

(54)

(patterned object, PO)

PO

PO가

PO

PO

1

PO가 1

PO 1

2

가, 1

가

1

2

2

1

3

patterned object,

(patterned object, 'PO')
(high contrast)

PO

가

가

No.4,681,435, No.5,051,576, No.5,177,435 No.5,233,404 PO No.3,975,711,

1 (110) (114) (110) 1 (108) (112),
(imaging sensor, 118), (light re

ceiving, 122) (viewing surface, 120) (118) PO가 (112) (122)
 (110) (incident light, 124)

(124) (118) (118)
 (130) (110) (120) (120) (
 light detector, 114) (114) (115)
 (116) (116) , CCD(charge coupled device)
 CMOS(complementary metal oxide semiconductor) /
 ()

1 (135) (valley, 109) (ridge, 111) 1 (108)
 (135) (109) (111) 가 가
 (111) (118) (109) (118)
 " " (111) (118)
 (124) (111) (109)
 (118) (124) (118) (114)
 (135) (109) (111) (111)

" " (124) (118) (111)
 (110) (109) (124) (118)
 (114) (118)
 (135) (109) (111)

(118) (111) (111) (109) (109)
 (118) (118) (124) / (109)
 (124) (135)

(109) (118) (111) (118)) (124)
 (124) (118)

(135) (111) (118) (111) (118) 가
 (110)
 (118) (118) (118) (118) 2
 (118) 가 (118) (119)
 (119) (118) (111) (119)

(111) (118) 2
 ularities)(117) (135) (111) (gaps) (irreg
 (118) (111) (118) (117) (124)

t 가 , 1998 4 7 Arndt
 . Arndt No.5,737,071(" Arndt")
 가 가
 () ()

, Arndt 가 PC

가 가 1992 3 17 (Ohta)
 No. 5,096,290(" ")

가 , 가,
 가

(patterned object, PO)



(314) (316) (310) 가 3
 5) (310) (310) (rigid) (322) (33
 (322) (320) 가 가 (310) (3
 18) (322) (322) (312) (310) 가 (310)
 (322) (320) 가 (310)

(312) (310) (3) LED (LEDs) LEDs
 (312) LEDs (320) (318)
 (312) (310) (310) (338)
 (312) (318) (310)

(313) (335) (330) (330) (316)
 (314) , (316) , (316)
 314)가 13.48mm (320) 13.5mm 가 17.8mm ,
 6mm 가 (314)

(316) (314) (316)
 CCD(charge coupled device)
 (316) CMOS(complementary metal oxide semiconductor) . CCD CMOS
 (316)

(310) , (310)
 low contrast) (318) (310)
 1 (350) (318) 4 1 (350)
 (360) 1 4 (360)
 (361) , 1 (350)
 (365) 2 (365)
 (360) , 1 (350) (365)
 (365) 1 (350) , 4
 (335) 1 (350) (365)가 1 (350) (drawn)
 (311)
 (365) (309)

350) (316) (335) (335) (318) 1 ((312) (324) (322) (310) (318) 9) (324) (318) (318) (308) (318) (318) (318) (320) (311) (318) (324) (311) (330) (330) (320) (310) (310) (330) (313) 가 (335)

(318) 1 (350) (365) (311) (117) (311) (318) (311) (324) (335) (32) (311) (311) (311) (324) (308)

Arndt

가 , 1 (350) (365) , (318) 가 , 가 (308) 가 가

(360) PVC(polyvinyl chloride), LDPE(low density polyethylene), PET (polyethylene terephthalate), PEN(polyethylene naphthalate) (360) PVC (365) 가 DOP(dioctyl p hthalate), DEHP(di - ethylhexyl phthalate) / (dibutyl phthalate)가 , 1 (350) 70 % 가 , 1 (350) 30 - 60%가 가

(360) (casting) , , 8 , 1 (350) (hard coating) PET(polyethylene terephthalate) PEN(po lyethylene naphthalate) (polyesters); PU(poly urethane); (syndiotactic) PP PE(polyethylene) PP(polypropylene) ; ; (heat - curable) 가 (2) (318) (119) 가

08) , (318) (311) 가 (3)

1 (350) 1 (350) (310)
 PVC 가 가 , (310) (318) 5
 , 1 (350) (310) 가 가 1 (350) (3)
 10) 2 (352) 2 (310) 2 (352)
 . 2 (352)
 , PET(poly ethylene terephthalate) PEN(poly ethylene naphtalate) , PE
 (polyethylene) (syndiotactic) PP PP(poly propylene)

1 (350) 1 (350) , 1 (350)
 가 (heat bond) 2
 (352) , PET PVC 가
 가 (310)
 (310) PVC
 2 (352) 1 (350) 1
 (350) (310) 2 (352) , 1 (350) (
 310) . 1 (350)
 , 1 (350) 1 (350) 2 (352)
 , 1 (350) 1 (350)

0.1 - 1mm , 1 (350) 2 (352) 가 , 2 (352) 1 (350) 0.1 - 1mm
 , 0.3 - 0.5mm 가 , 가 , 1 (350) 2 (352)
 , 1:3 . 1 (350) , 1 (350)

PET SKC PVC PU
 가 . 가 PET , PET
 PVC PVC 가
 PVC (Fields Landing) Environmental Technology, Inc. (curable)
 " EnviroTex Lite pour -
 on"

3 (308) ,
 (408) 6 (308) ,
 (408) (412) (413) (410) (42
 2) (420) (408) (418) (420) (418) (410)
 1 (450) 1 (450) 3 1 (350)

(412) 3 (312) (422) (413) 3
 (313) (414) (416)

(418) (412) (422) 가 (424)
 , (424) (418) (412) (424) (418)
 (418) (409) (418)
 8) (418) (430) (413) (411) (41)
 , (411) (424) (411)
 (411) (413) (409)
 (411) (435) (413)

(418) 1 (450) (408) (435)
 , (318) 1 (350)
 , 7 2 (452) (410)
 2 (452) (410) 1 (350)
 2 (352)

(57)

1.

가 (patterned object, PO)가 1
 ,
 1 PO ,
 , PO 1 ,
 2 1 1 , 1 PO 1

2.

1 ,
 , 3 가 1

3.

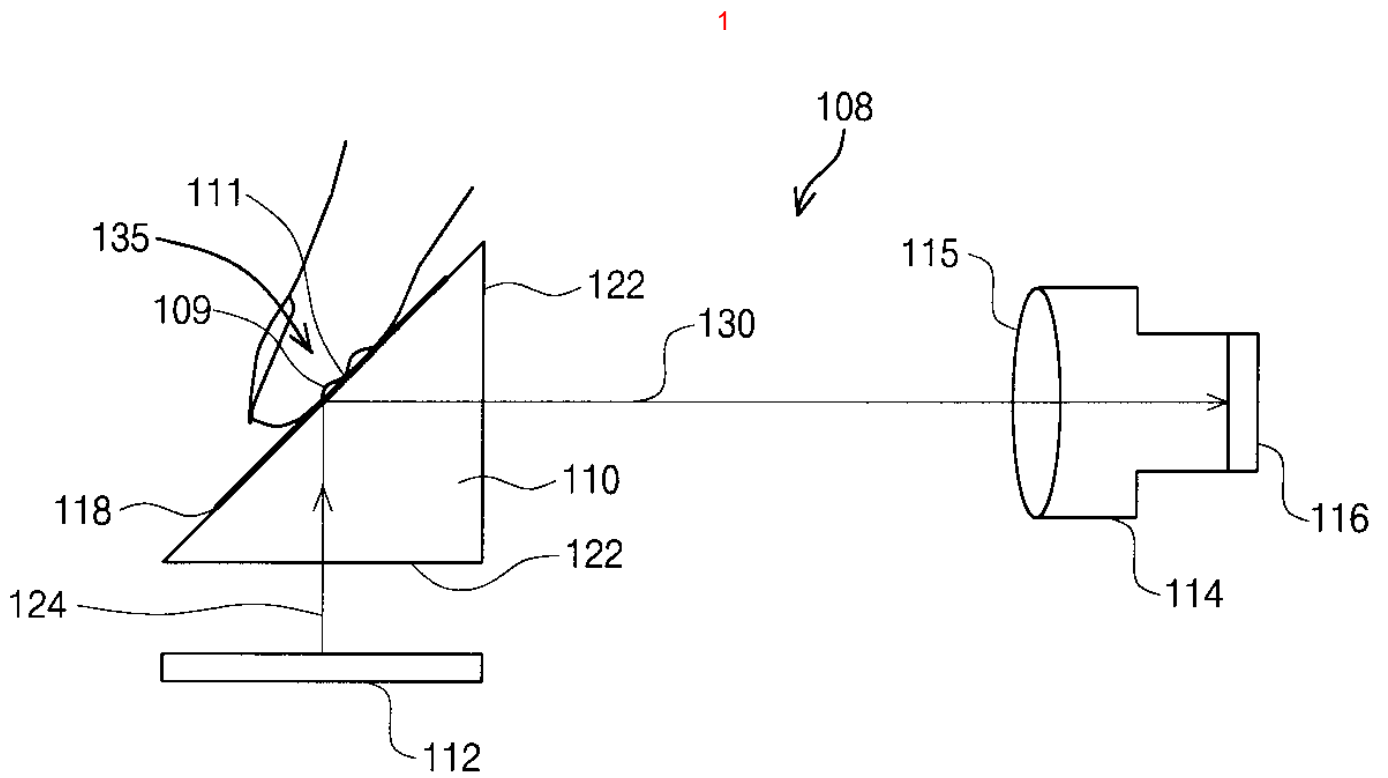
2 ,

1 가 PVC(polyvinyl chloride)
 .
 4.
 3 ,
 가 DOP(dioctyl phthalate), DEHP(2 - ethylhexyl phthalate) (dibutyl phthalat
 e) .
 5.
 1 ,
 1 2
 .
 6.
 5 ,
 2 2 ,
 1 2 (heat bond) 1
 .
 7.
 6 ,
 2 , , PET (polyethylene terephthalate), PET,
 .
 8.
 7 ,
 PO .
 9.
 가 (patterned object, PO)가 1 ,
 ,
 1 PO ,
 , PO 1 ,
 가 1
 .

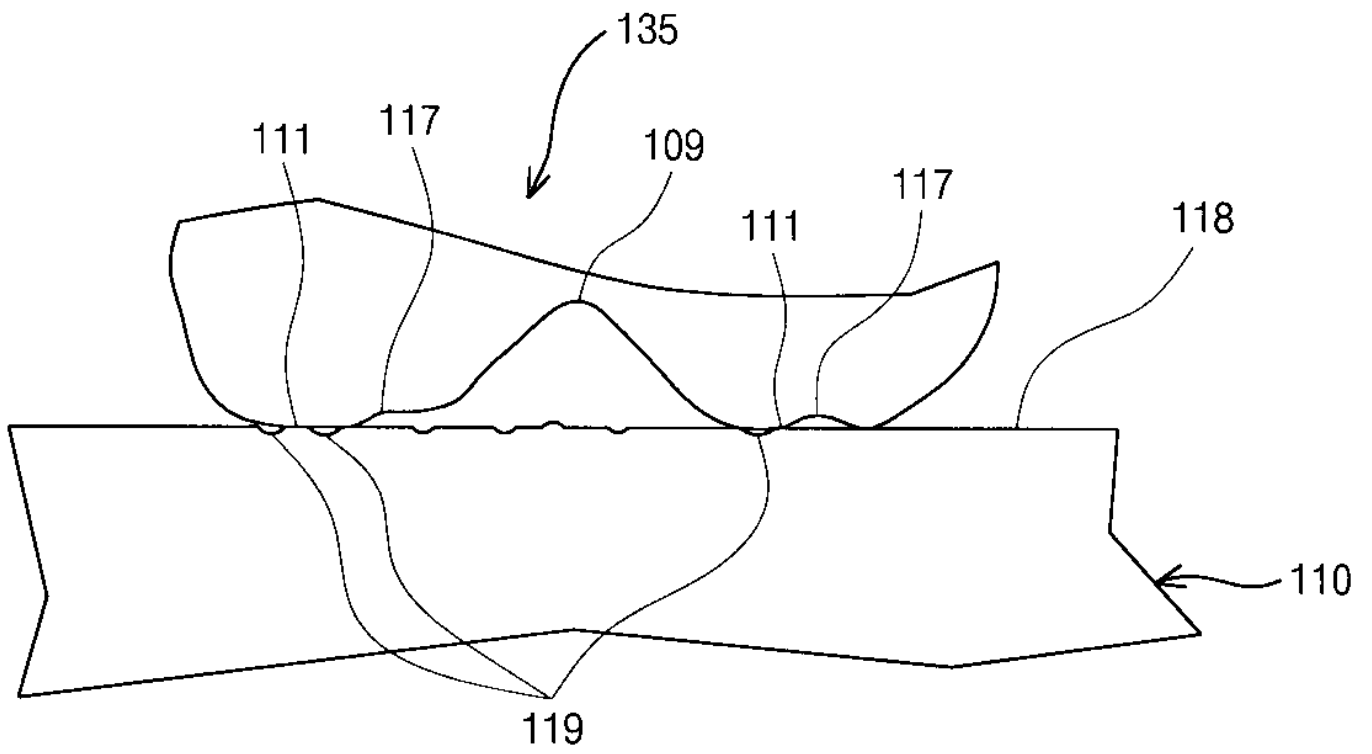
10.

9

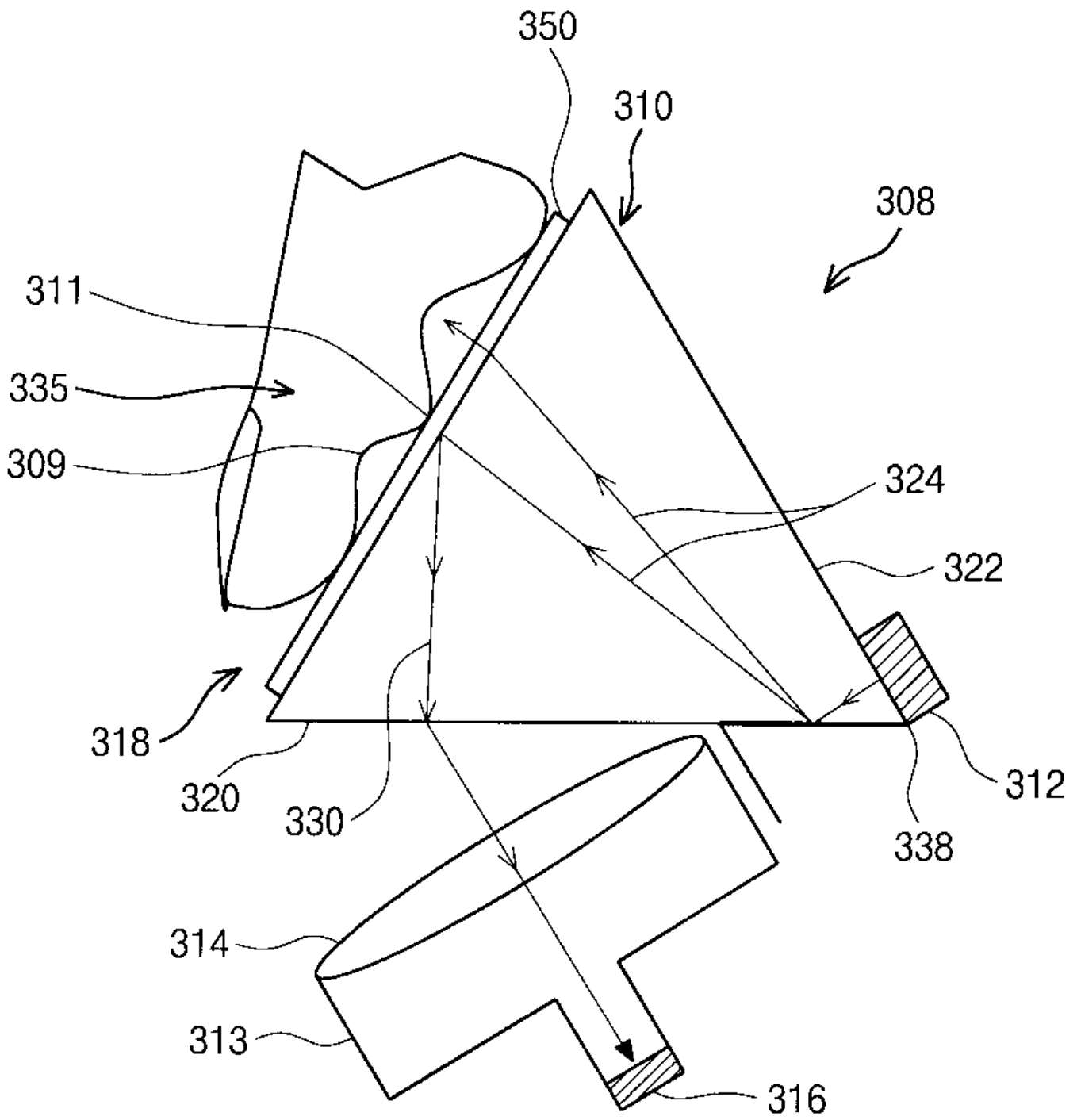
1 PET (polyethylene terephthalate), PET,



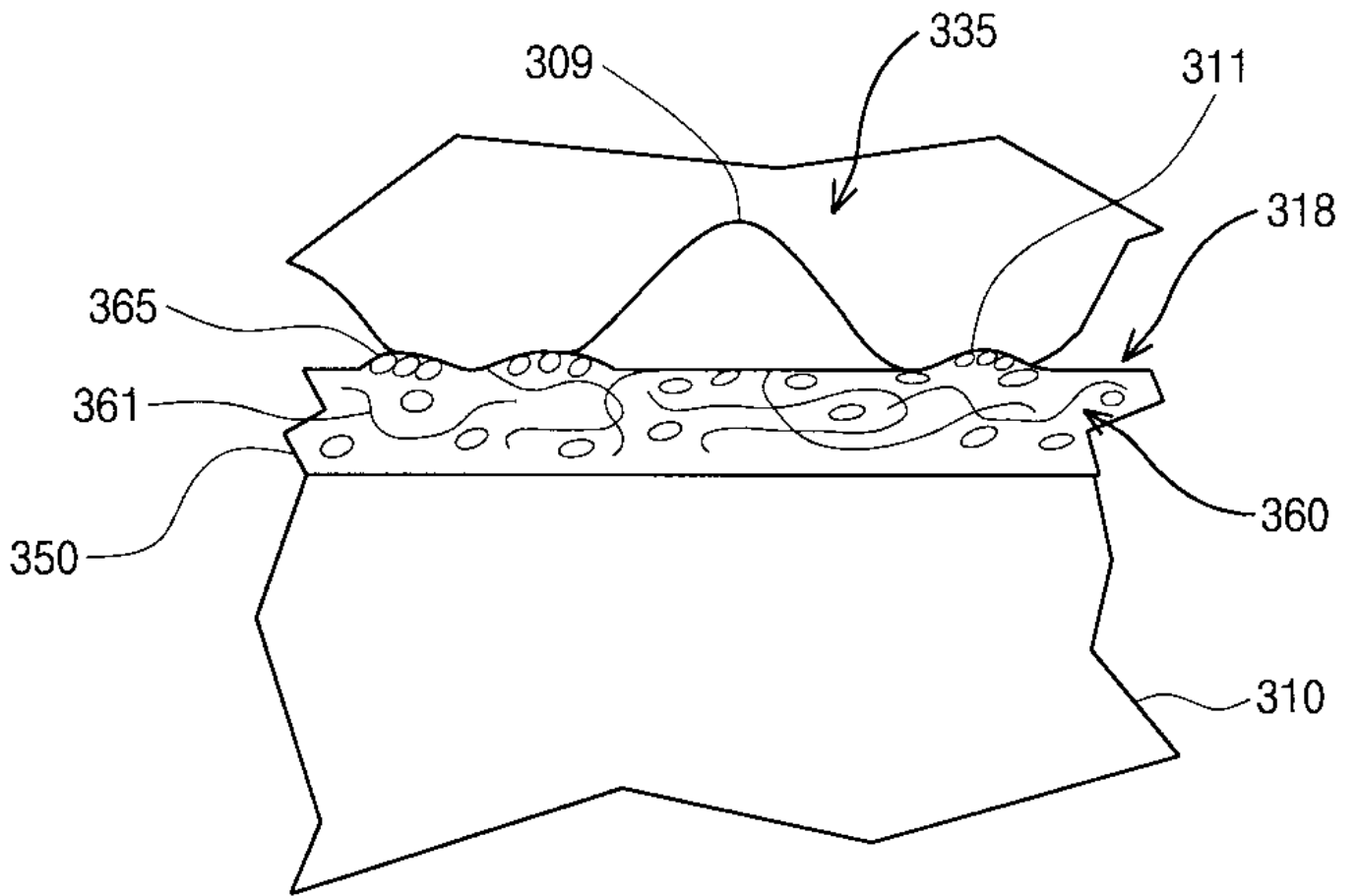
2



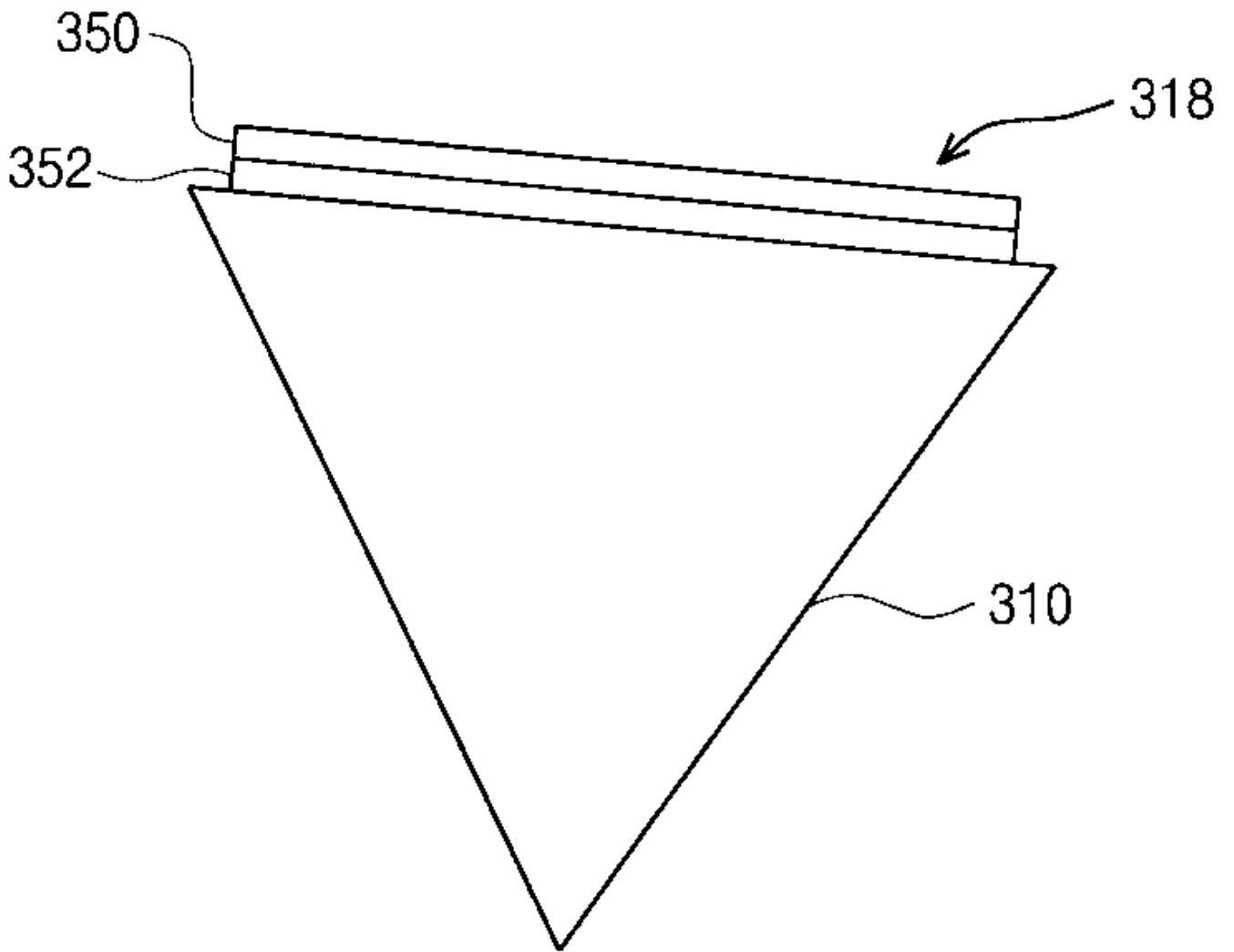
3



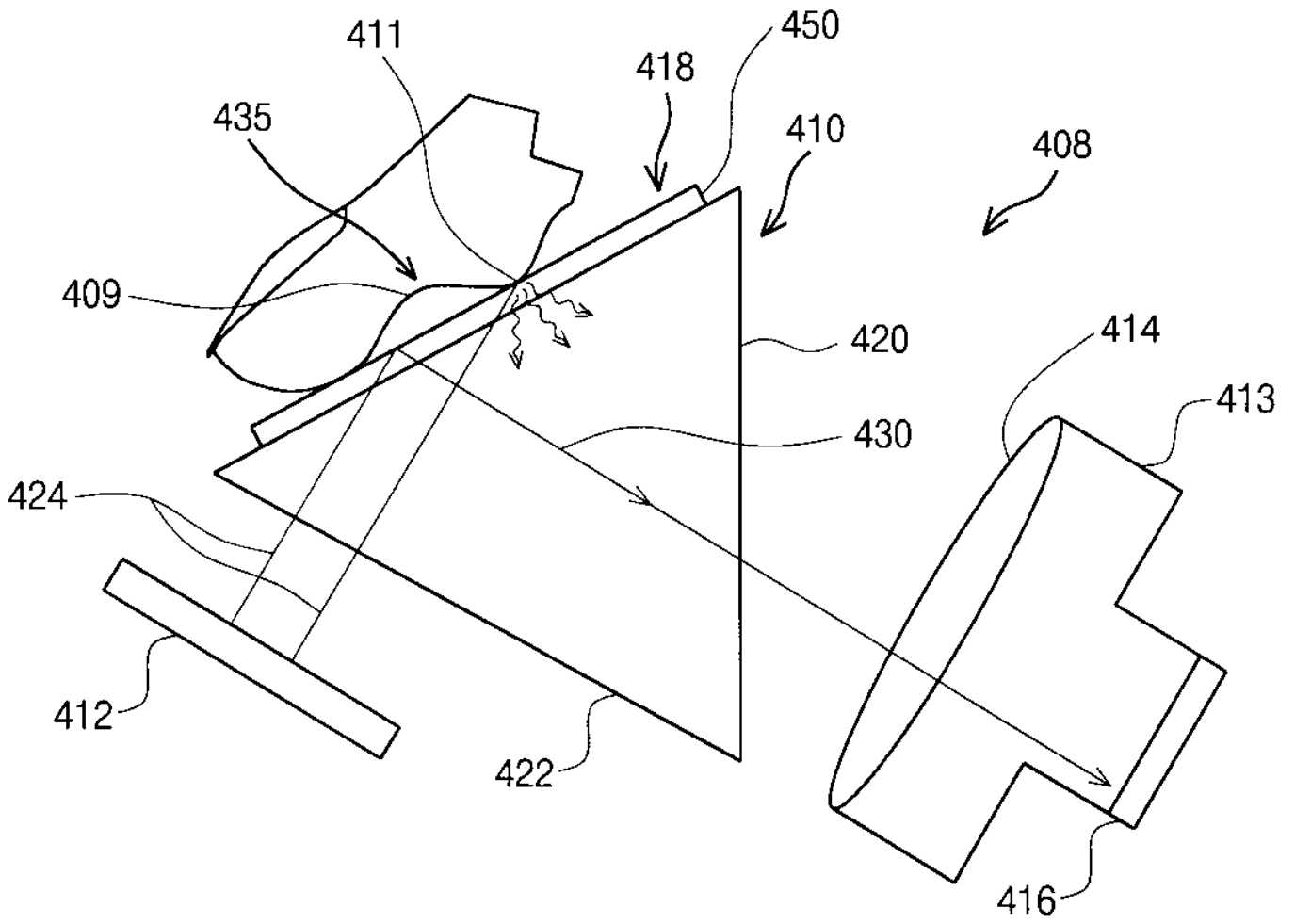
4



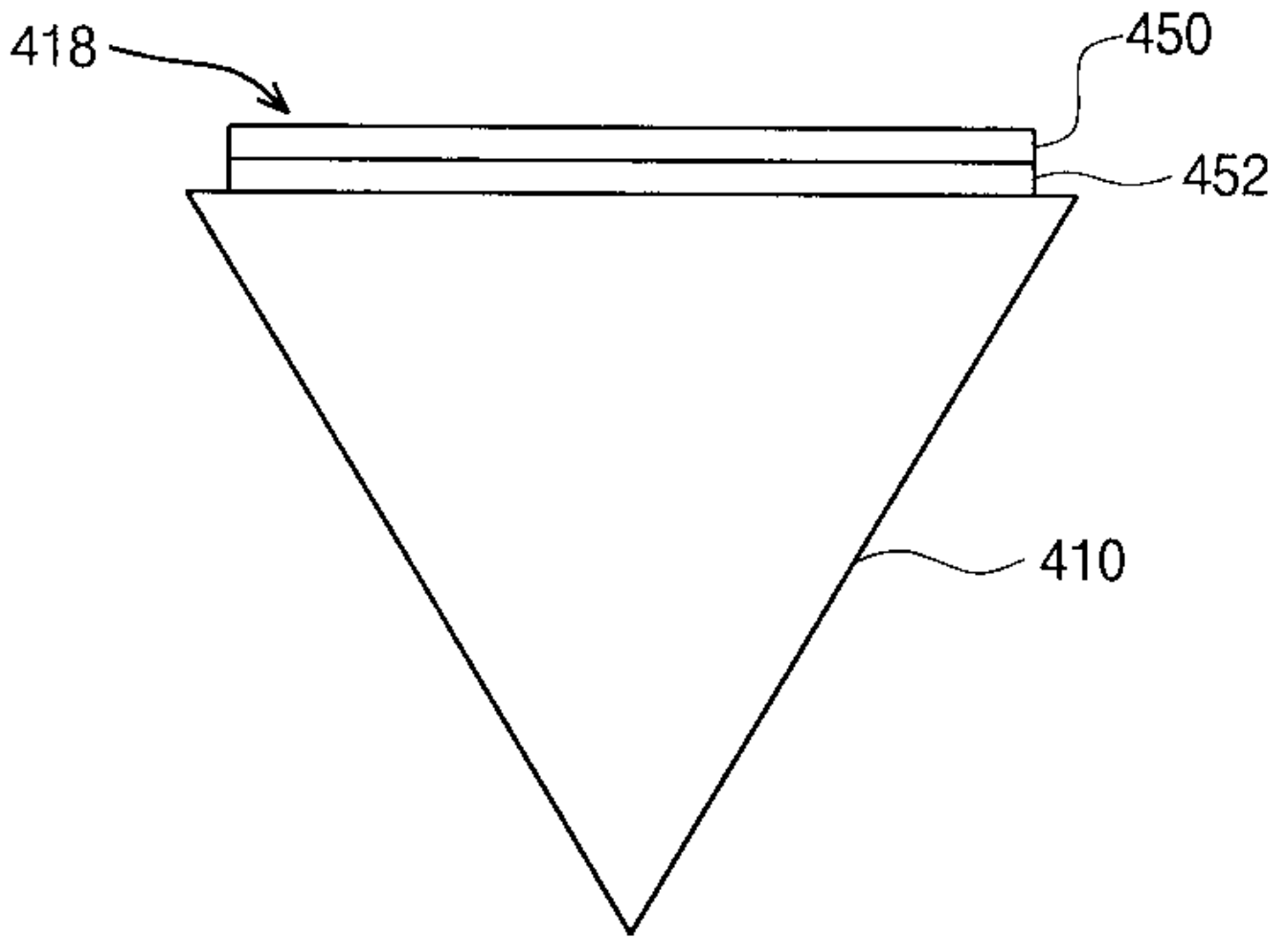
5



6



7



8

