

(No Model.)

W. H. LEWIS.
CAMERA SHUTTER.

No. 494,256.

Patented Mar. 28, 1893.

FIG. 1.

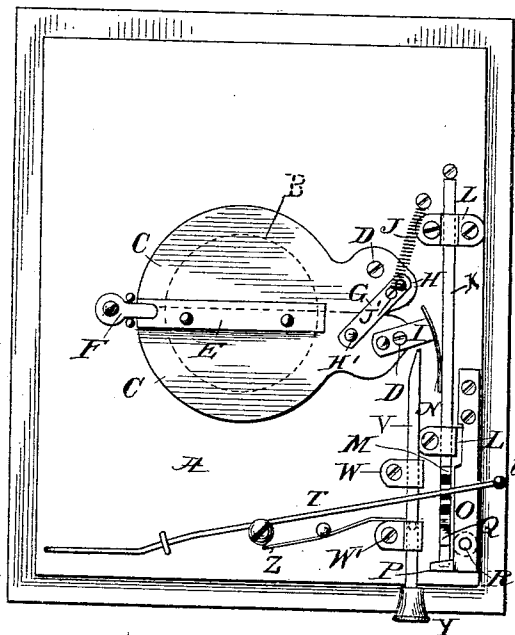


FIG. 2.

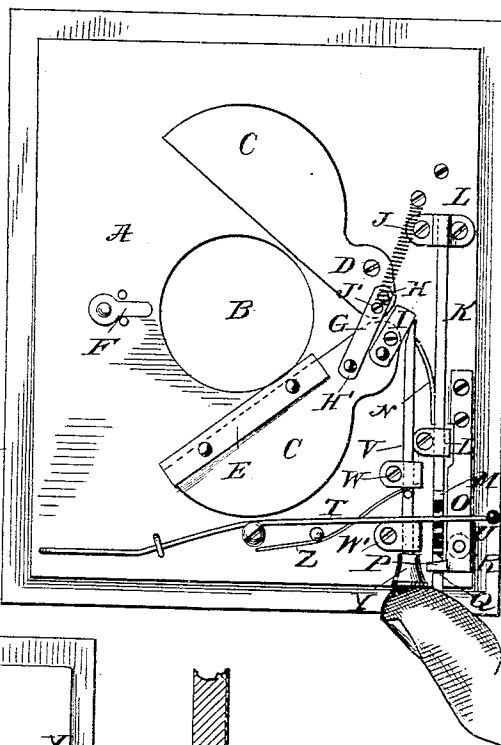


FIG. 3.

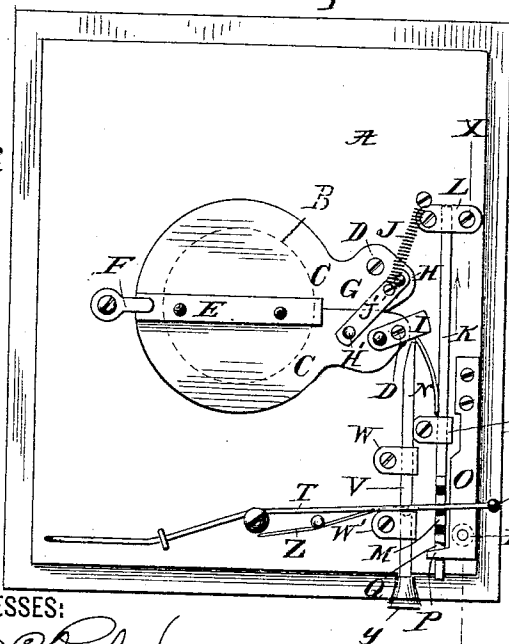
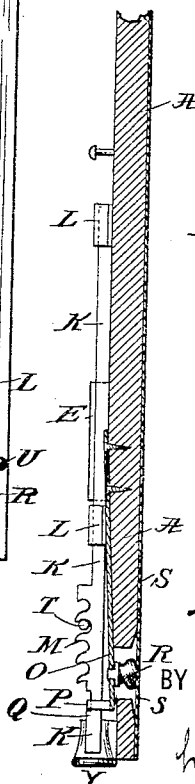


FIG. 4.



WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIAM H. LEWIS, OF HUNTINGTON, ASSIGNOR TO THE E. & H. T. ANTHONY
& COMPANY, OF NEW YORK, N. Y.

CAMERA-SHUTTER.

SPECIFICATION forming part of Letters Patent No. 494,256, dated March 28, 1893.

Application filed July 16, 1892. Serial No. 440,253. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. LEWIS, a citizen of the United States, and a resident of Huntington, in the county of Suffolk and State of New York, have invented certain new and useful Improved Photographic Shutters, of which the following is a specification.

My invention relates to improvements in photographic shutters and it consists in the peculiar construction and arrangement of the parts, hereinafter set forth.

In the drawings, Figure 1, illustrates the rear side of the shutter mechanism, the parts being in their normal or unset position. Fig. 2, illustrates a similar view, the parts being in the position they occupy during use for a time exposure, the devices employed for instantaneous exposures being set for use but not in operation. Fig. 3, illustrates a view similar to that shown in Figs. 1 and 2, the parts being in position ready for an instantaneous exposure. Fig. 4 illustrates a sectional view on the line X, X, of Fig. 3.

A is the base or board upon which the parts are supported. It may be of any suitable construction.

B is the exposure aperture.

C, C, are the shutter wings, they are each pivoted at D, D, to the base A, and one of them is provided with a light excluding flange or lip E, which when they are closed together cuts off the light from passing through the crack between them.

F is a stop which may be of any preferred construction. It determines the movement of the wings toward each other preventing them from sliding by each other and also centers them over the exposure aperture.

G is a link which connects the two shutter wings, being pivoted to each of them at H, H'.

I is a finger of any suitable material which is fixed to one of the wings and projects beyond it as shown. It may be supplied by extending the wing itself to the extent of the finger.

J is a spring, it is fastened at one end to the base board and at the other to some suitable part of one of the links G. It is shown as attached to a pin J' set in the link.

K is a sliding bar, it is supported by and moves through guides L, L.

M is a series of notches preferably near one end of the bar and N is a spring pawl which is attached to the bar.

O is a spring latch which is fastened to the board at one end and the other end is provided with a laterally extending part P which is adapted and arranged to engage with a suitable shoulder such as Q on the sliding bar K. The spring latch has a thumb pressure piece R, which projects through an opening in the side of base board and may be operated from the exterior thereof as shown. It may be arranged to lie just beneath the leather or other covering for the camera seen at S if desired.

T is a spring which throws the shutter when it is used for instantaneous work. It is fastened to the base board at one end and the other end engages with the rack M on the sliding bar K, the end of this spring projects laterally through a suitable slot in the side of the camera box (not shown) and is provided with a ball U on its end whereby it may be conveniently manipulated for setting it.

V is a sliding bar. It is supported in and slides through guides W, W' and it has a button Y on its end which is adapted to be operated from the exterior of the camera.

Z is a spring which normally tends to throw the bar V outwardly.

The operation is as follows:—It is, of course, understood that the thumb pressure buttons Y and R are both accessible from the exterior of the camera so that thumb or finger pressure may operate them. To make a time exposure, pressure is applied to the pressure button Y which moves the sliding bar V inwardly which engages the finger I, whereby the shutter wing to which the finger is attached is swung upon its pivot and the arm G causes the other shutter wing to also swing upon its pivot. During this operation the spring J is put under tension. The parts are then in position shown in Fig. 2, the exposure aperture B being uncovered. Pressure is continued upon the button Y as long as desired. When the picture is taken, the pressure is removed and the spring Z thereupon retracts the sliding bar V and the spring J returns both of the shutter wings to their normal closed position in which they are stopped in proper po-

sition relative to each other and to the exposure aperture by the stop F. In the manner above stated, time exposures are made.

The operation by which instantaneous exposures are made is as follows:—The shutter operating mechanism is set by taking hold of the knob U of the spring T and pulling it backwardly so as to put that spring under tension until the pawl or latch P engages with the shoulder Q on the sliding bar K. The spring T is engaged with such one of the series of notches M as is required depending upon the tension necessary. The latch P holds the sliding bar against return movement, consequently the spring T is under tension and during the backward movement of the sliding bar K the spring pawl N passes from the front side of the finger I as seen in Fig. 1 to the rear side of it as seen in Fig. 3. When the exposure is to be made, the pressure button R is pressed whereupon the latch P is disengaged from shoulder Q and the spring T, then immediately throws the sliding bar K forwardly or inwardly again, and the spring pawl N striking against the finger I or its equivalent, quickly throws both of the shutter wings open, the link G operating one of the shutter wings, and when the wings are fully opened the spring pawl passes beyond

the finger I into the position shown in Fig. 1 with the exception that the wings are open instead of closed, and when in this position it has no control over the shutter wings, whereupon the spring J immediately returns them to their normal closed position. In this way the instantaneous opening and closing of the wings is very successfully accomplished.

I claim—

The combination in a photographic shutter of pivoted wings connected together so that movement of one will move the other, a projection upon one of the wings, a sliding bar provided with an elastic part such as a spring pawl adapted to engage with the said projection from one of the wings when moved in one direction, but to be deflected and pass over it when moved in the other direction, a spring which actuates said bar, means for varying the tension of said spring and means to hold the sliding bar against the stress of the spring, substantially as set forth.

Signed at New York, in the county of New York and State of New York, this 15th day of July, A. D. 1892.

WILLIAM H. LEWIS.

Witnesses:

PHILLIPS ABBOTT,
J. E. HOFFMAN.