extent of such contact at each of those locations is substantially limited.

FIG. 5 of the drawings shows the deformation of the same lens 1 accommodated in an anterior chamber angle 5a' having a diameter of approximately 11.5 mm, i.e. a diameter at the small end of the range of normal sizes for human eyes. It will be seen that the configuration, according to the preferred embodiment of the invention, is such that lens 1 remains relatively stable even when implanted in anterior chamber angles of substantially different diameters such as illustrated in FIGS. 4 and 5, respectively. Thus, the contact surface 3b', even in substantially fully deformed condition of the lens shown in FIG. 5, has its center of curvature located on a line which passes through the optical axis 2 and bisects the arm 4b. This results at least partly from rotation of the optic 2 about its optical axis 2a during movement of the contact portions 3b, on the one hand, and 4c and 4d, on the other hand, toward one another. Such rotational movement of the optic takes place in the clockwise directon, as viewed in FIG. 4 of the drawings, when the lens is deformed from its condition illustrated in FIG. 1 to any of the second positions thereof as exemplified by the conditions illustrated in FIGS. 4 and 5.

As is well known, because of the proximity of the cornea 7 to the optic of any anterior chamber lens, it is essential that such optic is maintained spaced from and not be permitted to come in contact with the cornea. This is true both during insertion and seating of the lens in the anterior chamber angle and thereafter. It has been found that the risk of contact with the cornea can be minimized by a lens design which limits to a distance of approximately one millimeter the distance which the optic moves toward the cornea as a result of deflection of the position fixation elements during as well as after implantation. Thus, deformation of the legs 3a and 4a of the lens in order for it to be seated in the anterior chamber angle must not result in movement of the optic toward the cornea a distance substantially in excess of 1 mm otherwise there is increased substantially the risk of contact between the optic and cornea during deformations normally occurring in the eyeball after lens implantation. The lens according to the preferred embodiment of the present invention has its legs 3 and 4 sufficiently flexible and configurated such that axial movement of the optic does not substantially exceed one millimeter in response to deformation of the contact portions 3b, 4c and 4d toward each other from the undeformed condition of the lens illustrated in FIG. 1 to the deformed condition illustrated in FIG. 5.

Also, the lens according to the preferred embodiment of the present invention is constructed and arranged such that during deformation of the springy legs 3 and 4 thereof from the condition illustrated in FIG. 1 to the condition in FIG. 5, the force exerted by each of the respective contact portions 3b, 4c and 4d preferably does not substantially exceed one gram. Since the amount of contact which the surfaces 3b', 4c' and 4d' each make with the tissue at the interior of the anterior chamber angle, is on the order of but certainly not less than approximately one square millimeter, the pressure exerted on the tissue will be less than and will certainly not exceed one gram per square millimeter. Furthermore, the legs 3 and 4 are constructed and arranged such that when positioned in all but the very largest diameter anterior chamber angle, i.e. the maximum size within the aforesaid normal range of sizes, the force exerted by each of the legs 3 and 4 will help to assure that the lens will remain seated within the anterior chamber angle of the eye, yet will not exert excessive pressure, even when used in eyes having an anterior chamber angle diameter of only approximately 11.5 mm.

According to the preferred surgical procedure for seating such a lens, the surgeon would first position contact surfaces 4c' and 4d' in the anterior chamber angle 5a' in the vicinity of the scleral spur of the eye as illustrated for example in FIG. 5 and thereafter with a forceps or similar instrument grasping the leg 3, preferably at opening 3b' thereof, urge the latter in a direction toward the optical axis 2a until the lens is deformed to a somewhat smaller size than the diameter of the anterior chamber angle in question. Then, after tilting the leg 3 toward and into position adjacent the iris 9, release the end portion 3b so as to permit the latter to expand toward and to seat in the corresponding part of the anterior chamber angle 5a' between the iris and the scleral spur, resulting in the lens assuming its fully seated position illustrated in FIGS. 3, 4 and 5, respectively. It will be noted that even in the substantially deformed condition of the lens 1 illustrated in FIG. 5, each of the three spaced contact surfaces 3b', 4c' and 5d', have only very limited areas thereof in contact with the interior peripheral surface of the groove 5a', and that these limited areas of contact aggregate substantially less then 10% of the periphery of the groove 5a'.

While in the foregoing specification an embodiment of the present invention has been set forth in considerable detail for the purpose of making a complete disclosure of the invention, it will be apparent to those skilled in the art that various changes may be made in such details without departing from the spirit and principles of the invention. For example, the leg 3 illustrated above could be replaced with an L-shaped leg such as the leg 4 also illustrated above, so that the lens would then have four contact points instead of three. Also, four contact points could be achieved with four legs similar to the leg 3 above. Many other such changes would of course be apparent to those of ordinary skill in the art and would not depart from the spirit or principles of the invention.

What is claimed is:

1. An intraocular lens adapted to be implanted in the groove formed between the iris and the scleral spur in the anterior chambers of human eyes of different anterior chamber diameters, including:

an optic,

a pair of lateral position fixation means connected with said optic,

one of said position fixation means including a first contact portion adapted to seat in the upper portion of the groove,

the other position fixation means including a second contact portion adapted to seat in the lower portion of the groove,

said optic having opposite peripheral portions and said one position fixation means having a first portion extending outwardly from a first of said peripheral portions and said other position fixation means having a first portion extending outwardly from a second of said peripheral portions,

at least one of said pair of position fixation means having a second portion extending from the first portion generally transversely thereto and at least partly peripherally of said optic, said second portion of said position fixation means having that part