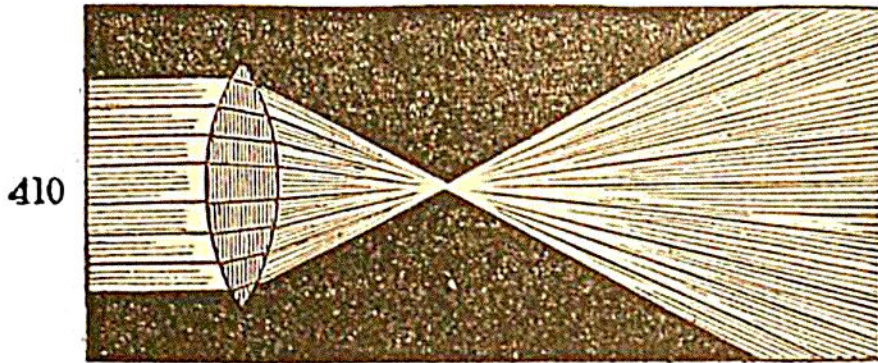


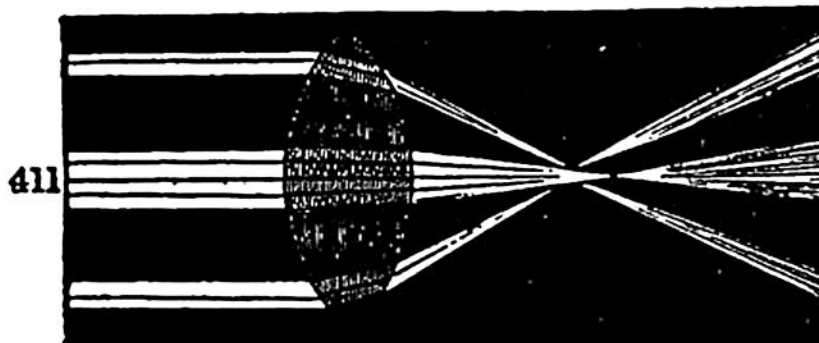
a *double convex lens*; and it has the property of collecting into a focus rays proceeding from distant points.\*



Having obtained this instrument, we may now venture to enlarge the aperture through which the light was admitted into our dark chamber, and fit into the aperture a double convex lens. We have thus constructed the well known optical instrument called the *Camera Obscura*, in which the images of external objects are formed upon a white surface of paper, or a semi-transparent plate of glass; and these images must evidently be in an inverted position with respect to the actual objects which they represent.

Such is precisely the construction of the eye, which is, to

\* The refraction by spherical surfaces does not, strictly speaking, unite a pencil of parallel or divergent rays into a mathematical point, or focus; for in reality the rays which are near the central line are made to converge to a point a little more distant than that to which the remoter rays converge: an effect which I have endeavoured to illustrate by the diagram Fig. 411; where,



in order to render it obvious to the eye, the disparity is exaggerated; for, on ordinary occasions, where great nicety is not required, this difference in the degree of convergence between the central rays and those near the circumference of the lens, giving rise to what is termed the *Aberration of Sphericity*, is too small to attract notice.