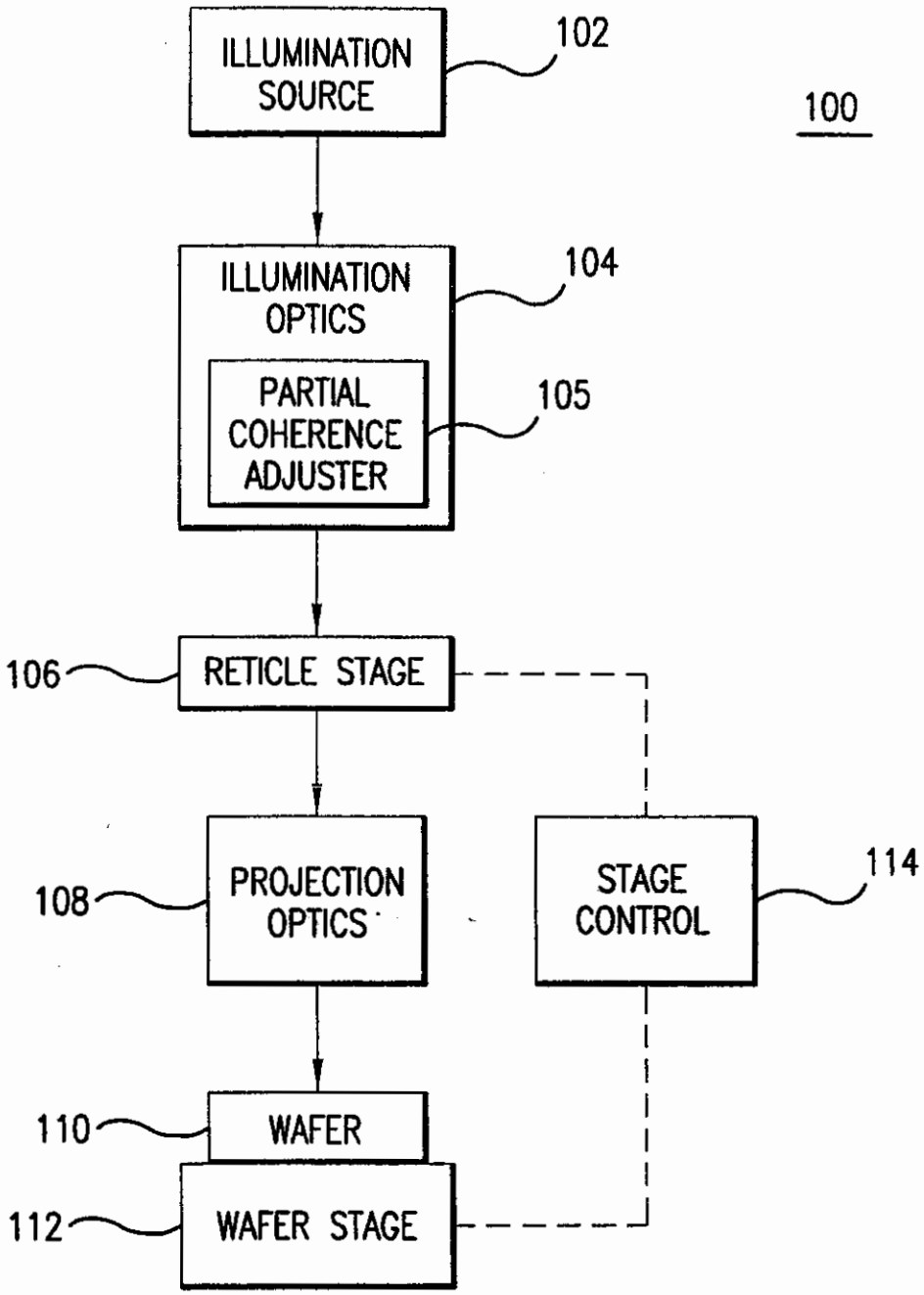

ILLUMINATION SOURCE
102
100
ILLUMINATION OPTICS
104
PARTIAL COHERENCE ADJUSTER
105
106
RETICLE STAGE
PROJECTION OPTICS
108
STAGE CONTROL
114
110
WAFER
112
WAFER STAGE

FIG.1

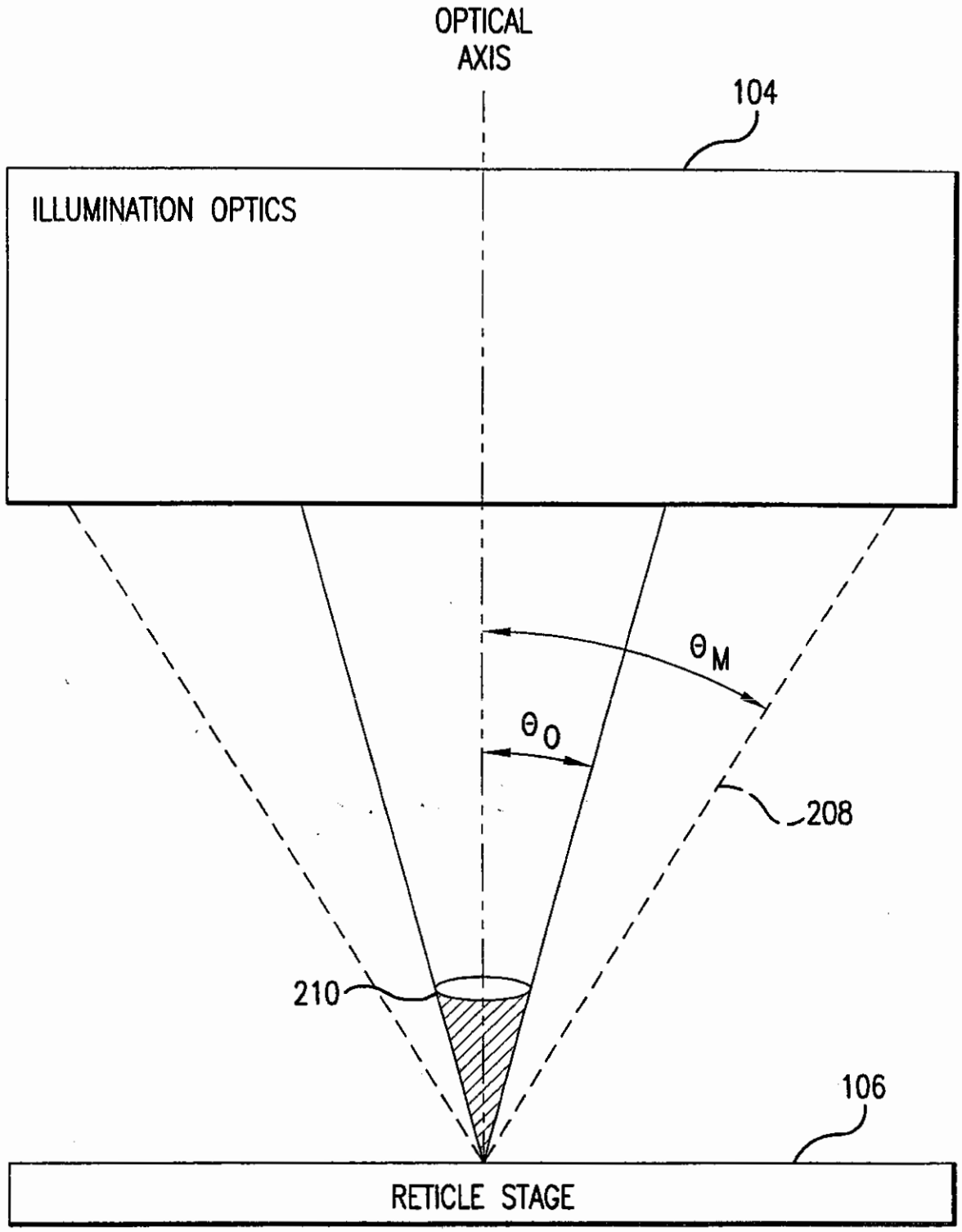

OPTICAL
AXIS
104
ILLUMINATION OPTICS
Θ_M
Θ_O
208
210
106
RETICLE STAGE

FIG.2

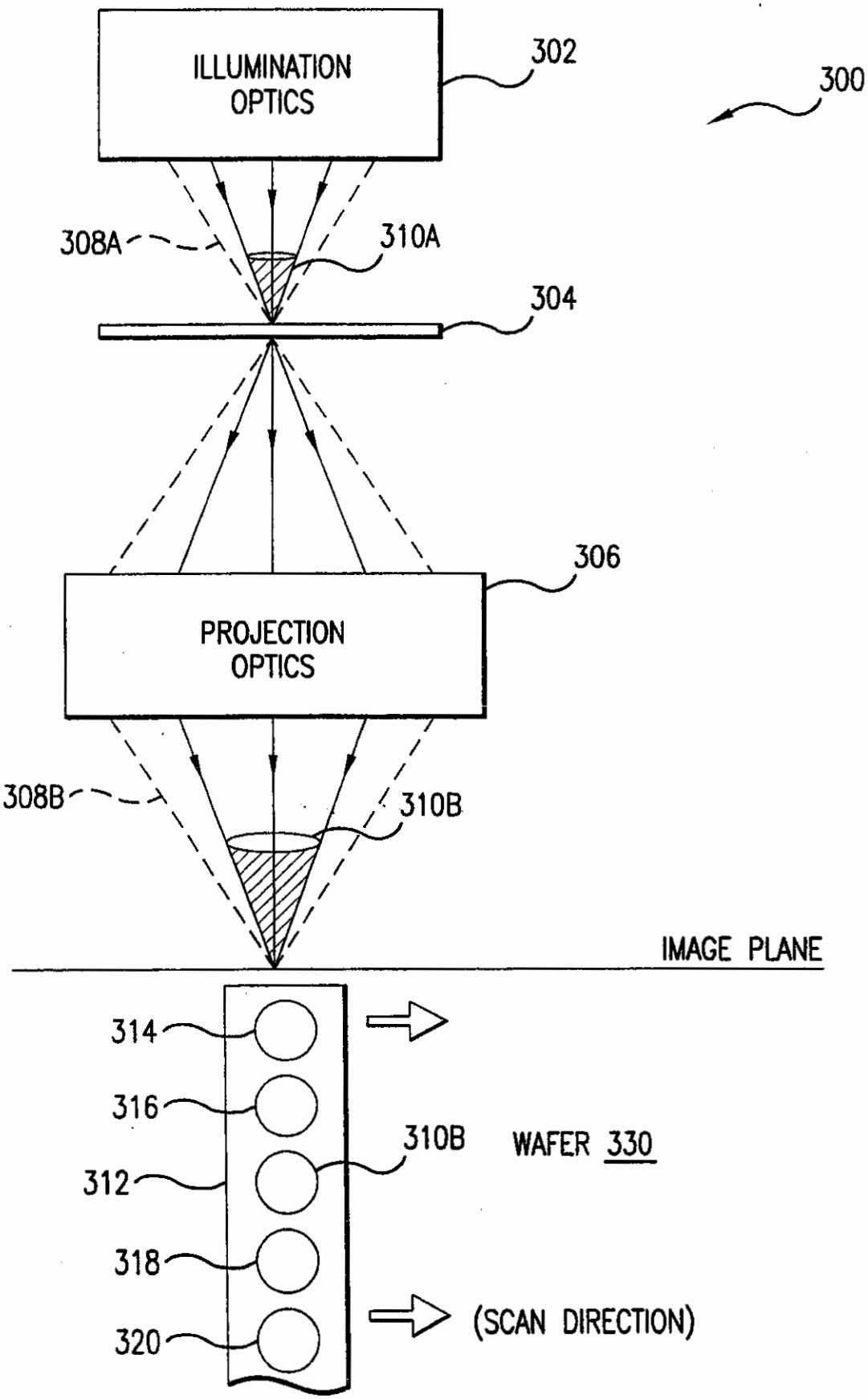

ILLUMINATION OPTICS
302
300
308A
310A
304
306
PROJECTION OPTICS
308B
310B
IMAGE PLANE
314
316
310B
WAFER 330
312
318
320
(SCAN DIRECTION)

FIG.3

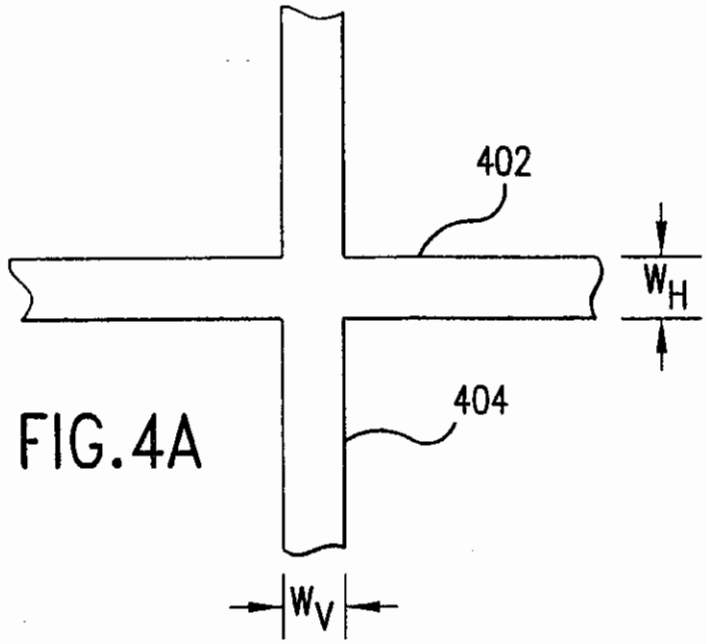


FIG.4A

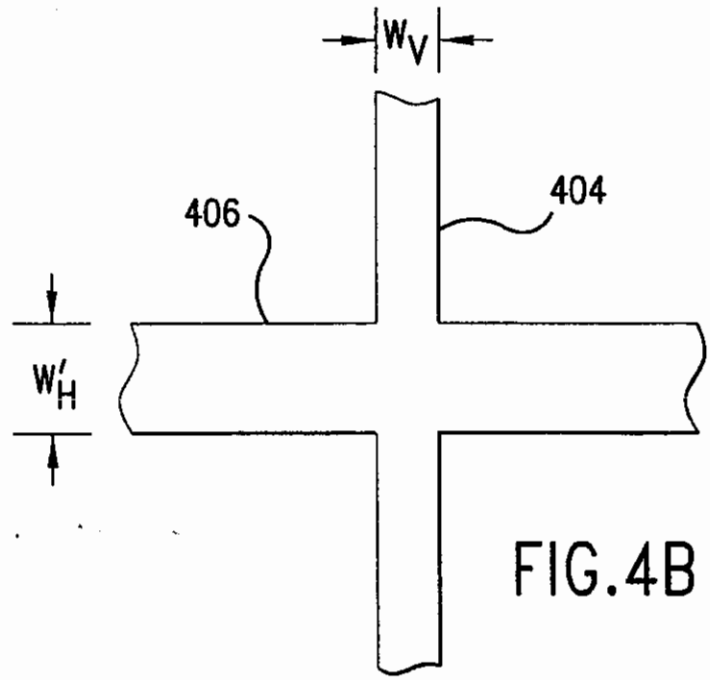


FIG.4B

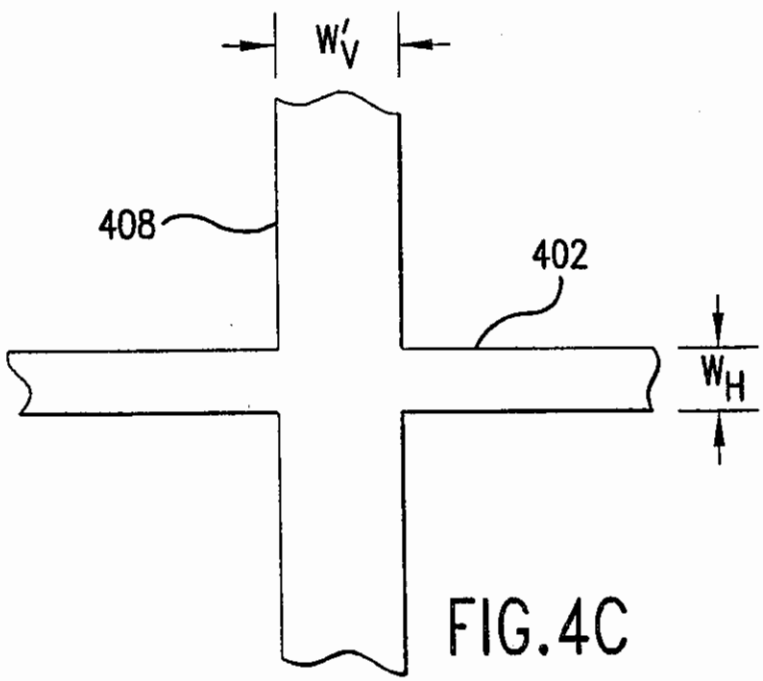


FIG.4C

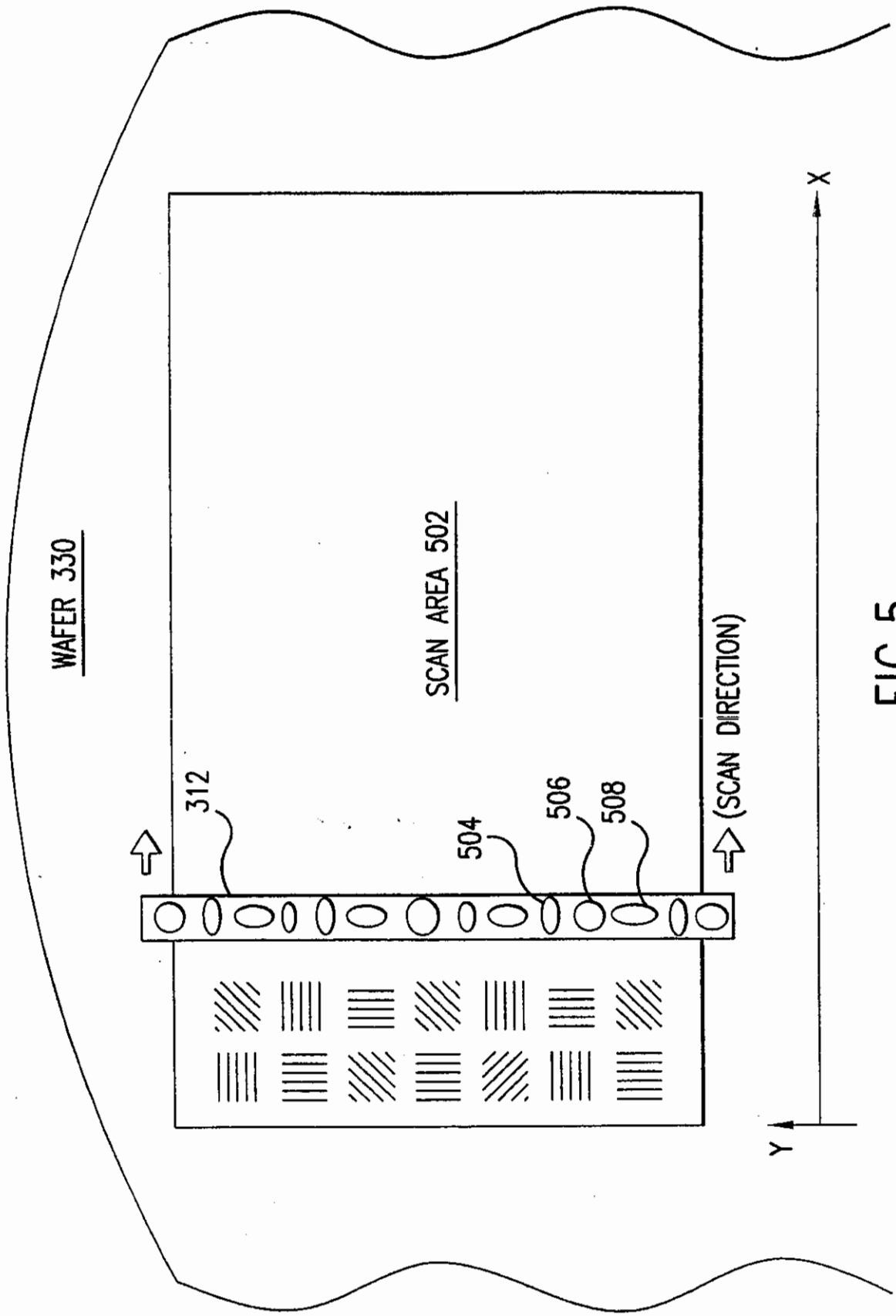


FIG.5

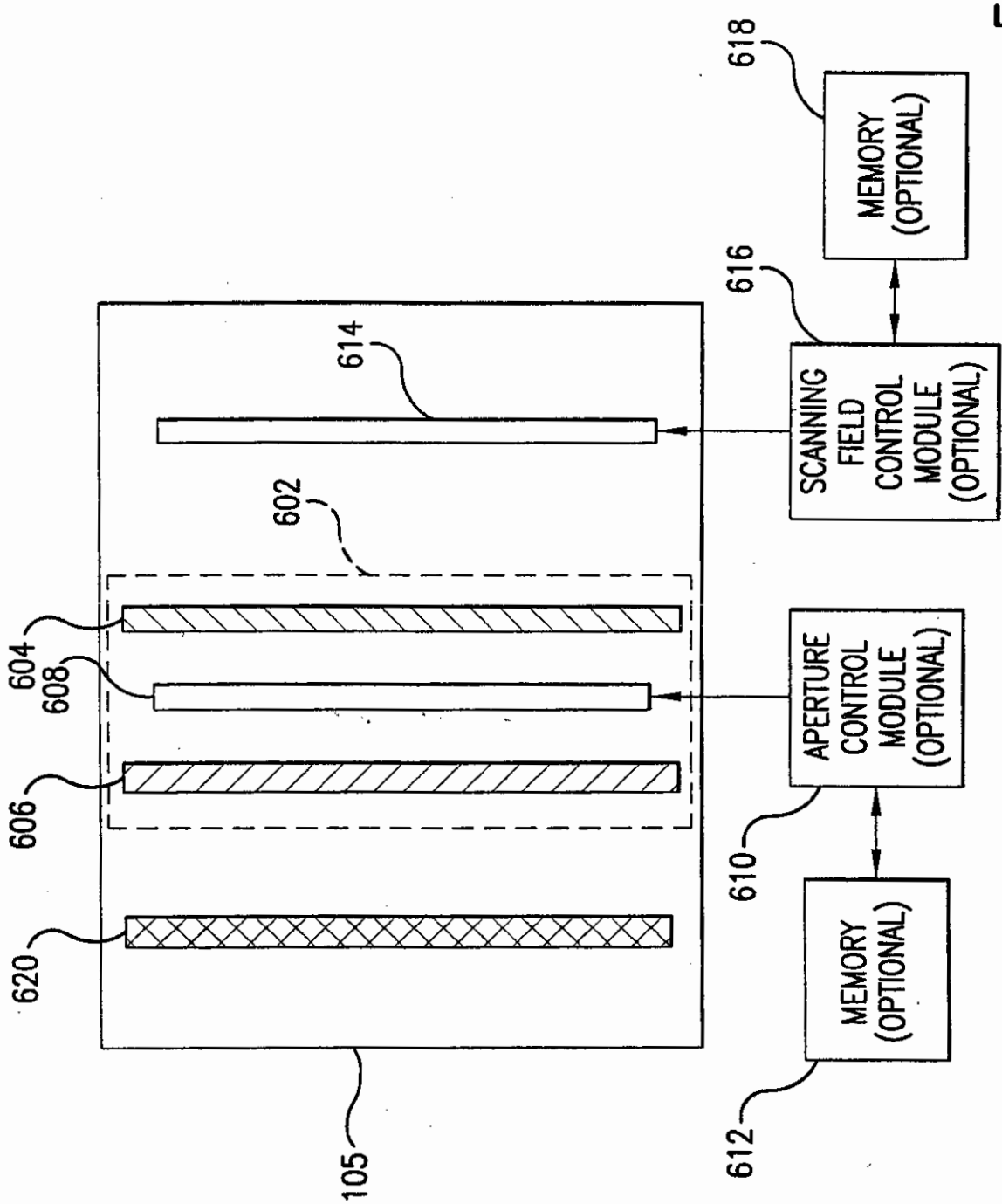

618
MEMORY (OPTIONAL)
616
SCANNING FIELD CONTROL MODULE (OPTIONAL)
614
602
604
608
606
620
APERTURE CONTROL MODULE (OPTIONAL)
610
MEMORY (OPTIONAL)
612
105

FIG.6

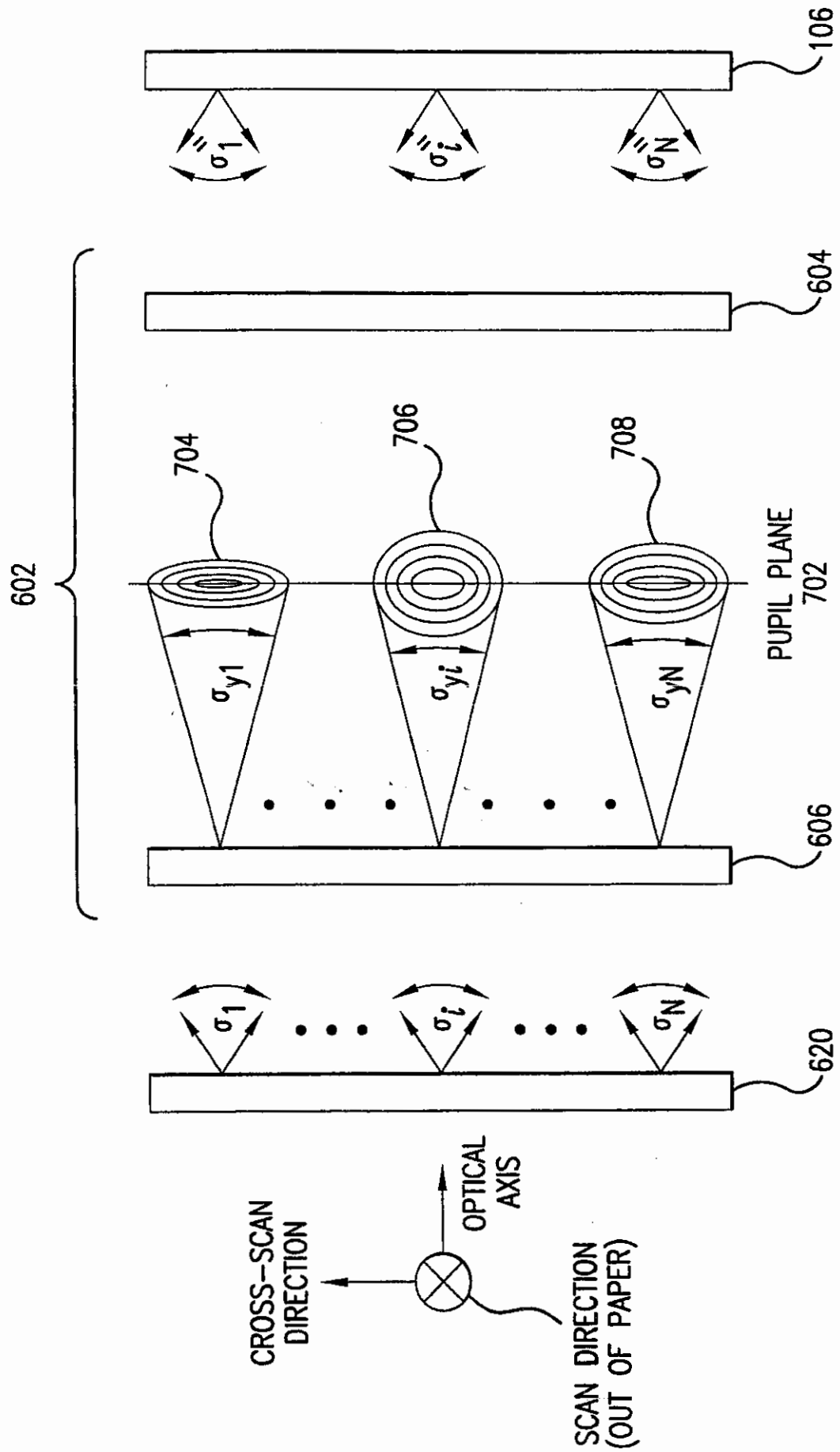

106
σ1
σi
σN
604
602
704
706
708
σy1
σyi
σyN
PUPIL PLANE
702
606
σ1
σi
σN
620
OPTICAL
AXIS
CROSS-SCAN
DIRECTION
SCAN DIRECTION
(OUT OF PAPER)

FIG.7

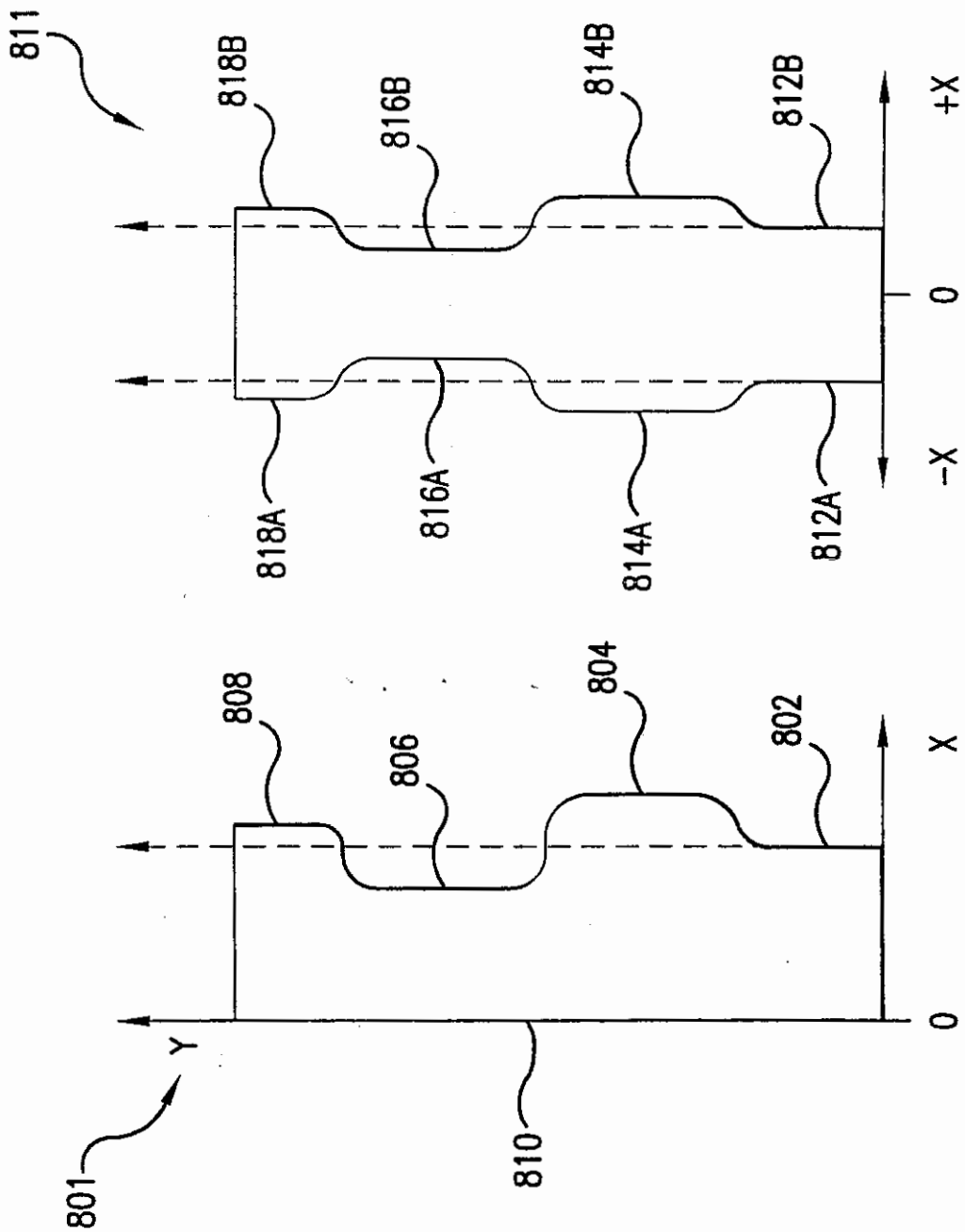

811
818B
816B
814B
812B
+X
0
-X
818A
816A
814A
812A
808
806
804
802
X
0
Y
801
810

FIG.8B

FIG.8A

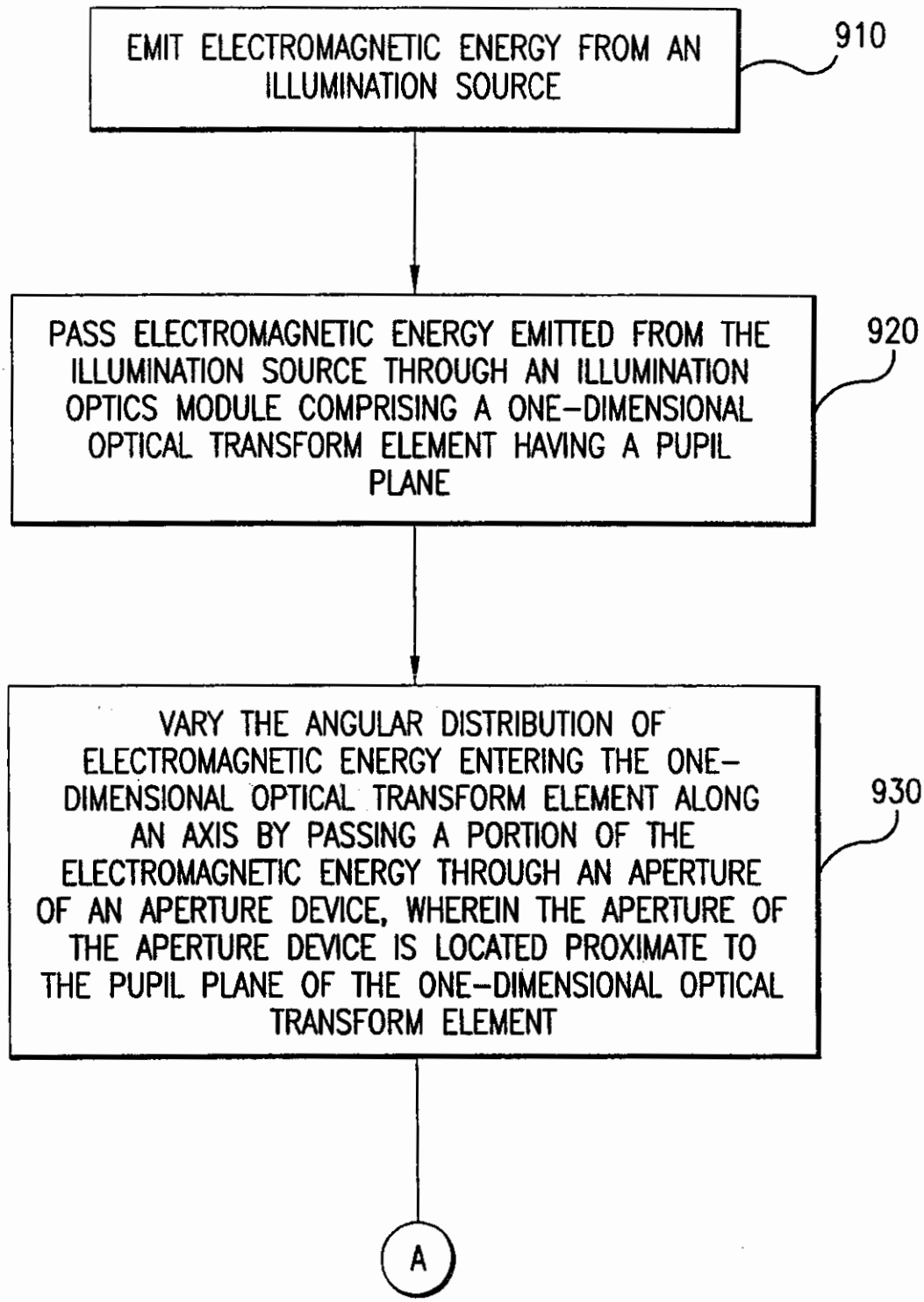

EMIT ELECTROMAGNETIC ENERGY FROM AN ILLUMINATION SOURCE
910
PASS ELECTROMAGNETIC ENERGY EMITTED FROM THE ILLUMINATION SOURCE THROUGH AN ILLUMINATION OPTICS MODULE COMPRISING A ONE-DIMENSIONAL OPTICAL TRANSFORM ELEMENT HAVING A PUPIL PLANE
920
VARY THE ANGULAR DISTRIBUTION OF ELECTROMAGNETIC ENERGY ENTERING THE ONE-DIMENSIONAL OPTICAL TRANSFORM ELEMENT ALONG AN AXIS BY PASSING A PORTION OF THE ELECTROMAGNETIC ENERGY THROUGH AN APERTURE OF AN APERTURE DEVICE, WHEREIN THE APERTURE OF THE APERTURE DEVICE IS LOCATED PROXIMATE TO THE PUPIL PLANE OF THE ONE-DIMENSIONAL OPTICAL TRANSFORM ELEMENT
930
A

FIG.9A

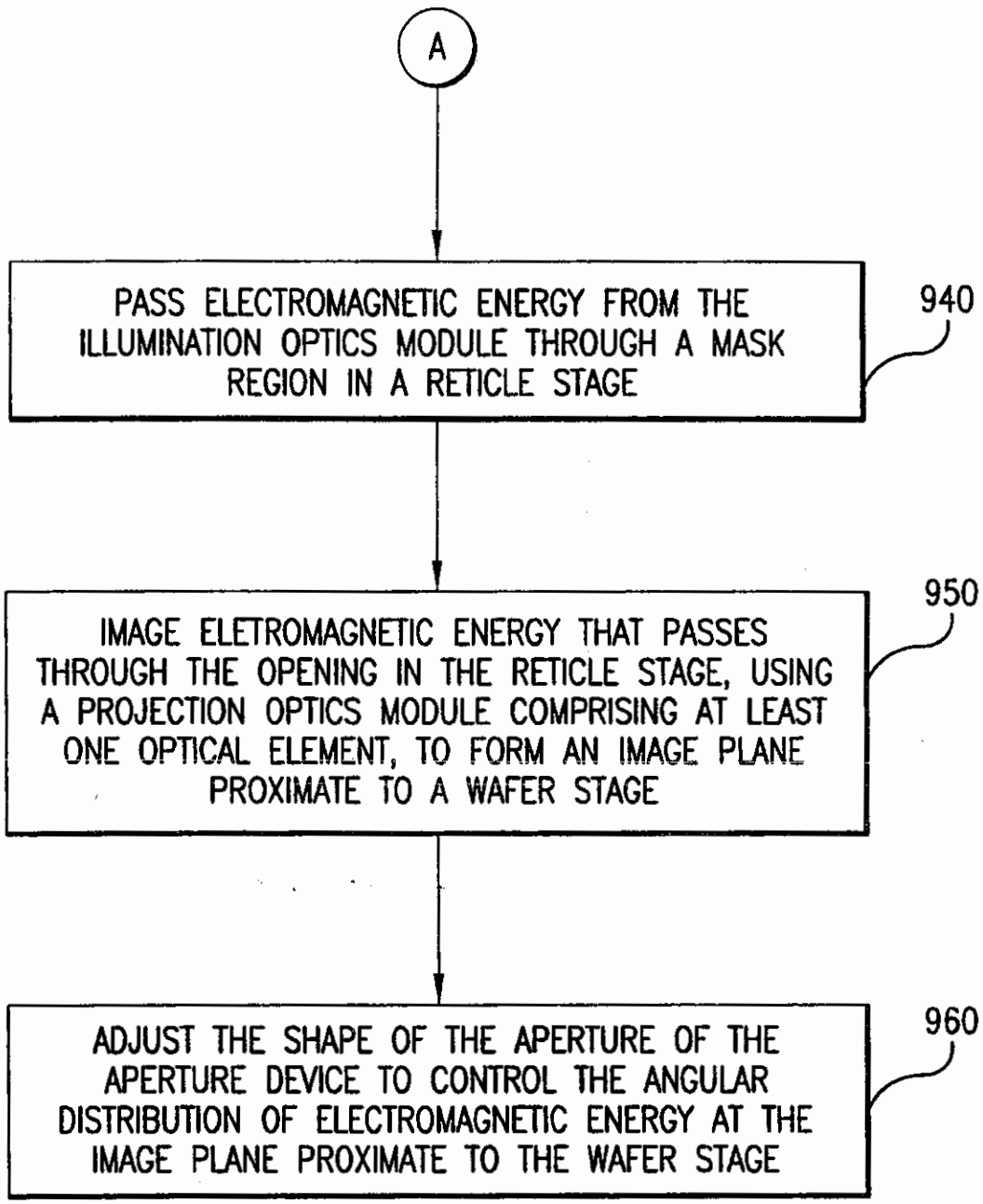

A
PASS ELECTROMAGNETIC ENERGY FROM THE ILLUMINATION OPTICS MODULE THROUGH A MASK REGION IN A RETICLE STAGE
940
IMAGE ELETROMAGNETIC ENERGY THAT PASSES THROUGH THE OPENING IN THE RETICLE STAGE, USING A PROJECTION OPTICS MODULE COMPRISING AT LEAST ONE OPTICAL ELEMENT, TO FORM AN IMAGE PLANE PROXIMATE TO A WAFER STAGE
950
ADJUST THE SHAPE OF THE APERTURE OF THE APERTURE DEVICE TO CONTROL THE ANGULAR DISTRIBUTION OF ELECTROMAGNETIC ENERGY AT THE IMAGE PLANE PROXIMATE TO THE WAFER STAGE
960

FIG.9B