

No. 647,136.

C. F. GLOCKER.

Patented Apr. 10, 1900.

OPERA GLASS.

(Application filed Feb. 20, 1897. Renewed Dec. 8, 1899.)

(No Model.)

Fig. 1.

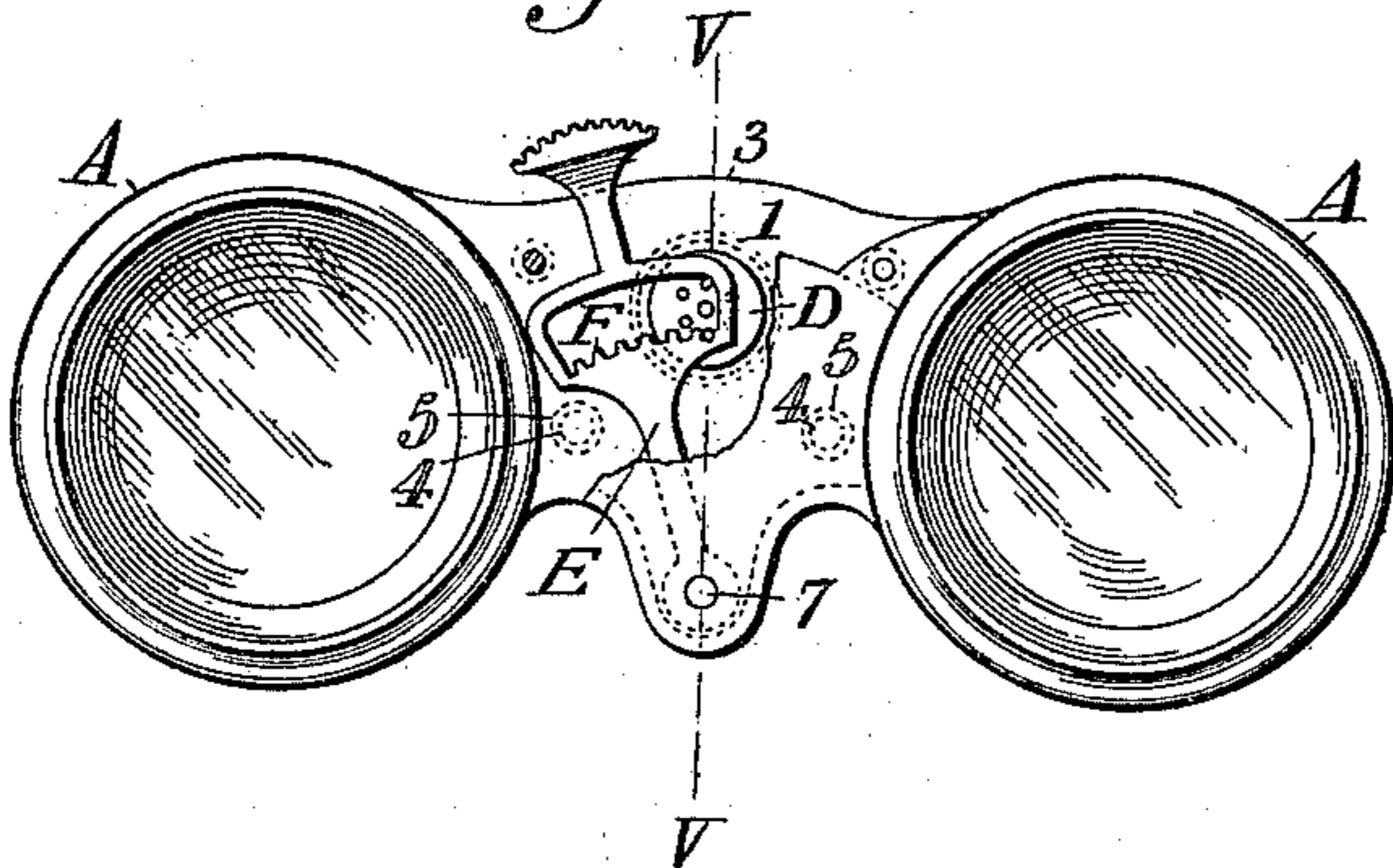
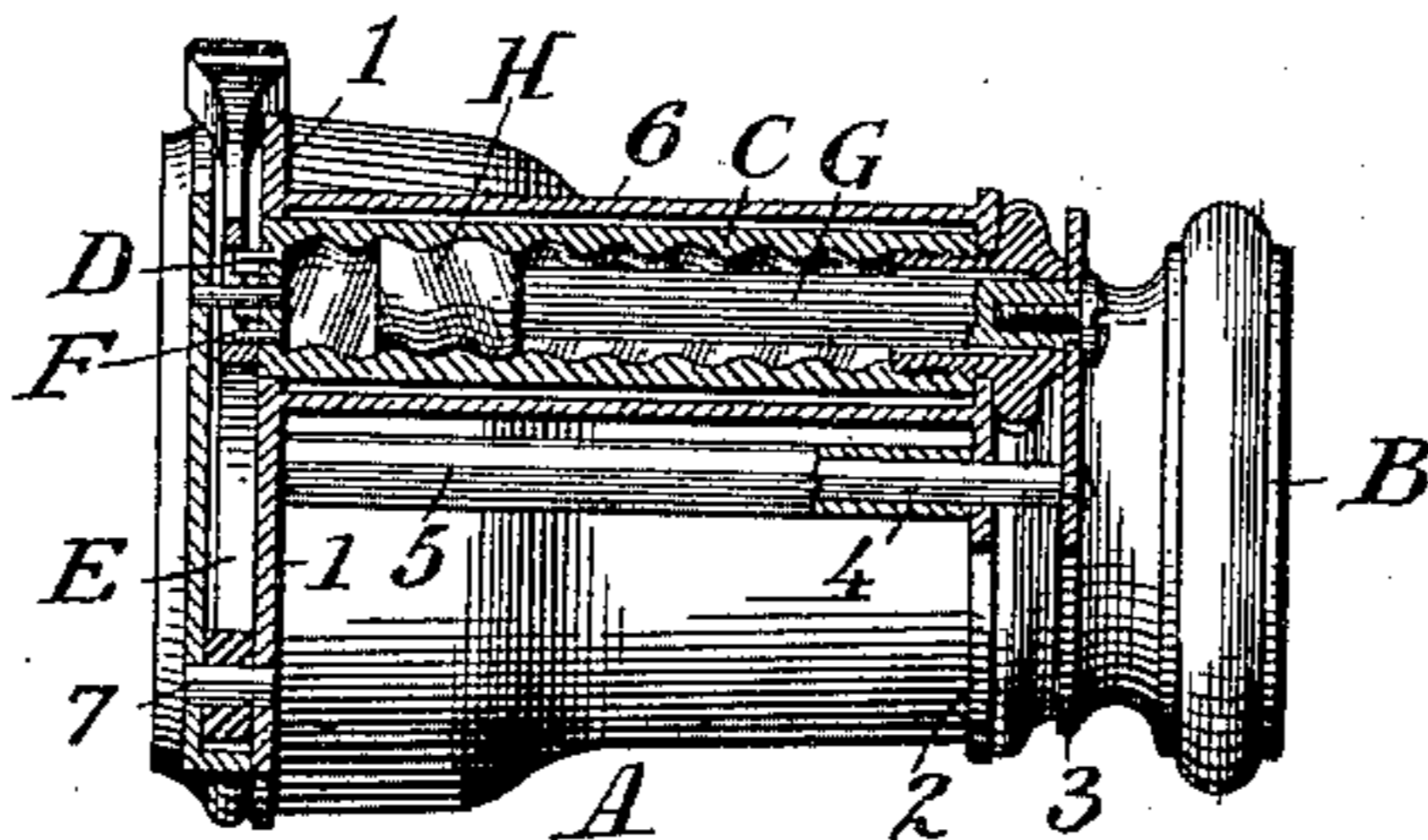


Fig. 2.



Witnesses.

Ernest C. Faroldt  
C. E. Faroldt

Inventor.

Carl F. Glocker.

# UNITED STATES PATENT OFFICE.

CARL F. GLOCKER, OF ALBANY, NEW YORK.

## OPERA-GLASSES.

SPECIFICATION forming part of Letters Patent No. 647,136, dated April 10, 1900.

Application filed February 20, 1897. Renewed December 8, 1899. Serial No. 739,725. (No model.)

*To all whom it may concern:*

Be it known that I, CARL F. GLOCKER, of Albany, in the county of Albany and State of New York, have invented new and useful Improvements in Opera-Glasses, of which the following is a specification.

My invention relates to improvements in opera-glasses, but especially to the mechanism for adjusting the lenses to a proper focal distance from each other and to means for imparting greater stability to the movable parts.

The object of my invention is to render this class of instruments more convenient for use and more effective in operation. This object I attain by the means illustrated in the accompanying drawings, which are herein referred to and form part of this specification, and in which—

Figure 1 is a front elevation of one form of my invention with part of the cap broken away to expose underlying parts, and Fig. 2 a vertical section of Fig. 1 at the line V V.

As represented in the accompanying drawings, A designates the outer tubes of an opera-glass of an old and well-known form, which are connected together by a lower arm 1 and an upper arm 2, and said outer tubes are each provided with an object-glass. (Not shown in the drawings.) The movable tubes B are connected together by an arm 3 and are fitted to slide telescopically in the outer tubes A, and said movable tubes are provided with the usual sight-lenses, which are not shown in the drawings. Pendent from the arm 3 there are guide-rods 4, which are secured to said arm and are parallel with the movable tubes B. Said guide-rods are fitted to slide telescopically in guide-tubes 5, which have one end secured to the arm 1 and their opposite end secured to the arm 2, and by means of said guide-rods and guide-tubes, which constitute a guiding mechanism that is independent of the lens-tubes, greater stability is given to the movable tubes B in their movements in the outer tubes A. A stationary sleeve 6 forms a connection between the arms 1 and 2 and

is provided for the purpose of containing a revoluble screw-nut C, provided with a screw-thread of a coarse pitch. The outer end of said screw-nut is provided with a pinion D, to which motion can be imparted by the means hereinafter described for the purpose of rotating the screw-nut C. A vibratory arm E is fulcrumed, as at 7, to the arm 1, so as to be swung on said fulcrum as a center, and said vibratory arm is provided with a rack F, which meshes into the teeth of the pinion D to impart to the latter and its attached revoluble screw-nut a rotatory motion according to the direction in which the vibratory arm E is moved. A stationary stud G is fixed to the arm 3 of the movable tubes B, and to the extremity of said stud a screw-section H is secured so as to be immovable.

The operation of my invention is as follows: The vibratory arm E is swung in a required direction by a finger of the hand which holds the opera-glass, and thereby the screw-nut C is rotated to move the lenses toward or from each other, as occasion may require.

What I claim as my invention, and am desirous of securing by Letters Patent, is—

In an opera-glass, the combination, with stationary lens-tubes, A, movable lens-tubes, B, arranged to slide telescopically in said stationary lens-tubes, guide-rods, 4, secured to one part of the opera-glass, and guide-tubes, 5, secured to the other part and arranged to slide telescopically on said guide-rods; said guide-rods and guide-tubes forming a guiding and steadying mechanism independent of the tubes A and B, of a revoluble screw-nut, C, pivotally attached to the stationary lens-tubes and having a toothed pinion, D, secured to its outer end, a toothed rack fitted to mesh into said pinion, and means—substantially as described,—for operating said rack, as and for the purpose specified.

CARL F. GLOCKER.

Witnesses:

WM. H. LOW,  
J. W. FISHER.