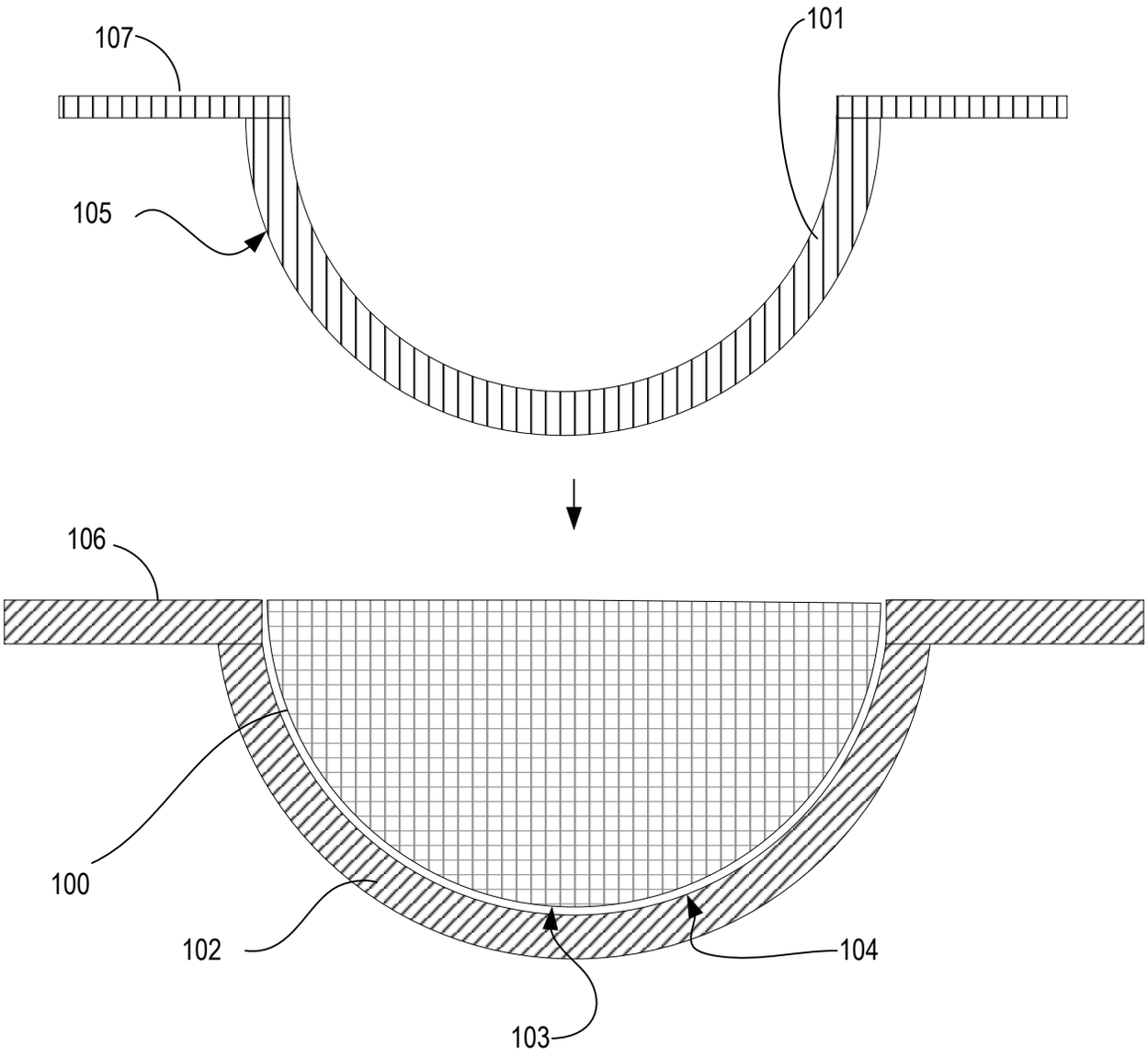

Prior Art

FIG. 1

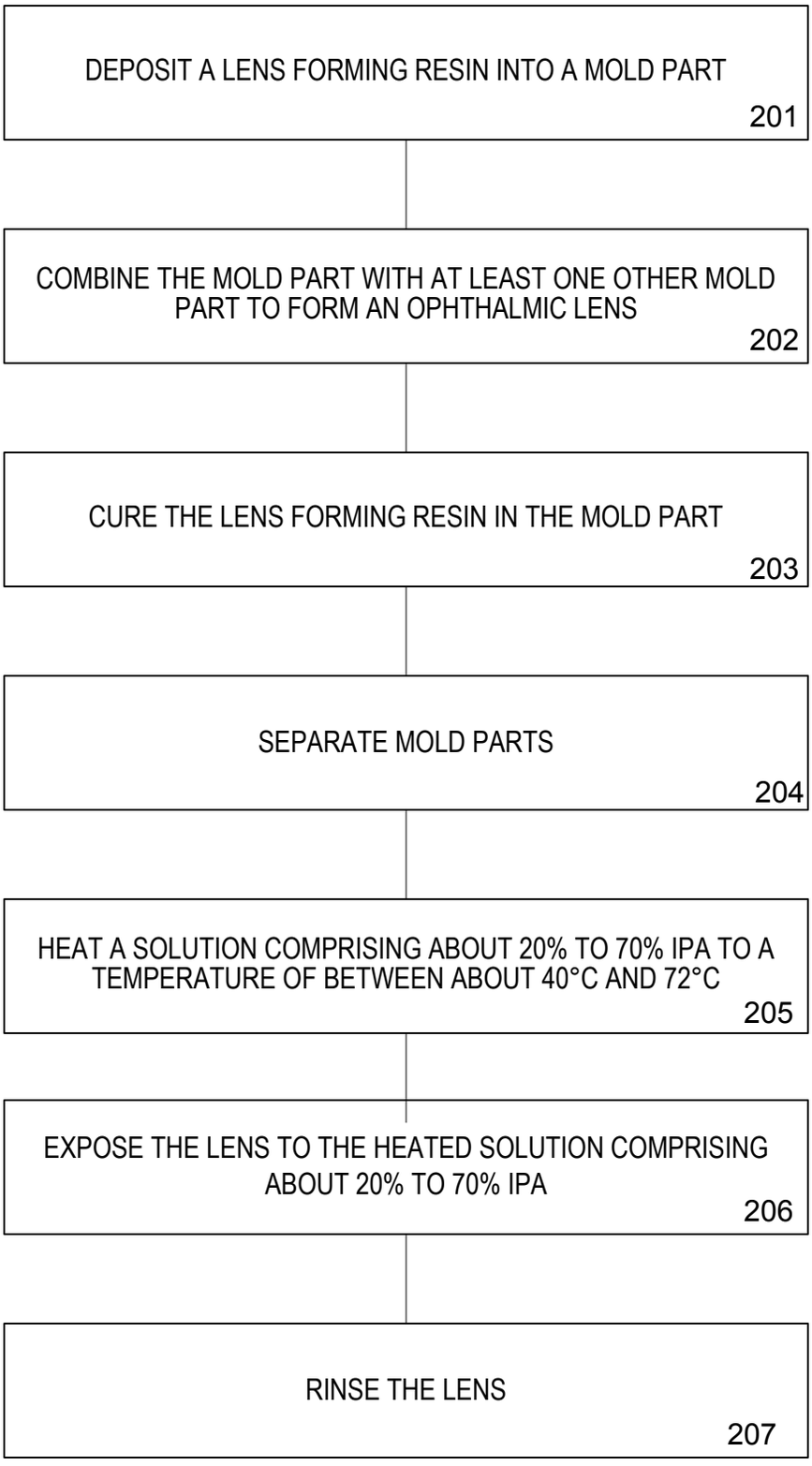
DEPOSIT A LENS FORMING RESIN INTO A MOLD PART
201
COMBINE THE MOLD PART WITH AT LEAST ONE OTHER MOLD PART TO FORM AN OPHTHALMIC LENS
202
CURE THE LENS FORMING RESIN IN THE MOLD PART
203
SEPARATE MOLD PARTS
204
HEAT A SOLUTION COMPRISING ABOUT 20% TO 70% IPA TO A TEMPERATURE OF BETWEEN ABOUT 40°C AND 72°C
205
EXPOSE THE LENS TO THE HEATED SOLUTION COMPRISING ABOUT 20% TO 70% IPA
206
RINSE THE LENS
207

FIG. 2

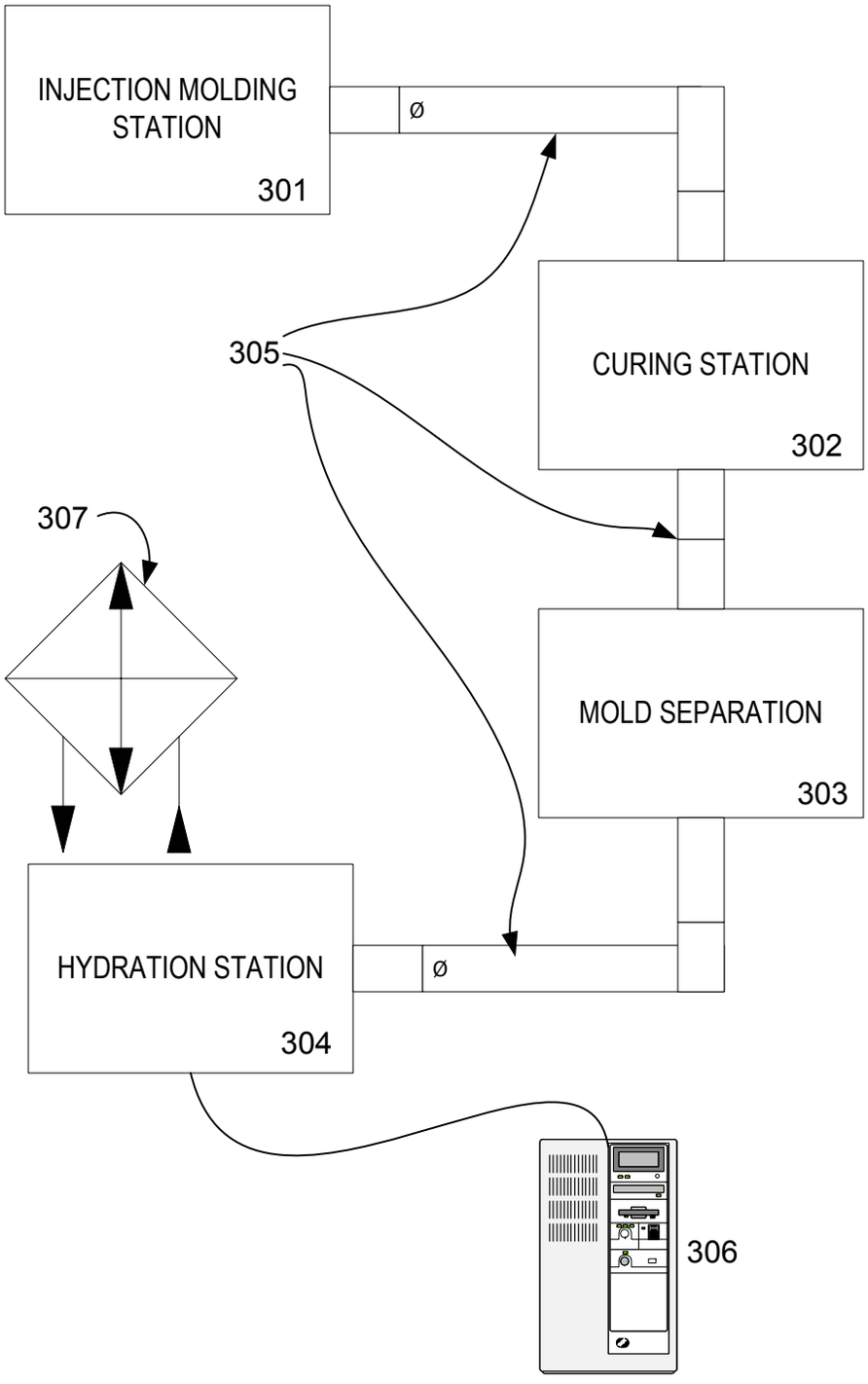
INJECTION MOLDING STATION
301
Ø
305
CURING STATION
302
307
MOLD SEPARATION
303
HYDRATION STATION
304
Ø
306

FIG. 3

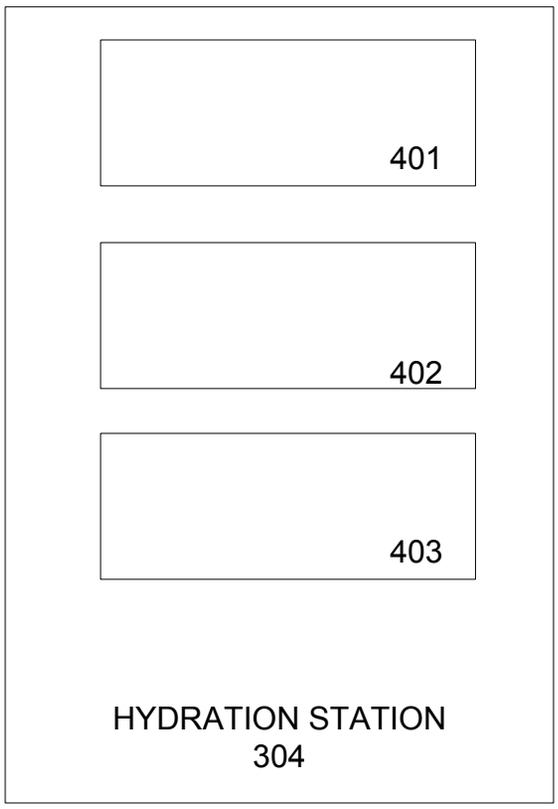

FIG. 4

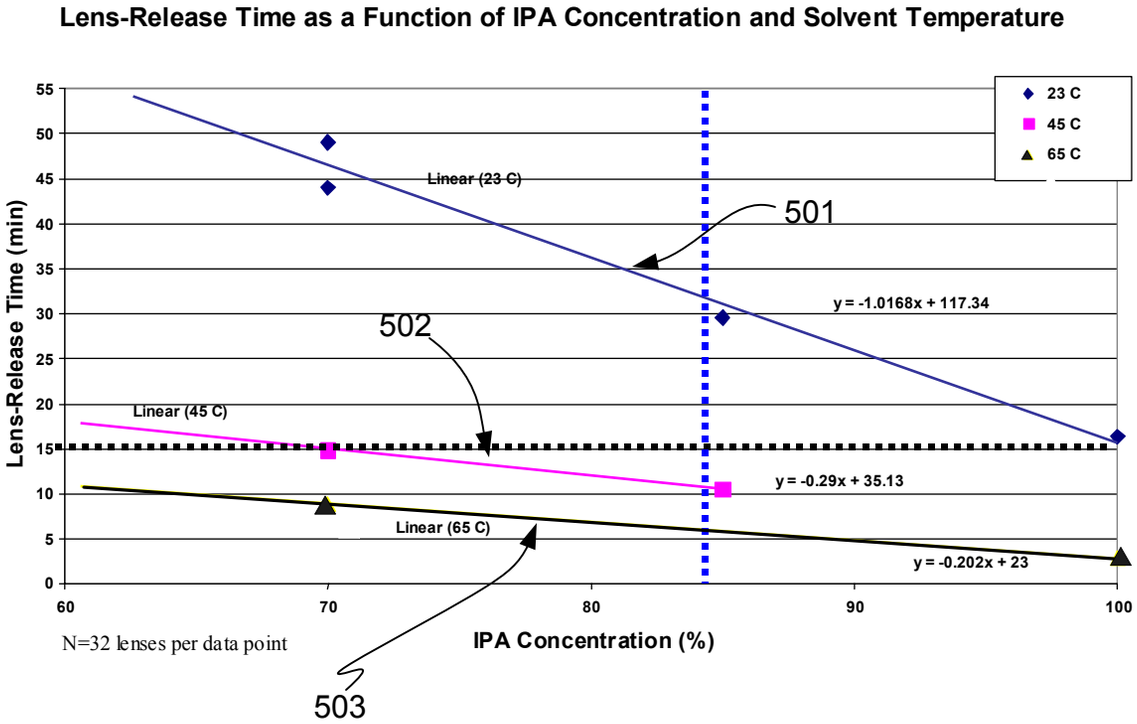
Lens-Release Time as a Function of IPA Concentration and Solvent Temperature
Lens-Release Time (min)
IPA Concentration (%)
23 C
45 C
65 C
Linear (23 C)
Linear (45 C)
Linear (65 C)
y = -1.0168x + 117.34
y = -0.29x + 35.13
y = -0.202x + 23
501
502
503
N=32 lenses per data point

FIG. 5

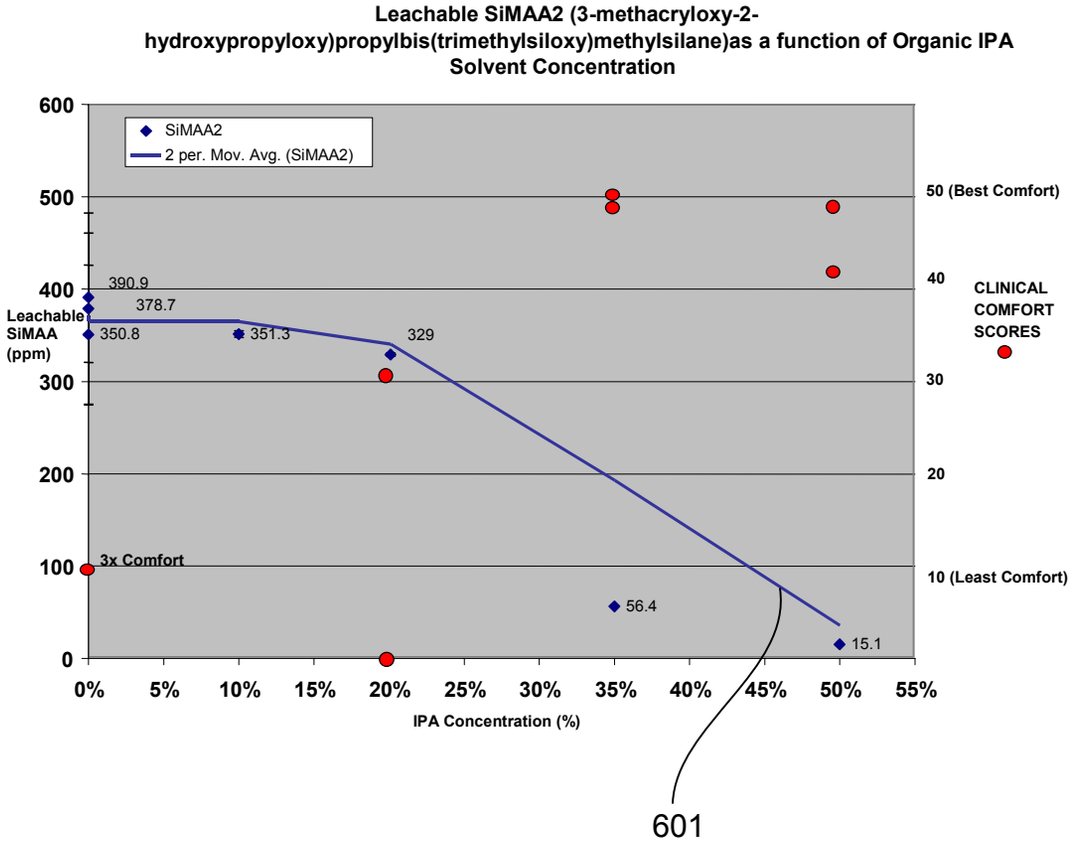
Leachable SiMAA2 (3-methacryloxy-2-hydroxypropyloxy)propylbis(trimethylsiloxy)methylsilane)as a function of Organic IPA Solvent Concentration
SiMAA2
2 per. Mov. Avg. (SiMAA2)
Leachable SiMAA (ppm)
600
500
400
300
200
100
0
390.9
378.7
350.8
351.3
329
56.4
15.1
3x Comfort
0%
5%
10%
15%
20%
25%
30%
35%
40%
45%
50%
55%
IPA Concentration (%)
50 (Best Comfort)
40
30
20
10 (Least Comfort)
CLINICAL COMFORT SCORES
601

FIG. 6

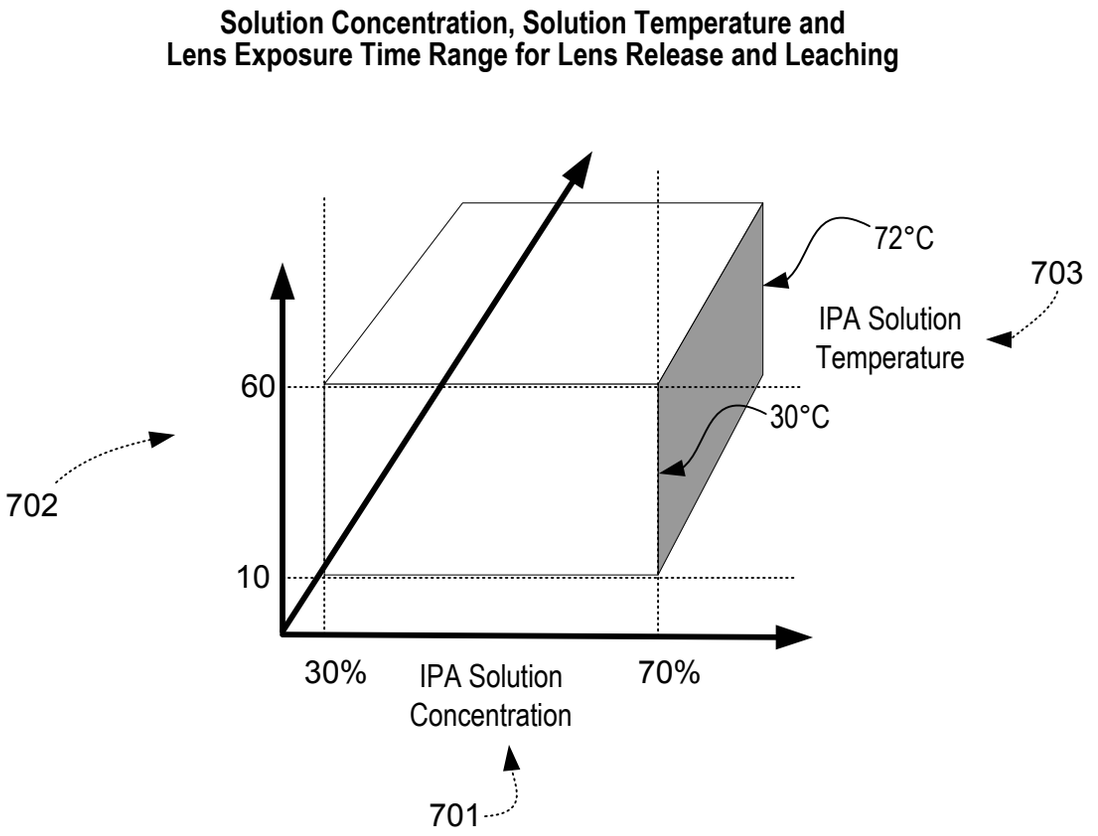
Solution Concentration, Solution Temperature and
Lens Exposure Time Range for Lens Release and Leaching
72°C
703
IPA Solution
Temperature
60
30°C
702
10
30%
IPA Solution
Concentration
70%
701

FIG. 7