A note about this file

Although the basic principles of images formed by small apertures were known in antiquity, the first mention of anyone taking a photograph this way, and the first use of the term pinhole to describe it are in the 1856 book, *The Stereoscope*, by the Scottish scientist, Sir David Brewster.

The passage referring to pinhole photograpy occurs on page 136 and 137 in Chapter VIII, which is reproduced here.

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THE

STEREOSCOPE

ITS HISTORY, THEORY, AND CONSTRUCTION

WITH ITS APPLICATION TO THE FINE AND USEFUL ARTS AND TO EDUCATION.

BY

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WITH FIFTY WOOD ENGRAVINGS.

LONDON:
JOHN MURRAY, ALBEMARLE STREET.
1856.

If the single portrait of an individual is a misrepresentation of his form and expression, the combination of two such pictures into a solid must be more hideous still, not merely because the error in form and expression is retained or doubled, but because the source of error in the single portrait is incompatible with the application of the stereoscopic principle in giving relief to the plane pictures. The art of stereoscopic portraiture is in its infancy, and we shall therefore devote some space to the development of its true principles and practice.

In treating of the images of objects formed by lenses and mirrors with spherical surfaces, optical writers have satisfied themselves by shewing that the images of straight lines so formed are conic sections, elliptical, parabolic, or hyperbolic. I am not aware that any writer has treated of the images of solid bodies, and of their shape as affected by the size of the lenses or mirrors by which they are formed, or has even attempted to shew how a perfect image of any object can be obtained. We shall endeavour to supply this defect.

In a previous chapter we have explained the manner in which images are formed by a small aperture, H, in the side, MN, of a camera, or in the window-shutter of a dark room. The rectangles br, $b'r'$, and $b''r''$, are images of the object RB, according as they are received at the same distance from the lens as the object, or at a less or a greater distance, the size of the image being to that of the object as their respective distances from the hole H. Pictures thus taken are accurate representations of the object, whether it be lineal, superficial, or solid, as seen from or through the hole H; and if we could throw sufficient light upon the object, or make the material which receives the image very sensitive, we should require no other camera for giving us photographs of all sizes. The only source of error which we can conceive, is that which may arise from the inflexion of light,

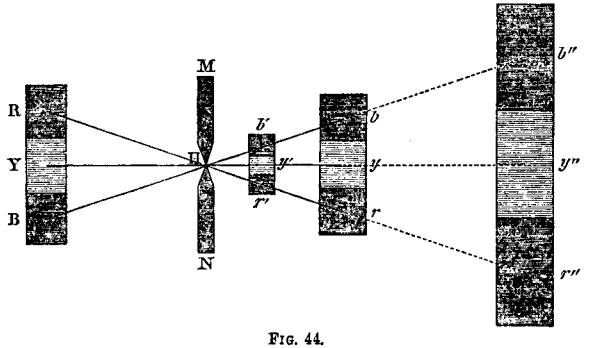

FIG. 44.

but we believe that it would exercise a small influence, if any, and it is only by experiment that its effect can be ascertained.

The Rev. Mr. Egerton and I have obtained photographs of a bust, in the course of ten minutes, with a very faint sun, and through an aperture less than the hundredth of an inch; and I have no doubt that when chemistry has furnished us with a material more sensitive to light, a camera without lenses, and with only a pin-hole, will be the favourite instrument of the photographer. At present, no sitter could preserve his composure and expression during the number of minutes which are required to complete the picture.

But though we cannot use this theoretical camera, we may make some approximation to it. If we make the hole H a quarter of an inch, the pictures br, &c., will be faint and indistinct; but by placing a thin lens a quarter of an