

FIG.1A

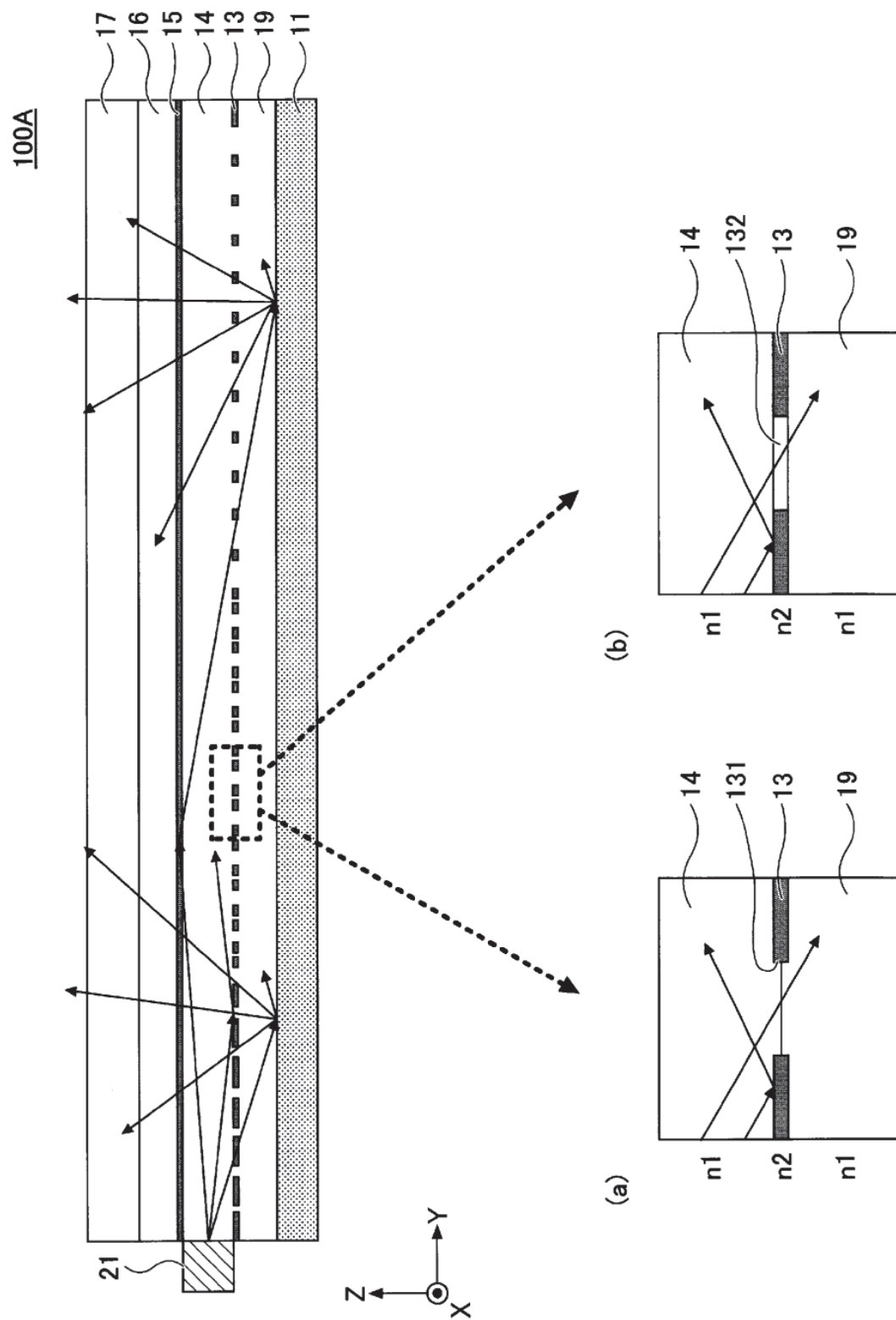


FIG.1B

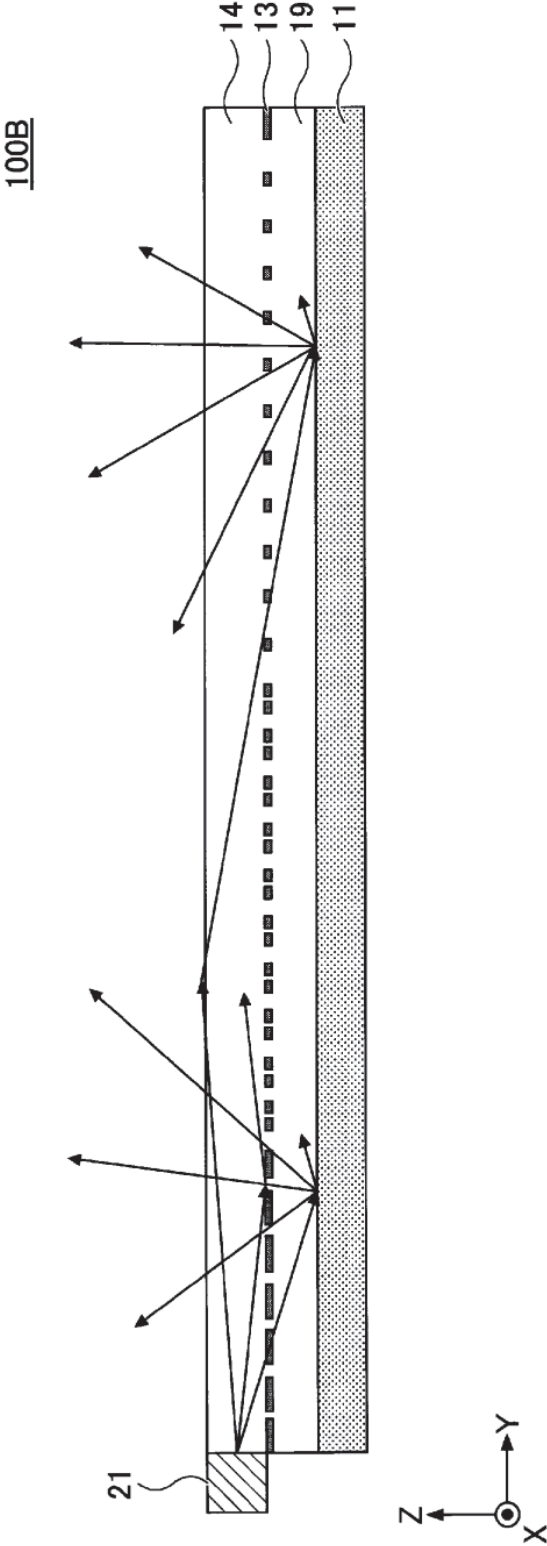


FIG.2A

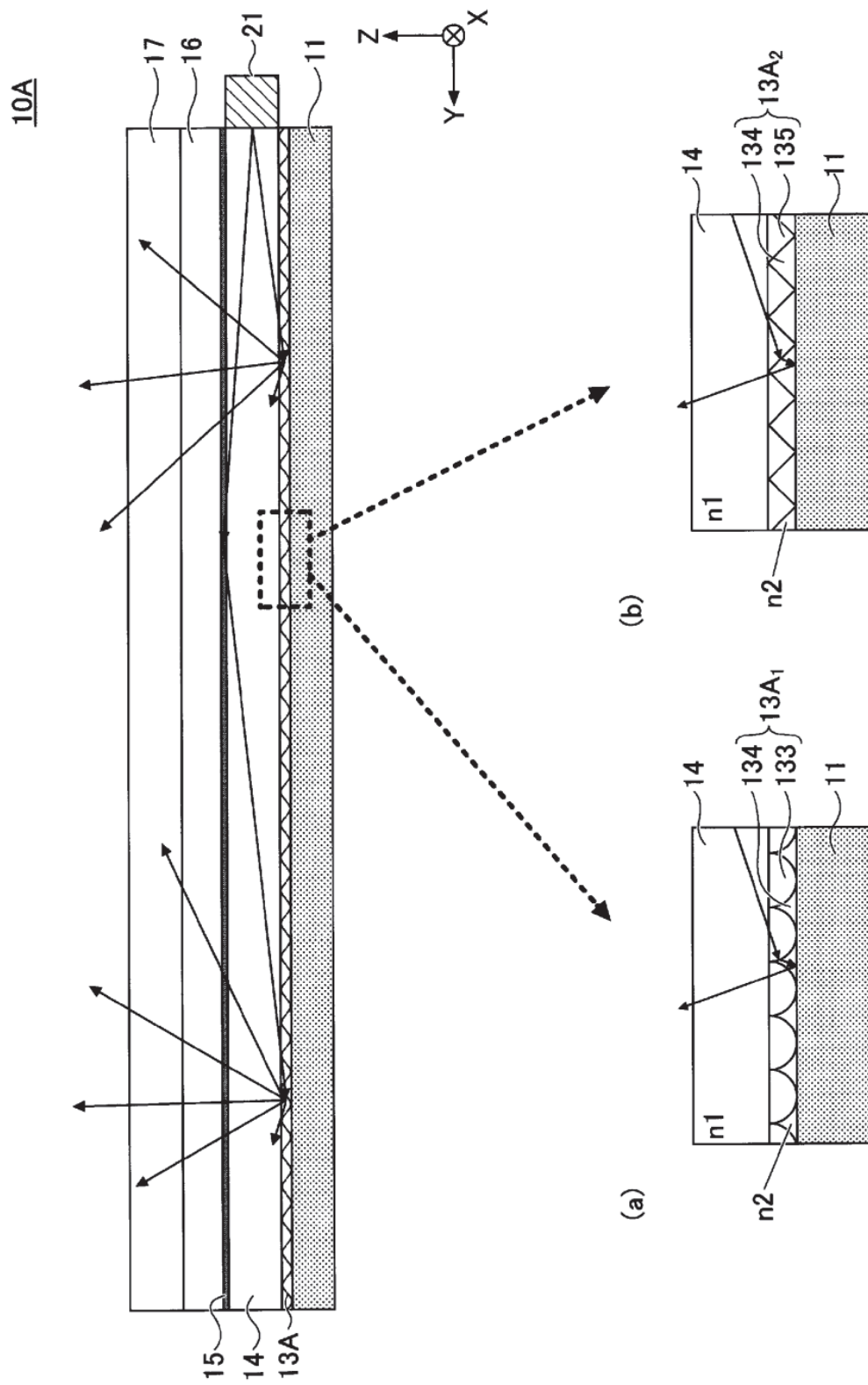


FIG.2B

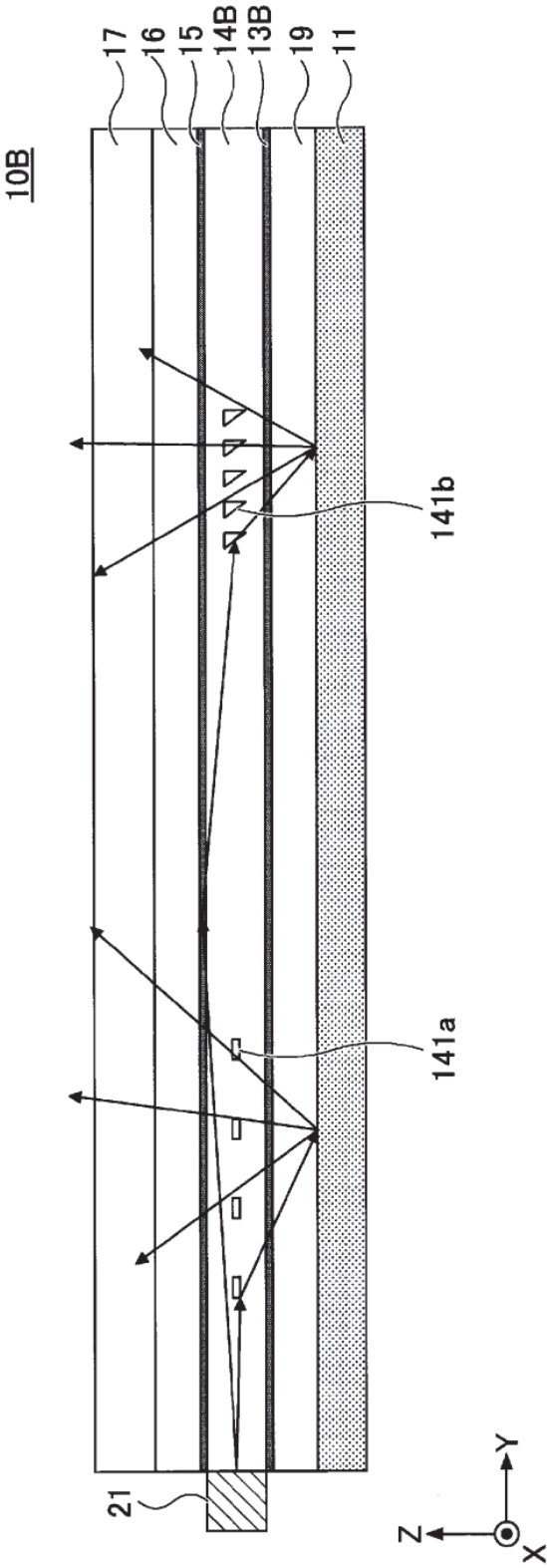


FIG.2C

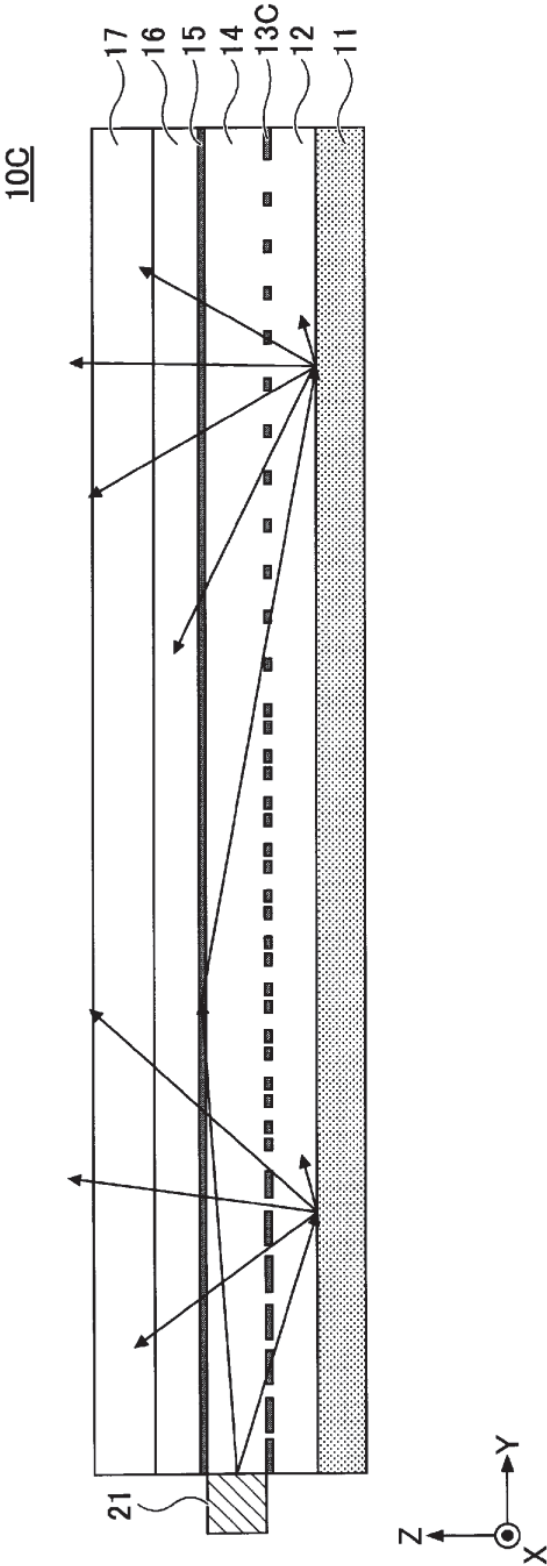
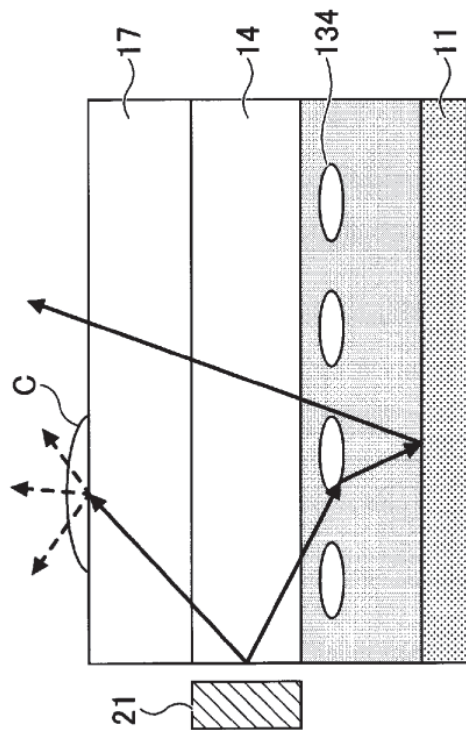


FIG.2D

(b) COMPARATIVE EXAMPLE



(a) EXAMPLE

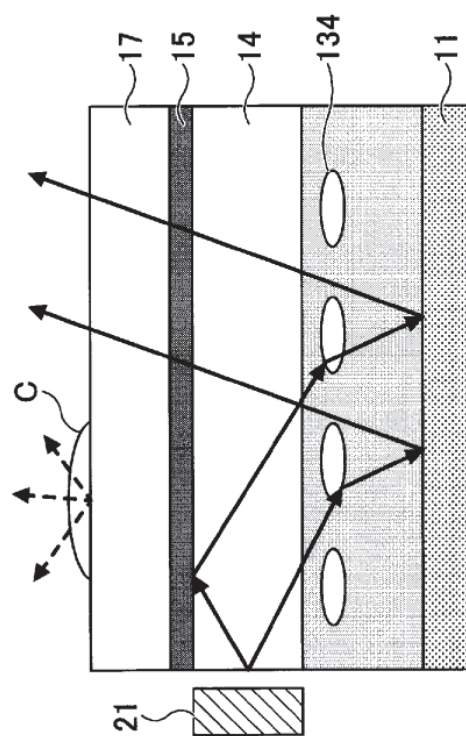


FIG.2E

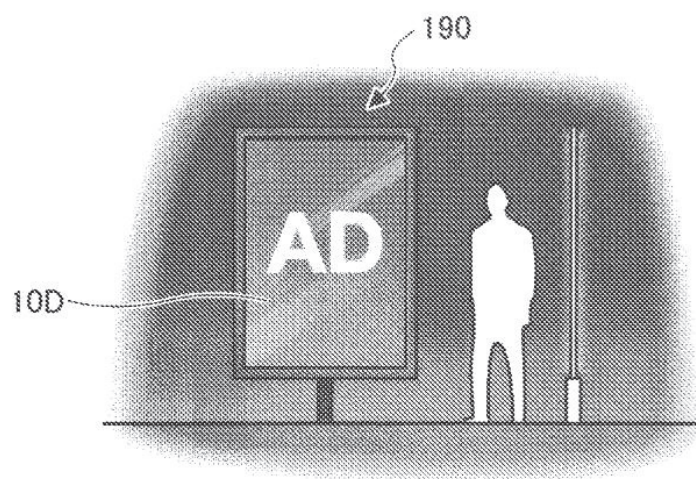


FIG.2F

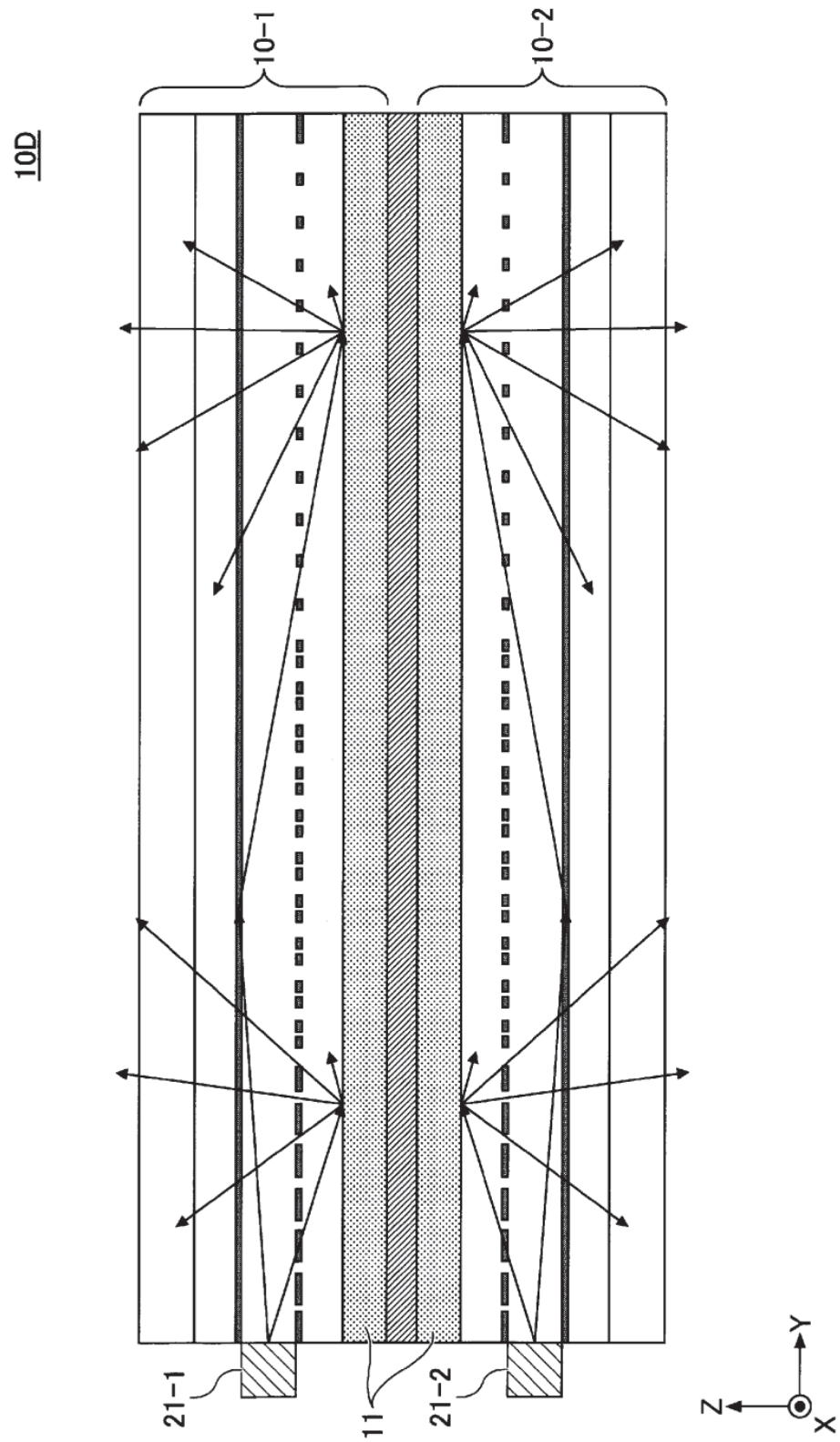


FIG.3A

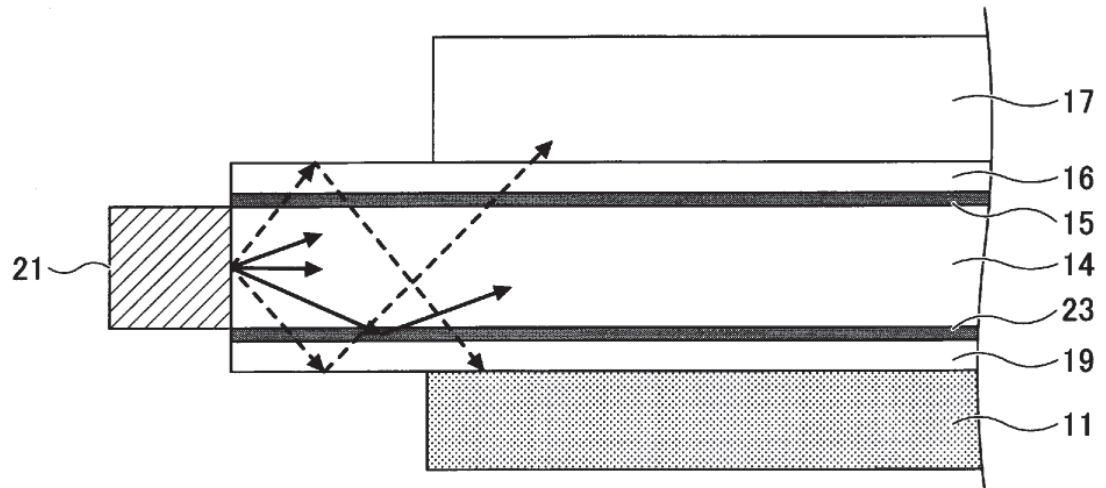


FIG.3B

30A

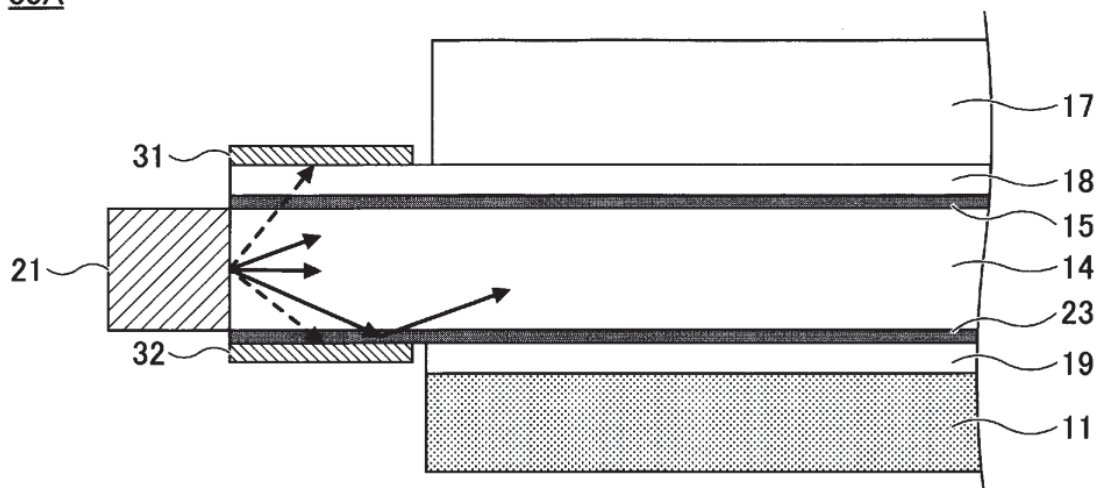


FIG.3C

30B

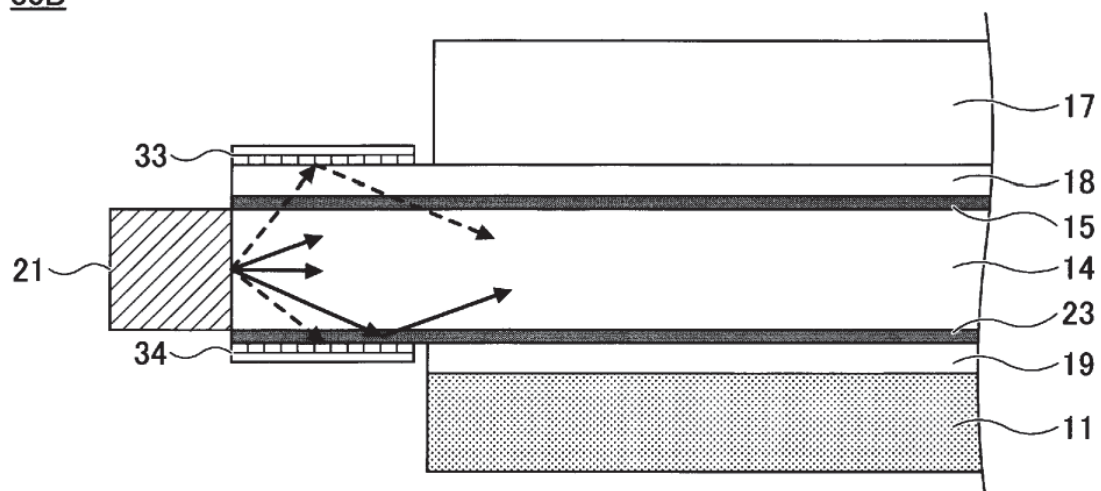


FIG.4

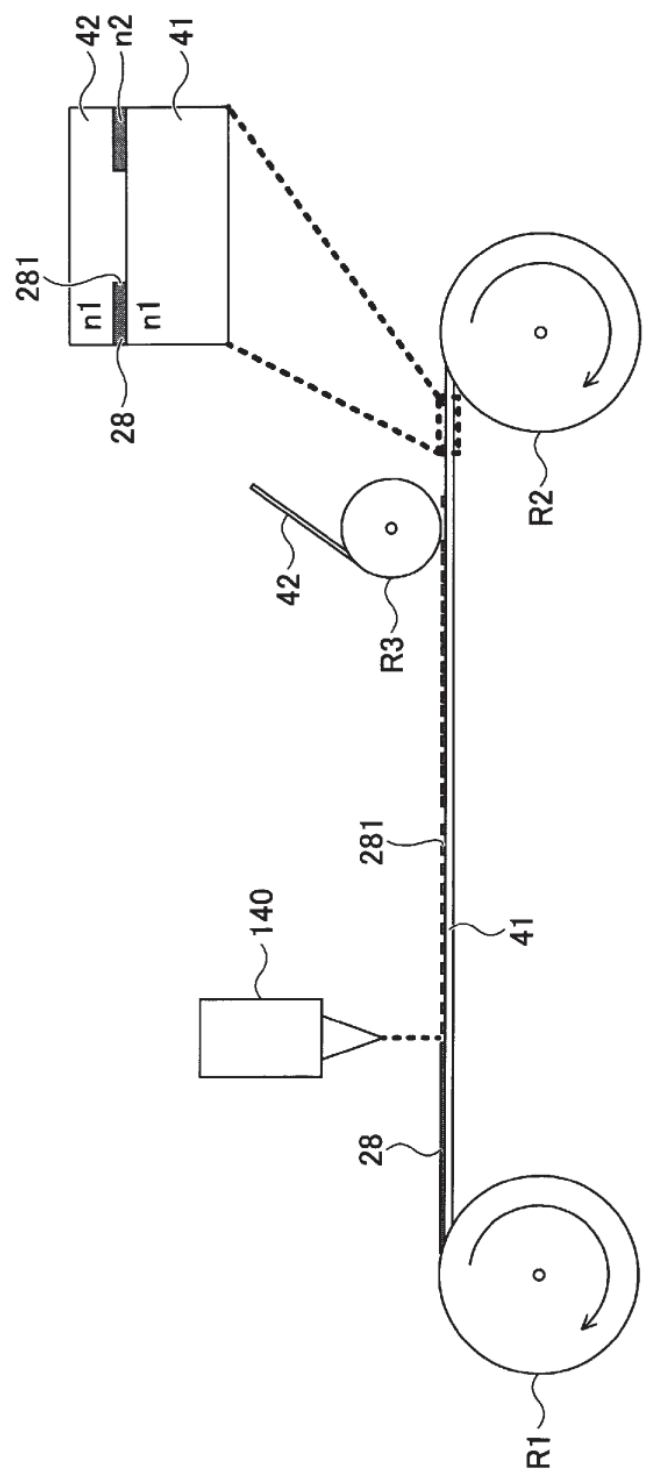


FIG.5

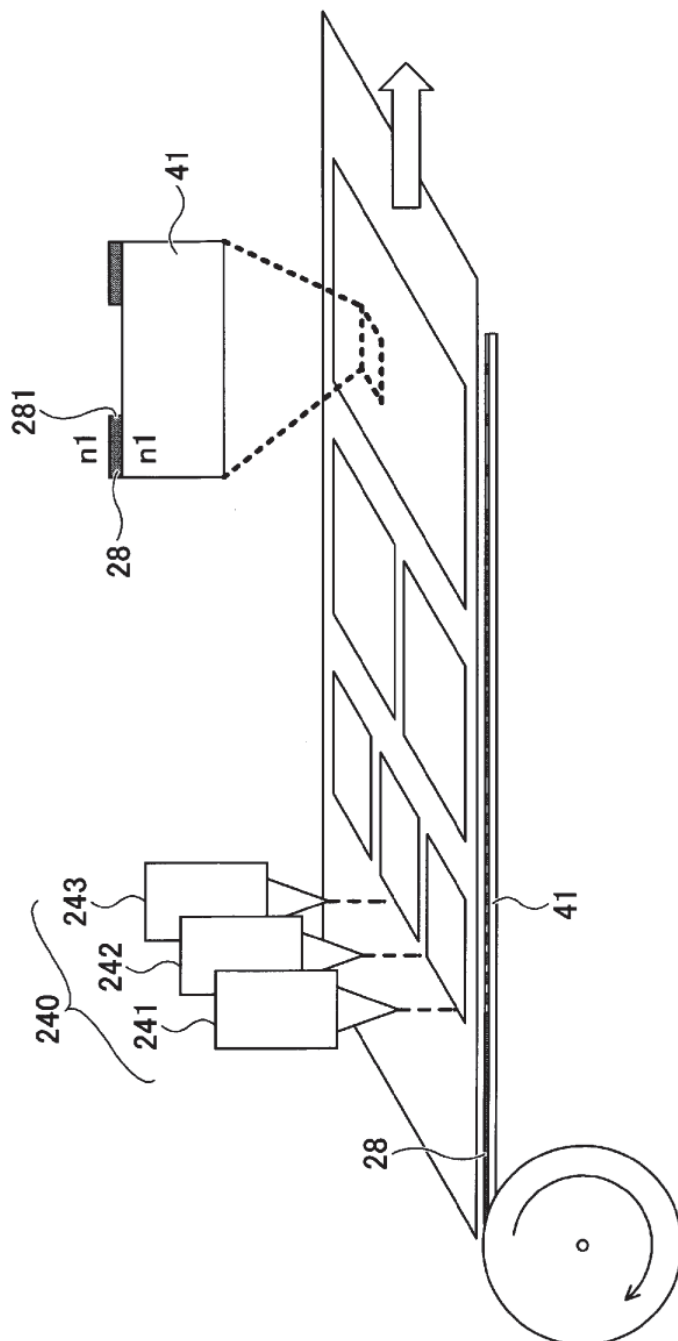


FIG.6A

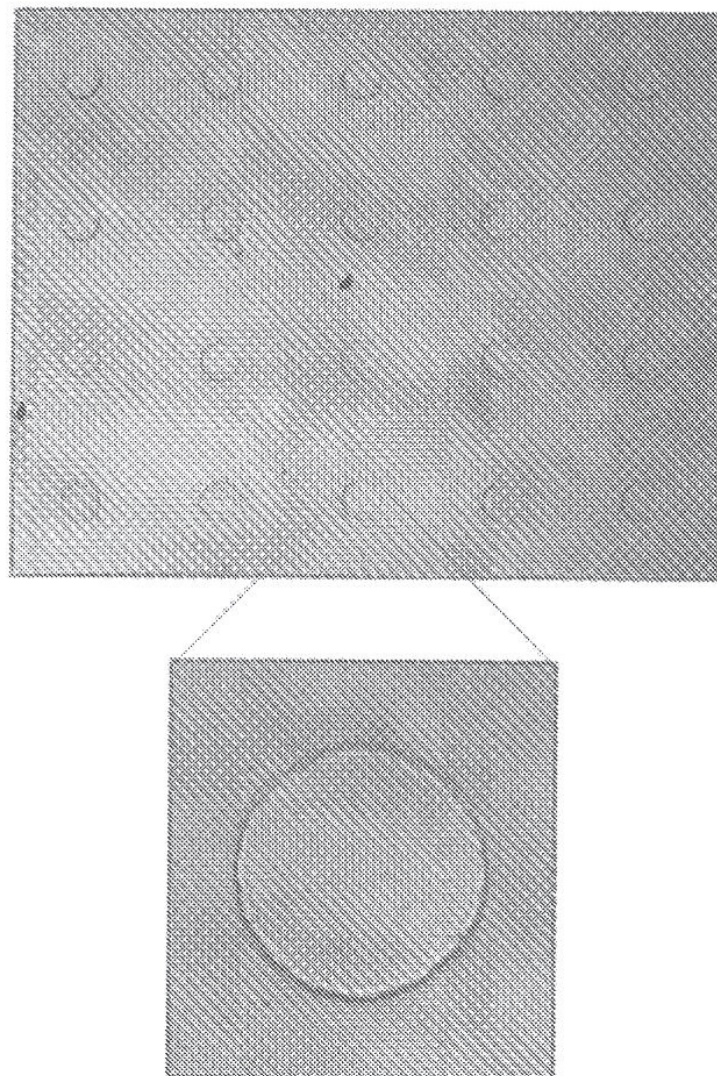


FIG.6B

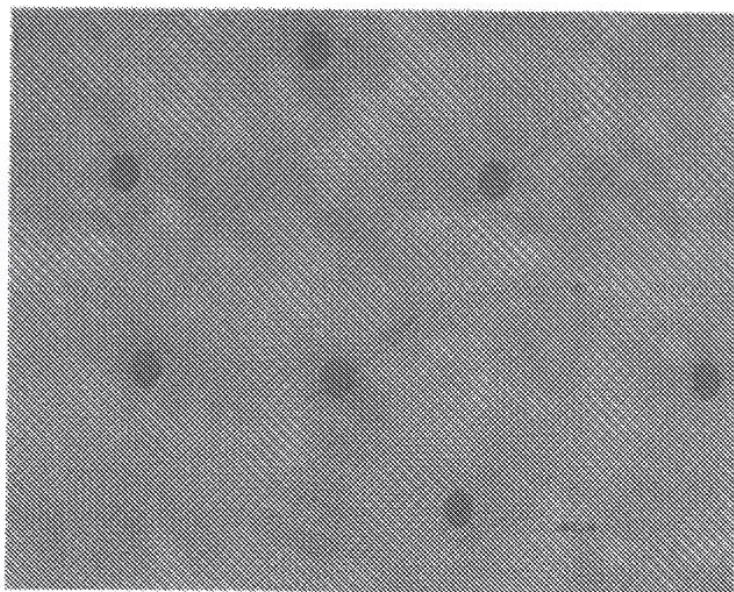


FIG.7

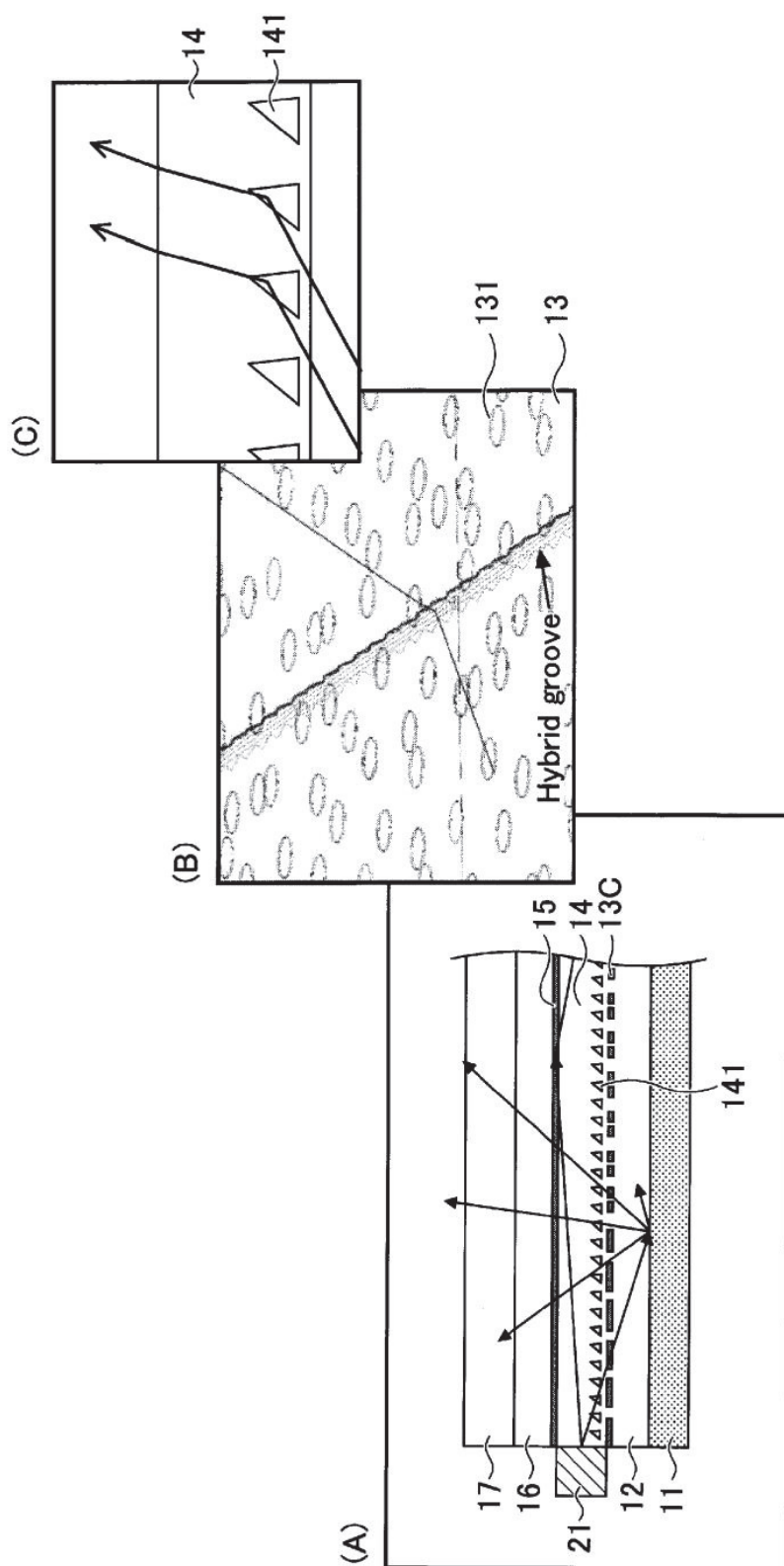
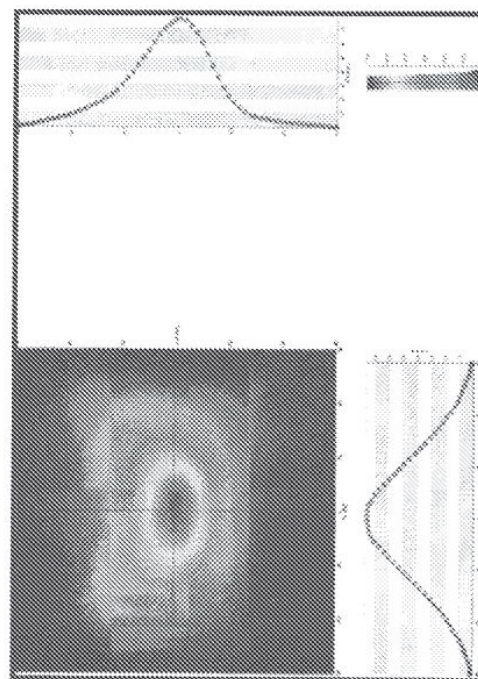
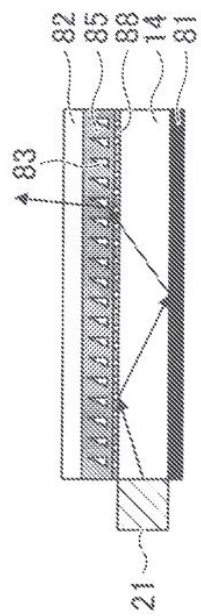


FIG.8A

(a) INTENSITY DISTRIBUTION
WHEN USING HYBRID AIR-CAVITY



(b)

INTENSITY DISTRIBUTION
WHEN USING HYBRID PRISM

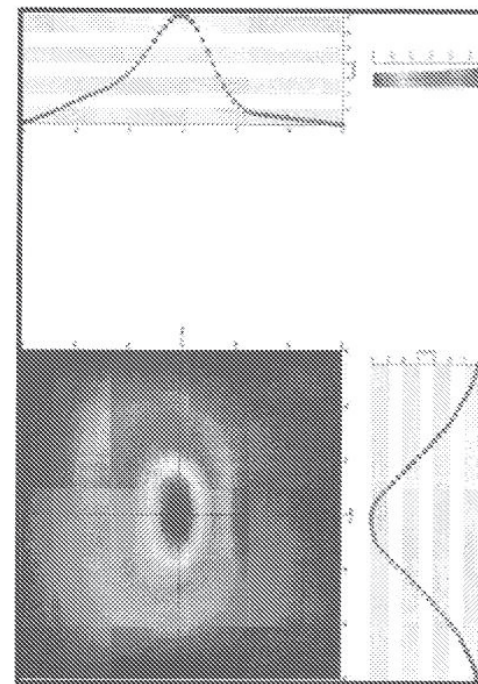
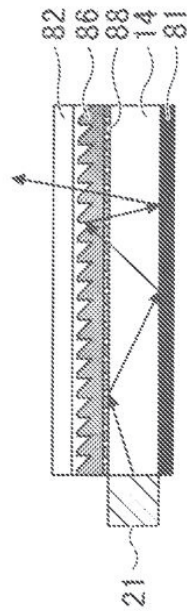


FIG.8B

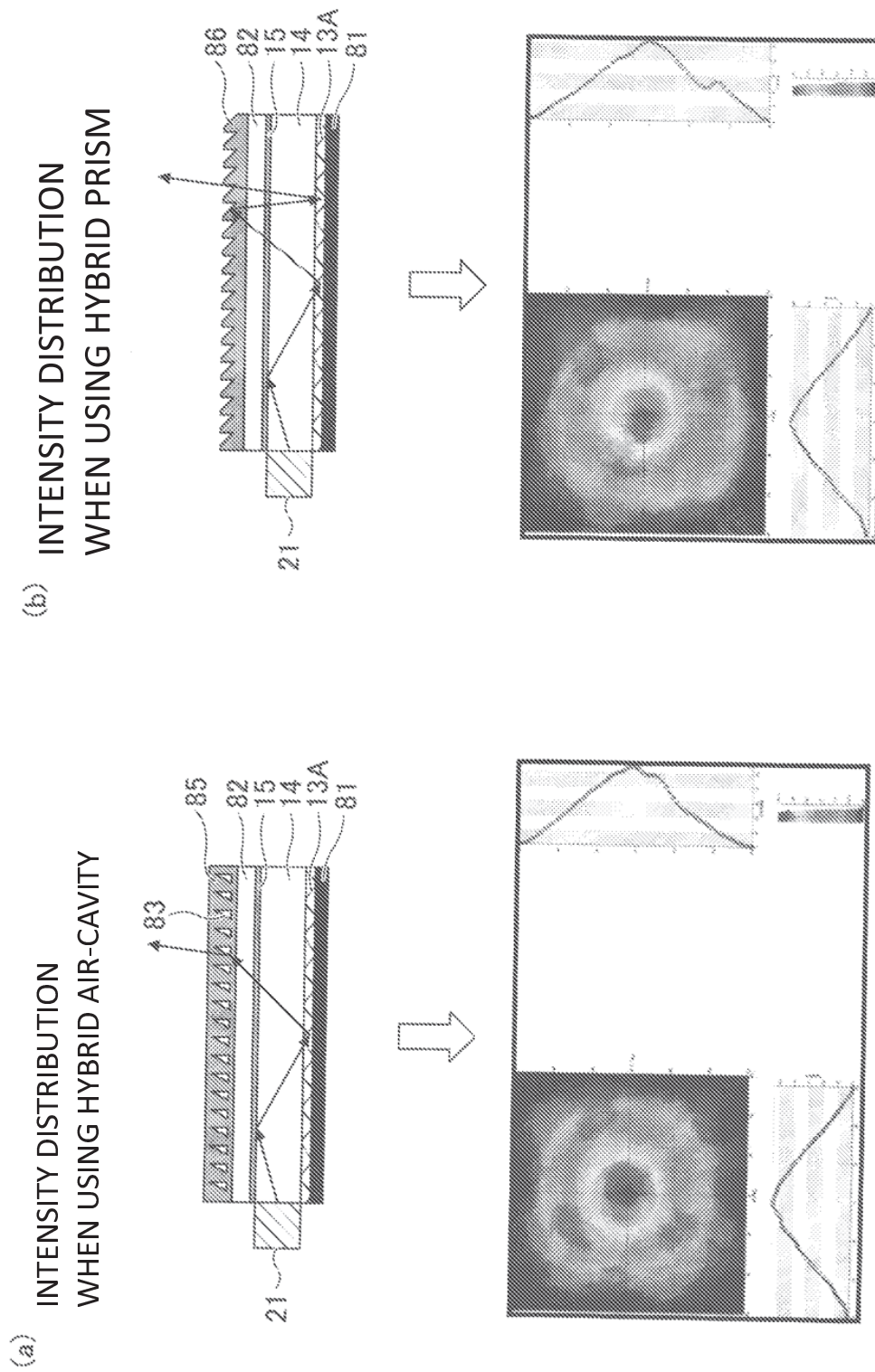


FIG.9A

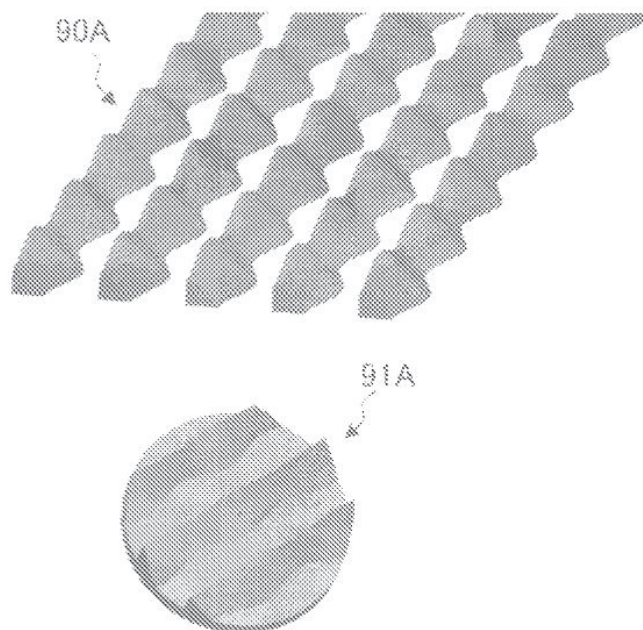


FIG.9B

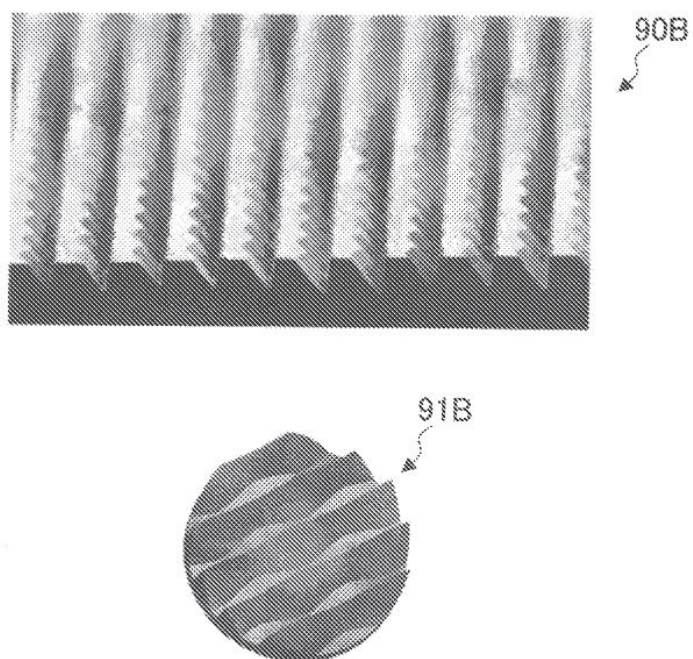


FIG.10

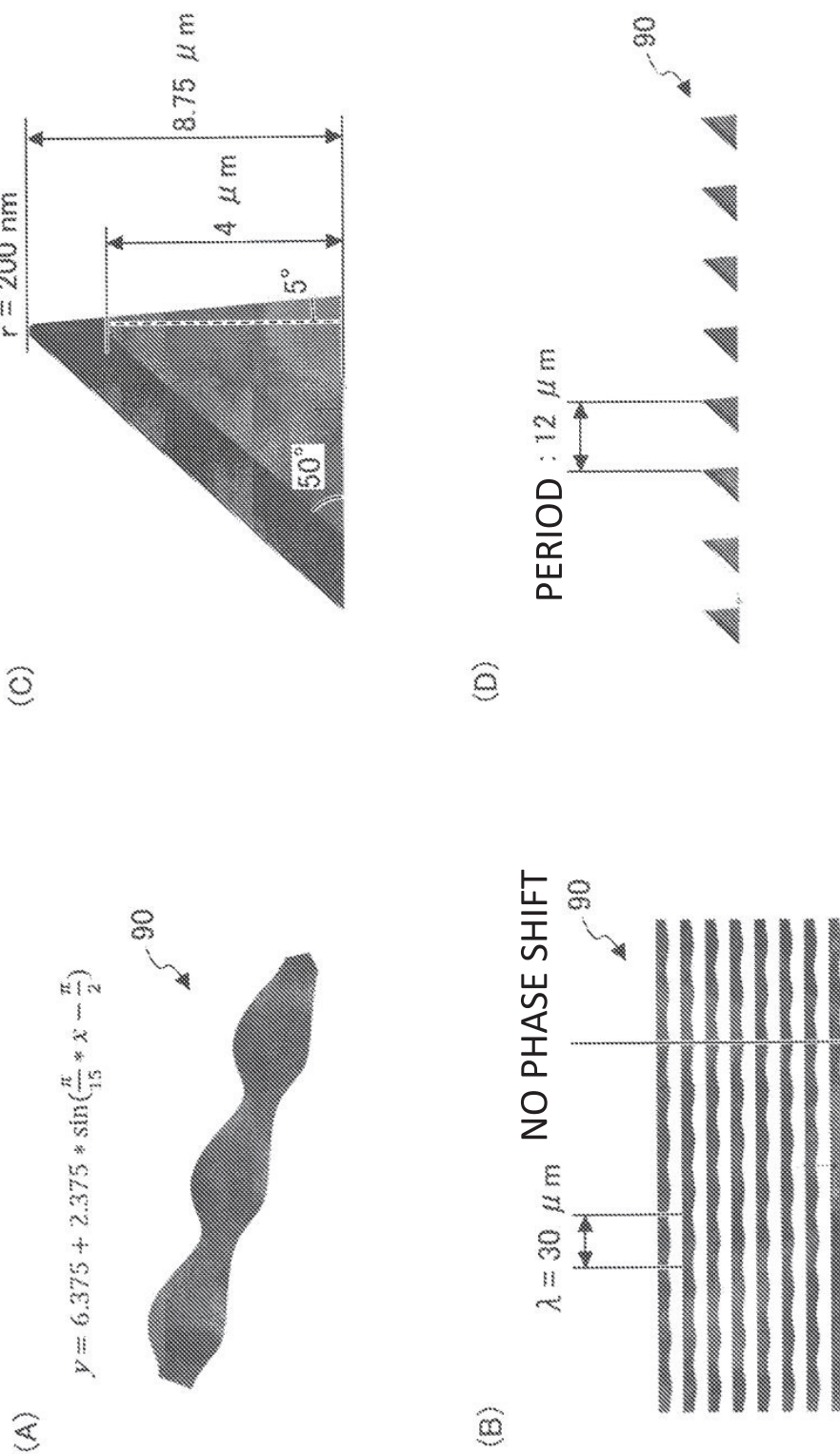
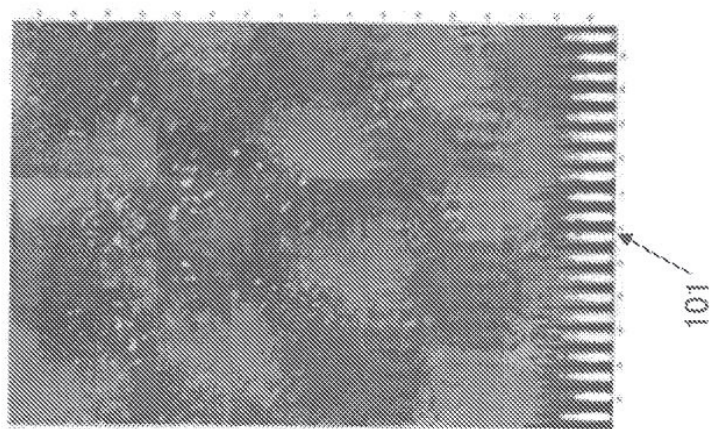


FIG.11

(B) LINEAR PATTERN



(A) HYBRID PATTERN

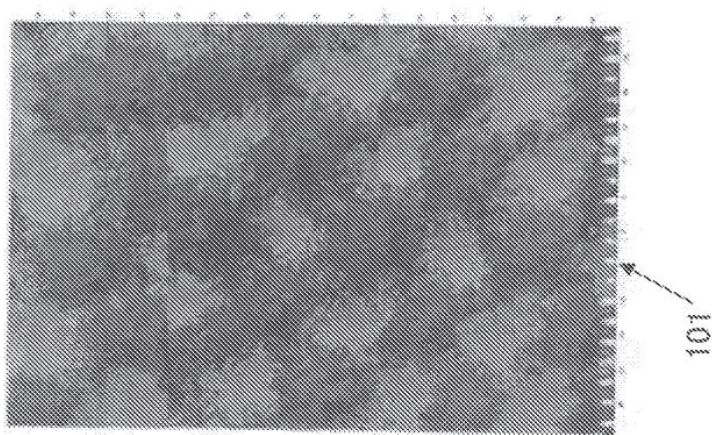


FIG.12

	LINEAR PYRAMIDAL PRISM	LINEAR PYRAMIDAL PRISM	LINEAR BLAZED PRISM	LINEAR BLAZED PRISM	LINEAR BLAZED PRISM	OPTIMIZED HYBRID PRISM	WAVED HYBRID PRISM	WAVED HYBRID PRISM
PATTERN ANGLE	50° + 50°	50° + 50°	50° + 85°	50° + 85°	50° + 85°	50° + 85°	50° + 85°	50° + 85°
RATIO OF ARRANGEMENT: PERIOD/WIDTH	3	2	3	3	2	1.50	3	2
FLAT APERTURE DESIGN	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
FILL FACTOR/%	1.5	4.5	1.5	1.5	7.5	-1.5	1.5	4.5
PEAK ANGLE OF EXTRACTION/°								
HEMISPHERICAL EXTRACTION EFFICIENCY/%	83	86	88	88	83	83	81	82
MAXIMUM INTENSITY/cd	99	100	96	96	99	77	78	75
HORIZONTAL FWHM/°	39	41	38	38	45	43	40	45
VERTICAL FWHM/°	15615	15621	16412	16412	14677	16739	15450	15862
AVERAGE SPATIAL LUMINANCE/cd/m ²								

FIG.13

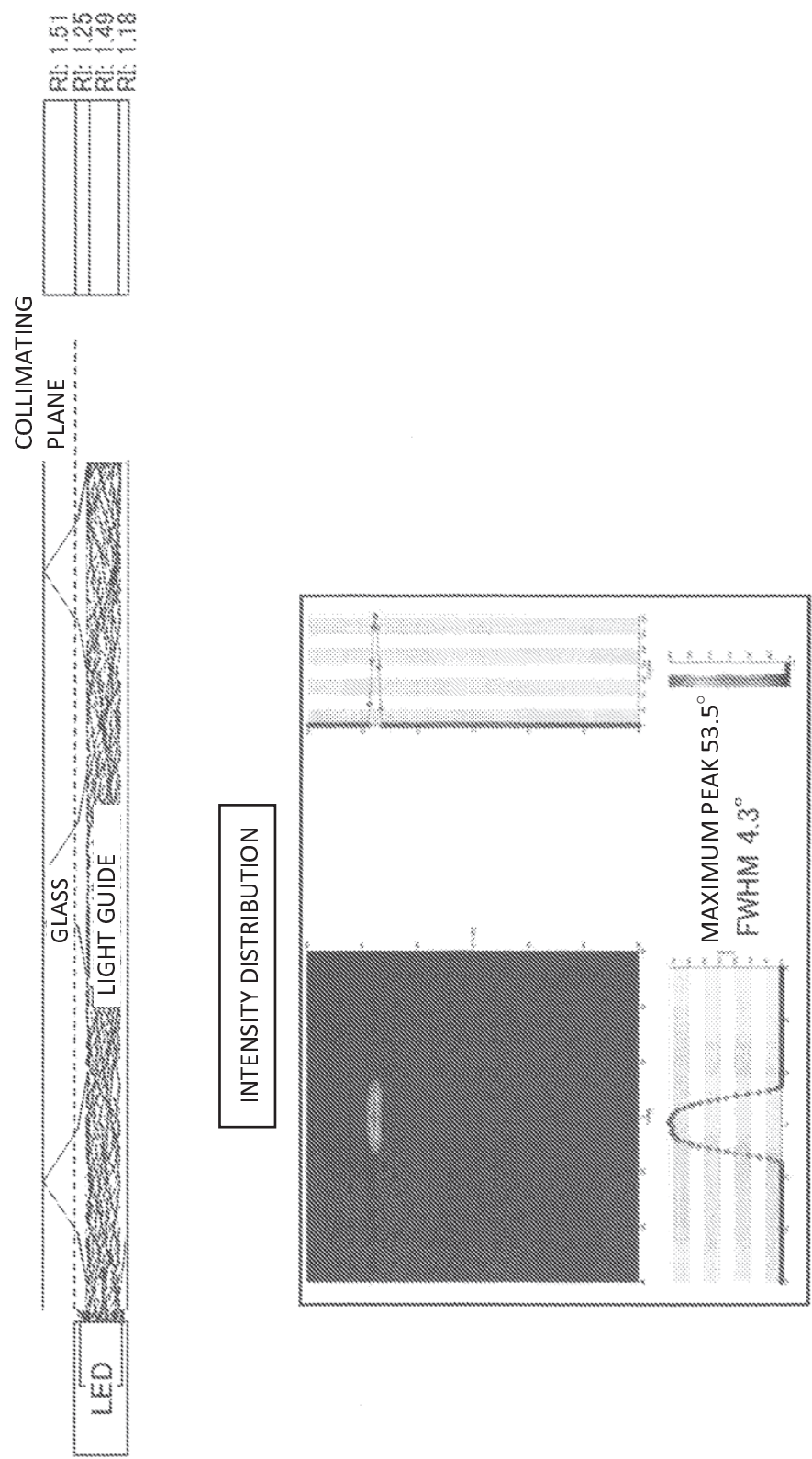


FIG.14

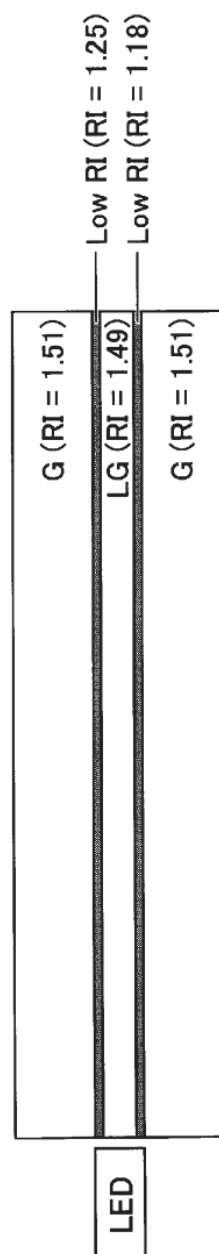


FIG.15A

INFLUENCE OF FINGERPRINT ON LUMINOUS FLUX AT GLASS EDGE

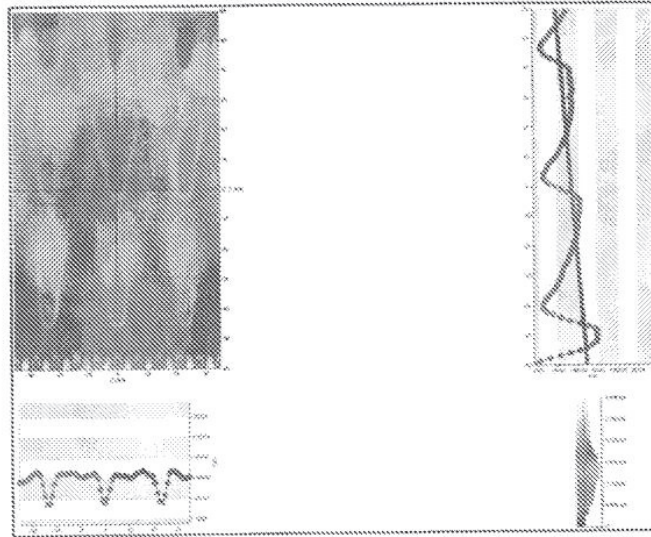


FIG.15B

FINGERPRINT SIMULATION AT NINE POINTS

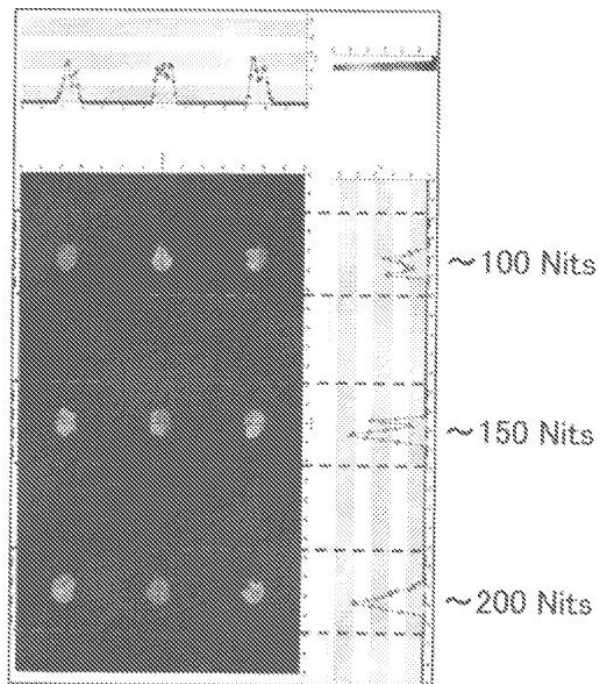


FIG.16



FIG.17A

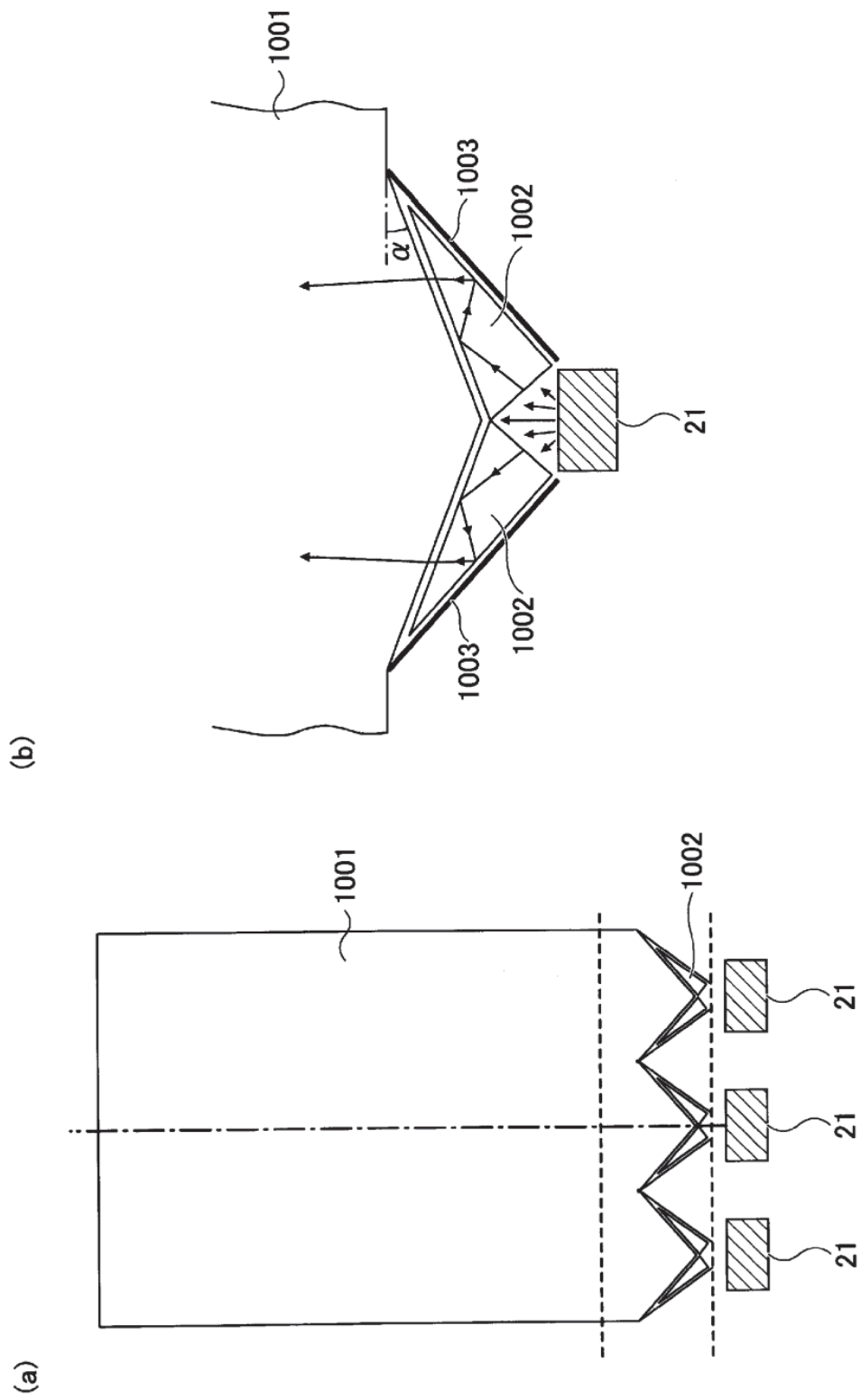


FIG.17B

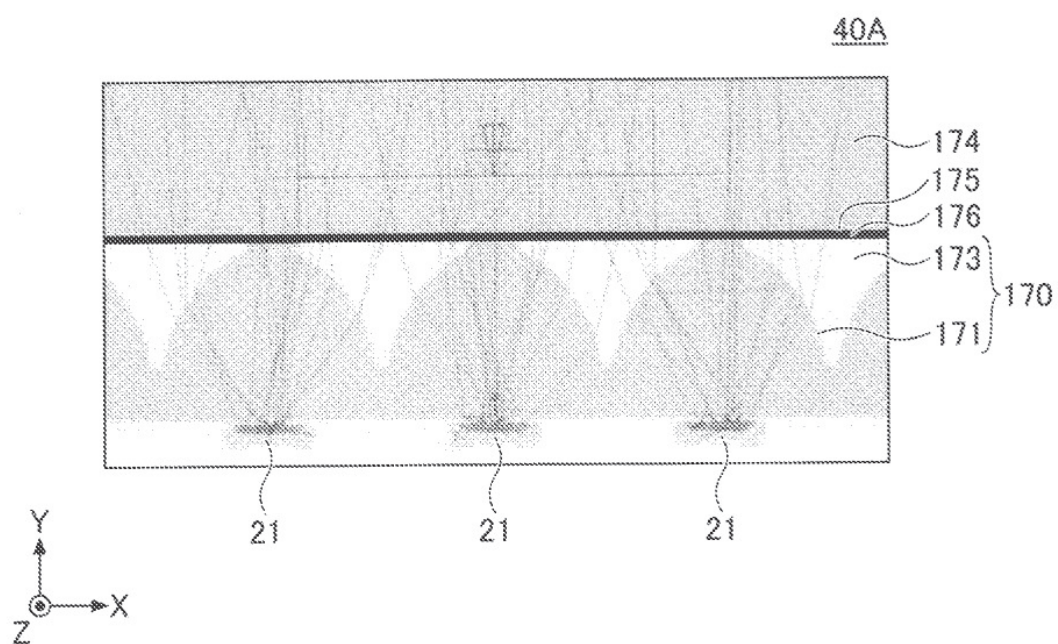


FIG.17C

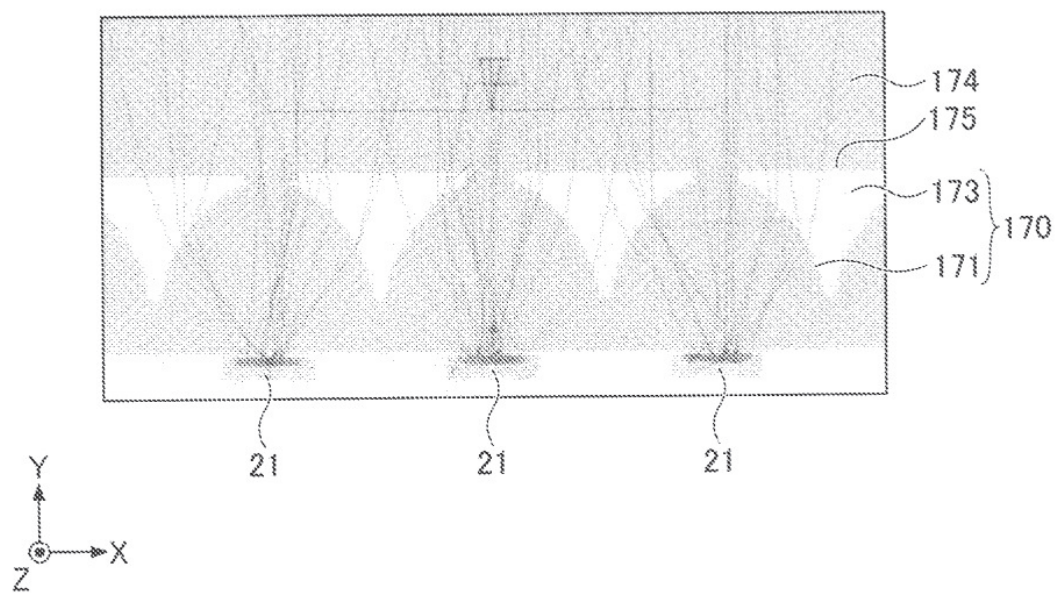


FIG.17D

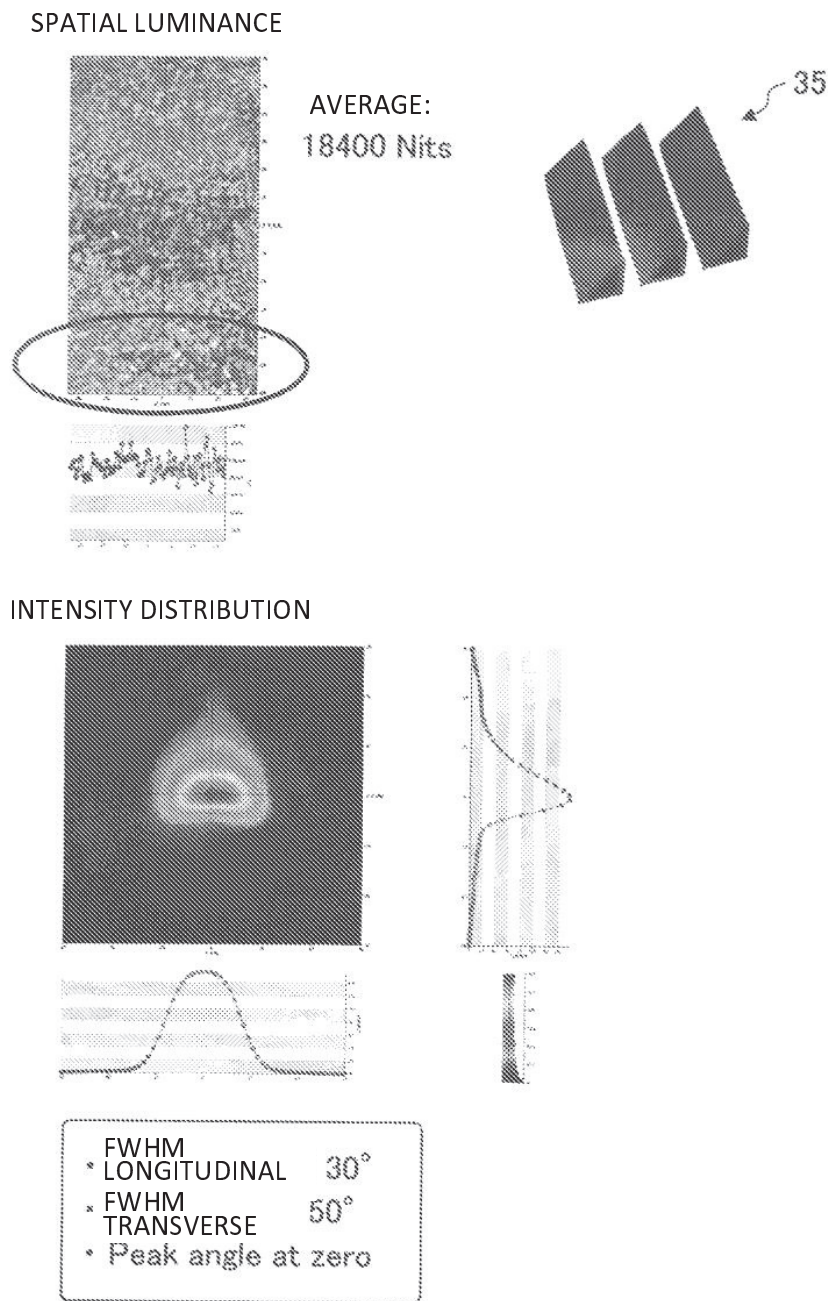
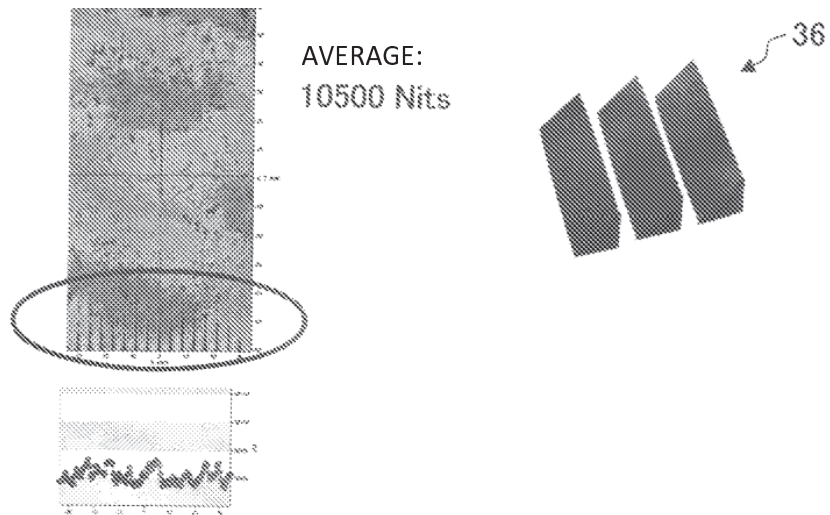


FIG.17E

SPATIAL LUMINANCE



INTENSITY DISTRIBUTION

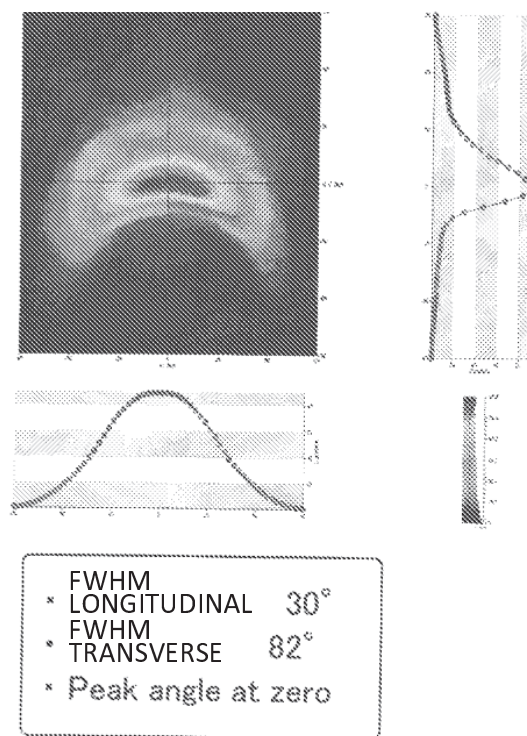
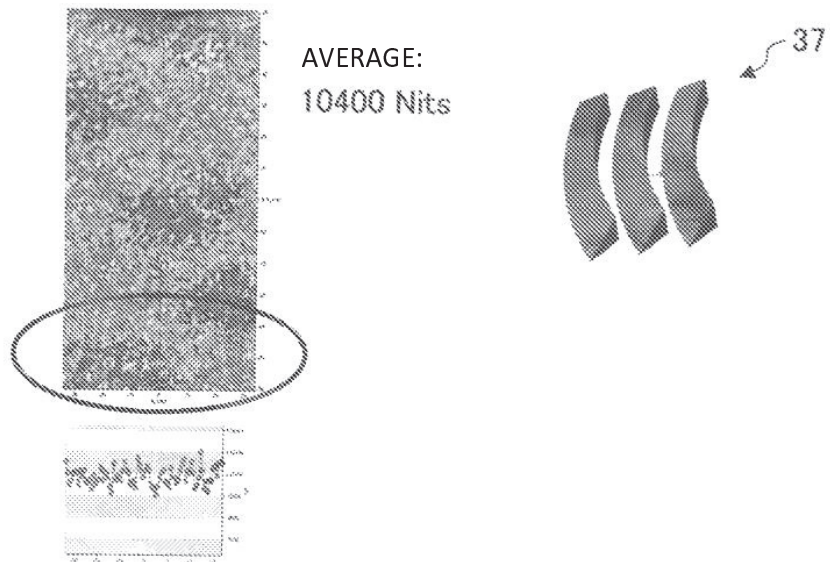


FIG.17F

SPATIAL LUMINANCE



INTENSITY DISTRIBUTION

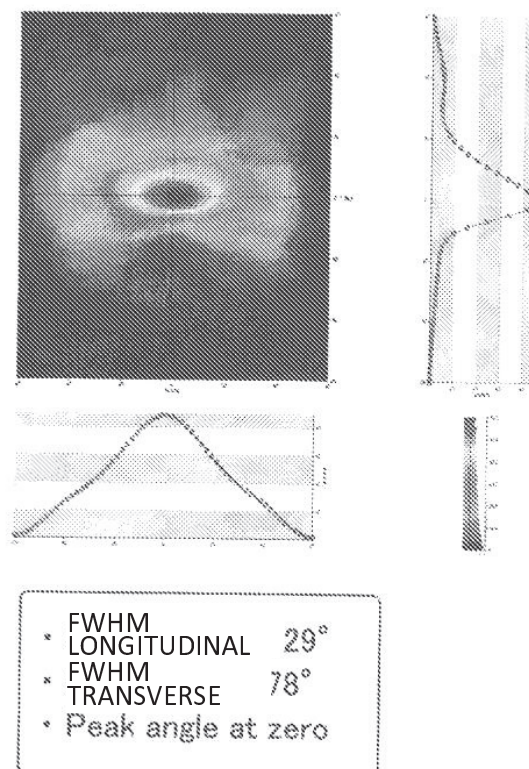


FIG.17G

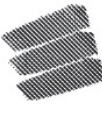
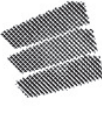
	CONVENTIONAL MICROLENS BLU WITH XBFEF	COMPARATIVE EXAMPLE 1 (AIR CAVITY BLU: LINEAR GRATING)	COMPARATIVE EXAMPLE 2 (AIR CAVITY BLU: CURVED GRATING)	EMBODIMENT (AIR CAVITY BLU WITH INCOUPLING)
				
LUMINANCE	9500 Nits	10500 Nits	10400 Nits	18400 Nits
RELATIVE VALUE	100%	110%	109%	194%
FWHM (X/Y)	44° / 41°	82° / 30°	78° / 29°	50° / 30°
END FACE UNIFORMITY	HIGH	LOW	HIGH	HIGH
INCOUPLING	NO	NO	NO	YES

FIG.17H

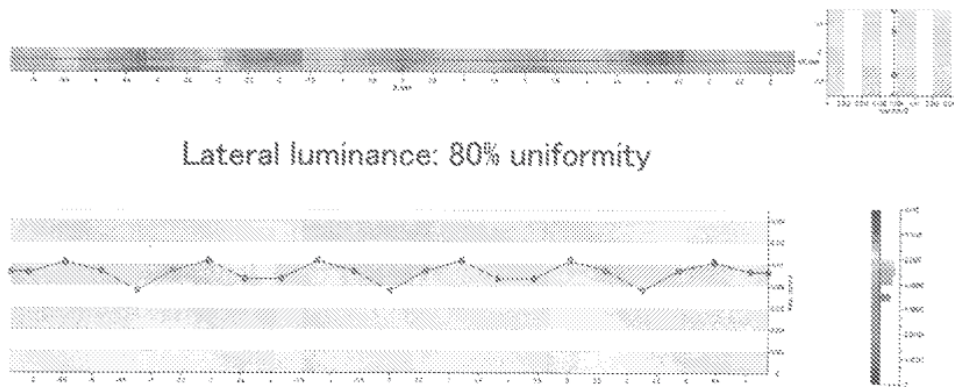


FIG.17I

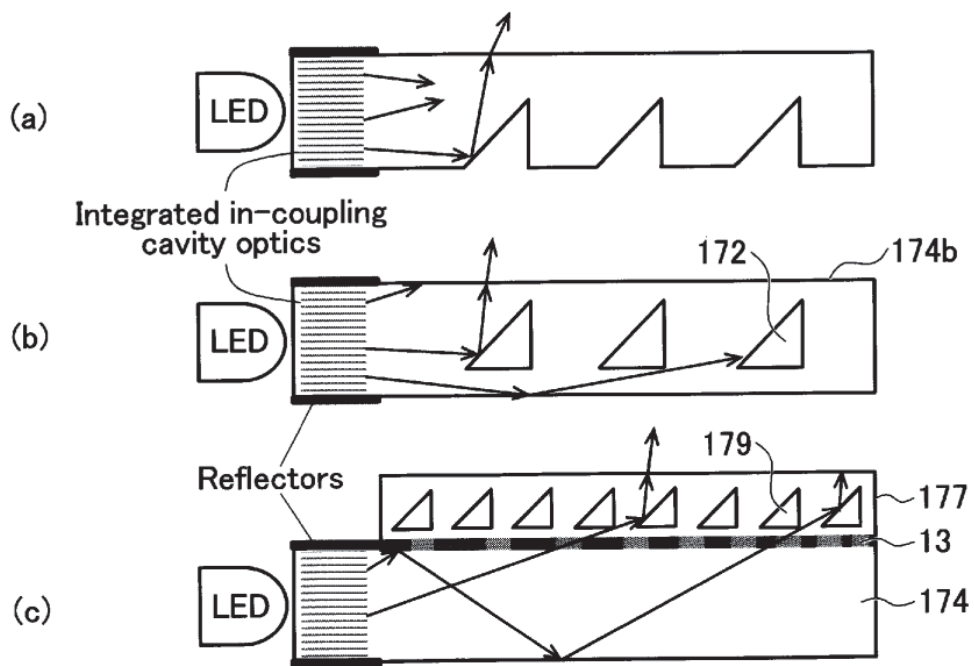


FIG.18A

SUBMASTER IMPRINTING

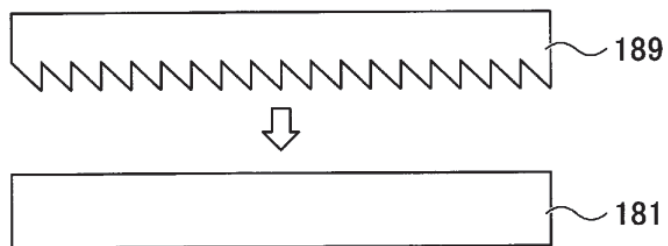


FIG.18B

PHOTORESIST FORMATION

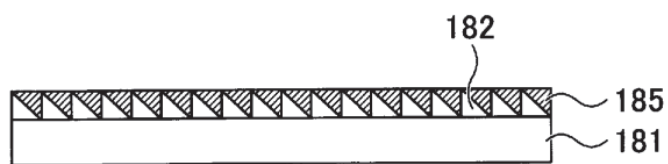


FIG.18C

EXPOSURE AND DEVELOPMENT



FIG.18D

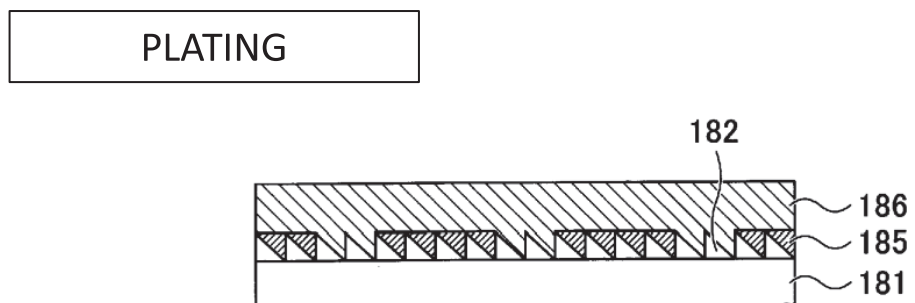


FIG.18E



FIG.19

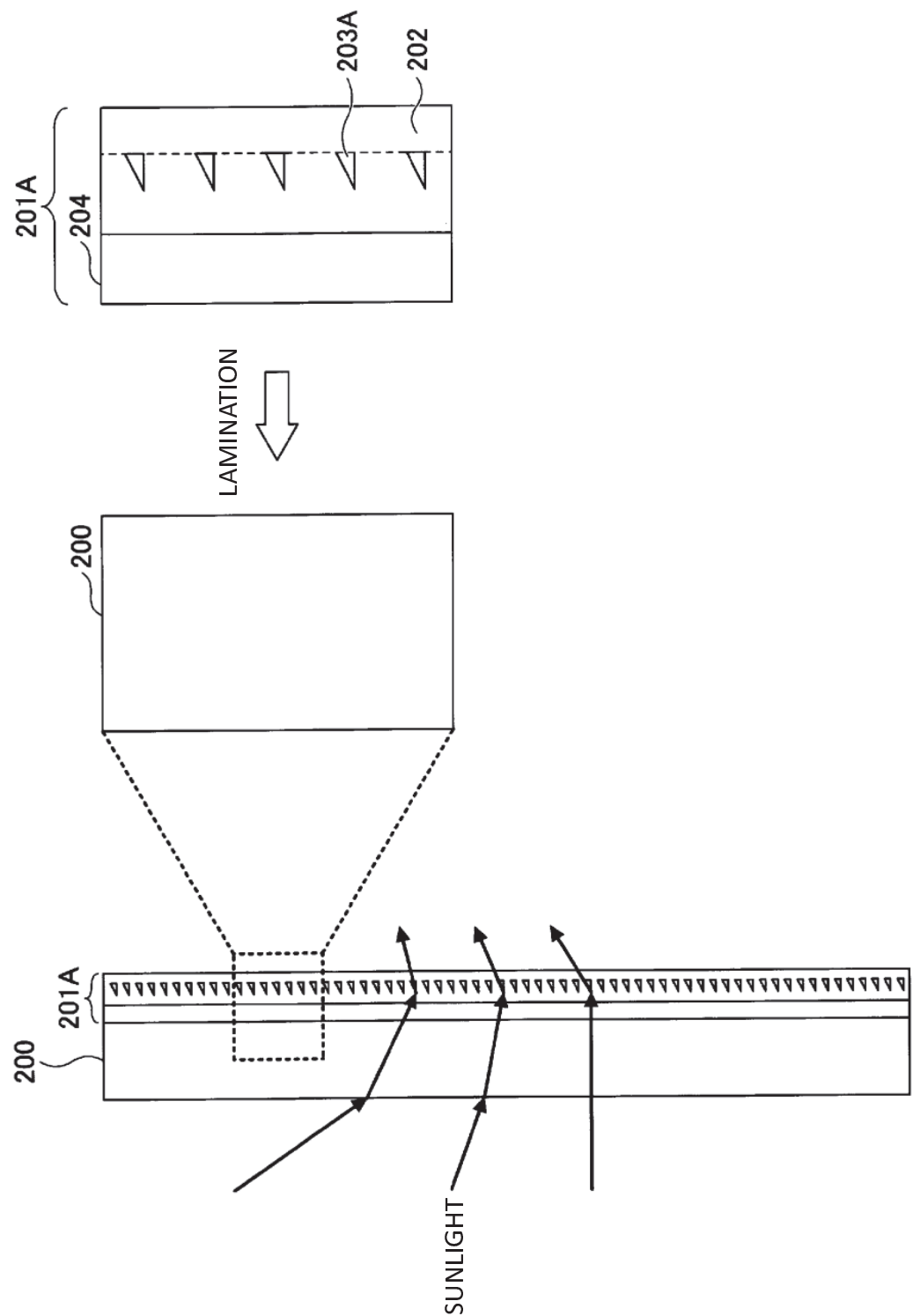


FIG.20

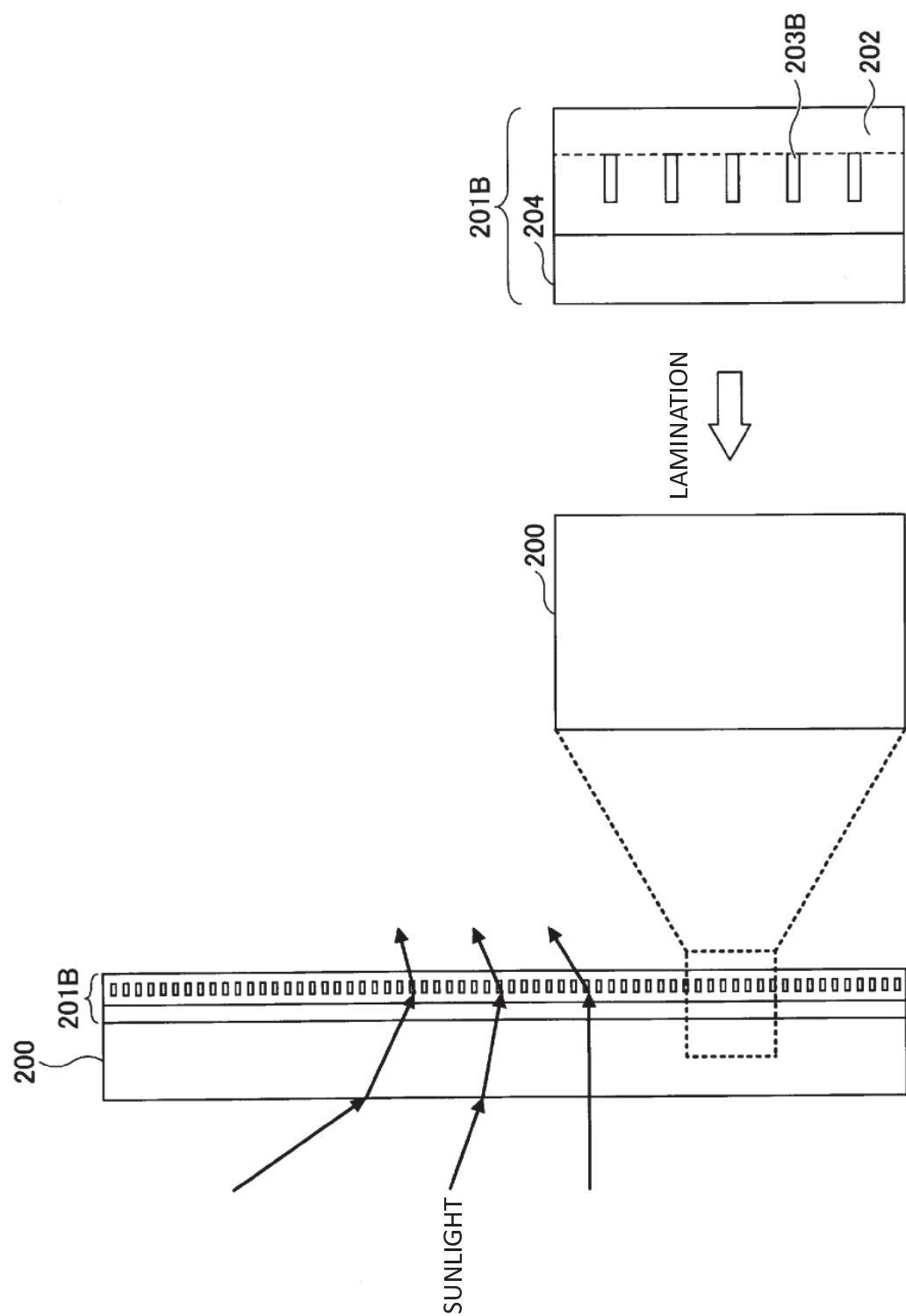


FIG.21A

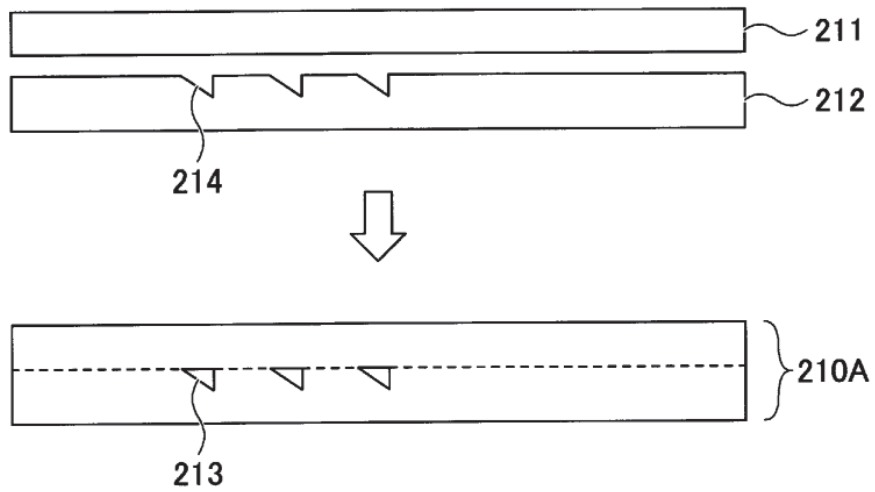


FIG.21B

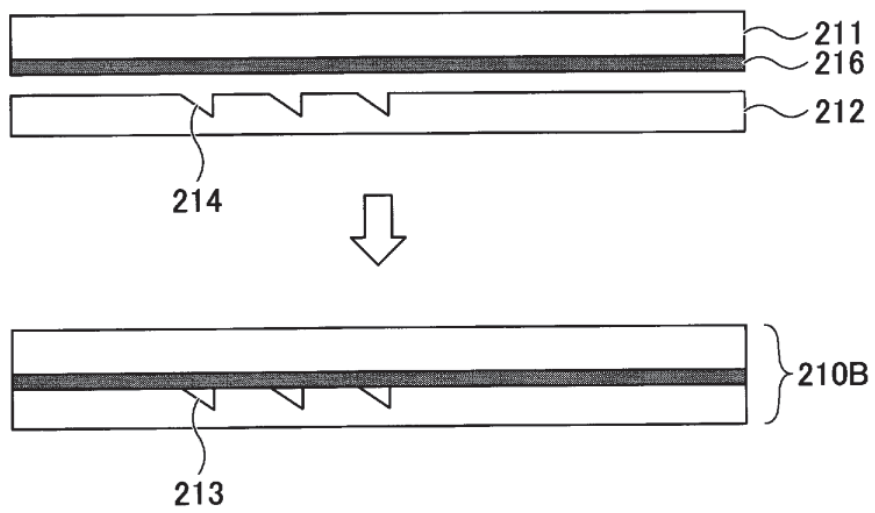


FIG.22A

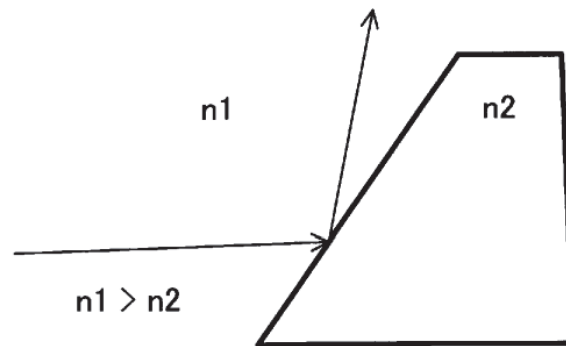


FIG.22B

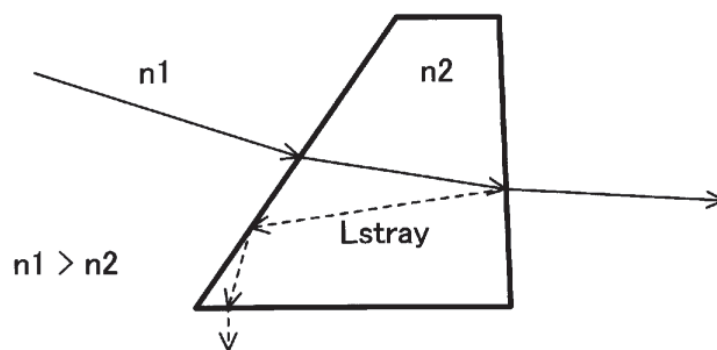


FIG.22C

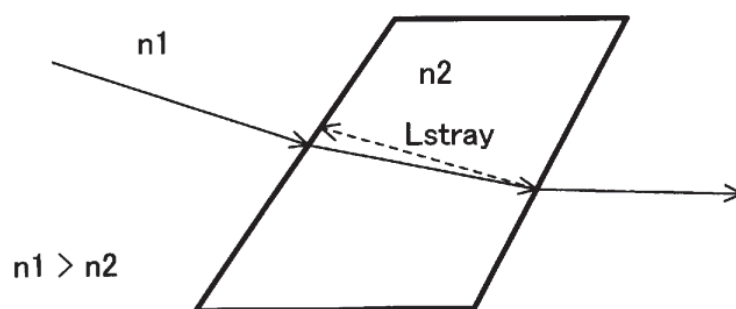


FIG.22D

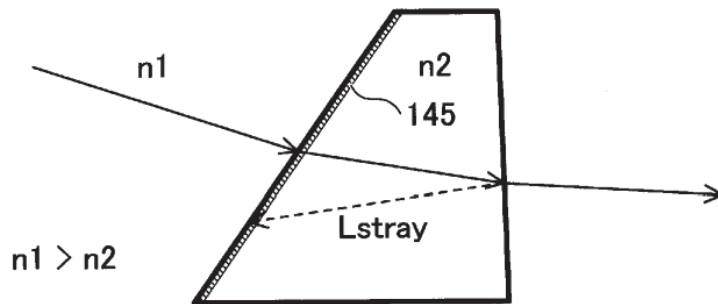


FIG.22E

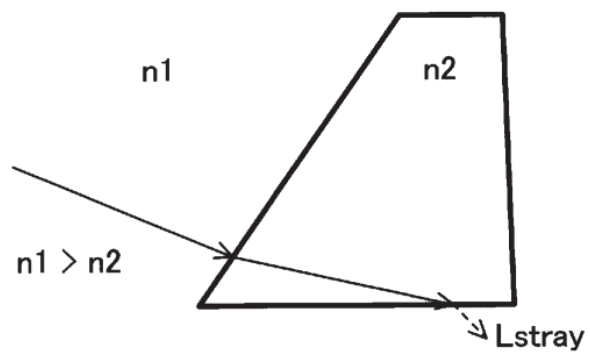


FIG.22F

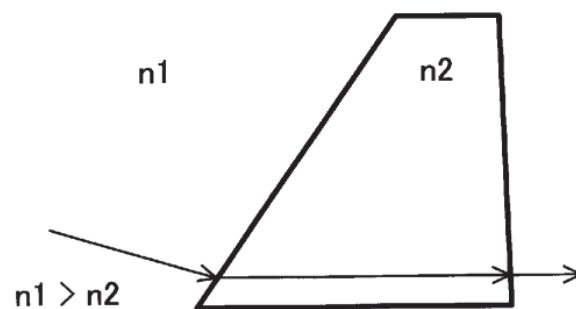


FIG.22G

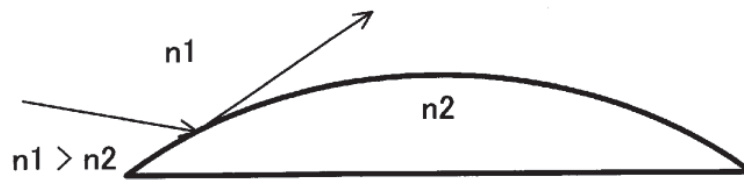


FIG.22H

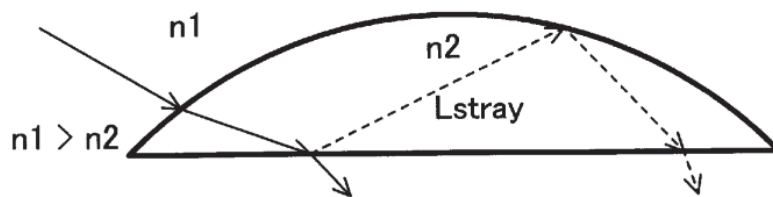


FIG.22I

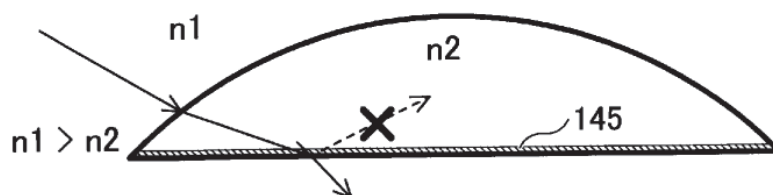


FIG.22J

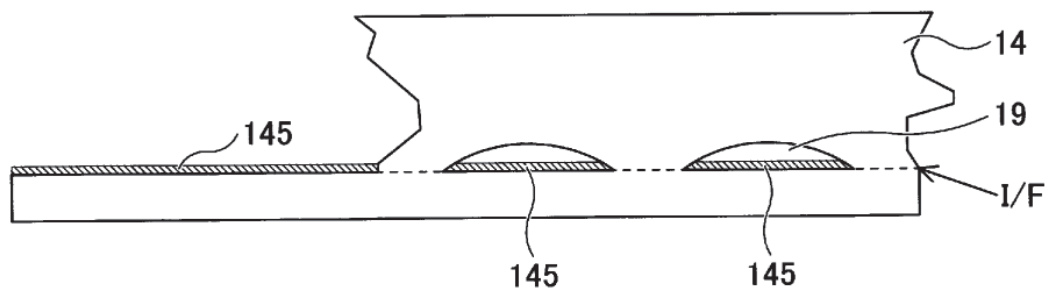


FIG.23

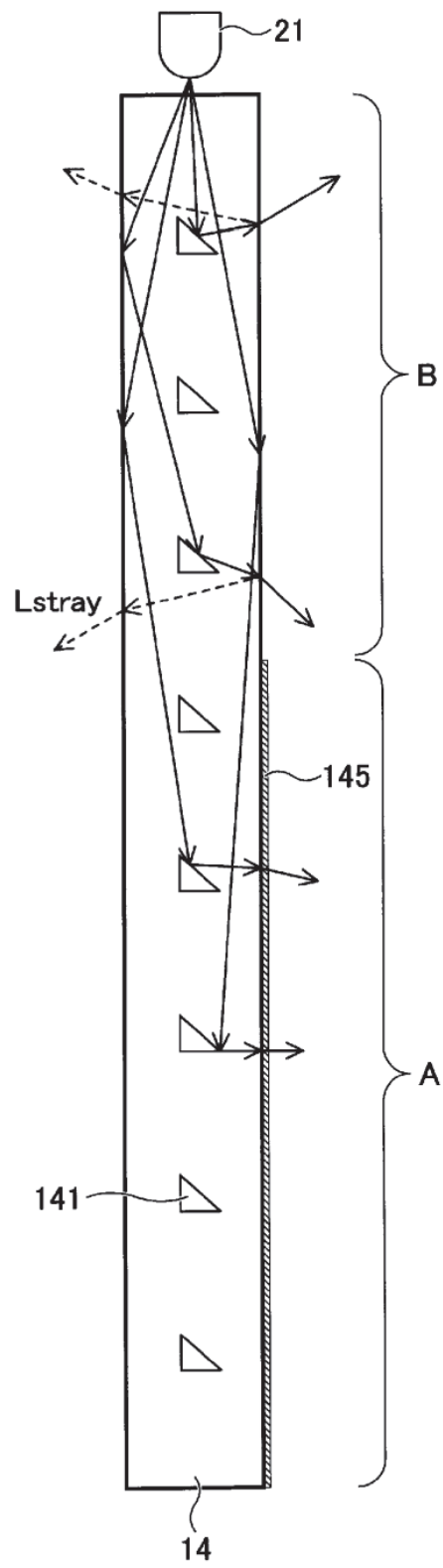


FIG.24

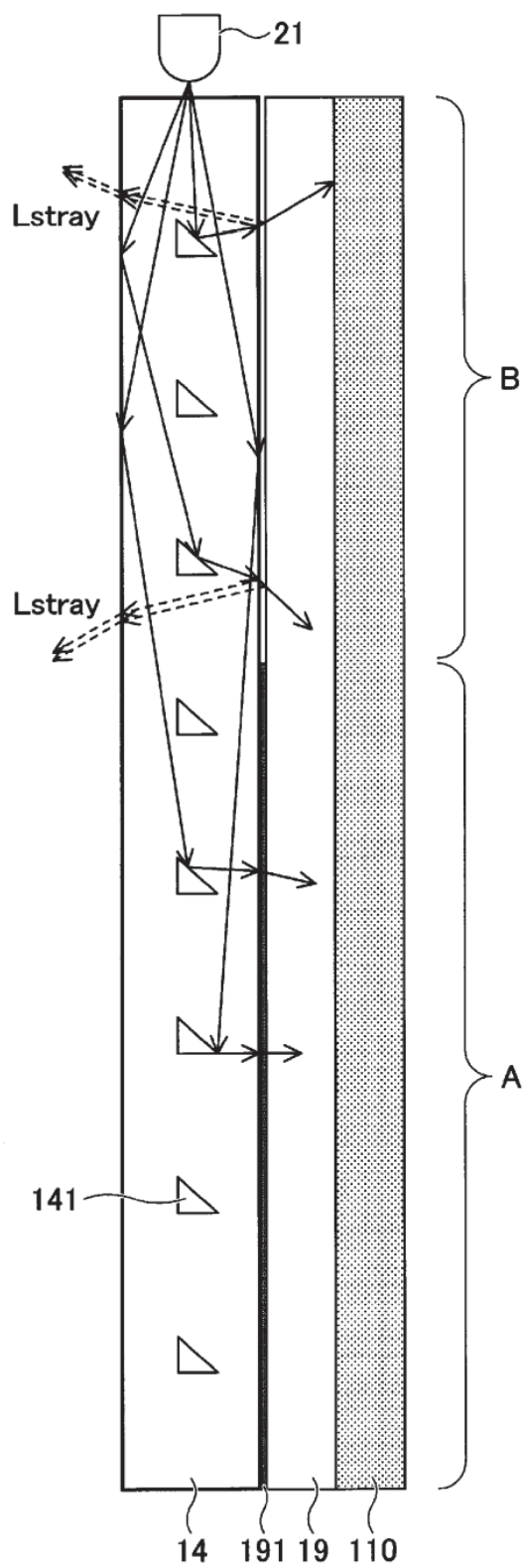


FIG.25

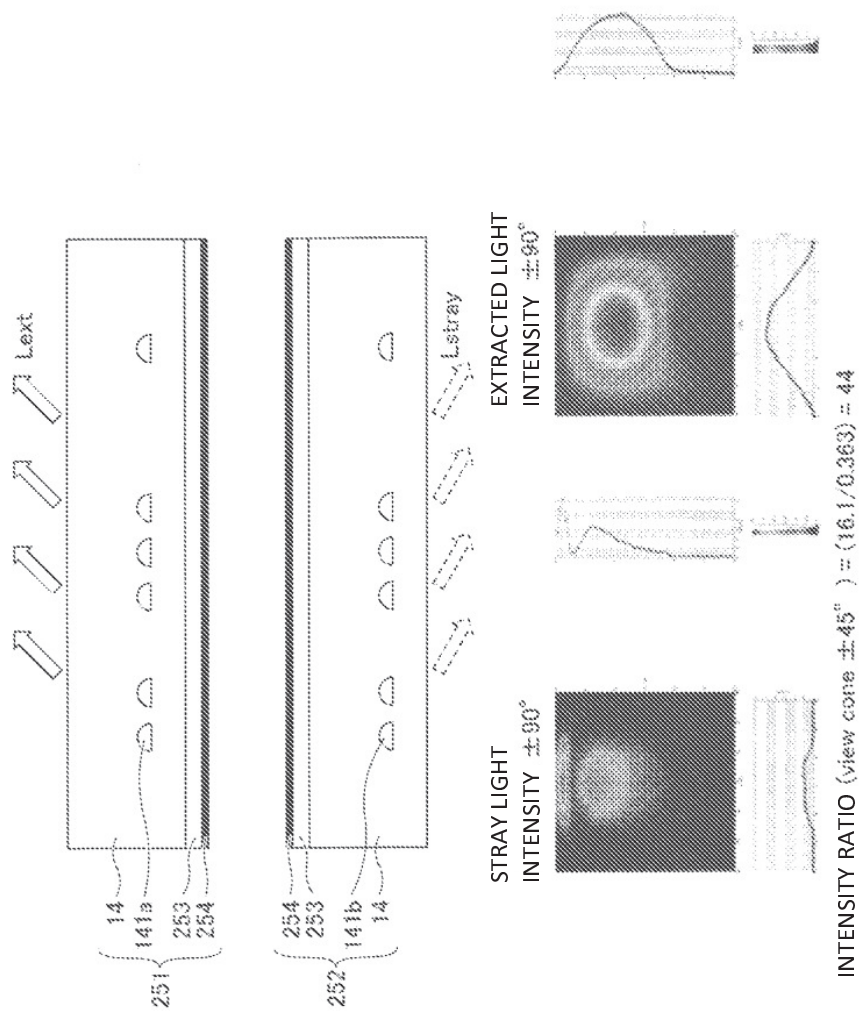


FIG.26

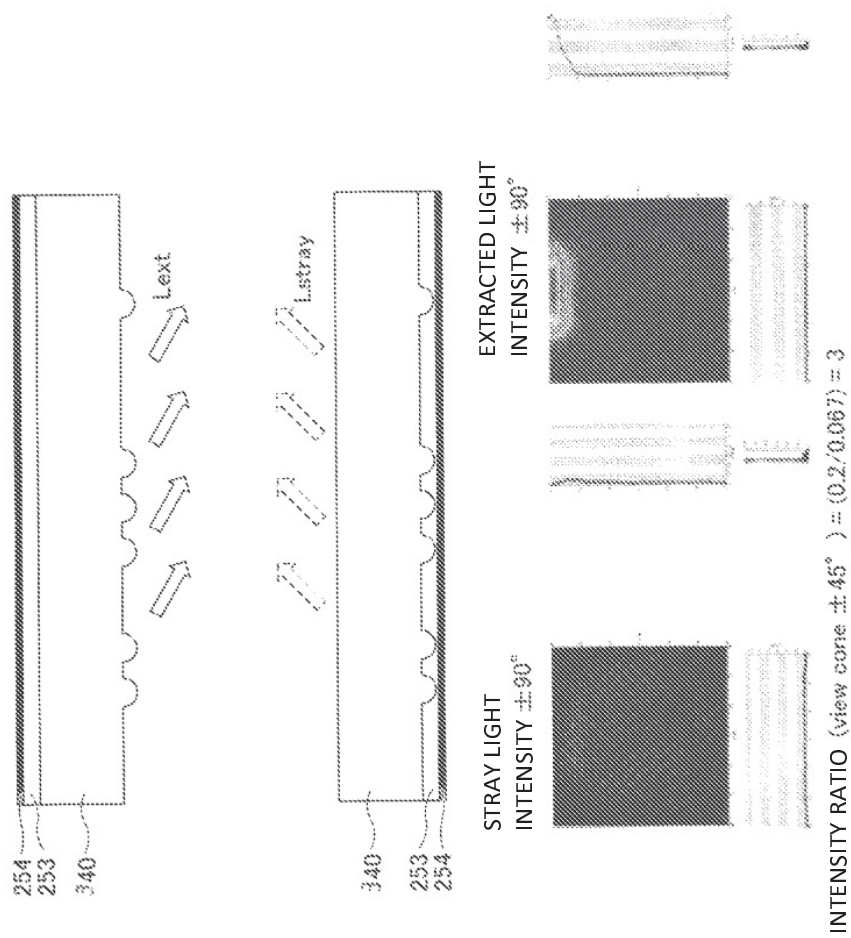


FIG.27

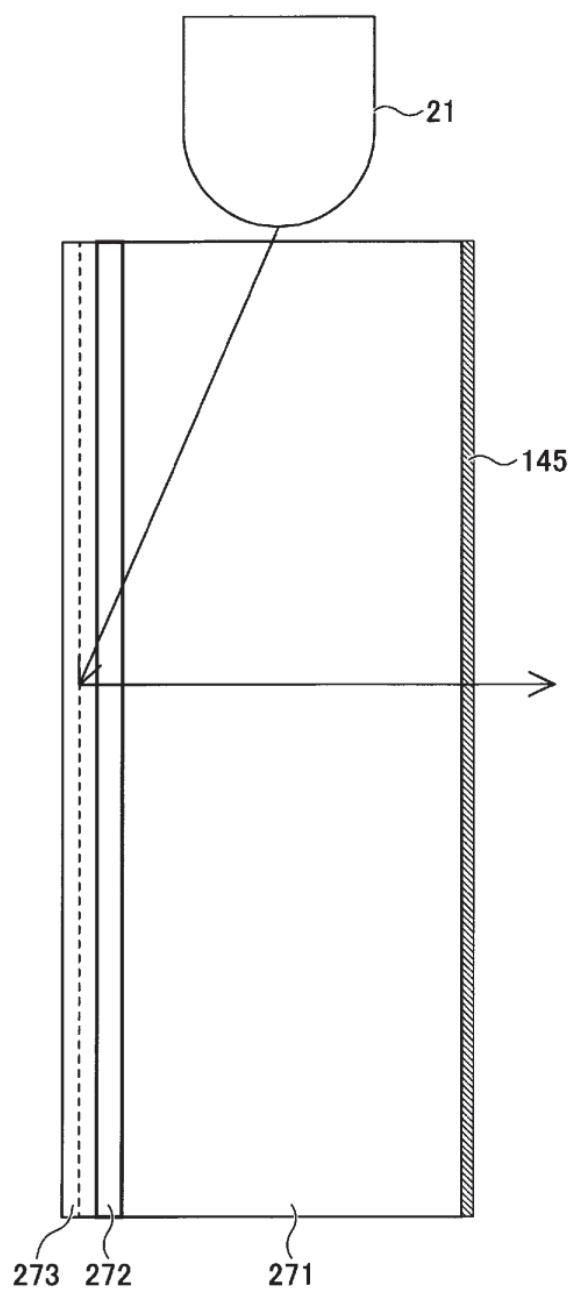


FIG.28

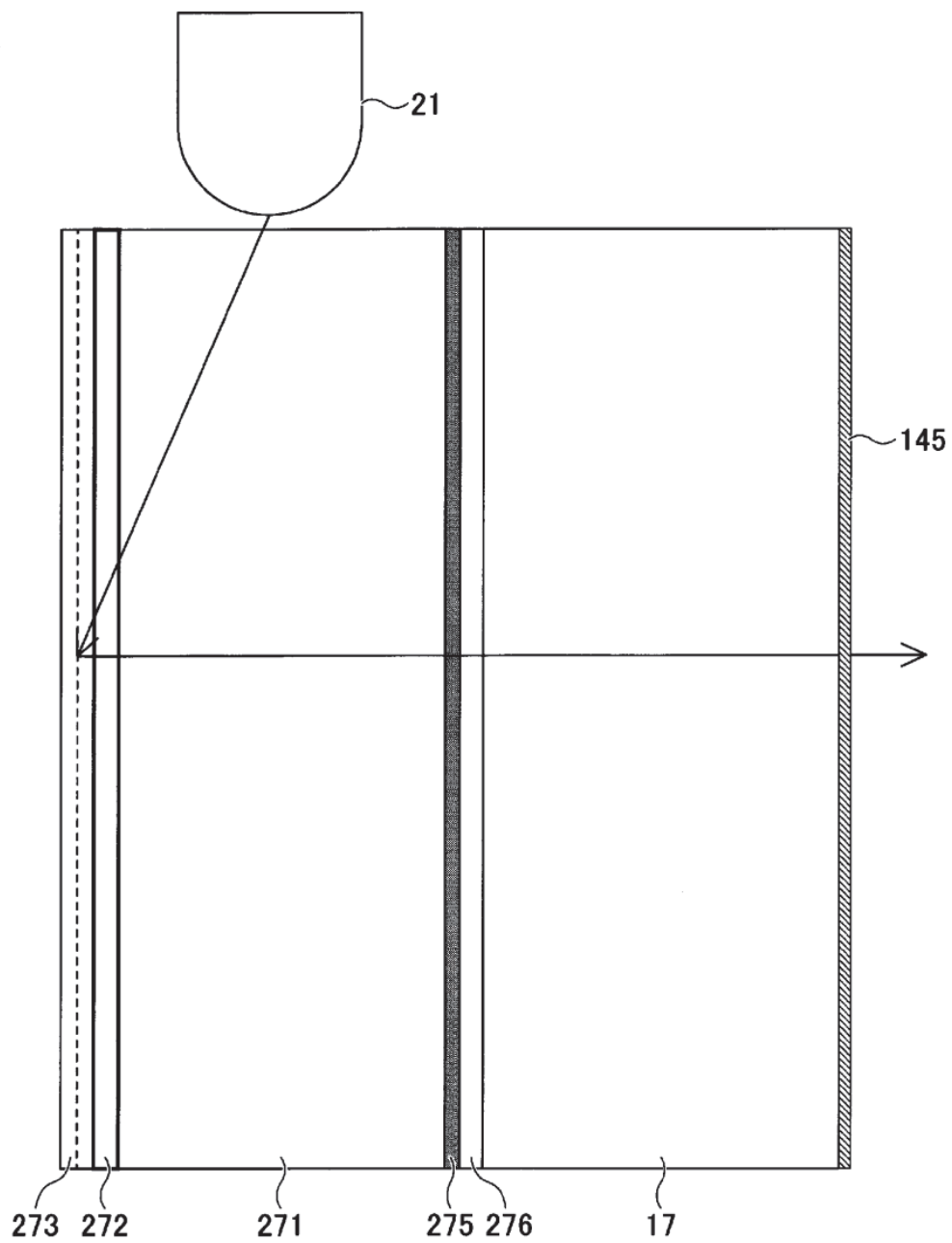


FIG.29

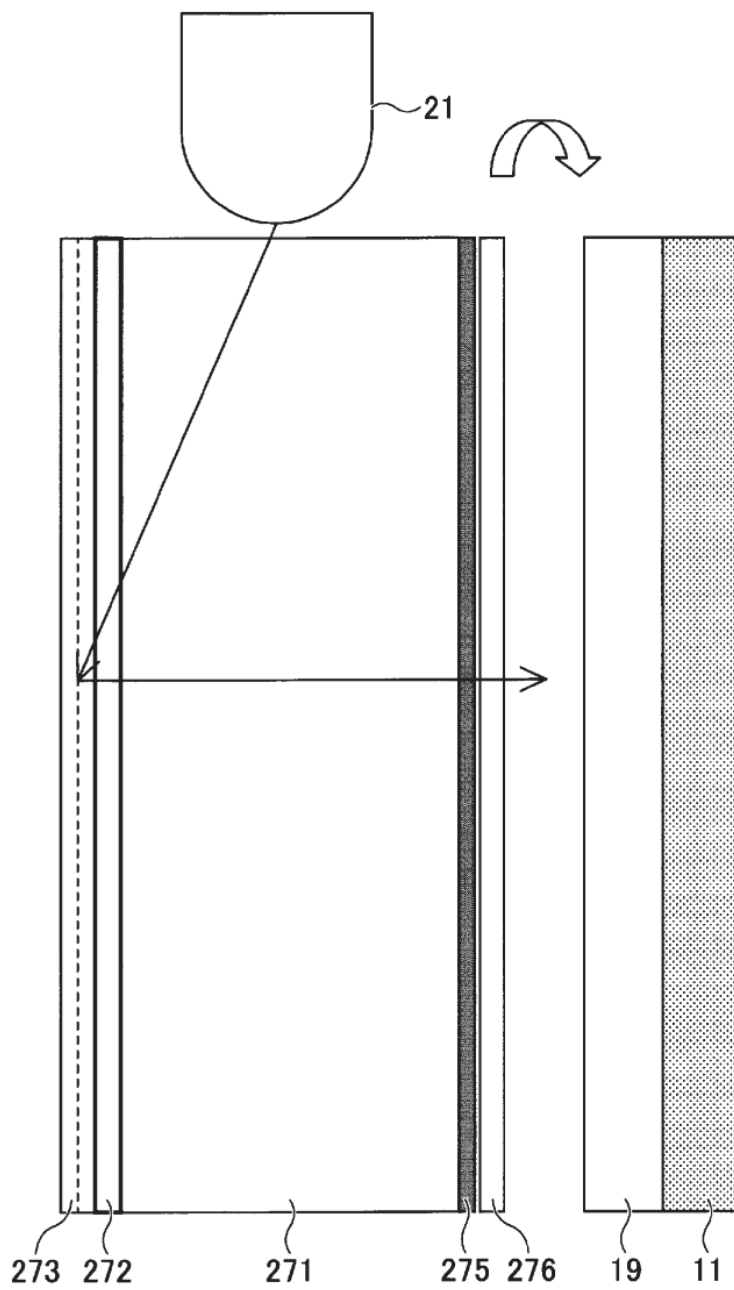


FIG.30

