(No Model.)

D. S. COLE.

PHOTOGRAPHIC CAMERA MULTIPLYING ATTACHMENT.

No. 517,733. Patented Apr. 3, 1894.

Fig. 1.

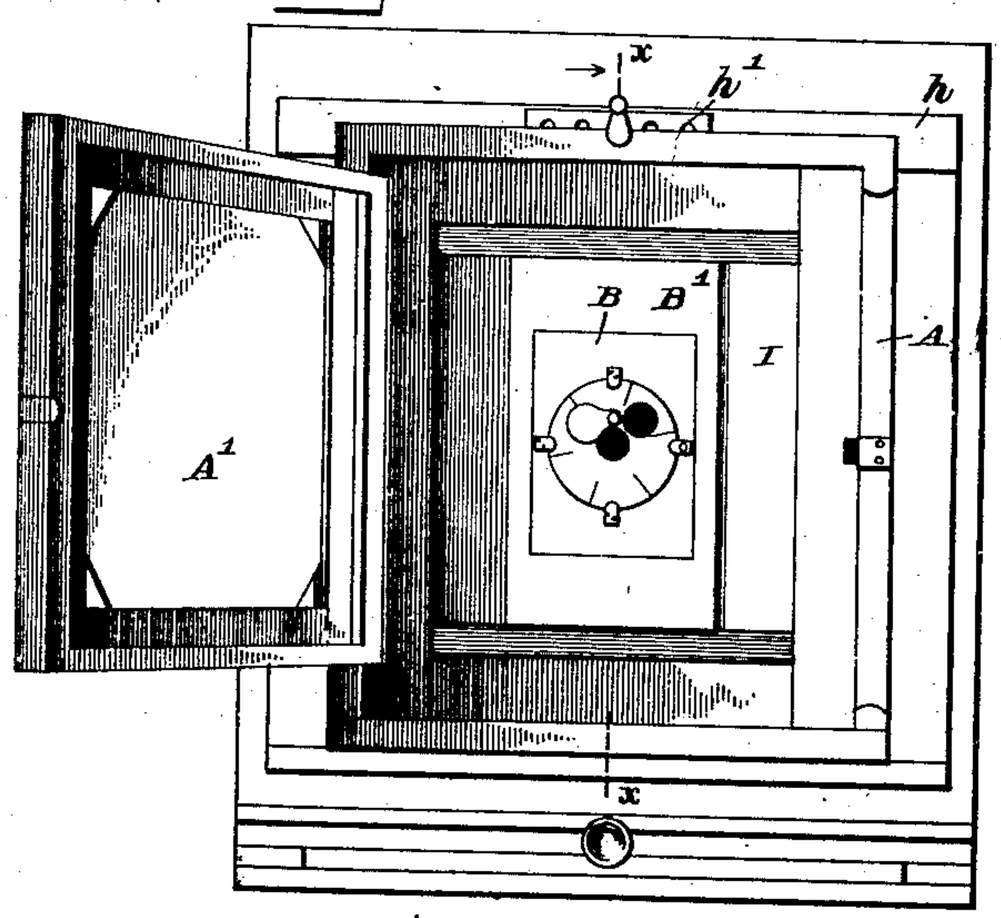


Fig. 2.

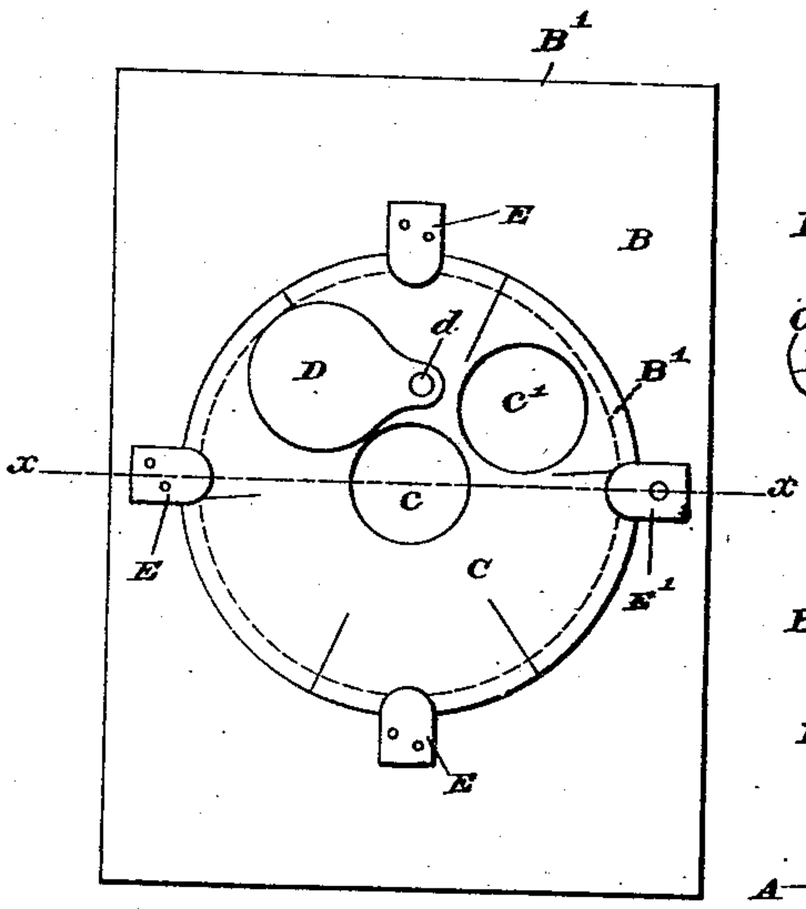


Fig. 5.

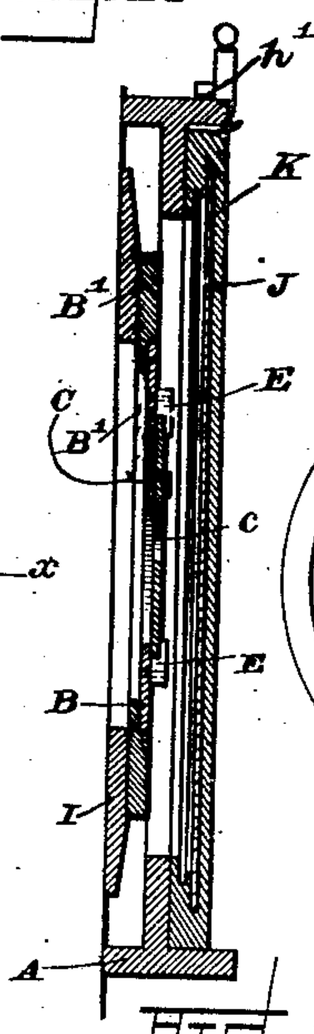


Fig. 3.

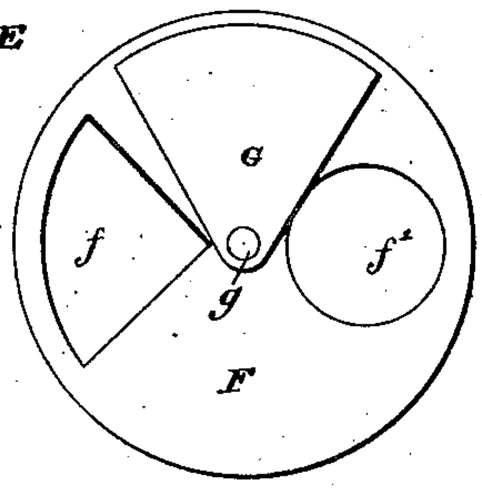
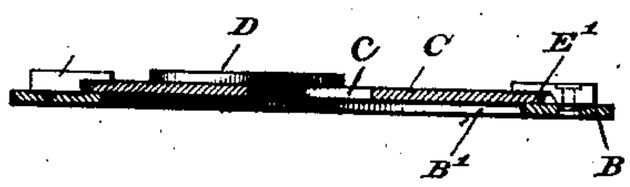


Fig. 4.



Witnesses
Edwd. Duvall, Jr.
Wm. L. Boyden

Inventor
David S. Cole
per Fred. G. Dieken.
Attorney

UNITED STATES PATENT OFFICE.

DAVID S. COLE, OF WASHINGTON, IOWA.

PHOTOGRAPHIC-CAMERA MULTIPLYING ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 517,733, dated April 3, 1894.

Application filed March 16, 1893. Serial No. 466,333. (No model.)

To all whom it may concern:

Be it known that I, DAVID S. COLE, a citizen of the United States, residing at Washington, in the county of Washington and State of Iowa, have invented certain new and useful Improvements in Multiplying Attachments for Photographic Apparatus; 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 present invention has reference to an improved multiplying attachment for use with photographic apparatus, the object being to provide a simple, cheaply-constructed, instantly-applied and readily-operated device which can be attached to any ordinary photographic apparatus whenever it is desired to produce numerous negatives on the same plate for the purpose of simultaneously printing several photographs or likenesses, conveniently grouped together in any manner, the invention therefore being particularly useful and desirable for taking family groups on the same card so that all the likenesses will be in good shape and clearly outlined, no matter what may be the age, complexion, form or other characteristic of the different subjects, and the invention therefore consists essentially in the construction, arrangement and combination of the several parts, substantially as will be hereinafter described and claimed.

In the annexed drawings illustrating my invention: Figure 1 is a front elevation of a photographic apparatus showing my improved multiplying attachment arranged operatively therein. Fig. 2 is a detail front elevation of the attachment. Fig. 3 is a modified form of the removable disk. Fig. 4 is a cross section on the line *x x* of Fig. 2. Fig. 5 is a sectional view of the line *x x* of Fig. 1.

Similar letters of reference designate corresponding parts throughout the different figures.

A designates any ordinary photographic apparatus having any common, desired, or usual structure and provided with the customary parts including the sliding gage ordinarily employed for the purpose of sliding the sensitive plate across the field of vision in order to permit several impressions to be taken thereon.

B denotes a flat plate, constituting a part of my improved device, which plate is intended to be placed firmly in a vertical position in a rectangular frame I in the rear end of the camera and in front of the ground glass, as shown in Fig. 1. The plate B will thus be located in a stationary and immovable position. When the camera is in use the sensitive plate will be located adjacent to the plate B in the usual manner. Plate B is provided with a large opening, preferably of a circular form, as B′. This opening B′, is intended to be covered by means of a suitable rotary disk which may have a variety of different apertures.

C and F denote examples of rotary disks which may be employed in connection with the plate B. Plate B is provided with projections E E secured thereto near the periphery of the circular opening B′ and serving to hold the rotary disk in position after it has been seated upon the plate B, covering the opening B′ as shown in Fig. 2, there being in addition to the rigid projections E a pivoted or movable projection E′ which locks the rotary disk firmly after it has been inserted in place and which permits said disk to be withdrawn whenever it is desired to take it out for the purpose of substituting another or for changing the use of the device in any desired manner.

A′ designates the ground glass of the camera, A, *h* the slideways, *h′* the slide gage, B′ the multiplier receiver or holder, J the sensitive plate holder and K the sensitive plate.

The rotary disk C is provided with a central aperture *c* of circular form and between the central aperture *c* and the periphery of the disk C is another similar aperture *c′*. A cover or shutter D is pivoted to the disk C by means of the pivot *d* on which it swings, it being adapted to close one or the other of the openings *c c′* as may be desired.

F designates another rotary disk having no central opening, but having at one side of its center a circular aperture *f′* and at the other side a triangularly-shaped aperture *f*. A triangular-shaped valve or cover G is pivoted by means of the pivot *g* at the center of disk F. Said cover G swings around upon its pivot and is adapted to close one or the other of the openings *f f′* as may be desired.

It will be understood that the disks C and F are interchangeable with each other, one being used at one time and the other at another. I am by no means restricted to the use of these two disks, but can employ any kind of rotary disk. The disks may be arranged for any number of pictures in proportion to the size thereof. As has already been explained, one can easily be removed from the plate B and another inserted by simply adjusting the movable button. I reserve the liberty of constructing these disks therefor with any desired number of apertures cut therein in any desired form and arranged in any desired grouping.

The operation and use of my present improved device will I think be clearly understood from the foregoing description of the construction and application of the same to a camera. The attachment is as already explained placed in a common camera in front of the ground glass. When the disk C is used the image will be thrown upon the plate through the central opening or through the other opening as the case may be and owing to the proper adjustment of the shutter D. When the disk C has been moved with its opening *c'* in one position to produce a photograph, the disk can then be rotated to bring to bear on another part of the plate, the image. This may be repeated until all of the positions are secured and the plate is full, thereby producing a neat grouping of likenesses, upon the same plate. Obviously the camera will be adjusted to suit the opening in the disk. The same procedure will be followed with the disk F. It can be rotated so as to bring the aperture *f* or *f'*, as the case may be, into different positions successively, each position enabling the operator to produce the likeness on the plate, and the entire operation results in the production of the group of photographs ingeniously and attractively displayed.

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

1. In a multiplying attachment for photographic cameras, the combination of the plate B having the circular opening B', fixed buttons E E and movable button E', the rotary disk C having two apertures and a shutter or cover D pivoted to the disk C so as to cover either of said apertures, substantially as described.

2. In a multiplying attachment for photographic cameras, the combination of the plate B having the circular opening B' and fixed buttons E E and movable button E', the rotary disk C, having a central aperture *c* and a side aperture *c'*, and a shutter or cover D pivoted to the disk C so as to cover either of said apertures, all arranged substantially in the manner and for the purpose specified.

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

DAVID S. COLE.

Witnesses:

A. S. FOLGER,

EVA CAHAIL.