FIG.1

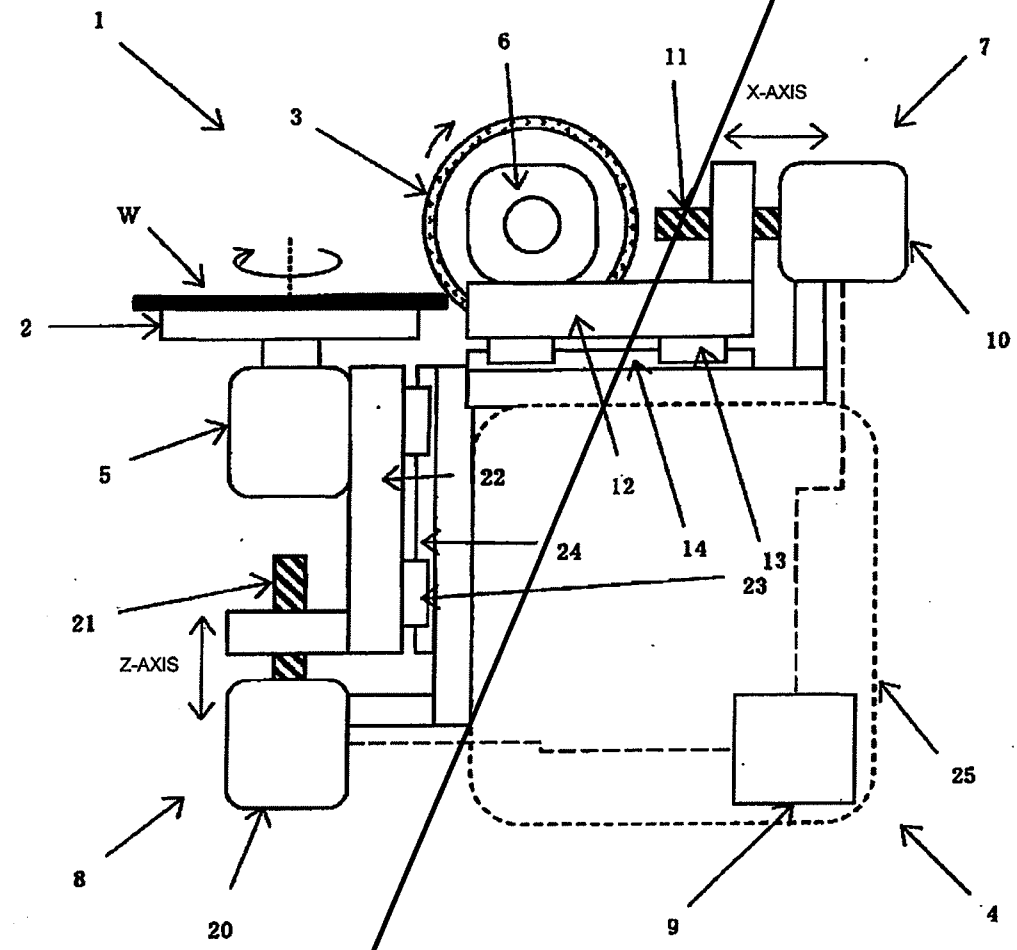


FIG.2

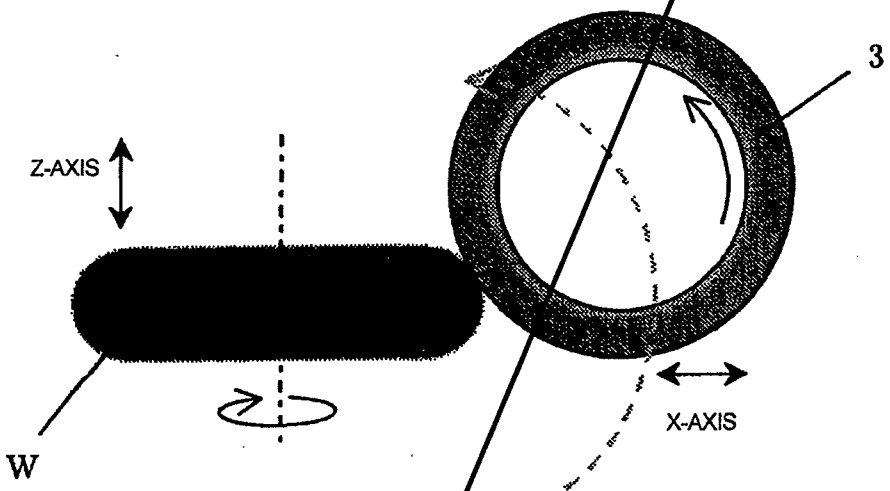


FIG.3

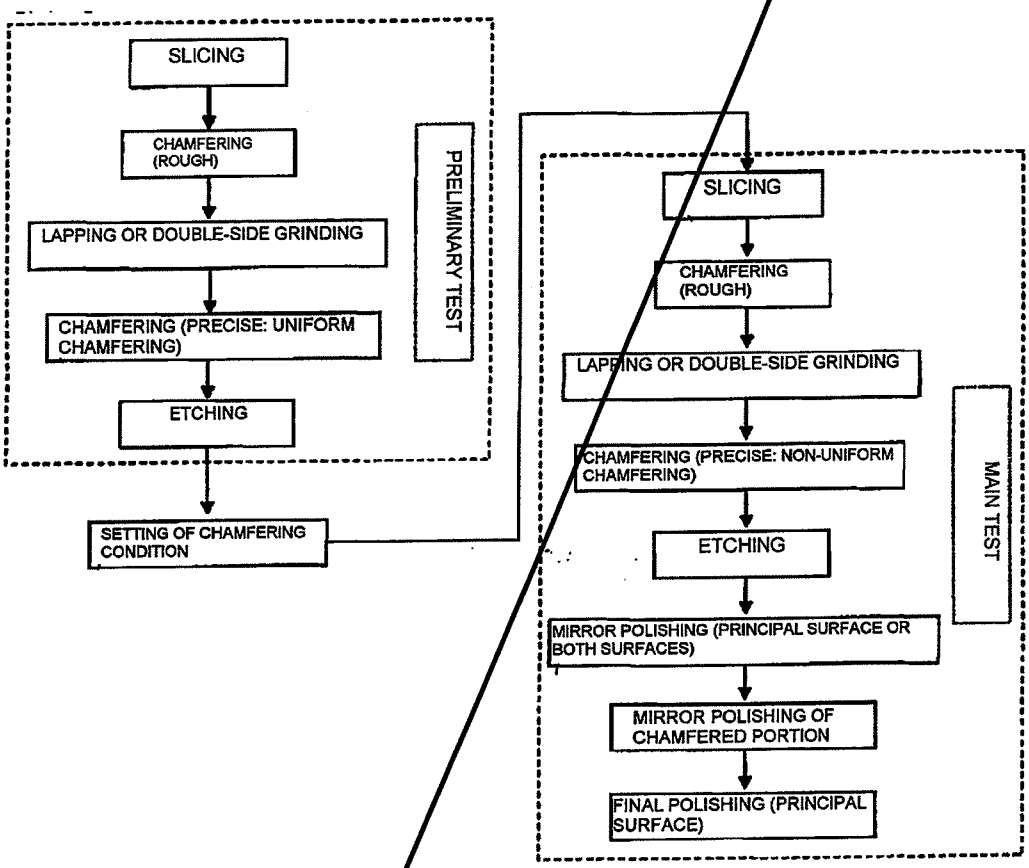

SLICING
CHAMFERING (ROUGH)
LAPPING OR DOUBLE-SIDE GRINDING
CHAMFERING (PRECISE: UNIFORM CHAMFERING)
ETCHING
PRELIMINARY TEST
SETTING OF CHAMFERING CONDITION
SLICING
CHAMFERING (ROUGH)
LAPPING OR DOUBLE-SIDE GRINDING
CHAMFERING (PRECISE: NON-UNIFORM CHAMFERING)
ETCHING
MIRROR POLISHING (PRINCIPAL SURFACE OR BOTH SURFACES)
MIRROR POLISHING OF CHAMFERED PORTION
FINAL POLISHING (PRINCIPAL SURFACE)
MAIN TEST

FIG.4

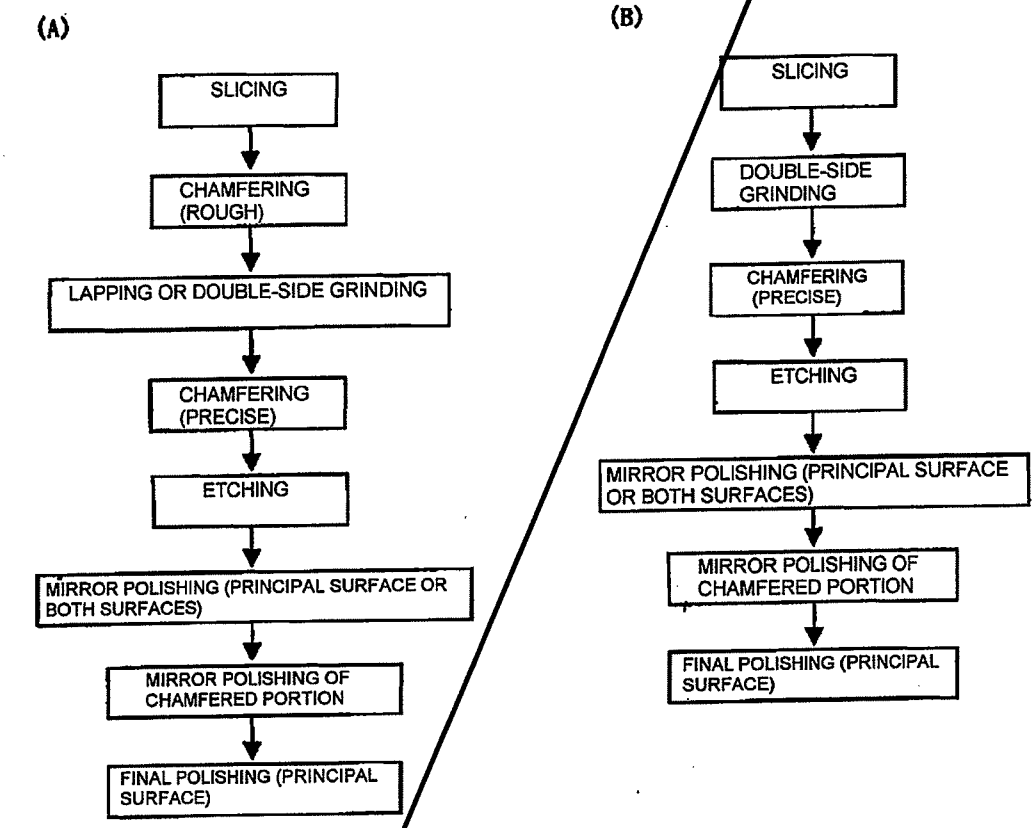

(A)
SLICING
CHAMFERING (ROUGH)
LAPPING OR DOUBLE-SIDE GRINDING
CHAMFERING (PRECISE)
ETCHING
MIRROR POLISHING (PRINCIPAL SURFACE OR BOTH SURFACES)
MIRROR POLISHING OF CHAMFERED PORTION
FINAL POLISHING (PRINCIPAL SURFACE)
(B)
SLICING
DOUBLE-SIDE GRINDING
CHAMFERING (PRECISE)
ETCHING
MIRROR POLISHING (PRINCIPAL SURFACE OR BOTH SURFACES)
MIRROR POLISHING OF CHAMFERED PORTION
FINAL POLISHING (PRINCIPAL SURFACE)

FIG.5

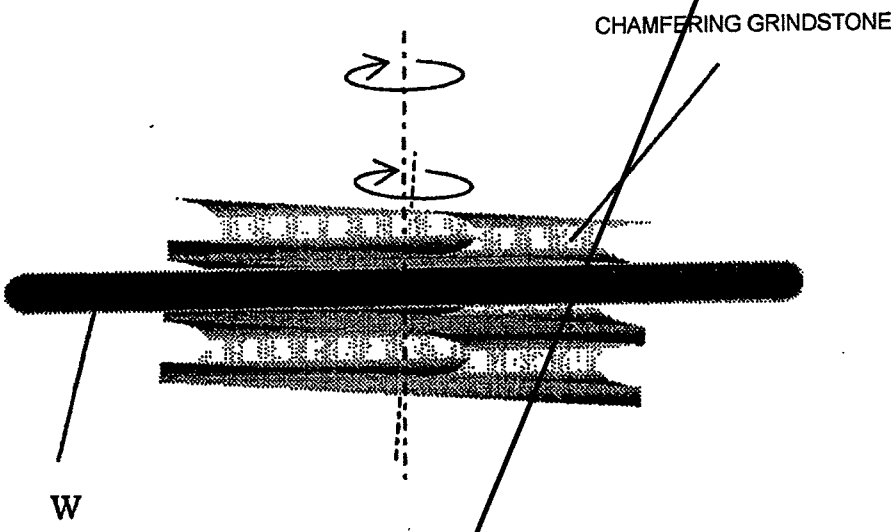


FIG.6

※: WHEN PRINCIPAL SURFACE IS (100) AND NOTCH ORIENTATION IS (01-1)

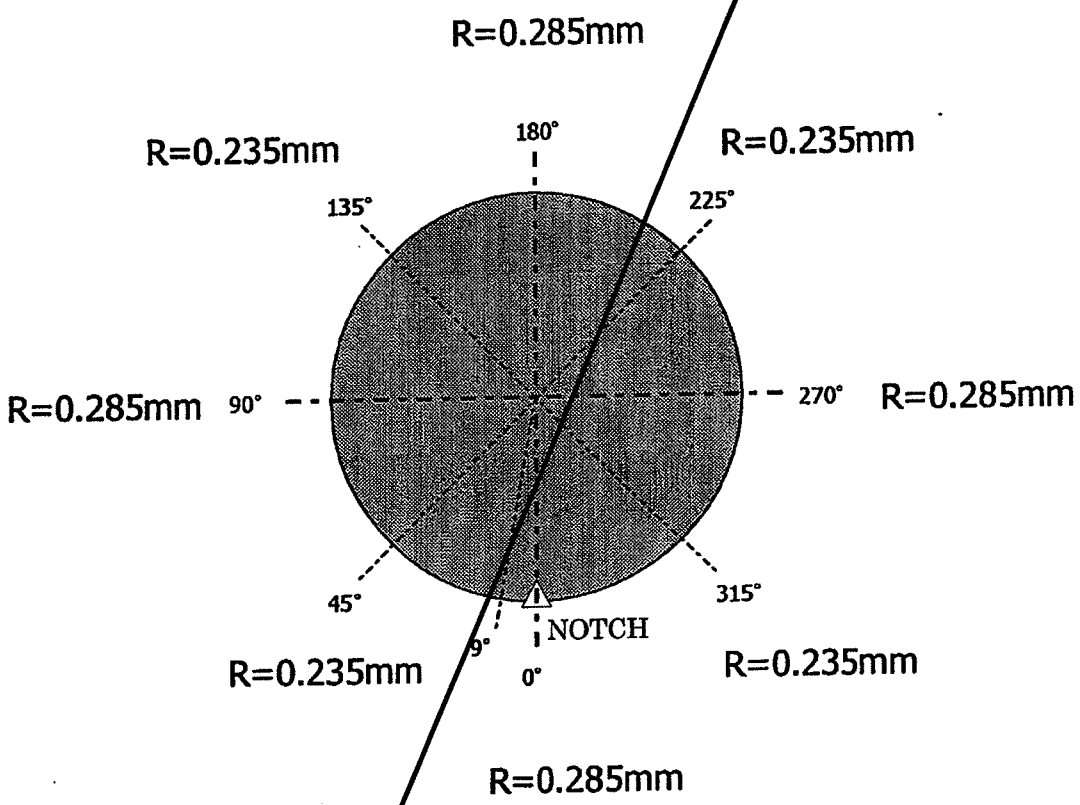


FIG.7

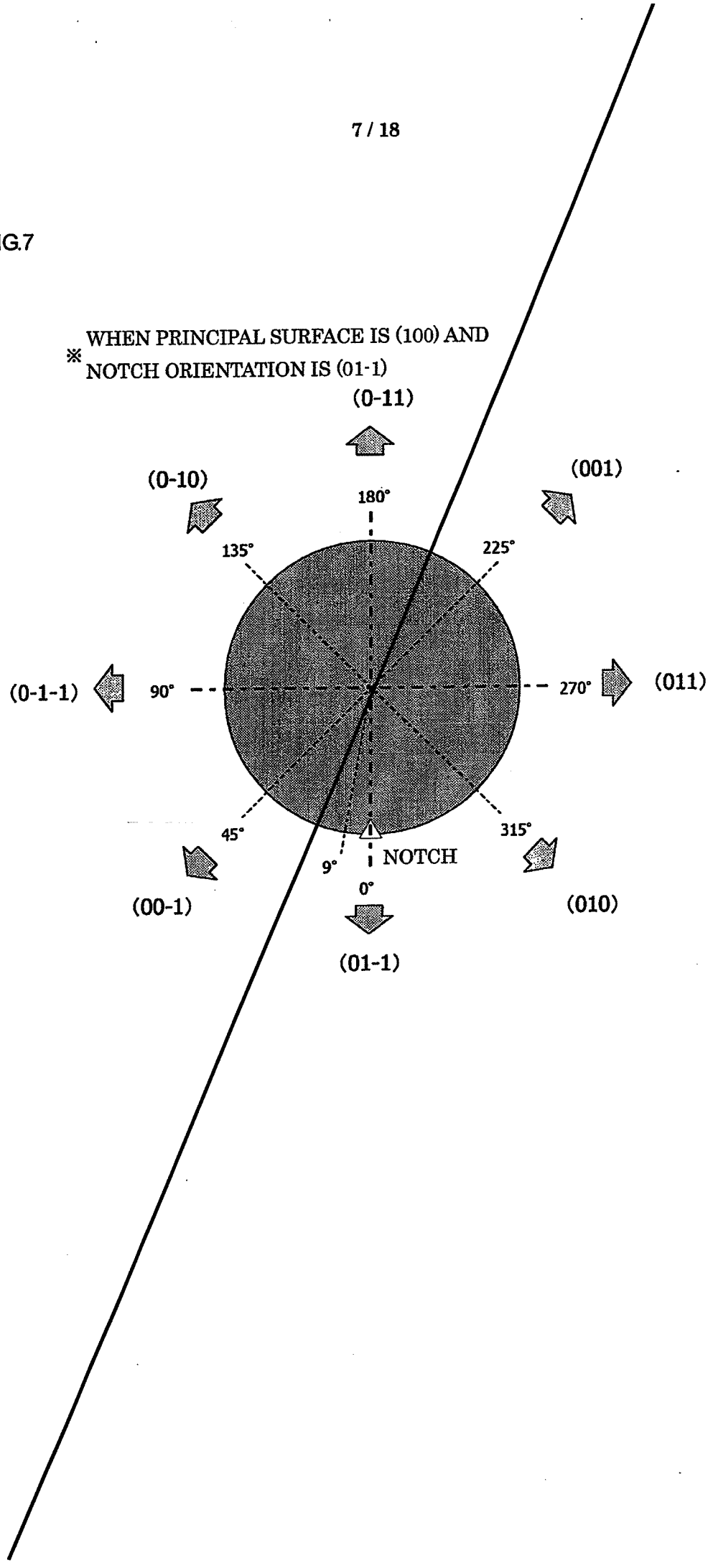

※ WHEN PRINCIPAL SURFACE IS (100) AND NOTCH ORIENTATION IS (01-1)
(0-11)
(0-10)
(001)
180°
135°
225°
(0-1-1)
90°
270°
(011)
45°
315°
9°
NOTCH
0°
(00-1)
(010)
(01-1)

FIG.8

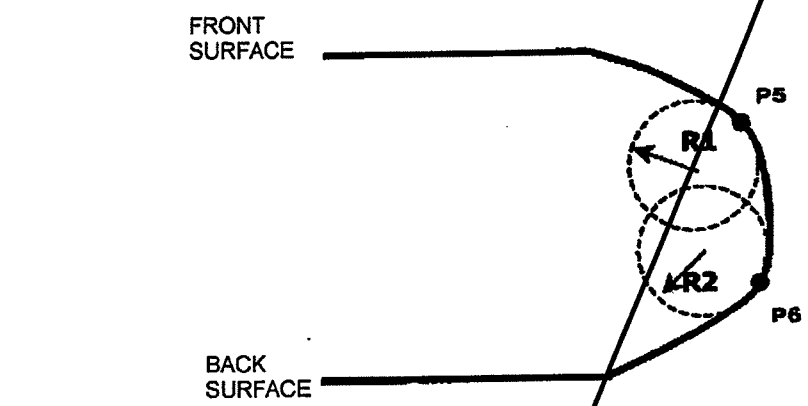


FIG.9

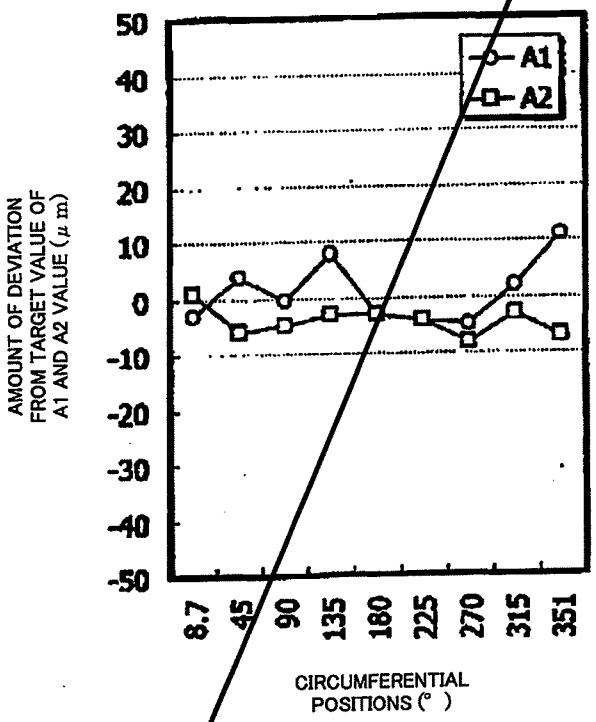

50
40
30
20
10
0
-10
-20
-30
-40
-50
A1
A2
AMOUNT OF DEVIATION FROM TARGET VALUE OF A1 AND A2 VALUE (μm)
8.7
45
90
135
180
225
270
315
351
CIRCUMFERENTIAL POSITIONS (° )

FIG.10

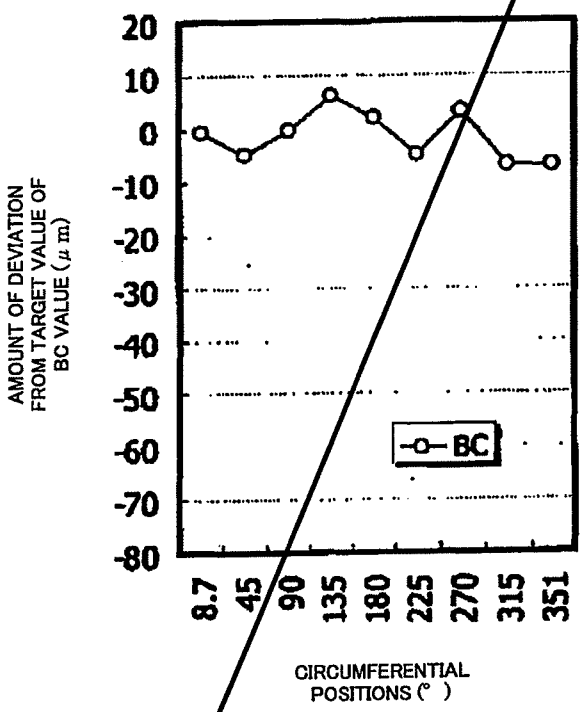

20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
AMOUNT OF DEVIATION FROM TARGET VALUE OF BC VALUE (μm)
BC
8.7
45
90
135
180
225
270
315
351
CIRCUMFERENTIAL POSITIONS (°)

FIG.11

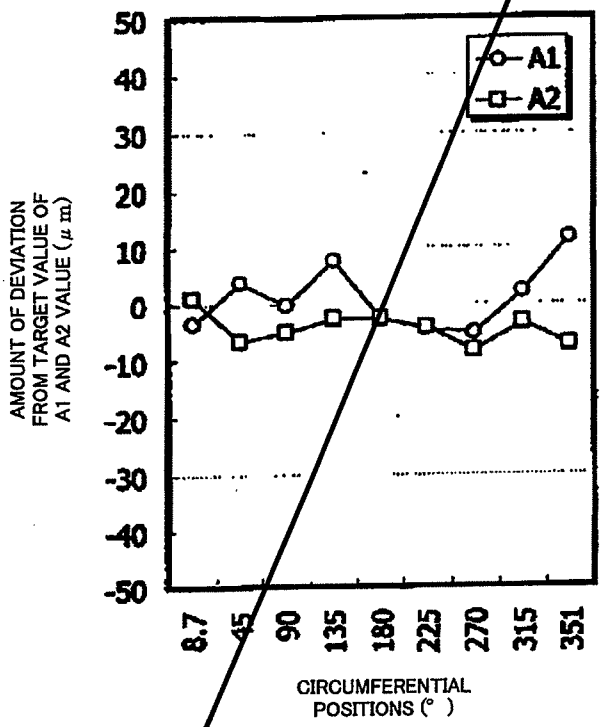

50
40
30
20
10
0
-10
-20
-30
-40
-50
A1
A2
AMOUNT OF DEVIATION FROM TARGET VALUE OF A1 AND A2 VALUE (μm)
8.7
45
90
135
180
225
270
315
351
CIRCUMFERENTIAL POSITIONS (° )

FIG.12

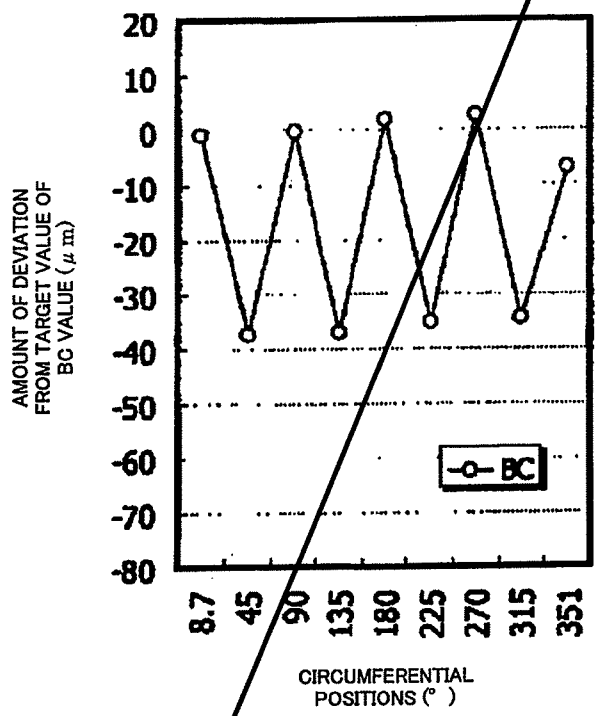

20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
AMOUNT OF DEVIATION FROM TARGET VALUE OF BC VALUE (μm)
8.7
45
90
135
180
225
270
315
351
CIRCUMFERENTIAL POSITIONS (°)
BC

FIG.13

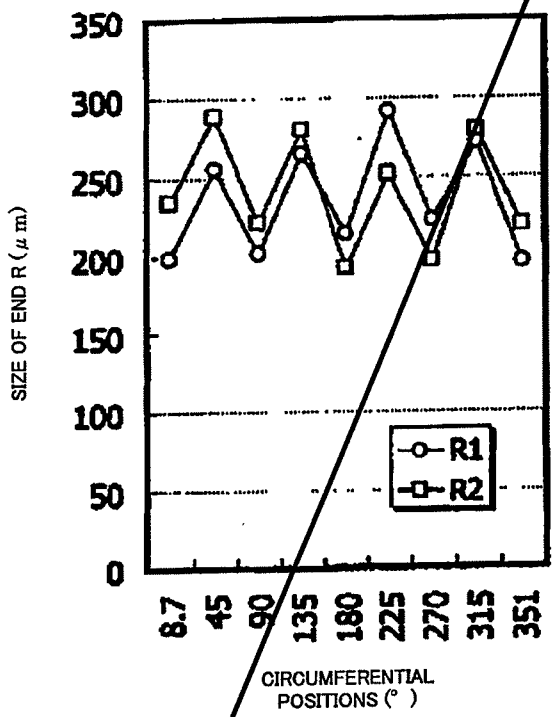

350
300
250
200
150
100
50
0
SIZE OF END R (μm)
R1
R2
8.7
45
90
135
180
225
270
315
351
CIRCUMFERENTIAL POSITIONS (° )

FIG.14

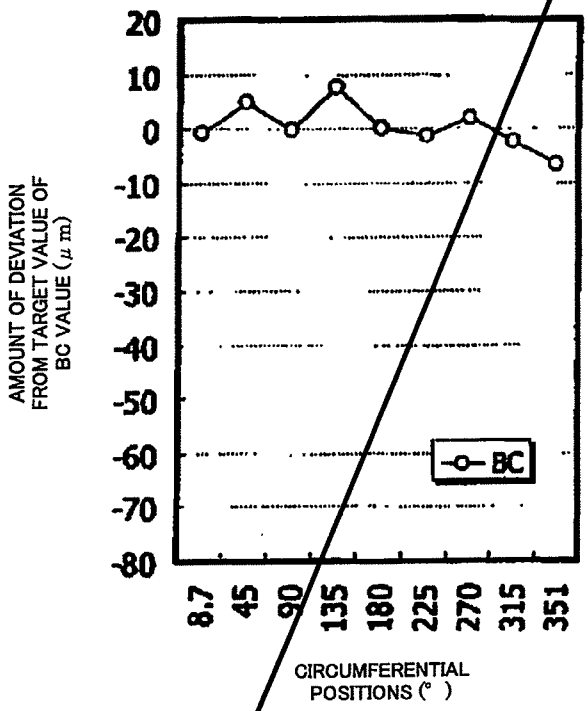

20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
AMOUNT OF DEVIATION FROM TARGET VALUE OF BC VALUE (μm)
BC
8.7
45
90
135
180
225
270
315
351
CIRCUMFERENTIAL POSITIONS (°)

FIG.15

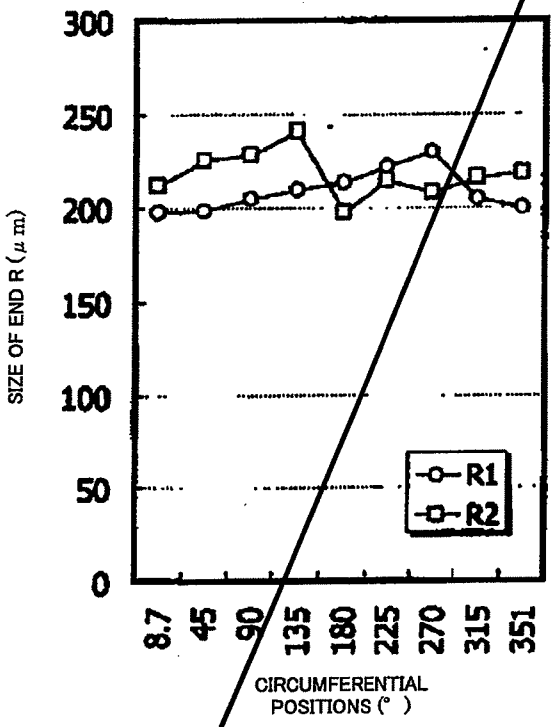

300
250
200
150
100
50
0
SIZE OF END R (μm)
R1
R2
8.7
45
90
135
180
225
270
315
351
CIRCUMFERENTIAL
POSITIONS (° )

FIG.16

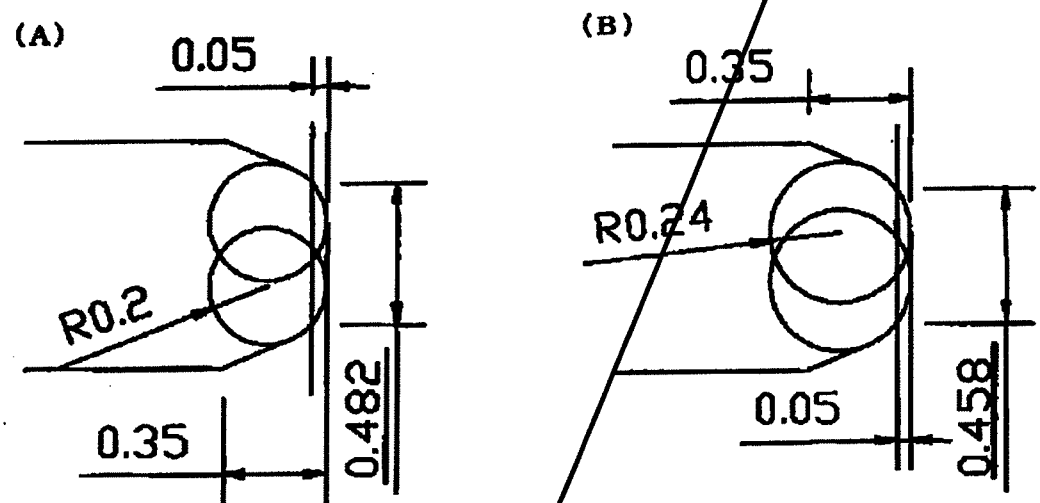


FIG.17

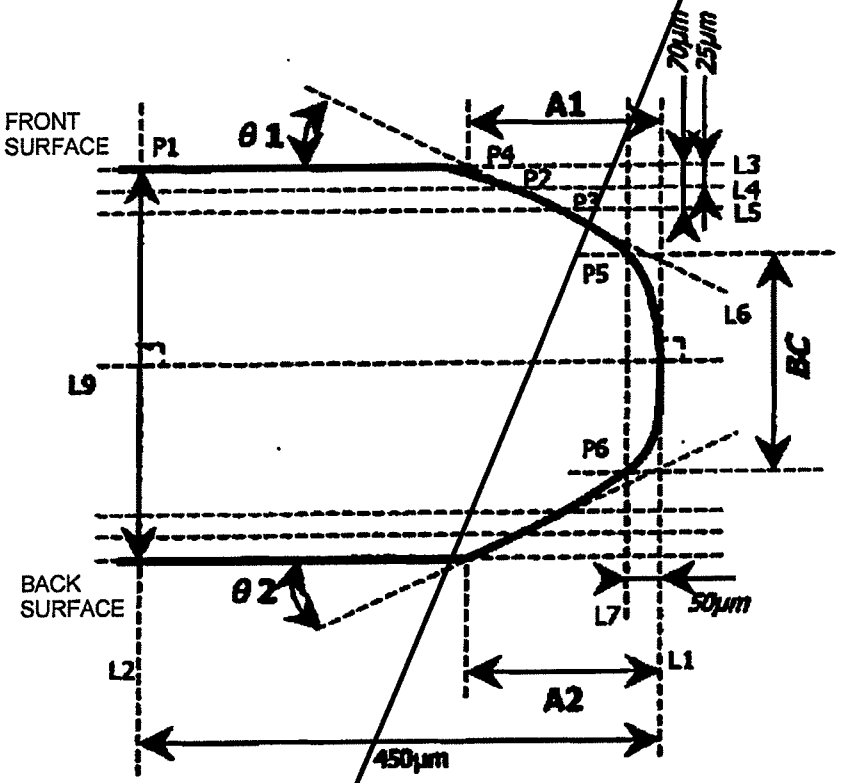

FRONT
SURFACE
P1
θ1
A1
70μm
25μm
P4
P2
P3
L3
L4
L5
P5
L6
BC
L9
P6
BACK
SURFACE
θ2
L7
50μm
L2
L1
A2
450μm

FIG.18

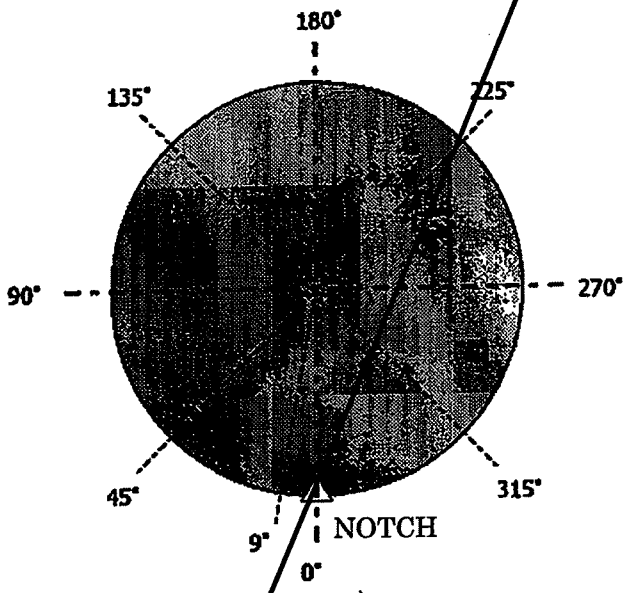


FIG.1

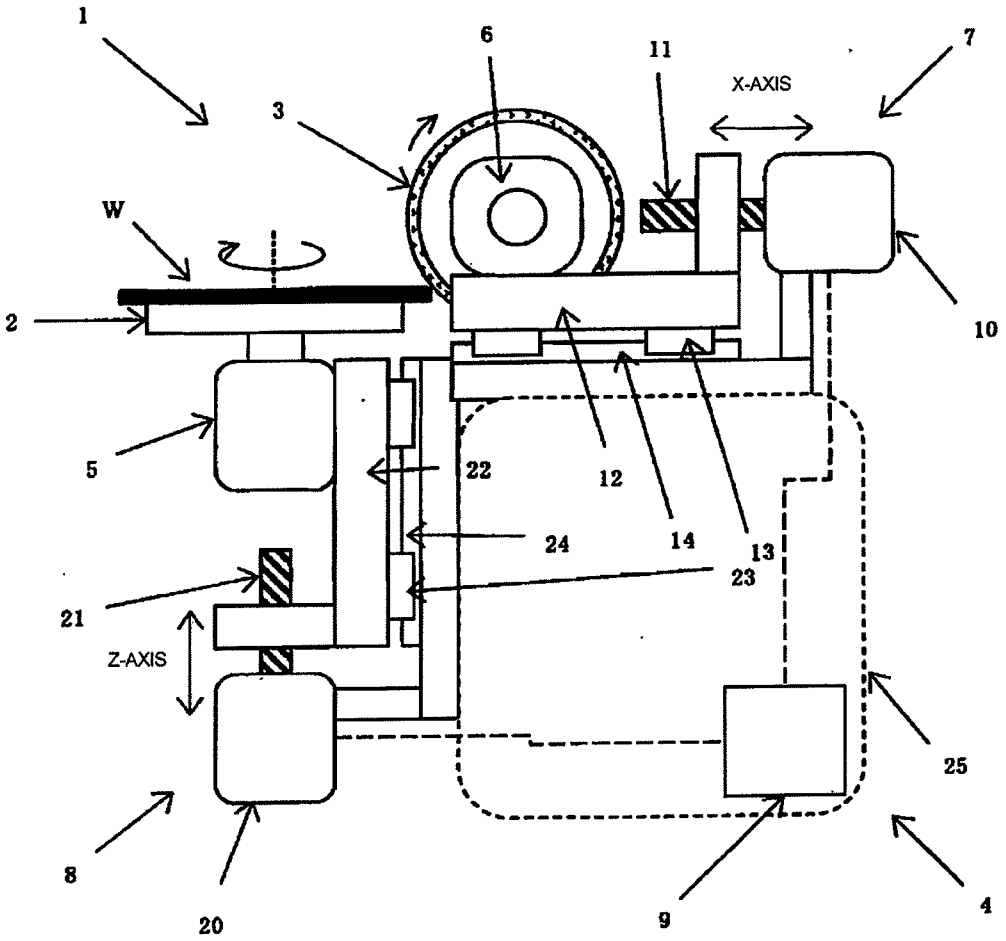


FIG.2

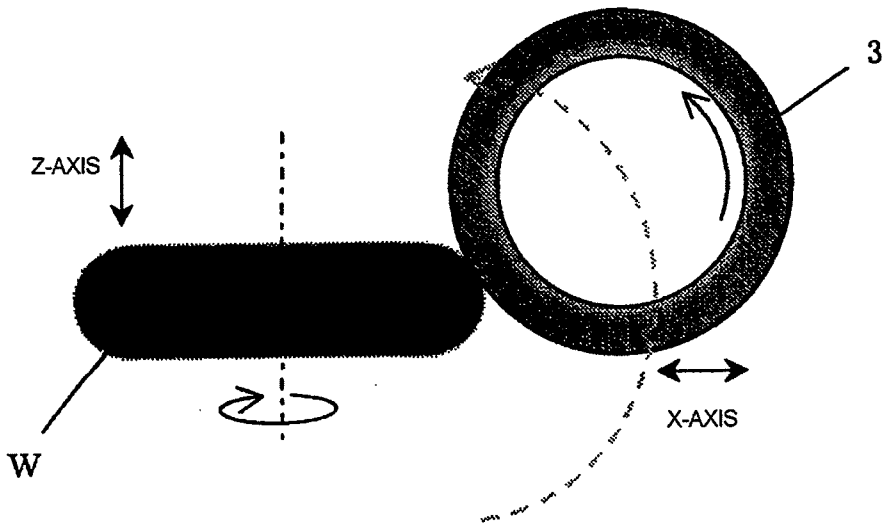


FIG.3

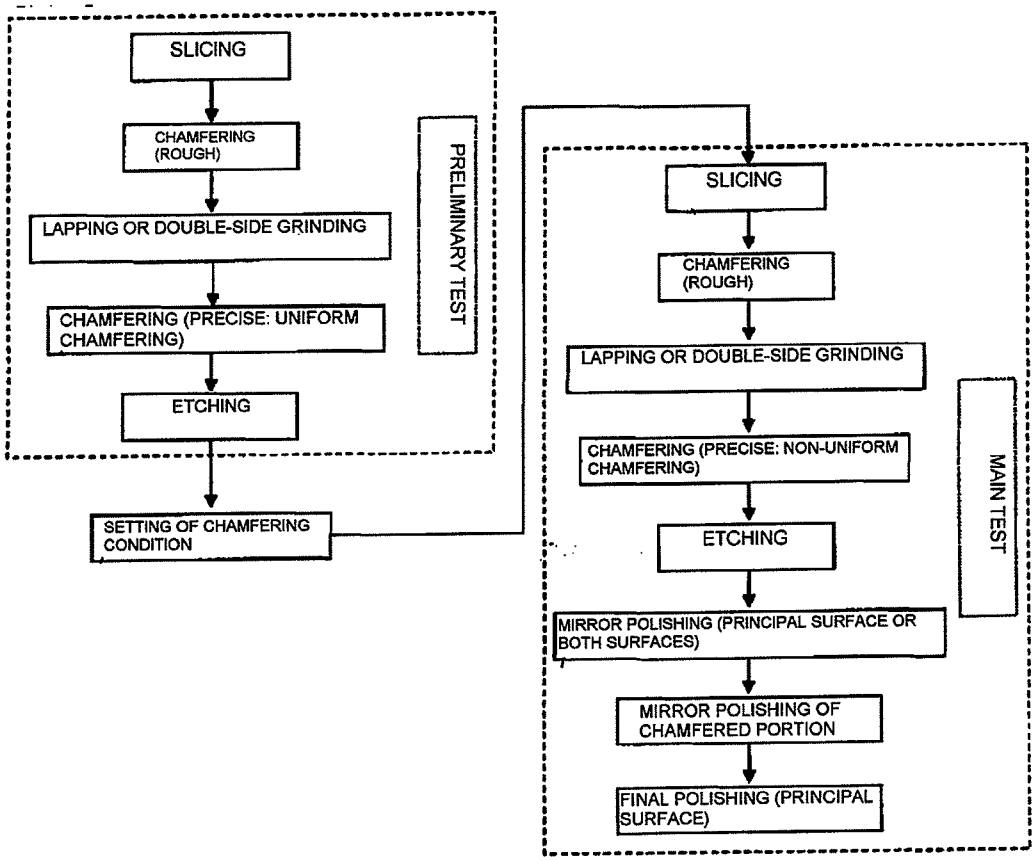

SLICING
CHAMFERING (ROUGH)
LAPPING OR DOUBLE-SIDE GRINDING
CHAMFERING (PRECISE: UNIFORM CHAMFERING)
ETCHING
PRELIMINARY TEST
SETTING OF CHAMFERING CONDITION
SLICING
CHAMFERING (ROUGH)
LAPPING OR DOUBLE-SIDE GRINDING
CHAMFERING (PRECISE: NON-UNIFORM CHAMFERING)
ETCHING
MIRROR POLISHING (PRINCIPAL SURFACE OR BOTH SURFACES)
MIRROR POLISHING OF CHAMFERED PORTION
FINAL POLISHING (PRINCIPAL SURFACE)
MAIN TEST

FIG.4

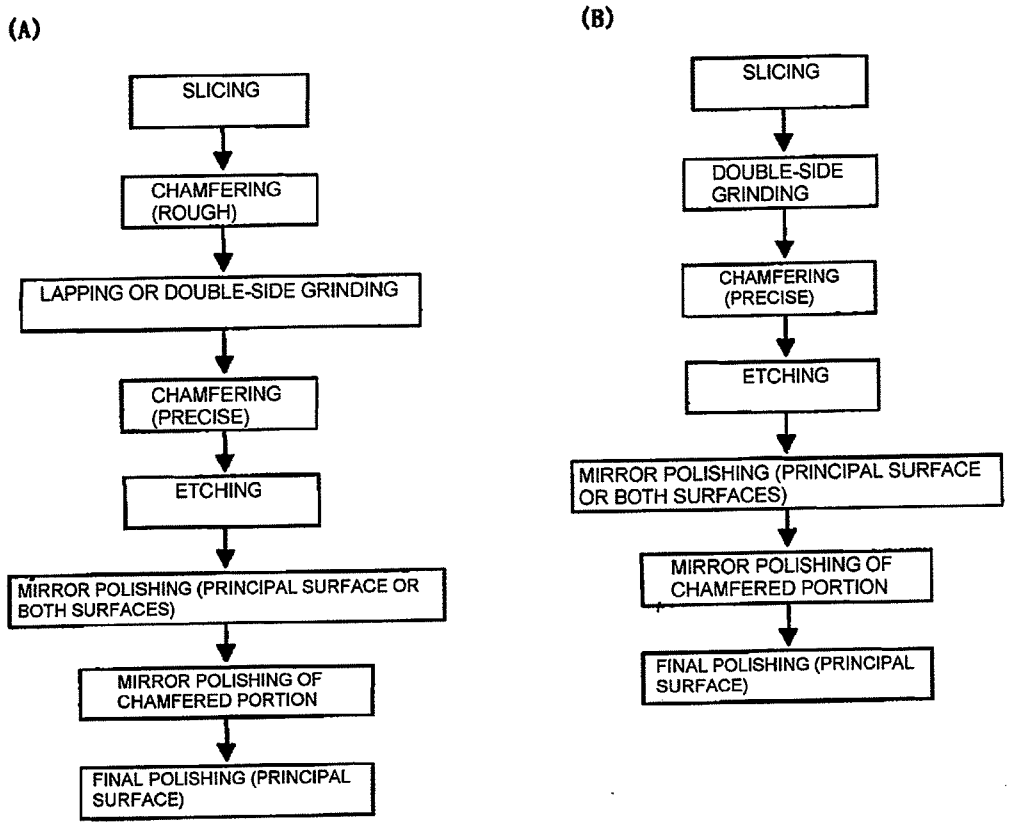

(A)
SLICING
CHAMFERING (ROUGH)
LAPPING OR DOUBLE-SIDE GRINDING
CHAMFERING (PRECISE)
ETCHING
MIRROR POLISHING (PRINCIPAL SURFACE OR BOTH SURFACES)
MIRROR POLISHING OF CHAMFERED PORTION
FINAL POLISHING (PRINCIPAL SURFACE)
(B)
SLICING
DOUBLE-SIDE GRINDING
CHAMFERING (PRECISE)
ETCHING
MIRROR POLISHING (PRINCIPAL SURFACE OR BOTH SURFACES)
MIRROR POLISHING OF CHAMFERED PORTION
FINAL POLISHING (PRINCIPAL SURFACE)

FIG.5

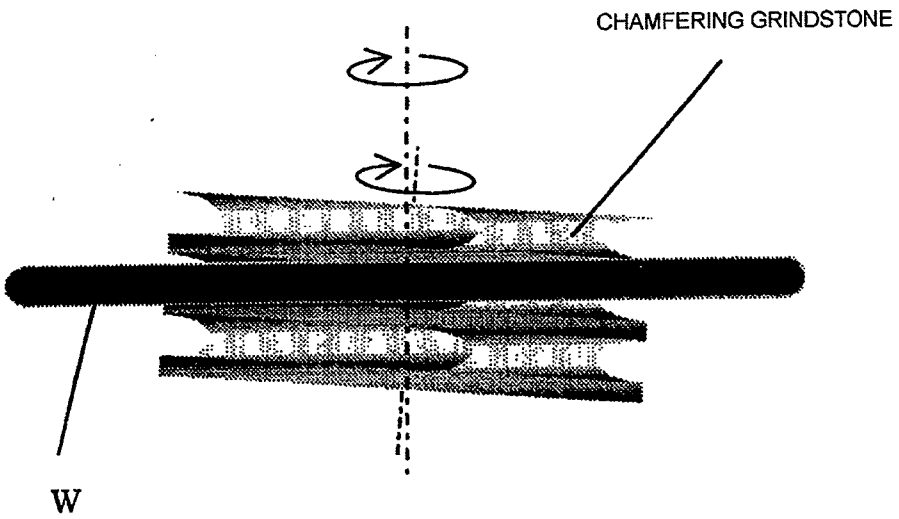


FIG.6

※: WHEN PRINCIPAL SURFACE IS (100) AND NOTCH ORIENTATION IS (01-1)

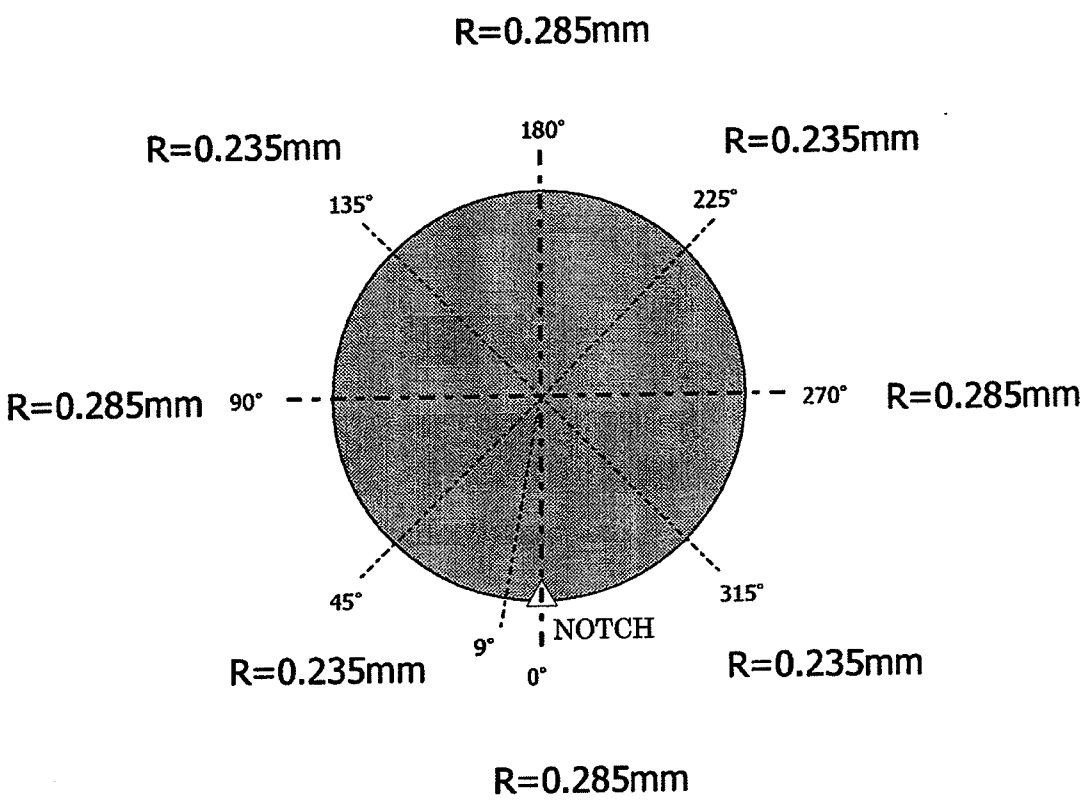


FIG.7

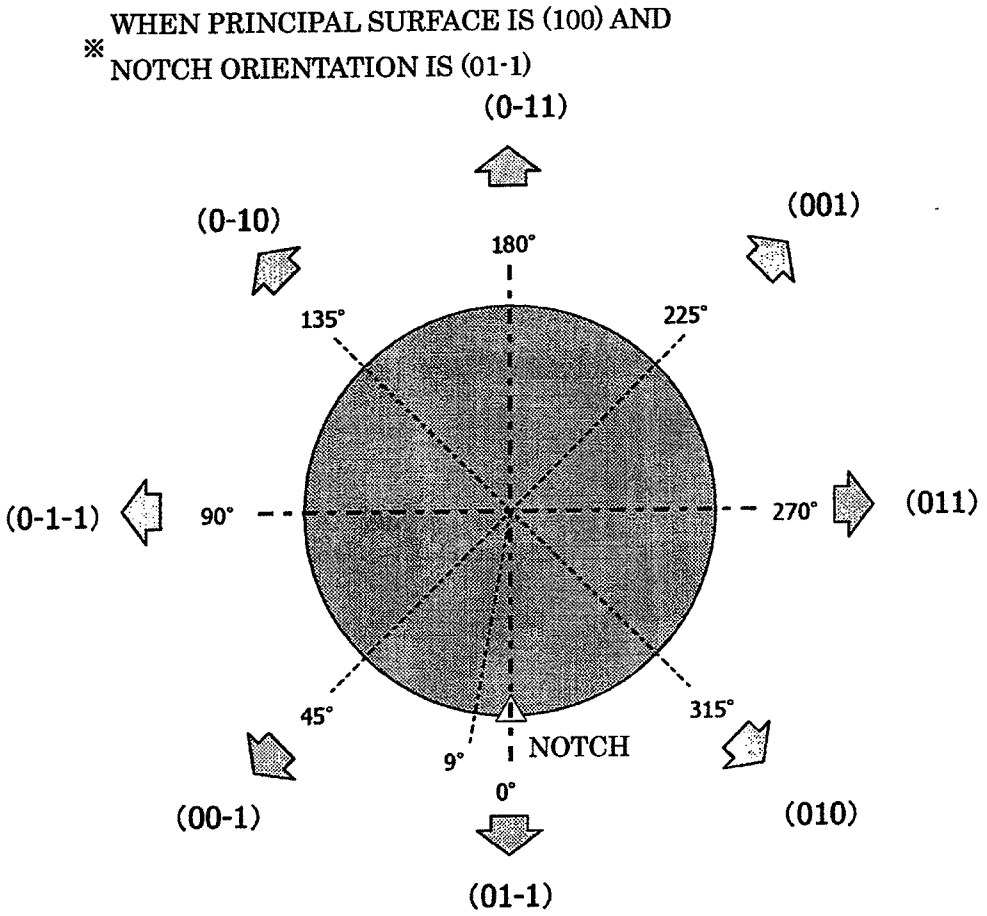

※ WHEN PRINCIPAL SURFACE IS (100) AND NOTCH ORIENTATION IS (01-1)
(0-11)
(0-10)
(001)
180°
135°
225°
(0-1-1)
90°
270°
(011)
45°
315°
9°
NOTCH
0°
(00-1)
(010)
(01-1)

FIG.8

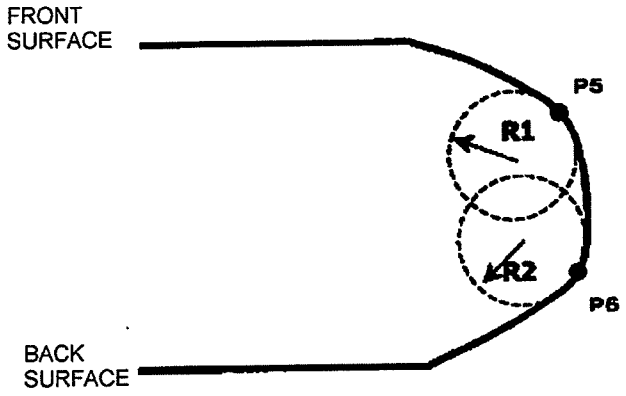


FIG.9

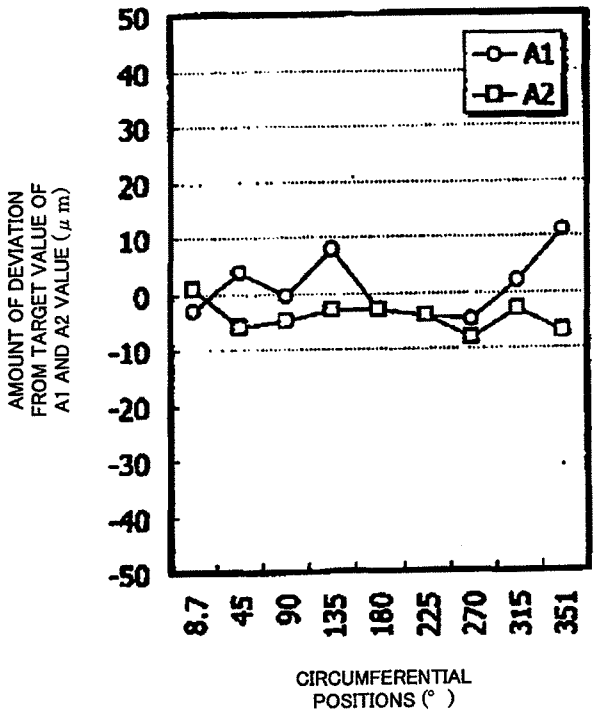

50
40
30
20
10
0
-10
-20
-30
-40
-50
A1
A2
AMOUNT OF DEVIATION FROM TARGET VALUE OF A1 AND A2 VALUE (μm)
8.7
45
90
135
180
225
270
315
351
CIRCUMFERENTIAL POSITIONS (° )

FIG.10

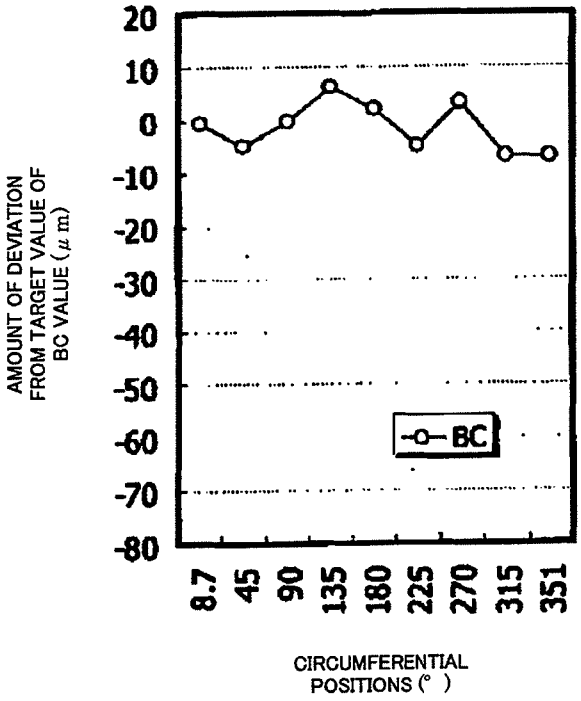

20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
AMOUNT OF DEVIATION FROM TARGET VALUE OF BC VALUE (μm)
BC
8.7
45
90
135
180
225
270
315
351
CIRCUMFERENTIAL POSITIONS (° )

FIG.11

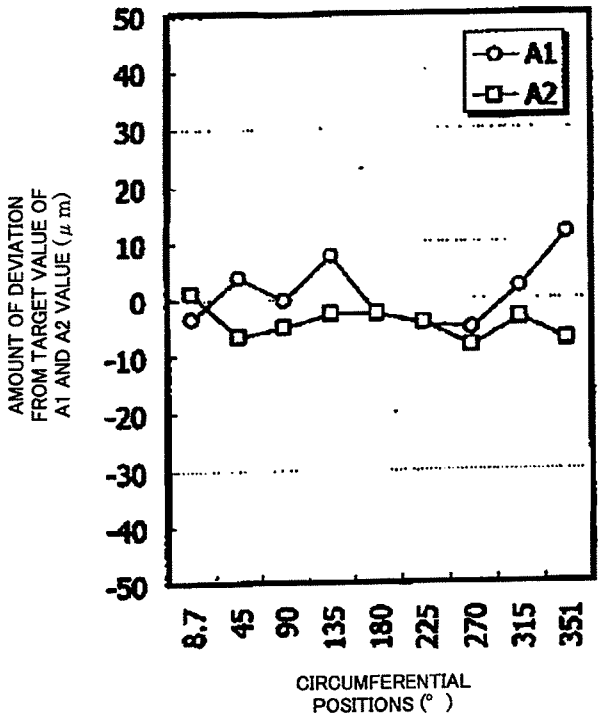

50
40
30
20
10
0
-10
-20
-30
-40
-50
A1
A2
AMOUNT OF DEVIATION FROM TARGET VALUE OF A1 AND A2 VALUE (μm)
8.7
45
90
135
180
225
270
315
351
CIRCUMFERENTIAL POSITIONS (°)

FIG.12

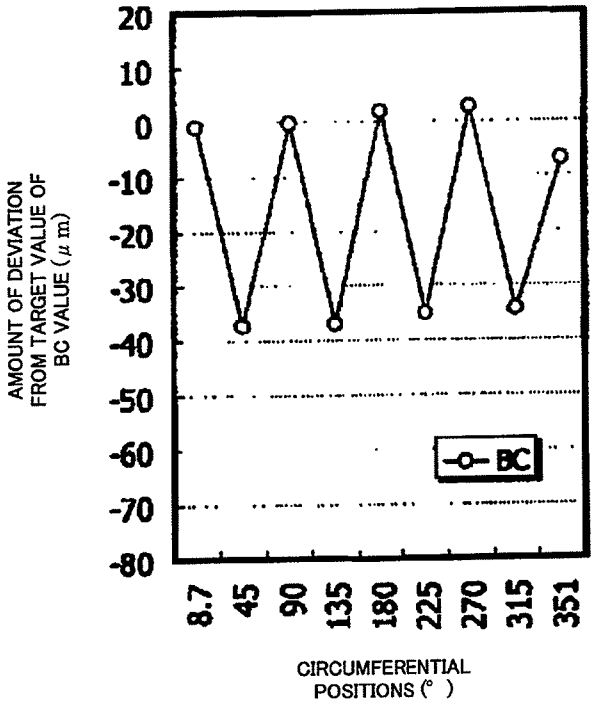

20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
AMOUNT OF DEVIATION FROM TARGET VALUE OF BC VALUE (μm)
BC
8.7
45
90
135
180
225
270
315
351
CIRCUMFERENTIAL POSITIONS (°)

FIG.13

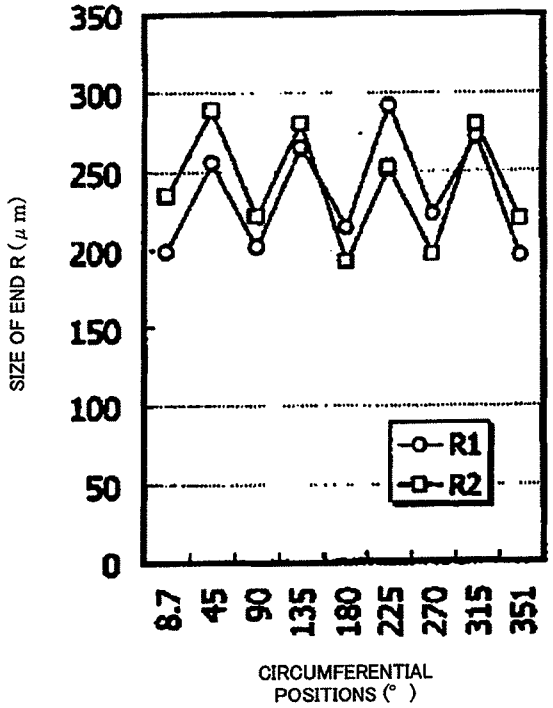

350
300
250
200
150
100
50
0
SIZE OF END R (μm)
R1
R2
8.7
45
90
135
180
225
270
315
351
CIRCUMFERENTIAL POSITIONS (° )

FIG.14

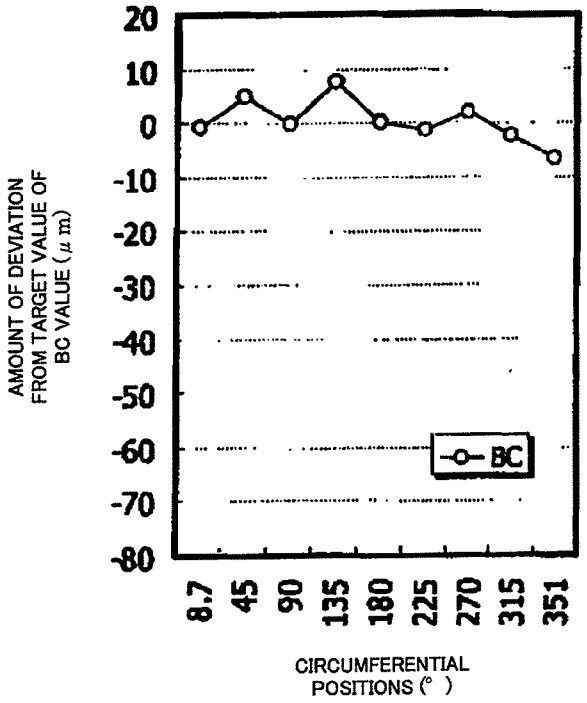

20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
AMOUNT OF DEVIATION FROM TARGET VALUE OF BC VALUE (μm)
BC
8.7
45
90
135
180
225
270
315
351
CIRCUMFERENTIAL POSITIONS (° )

FIG.15

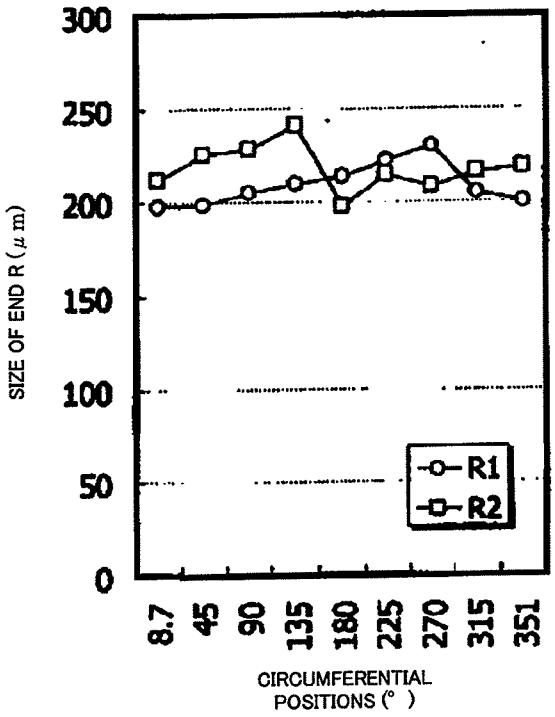

300
250
200
150
100
50
0
SIZE OF END R (μm)
R1
R2
8.7
45
90
135
180
225
270
315
351
CIRCUMFERENTIAL POSITIONS (° )

FIG.16

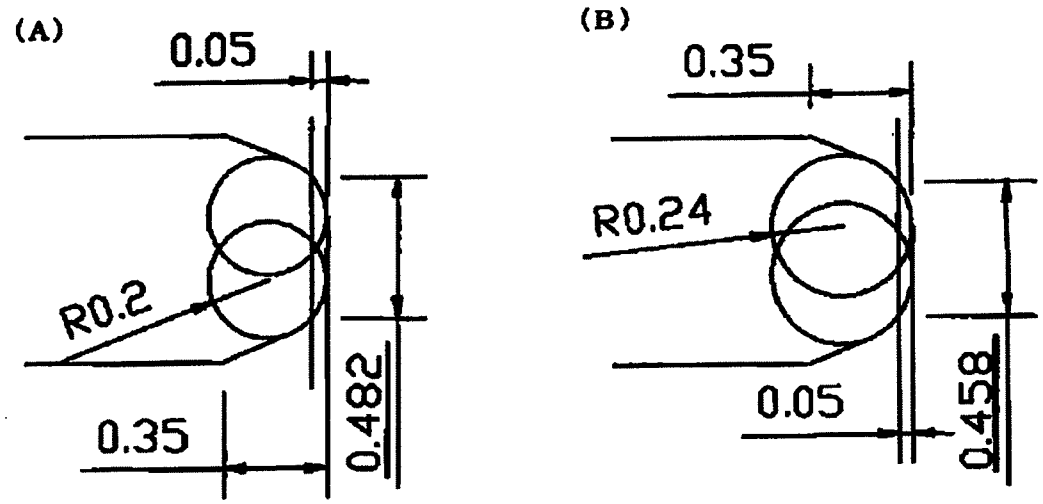


FIG.17

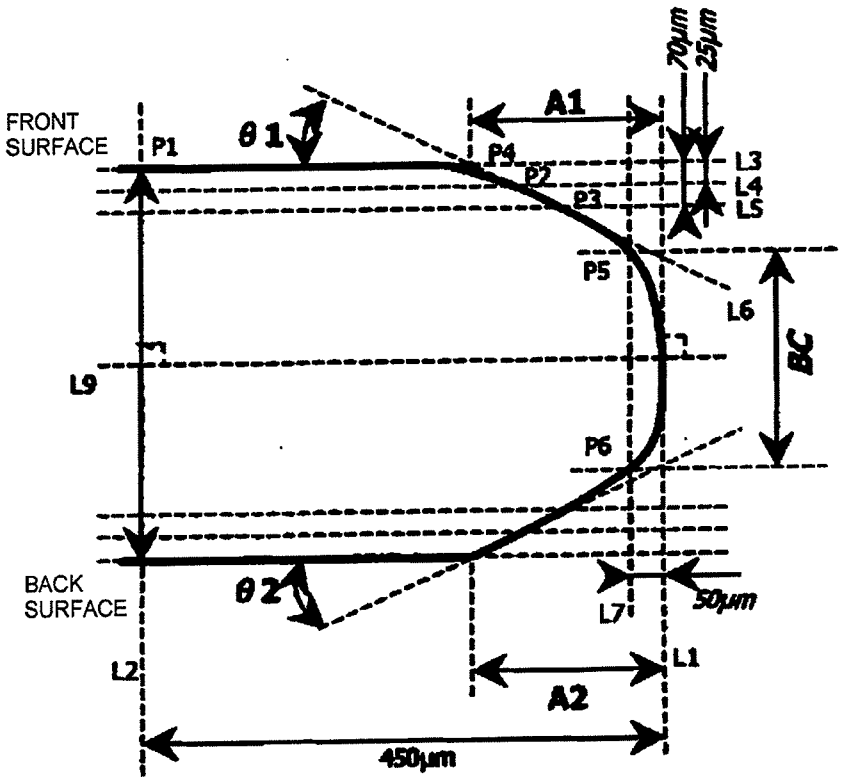

FRONT
SURFACE
P1
θ1
A1
70μm
25μm
P4
P2
P3
L3
L4
L5
P5
L6
BC
L9
P6
BACK
SURFACE
θ2
L7
50μm
L2
A2
L1
450μm

FIG.18

