phined posterior layer **20** and provides a leakage-preventing thread length for the lens member such as the lens member generally indicated at **26**, shown in FIGURE 2, the lens member **26A** in FIGURE 3, or the lens member **26B** shown in FIGURES 4–6.

The lens member **26** includes a head **27** and a shank **28** threaded for entry into the opening **24**. The surface of the head **27** is convex thus to merge with adjacent portions of the holding member **21** and the head **27** is dimensioned to fit into the recess **25** with its flat undersurface **29** having a marginal recess **30** for a seal **31** conveniently of the O-ring type, and seated by the head **27** against the bottom of the recess **25** when the shank **28** has been fully threaded into the opening **21**. It will be noted that the outer surface of the head **27** has marginal recesses **32** for engagement by a tool, not shown, to enable the lens member **26** to be secured in the holding member **21** or detached therefrom.

In FIGURE 2, the anterior layer **19** is sutured as at **33** so that the lens member **26** may be only a temporary lens for use until the holding member **21** has become permanently anchored by the ingrowth of corneal stroma. The posterior layer **20** is shown as trephined and this may have been done during the original operation or later, conveniently through the opening **24**. If desired, the anterior layer **19** could be a corneal transplant sutured in place during the original operation.

In FIGURE 3, the holding member **21** has become permanently anchored so that the anterior layer **19** is now trephined, if not done at the time of the original operation. The lens member **26** is now replaced with another substantially identical lens member generally indicated at **26A** and whose corresponding parts are indicated by the same reference numerals but with the suffix addition A. The difference between the lens members **26** and **26A** is that the head **27A** of the latter projects sufficiently to block any growth of the corneal layer **19**.

When the trephined margin of the corneal layer **19** heals, the lens member **26A** is removed and replaced. The lens **26B** is shown as substantially identical to the lens **26** and the reference numerals for its corresponding parts are distinguished by the suffix addition B. The lens **26B** may be assumed to be the permanent lens and its differences are that its head **27B** projects sufficiently to provide a marginal shoulder and its outer end is a lens surface as is the inner end of its shank **28B**.

Reference is now made to FIGURES 7–10 wherein the implant is shown as having a holding member **34** of concavo-convex form and, like the holding member **21**, having a multiplicity of marginal holes **35** extending from face-to-face thereof to permit the anchoring ingrowth of corneal stroma. The holding member **34** has a central, outwardly extending portion **36** having an opening **37** extending therethrough. The opening is shown as threaded and by reference to FIGURES 9 and 10, it will be seen that the portion **36** protrudes a sufficient distance relative to the anterior face of the holding member **34** to block the growth of the anterior corneal layer **19** which is shown in FIGURE 9 to be trephined, at the time of the initial operation if desired.

In FIGURE 9, the posterior layer **20** has not been trephined and the implant includes a generally indicated lens member **38** having a head **39** and a shank **40** threaded in the opening **37**. The head **39** projects laterally to overlie the anterior end of the portion **36** of the holding member **34** and its overlying face **41** has an annular channel **42** for a seal **43**, shown as an O-ring, which is held in sealing relationship between the head and the portion **36**.

When the holding member **34** has become permanently anchored by the ingrowth of corneal stroma, the posterior corneal layer **20** may be trephined. This is effected by removing the lens member **38** so that the corneal layer **20** may be trephined through the opening **37**. The lens member **38** might be the permanent lens member but is herein regarded as for the temporary use to be replaced by the generally indicated lens member **38A** which is substantially identical with the reference numerals indicating corresponding parts being distinguished by the suffix addition A. The physical difference between the lens member **38** and **38A** is that the length of the shank **40A** is such that it may, if necessary, protrude into the anterior chamber **10** beyond the posterior corneal layer **20**.

The holding members must be made of a material that is sufficiently inert to be tolerated by corneal stroma, at least with respect to the portion thereof that is provided with anchoring passages, suitable materials being plastics, glass, and the inert metals. The lens members must be of material that is sufficiently clear for optical purposes and must be inert with respect to aqueous humor as indeed the holding members also must be. Glass or plastics may be used for the lens members. The implants may have their holding members of one material and their lens members of the same or another material. The seals must be inert to aqueous humar.

While the lens members are shown as threaded into the holding member, bayonet joints between or friction fits of the members are but two obvious equivalents.

From the foregoing, it will be apparent that implants in accordance with the invention are well adapted to meet the various problems involved.

I claim:

1. A corneal implant of the type that is adapted to be marginally located between anterior and posterior corneal layers, said implant including a holding member of concavo-convex form having a central opening extending therethrough and provided with an outwardly exposed shoulder between its ends and a plurality of passages adjacent its periphery through which corneal stroma may grow and by such growing permanently anchor the implant, a lens member removably held in said opening and including a head marginally overlying said opening and a seal seated by said shoulder against said holding member, each member being of a material inert with respect to aqueous humor, at least the portion of the holding member provided with anchoring passages being sufficiently inert to be tolerated by corneal stroma, and the lens member being sufficiently clear for optical purposes.

2. A corneal implant of the type that is adapted to be marginally located between anterior and posterior corneal layers, said implant including a holding member of concavo-convex form having a central opening extending therethrough and a plurality of passages adjacent its periphery through which corneal stroma may grow and by such growing permanently anchor the implant, said opening having a recess to provide a shoulder, a lens member removably held in said opening and including a head providing a marginal shoulder fitting said recess, and a seal held between said shoulders, each member being of a material inert with respect to aqueous humor, at least the portion of the holding member provided with anchoring passages being sufficiently inert to be tolerated by corneal stroma, and the lens member being sufficiently clear for optical purposes.

3. A corneal implant of the type that is adapted to be marginally located between anterior and posterior corneal layers, said implant including a holding member of concavo-convex form having a central inwardly protruding portion having an opening effecting communication between its anterior and posterior ends and a plurality of passages adjacent its periphery through which corneal stroma may grow and by such growing permanently anchor the implant, the anterior end of said opening being recessed to provide a seat, and a lens member removably held in said opening and including a head entrant of said seat, the anterior surface of said head being convex and merging with the proximate margin of said holding