

(No Model.)

S. S. BENSTER.

PHOTOGRAPH CAMERA PLATE HOLDER.

No. 308,946.

Patented Dec. 9, 1884.

*Fig. 1.*

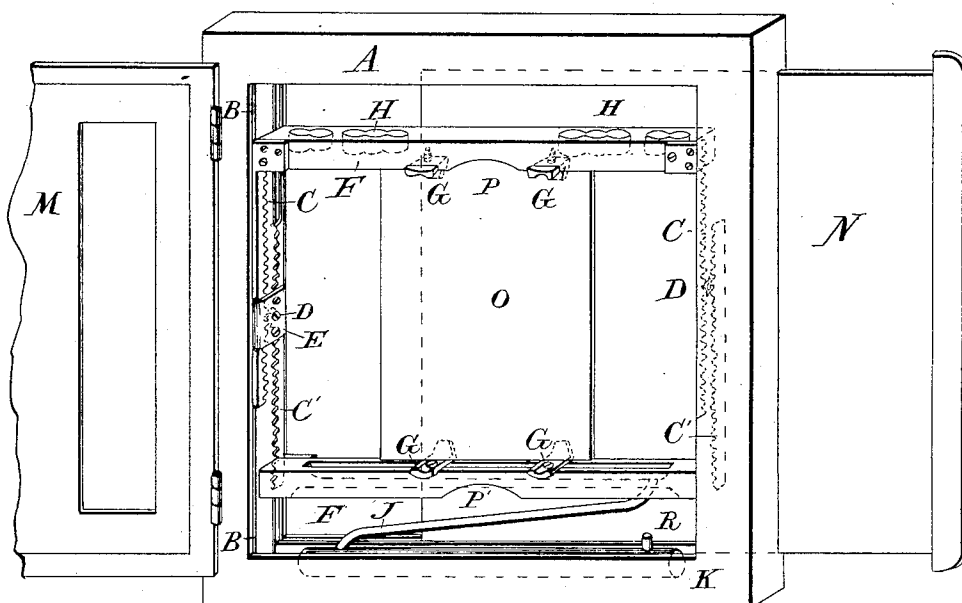


*Fig. 2.*

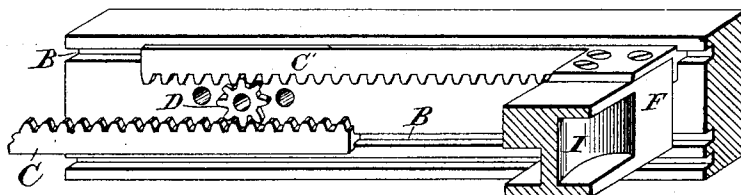
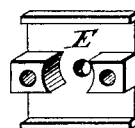


*Fig. 3.*



Witnesses:  
S. B. Sessions  
W. E. McKechnie

Inventor.  
Solomon Sylvester Benster  
S. S. Benster  
at

# UNITED STATES PATENT OFFICE.

SOLOMON SYLVESTER BENSTER, OF TOLEDO, OHIO.

## PHOTOGRAPH CAMERA-PLATE HOLDER.

SPECIFICATION forming part of Letters Patent No. 308,946, dated December 9, 1884.

Application filed April 19, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, SOLOMON SYLVESTER BENSTER, a citizen of the United States, residing in Toledo, in the county of Lucas, State of Ohio, have invented a new and useful Photograph Camera-Plate Holder, of which the following is a specification.

My invention relates to improvements in camera-plate holders; and the objects of my invention are, first, to provide a perfectly convenient, rapid, and reliable self centrally-adjusting plate-holder; and, second, to provide for the more perfect and rapid adjustment or coinciding placement of straight, curved, or warped sensitized plates with the focus of the lens; and, third, to provide a convenient and complete silver-saver adapted to this combination. I attain these objects by mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a front view of my improved plate-holder; Fig. 2, a view in perspective of the racks and pinion, and Fig. 3 of the guide-plate.

Similar letters refer to similar parts throughout the drawings.

A is the frame, and it is provided with four straight parallel grooves, B B B B, two on the right and two on the left inner sides, and running from the top to the bottom of the frame. In these grooves operate slide-racks C C C C' in gear with pinions D D', which revolve on stationary pins in the center of the right and left inner sides of the frame. The inner sides of these pinions are covered by caps or guide-plates E E, which serve as guides to the inner sides of the racks, and also to support the inner end of the pins on which said pinions revolve. The racks C C are secured at their top ends to the plate-bar F and carry the same, and the racks C' C' are secured at their lower ends to the plate-bar F', and carry it similarly to the plate-bar F above, excepting always in opposite directions. In the bar F, about one inch each side its mid-length, on its under side, is formed a dovetailed groove, which runs crosswise the bar. The upper side of the bar F' is similarly grooved or dovetailed. Each of these dovetails is occupied by a correspondingly-dovetailed rubber key or stop, G G G G. The back end of these keys or stops has a

head or shoulder turned at right angles with the key which points on the upper bar downward and on the lower bar upward. These key-heads are adjustable, and when once adjusted to the focus of the lens serve as a ready and perfect guide or limit to the placement of the sensitized plate O to the exact focus of the lens, and the nearness of these rubber stops to the centers of the plate-bars insures the coincidence of curved or warped and also straight sensitized plate with said focus.

The hand-places P P' are for the convenience of taking hold of sensitized plate at the upper plate-bar, and in the lower plate-bar for the convenience of taking hold of the bar itself when in its lowest position.

In the upper side of the bar F' is a dripping groove or channel, I, parallel with and directly under the sensitized plate O. The bottom of this channel drops a little toward the right, to insure the running of the silver in that direction, and when it reaches a point opposite the upper end of the tube J it passes downward through the bar and connects with said rubber tube J. This tube passes downward to the left diagonally and connects with the left end of the rubber saving-vault K, which lies in a groove cut in the upper side of the lower rail of the frame. In the upper right end of the saving-vault K is a short rubber pipe or spout for the emptying of said vault when it becomes full, without disturbing the setting of the plate-holder or its combinations in so doing.

M is a hinged door for excluding light from the front side of the plate-holder, and N a dark slide for shutting off light from back side of said holder.

In the upper side of the plate-bar F are cut grooves or pockets, which are filled with lead or other heavy substances which serve the double purpose of counterbalancing the weight of the sensitized plate and of holding such plate more firmly between the keys or stops.

Having thus described my invention, the following is what I claim as my invention, and desire to secure by Letters Patent, to wit:

1. The combination, in a photograph camera-plate holder, of the frame having parallel grooves in the inner faces of the sides of said frame, racks having a reciprocating motion in said grooves, and pinions engaging with

said racks, whereby a simultaneous reciprocating movement of said racks is obtained in opposite directions, and the horizontal bars, secured to said racks, the parts being constructed, arranged, and operating substantially as and for the purposes described.

2. The combination, in a plate-holder, of the horizontal bars secured to vertical racks, which are provided with means, substantially as described, for giving such racks a simul-

taneous reciprocating movement in opposite directions, such horizontal bars being provided with adjustable rubber keys or stops, which have heads or shoulders, the parts being constructed, arranged, and operating substantially as and for the purposes specified.

SOLOMON SYLVESTER BENSTER.

Witnesses:

W. E. McKECKNIE,

IRA B. SESSIONS.