form of a running "shoe lace" stitching which passes through the outer edge of the optical lens **90** and Bowman's membrane **40**.

FIG. **13** illustrates in a front view, after completion of locating the lens on the cornea of the eye and before beginning the healing process, the relationship of the eye **90** to the cornea wherein the lens **90**, of FIGS. **11** and **12**, is sutured to Bowman's membrane through openings **92** and **94** of the lens **90**.

FIG. **14** illustrates a possible lens configuration for an artificial lens **110** having an optical portion **112** configured for placement over the pupillary zone of the eye and on the central anterior surface of Bowman's membrane of the cornea having corneal epitheleum thereof removed. The optical portion terminates in end tabs **114** and is formed such that the optical portion is dimensioned to substantially cover the total anterior surface of the pupillary zone of an eye. The entire lens **110** including the optical portion **112** and tabs **114** is formed of a collagen-hydrogel for promoting epithelial cell growth.

FIG. **15** is a representation of a circular shaped artificial lens **120** formed of the collagen-hydrogel for promoting epithelial cell growth and having implanted therein a ring **122** of material having different optical properties than that of the collagen-hydrogel for promoting epithelial cell growth used in the lens **120**. The ring **122** functions to focus at the center thereof while the outer edge of the ring **122** passes light to the retina. This results in a differential passage of an image to the retina. The lens **120** is of a size and shape to be implanted on the cornea using the teachings of this invention.

FIG. **16** is a representation of a circular shaped optical portion **124** of an artificial lens formed from the collagen-hydrogel for promoting epithelium cell growth disclosed herein having tabs **126** extending therefrom which may be used by a surgeon in implanting the artificial lens in the eye using the teachings of this invention. The optical portion **124** and the tabs **126** are formed of the collagen-hydrogel.

FIG. **17** is a representation of a circular shaped artificial lens having an optical portion **130** formed from the collagen-hydrogel for promoting epithelial cell growth disclosed herein and two aligned circular support members **132** extending in opposite directions from the optical portion **130** which may be used by a surgeon in implanting the artificial lens in the eye using the teachings of this invention. The optical portion **130** and the tabs **132** are formed of the collagen-hydrogel.

FIG. **18** is a representation of a circular shaped artificial lens formed from the collagen-hydrogel for promoting epithelial cell growth disclosed herein wherein the optical portion **140** has three circular tabs or support members **142** having apertures formed therein spaced equidistantly around the periphery of an optical lens portion **140**. The support members **142** may be used by a surgeon in implanting the artificial lens in the eye using the teachings of this invention. The optical portion **130** and the tabs **132** are formed of the collagen-hydrogel.

It is envisioned that the collagen-hydrogel of the present invention, and artificial lens formed from the collagen-hydrogel, can be used for epicorneal, corneal or transcorneal lenses which are capable of promoting and supporting epithelial cell growth during the healing period. During the healing process, a bandage contact lens may be placed on the eye until the anterior surface of the lens is covered by corneal epithelium.

The collagen-hydrogel biomedical material disclosed herein has, in its preferred embodiment, application in the artificial lens field because of the properties of the collagen-hydrogel promoting the growth of epithelial cells. It is envisioned that such collagen-hydrogel could be used as substrata for support of growth of other cells in the human body wherein the hydrogel could be formed of any one of a number of monomers of the hydrophilic class of polymers, and that other so formed hydrogels when used in a collagen-hydrogel with appropriate macromolecules as described herein could be used to enable the growth of other classes of human tissue other than epithelial cells.

What is claimed is:

1. A collagen-hydrogel for promoting epithelial cell growth comprising

a hydrogen polymer formed by the free radical polymerization of a hydrophilic monomer solution gelled and crosslinked to form a three dimensional polymeric meshwork for anchoring collagen; and

a stock solution of collagen comprising a constituent of a ground substance of tissue added to and interdisposed within said polymeric meshwork forming a collagen-hydrogel for promoting epithelial cell growth and attachment of such cells to the surface of the hydrogel polymer, said collagen-hydrogel, when attached to Bowman's membrane of the cornea of an eye, being capable of supporting and promoting epithelial cells growth enabling the corneal epithelium to adhere to and cover said collagen-hydrogel.

2. The collagen-hydrogel of claim **1** wherein said stock solution of collagen is a native collagen derived from animal sources and capable of promoting and supporting growth of epithelial cells.

3. The collagen-hydrogel of claim **1** wherein said stock solution of collagen is substantially and uniformally distributed with the polymeric meshwork.

4. The collagen-hydrogel of claim **2** wherein said hydrophilic monomer is hydrogel monomer solution.

5. The collagen-hydrogel of claim **2** wherein said hydrophilic monomer is hydroxyethylemethacrylate.

6. The collagen-hydrogel of claim **1** wherein said hydrogel polymer includes at least one crosslinking agent.

7. The collagen-hydrogel of claim **6** wherein said at least one crosslinking agent is ethylene glycol dimethacrylate.

8. The collagen-hydrogel of claim **1** wherein said hydrogel polymer is crosslinked by means of ultraviolet radiation.

9. The collagen-hydrogel of claim **2** wherein said native collagen is harvested from tissues of human cornea, livestock cornea or calf's or livestock's skins.

10. A contact lens having a predetermined shape and power which is adapted to be affixed to Bowman's membrane of the cornea of an eye and when so affixed promotes and supports growth of corneal epithelial cells across the surface thereof and which is attached to the surface of the contact lens, said contact lens comprising

a lens body having anterior and posterior surface and formed of a collagen-hydrogel capable of promoting epithelial cell growth and attachment comprising