No. 641,268. Patented Jan. 16, 1900.

J. J. CHASE.

MAGAZINE CAMERA.

(Application filed Feb. 18, 1899.)

(No Model.) 2 Sheets—Sheet 1.

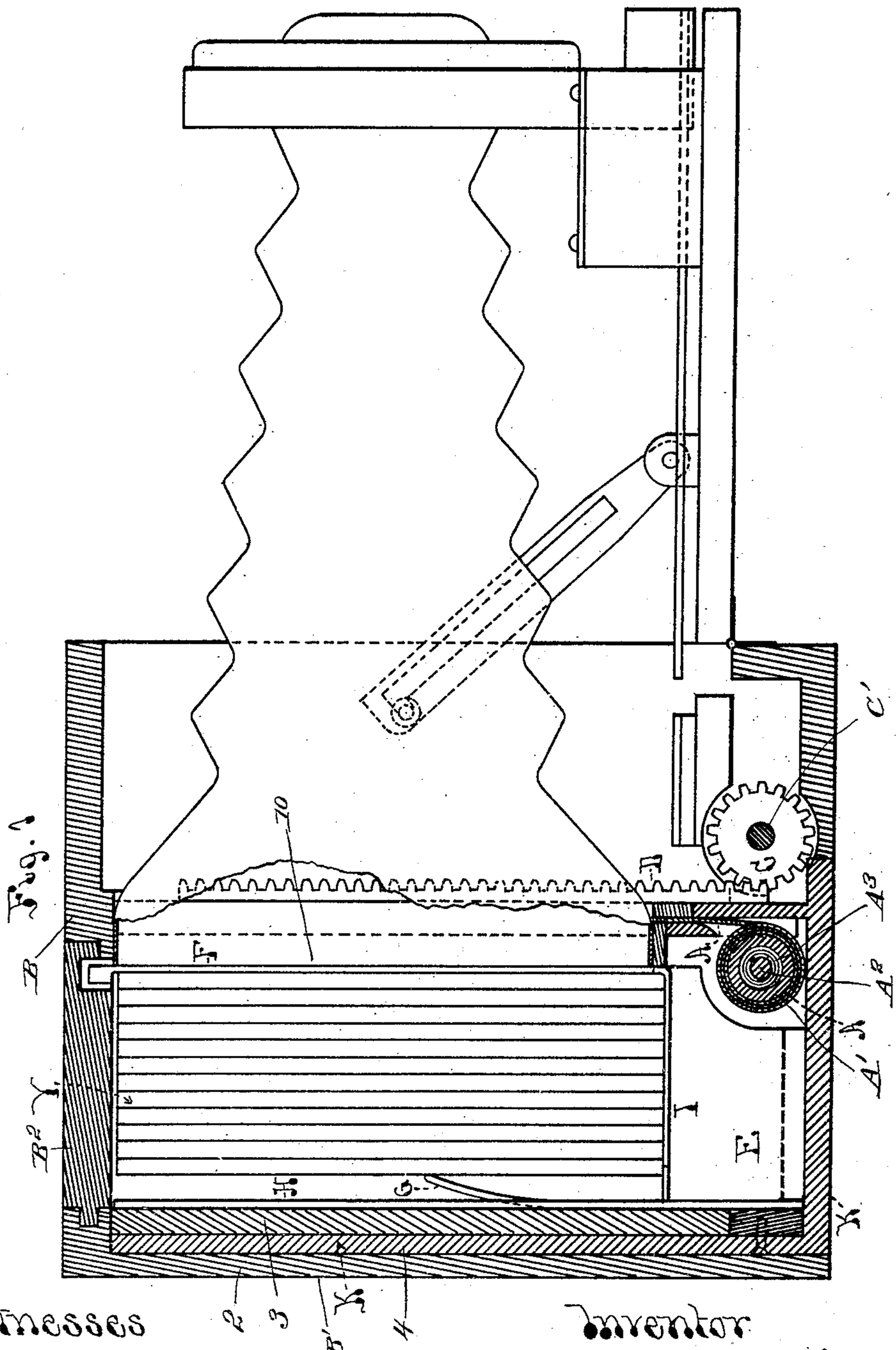

Fig. 1.

Witnesses

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Fig. 2

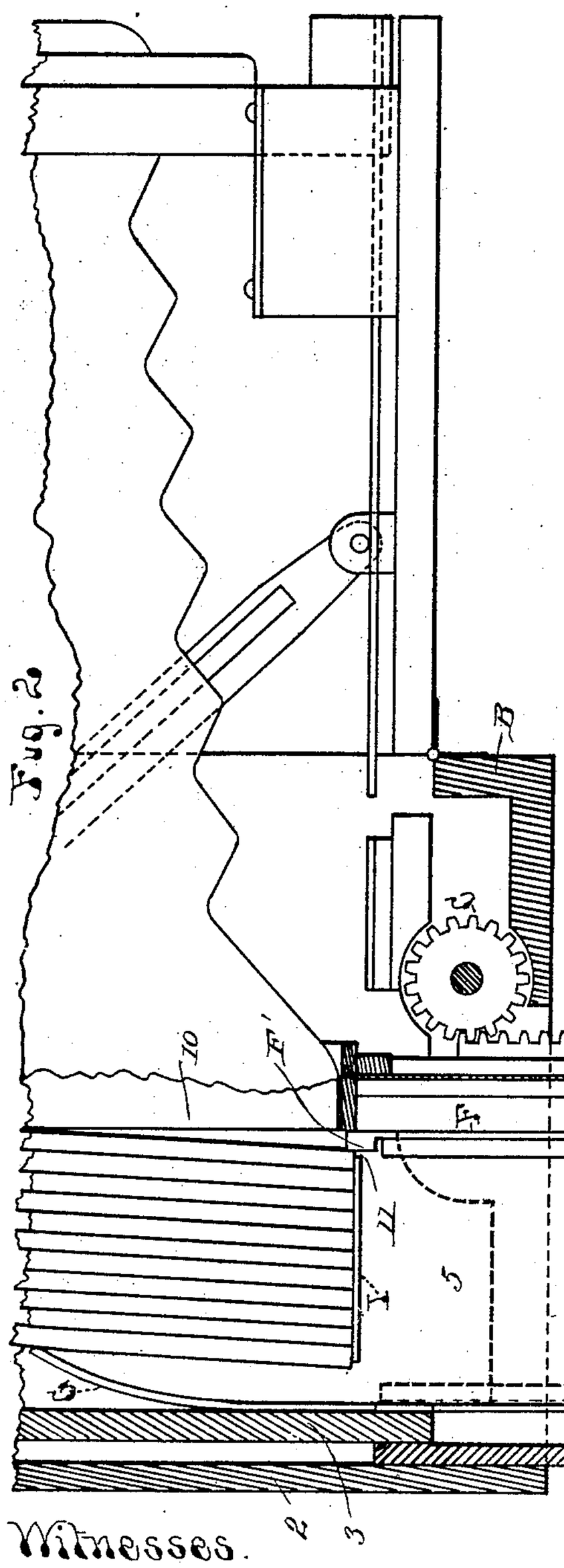
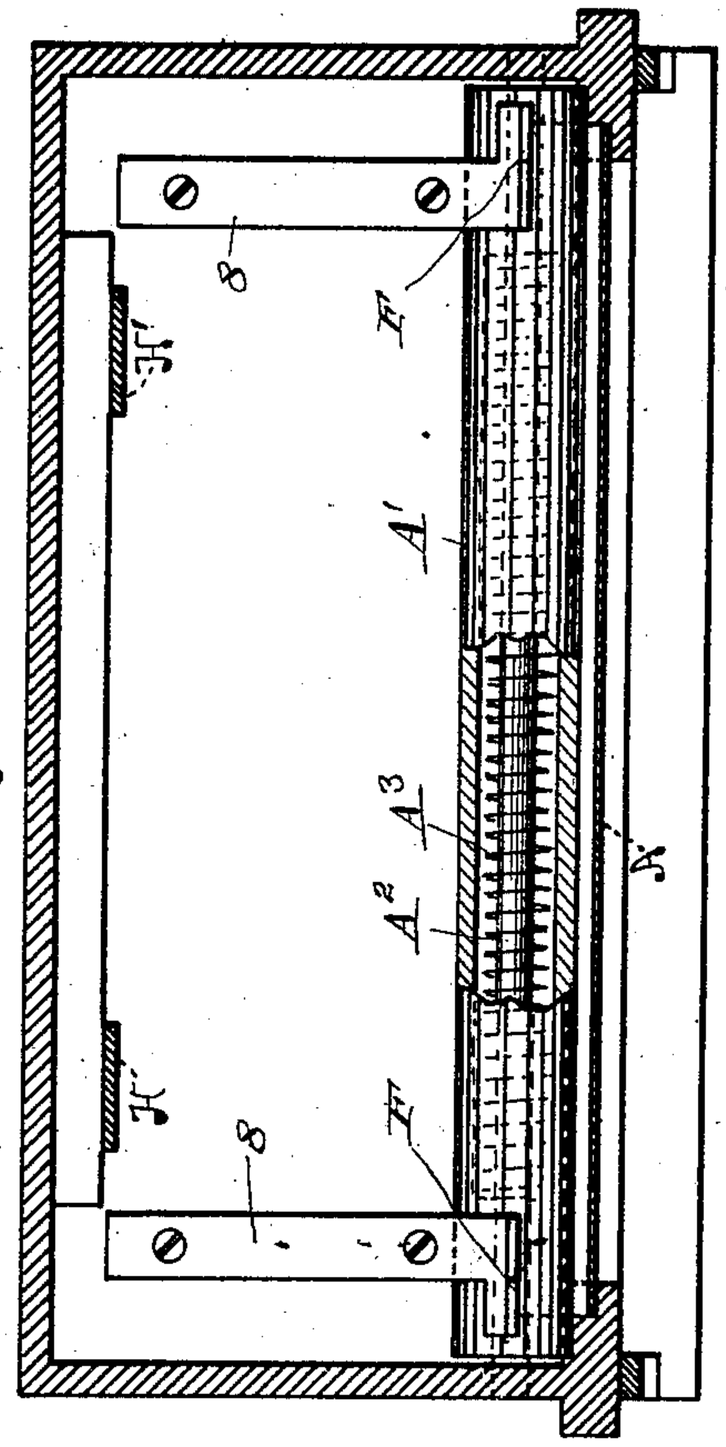


Fig. 3



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UNITED STATES PATENT OFFICE.

JACOB J. CHASE, OF NEWBURYPORT, MASSACHUSETTS.

MAGAZINE-CAMERA.

SPECIFICATION forming part of Letters Patent No. 641,268, dated January 16, 1900.

Application filed February 18, 1899. Serial No. 706,074. (No model.)

To all whom it may concern:

Be it known that I, JACOB J. CHASE, of Newburyport, in the county of Essex and State of Massachusetts, have invented a new and useful Improvement in Photograph-Cameras, of which the following, taken in connection with the accompanying drawings, is a specification.

This invention relates to magazine plate-cameras; and it consists in certain novel features of construction and arrangement therein, substantially as I shall now proceed to describe and claim.

Of the accompanying drawings, Figure 1 represents a vertical sectional view, with parts in elevation, of a magazine-camera embodying my invention, the plate-shifting devices being shown in normal position. Fig. 2 is a similar view, partly broken away, showing the drawer extended. Fig. 3 represents a section on the line *z z* of Fig. 2.

The same reference characters indicate the same parts in all the views.

Referring to the drawings, B designates the body of the camera, the front of which may be of any well-known or preferred form. The rear part of the camera-body B is constructed as a box B′ for holding the plates and containing the plate-shifting mechanism. The plates Y are placed in the camera in a stack of a convenient number—say twelve—and are, when properly positioned, supported on ledges I, fixed to the sides of the box B′. The plates are pressed forward by leaf-springs G at the back of the box B′, so that the side edges of the foremost plate normally bring up against upright strips or shoulders 10 at the sides of the box, said plate being then in position for exposure.

At the front and back ends of the ledges I are spaces or ways 11 12, each sufficiently wide to admit of the passage of one plate, so that the foremost plate may be withdrawn from the front of the stack and replaced at the back thereof by the act of withdrawing and returning the drawer. Said drawer is represented by the letter K and is mounted to slide into and out of the box B′ from the bottom thereof. I provide a novel and light-proof construction at this point by constructing the box B′ with double walls at the back and sides and fitting the back and side walls of the drawer K to slide in the spaces in said double walls. As shown in the drawings, the rear wall of the box is composed of the two thicknesses 2 3, separated by a space, in which the rear wall 4 of the drawer is snugly fitted. In like manner the side walls of the box are each composed of two separated portions 5 6, between which the side walls 7 of the drawer are fitted to slide. Access of light to the interior of the box B′ or the drawer K is thereby effectually prevented by reason of the well-known inability of light to turn corners.

For the purpose of operating the movable drawer K, I may provide the same with vertical racks D, engaged by pinions C, fixed to a cross-shaft C′, which is journaled in the camera-body and operated by a suitable thumb-piece (not shown) on its outer end. By turning the shaft C′ the racks D are propelled and the drawer K moved into or out of the box B′. I do not, however, confine myself to the use of the rack and pinion for operating the drawer, as other means may obviously be employed to accomplish the same purpose.

Inside the drawer K are mounted two thin vertical rods or strips F, which have horizontal extensions 8, bent at right angles to their main portions and screwed to supports E on the bottom of the drawer, said rods being provided at their upper ends with hooks or abutments E′, beneath which the upper edge of the foremost plate in the stack Y is normally positioned, as shown in Fig. 1. The rods F are located at the sides of the drawer, so as not to cover the faces of the plates. When the drawer K is withdrawn, the rods F slide the foremost plate from the stack Y and carry it down with the drawer.

A represents an opaque protective curtain composed of a suitable flexible material—such as leather, oil-cloth, or the like—and attached at its upper end to a suitable cross-support in the lower end of the camera-body, while its lower end is attached to the periphery of a spring-roller A′, mounted in the drawer K. The side edges of the curtain A are fitted into grooved guides J at the sides of the drawer, and the whole construction is made suitably light-proof, so that as the drawer K is withdrawn from the box B′ the curtain will unroll and cover the open front of said drawer, so

as to effectually prevent the access of light to the interior of the drawer. The spring-roller A′ may be similar in structure to an ordinary shade-roller, having, as illustrated in the drawings, an internal shaft A^2, fixed at its ends to the drawer-body and surrounded inside the roller by a spring A^3, which is attached at one end to the roller and at the other end to the shaft. The spring is under a tension which normally tends to roll the curtain up, so that as the drawer K is withdrawn the curtain will unwind, turning the roller against the tension of its spring, and then when the drawer is returned said curtain will automatically wind up on the roller.

The operation of my improved camera will be readily understood from the foregoing description. The position of its parts during exposure is shown in Fig. 1, wherein it will be observed that the drawer K is closed up into the box B′, the horizontal strips 8 8 being then flush with the ledges I. After the exposure of the foremost plate in the stack Y the camera is tilted backwardly and the drawer K is withdrawn to the position shown in Fig. 2. This manipulation causes the foremost plate (represented by the letter Y′) to be carried down with the drawer, its lower edge resting on the horizontal supports 8 8, and as soon as said plate is clear of the stack it falls to the back of the drawer, its position then being represented in broken lines at Y^2. The remaining plates in the stack have meanwhile been forced forward at a slight slant by the springs G, the upper ends of the hooks F′ remaining between the stack and the abutting strips 10. The drawer K is then returned and the transferred plate is carried up between the springs G and the rear of the stack and restored at the back of the stack. This operation is repeated after the exposure of each plate until all of the plates have been exposed, after which the plates are withdrawn through an opening in the box B′, provided with a cover B^2, and a fresh supply inserted.

I claim—

1. In a device of the character specified, the combination with the body of the camera, of a box forming a part thereof, means in said box for supporting a stack of plates, yielding means therein for holding the plates closely grouped, a drawer mounted to slide into and out of said box and having an open front, said drawer acting, when withdrawn, as a receptacle in which the exposed plate is transferred, a flexible opaque curtain, and means for automatically drawing said curtain over the front of the drawer as the latter is withdrawn, to shield the exposed plate during transfer.

2. In a device of the character specified, the combination of a box and a drawer adapted to be slid into and out of said box and having an open front, means in one of said members for supporting a stack of plates, the other member acting as a receptacle for the transfer of the exposed plate when the drawer is withdrawn, a spring-roller mounted in one of said members, and an opaque curtain attached at one end to said roller and at the other end to the other member, said curtain automatically unrolling and covering the front of the drawer when the latter is withdrawn and automatically rolling up when the drawer is returned.

3. In a device of the character specified, the combination with the body of the camera, of a box forming a part thereof, means in said box for supporting a stack of plates, a drawer mounted to slide into and out of said box and having an open front, said drawer acting, when withdrawn, as a receptacle in which the exposed plate is transferred, a spring-roller carried by the drawer, and an opaque curtain fastened at one end to said roller and at the other end to the box, and adapted to cover the front of the drawer when the latter is withdrawn.

4. In a device of the character specified, the combination of a box having a double wall, a drawer mounted to slide into and out of said box, and having a wall fitted and adapted to slide in the space between the portions of said double wall, means in one of the members for supporting a stack of plates, the other member acting, when the drawer is withdrawn, as a receptacle in which the exposed plate is transferred, and a flexible opaque curtain acting as a shield during the transfer of the exposed plate.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 10th day of February, A. D. 1899.

JACOB J. CHASE.

Witnesses:
JOSEPH P. S. KELLEHER,
NATHANIEL N. JONES.