

(No Model.)

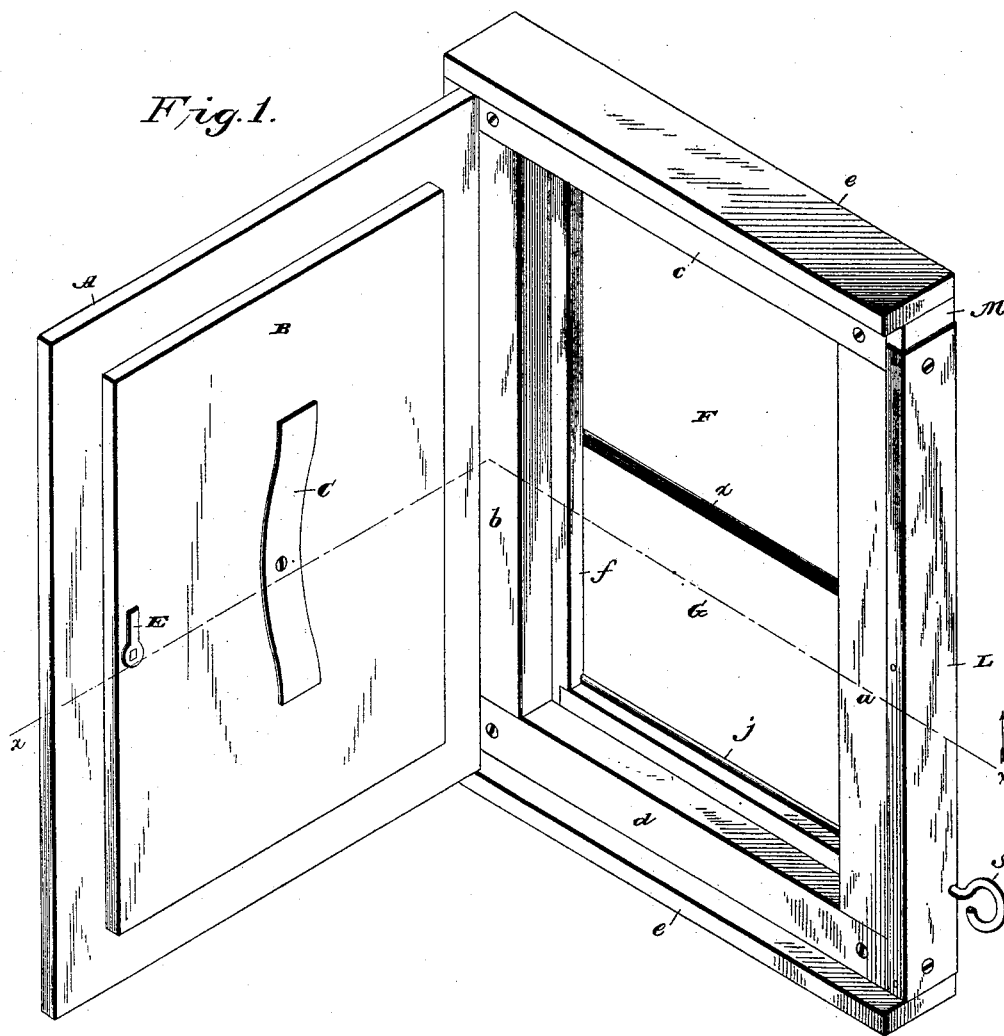
2 Sheets—Sheet 1.

J. M. RHODES.

COMBINED PLATE HOLDER AND PRINTING FRAME.

No. 418,064.

Patented Dec. 24, 1889.



Joseph M. Rhodes.

Inventor

Witnesses

L. S. Elliott.
W. Johnson

By his Attorneys

[Signature]

(No Model.)

2 Sheets—Sheet 2.

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Fig. 2.

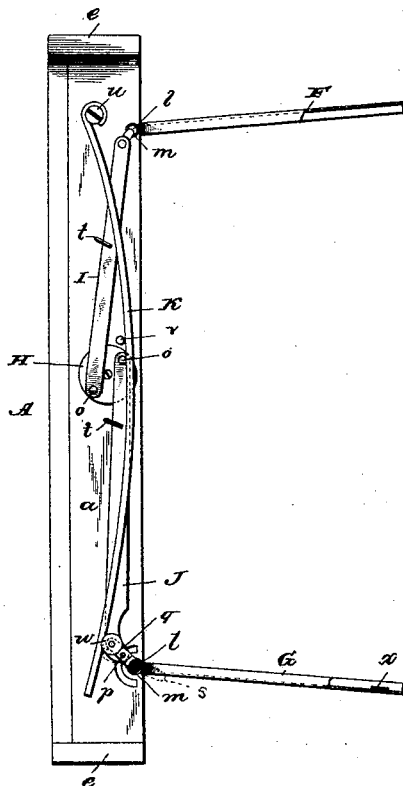
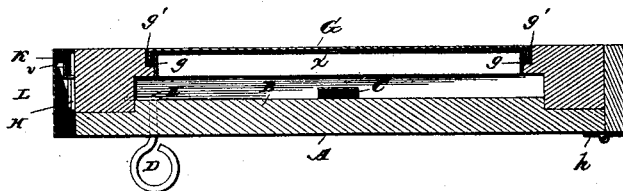


Fig. 3.



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UNITED STATES PATENT OFFICE.

JOSEPH M. RHODES, OF COVINGTON, INDIANA, ASSIGNOR TO SUSAN S. RHODES, OF SAME PLACE.

COMBINED PLATE-HOLDER AND PRINTING-FRAME.

SPECIFICATION forming part of Letters Patent No. 418,064, dated December 24, 1889.

Application filed June 20, 1889. Serial No. 314,925. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH M. RHODES, a citizen of the United States of America, residing at Covington, in the county of Fountain and State of Indiana, have invented certain new and useful Improvements in a Combined Plate-Holder and Printing-Frame; 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention has reference to a combined plate-holder and printing-frame for photographic purposes; and it consists in the improved construction hereinafter described and set forth, whereby a simple and efficient arrangement is provided that will be of convenience and greatly assist in photographic operations.

In the accompanying drawings, forming part of this specification, Figure 1 is a perspective view of my improvement, looking from the rear, the back being opened. Fig. 2 is a side view, the front shutters being opened and the housing containing the operating devices being removed; and Fig. 3 is a section on line *x x*, Fig. 1, the rear door being closed.

The main portion of the device consists of the rectangular frame comprising the sides *a b* and top and bottom *c d*. The top and bottom *c d* and side *b* have secured to them flat strips *e*. On the inner faces of the sides *a b*, and near the front thereof, are secured vertical strips *f*, to which are secured narrow metal plates *g*, which project beyond the strips *f* at the front to form vertical channels or recesses *g'*. A swinging back *A* is hung by hinges *h* to the rear projecting portion of the strip *e* secured to side *b*. The said back *A* is adapted to close against the rear faces of the frame, so as to be flush with the rear projecting portions of the strips *e*. The inner face of the back carries a square projecting portion *B*, which, when the back is closed, fits snugly within the rear part of the frame. A curved leaf-spring *C* is pivotally secured and de-

signed to exert a yielding pressure against the contents of the frame.

A pin *D* bears in the back near the free edge thereof, and is looped on its outer end to form an operating-handle. A catch *E* is secured to the inner end of the pin *D*, and is adapted to be turned to engage a recess therefor in the inner face of the side *a* to lock the door in a closed position.

The front of the frame is designed to be closed by two shutter-sections *F G*, of sheet metal and, respectively, having their bottom and top edge bent to form a horizontal bearing *j k*, through each of which passes a transverse rod *l*, which is connected to said bearing. The front face of the sides *a b* is transversely channeled to snugly receive the end portions of the rods *l*, which are retained therein by means of independent metal loops *m*. Centrally on the side *a* is pivotally mounted a disk *H*, which carries two diametrically-located wrist-pins *o*, each pivotally engaging one end of a pair of oppositely-extending vertical pitman-bars *I J*, the former being connected at its upper end to the crank end of the upper rod projecting beyond the side *a*, while the bar *J* is connected at its lower end to a lug *p*, located on the inner side of an arm *q*, integrally projecting from the extended end of the lower rod *l*. The balance of said extended end is looped to form an operating-handle *s*. Hook-shaped wires *t* serve to prevent the bars *I J* from becoming disengaged from the several pins and projections. A spring *K* is secured at its upper end to a bolt or screw *u*, is centrally fulcrumed against a projecting pin *v*, and has its lower free portion bearing against the grooved periphery of a roller *w*, journaled on the side of the arm *q*. Both shutter-sections are very thin and the free edge portion of the lower folds upon that of the upper. A strip *x* of fabric is located transversely upon the inner face of the lower shutter adjacent to the point where the edge of the upper section is located when the shutters are closed, and serves to exclude light from passing between the lapped edges of said sections.

A metal section *L* is bent at its sides and closed at its ends by means of blocks *M* to

form a vertical housing adapted to be secured to the side *a* and protect the shutter-operating parts.

5 The entire device is painted black to reflect light-rays.

10 In use, if it is desired to employ the device as a plate-holder for cameras, it will only be necessary to adjust the plate from the back of the frame while the shutters are closed and the door fastened. Then by operating the devices to open the shutters the desired effect can be produced, thus dispensing with the usual slide on the camera-tube. The form of the back, its spring, and the aid of a glass plate permit the device to be used as a printing-frame when the shutters are open. The turning of the handle *s* moves the lower shutter to a horizontal position, and simultaneously through the agency of the pitman-bars and disk causes a like movement upon the part of the upper shutter. The free end of the spring *K* is adapted to bear against the pulley *w* at either side of the pivotal center of the lower rod *l*, and thus lock the parts in either an open or closed position. Moreover, the pressure exerted by the spring serves to throw the parts into position whenever the arm carrying the roller is moved past its dead-center.

30 I claim—

1. The combination, with the frame, of upper and lower transverse rods located above and below the front opening of the frame, upper and lower shutters rigidly connected to said rods and adapted to overlap at their ad-

jacent edge portions, operating devices located on one of the vertical side faces of the frame and connected to operate said shutters in unison, and a rear door hinged by one of its vertical edges to one side of the frame and provided centrally at its inner side with a centrally-secured bent leaf-spring, substantially as set forth.

2. The combination, with the frame, of the upper and lower shutters hung as described, and having their edges lapped, and the horizontal strip of fabric secured on the inner side of the lower section, substantially as set forth.

3. The combination, with the frame, of the upper and lower shutters hung rigidly upon rods *l*, the upper rod having a crank end and the lower one an operating portion provided with an arm, a central disk, and vertical pitman-bars connecting said rod ends and disk, substantially as set forth.

4. The combination, with the frame, of the upper and lower shutters hung upon rods *l*, the upper rod having a crank end and the lower one having an operating portion provided with an arm carrying a roller, pitman-bars connecting said rod ends to a central disk, and a spring bearing against said roller, substantially as set forth.

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

JOSEPH M. RHODES.

Witnesses:

MARCEY MARTIN,
JOHN B. MARTIN.