G. RAPHAEL.

Camera-Obscura.

No. 167,271. Patented Aug. 31, 1875.

Fig. 1.

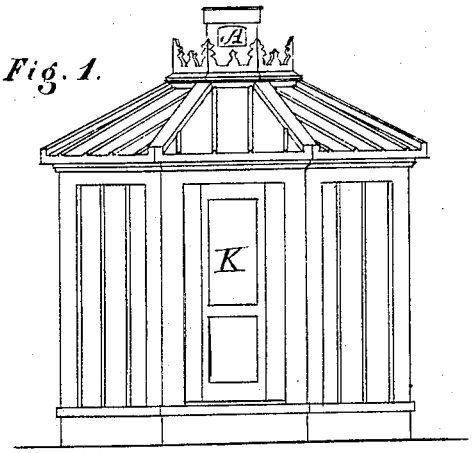


Fig. 4.

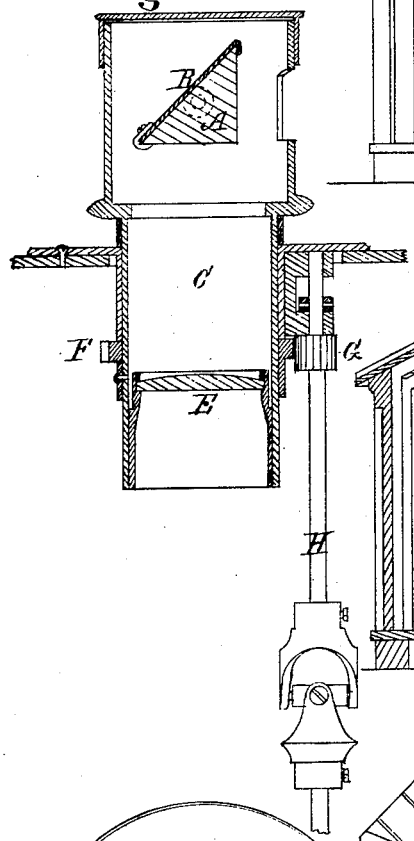


Fig. 2

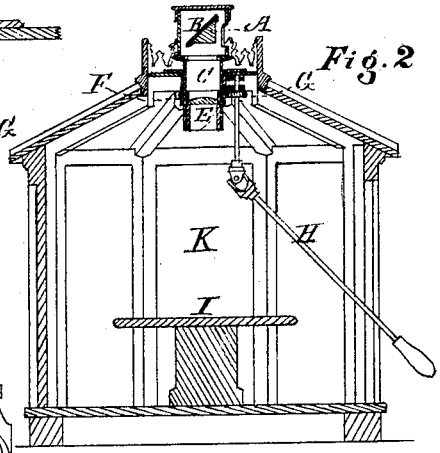


Fig. 3.

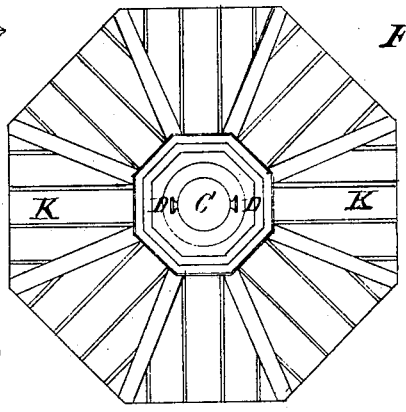
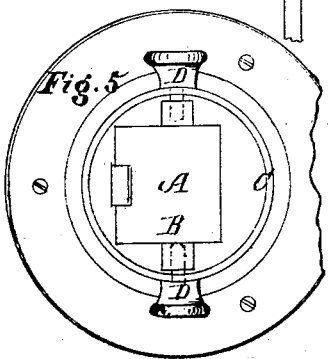


Fig. 5



Witnesses:

Arthur O'Neill

Charles Zimmerman

Inventor:

George Raphael,

UNITED STATES PATENT OFFICE.

GEORGE RAPHAEL, OF NEW YORK, ASSIGNOR TO THOMAS C. CLARK, OF BROOKLYN, N. Y.

IMPROVEMENT IN CAMERA OBSCURAS.

Specification forming part of Letters Patent No. **167,271**, dated August 31, 1875; application filed July 29, 1873.

To all whom it may concern:

Be it known that I, GEORGE RAPHAEL, of the city, county, and State of New York, have invented certain Improvements in Camera Obscuras, of which the following is a specification:

This invention relates to that class of devices employed by artists for transferring landscapes, &c., to paper and canvas; and it consists of an adjustable dark-sided prism as a reflector, and a concavo-convex or double lens, for transferring the picture to paper or to canvas, said prism or lens being set in a tube, which is encircled by a cog-wheel, into which a pinion on the end of a universal-jointed rod engages, for the purpose of rotating the tube so as to adjust the prism horizontally, its vertical adjustment being effected by axial set-screws, the whole being inclosed in a sectional dark chamber, which can be taken apart and moved from place to place with ease and rapidity, as I will further explain by reference to the drawing, in which—

Figure 1 is an elevation, Fig. 2 a vertical section, and Fig. 3 a plan, of my invention. Fig. 4 is a vertical section of prism, lens, tube, and adjusting mechanism on an enlarged scale; and Fig. 5, a top view of same, cap removed.

In the drawing, A indicates the prism or reflector, which is three-sided, one of its sides, B, being darkened by its frame-work or setting, and supported in the rotary tube C by set-screws D D, which also adjust the prism vertically. (See Fig. 5.) E is the concavo-convex or double lens, also adjustable longitudinally of tube, and set in the tube C. F is the toothed wheel, encircling the said tube. G is the pinion on the end of the universal-jointed rod H, which rotates the tube, adjusting the prism horizontally. I is a table, supporting the paper or canvas which receives the picture, and K is the sectional dark chamber.

What I claim, and desire to secure by Letters Patent, is—

The prism A, lens E, tube C, wheel F, pinion G, rod H, and sectional dark chamber K, all combined, arranged, and operating substantially as and for the purposes described.

GEORGE RAPHAEL.

Witnesses:

ARTHUR NEILL,

CHARLES ZIMMERMAN.