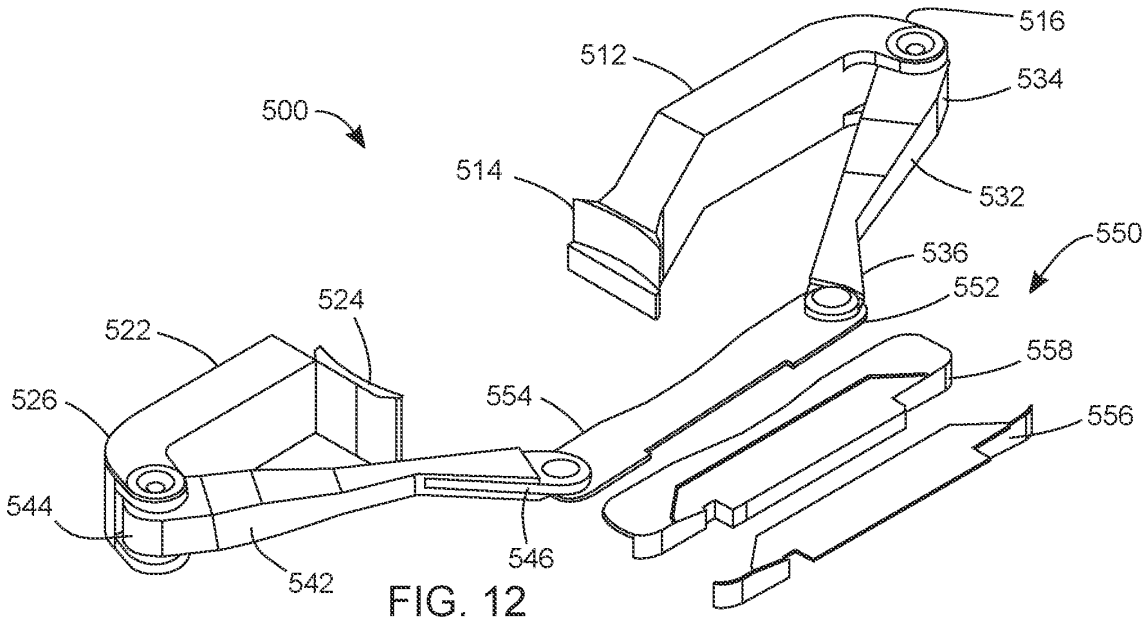


FIG. 12

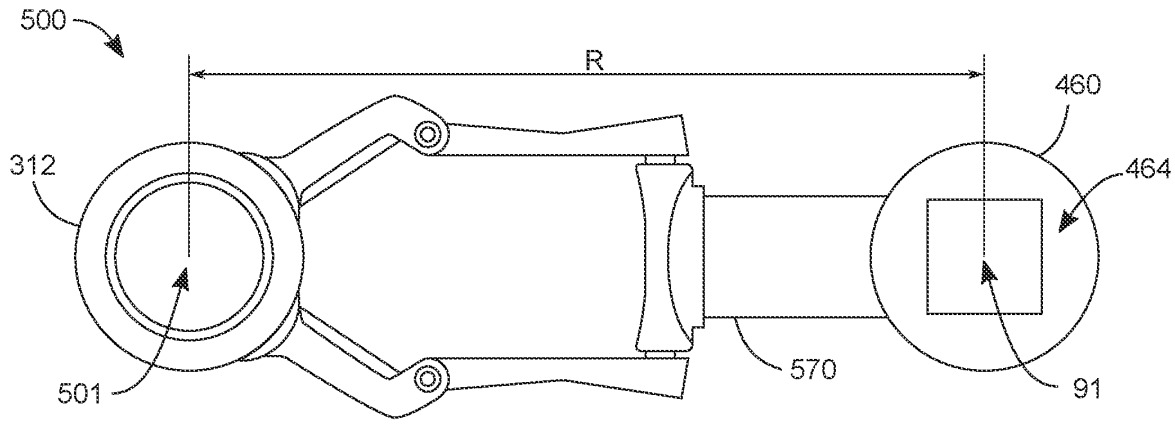


FIG. 13A

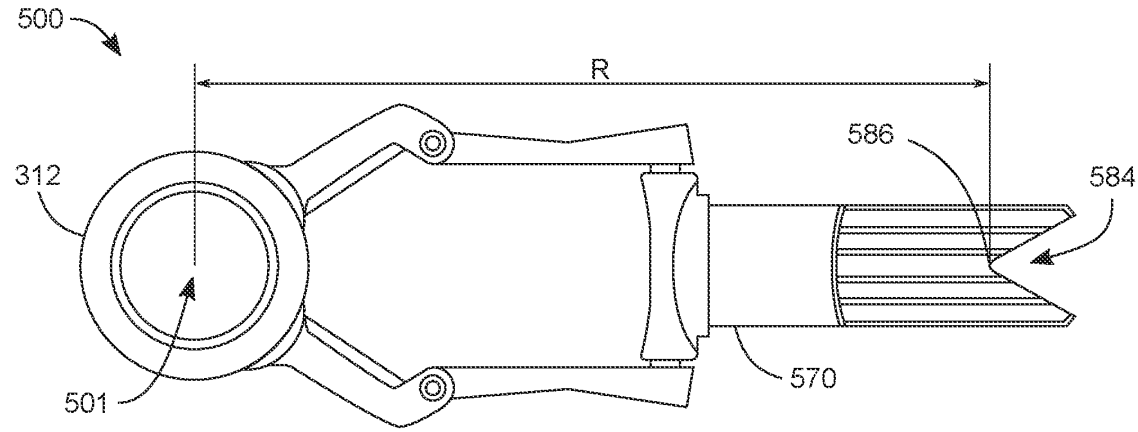


FIG. 13B

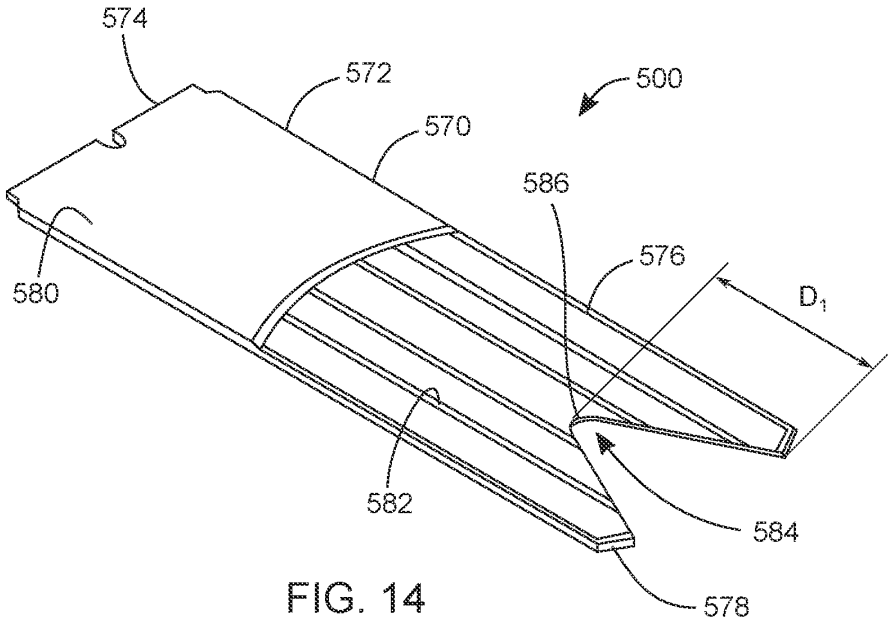

574
572
500
570
586
576
580
D_1
582
584
578

FIG. 14

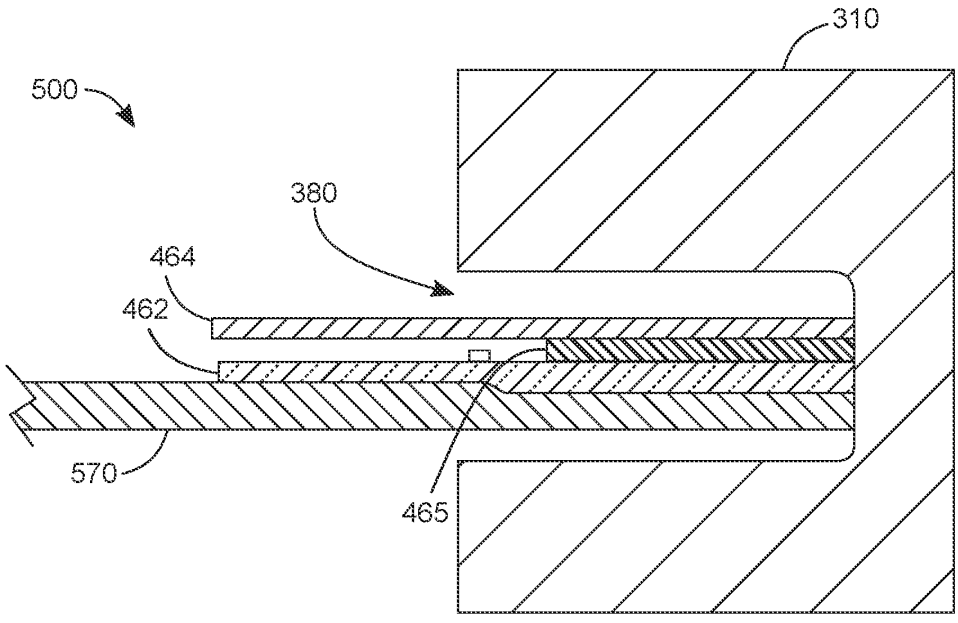

310
500
380
464
462
570
465

FIG. 15

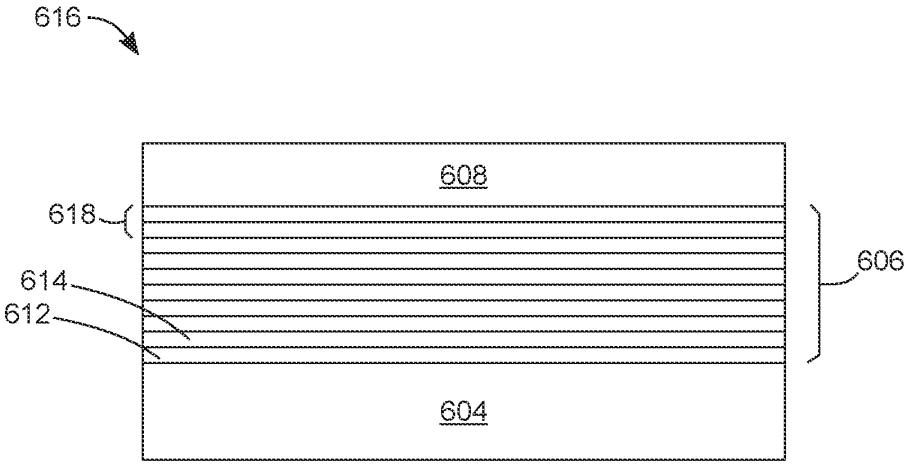

616
608
618
606
614
612
604

FIG. 16

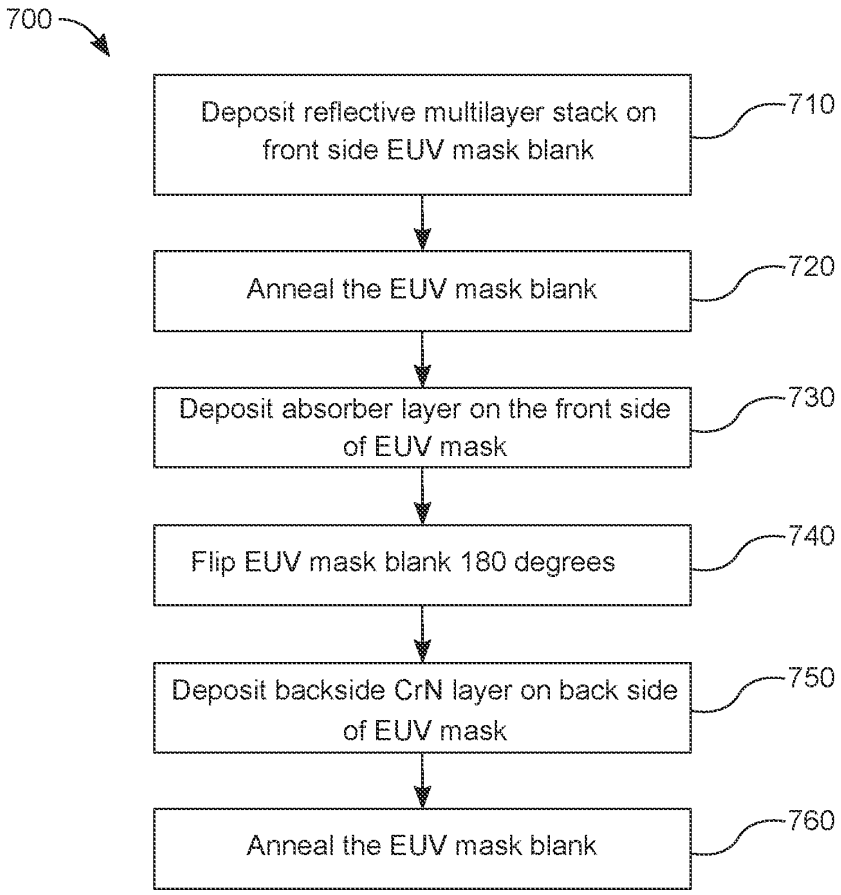

700
Deposit reflective multilayer stack on front side EUV mask blank
710
Anneal the EUV mask blank
720
Deposit absorber layer on the front side of EUV mask
730
Flip EUV mask blank 180 degrees
740
Deposit backside CrN layer on back side of EUV mask
750
Anneal the EUV mask blank
760

FIG. 17

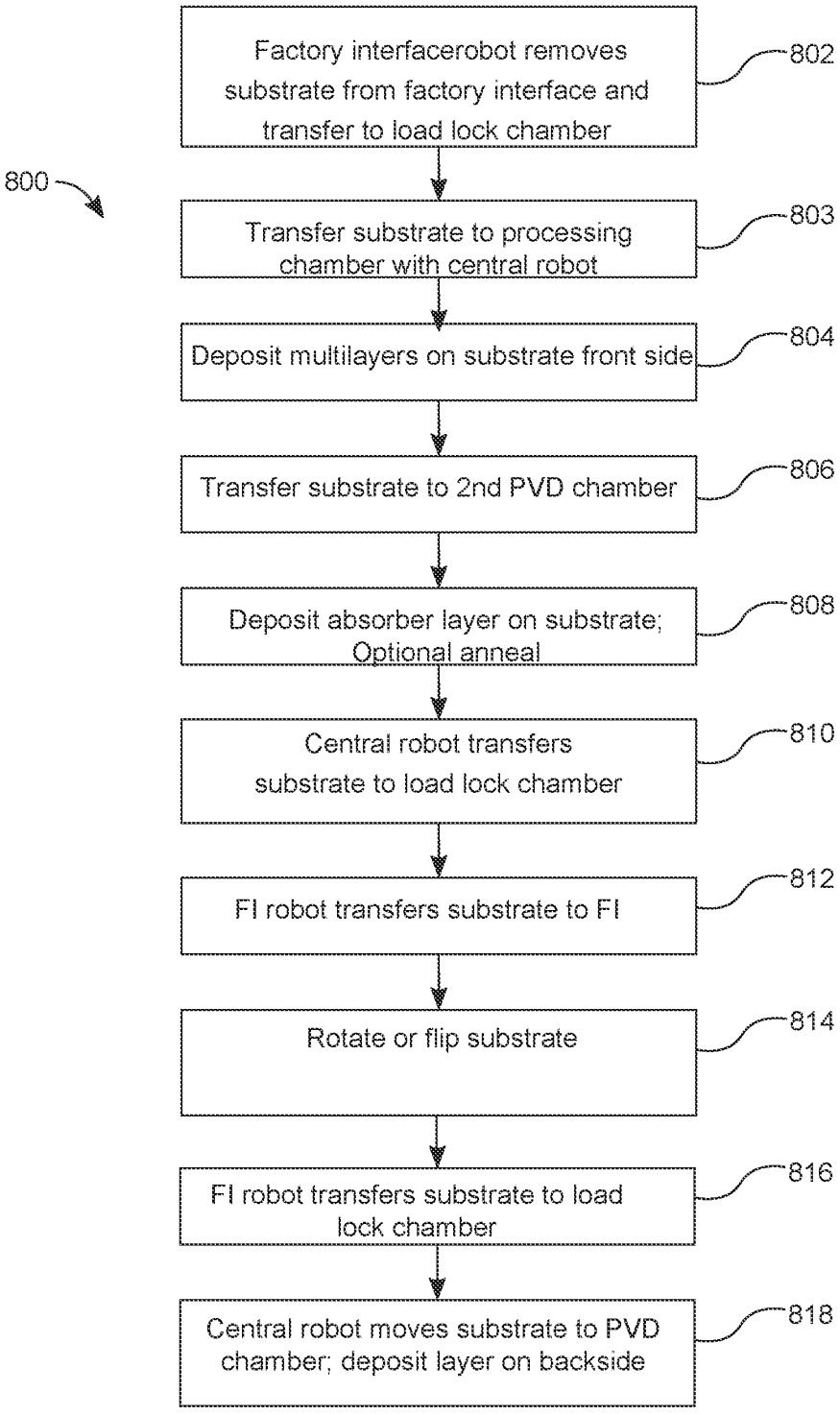

800
Factory interfacerobot removes substrate from factory interface and transfer to load lock chamber
802
Transfer substrate to processing chamber with central robot
803
Deposit multilayers on substrate front side
804
Transfer substrate to 2nd PVD chamber
806
Deposit absorber layer on substrate; Optional anneal
808
Central robot transfers substrate to load lock chamber
810
FI robot transfers substrate to FI
812
Rotate or flip substrate
814
FI robot transfers substrate to load lock chamber
816
Central robot moves substrate to PVD chamber; deposit layer on backside
818

FIG. 18