(No Model.)

L. G. BIGELOW.

STOP OR DIAPHRAGM FOR PHOTOGRAPHIC CAMERAS.

No. 443,386. Patented Dec. 23, 1890.

Fig 1

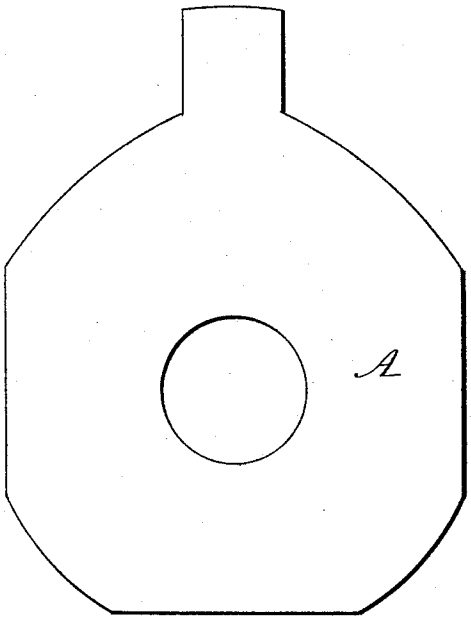


Fig 2

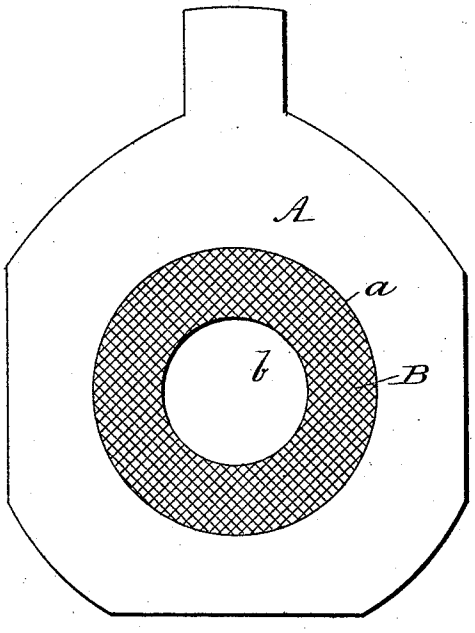
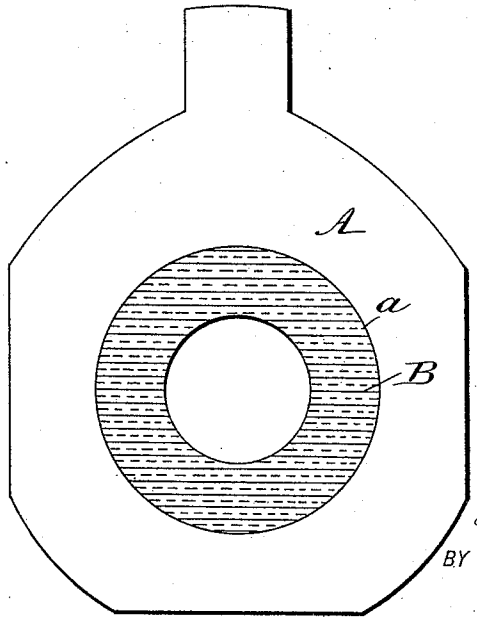


Fig 3



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UNITED STATES PATENT OFFICE.

LYMAN G. BIGELOW, OF CHATTANOOGA, TENNESSEE.

STOP OR DIAPHRAGM FOR PHOTOGRAPHIC CAMERAS.

SPECIFICATION forming part of Letters Patent No. 443,386, dated December 23, 1890.

Application filed February 10, 1890. Serial No. 339,899. (No model.)

To all whom it may concern:

Be it known that I, LYMAN G. BIGELOW, of Chattanooga, in the county of Hamilton and State of Tennessee, have invented a new and Improved Stop or Diaphragm for Photographic Camera-Lenses, of which the following is a specification, reference being had to the annexed drawings, forming a part thereof, in which—

Figure 1 is a side elevation of a plain stop. Fig. 2 is a side elevation of a stop provided with a ring of wire-gauze surrounding the central opening of the stop; and Fig. 3 is a side elevation of a stop provided with a ring of mica, which is lined or stippled or otherwise tinted or graduated.

Similar letters of reference indicate corresponding parts in all the views.

The object of my invention is to produce a more natural and pleasing image of the object represented than can be presented by the methods heretofore in use.

Stops are used in connection with camera-lenses to cut off the marginal rays and to sharpen the image and to improve the definition and increase the depth of focus. The smaller the stop-opening the less brilliant the image and the longer will be the exposure necessary to impress the image upon the sensitive plate.

My invention consists in a stop provided with a central opening surrounded by an annular net-work or a translucent or transparent film tinted or lined or stippled in such a manner as to cut off only a portion of the marginal rays, while allowing the light to pass freely through the center of the diaphragm.

The lens or camera to be used in connection with my improved stop may be of the usual construction. An ordinary stop with a circular opening is shown in Fig. 1.

In my improved stop (shown in Fig. 2) the opening *a* through the metal plate A, forming the body of the stop, is enlarged in diameter and provided with an annular piece B of wire-gauze or perforated sheet metal having a central opening *b*.

In Fig. 3 is shown a plate A′, provided with the enlarged opening and furnished with an annular plate B of mica or other transparent or translucent material. This plate is tinted by lines or stipples, or both, or shaded by the application of paints or varnishes. These plates of wire-cloth, perforated metal, or translucent material allow some of the marginal rays to pass, while cutting off others, thereby softening the image produced on the sensitive plate, while retaining its sharpness, and at the same time shortening the time of exposure.

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

1. A photographic stop or diaphragm having a central opening surrounded by material adapted to cut off a portion of the marginal rays, substantially as specified.

2. A photographic stop or diaphragm in which the central opening is surrounded by spaces through which a portion of the light may pass, substantially as specified.

LYMAN G. BIGELOW.

Witnesses:
J. HODGE MCLEAN,
G. MANNING ELLIS.