FIG. 1

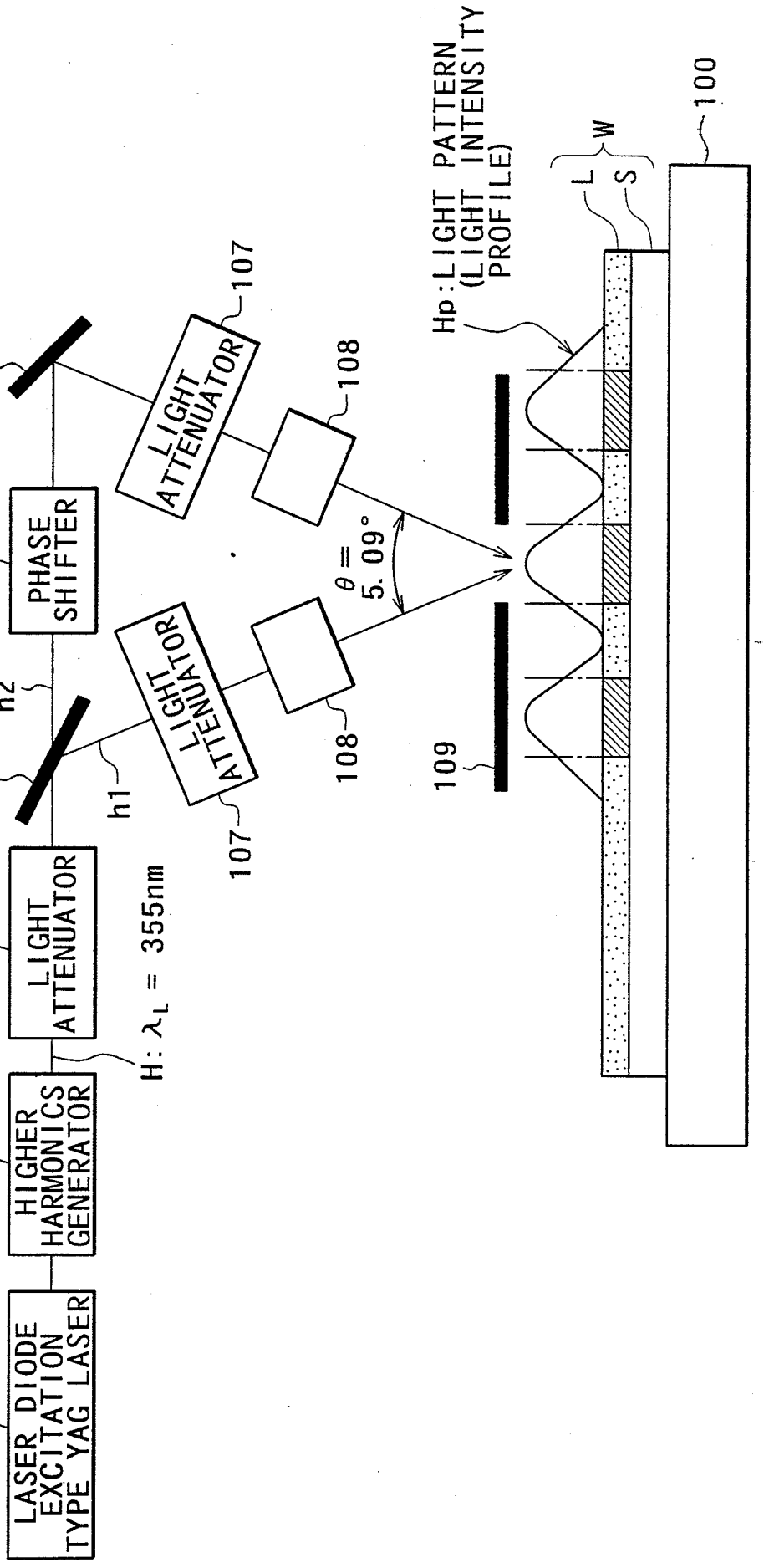

101
LASER DIODE EXCITATION TYPE YAG LASER
102
HIGHER HARMONICS GENERATOR
H: $\lambda_L$ = 355nm
103
LIGHT ATTENUATOR
104
h2
h1
105
PHASE SHIFTER
106
107
LIGHT ATTENUATOR
107
LIGHT ATTENUATOR
108
108
$\theta$ = 5.09°
109
Hp:LIGHT PATTERN (LIGHT INTENSITY PROFILE)
L
W
S
100

FIG. 3

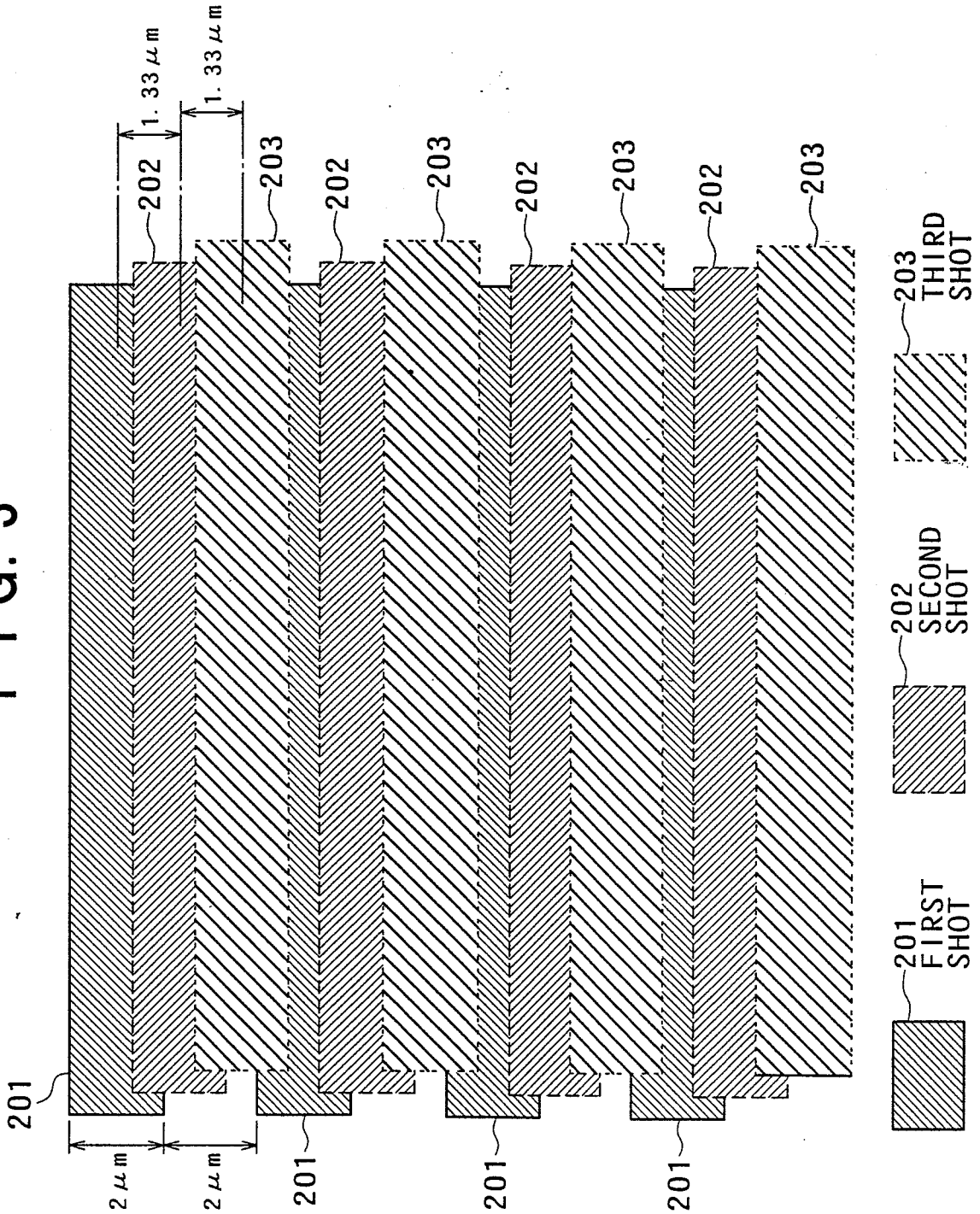

1.33 μm
1.33 μm
202
203
202
203
202
203
202
203
201
2 μm
2 μm
201
201
201
201 FIRST SHOT
202 SECOND SHOT
203 THIRD SHOT

FIG. 4

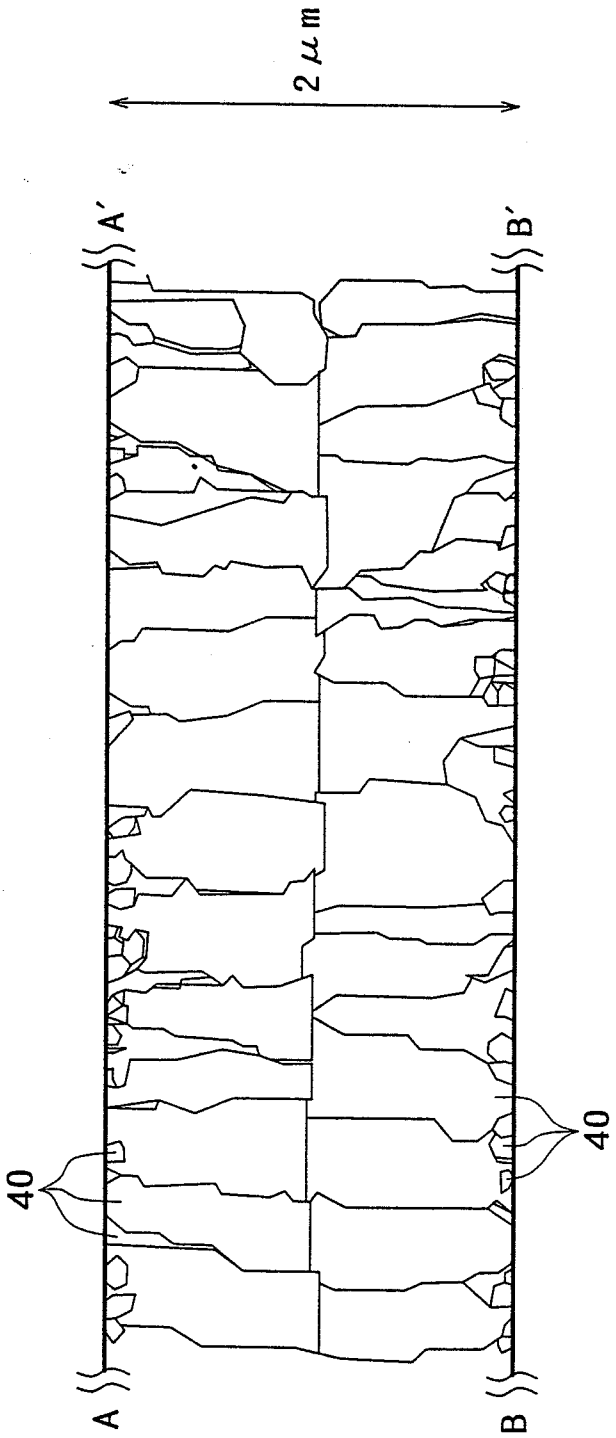


FIG. 5

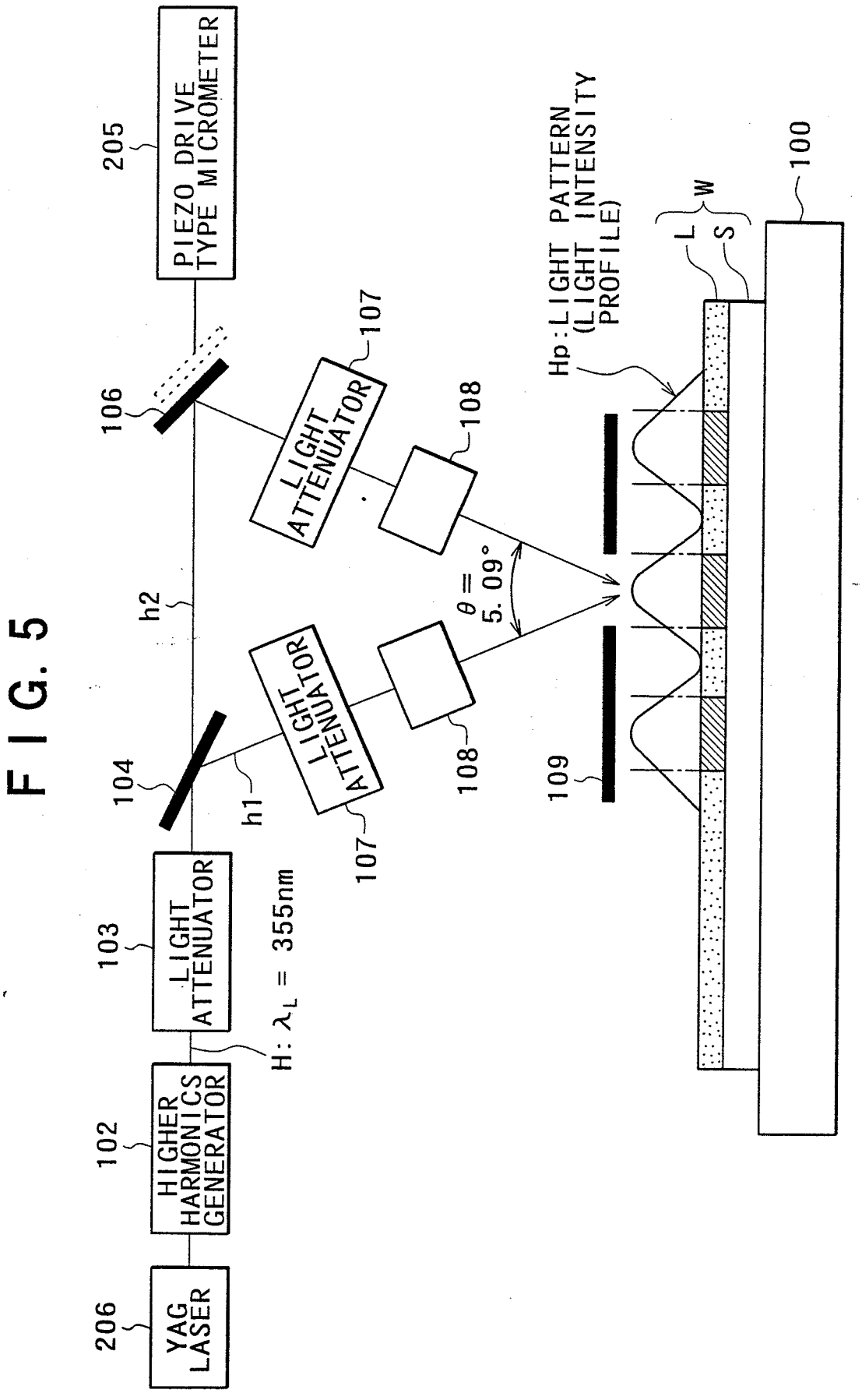
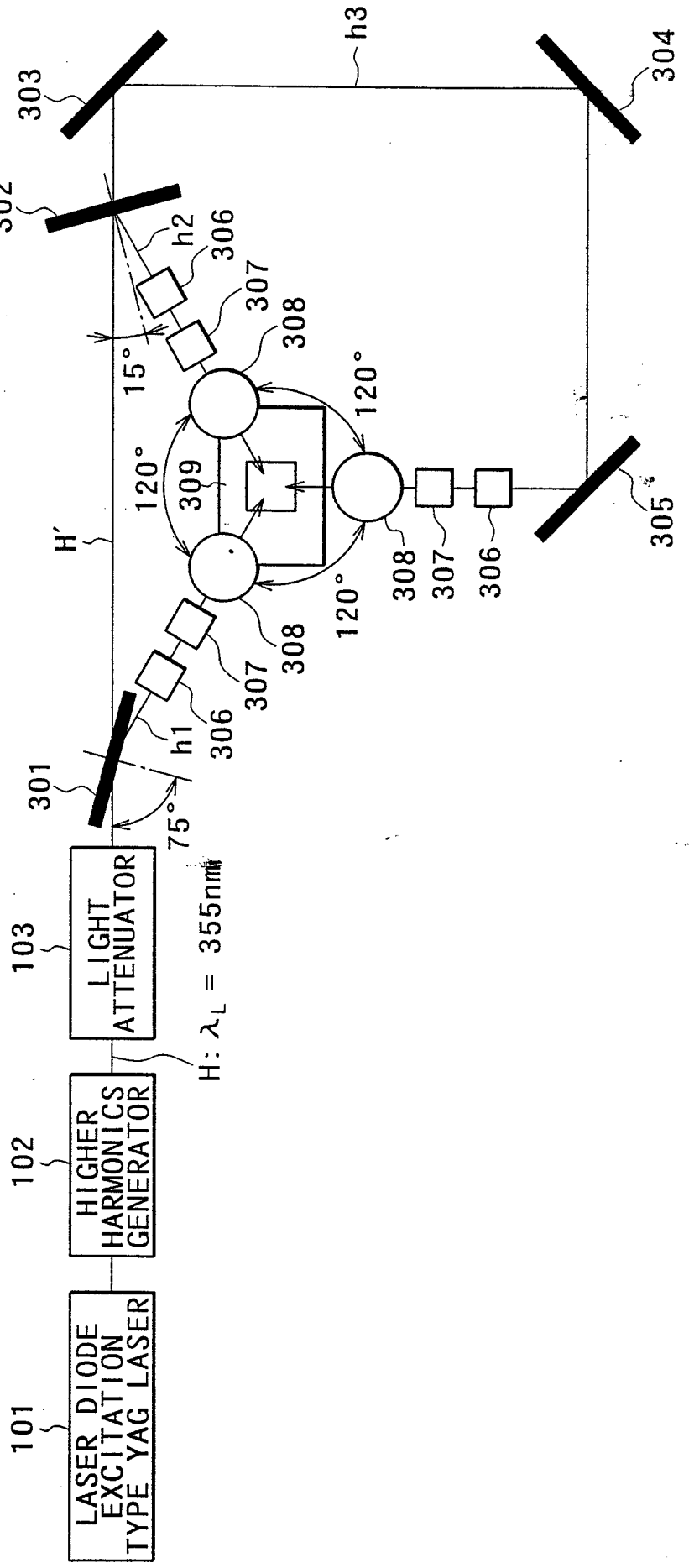

YAG LASER
206
HIGHER HARMONICS GENERATOR
102
LIGHT ATTENUATOR
103
H: $\lambda_L$ = 355nm
104
h1
h2
LIGHT ATTENUATOR
107
LIGHT ATTENUATOR
107
108
108
$\theta$ = 5.09°
109
Hp: LIGHT PATTERN (LIGHT INTENSITY PROFILE)
L
W
S
100
106
PIEZO DRIVE TYPE MICROMETER
205

FIG. 6


LASER DIODE EXCITATION TYPE YAG LASER
101
HIGHER HARMONICS GENERATOR
102
LIGHT ATTENUATOR
103
H: $\lambda_L$ = 355nm
301
302
303
304
305
306
307
308
309
h1
h2
h3
H'
75°
15°
120°

# F I G. 7

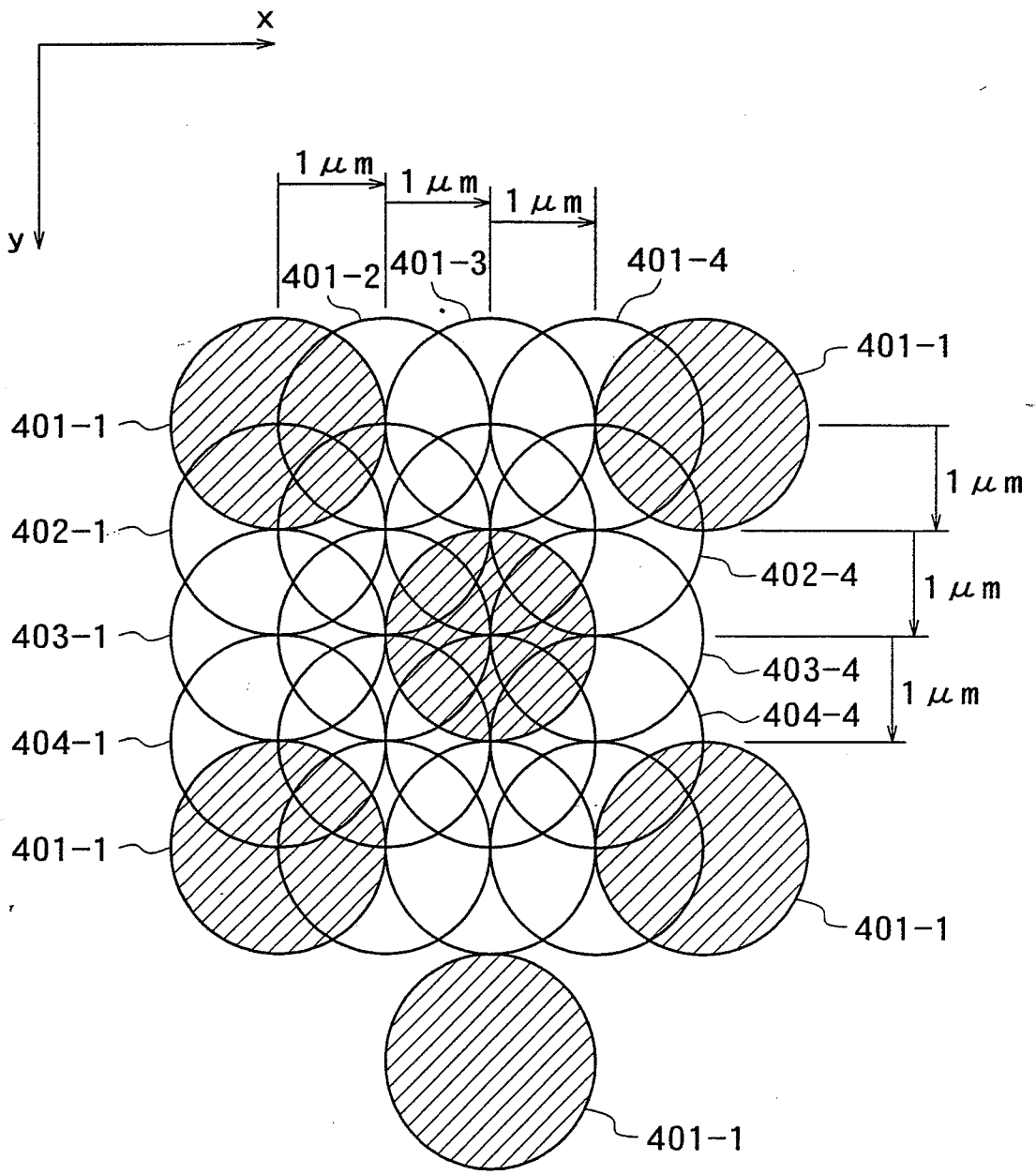

x
y
1 μm
1 μm
1 μm
401-2
401-3
401-4
401-1
401-1
1 μm
402-1
402-4
1 μm
403-1
403-4
1 μm
404-1
404-4
401-1
401-1
401-1

FIG. 8A

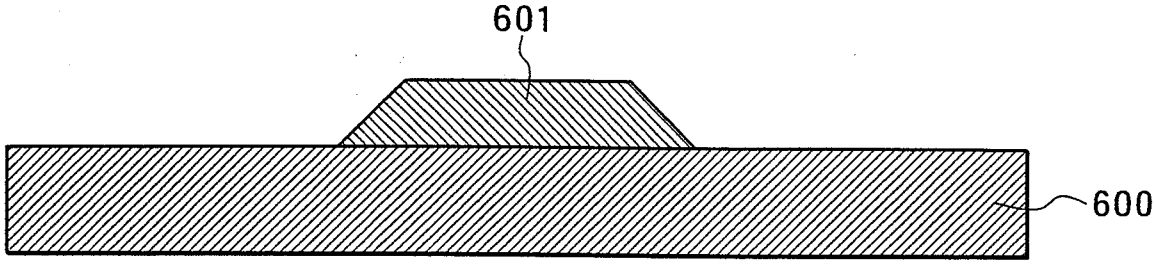



FIG. 8B

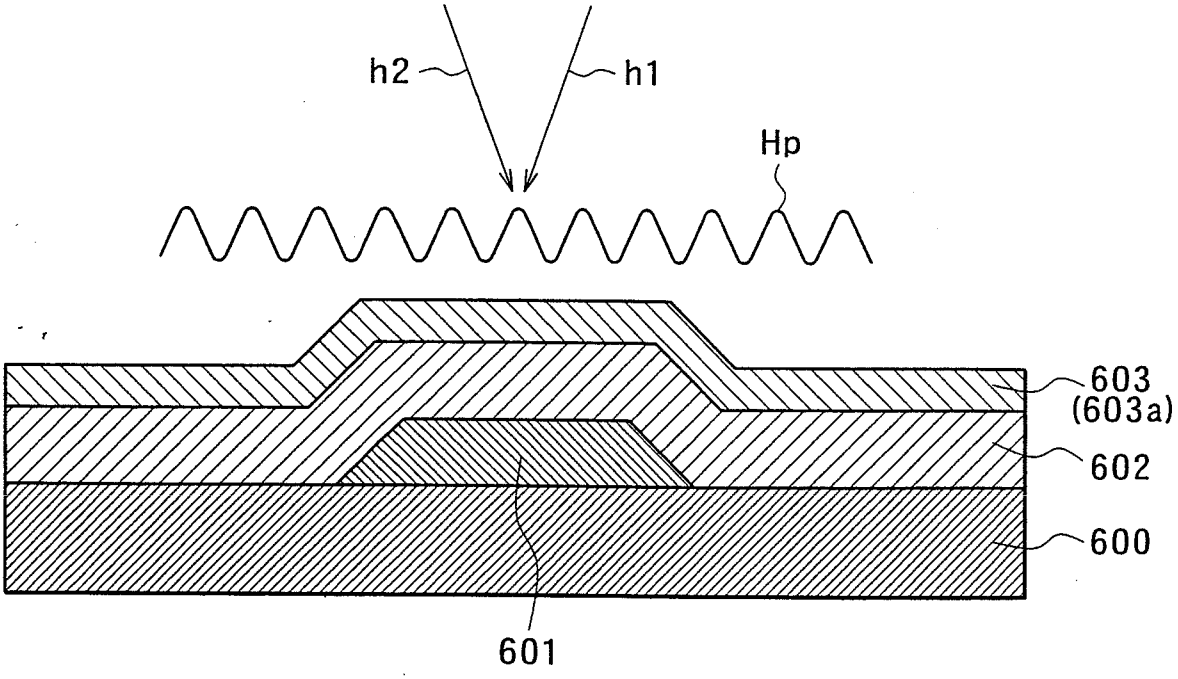


FIG. 9A

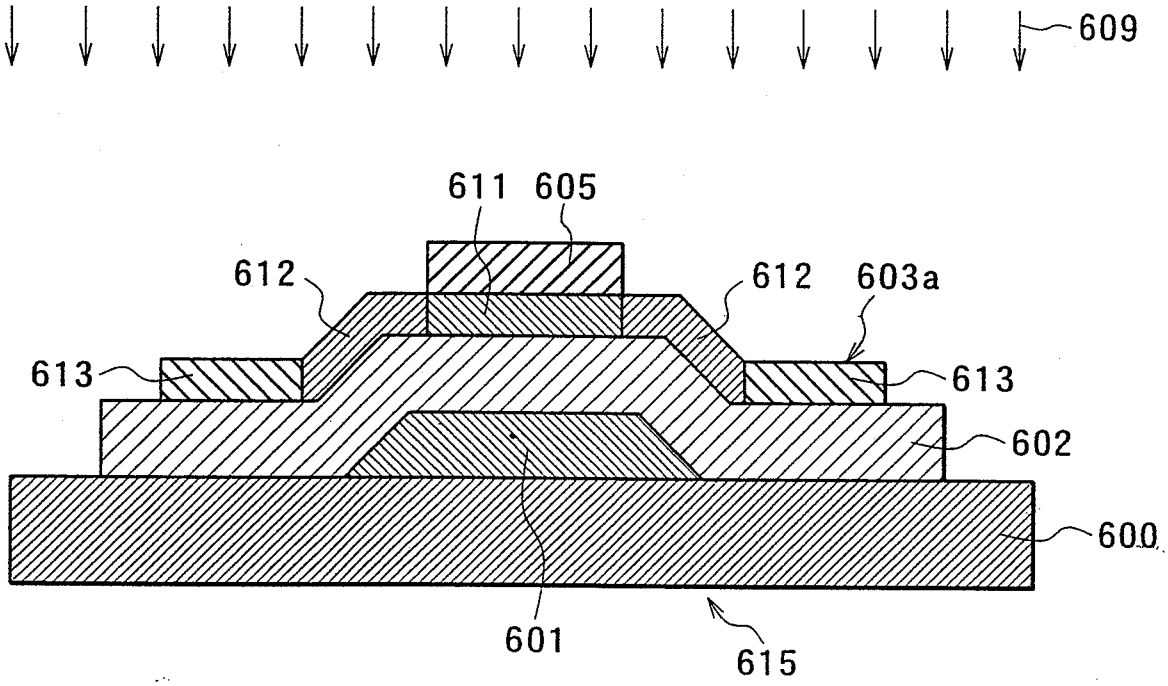

609
611
605
612
612
603a
613
613
602
600
601
615

FIG. 9B

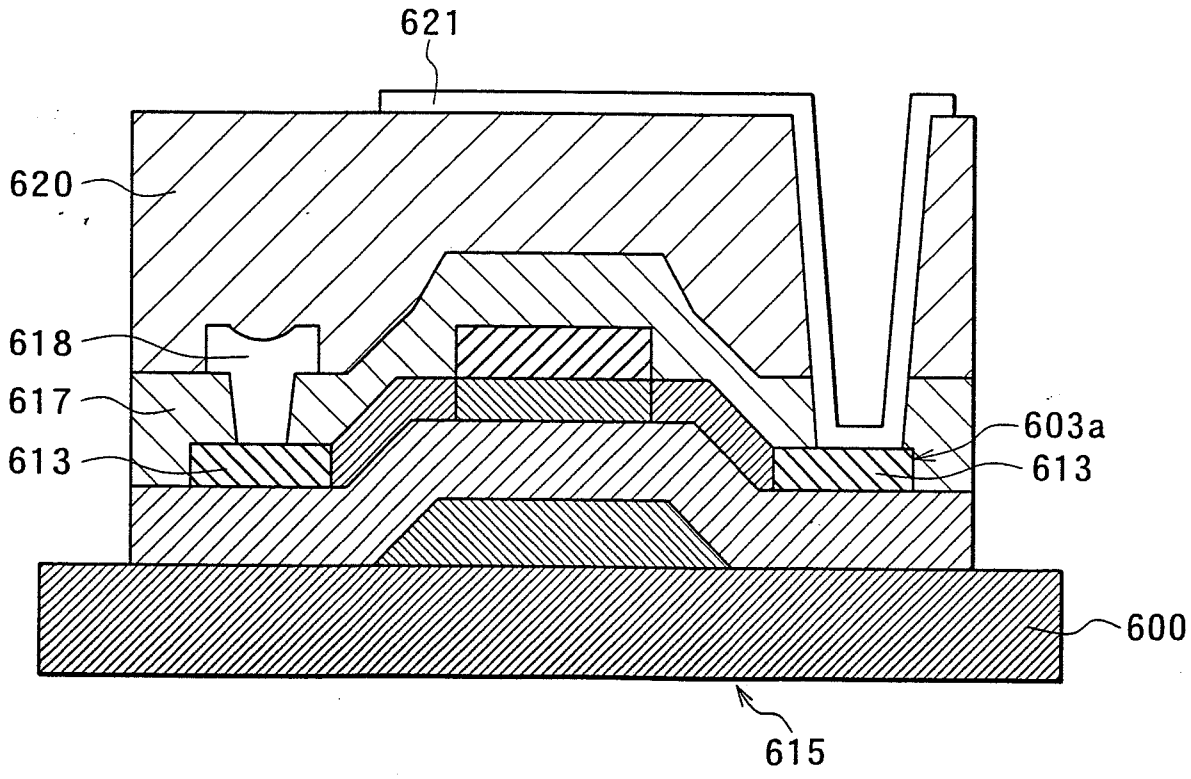

621
620
618
617
613
603a
613
600
615

FIG. 10A

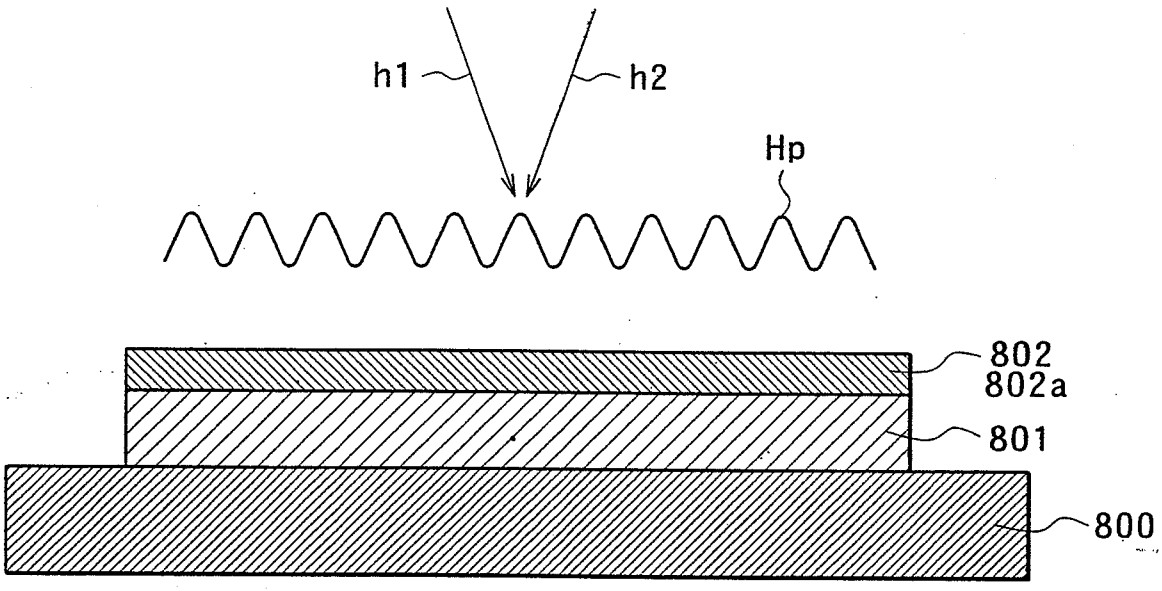



FIG. 10B

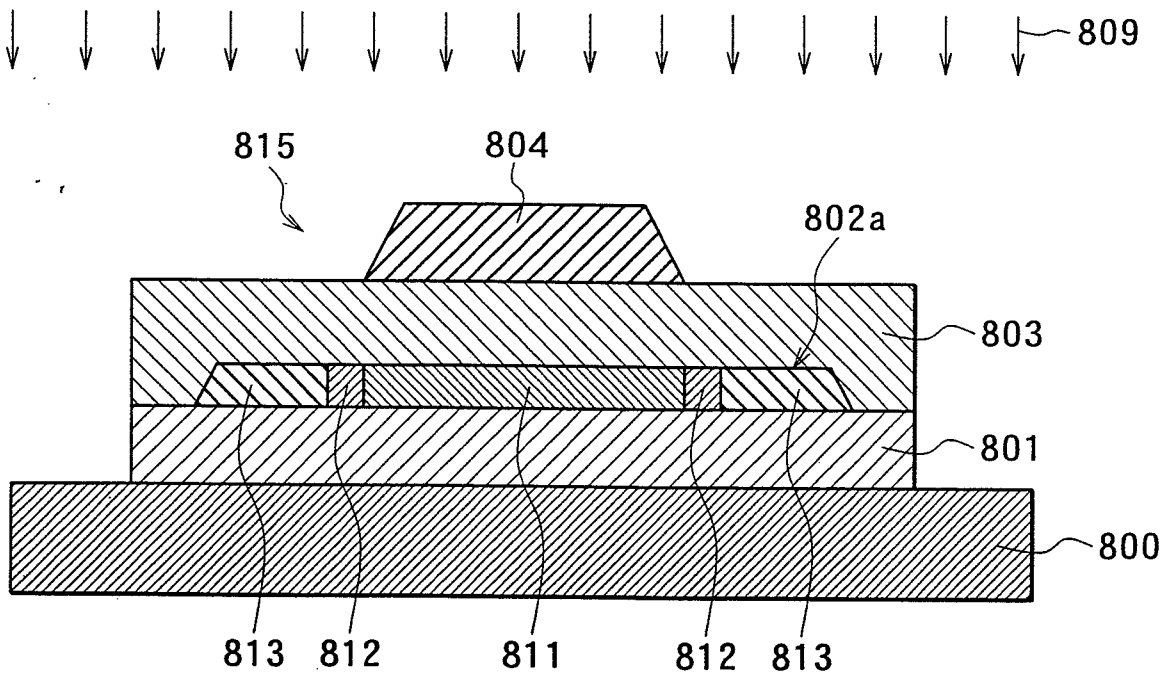


FIG. 11

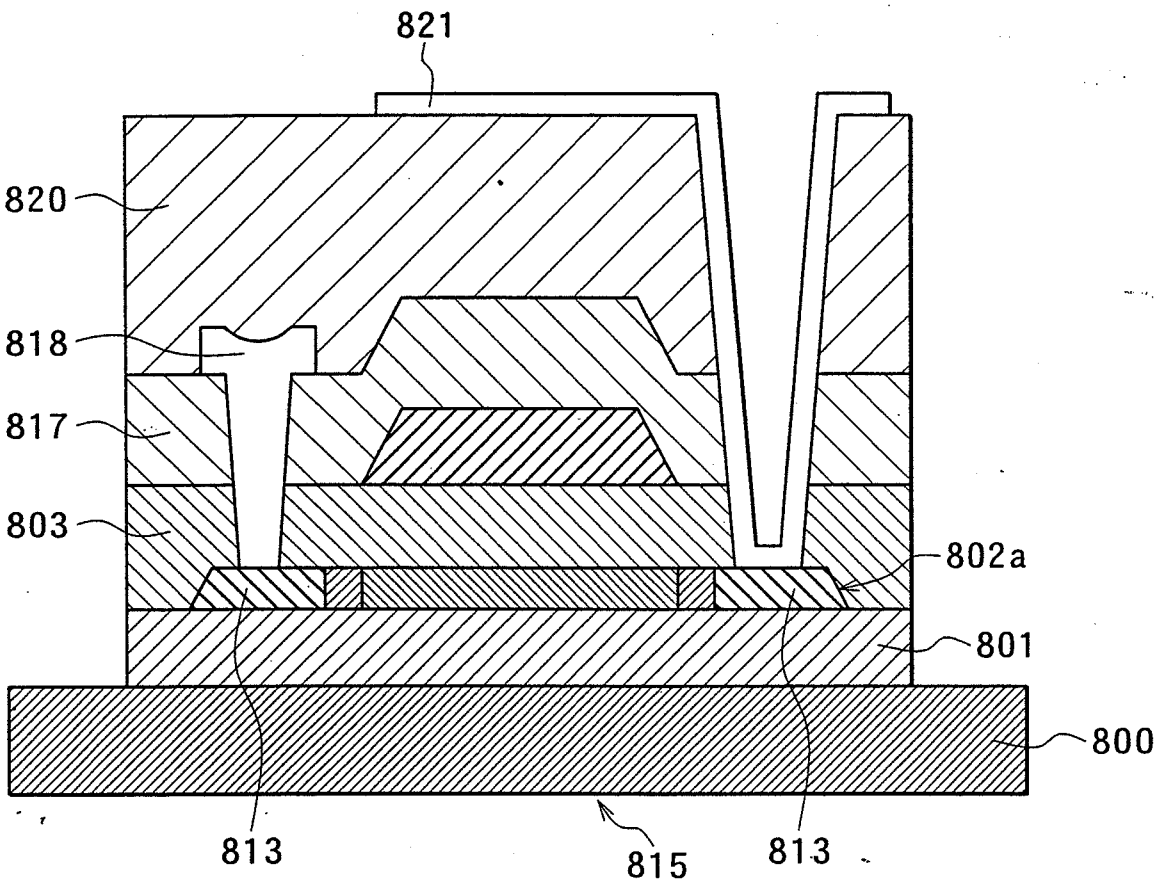


FIG. 12

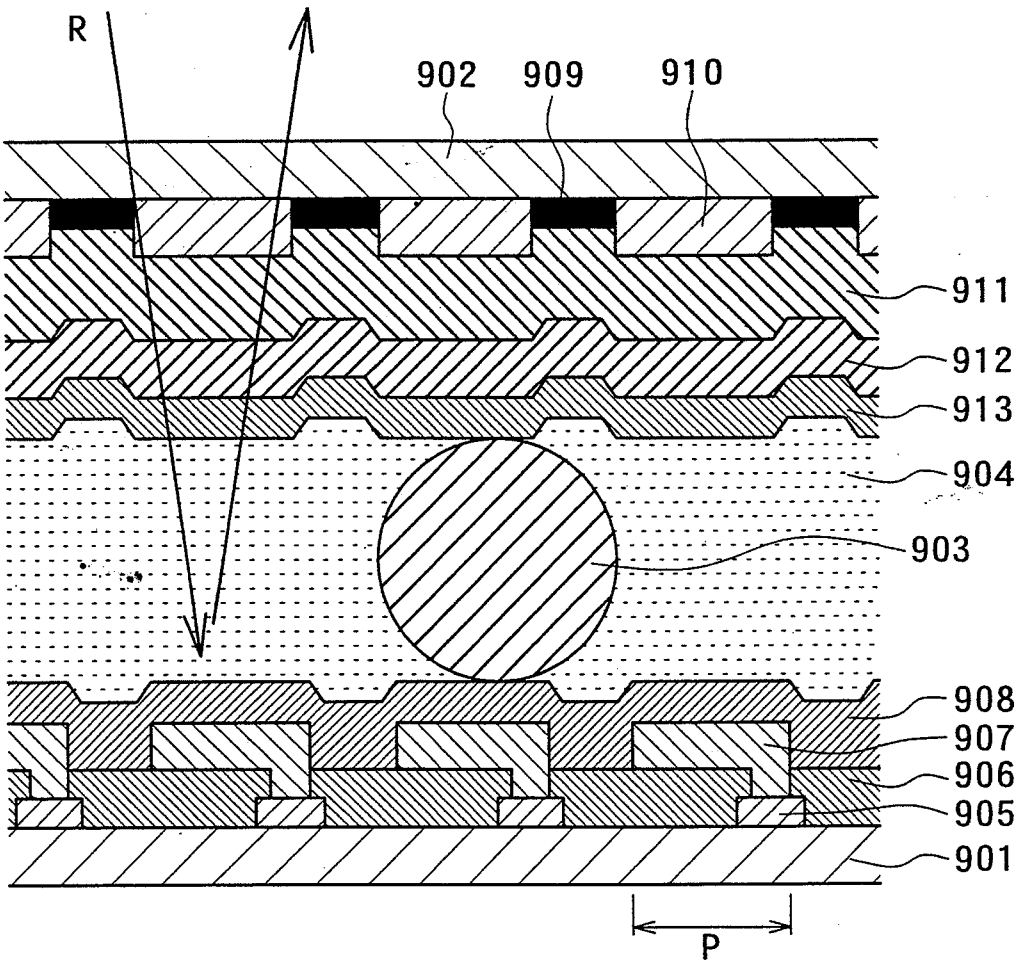


FIG. 13

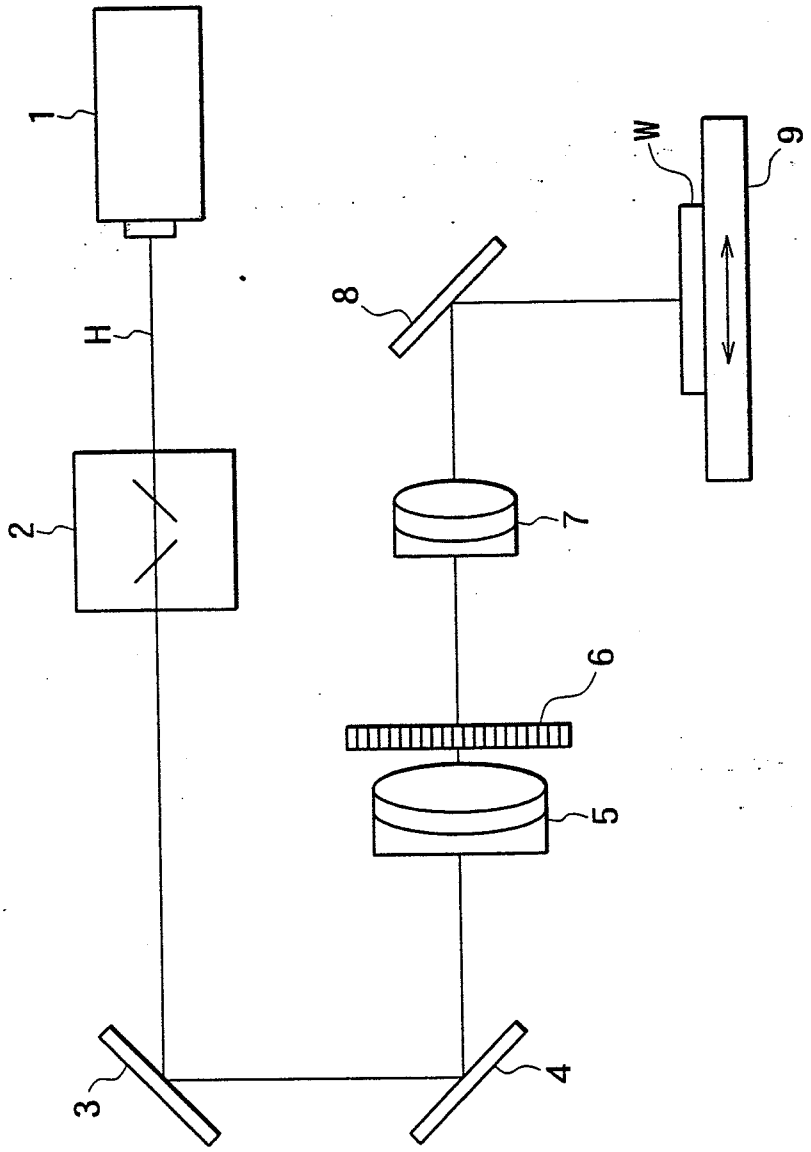
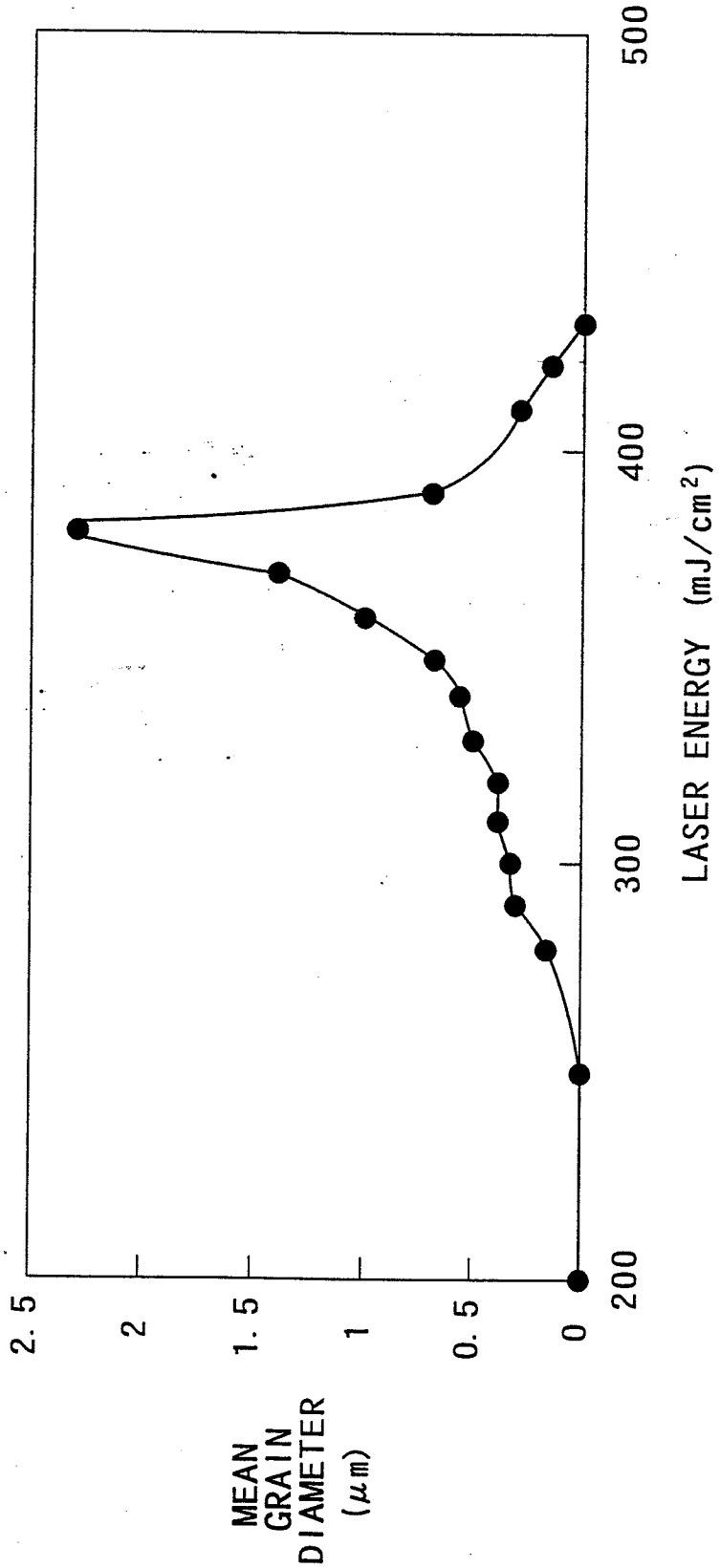


FIG. 14


MEAN GRAIN DIAMETER (μm)
2.5
2
1.5
1
0.5
0
200
300
400
500
LASER ENERGY (mJ/cm²)