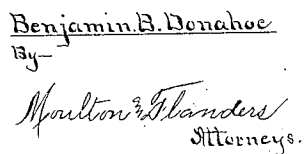


B. B. DONAHOE.
PHOTOGRAPHIC VIGNETTER.

Patented Apr. 6, 1897.



UNITED STATES PATENT OFFICE.

BENJAMIN B. DONAHOE, OF GRAND RAPIDS, MICHIGAN, ASSIGNOR TO
JAMES D. GALLAGHER AND JOHN W. MARKS, OF SAME PLACE.

PHOTOGRAPHIC VIGNETTER.

SPECIFICATION forming part of Letters Patent No. 580,155, dated April 6, 1897.

Application filed July 25, 1896. Serial No. 600,476. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN B. DONAHOE, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Negative Vignett-
ers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in negative vignettters; and its object is to provide a ready means of adjusting the same to any desired position, and also to provide certain new and useful features, hereinafter more fully described, and particularly pointed out in the claims, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of a device embodying my invention in position for use; Fig. 2, a side elevation of the same, with parts broken away to show construction; Fig. 3, a rear elevation, and Fig. 4 a detail, of the disk.

Like letters refer to like parts in all of the figures.

A A are cross-sills of an ordinary camera-stand, and supported beneath said sills by the clips B is the tube C, in which is the rotative rod D, said tube C being prevented from turning by the thumb-screw C' in the clip B. The rod D is rotated by means of a hand-wheel E, which is attached to said rod by means of the spline F, and is longitudinally movable thereon, said wheel being held against the end of the tube C by means of the coil-spring G, which engages the head D' on the end of the rod D. Secured to the end of said tube C, next the wheel E, is a disk H, having peripheral openings H' to receive the end of the pin I on said wheel, and secured to the opposite end of the tube C is the bracket J, which forms a vertical way for the sliding bar K. On the bar K is the rack L, which is engaged by the pinion M on the end of the rod D, and to the upper end of said bar is pivoted the arm N. A transverse holder O, adapted to retain a vignetting-card Q, or other article, is secured to the upper end of the arm N, and in the lower end of said arm is a slot N', adapted to receive the

bolt P' on the end of the operating-lever P, which lever is attached to the upper side of the sills A by means of clips.

The operating-rod P, thumb-screw C', and hand-wheel E are in easy reach of the operator when focusing the camera, and the tube C extends beyond the front of the camera a sufficient distance to bring the vignetting-card Q in range.

It is desirable at times to vignette the figures higher or lower on the negative, and to do this the operator grasps the hand-wheel E, and, moving it away from the disk H against the action of the spring G, disengages the pin I from the opening H' and turns said wheel, thus rotating the rod D and pinion M. Said pinion being in engagement with the rack L on the bar K raises or lowers said bar and card Q according to the direction in which said wheel is turned.

When it is desirable to increase or decrease the distance between the camera and card, the operator releases the tube C by turning the thumb-screw C' and moves said tube longitudinally, and by turning said tube to the right or left the bar K is moved from its perpendicular position and the card thus inclined toward one side. By moving the rod P longitudinally the arm N is turned on its pivot and the card inclined toward or away from the camera. By this arrangement I provide a negative vignetter which may be adjusted to any desired position from the rear of the camera by the operator without necessitating the removal of the cloth from his head.

This device may also be used in copying, the picture to be copied being substituted for the vignetting-card and adjusted until in the proper position.

Having thus fully described my invention, what I claim is—

1. The combination of a tube capable of being turned upon its axis, a rod extending through said tube and rotative within the same, means for detachably fixing the rod to the tube so that they may be turned together or separately when desired, brackets upon the end of the tube, a rack longitudinally movable within said brackets relatively to the end of the tube and carried with the latter when the same is turned, a pinion mounted

on the end of said rod, and engaging said rack for raising and lowering the same, an arm pivoted to said rack, and a rod for turning said arm upon its pivot.

5 2. In a negative vignetter, the combination of a journaled tube longitudinally movable within its bearings, means for locking said tube against movement, a bar movable at right angles relatively to the end of said tube, and movable also with the latter when the same is
10 turned, a card-holder pivoted to said bar, an operating-lever attached to said card-holder, and a rotative rod journaled within said tube and geared with said bar for raising and lowering the same.

15 3. In a negative vignetter, the combination of a journaled tube, a bar movable at right angles across the end of said tube and also movable with the latter when the same is
20 turned, the card-holder connected with said bar, a rotative rod geared with said bar to raise and lower the same, and means for detachably locking said tube and rod together, substantially as described and for the purposes
25 specified.

4. In a negative vignetter, the combination of a journaled tube, a bar movable at right angles across the end of said tube and also moved with the latter when the same is turned,
30 the card-holder connected with said bar, a rotative rod geared with said bar to raise and lower the same, a disk attached to one end of said tube, and a hand-wheel movable longitudinally on the rod but fixed against rotation thereon, and means for detachably locking
35 said hand-wheel to the disk.

5. In a negative vignetter, the combination of a journaled tube, a bar movable across the end of said tube and moved with the latter
40 when the same is turned, a rod rotative independently of said tube and geared with said bar so as to raise and lower the same, the card-holder connected with said bar, a disk fixed upon the end of said tube remote
45 from said bar and formed with a series of perforations, a hand-wheel movable longitudinally of said rod and serving to rotate the same, a spring for pressing said wheel toward the disk, and a pin projecting from said

wheel and designed to enter any of the perforations in the disk. 50

6. The herein-described negative vignetter, comprising a tube, a disk on one end thereof having a series of perforations, brackets extending approximately at right angles from
55 the other end of said tube and fixed thereto, a rack-bar supported by said brackets and movable longitudinally through the same, a rod extending through and rotative within said tube, a spring-pressed hand-wheel for rotating said rod, said hand-wheel being movable
60 upon the rod longitudinally, a pin projecting from the hand-wheel and designed to enter any one of said perforations, a pinion on the other end of said rod, engaging said rack-bar,
65 an arm pivoted to said rack-bar and formed with a longitudinal slot, and an operating-lever having a pivot-bolt traversing said slot.

7. In a negative-vignetter attachment to cameras, the combination of the tube, brackets attached to one end thereof and formed to
70 provide ways across said end, a bar movable vertically within said ways, a pivoted card-holder supported by said bar, a rod journaled within said tube and geared with said bar to
75 raise and lower the same, and means for detachably locking the rod and tube together, whereby they may be turned in unison or separately, as desired.

8. In a negative-vignetter attachment to cameras, the combination of a rotative tube, a bar at one end of said tube, said bar being
80 moved with said tube when the latter is turned and being supported so that it may be adjusted across the end of the same, a pivoted
85 card-holder supported by said bar, an operating-rod geared with the bar for adjusting the same, and an operating-lever, terminating at one end near the free end of said rod and having its other end pivotally attached
90 to said card-holder.

In testimony whereof I affix my signature in presence of two witnesses.

BENJAMIN B. DONAHOE.

Witnesses:

JOHN W. MARKS,
LEWIS E. FLANDERS.