

No. 650,252.

Patented May 22, 1900.

I. I. KARPOFF.  
MAGAZINE CAMERA.

(Application filed June 23, 1898.)

(No Model.)

3 Sheets—Sheet 1.

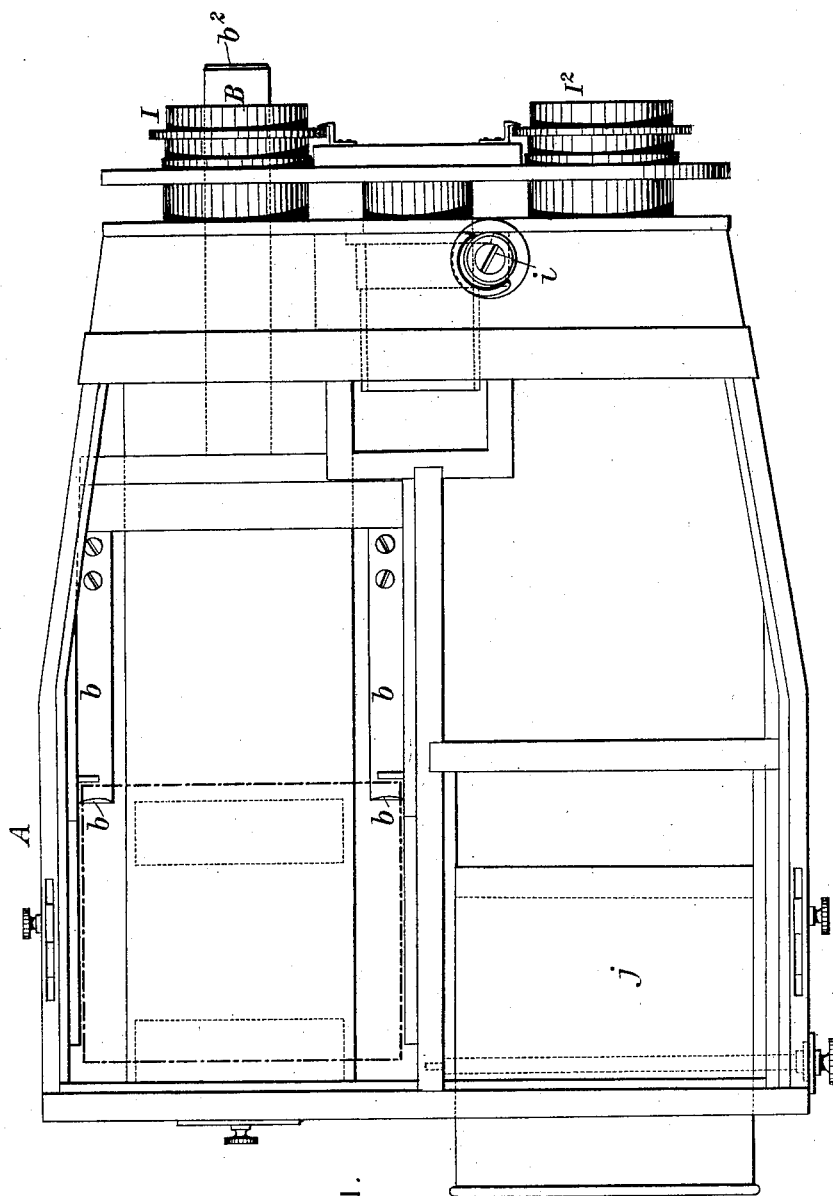


FIG. 1.

WITNESSES:

*G. A. Wright.*  
*M. H. Miller.*

INVENTOR

ILJA I. KARPOFF

BY

*Hanson & Hanson*

HIS ATTORNEYS.

I. I. KARPOFF.  
MAGAZINE CAMERA.

(Application filed June 23, 1898.)

(No Model.)

3 Sheets—Sheet 2.

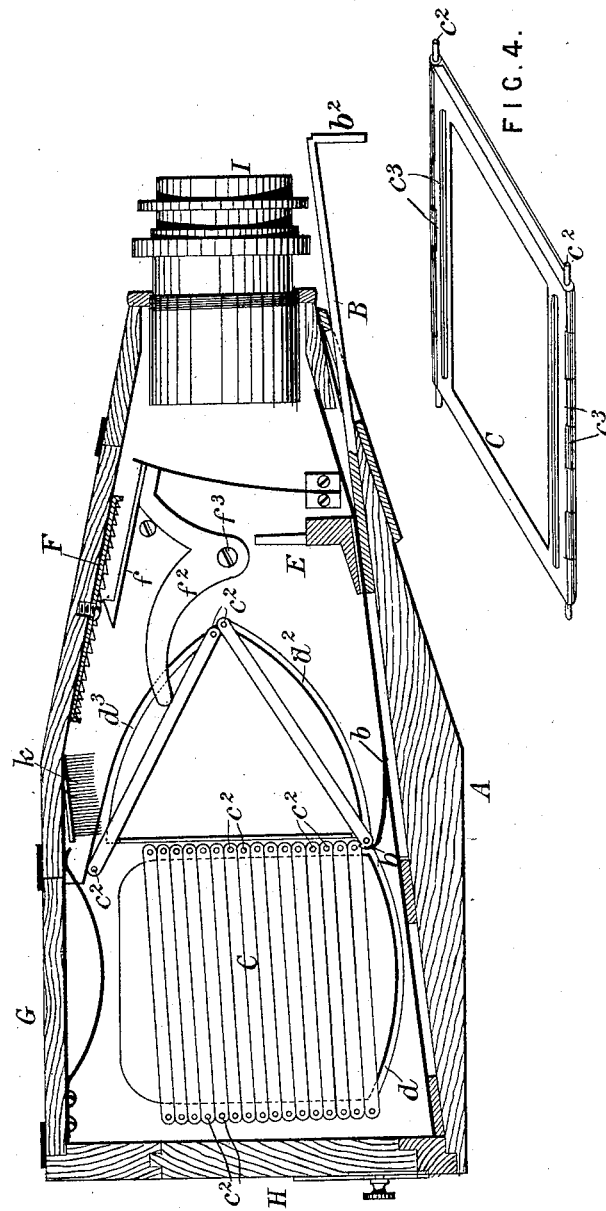


FIG. 2.

FIG. 4.

WITNESSES:

*P. A. Wright*  
*W. H. Miles*

INVENTOR

ILIJAI. KARPOFF

BY *Henson & Henson,*

HIS ATTORNEYS.

I. I. KARPOFF.  
MAGAZINE CAMERA.

(Application filed June 23, 1898.)

(No Model.)

3 Sheets—Sheet 3.

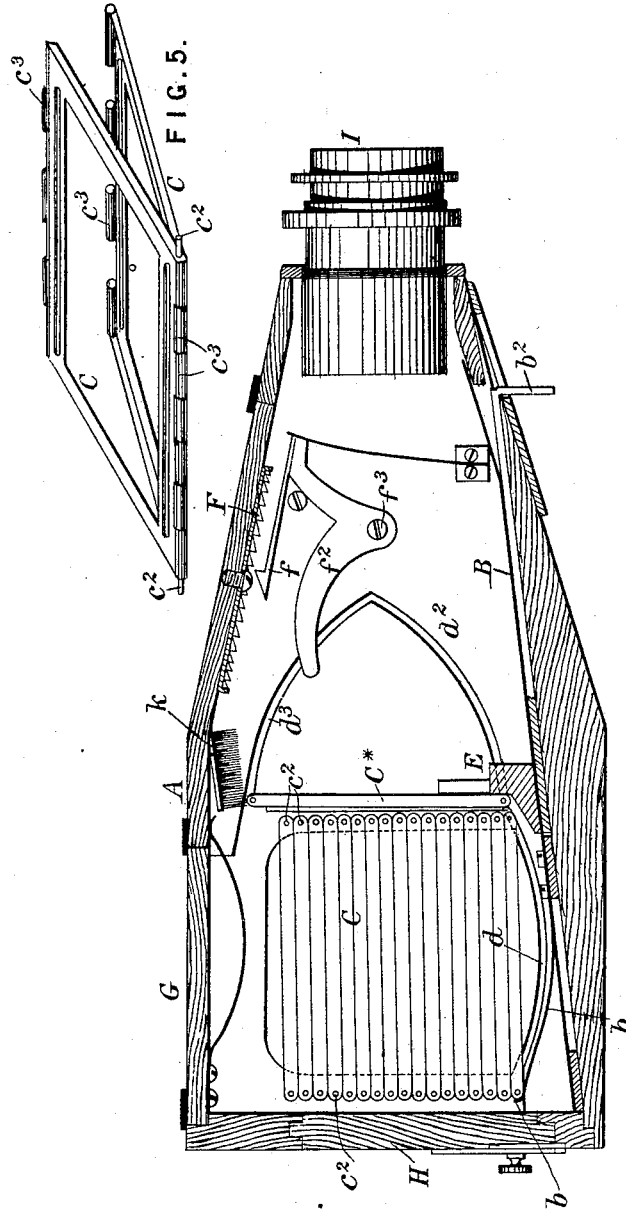


FIG. 3.

WITNESSES:

*G. W. Wright.*  
*D. P. Lane*

INVENTOR

ILIJAI. KARPOFF

BY

*Hawson & Hawson.*

HIS ATTORNEYS

# UNITED STATES PATENT OFFICE.

ILIJA I. KARPOFF, OF ST. PETERSBURG, RUSSIA.

## MAGAZINE-CAMERA.

SPECIFICATION forming part of Letters Patent No. 650,252, dated May 22, 1900.

Application filed June 23, 1898. Serial No. 684,330. (No model.)

*To all whom it may concern:*

Be it known that I, ILIJA I. KARPOFF, dealer in photographic apparatus, a subject of the Emperor of Russia, and a resident of Rue Michailowskaja, Maison de l'Hôtel d'Europe, Nos. 1 to 7, St. Petersburg, in the Empire of Russia, have invented certain new and useful Improvements in or connected with Photographic Cameras, (for which application for patent has been made in Great Britain, No. 27,552, dated November 23, 1897,) of which the following is a specification.

This invention has for its object to provide photographic cameras with means whereby a number of sensitized plates can be rapidly brought into position for exposure and be readily removed after exposure, the arrangement being such that at each operation of a slide or the like a plate is brought into position for exposure at the same time that one previously exposed is returned to the receptacle which holds the plates before and after exposure.

Figure 1 of the accompanying drawings is a plan with the top removed, and Figs. 2 and 3 are longitudinal sections showing two different positions of a camera constructed according to my invention. Figs. 4 and 5 show a plate-holder in the closed and the open position, respectively.

Each holder C is utilized for two plates, and the plates at one side of each holder are first exposed in succession, and thereafter the plates at the other side of each holder are exposed in succession, the holders being so manipulated that after one plate is exposed the holder and plates carried thereby are reversed and returned to the top of the series in position for the unexposed plate to be brought into position in its turn for exposure. The plates are held in frames constituted by folding halves and having pins projecting from their sides—say at each corner—the said pins at one side, or at both sides, being preferably constituted by a wire  $c^2$ , which passes through eyes  $c^3$  in the folding halves of the frame to secure them together to hold the plate between them. The plate-holders are charged by removing the said wire  $c^2$  from one side and opening them from the other side, as on a hinge. Into each holder two sensitized plates are placed, each with its sensitized face

outward, a piece of black paper or the like being placed between the said plates to prevent light from passing through from one plate to the other during exposure. When the plates and the intervening light-obstructor are in place, the holder is closed and secured by the wire being passed through the ears at the edge of each part, as shown in Fig. 4.

The inside of the camera-body A and the receptacle for the plates in their holders are provided with grooves  $d^2$   $d^3$ , in which the pins  $c^2$ , projecting from the sides of the holders, engage, the said grooves being so formed as to cause the bottom frame and the plates carried thereby when withdrawn from beneath the series in the receptacle to be turned into an upright position, as shown at  $c^4$  in Fig. 3, for exposure, and in thus turning up to move the plate previously exposed and the holder thereof along the continuations of the grooves  $d^2$   $d^3$ , as shown in Fig. 2, and force the last-named plate and its holder back onto the receptacle to the top of the series of plates in their holders contained in the receptacle, and so on successively, the plates to be exposed being drawn out with their holders from beneath the series and after exposure being returned to the top of the series with the unexposed plate on the reverse side of the holder in position to be exposed when this holder arrives at the bottom of the series. The plates and their holders can be thus operated by means of a bar B, normally retained in position by a spring which is pressed to release the bar, which is then drawn forward, the inner ends of the said bar being provided with spring-pieces  $b$ , engaging behind the lowermost plate-holder. By the forward movement of this bar B the lowermost plates in their holder are moved forward and the holder thereof acts upon the lower edge of the holder of the plate previously brought into position for exposure and moves it partly up the grooves  $d^2$ , both holders assuming such a position, as shown in Fig. 2, that when the bar is pushed back again projections E thereon turn up into a vertical position, the holder brought forward from the series for exposure, the holder which carries the previously-exposed plate being thereby pushed to the top of the series of holders and plates with the

exposed plate uppermost and the unexposed plate in the same holder lowermost, and the plate to be exposed is supported in an upright position in rear of the lens ready for receiving the next picture. At each operation an indicator-disk F may be moved by the plate (through the pawl  $f$ , acted upon by a lever  $f^2$ , centered at  $f^3$ ) through a part of a rotation, so as to expose at an opening a figure showing the number of plates which have been exposed.

Owing to the way in which the plates are manipulated, as aforesaid, one plate carried in each holder of the series is exposed, and after these have all been exposed the second plates in each holder are similarly successively exposed, so that pictures are eventually received on the two plates in each holder, when the exposed plates are all removed and fresh or unexposed plates are put in their place, as hereinbefore described.

The arrangement and operation of the plates may be applied to any description of camera, whether binocular or not.

The plates and holders C can be removed and replaced through an opening provided with a cover G at the rear of the upper part of the camera, and there may be a removable door H at the back by which access to the edges of the plate-holders can be obtained.

I  $I^1$  are lenses focused by a rack and pinion operated by a screw  $i$ . The lens I is for exposing the plates and the lens  $I^2$  is for projecting the image on a view-finder  $j$ .

$k$  is a brush or pad on a spring for excluding light from the plates as they are returned to position in their receptacle and while they are therein.

The other parts of the camera may be of any suitable or usual construction. For example, the shutters may be movable up and down by levers actuated by toothed racks, with which engage pinions on a shaft, which can be operated by a bead from outside the camera. It can be operated by the same movement which changes the plates by furnishing the bar by which the plates are changed with a rack which engages a toothed wheel on the said shaft, which is provided with a spring which is wound up when the plate-changing bar is withdrawn and the aforesaid rack acts on the pinion. The shutter is retained in position by a spring-catch, which can be released from the outside from its engagement, which may be with a notched disk on the said shaft.

I claim as my invention—

A photographic camera having a receptacle for plate-holders in a horizontal position and grooves in the camera in which projections on the holder engage, in combination with a light-excluding device  $k$  and a movable bar for acting on the holders to move them into position for exposure and then return them to the top of the series in the receptacle, and said bar carrying projections to turn and hold the projected holder into a vertical position, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

I. I. KARPOFF.

Witnesses:

HANNAH MARIA STAPLES,  
WILLIAM ALEXANDER HYDECKER.