(No Model.)

C. WHITNEY.

PHOTOGRAPHIC CAMERA.

No. 446,369. Patented Feb. 10, 1891.

Fig. 1.

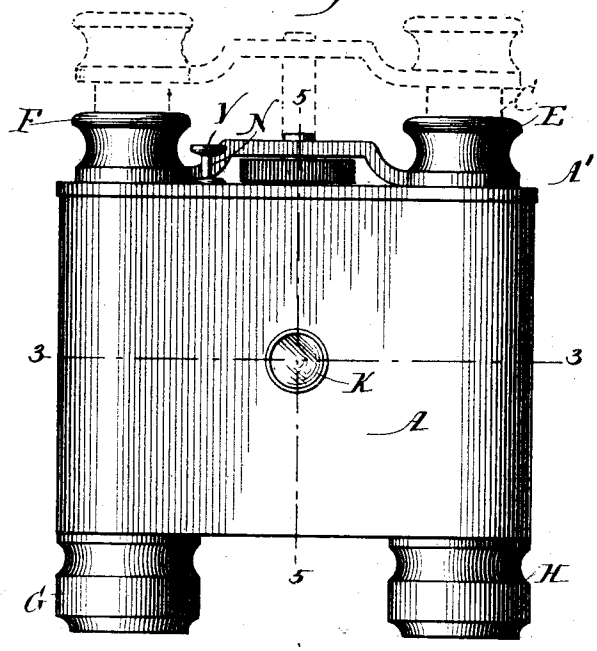


Fig. 2.

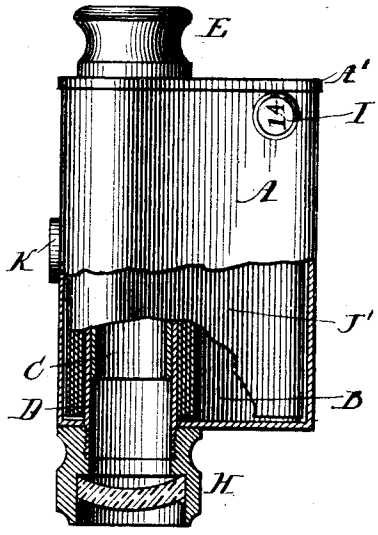


Fig. 3.

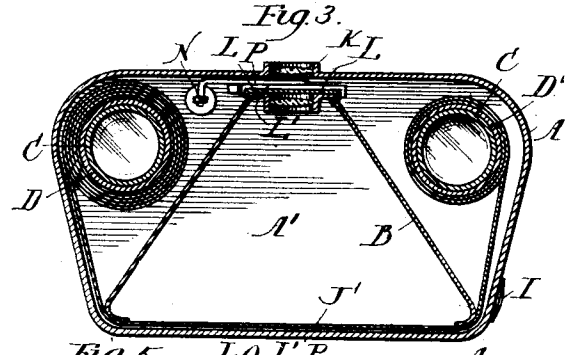


Fig. 4.

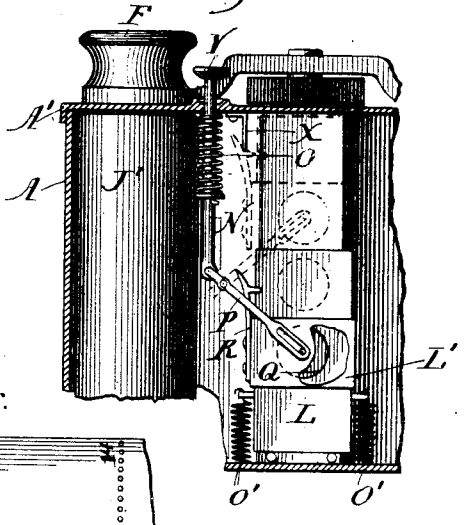


Fig. 5.

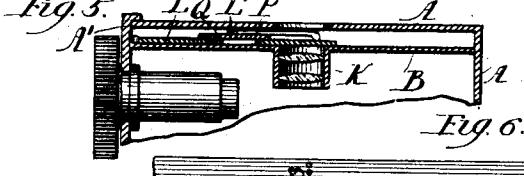
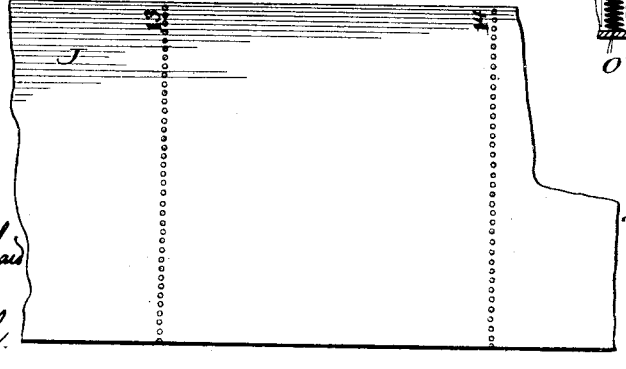


Fig. 6.



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UNITED STATES PATENT OFFICE.

CHARLES WHITNEY, OF CHICAGO, ILLINOIS.

PHOTOGRAPHIC CAMERA.

SPECIFICATION forming part of Letters Patent No. 446,369, dated February 10, 1891.

Application filed August 20, 1889. Serial No. 321,422. (No model.) Patented in Italy April 29, 1890, No. 27,256/333; in Canada July 2, 1890, No. 34,607, and in France July 17, 1890, No. 204,797.

To all whom it may concern:

Be it known that I, CHARLES WHITNEY, a citizen of the United States, residing in the city of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Photographic Cameras, (patented to me in France, No. 204,797, dated July 17, 1890; in Italy, No. 27,256/333, dated April 29, 1890, and in Canada, No. 34,607, dated July 2, 1890,) of which the following is a specification.

This invention relates to photographic cameras in which are provided spools around which the negatives are wound, a frame supporting the negative in position for exposure, a colored glass exposing to view the number on the negative-ribbon, a shutter device, and case with lens and opera-glass attachment.

The object of my invention is to provide an opera-glass with all the necessary appliances for photographing objects, in which I arrange two spools, a V-shaped frame, a shutter, and an examining-glass, and a perforated and numbered ribbon of negative-plates, all to be operated when ready for use by turning one of the object-glass holders and pressing a button. In the arrangement and operation of these parts consists the novelty of my invention. These objects I accomplish in the manner and by the means hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1 is a front view. Fig. 2 is a side view. Fig. 3 is a cross-section of 1 and 2. Fig. 4 is the shutter. Fig. 5 is a section view of the shutter. Fig. 6 is a piece of the negative-ribbon.

To make these devices and their operations understood by those skilled in the art, I will describe the same in detail.

Referring to the drawings, A indicates the case surrounding the telescopic cylinders of an opera-glass, inside of which is contained the V-shaped frame, the negative-ribbon, and the shutter.

A′ is the cover, which is held in place by the knobs F and E and screws.

B is the V-shaped frame, across the open end of which the negative-ribbon is drawn.

C is the inside cylinder, and D and D′ the outside cylinder, of the opera-glass, the outside cylinder serving as a spool around which the negative-ribbon is wound and unwound a sufficient amount for a negative at each operation.

E and F are the knob eyeglass-supports of the opera-glass, made extensible in the usual manner.

G and H are the object-glass supports, which are made fast to the outside cylinders D and D′, which cylinders are free to turn by the glass-supports H and G.

I is the colored-glass peep-hole, through which may be seen the number of the negative that has been exposed.

J is a short strip of the perforated negative-ribbon as it may be numbered and perforated ready for use. The ribbon may be of any suitable material, however. I use and prefer transparent celluloid, and the perforations and numbers are made for ease in separating the plate when ready for developing.

J′ is the negative-ribbon in place for exposure as it is drawn from spool to spool.

K is the lens and may be of any suitable kind.

L is the sliding shutter-plate.

L′ is the cover-plate, which covers the shutter-plate hole on its return.

N is the operating-rod for shutter.

O is the spring for returning the shutter-rod to place after pressure has been applied for an exposure.

P is the lever conveying motion to the shutter-plate when the rod N is operated.

Q is the hole in the shutter-plate, in dotted lines, covered by slide-plate L.

R is the spring-catch, and X is a trip-stop to disengage catch R, thus permitting slide L to fly back by the strain of springs O′ and O′, thus making the exposure.

The drawings herein described represent a full-sized camera and opera-glass combined, and the capacity is from twenty-five to fifty negatives (depending upon the thickness of the ribbon used) of the size of two and a half inches square. Cameras of large size and capacity may be made in this manner by using opera-glasses of larger dimensions or by using the field-glass.

In operating this camera as an opera-glass it may be handled and used in a similar manner as the common glasses in use. In operating it as a camera I take off the end of the case A′, together with the glass-holders G and H and the cylinders D D′, then wind the negative-ribbon around the cylinder marked D′, and connect the end to the other cylinder. In putting back to place the ribbon is carried from D′ to D, across the open end of the V-shaped frame, and drawn tight enough to keep the ribbon straight for the exposure. The friction on the V-shaped frame as the negative-ribbon is passed from one cylinder to the other is sufficient to keep it straight. The end of the case or cover A′ being made secure by screws or any well-known method, the camera is ready for use. I point the lens toward the object that I wish to photograph and press on the button V. This throws the plate L′, together with plate L, up to the point where it is unlatched by coming in contact with trip X. This permits it to slide rapidly back, making the necessary exposure, after which, the pressure on the button being released, cover-plate L′ is thrown back and the latch is caught and hole I is covered, ready to carry forward for another exposure by pressing on the button. Thus it will be seen that all that is required of the operator is to turn the cylinder-spool by the knob G until a fresh plate is brought into place, which may be determined by watching for the number to appear in front of the peep-hole glass and then turn the lens toward the object and press the button, repeating the same for each exposure until the negatives are all used, and then refill.

I have shown in Fig. 3 the shutter working between the camera-lenses, and prefer this method. However, in detail, Fig. 5, I have shown the shutter operating in front of both lenses in the usual manner.

In constructing my opera-glass camera I use hard rubber for the glass-holder knobs and the telescopic cylinder, and for the other parts I use thin brass. However, any well-known material of a suitable nature may be used.

Having thus described my invention, what I claim is—

1. In a camera, the combination of a roll-holder and the outside telescopic cylinders of an opera or field glass, adapted to form spools for supporting and operating negative-plates, substantially as described.

2. In a camera, the combination of opera or field glass cylinders with both the eyeglasses and the object-glasses arranged in proper manner for use as an opera or field glass, the compartment formed by frame B, and the negative-plate compartments formed by case A and frame B, substantially as described.

3. In a camera, the combination of the outside case A, the inside compartment B, of a triangular or V-shaped form, and the two compartments formed by case A and frame B for storing and handling negative-plates, substantially as described.

4. In a camera, the combination of case A, peep-hole I, the V-shaped compartment with a lens in the apex, and the opera or field glass cylinders, substantially as described.

5. In a camera, the shutter-plates L and L′, operated by the rod N and the springs O and O′, the latch P, and trip T, or their equivalents, substantially as described.

6. In a camera, the combination of case A, colored-glass peep-hole I, the consecutively-numbered plates J, and the revolving cylinders D and D′, substantially as described.

7. The combination of the opera-glasses, the negative-ribbon J, lens K, and a shutter, substantially as described.

8. In a camera, the combination, with a lens, of a shutter, a depressible button V, and a connection between the shutter and button, whereby a pressure upon the button causes the shutter both to load and trip, substantially as described.

9. In a camera, the combination of the perforated negative-ribbon, the peep-hole I, case A, and the compartment formed by frame B, substantially as described.

10. In combination with a shutter and a lens, the perforated and numbered transparent negative-ribbon, substantially as described.

11. In a camera, the combination, substantially as described, of the telescopic cylinders with their object-glasses and eyeglasses, the transparent negative-ribbon, the V-shaped frame, and a lens and shutter.

12. The case A, V-shaped frame B, spools C and D, and the examining-glass I.

13. The cover A′, the case A, and the V-shaped frame, in combination with the opera-glasses, substantially as and for the purpose described.

14. In a photographic camera, the V-shaped frame or compartment with the lens at the apex of said frame and the negative-ribbon across the base of said frame with separate compartment or compartments each side of the apex of said frame for storing and handling the negative-ribbon, substantially as and for the purposes described.

15. In a photographic camera, the combination, with the V-shaped frame or compartment, of the case A, which combination makes two light-tight compartments, one inside of the V-shaped frame, through which the exposure is made, and the other at each side of the apex of said frame for holding the rolls of negative-ribbon, substantially as and for the purpose described.

16. The combination, with a pair of opera or field glasses, of a photographic camera, the cylinder of said opera or field glasses providing rolls for the reception of negative-ribbon, substantially as described.

17. In a camera, a sliding shutter adapted

to set or load and trip simultaneously and means for tripping the shutter for making an exposure, in combination with a lens for photographic purposes, substantially as described.

18. A photographic camera, in combination with an opera or field glass with the outside telescopic cylinders affording spools for supporting and operating flexible negative-ribbons, containing the triangular compartment open at its base, having the lens at its apex and storage-compartments each side said apex, and provided with a shutter mechanism actuated to perform all its functions through a single pressure on its spring-controlling rod, substantially as described.

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

CHARLES WHITNEY.

Witnesses:
O. W. BOND,
M. L. PRICE.