(3.) Parallel rays of light, incident upon a convex lens, are so refracted that they leave the second surface of the lens convergingly and meet in a focus at the principal focus of the lens.

(4.) Conversely if rays of light diverge from a focus at the principal focus of the lens, the corresponding refracted rays will be parallel.

(5.) When diverging rays of light are incident upon a double convex lens, and radiate from a point beyond its principal focus, the corresponding refracted rays are brought to a focus on the opposite side of the lens and at a point further from the lens than the principal focus.

(6.) Converging rays under the same circumstances form a focus at a point between the lens and its principal focus.

(7.) As I shall have occasion to use the word *Camera* in this paper, I will here state that I refer to the instrument used in Photographing, which consists of a darkened box, to one end of which is adapted a tube containing one or more convex lenses of such strength that the principal focus is within the box. Objects in front of the lens will form an inverted image in the box which is usually received upon a screen of ground glass near the back of the *camera*. The eye of an observer in rear of the *camera* (and not nearer than eight inches from the ground glass,) sees this inverted image distinctly depicted upon the ground glass.

(8.) If the ground glass is removed, an aerial image is seen to occupy the position from which the ground glass was just removed.

The dioptric media of the eye are made up of the cornea, aqueous humor, crystalline lens, and vitreous humor, all differing in density and consequently in their refractive power, but the effects produced by their combination resemble those produced by a double convex lens, or a single spherical refracting surface, having its convexity towards the less refracting medium. Like a double convex lens, it too has an optical centre, any ray passing through which is either unrefracted or refracted parallel to its original direction, thus :—

Let E (Fig. I.) represent a section of an eye, and C its optical centre ; any ray as AE passing through C will pass on to the retina unrefracted, or at least parallel to its original direction.

The position of the optical centre varies according to the focal adjustment of the eye, being further from the retina, when the eye is adjusted for near objects, than it is when adjusted for distant objects.