(No Model.) 2 Sheets—Sheet 1.

B. F. CULP.

SEMAPHORE.

No. 497,265. Patented May 9, 1893.

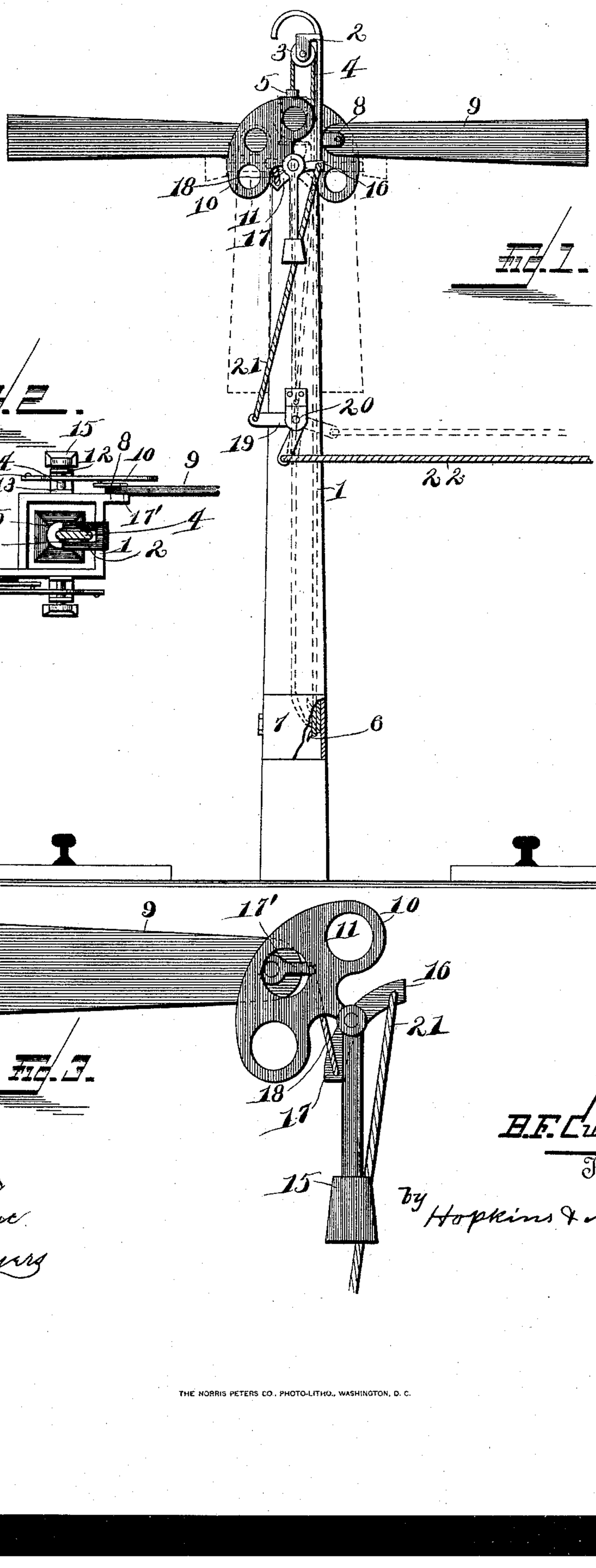

FIG. 1.

FIG. 2.

FIG. 3.

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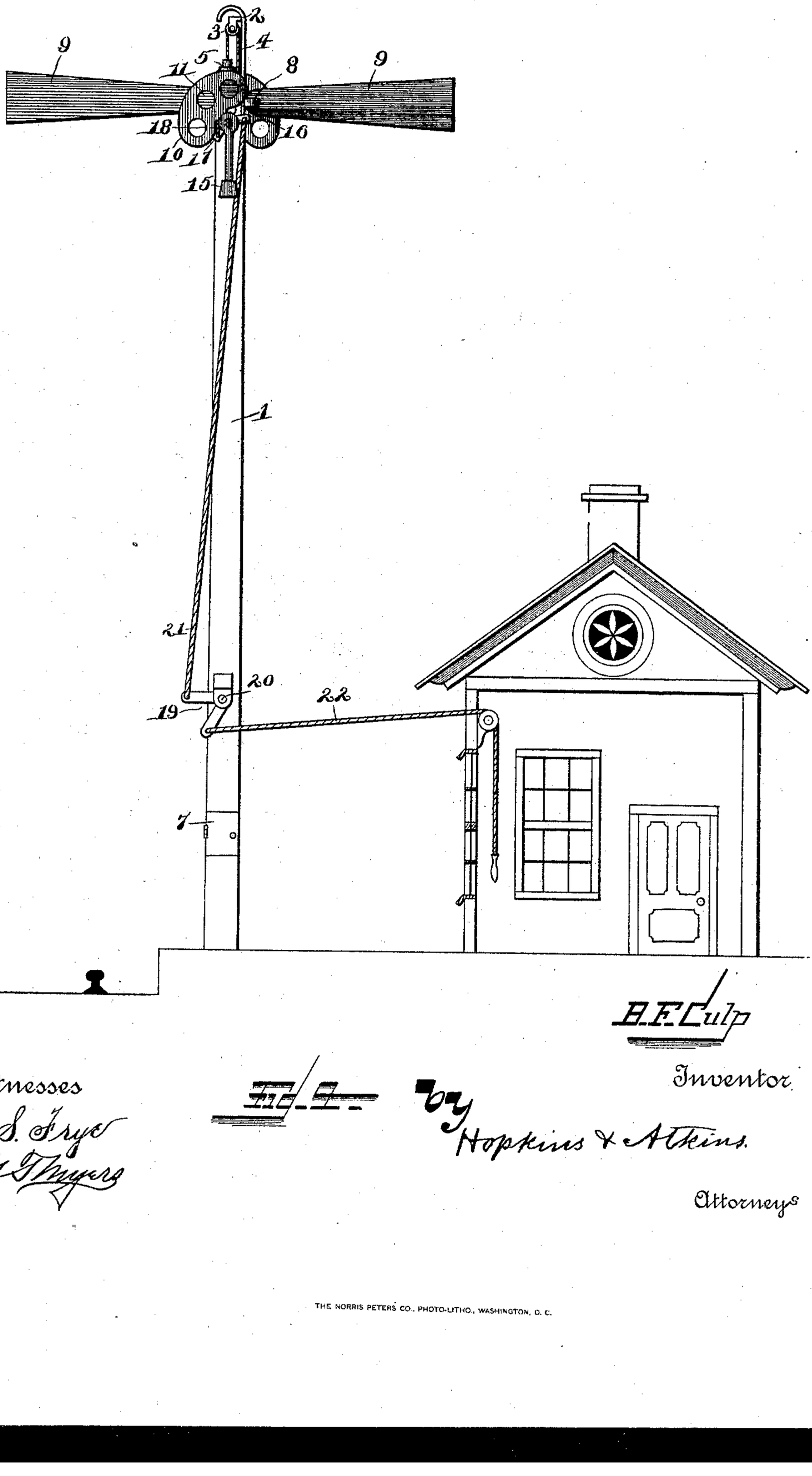

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UNITED STATES PATENT OFFICE.

BENJAMIN F. CULP, OF COLUMBUS, OHIO, ASSIGNOR OF ONE-HALF TO J. A. WAHL, OF SAME PLACE.

SEMAPHORE.

SPECIFICATION forming part of Letters Patent No. 497,265, dated May 9, 1893.

Application filed October 13, 1892. Serial No. 448,724. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN F. CULP, of Columbus, county of Franklin, and State of Ohio, have invented certain new and useful Improvements in Semaphores, of which the following is a specification, reference being had to the accompanying drawings.

The object of my improvement is to produce an improved semaphore, adapted for day or night use, and one which is simple and compact in its construction, and which in use may be readily manipulated.

In the accompanying drawings, Figure 1 is a side elevation of my semaphore, showing in full lines both vanes raised, and in dotted lines both lowered. Fig. 2 is a top plan view of the same. Fig. 3 illustrates in detail one of the vanes, lens frames, and connecting mechanism. Fig. 4 is a side elevation of my semaphore and signal station, showing the operative relations of the two.

Referring to the figures on the drawings, 1 indicates a post or upright constructed of any suitable material, and preferably hollow from end to end, as illustrated. This is preferably located midway between the railway tracks which it is designed to serve, as illustrated in Fig. 1 of the drawings.

2 indicates a pulley-support, and 3 a pulley thereon, over which passes a rope 4 fastened at one end to the top of a lantern 5, and at the other to the bottom thereof, and adapted to raise and lower the same within the hollow of the post.

6 indicates a cleat around which the rope may be wrapped to secure the lantern in a fixed position.

7 indicates a door in the side of the post, opposite the cleat, through which access may be gained to the cleat and to the lantern when lowered. The pulley-support should extend such a distance above the top of the post as to render the lantern readily visible above the top of the post when it is lifted into proximity with the pulley.

8 indicates horizontal projections extending from opposite sides of the post and adapted to pivotally carry vanes 9 which may be covered in any usual and ordinary manner. These vanes are in practice intended for day use, and are included in my semaphore to render it complete.

10 indicates transparent covers or lens frames, one being provided for each side of the post. They may be made of suitable material and perforated to carry lenses 11, preferably three in number, to furnish the three colors of lenses—white, green, and red—ordinarily used in semaphore signaling.

12 indicates a bracket-bearing piece fastened upon the side of the post opposite the bearing 13 in the post, and adapted to carry a journal 14. A journal 14 with its bearing is provided upon each side of the post; and to each of them respectively is securely fastened, by suitable means, one of the lens frames. Upon the outer ends of each of the journals 14 is fixedly secured a counterweight 15 which is adapted to hold the lens frame in a normal position, as illustrated in Fig. 3 of the drawings, such position being preferably one in which the white lens of the frame is in vertical line with the post.

16 and 17 indicate arms projecting from the lens frames opposite their pivotal supports, and adapted to actuate the lens frames.

17′ indicates a fixed projection extending from the inner ends of the vanes respectively.

18 indicates ropes or flexible connecting pieces uniting these projections to the arm 17, respectively, of each of the lens frames, thereby rendering the motion of the vanes dependent upon the movement of the lens frames, the vanes being supported in the horizontal position by the counterweight 15, as illustrated in full lines in Figs. 1, 3 and 4. Thus it will be seen that each lens frame and its dependent vane will have their free ends suspended upon the same side of the post, which is advantageous in repairing and renders them less liable to be obscured by obstructions along the line of track.

19 indicates a bell-crank lever pivotally secured to the post, as indicated at 20, and fastened at one end by a rope or flexible connecting piece 21 to the arm 16 of the lens frame. A separate bell-crank lever is provided for each of the lens frames.

22 indicates an operating rope secured to the other arm of the bell-crank lever, and

adapted to actuate one of the lens frames with its connected vane, and to set the signal for use.

The operation of my semaphore being substantially upon the same principles as those now in ordinary use, its method of operation will be clearly understood by one skilled in the art from the description of the mechanism hereinbefore described.

What I claim is—

1. The combination with a hollow support and lantern vertically movable therein, of a pivoted lens frame provided with a plurality of lenses carried in the same plane, and an independently pivoted vane, mechanism operatively connecting the lens frame with the vane and mechanism for operating the lens frame, substantially as specified.

2. In a semaphore, the combination with a hollow support and lantern vertically movable therein, of a pivoted lens frame provided with a plurality of lenses in the same plane and an independently pivoted vane, said lens frame and vane having their free ends suspended upon the same side of the support in their normal positions, mechanism operatively connecting the lens frame with the vane and mechanism for operating the lens frame, substantially as specified.

3. In a semaphore, the combination with a hollow support and lantern vertically movable therein, of a counter-weighted pivoted lens frame provided with a plurality of lenses carried in the same plane, an independently pivoted vane, mechanism operatively connecting the lens frame with the vane and mechanism for operating the lens frame, substantially as specified.

4. In a semaphore, the combination with a hollow support and lantern vertically movable therein, of a pivoted lens frame provided with a plurality of lenses carried in the same plane a journal carried in bearings upon the support, a counter-weight secured to the journal, an independently pivoted vane, mechanism operatively connecting the lens frame with the vane and mechanism for operating the lens frame, substantially as specified.

5. In a semaphore, the combination with a hollow support and lantern vertically movable therein, of a pivoted lens frame provided with a plurality of lenses carried in the same plane, a journal carried in bearings upon the support, a counter-weight secured to the journal, an independently pivoted vane, lever arms upon the lens frame, a flexible connecting piece between the vane and one of the lever arms and mechanism operatively connected with the other lever arm for operating the lens frame, substantially as specified.

In testimony of all which I have hereunto subscribed my name.

BENJAMIN F. CULP.

Witnesses:
J. T. HAMPTON,
SAMUEL RYLAND.