

I. M. VAN WAGNER & E. P. GRISWOLD.

Photographic Printing-Frames.

No. 150,497.

Patented May 5, 1874.

Fig. 1

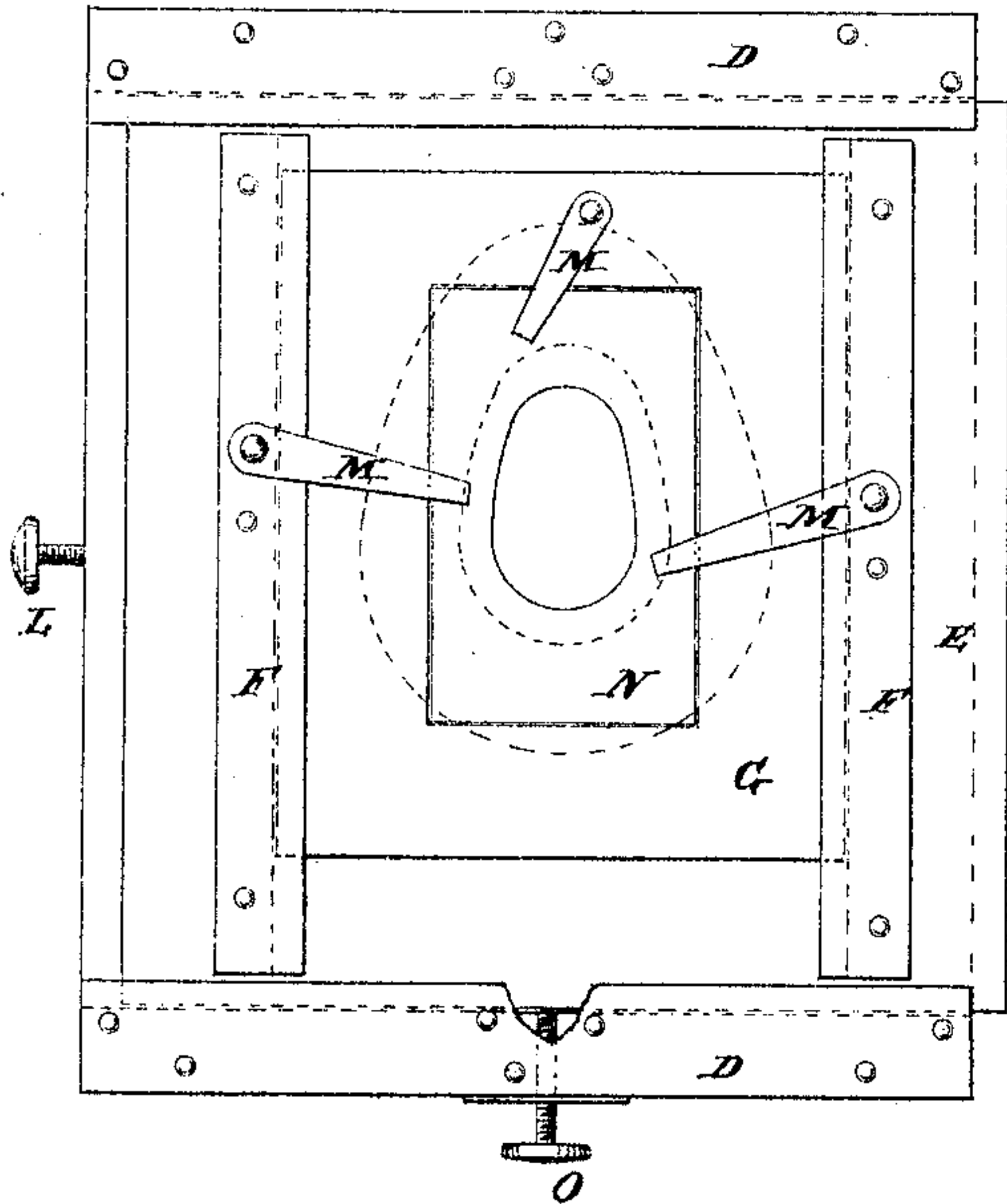


Fig. 2

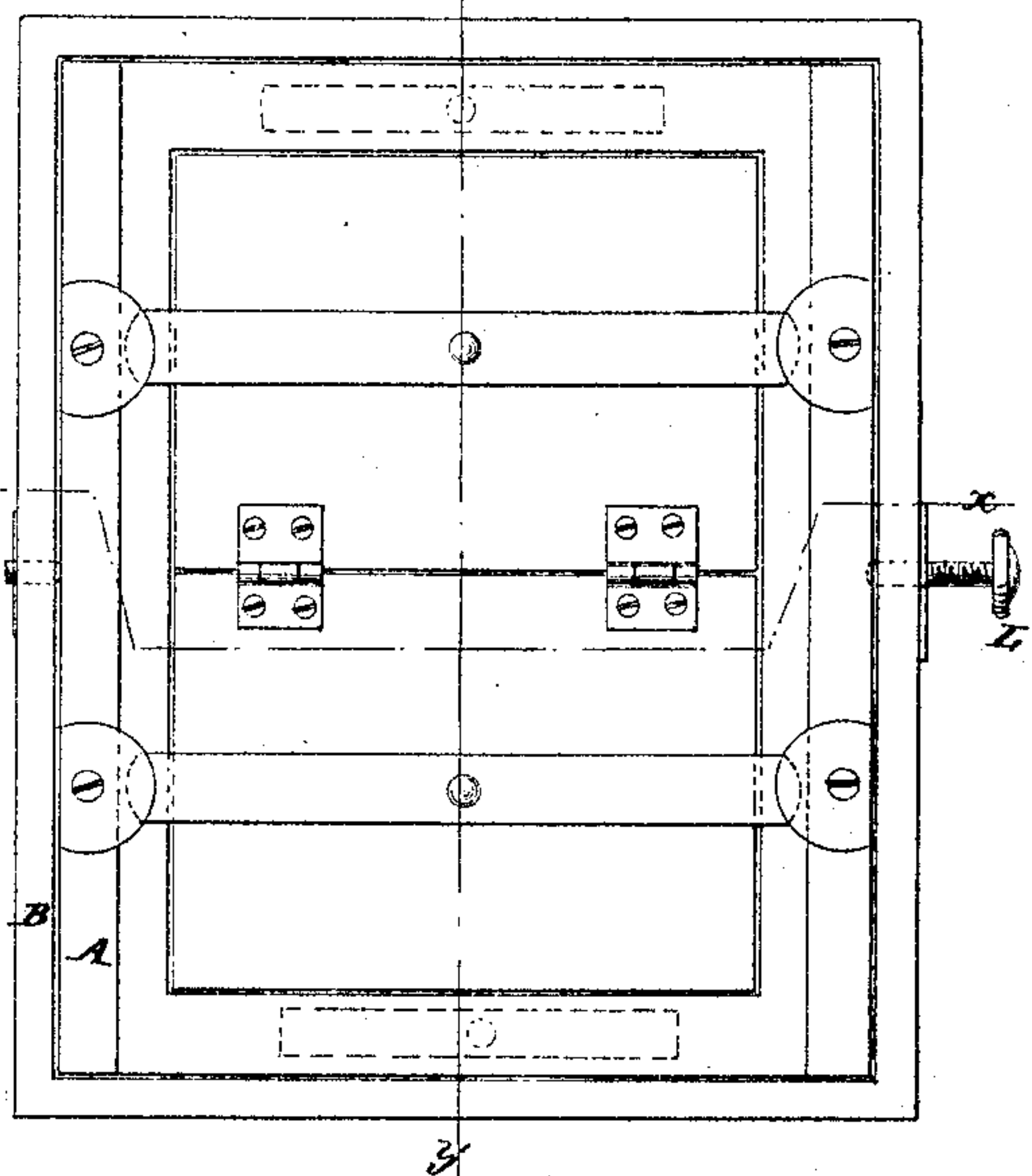


Fig. 3

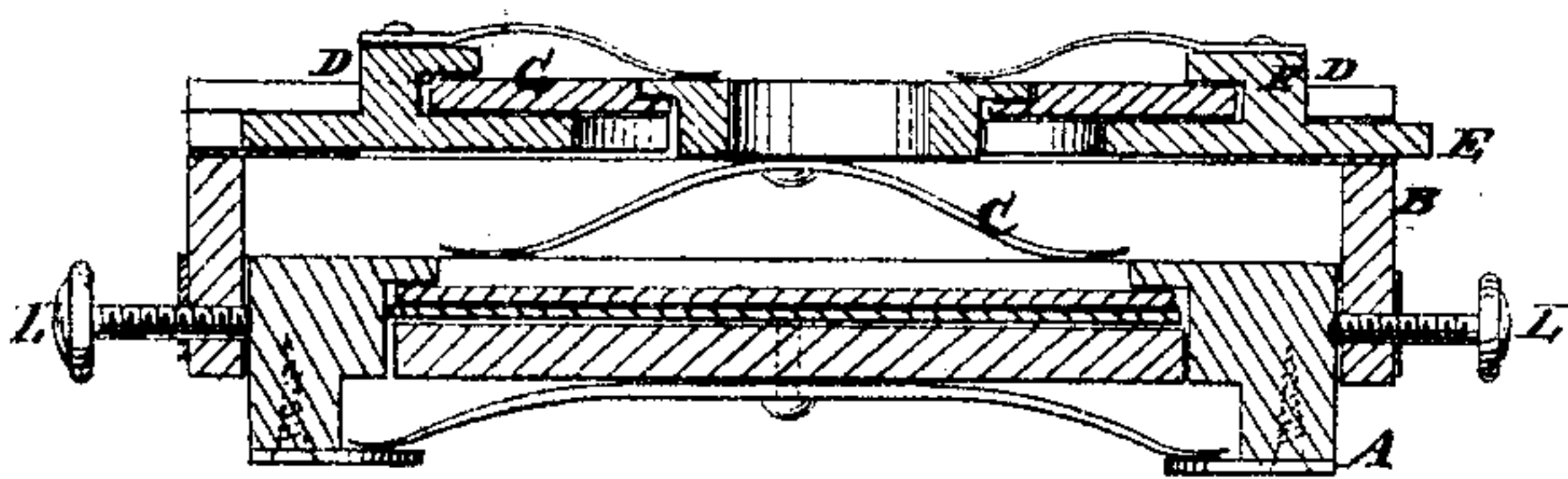


Fig. 4

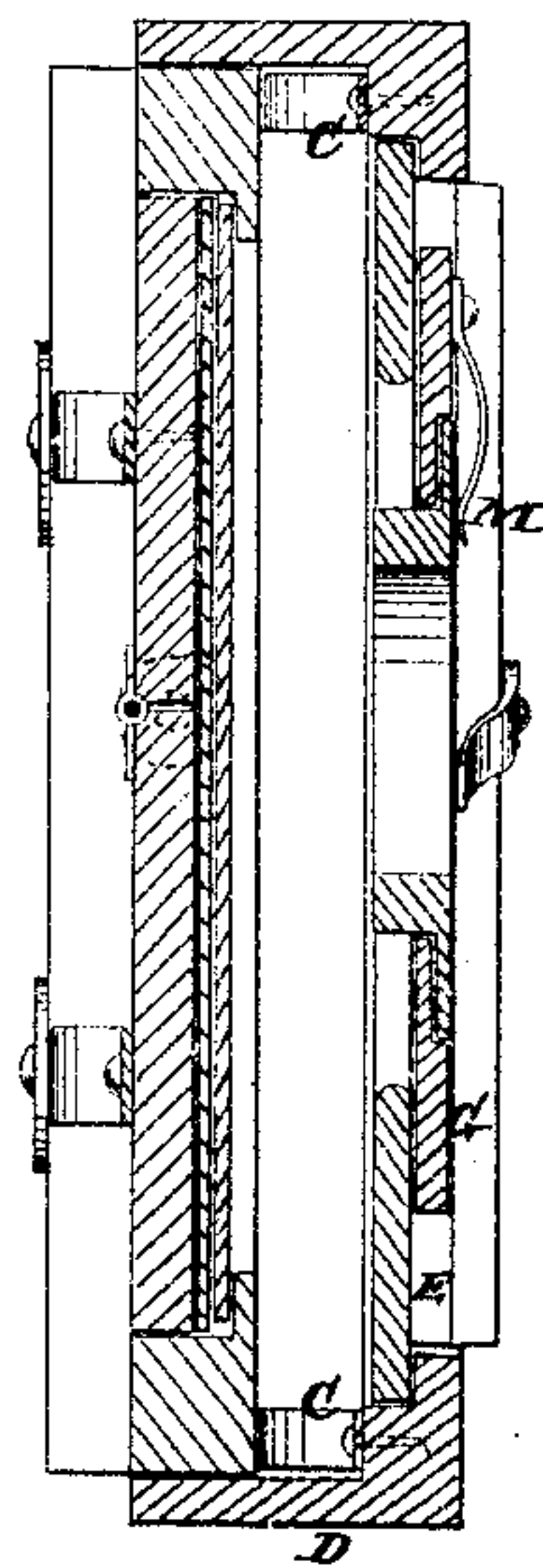
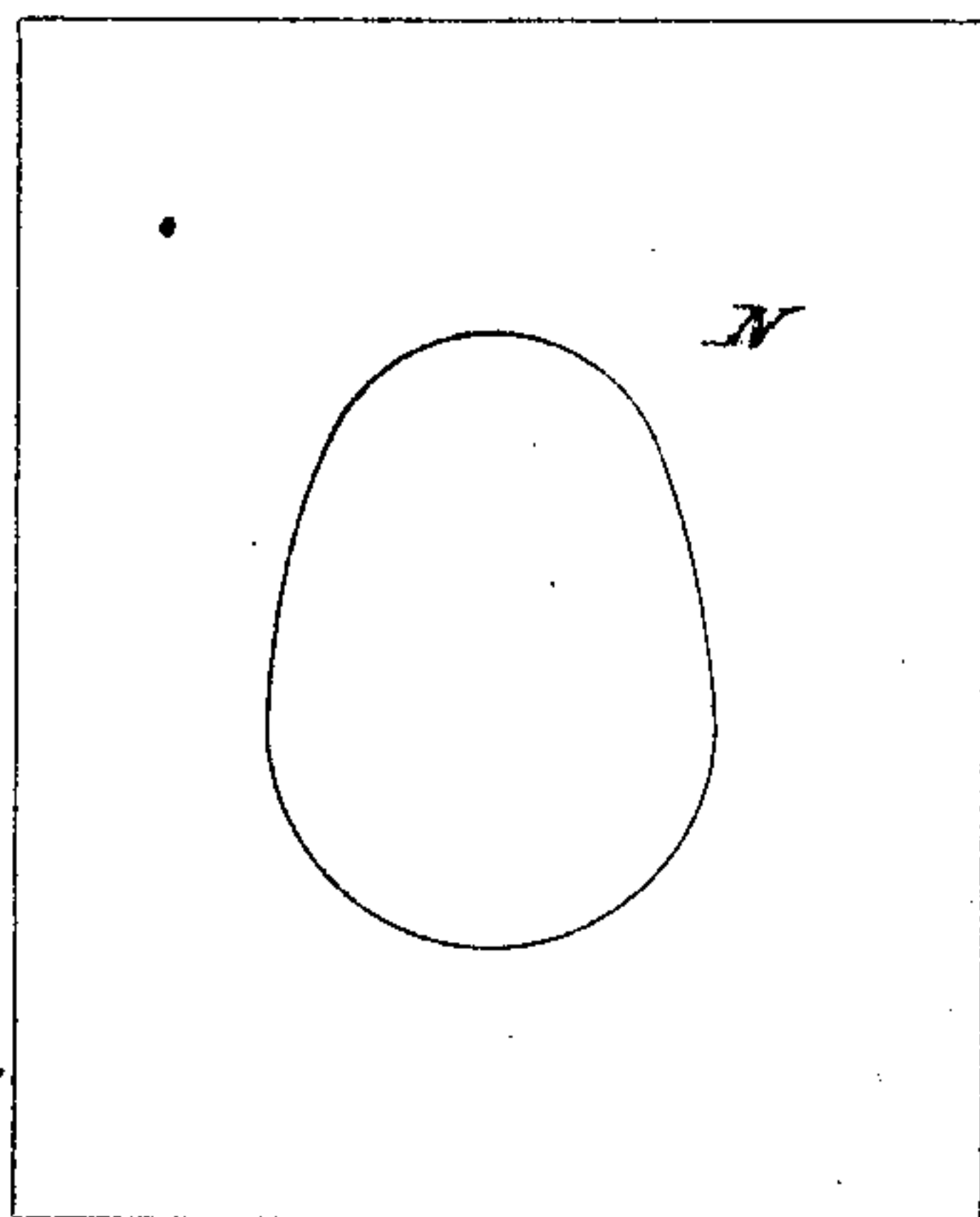


Fig. 5



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Fig. 6

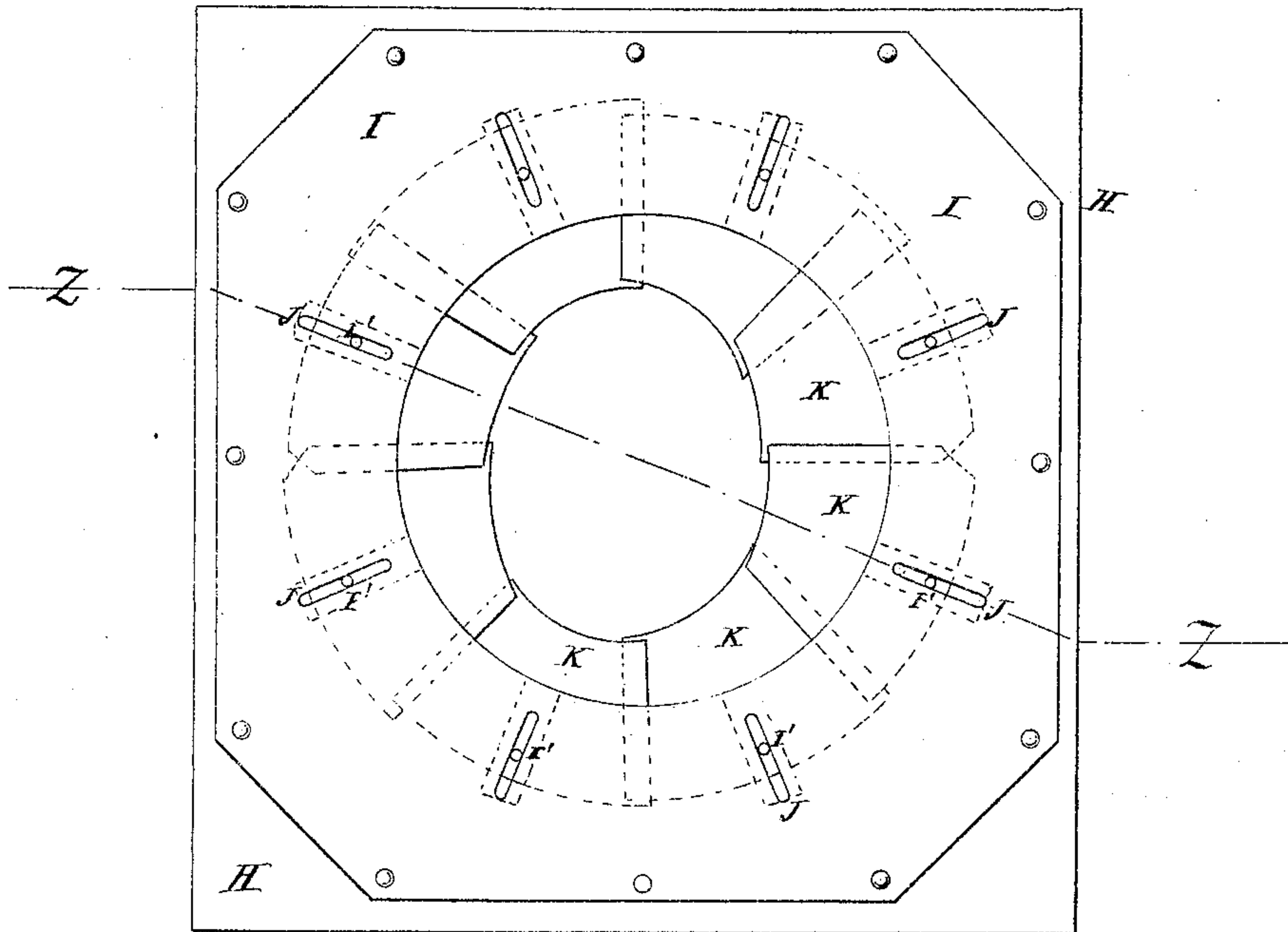


Fig. 7



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UNITED STATES PATENT OFFICE.

ISAAC M. VAN WAGNER, OF NYACK, AND EZRA P. GRISWOLD, OF NEW YORK, N. Y.

IMPROVEMENT IN PHOTOGRAPHIC-PRINTING FRAMES.

Specification forming part of Letters Patent No. **150,497**, dated May 5, 1874; application filed January 31, 1874.

To all whom it may concern:

Be it known that we, ISAAC M. VAN WAGNER, of Nyack, in the county of Rockland and State of New York, and EZRA P. GRISWOLD, of the city, county, and State of New York, have invented a new and useful Improvement in Photograph-Printing Apparatus, of which the following is a specification:

This invention relates to new and important improvements in apparatus for printing photographic pictures; and consists in an adjustable vignetting attachment to the ordinary printing-frame now in use, by means of which the light-opening, by means of longitudinal and transverse or other movable slides, is adjusted to the picture on the negative. It also consists in a device for varying the distance and position of the light-opening from the negative. It also consists in a contracting and expanding diaphragm, for varying the form and size of the light-opening, all as hereinafter set forth and described.

In the accompanying drawing, Figure 1 represents a top view, showing the light-opening and the movable slides. Fig. 2 is a view of the reverse side of the common printing-frame, showing, also, the edge of our attachment or adjusting-frame. Fig. 3 is a cross-section of Fig. 2, taken on the line *xx*. Fig. 4 is a longitudinal section taken on the line *yy* of Fig. 2. Fig. 5 is a side view of the ordinary plate, through which the light-opening is made, as at present used. Fig. 6 is a view of the expansible and contracting diaphragm, the construction being represented in dotted lines. Fig. 7 is a cross-section of Fig. 6 on the line *zz*.

Similar letters of reference indicate corresponding parts.

A represents the old or common printing-frame. B is a frame which surrounds A, which is provided with springs C, or with any other device, as bellows, straps, &c., by means of which this frame B may be raised and lowered, and fastened in any desired position, either level or parallel with the frame A, or inclined in either direction, as may be desired.

D D are grooved cleats on the upper side of the frame B. E is a slide confined in the grooves of the cleats D D, so that it is readily moved back and forth on a line parallel with the cleats. F F are grooved cleats on the slide E. These cleats are placed at right angles with the cleats D D. G is a slide, which is readily moved back and forth on a line parallel with the cleats F F. The slide E has a large opening in its center. The smaller slide G has an opening, over which the plate which contains the light-opening is placed, and which is adjusted, by means of the movements before described, to the picture on the negative.

Instead of this slide G, a slide or diaphragm having an opening which may be expanded or contracted, by means of adjustable plates or otherwise, may be employed. H represents such a slide, (see Fig. 6,) on which is fastened a plate, I, which has slots, J, in it. K are sliding plates between the slide H and the plate I, which are guided by means of a pin, I', in each plate, which work in the slots J. These sliding plates K are arranged so as to allow their edges to lap over each other, as seen in the drawing.

By means of a diaphragm of this description, having a light-aperture adjustable as to form and size, the delay and expense of cutting a plate for the light-opening from metal, pasteboard, or other material are avoided.

We do not confine ourselves to any particular kind or style of diaphragm. It may be made in any manner, and of any number of pieces.

The device for varying the distance of the light-opening from the negative and fastening it either parallel with the negative or in an inclined position thereto may be made in any manner, and set-screws L L, or other means, may be employed for fastening it in the desired position.

By means of this adjustment the proper expression and blending of shades are given the picture and the vignette.

M are springs for fastening the light-open-

ing plates N on the slide G. O is a set-screw for fastening the slide E in any desired position.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. In combination with a photographic-printing frame, A, the adjustable frame B, substantially as and for the purpose described.

2. The set-screws L L, in combination with the frames A and B, for the purposes described.

3. The adjustable slide E and cleats D D, in combination with the adjustable frame B.

4. The adjustable slide G and cleats F F, in combination with the slide E, for the purposes described.

5. The slide or diaphragm H, or equivalent expanding and contracting device, by means of which the light-aperture is varied at will in size and form, substantially as described.

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Witnesses:

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