

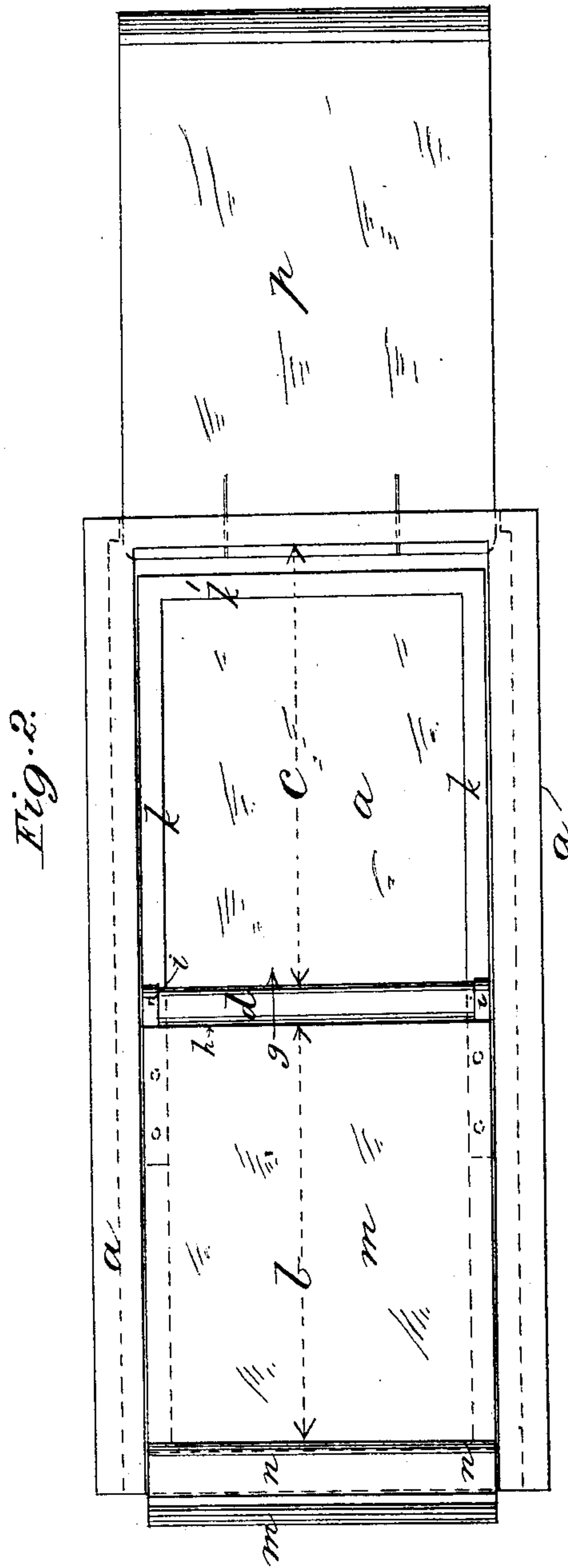
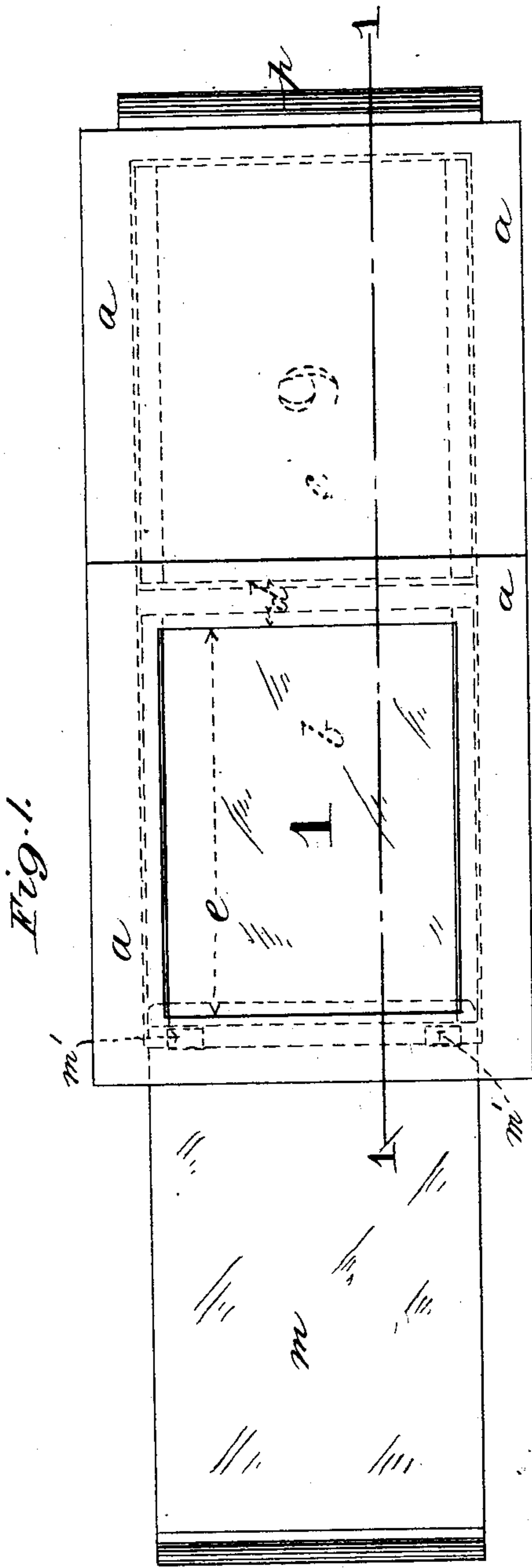
(No Model.)

2 Sheets—Sheet 1.

P. CHOUTEAU.
HOLDER FOR PHOTOGRAPHIC PLATES.

No. 424,857.

Patented Apr. 1, 1890.



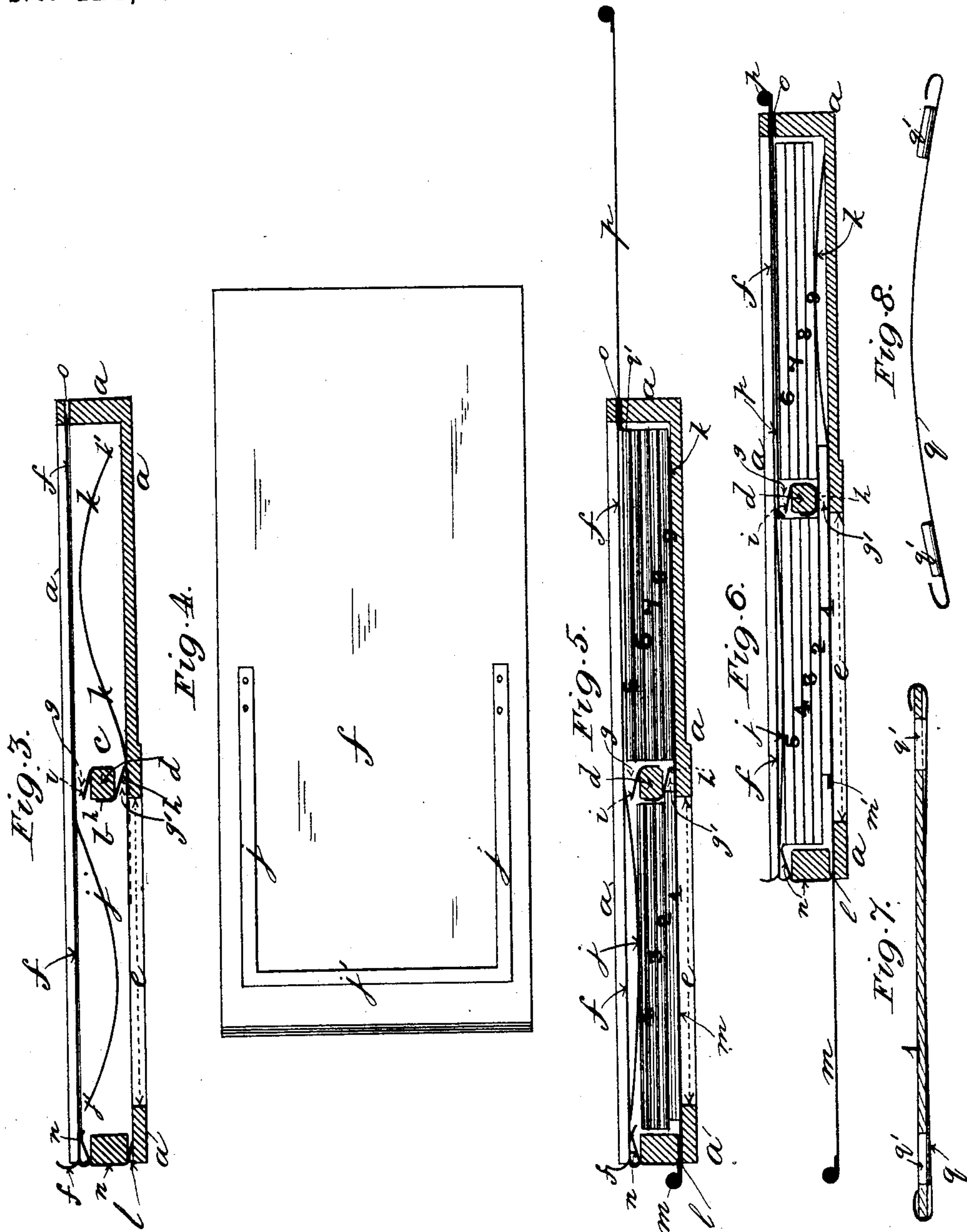
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UNITED STATES PATENT OFFICE.

PIERRE CHOUTEAU, OF ST. LOUIS, MISSOURI.

HOLDER FOR PHOTOGRAPHIC PLATES.

SPECIFICATION forming part of Letters Patent No. 424,857, dated April 1, 1890.

Application filed April 9, 1889. Serial No. 306,539. (No model.)

To all whom it may concern:

Be it known that I, PIERRE CHOUTEAU, a citizen of the United States, residing at the city of St. Louis, State of Missouri, have invented certain new and useful Improvements in Holders for Photographic Plates, of which the following is a full, clear, and exact description.

My invention relates to improved means for holding the sensitized plates used in photography, and has for its object to enable a series of plates to be carried by one holder and exposed consecutively without shifting the latter.

It consists in a specially-constructed holder combined with slides and springs, whereby the sensitized plates are removed from the exposure-aperture and brought opposite thereto consecutively until the entire series of plates is exhausted.

On the accompanying drawings, Figure 1 represents a front elevation of my improved holder with one of the sensitized plates in position for exposure; Fig. 2, a rear elevation thereof with the plates and cover omitted; Fig. 3, a longitudinal section on line 1 1 in Fig. 1, omitting the plates and slides; Fig. 4, a detached inside view of the rear cover; Fig. 5, a similar view to Fig. 3 with the plates and slides in position preparatory to using the apparatus for exposure; Fig. 6, a similar view to Fig. 5, showing the position of plates and slides after an exposure; Fig. 7, a right-hand end view of a sensitized plate and its carrier, and Fig. 8 a like view of the carrier after removal of the plate.

Like letters and figures of reference denote like parts in all the figures.

a represents a rectangular or other shaped box or holder, which is divided into two compartments *b* and *c* by a bar *d*, extending between the sides of the holder *a*. Opening from the compartment *b* through the front of the holder *a* is the exposure-aperture *e*, while at the back of the holder *a* is fitted, preferably, a metal cover *f*, which slides longitudinally in slots at the sides of the holder *a* for obtaining access to the compartments *b* *c*.

In front and behind the division-bar *d* for the entire width of the holder *a* are communicating spaces *g* *g'*, respectively, between the compartments *b* and *c*. To the side of the bar *d* adjacent to the compartment *b* is

fixed a flat spring *h*, which extends across the communicating space *g'* for the entire length of the bar *d*, the free edge of the spring *h* normally bearing against the front of the holder *a*, while to the side of the bar *d* adjacent to the compartment *c* are fixed flat springs *i*, of suitable width, which extend across the communicating space *g* and normally incline at their free ends toward the cover *f*. To the inside of the cover *f* adjacent to the bar *d* when the cover *f* is closed are fixed flat springs *j*, which extend across the compartment *b* and normally assume a convex form toward the exposure-aperture *e*, the free ends of the springs *j*, which are preferably united by a bar *j'*, Fig. 4, being in contact or juxtaposition with the inside of the cover *f*.

To the front of the holder *a* adjacent to the bar *d* are fixed springs *k* *k'*, which are similar to *j* *j'* and extend across the compartment *c* convexly toward the cover *f*, their free ends being directed toward the front of the holder *a*.

Through the end of the holder *a* adjacent to the compartment *b* and on a level with the inside of the exposure-aperture *e* is a slot *l*, through which passes the front slide *m* for controlling the exposure-aperture *e* in the usual manner, and to the same end of the holder *a* for the entire width of the compartment *b* is fixed a spring *n*, which normally presses at its rear and front free edges, respectively, against the inside of the cover *f* and front of the holder *a*, (or slide *m*, as the case may be.) Through the opposite end of the holder *a* immediately beneath the cover *f* is a slot *o* for receiving a slide *p*.

Each sensitized plate 1 to 9, as seen particularly in Figs. 7 and 8, is carried by a preferably metal spring backing or frame *q*, which tends to assume a curved form transversely and is turned over hookwise along its side edges toward the convex surface, so that when a sensitized plate 1 is inserted longitudinally between the hooked edges of the backing *q* the convexity of the latter is flattened somewhat by the straight surface of the plate 1 and leaves the other side of the backing *q* slightly concave transversely, so that when the plates 1 to 9, with their carriers, are placed one against the other contact is prevented between the backing *q* of one plate and the

glass of the succeeding plate. From one end of the backing *q* project at right angles ears or catches *q'*, which protect the edge of the plate 1 from the butting end of the slide *p*, as hereinafter more particularly referred to.

In operation, the cover *f* and slide *p* being withdrawn, sensitized plates 1 2 3 4 and their carriers *q* are placed one against the other within the compartment *b*, with their faces toward the exposure-aperture *e* and in regular order therefrom, a second series of plates 5 6 7 8 9 being similarly placed in reverse order within the compartment *c*, so as to compress or flatten the springs *k k'* against the front of the holder *a*. The slide *p* and cover *f* are then closed over the compartments *b c*, and in so doing the springs *j j'* of the cover *f* ride over and are flattened somewhat by the backing *q* of the adjacent plate 4 within the compartment *b*, as seen in Fig. 5, the spring *n* at the end of the holder *a* meanwhile excluding light from the holder *a*. When desired to use the plates for exposure, the slide *p* is first sufficiently withdrawn, when the flattened springs *k k'*, pressing upon the adjacent plate 9 within the compartment *c*, force the series of plates 9, 8, 7, 6, and 5 toward the cover *f*, so that on pushing in the slide *p* its forward end, which is especially shaped for the purpose, bears against the ears *q'* on the backing *q* of the plate 5 and pushes the latter from plate 6 through the communicating space *g* into the compartment *b* between plate 4 therein and the springs *j j'*, (see Fig. 6,) which are consequently further flattened, the springs *k k'* meanwhile forcing the plates 9, 8, 7, and 6 toward the cover *f* and leaving a corresponding space between plate 9 and the front of the holder *a*. The holder *a* being then adjusted to the camera and the slide *m* withdrawn, plate 1 is exposed in the usual manner and then pushed by the projections *m'* on the back of the slide *m*, as shown in Fig. 6, from the compartment *b*, through the communicating space *g*, into the space in the compartment *c* between the front of the holder *a* and plate 9, thereby enabling the springs *j j'* to force the plates 2, 3, 4, and 5 toward the front of the holder *a*, so that plate 2 now occupies the place of plate 1 over the aperture *e*, ready for a fresh exposure, the same operation being repeated until the entire series of plates 1 to 9 have been consecutively brought to and removed from the aperture *e*. Meanwhile during the passage of a plate from the compartment *b* into the compartment *c* the spring *h* across the communicating space *g'* rides over the plate and excludes the light. For closing the slide *m* when the last plate 9 has been exposed, without shifting the latter, the edge of the carrier of plate 9, which otherwise would be pushed by the catches *m'* of the slide *m*, is rounded thereat, so that the catches *m'* will ride over plate 9 without affecting it, and thereby indicate that the last plate of the series has been exposed.

I claim as my invention—

1. A photographic-plate holder having two compartments which communicate at front and rear, one of said compartments having an exposure-aperture, plate-springs placed on opposite sides in the different compartments, and a combined exposure and transfer slide, substantially as and for the purposes described.

2. A photographic-plate holder having two compartments communicating at front and rear, one of said compartments having the usual exposure-aperture, plate-springs placed on opposite sides in the different compartments, springs for closing said communications at front and rear to prevent the return of the plate after being transferred, and a combined exposure and transfer slide, substantially as and for the purposes described.

3. In a holder for photographic plates, the combination of two compartments communicating with each other by a front and rear space, one of said compartments having the usual exposure-aperture and slide, a spring or springs fixed to the front of the other compartment and to the inside of the cover, a spring located along the front communicating space between the compartments, and a spring at the end of the holder, with a slide, substantially as shown, and for the purpose described.

4. A photographic-plate holder having two compartments communicating at front and rear, one of said compartments having the usual exposure-aperture, plate-springs placed on the opposite sides of the different compartments, a combined exposure and transfer slide, a transfer-slide for the opposite compartment, and a rear cover-slide for both compartments, whereby the rear of the two compartments may be opened for refilling, substantially as and for the purposes described.

5. In a photographic-plate holder having two compartments which communicate, one of said compartments having an exposure-aperture, a spring-tongue which closes said communication to exclude the light, said tongue arranged to open away from the exposure-aperture to prevent the plate from returning after being transferred, substantially as and for the purposes described.

6. A frame for holding photographic plates, consisting of a spring-backing having its side edges turned over to hold the plate therein and provided at one of its end edges with short ears at right angles to the backing, substantially as and for the purposes described.

In testimony whereof I affix my signature, in presence of two witnesses, this 1st day of April, 1889.

PIERRE CHOUTEAU.

Witnesses:

D. BOOTHE,
ALF. S. DU FOSSAL.