

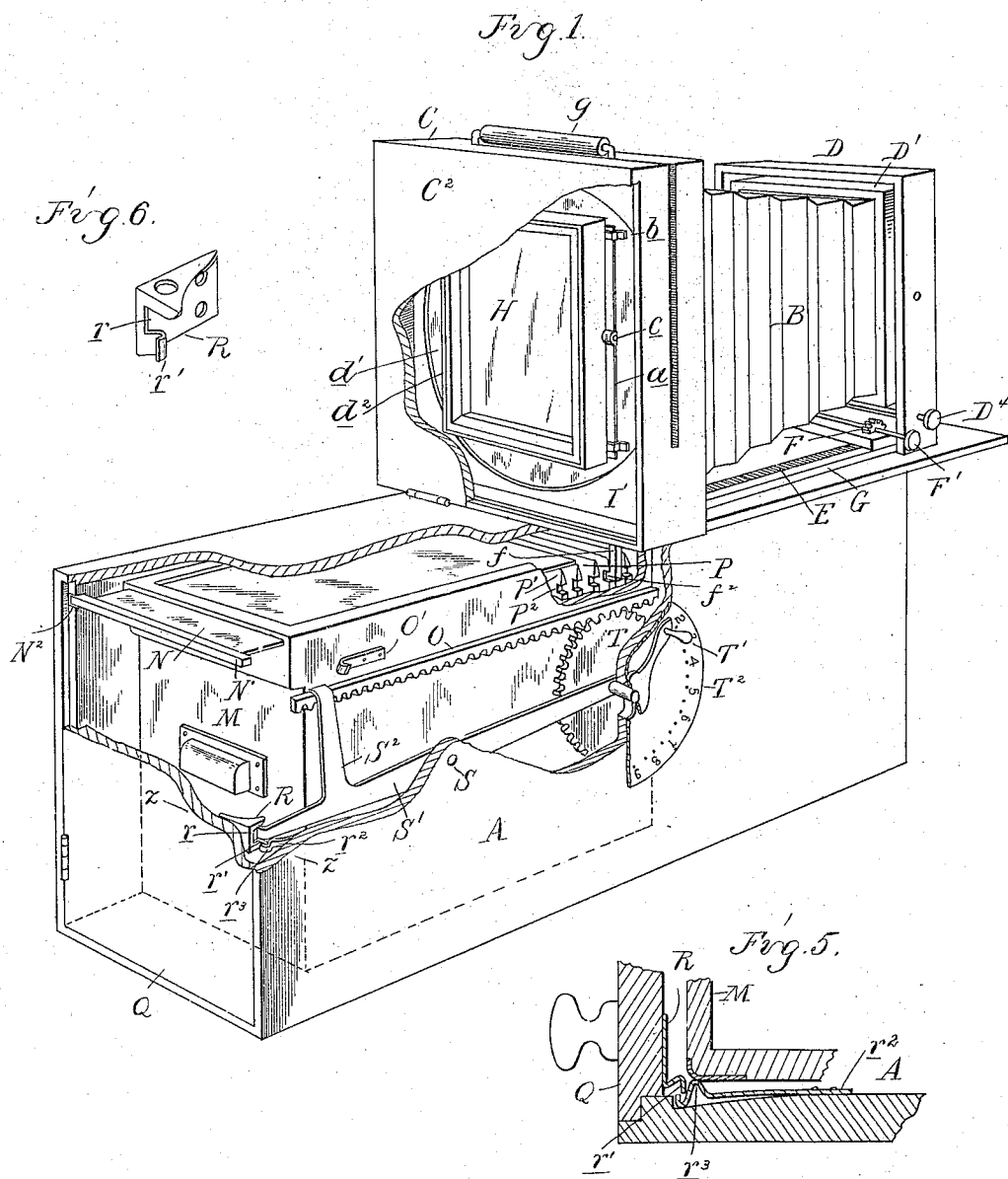
(No Model.)

2 Sheets—Sheet 1.

J. N. WIGLE.  
MAGAZINE CAMERA.

No. 544,493.

Patented Aug. 13, 1895.



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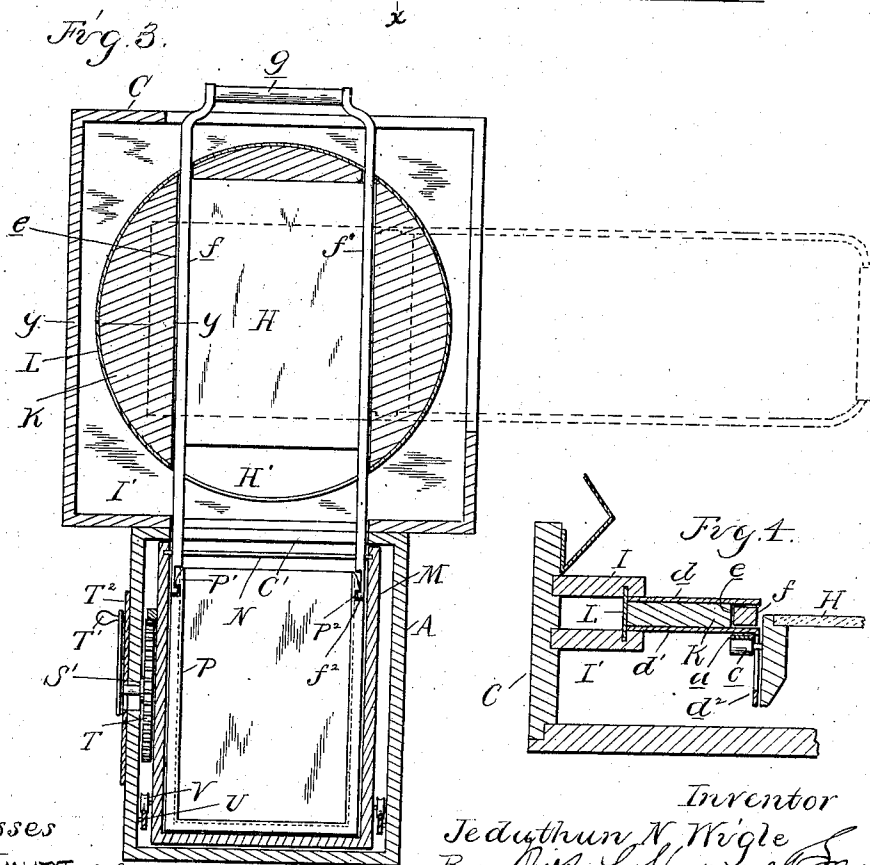
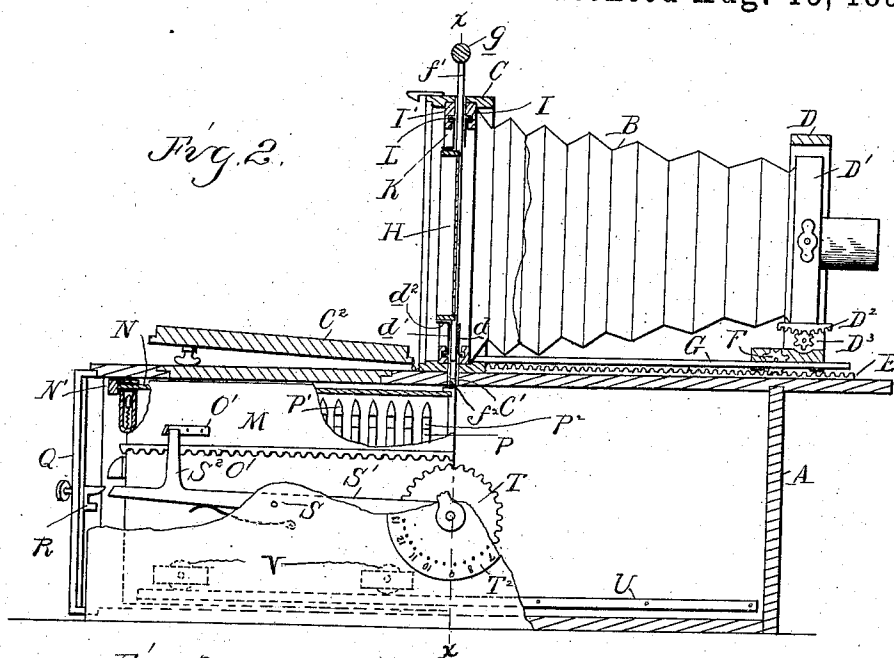
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No. 544,493.

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# UNITED STATES PATENT OFFICE.

JEDUTHUN N. WIGLE, OF RUTHVEN, CANADA.

## MAGAZINE-CAMERA.

SPECIFICATION forming part of Letters Patent No. 544,493, dated August 13, 1895.

Application filed November 27, 1894. Serial No. 530,122. (No model.)

*To all whom it may concern:*

Be it known that I, JEDUTHUN N. WIGLE, a subject of the Queen of Great Britain, residing at Ruthven, in the county of Essex and Province of Ontario, Canada, have invented certain new and useful Improvements in Magazine-Cameras, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention consists in the peculiar construction, arrangement, and operation of a magazine-camera whereby the transfer from the magazine to the place of exposure is accomplished in a very simple and efficient manner, while at the same time the operator has independent control over every plate in the magazine singly, and which also permits of presenting the plate for exposure with the longest dimension in horizontal line or in vertical line, all as more fully hereinafter described.

In the drawings, Figure 1 is a perspective view of my improved magazine-camera with parts of the casing broken away to show the interior construction of some of the parts. Fig. 2 is a sectional side elevation. Fig. 3 is a cross-section on line *xx* of Fig. 2. Fig. 4 is a detail section on line *yy* in Fig. 3. Fig. 5 is a detail horizontal section on line *zz* in Fig. 1. Fig. 6 is a detached perspective view of a part of a locking-plate, as indicated by the letters of reference.

My improved camera is represented in the drawings in the particular form in which it is adapted for studio use, and its construction is as follows.

A is a dark box the top of which forms a table, upon which the camera B is mounted in such a manner that its rear frame C is fixed over a slot C' in the top of the table about midway of the box, and for the purpose of focusing the front frame D is made sliding in any suitable manner. The drawings, to this end, show a fixed rack-bar E, which engages a pinion F, which carries the front frame D, sliding along the guide-bar G. The pinion F is revolved by a shaft which has a suitable hand-wheel F' convenient for turning it.

The front frame D carries within it, secured on trunnions, the frame D', to which the front end of the bellows and the lens is secured, and on its under side it carries a circular rack-

bar D<sup>2</sup>, which engages with the pinion D<sup>3</sup>, all so arranged that by the manipulation of the button D<sup>4</sup>, mounted on the shaft of the pinion D<sup>3</sup>, the inclination of the frame D' can be adjusted to any desired angle, accomplishing thus the same result as in the ordinary construction where the rear end is made sliding and provided with means for inclining it.

The rear frame C is provided upon its rear face with the usual hinged door C<sup>2</sup> for the purpose of exposing the focusing-screen H.

The focusing glass H is mounted in an opening H' in a revoluble disk K, which in turn is held in position between two vertical partitions I I'. To this end the disk K is provided with a rim L, the edges of which project beyond the disk and engage into corresponding grooves in the partitions I I'. The glass H is held movably in the opening of the disk by means of two flat springs *a*, which are secured at their ends *b* at opposite sides of the opening in the disk, while in the center, at *c*, they are secured to the screen, all so arranged that the screen may be pressed rearwardly some distance out of the way by the plate when drawn in position, as will be more fully hereinafter described.

The sides of the disk K are preferably made of metal plates *d d'*, the latter of which preferably forms guide-flanges *d<sup>2</sup>* for the screen around the opening in the disk. The opening in the disk communicates with the slot in the table, and along two sides of it are formed vertical guides *e*, into which engage the vertical rods *f f'*, which are united on top at their upper ends by a cross-bar *g*.

M is a plate-holding box which is of a size to be introduced through the rear opening of the dark-box A and be moved horizontally along the same. This box is closed on top with a sliding cover N, provided with a cross-bar N', the ends of which project beyond the sides of the box and are adapted to engage into notches N<sup>2</sup> formed on the inner wall of the dark-box. The box is further provided on one side with a rack-bar O and a stop O'. On the inside the plate-holding box is provided with vertical guides adapted to hold in position a horizontal series of individual plate-holders P. These plate-holders are made tapering at their upper ends P', and upon the sides, near the upper end, they are provided

with notches  $P^2$ , adapted to engage with the hooked-shaped lower ends  $f^2$  of the rods  $ff'$ .

The dark-box is provided upon its rear end with a hinged door Q, to the inner face of which is secured the keeper R, which is shown in detached perspective view in Fig. 6. To the inner wall of the box, adjacent to the rack on the plate-holding box, is pivotally secured, at S, the lever  $S'$ , which carries at its inner end the gear-wheel T, adapted to engage with the rack-bar O, and provided with a crank-handle  $T'$ , arranged on the outside of the dark-box, for turning the gear-wheel T, and forming at the same time a pointer, in connection with the index-plate  $T^2$ , secured to the outside of the dark-box. The rear end of the lever  $S'$  extends in proximity to the door Q and is adapted to engage into a notch  $r$  formed in the keeper R. The latter is provided with a hook  $r'$ , adapted to engage with a hook on the spring  $r^2$ , secured to the wall of the dark-box and provided with a shoulder  $r^3$ , as shown in Fig. 5.

The plate-holding box is slidingly supported within the dark-box, free to be moved therein from end to end. It is guided in any suitable manner, such as by means of the guide-rails U and wheels V secured on the box.

The parts being arranged as shown and described, they are intended to operate as follows: The plate-holding box being supplied with the plate-holders P, and with the sliding-cover N closed, is introduced into the dark-box A. When the plate-holding box is within the dark-box the stop  $O'$  will strike against the upper end of the arm  $S^2$  on the lever  $S'$ , as shown in Fig. 2, and arrest the farther introduction of the box. In now closing the door Q of the dark-box, the keeper R will act against the rear end of the lever  $S'$  and depress it in such manner that the gear-wheel T is thrown into engagement with the rack-bar O, and at the same time the stop  $O'$  is released from engagement with the arm  $S^2$ , and the plate-holding box can now be moved by the operator by turning the crank  $T'$  throughout the entire length of the dark-box. In thus moving the plate-holding box the cover N is held in position by the engagement of the cleat  $N'$  into the notches  $N^2$ , and the spring  $r^2$ , which has been held out of engagement by the plate-holding box, is freed to engage with its hook into the hook  $r'$  of the keeper, and thus lock the door Q. To withdraw a plate-holder from the plate-holding box the operator uses the device formed of the rods  $ff'$  and the cross-bar  $g$ , and which constitutes the plate-carrier. This plate-carrier, as will be seen, can be moved vertically up and down through the disk K, and when it is lowered to its full extent, as shown in Fig. 3, the lower ends of the rods  $ff'$  are in a position to engage with the notches  $P^2$  in the plate-holders, and as the index  $T^2$  on the outside of the box gives the true indication of the position of every plate-holder, the operator can readily perfect the engagement of any desired plate with the

plate-holder, and then by pulling up on the cross-bar  $g$  he draws the plate in position, pushing at the same time the focusing-glass rearwardly out of the way, and after exposure he can lower the plate back in the magazine to its old place, or wherever he chooses to place it, as it will be seen that the operator has absolute control over the whole plate-holding box. Should it be desired to turn the plate through an angle of ninety degrees so as to expose it lengthwise, all he need to do is to rotate the disk K a quarter of a revolution after the plate is drawn in position, and to this end the outer frame C is suitably slotted to permit the passage of the plate-carrier through the slot into the position shown in dotted lines in Fig. 3. To facilitate the withdrawal of the plate-holder from the plate-holding box, the index should indicate the intermediate position in which the carrier may be lowered in the space in front of each plate, whereby a small further movement of the plate-holding box brings the plate and plate-carrier into proper engagement.

In constructing the apparatus, it is obvious that the usual provisions are made for preventing the entrance of any light into the dark-box and into the plate-holding box.

What I claim as my invention is—

1. The combination with a table provided with a slot, a plate holding box slidingly mounted below the slot in the table, plate holding frames contained in vertical guides in said box, means for sliding the box to register the plate holding frames with the slot in the table, the camera mounted upon the table with the rear end of its exposure chamber in fixed relation thereto and provided with a slot, communicating with a slot in the table, plate holders in the box having notches in their sides and a vertically movable carrier in the rear end of the exposure chamber comprising two united parallel bars having inwardly extending projections at their lower ends arranged to engage in the notches of the holders and adapted to be projected below the table into the magazine, substantially as described.

2. The combination of a table provided with a slot, the camera mounted thereon with the rear end of its exposure chamber in fixed relation to and communicating with the slot in the table, vertical guides in the rear ends of the exposure chamber, plate holding devices adapted for insertion through the slot in the table and to engage between said vertical guides, each having side notches therein a magazine containing said plate holding frames and movably mounted below the slot in the table to register the plate holding devices with the slot and a vertically movable carrier operating in the plane of the guides and adapted to be projected below the table into the magazine, and means for engaging the carrier and plate holding frame, comprising two vertical bars having inwardly extending projections on their lower ends arranged to en-

ter the notches of the frames, substantially as described.

3. The combination of the table provided with a slot, a plate holding box slidably mounted below the slot in the table, plate holders in vertical guides in the box means for sliding the box to register the plate holding frames with the slot in the table, a camera mounted upon the table with the rear end of its exposure chamber in fixed relation to the slot in the table, a rotary disk in the rear wall of the exposure chamber and provided with an aperture vertically coinciding with the slot in the table, a focusing screen yieldingly supported in said aperture and a carrier vertically slidably secured in the rotary disk and capable of rotary movement with the disk, substantially as and for the purpose described.

4. The combination with the table, the slot in the table and the camera having the rear end of its exposure chamber in fixed relation with the slot and provided with a vertically sliding carrier arranged and adapted for the introduction of a plate holder through the slot from below the table, of a dark box below the table provided at one end with a door, a plate holding box adapted for being introduced and moved within the dark box, a sliding cover on said plate holding box, a rack bar on one side of the plate holding box, a vertically movable gear wheel in the dark box to engage therewith, means for throwing said gear wheel into mesh with the rack bar by the closing of the door in the dark box, a crank handle on the outside of the dark box for actuating the gear wheel, an index in connection therewith and means for arresting the

sliding cover of the plate holding box while being moved within the dark box, substantially as described.

5. In a camera, the combination with a receptacle constituting a table having an opening therein and a carrier on the receptacle communicating with the same through the opening, of a reciprocating plate holding rack in the receptacle, means for moving the rack, normally out of engagement therewith, a door for the receptacle, and means for moving the rack-moving means into operative position upon the closing of the door, substantially as described.

6. In a camera, the combination with a reciprocating plate holding rack, a camera above the same, a support for the rack and camera, and a reciprocating plate elevating device pivotally supported in the camera, substantially as described.

7. In a camera, a rotary plate holding disk and a reciprocating means for removing the plate and rotating the disk, substantially as described.

8. In a camera, the combination with the exposing compartment, of a rotary plate holding disk therein having an oblong plate opening, a plate storage compartment below the camera, and means for transferring the plates and rotating the disk, substantially as described.

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

JEDUTHUN N. WIGLE.

Witnesses:

PH. CHRIST KOLB,

ROBERT JAMES ENGLISH.