

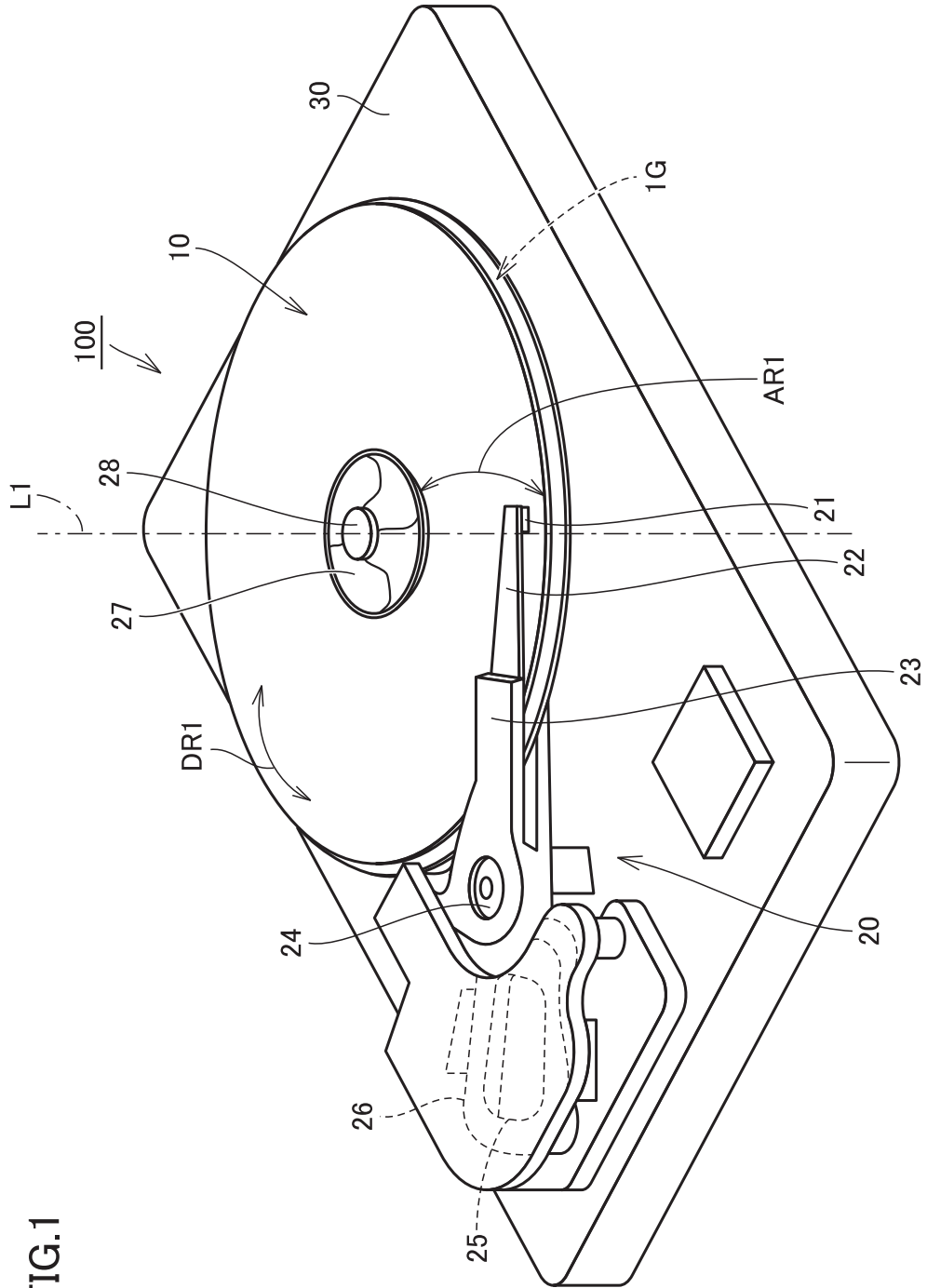


FIG. 1

FIG.2

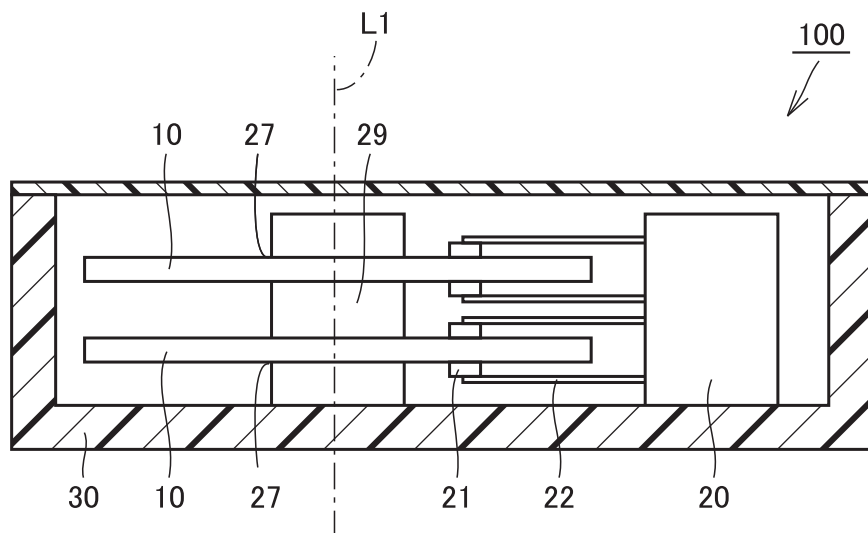


FIG.3

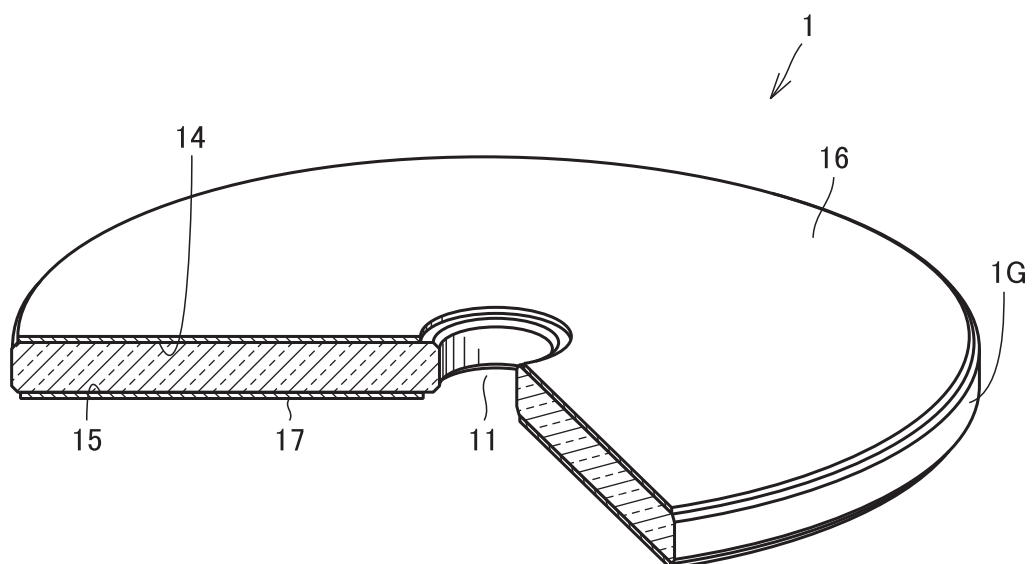


FIG.4

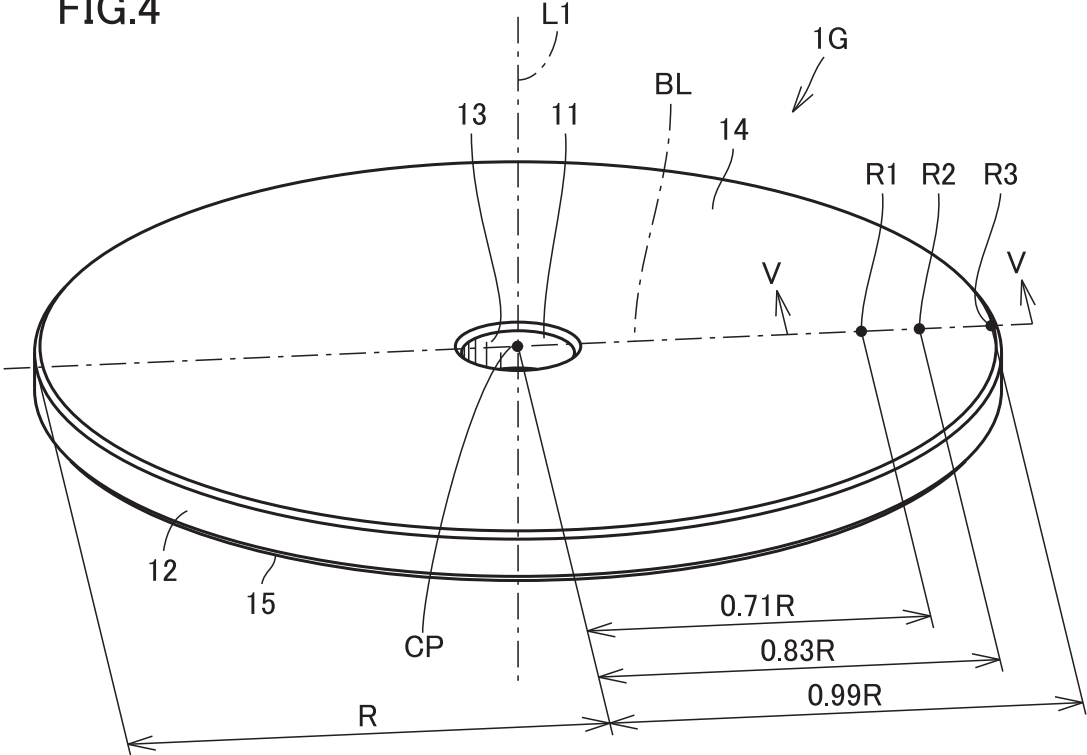


FIG.5

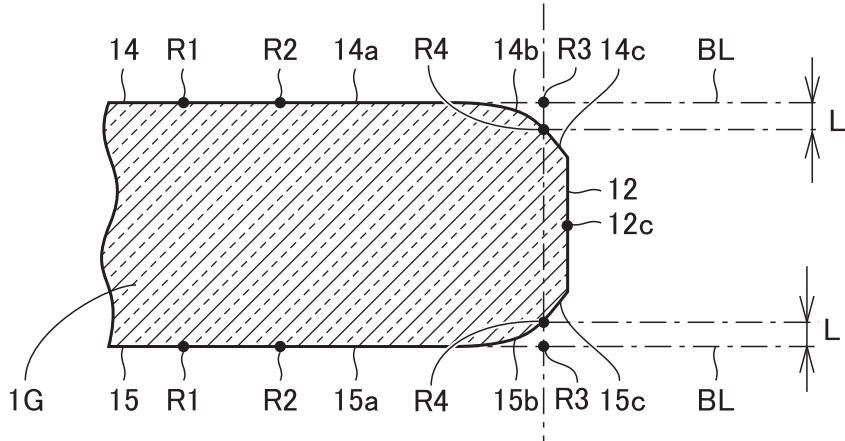


FIG.6

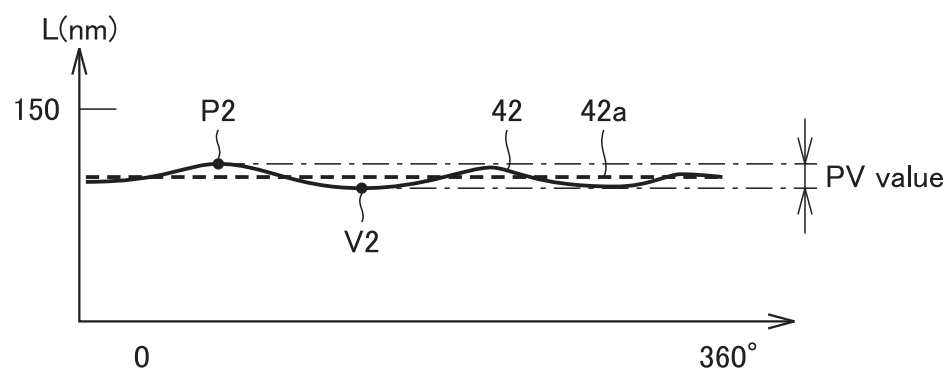


FIG.7

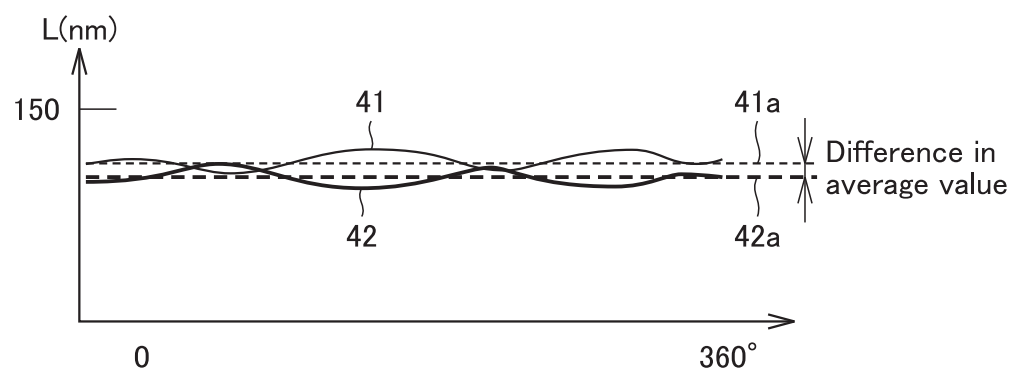


FIG.8

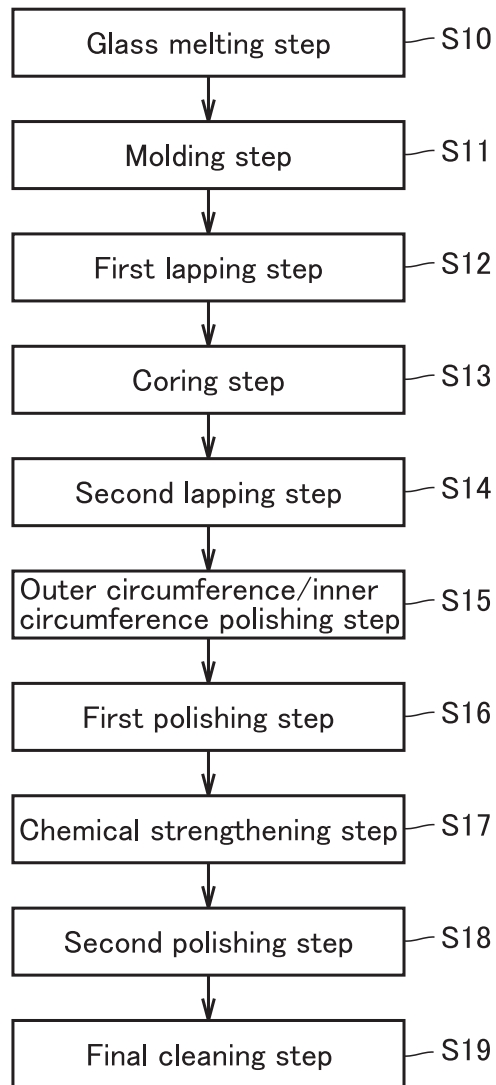


FIG.9

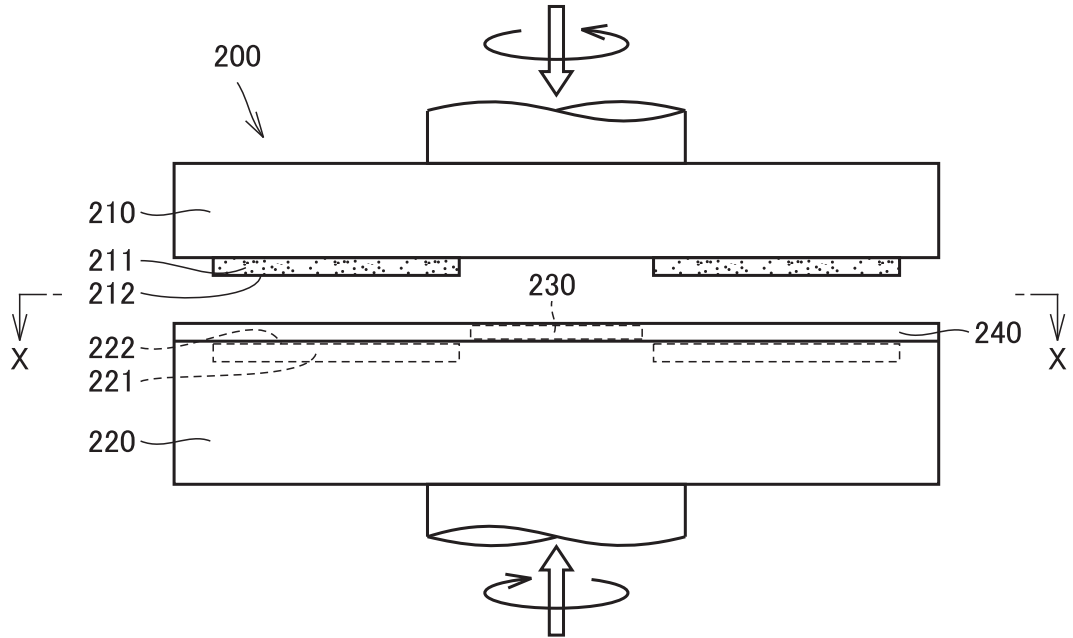


FIG.10

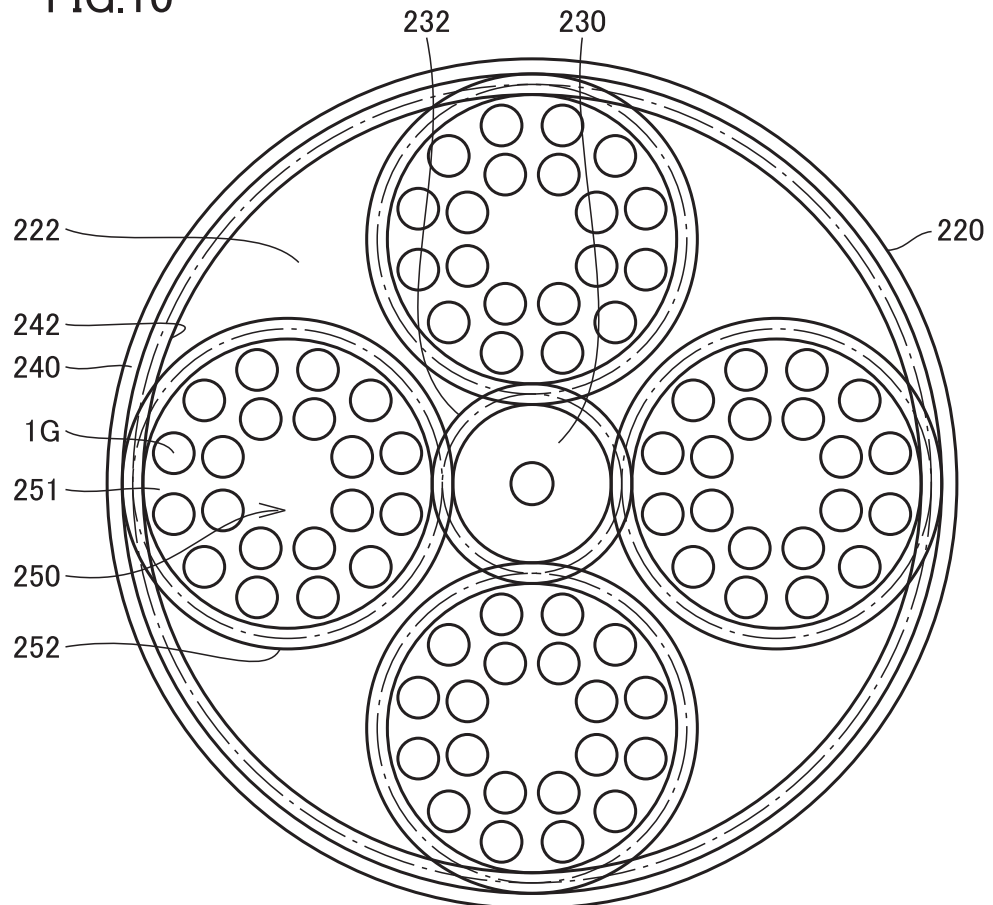


FIG.11

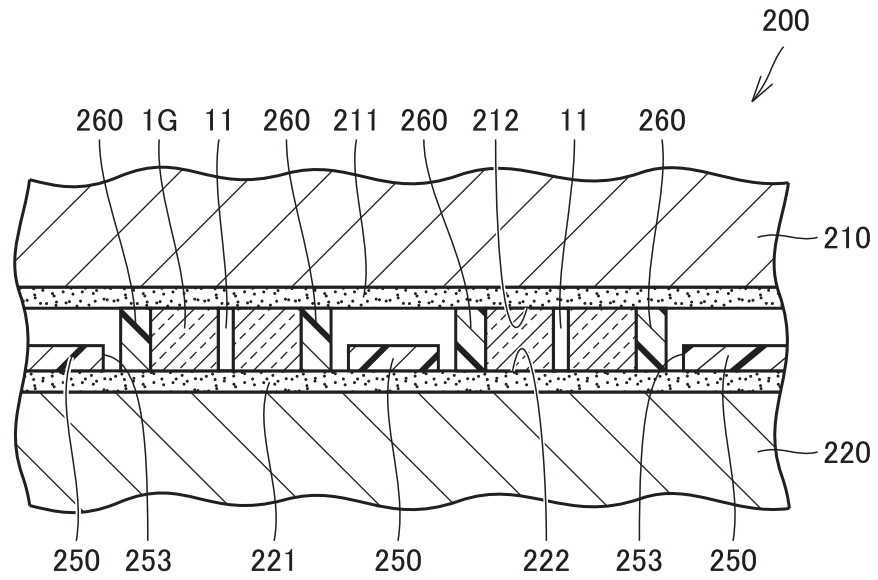


FIG.12

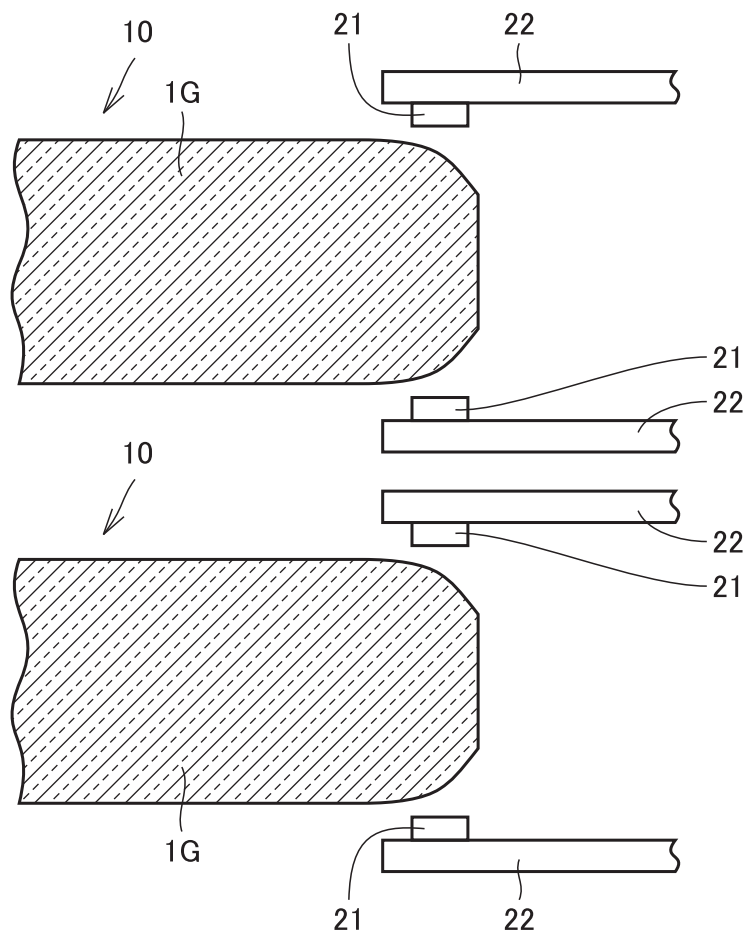


FIG.13

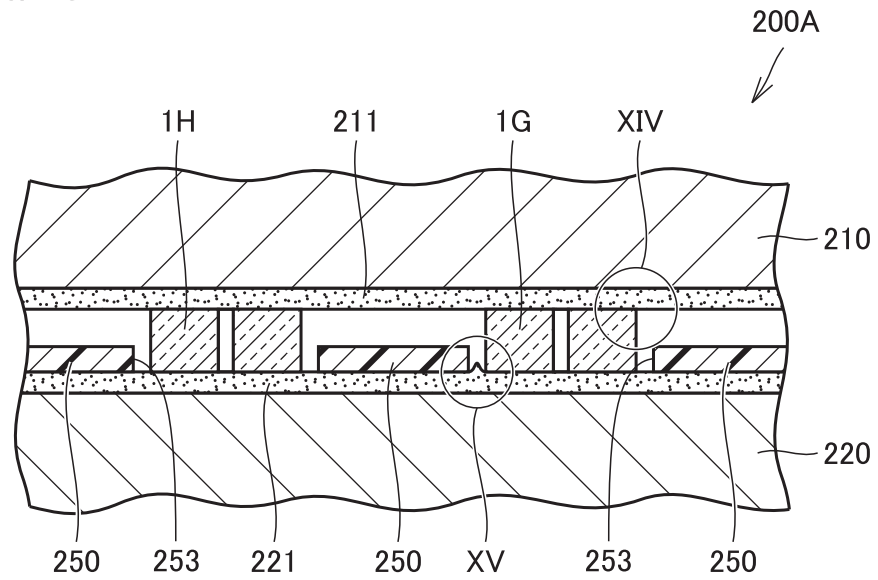


FIG.14

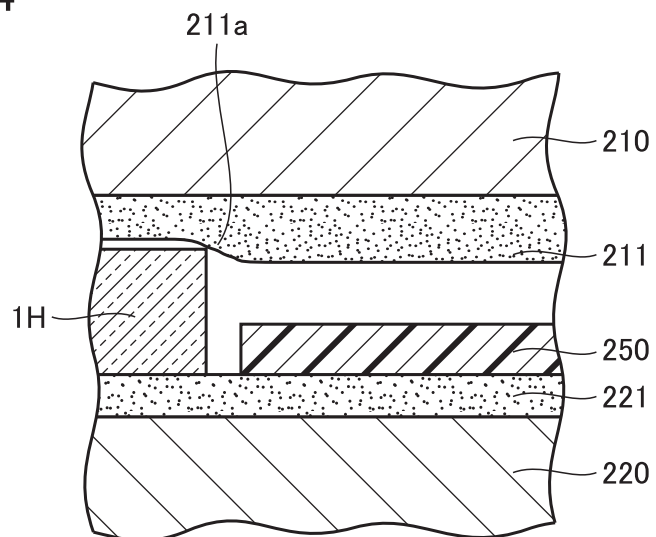


FIG.15

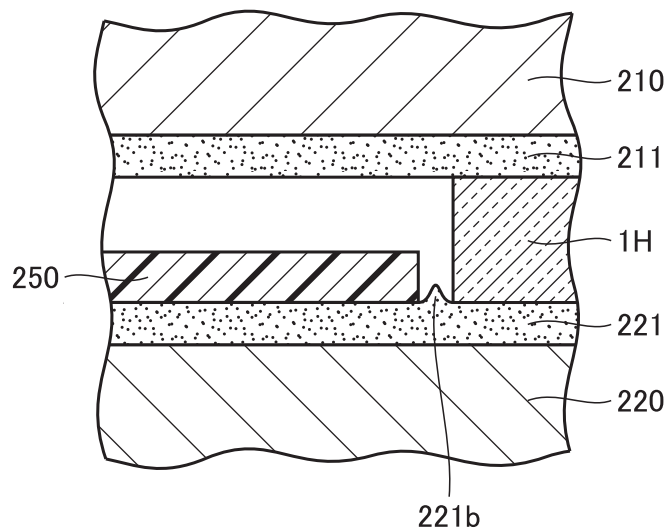


FIG.16

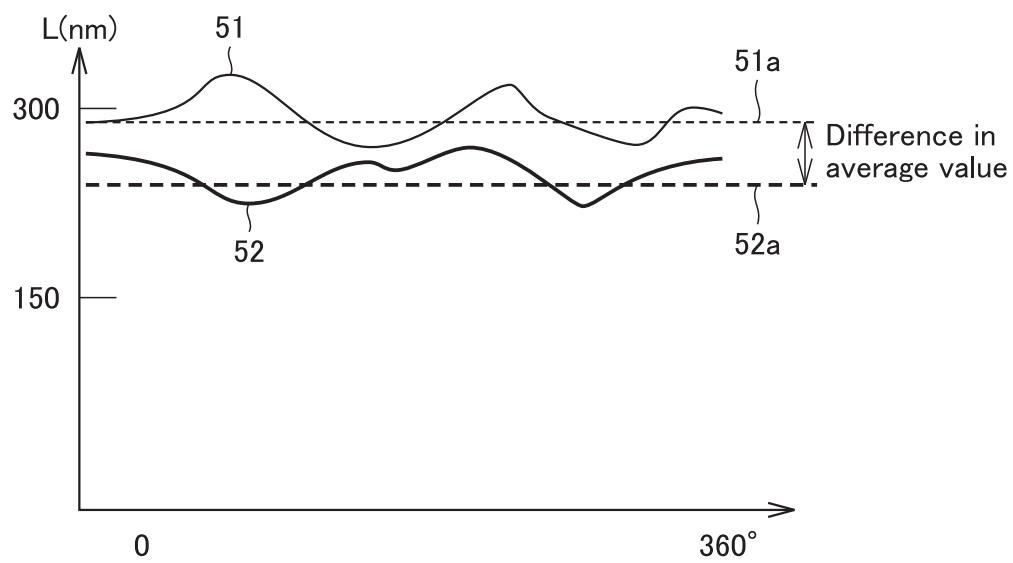


FIG.17

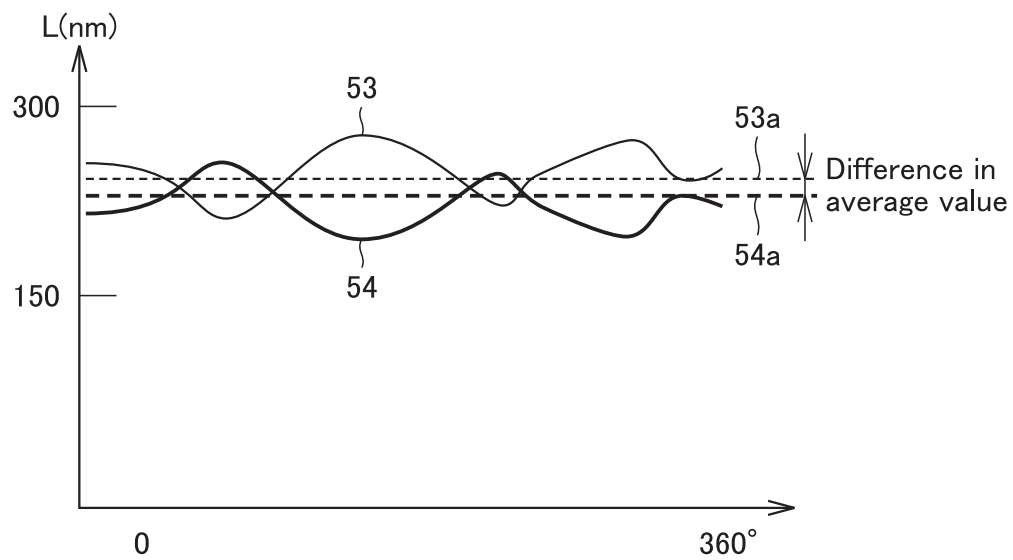


FIG.18

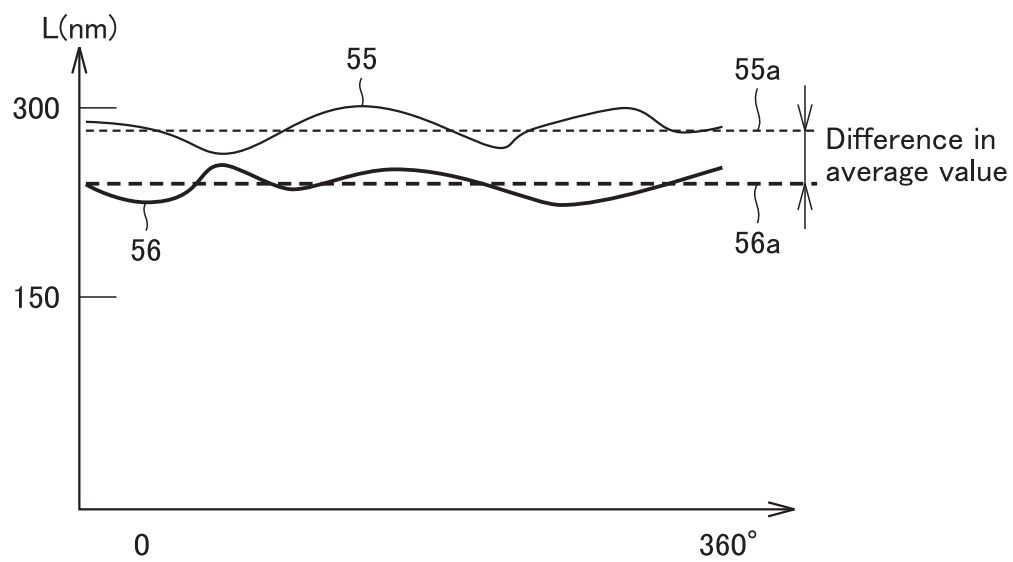


FIG.19

*substrate thickness = 0.8 mm

	PV value (nm)	difference between average value of distribution of deviation amounts on front side and average value of distribution of deviation amounts on back side	Load/unload test			
			5400rpm		7200rpm	
Comp. Ex. 1	60	30	error occurred at 1.2 million cycles	bad	error occurred at 1 million cycles	bad
Comp. Ex. 2	60	10	error occurred at 3.8 million cycles	bad	error occurred at 2.1 million cycles	bad
Comp. Ex. 3	40	30	error occurred at 4 million cycles	bad	error occurred at 3.9 million cycles	bad
Work. Ex. 1	40	10	no error at 5 million cycles	fair	no error at 5 million cycles	fair
Work. Ex. 2	30	5	no error occurred even when 5 million cycles were performed twice	good	no error occurred even when 5 million cycles were performed twice	good

FIG.20

*substrate thickness = 0.65 mm

	PV value (nm)	difference between average value of distribution of deviation amounts on front side and average value of distribution of deviation amounts on back side	Load/unload test	
			5400rpm	
Comp. Ex. 1	60	30	error occurred at 0.9 million cycles	bad
Comp. Ex. 2	60	10	error occurred at 1.9 million cycles	bad
Comp. Ex. 3	40	30	error occurred at 3.8 million cycles	bad
Work. Ex. 1	40	10	no error at 5 million cycles	fair
Work. Ex. 2	30	5	no error occurred even when 5 million cycles were performed twice	good