

9. The lens of claim 6 wherein said macromolecule is selected from a group consisting of protein, carbohydrate, rubber or high polymer.

10. The lens of claim 6 wherein said semipermeable transparent sheath comprises a transparent sheet having a plurality of pores.

11. The lens of claim 10 wherein said pores are sufficiently small to prevent the passage therethrough of said macromolecule.

12. The lens of claim 10 wherein the diameter of said pores is less than 1,000 Angstroms.

13. The lens of claim 10 wherein said transparent sheet has a pore density between 100 and 10<sup>9</sup> pores per square cm.

14. A contact lens, comprising a concave semipermeable transparent element adapted to seat on a human cornea to form therewith a closed interior space which contains a body of physiological liquid produced by the wearer of the element, said body of liquid constituting an optical lens whose anterior surface is bounded by said element and whose posterior surface is bounded by the cornea of the wearer; and means carried by said element at its interior for producing within said interior space, when the same contains said body of liquid, a concentration which is greater than the concentration of the physiological solution produced by the wearer of the contact lens, in consequence of which when said element is worn on the cornea, said interior space will be kept filled with liquid under the influence of osmosis which causes the flow of liquid from the exterior of said space to the interior thereof whenever said interior space is less than full.

15. The lens of claim 14 wherein said body of liquid further includes a physiologically active agent.

16. The lens of claim 14 wherein said transparent element has a thickness of less than 50 microns.

17. The lens of claim 14 wherein said means for producing within said interior space a concentration which is greater than the concentration of a liquid medium in association with which the lens is to be used comprises a macromolecule.

18. The lens of claim 17 wherein said macromolecule is photostable.

19. The lens of claim 17 wherein said macromolecule is inert.

20. The lens of claim 17 wherein said macromolecule is selected from a group consisting of proteins, carbohydrate, rubber or high polymer.

21. The lens of claim 17 wherein said semipermeable transparent element comprises a transparent sheet having a plurality of pores.

22. The lens of claim 21 wherein said pores are sufficiently small to prevent the passage therethrough of said macromolecule.

23. The lens of claim 21 wherein said transparent sheet has a pore density of between 100 and 10<sup>9</sup> pores per square cm.

24. The lens of claim 21 wherein the diameter of said pores is less than 1,000 Angstroms.

25. The lens of claim 24 wherein the diameter of said pores is between 50 and 1,000 Angstroms.

26. An ocular lens system for immersion in a physiological fluid comprising:

a semipermeable sheath including opposing anterior and posterior thin transparent sheets having pores therein, said sheets being joined at their peripheral

edges to form a cavity therebetween, said sheath being surrounded by said physiological fluid; and at least one macromolecule located within said cavity, the size of said macromolecule being larger than the pores in said sheets thereby preventing said macromolecule from leaving said cavity, the physiological fluid surrounding said sheath flowing into said cavity through said pores under the influence of osmotic pressure to form an optical lens, said optical lens having a molecular concentration greater than the molecular concentration of the physiological fluid surrounding said sheath.

27. The system of claim 26, further comprising scaffolding means attached to said posterior sheet for maintaining said posterior sheet in a concave shape relative to the cavity.

28. A method of locating an intraocular lens into an eye or its cornea comprising the steps of:

(a) providing a lens forming device comprising a dehydrated semipermeable transparent sheath having opposite anterior and posterior portions joined at their edges and forming a closed interior space between themselves and means within said interior space for producing within said interior space a concentration which is greater than the concentration of the physiological solution produced by the wearer of the lens, in consequence of which when the sheath is worn by the wearer, the sheath will hydrate such that said interior space will be kept filled with liquid under the influence of osmosis and thereby form a lens;

(b) making an incision for insertion of the dehydrated semipermeable sheath into the eye; and

(c) inserting the dehydrated semipermeable sheath into the eye whereby the dehydrated semipermeable sheath will contact the physiological solution produced by the wearer and hydrate to form a lens.

29. The method of claim 28 wherein the dehydrated semipermeable sheath is folded prior to inserting it into the eye and further comprising the step of unfolding said dehydrated semipermeable sheath after insertion into the eye.

30. The method of claim 29 wherein the incision is made only large enough to permit the insertion of the folded dehydrated semipermeable sheath.

31. An ocular lens for immersion in a physiological fluid, comprising:

a semipermeable transparent sheath defining a fully enclosed cavity and having a plurality of pores for permitting the fluid to flow into said cavity; and a macromolecule disposed within said cavity and having a size that is larger than each of said pores so that, when said sheath is immersed in the fluid, said macromolecule is prevented from leaving said cavity and the presence of said macromolecule sets up a concentration gradient across said sheath so that the fluid will fill the cavity under the influence of osmotic pressure to form an optical lens and stabilize the shape of the sheath.

32. The lens of claim 31, wherein said sheath is comprised of opposing posterior and anterior sheets which are joined at their peripheral edges to form the cavity and said lens further includes scaffolding means attached to said posterior sheet for maintaining said posterior sheet in a concave shape relative to the cavity.

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