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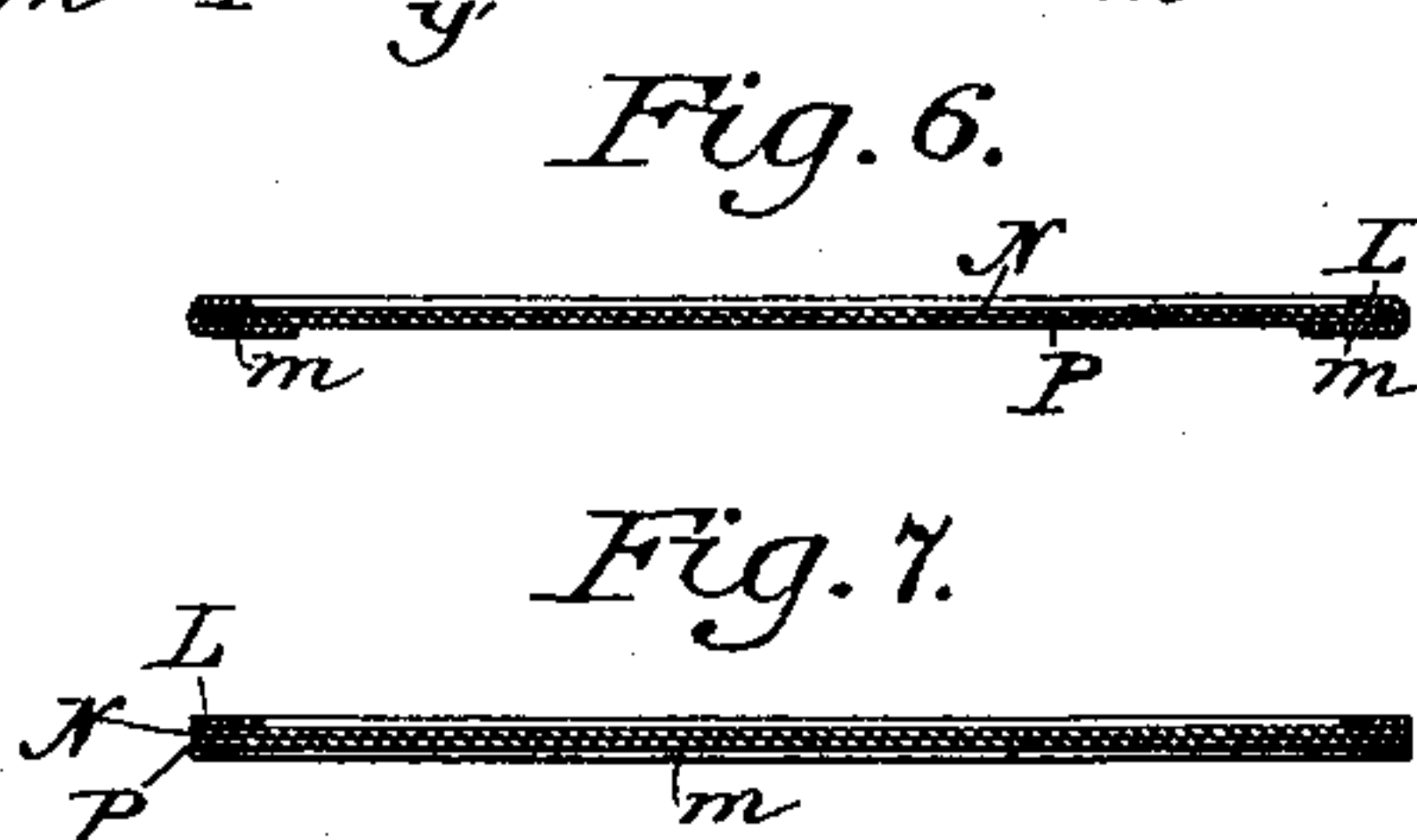
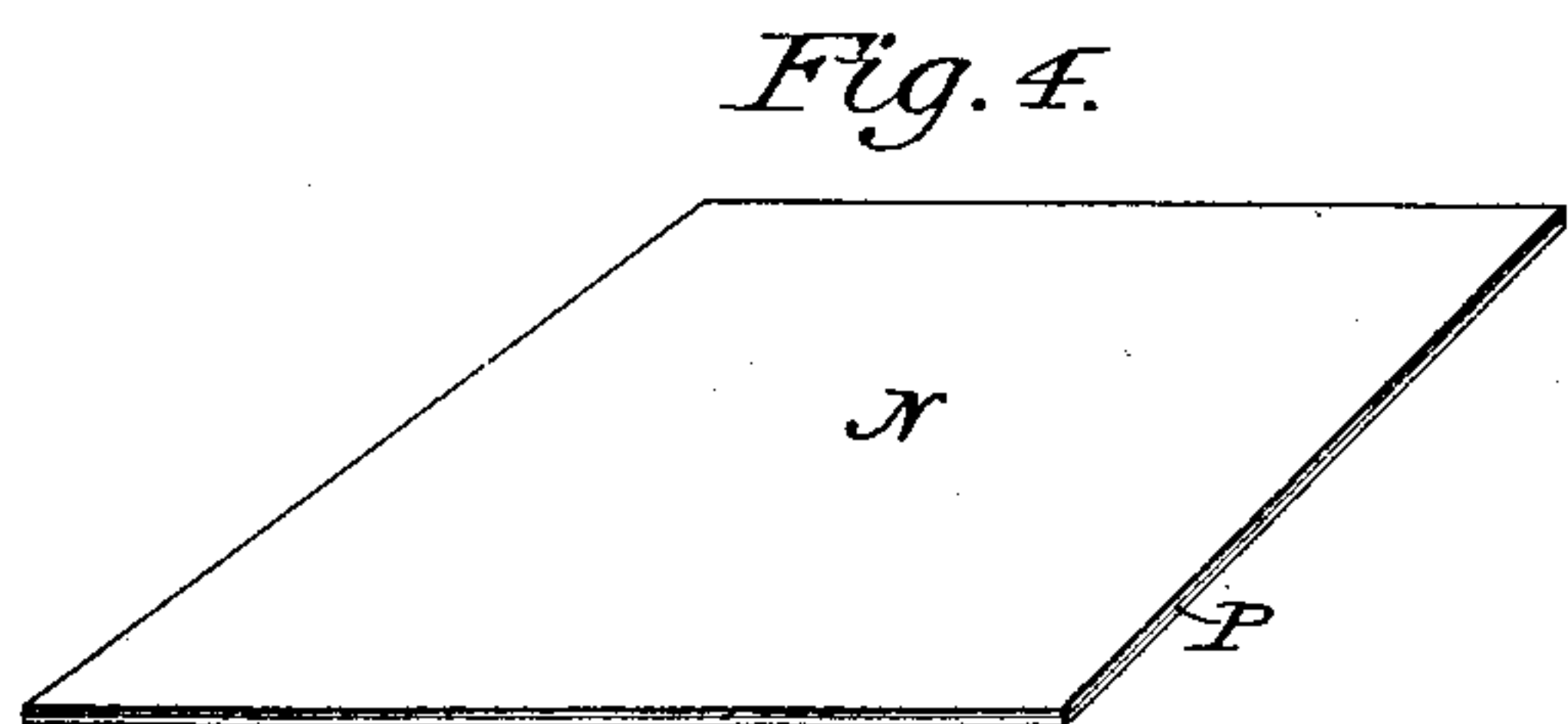
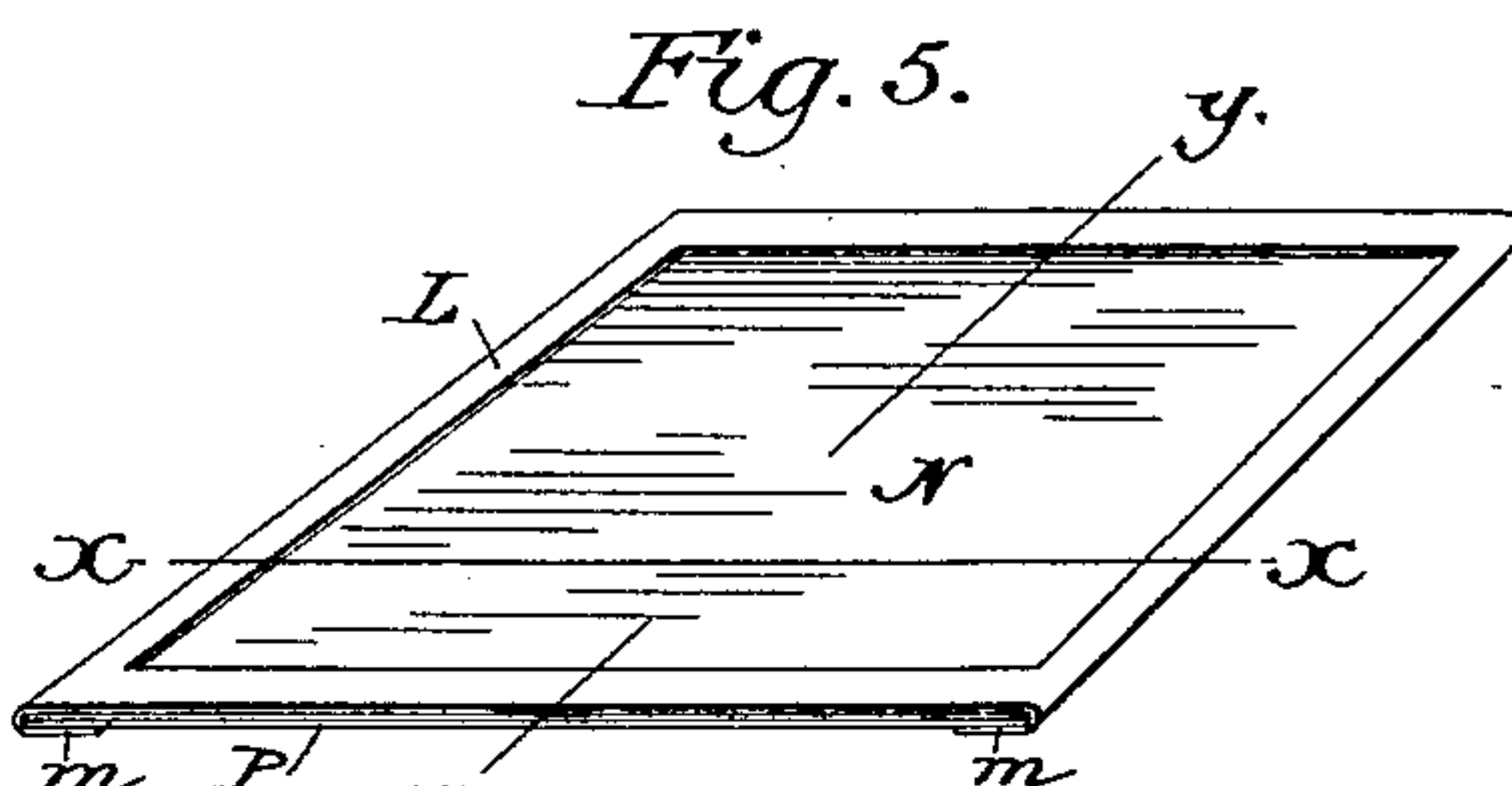
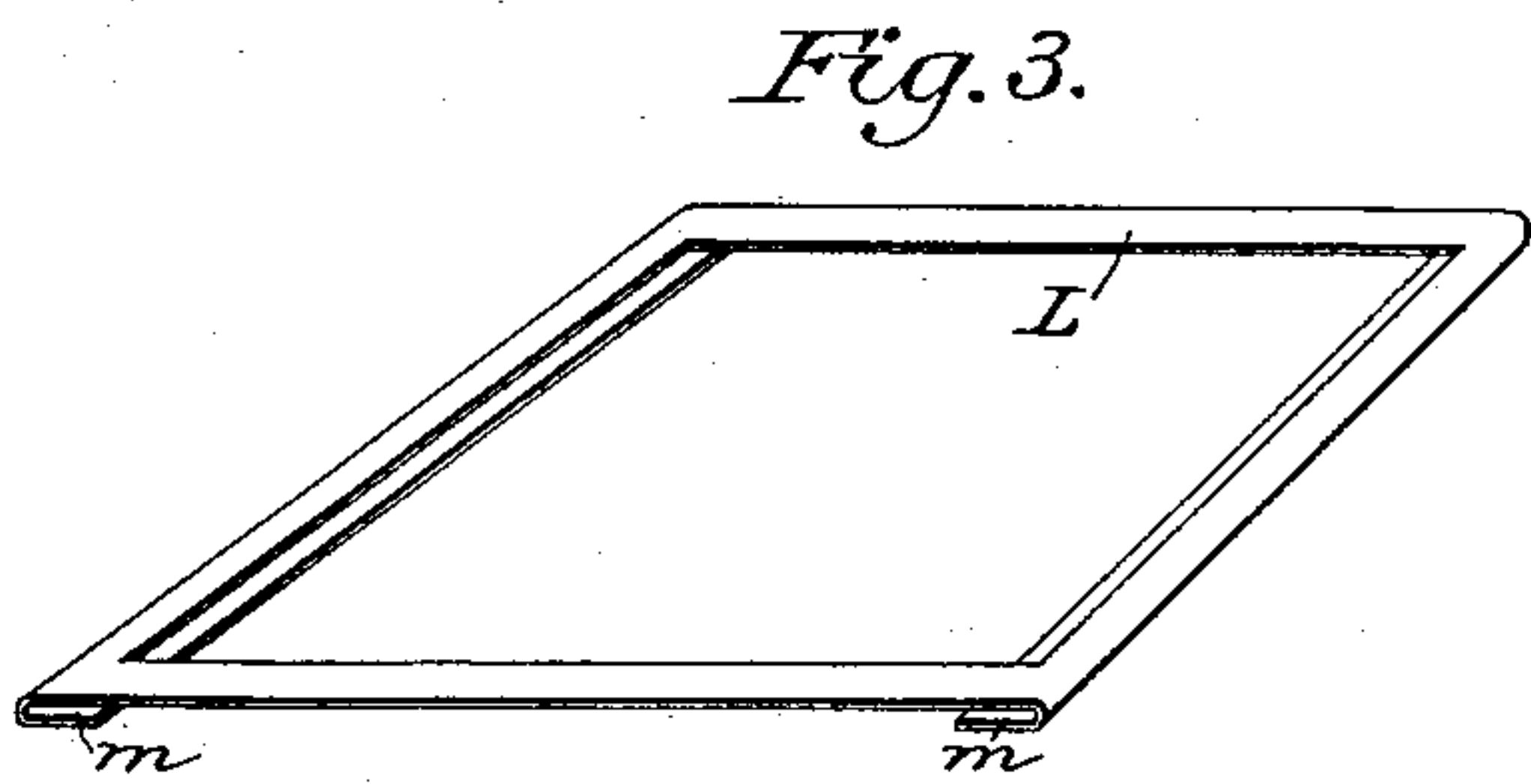
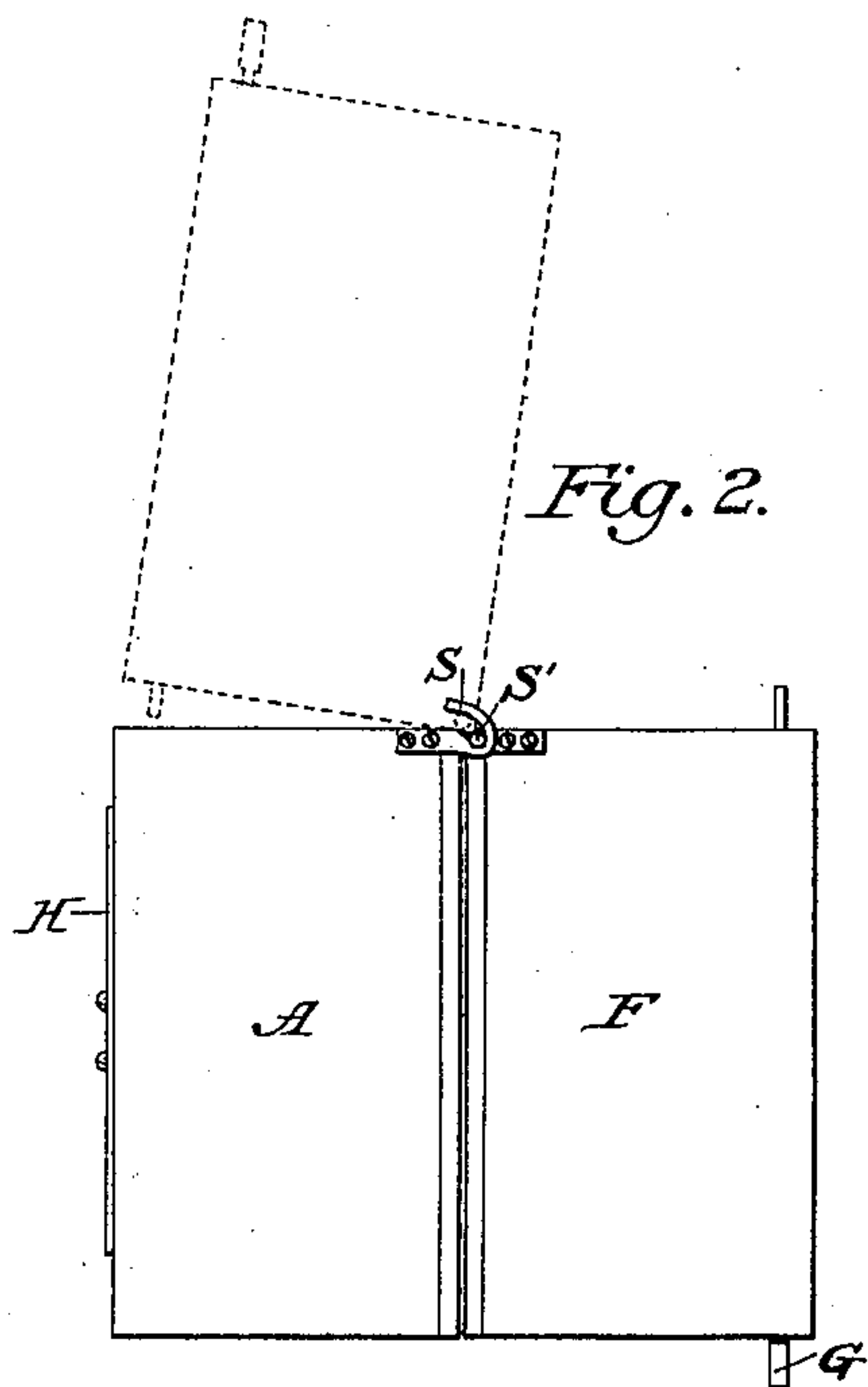
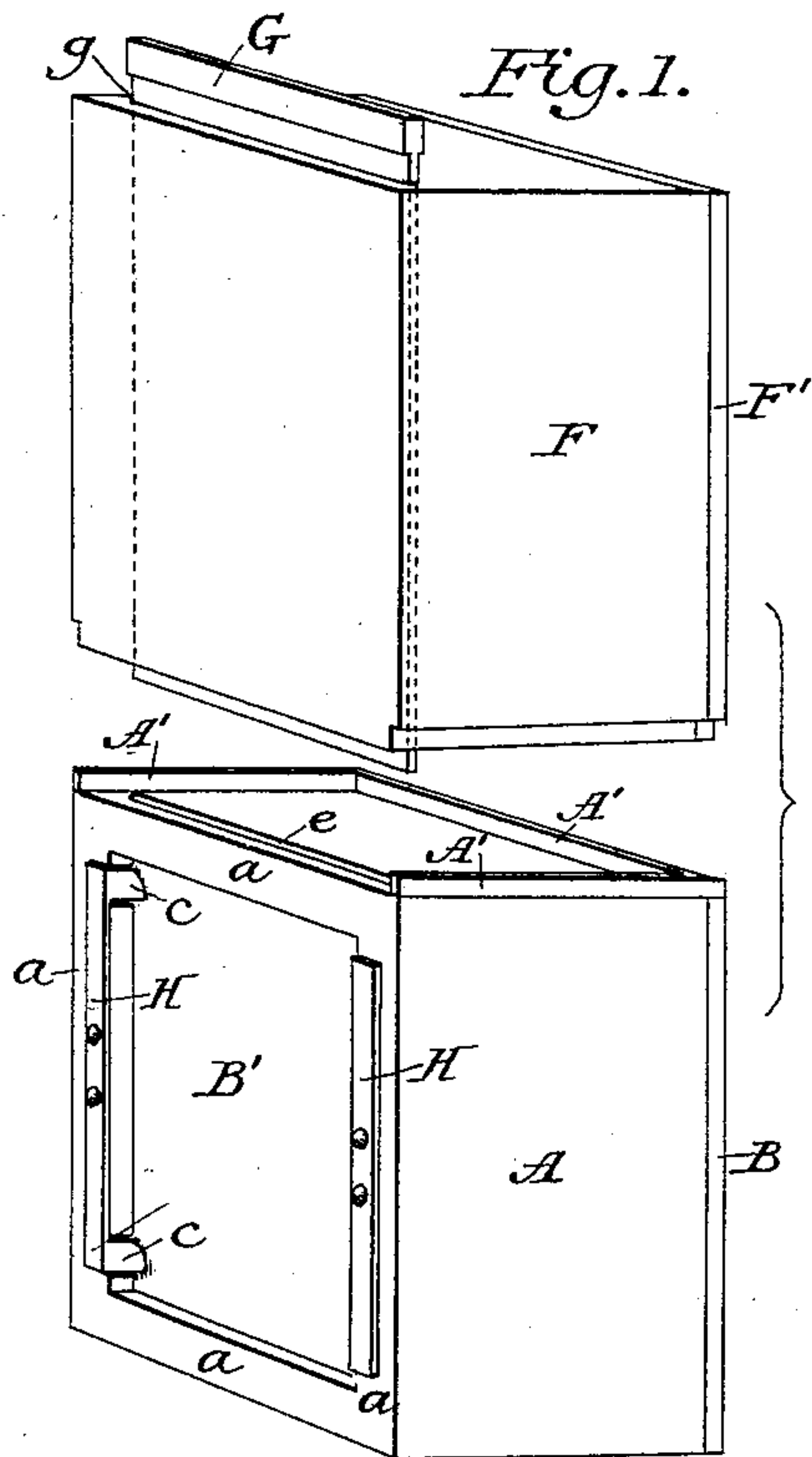
2 Sheets—Sheet 1.

M. JURUICK.

PLATE HOLDER FOR PHOTOGRAPHIC CAMERAS.

No. 417,045.

Patented Dec. 10, 1889.



Attest:

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E. M. Watson

Inventor:

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Atty.

(No Model.)

2 Sheets—Sheet 2.

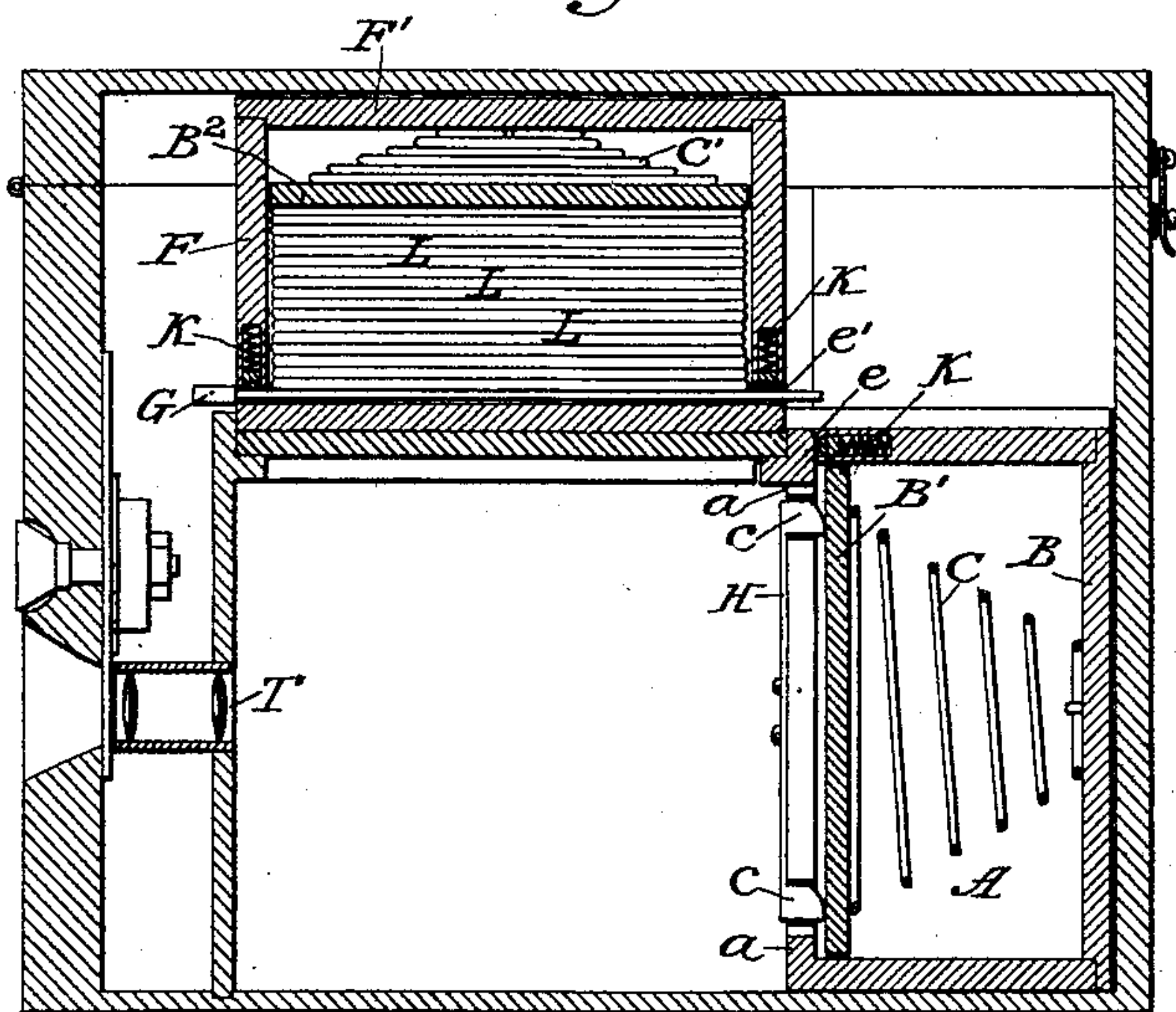
M. JURUICK.

# PLATE HOLDER FOR PHOTOGRAPHIC CAMERAS.

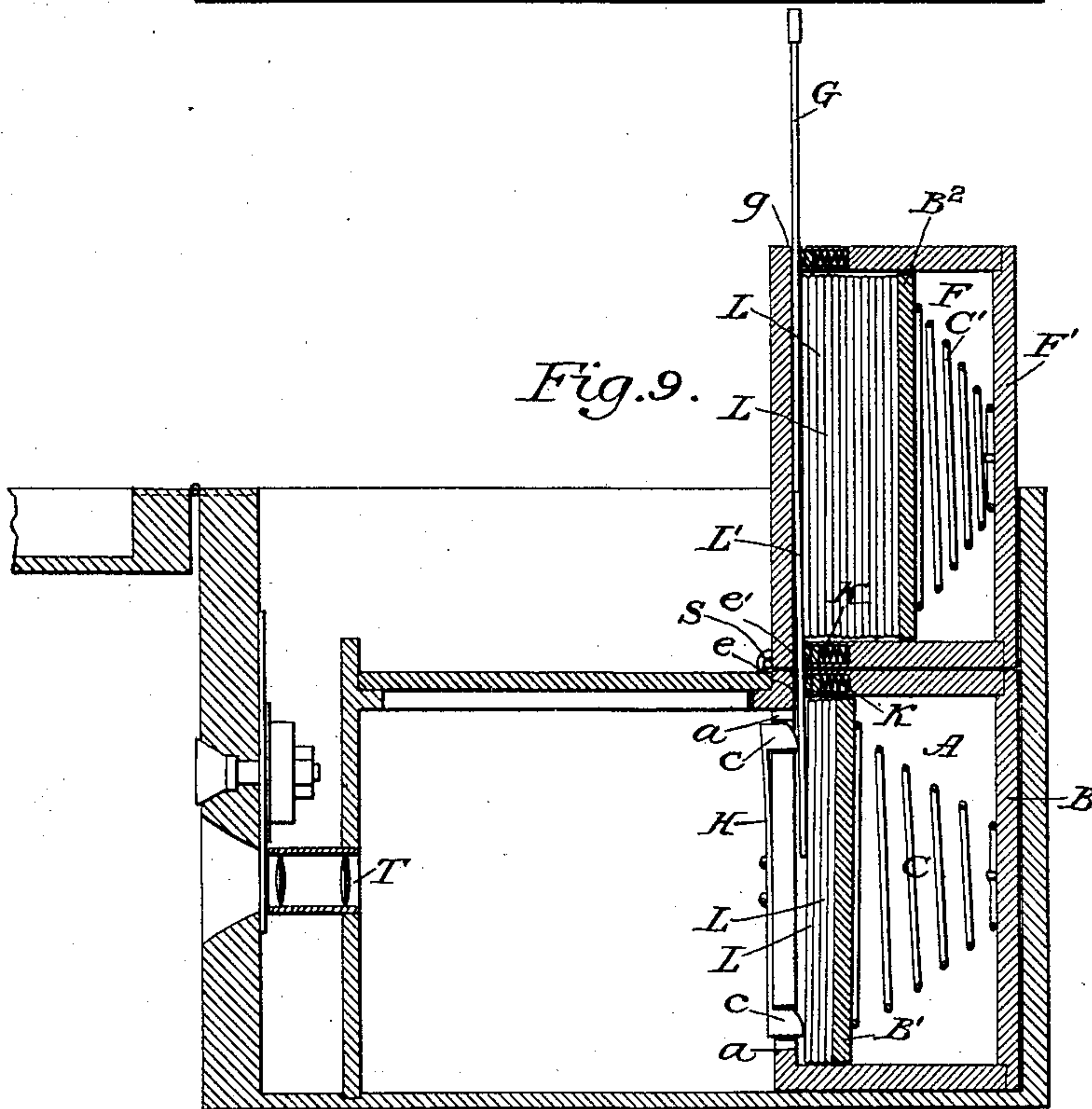
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*Fig. 8.*



*Fig. 9.*



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*Azt'y.*



# UNITED STATES PATENT OFFICE.

MAX JURUICK, OF JERSEY CITY, NEW JERSEY, ASSIGNOR TO CARL P. STIRN,  
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## PLATE-HOLDER FOR PHOTOGRAPHIC CAMERAS.

SPECIFICATION forming part of Letters Patent No. 417,045, dated December 10, 1889.

Application filed February 28, 1889. Serial No. 301,531. (No model.)

*To all whom it may concern:*

Be it known that I, MAX JURUICK, a resident of Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Plate-Holders for Photographic Cameras; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

My invention relates to plate-holding boxes for photographic cameras in which to store and carry a series of dry-plates or sensitized films before, during, and after exposure.

It has for its object to simplify the carriage and transposition of the films or plates and facilitate the transfer of each plate from a supply and delivery box in which the plates are held preparatory to exposure to a receiving-box in which the plates are exposed and stored after exposure.

It consists in a novel construction and arrangement of the plate-holding boxes and plate-holders for use in combination with a camera, as hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a view in perspective of my improved supply and exposing and storing boxes in readiness to be brought together for use. Fig. 2 is a side elevation showing the two boxes hooked together in manner to permit the supply-box to be swung into position to deliver a plate-holder into the exposing and storing box. Fig. 3 is a view in perspective of the open metallic frame for the protection of the sensitized films. Fig. 4 is a similar view of the film fitted upon the plate by which it is backed when inserted into the frame; Fig. 5, a similar view showing the film and its backing-plate inserted in the frame, Fig. 6 being a transverse section in line  $x x$ , and Fig. 7 a transverse section in line  $y y$ , of Fig. 5. Fig. 8 is a central vertical section of a camera fitted with my improved plate-holding boxes, showing the camera closed; and Fig. 9, a similar section of the same camera opened, with the supply-box in position for the delivery of a fresh plate to the storing-box in readiness for exposure therein.

Similar letters indicate like parts in all of the figures.

A is a plate exposing and storing box having an open front fitted with an encircling rim  $a$  and an open back closed by a detachable covering-plate B, which is secured thereto by suitable catches. A helical spring C, whose coils are made to close down flat, one within the other, when the spring is compressed, is attached by its smaller end to the covering-plate B and operates to carry a follower-plate B' forward toward the open front of the box. (See Figs. 8 and 9.)

Studs  $c c$  are fitted to project inward through holes in the front marginal rim  $a$ , each stud being attached to the end of a flat spring H, fitted on the outside of the rim, so that it may be pressed outward when required. These studs  $c c$  are so adjusted as that when the receiving-box A is in place in the camera the front face of the follower-plate B', resting against the four studs, will be in the focal plane of the lens T. (See Fig. 8.) A slit or slideway  $e$  is cut in the wall of the storage-box A, immediately back of its front marginal rim  $a$ , so that a dry-plate or a plate-holder carrying a sensitized film may be inserted through it. The face of each stud  $c$  next to the slideway  $e$  is rounded or beveled, so that the holder carrying the plate or film shall, when inserted through the slideway and brought into contact with the studs, cause them to yield sufficiently, as shown in Fig. 9, to allow the holder to pass down between the head and the follower B' or the plate-holder previously inserted in front of it. So soon as the holder inserted through the slideway  $e$  is fully in place the stress of the spring C will return the studs  $c c$  to their normal position and bring the fresh plate into proper position for exposure in the focal plane of the lens, the spring C operating automatically to maintain it in said position. As each fresh plate is thus inserted through the slideway  $e$ , the plates previously inserted are forced back, the spring C being thereby compressed to make room for the same.

F is a supply-box, in which the sensitized plates are placed in readiness for transfer to the exposing-box. This supply-box corre-



sponds in its dimensions with the box A. Its front end is closed. Its rear end is open to receive the plates and is covered by a detachable plate F', secured thereto by suitable catches, and which carries on its face a helical spring C' and a follower B<sup>2</sup>, similar to that in the storage-box A. A slit or slideway e', corresponding to the slit e in the storage-box A, is cut in the inner end of the supply-box F, immediately inside its front plate, and an opening g is cut opposite the slideway to admit of the insertion of a slide-rod or slide G.

L L L represent a series of plate-holders containing dry-plates or films, which, being placed in the supply-box F, are forced forward therein automatically by the stress of the spring C', so that the front holder will be in register with the slideway e' in position to be readily passed through said slit by means of the slide or slide-rod G, inserted through the opposite opening g. The supply-box F is adapted to be fitted upon or against the exposing and storage box A in any suitable manner, so as to bring the slideways e' and e in register with each other and make a light-proof joint. Preferably it is hinged to the edge thereof, so that after a plate has been transferred from said supply-box F to the storage-box A through the superimposed slits or slideways the supply-box may be swung over upon its hinge to the rear, as shown in Fig. 2, or into a horizontal position toward the front, as shown in Fig. 8.

The hinge may consist of a hook S, projecting from a bracket on the side of the one box to engage pins S', projecting from a bracket on the corresponding side of the other, as shown in Fig. 2.

The open slits or slideways e e' are made light-proof in the customary manner by means of the usual elastic packing-strips K, (see Figs. 8 and 9,) which need not be particularly described.

Where the supply and the exposing and storing boxes are left wholly independent of each other, their proper superposition to bring and hold the transfer slits or slideways in register may be effected by flanges or cleats A' A' on the end of the one to embrace the end of the other, as shown in Fig. 1, or of equivalent dowel-pins and dowels.

The sensitized plates or films are mounted and protected so as to be readily manipulated and passed through the slideways e e' in the plate-boxes A F by means of a thin metallic frame L, having two of its edges doubled over, as at m m, Figs. 3 and 5, so as to clasp and guard the unprotected edges of the film N, which is laid upon a thin metallic backing-plate P and slipped with it under the folded edges m m of the frame, as shown in Fig. 6. The backing-plate P, in combination with the frame L, thus constitutes an efficient holder and a complete guard for the thin sensitized film N inclosed thereby.

In the use of my invention a number of plate-holders L L, containing sensitized plates

or films, are packed in each supply-box F with the films toward the inner or front end of the box, and are confined and pressed forward therein by means of the helical spring C', so that the innermost or front holder shall lie against the inner end of the box and immediately in register with its slideway e'. The supply-box F, thus filled with the plate-holders L L is swung upon its hinges S, or is otherwise superimposed upon the storage-box A, so that the slideway e' in the supply-box shall fall into exact register with the slideway e in the storage-box. By means of the slide or push rod G the inner or front plate-holder L' in the supply-box is forced through the slideway into the front of the storage-box, (see Fig. 9,) so as to bring the sensitized plate or film into the focal plane of the lens in readiness for exposure. After this plate has been duly exposed a second plate is forced in front of it through the slideways e e' in manner as described, the previously-exposed plate being thereby carried rearwardly within the storage-box against the stress of the spring C, which operates with a constant pressure to retain all the plates in proper position. Thus so soon as one plate or film has been exposed another is inserted in its place, while the exposed plate is automatically carried back in the storage-box and is stored therein without danger of exposure to the light or the need of transference therefrom until the box is filled.

When it is desired to remove the storage-box from the camera, a dark-slide may be inserted, instead of a plate, through the slideway e.

Extra supply-boxes F F may be used with a single exposing and storing box A, and a number of interchangeable supply and storage boxes may be used with the same camera.

I claim as my invention—

1. The combination, in a photographic plate exposing and storing box, of the spring-actuated studs projecting in range with the open slideway in the wall of the storing-box and the spring-actuated follower moving toward and bearing against said studs, substantially in the manner and for the purpose herein set forth.

2. The combination, in a photographic plate exposing and storing box having an open front encircled by a rim or flange and a slideway formed in the wall of the box adjacent to said rim, of the supporting-studs projecting inwardly from the front to intersect the plane of said slideway, the spring-actuated follower carried automatically toward and against said studs, and the covering-plate closing the rear of the box, substantially in the manner and for the purpose herein set forth.

3. The combination, with a photographic camera, its lens, and a plate exposing and storing box fitted in said camera and having an open front encircled by a rim and a slideway adjacent to said rim, of the elastically-



yielding plate-supporting studs projecting inwardly from the front to intersect the plane of said slideway and the focal plane of the lens, and the spring-actuated follower carried automatically toward and against said studs, whereby a series of sensitized plates inserted successively through the slideway will each be held in proper position for exposure until carried back into the box for safe-keeping by the insertion of a fresh plate, substantially in the manner and for the purpose herein set forth.

4. The combination, substantially as described, with a photographic-plate exposing and storing box having an open front encircled by a rim or flange, an adjacent slideway, elastically-yielding plate-supporting studs projecting inwardly from the front to intersect the plane of said slideway, and a spring-actuated follower moving toward and against said studs, of the corresponding plate-deliv-

ering box having an imperforate front plate, a slideway in the wall of the box adjacent to said front plate, an opposite opening for a plate-pushing device, a spring-actuated follower carried automatically toward said front plate, and a covering-plate closing the rear of the box, whereby the plates carried to the front in the supply-box may be delivered immediately from the supply-box through the corresponding slideways in the two boxes into position for exposure in the storage-box, in the manner and for the purpose herein set forth.

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

MAX JURUICK.

Witnesses:

A. N. JESBERA,  
E. M. WATSON.