Fig. 1

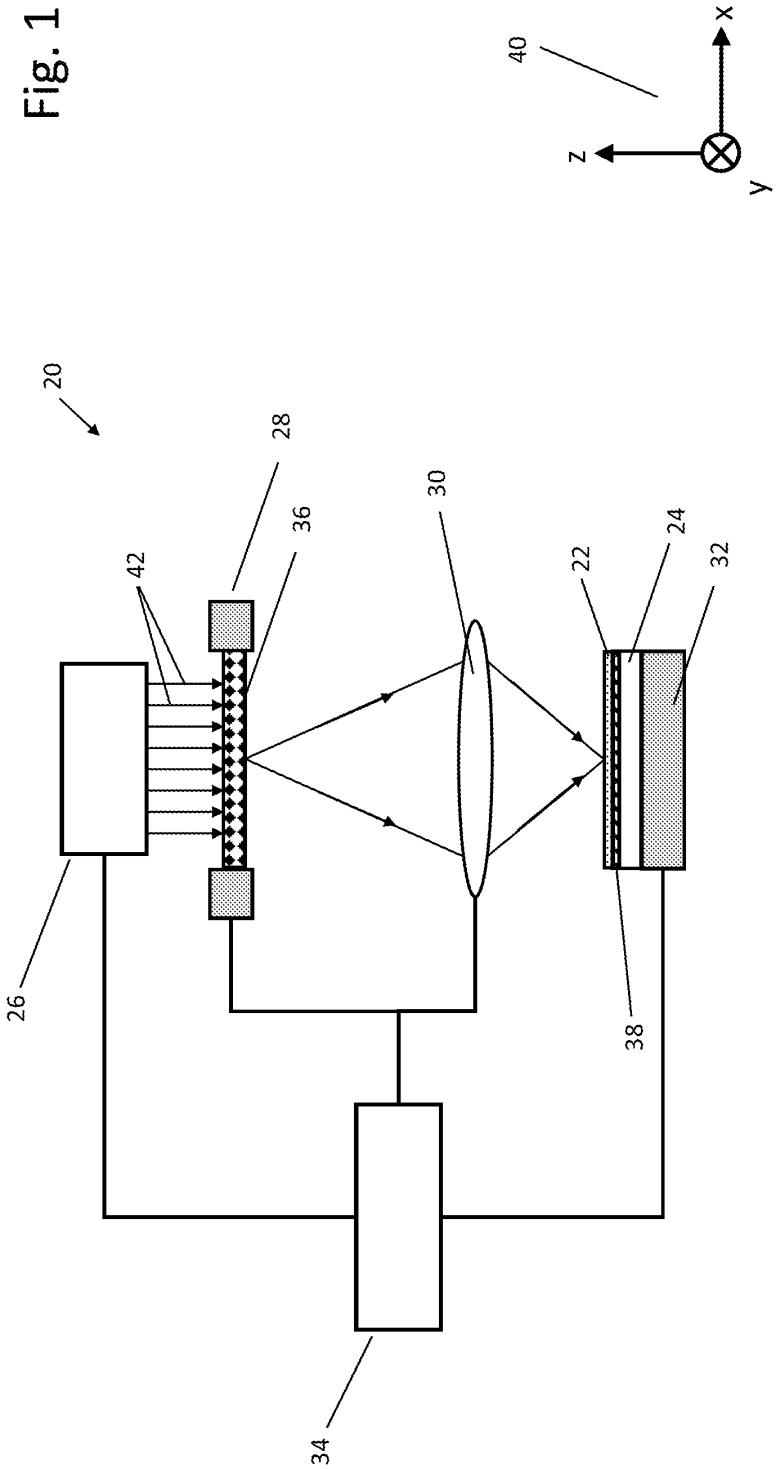


Fig. 2

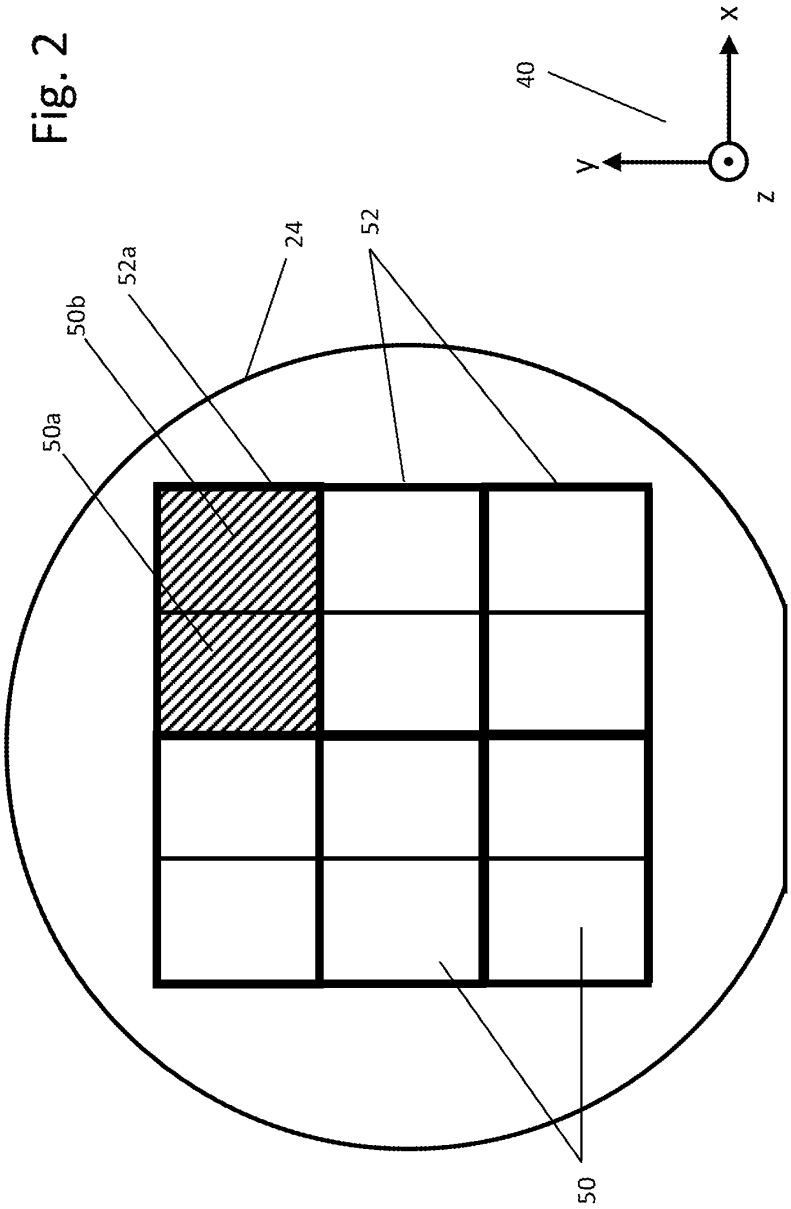


Fig. 3

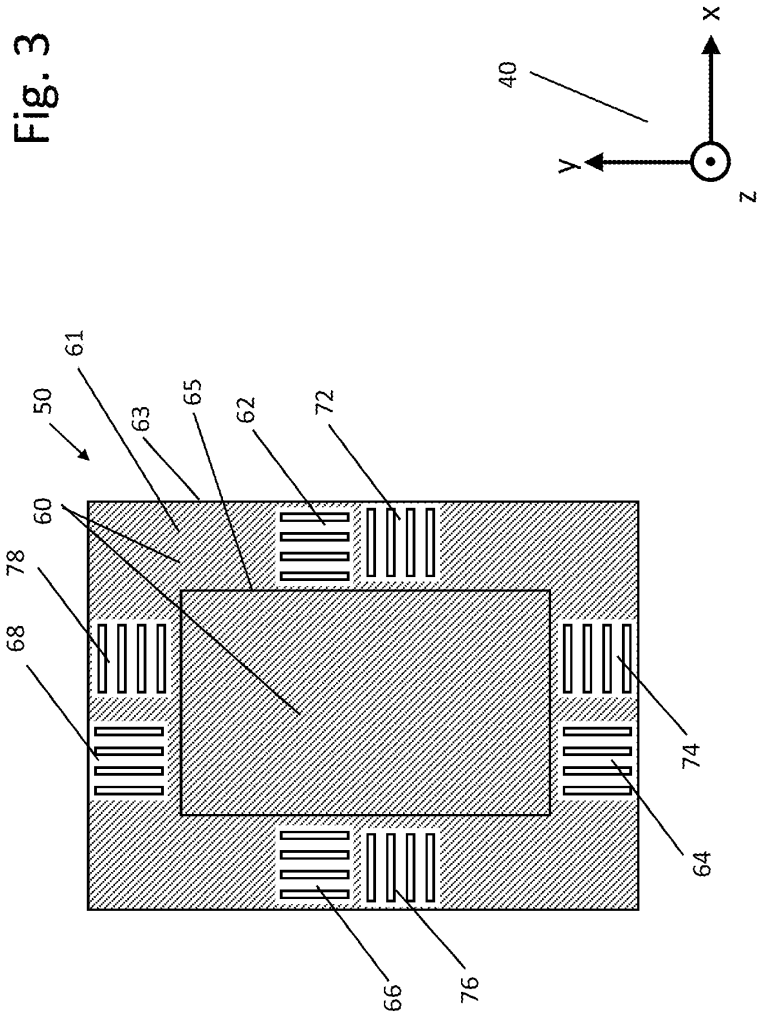


Fig. 4

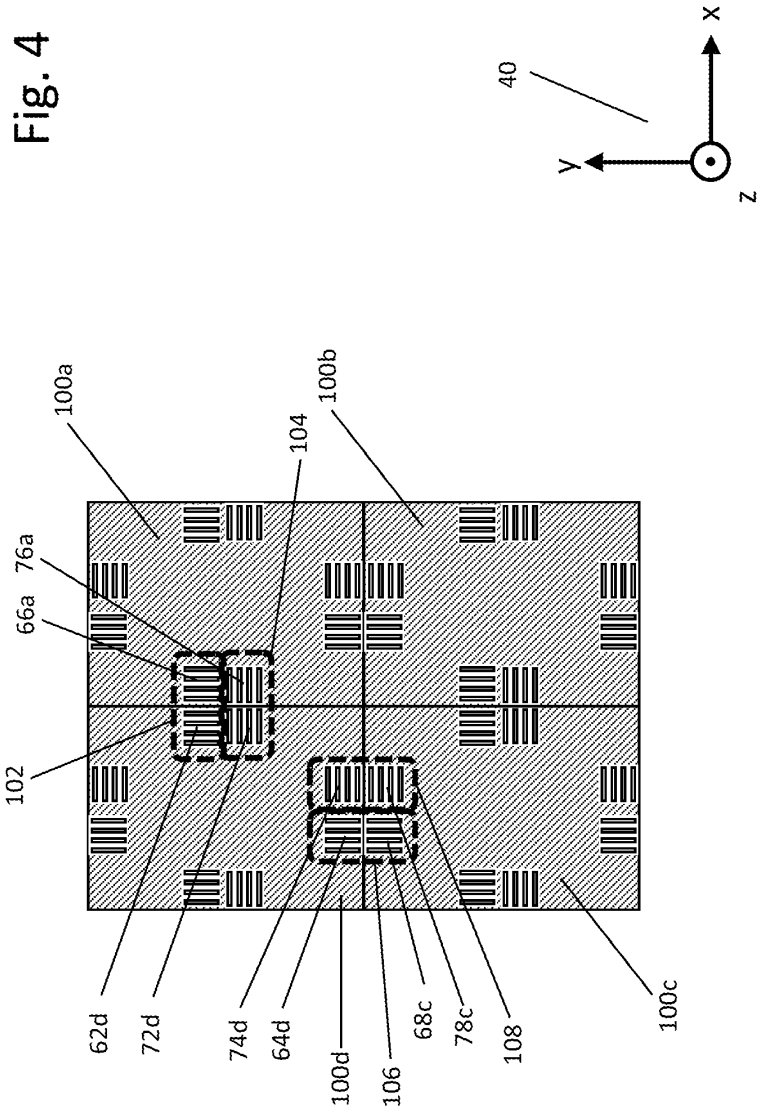

40
x
y
z
100a
104
100b
76a
66a
102
62d
72d
74d
64d
100d
106
68c
78c
108
100c

Fig. 5

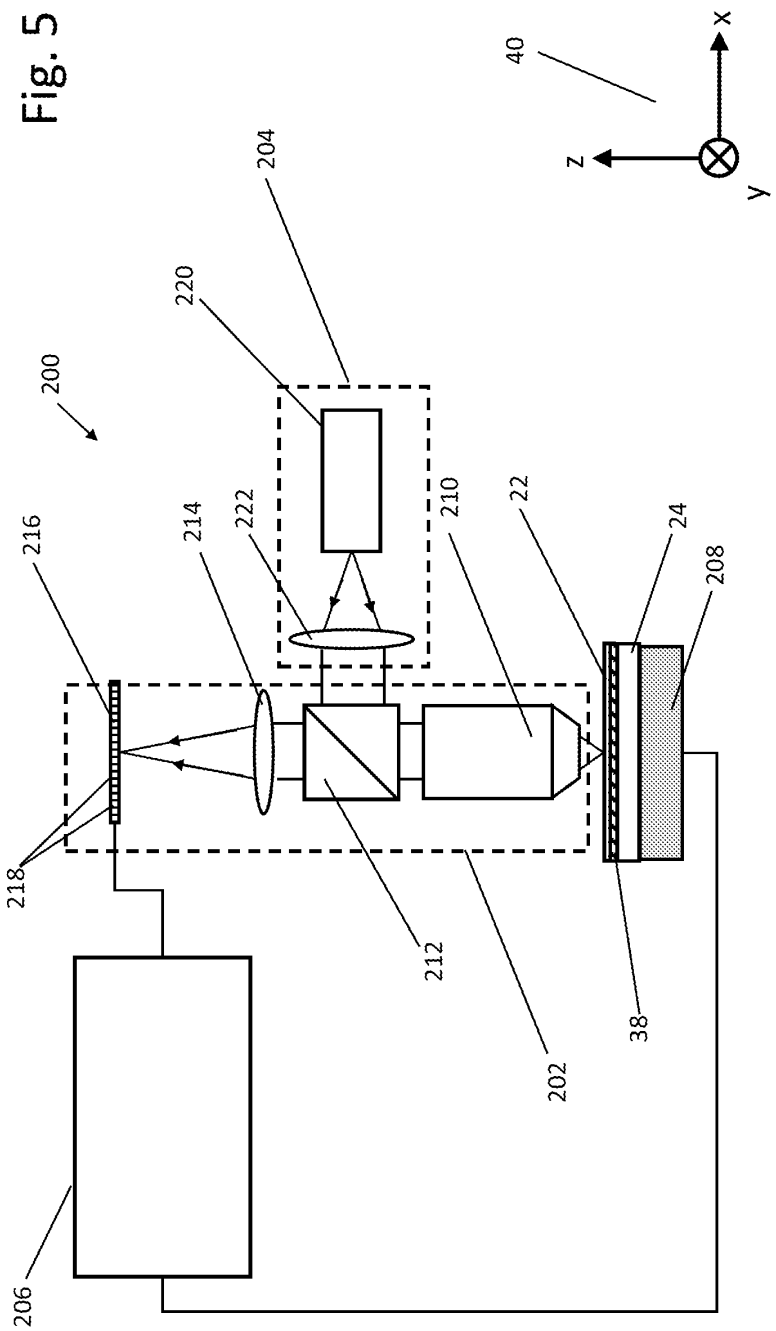


Fig. 6

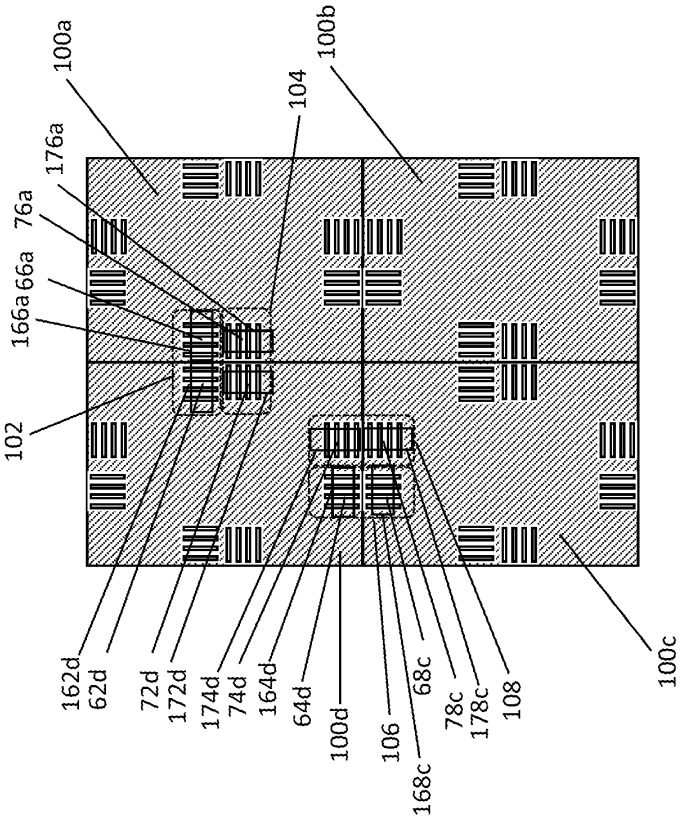

40
x
y
z
100a
104
100b
176a
76a
66a
166a
102
162d
62d
72d
172d
174d
74d
164d
64d
100d
106
168c
68c
78c
178c
108
100c

Fig. 7A

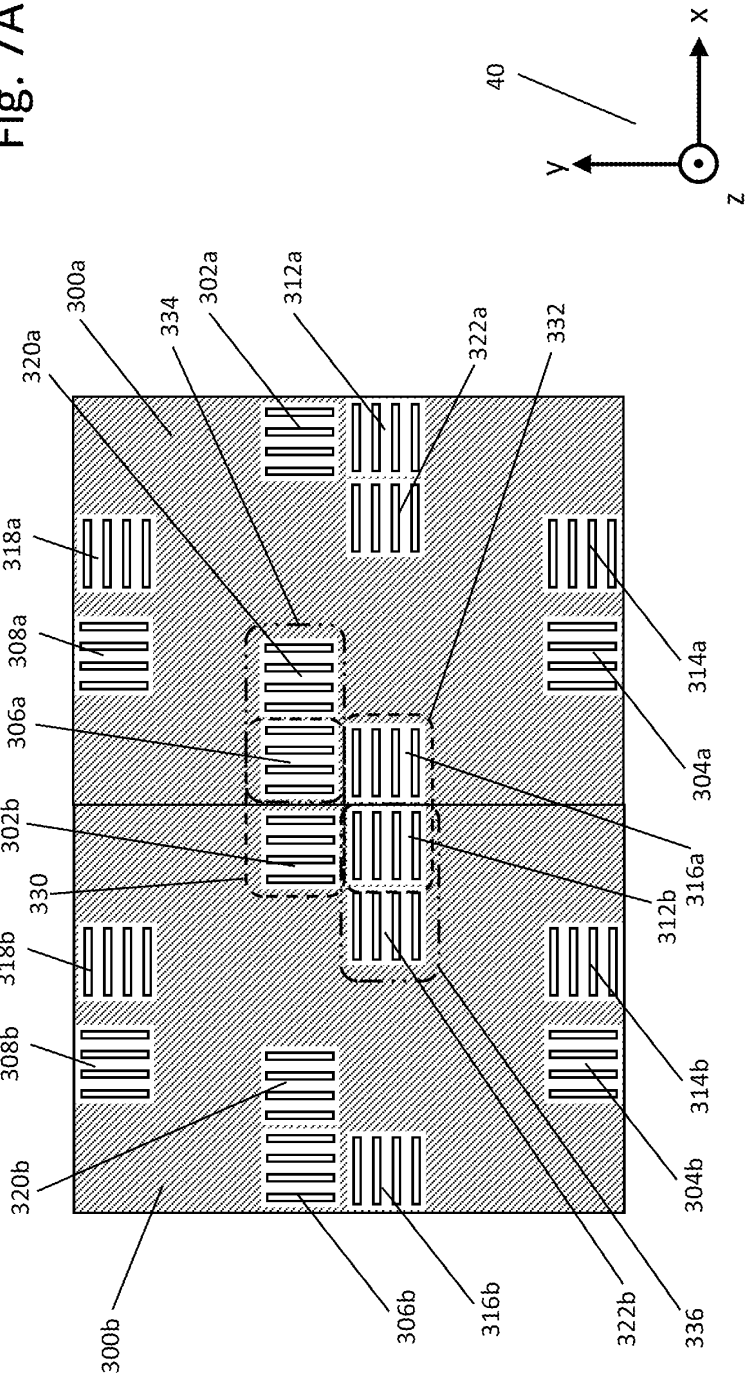

40
x
y
z
300a
334
302a
312a
322a
332
320a
318a
308a
306a
302b
330
318b
308b
320b
314a
304a
316a
312b
314b
304b
300b
306b
316b
322b
336

Fig. 7B

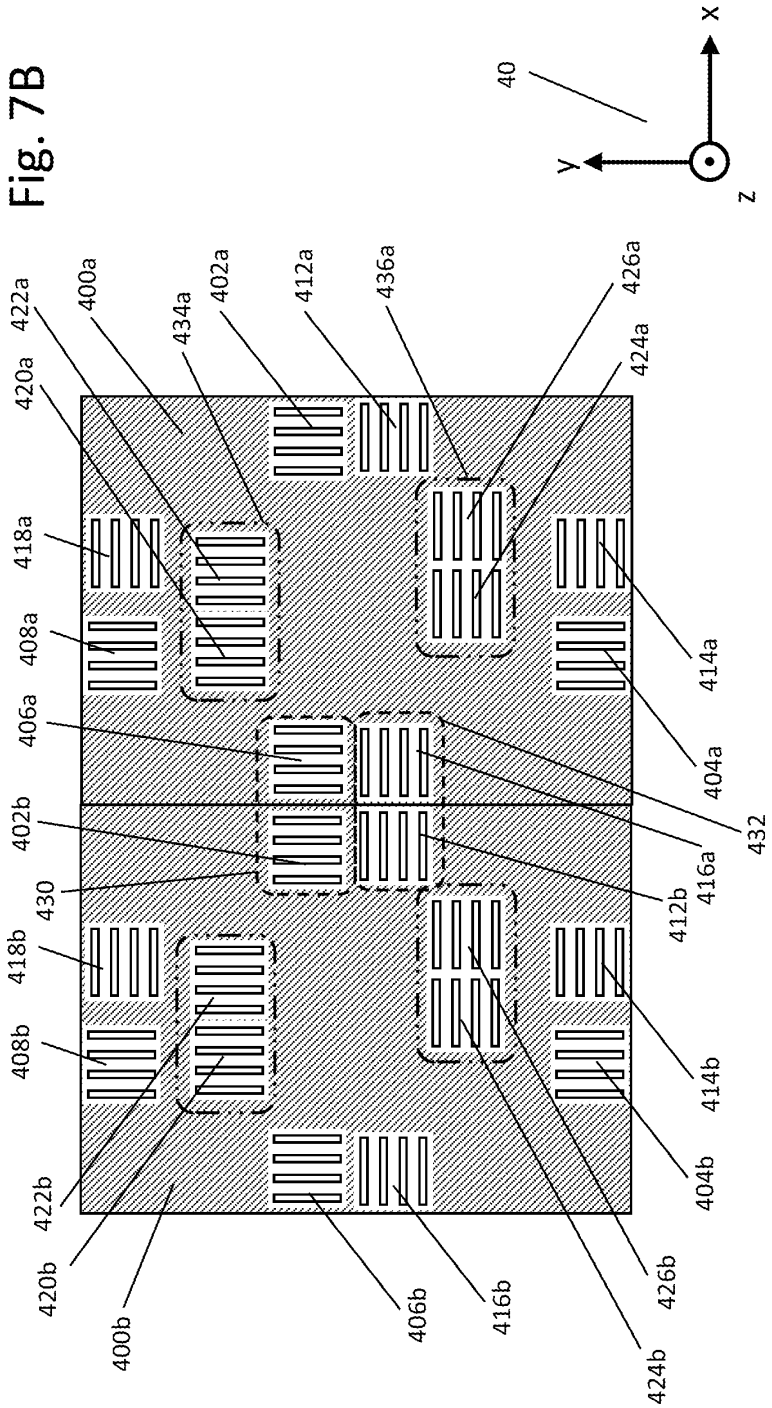

40
x
y
z
422a
400a
434a
402a
412a
436a
426a
424a
420a
418a
408a
406a
402b
430
418b
408b
422b
420b
400b
406b
416b
424b
426b
404b
414b
412b
416a
404a
414a
432

Fig. 8

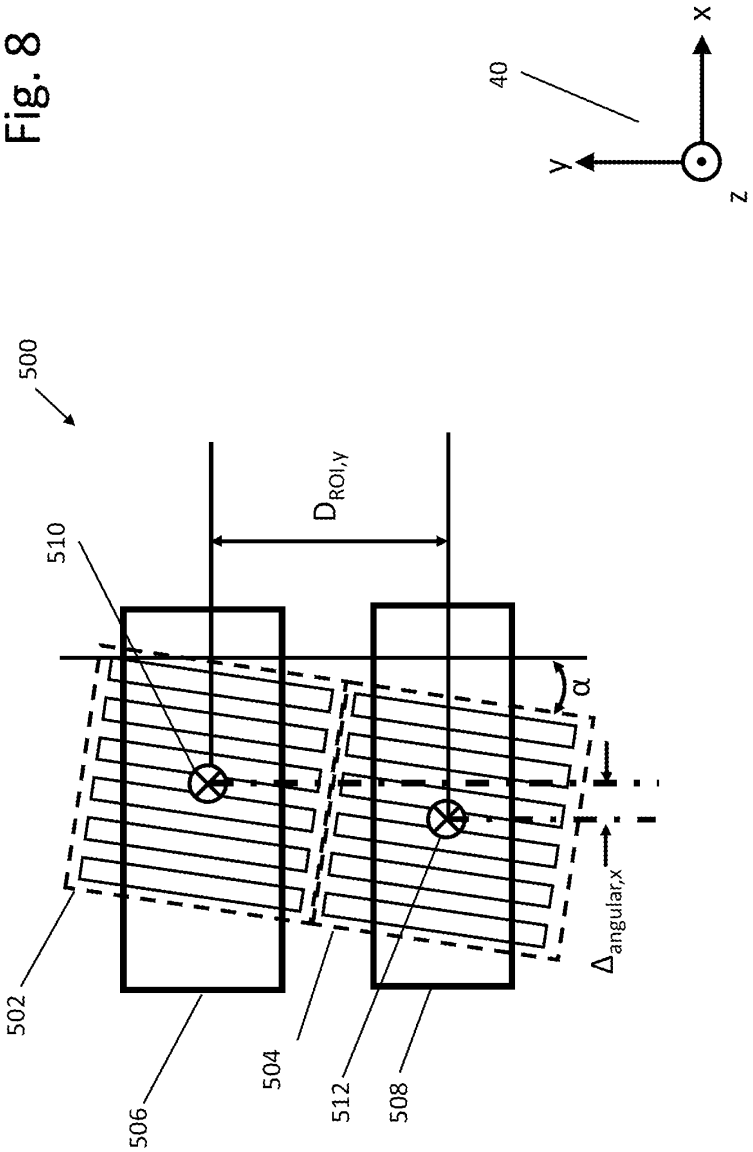
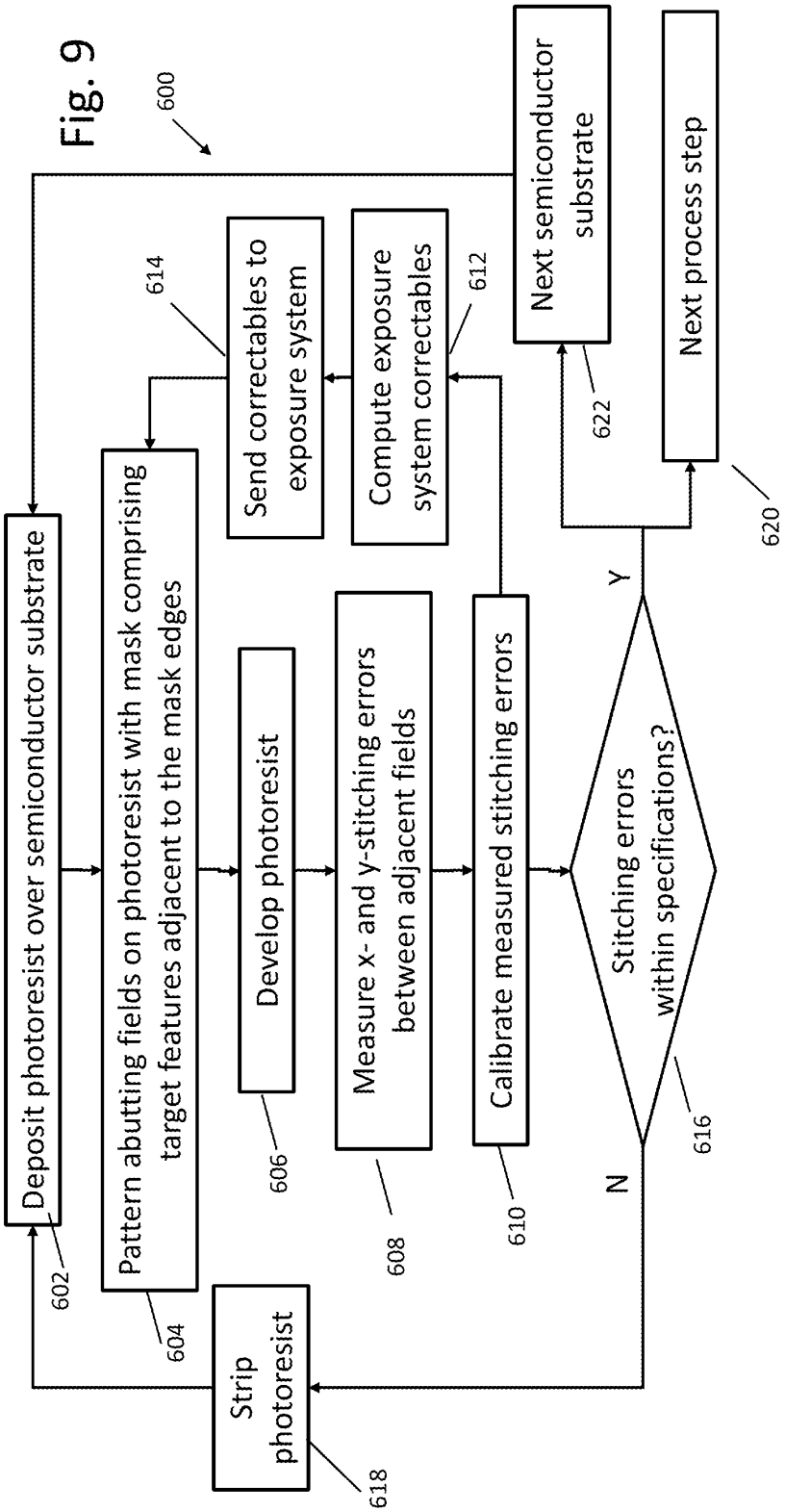


Fig. 9


600
Deposit photoresist over semiconductor substrate
602
Pattern abutting fields on photoresist with mask comprising target features adjacent to the mask edges
604
Develop photoresist
606
Measure x- and y-stitching errors between adjacent fields
608
Calibrate measured stitching errors
610
Stitching errors within specifications?
616
Y
N
Send correctables to exposure system
614
Compute exposure system correctables
612
Next semiconductor substrate
622
Next process step
620
Strip photoresist
618