

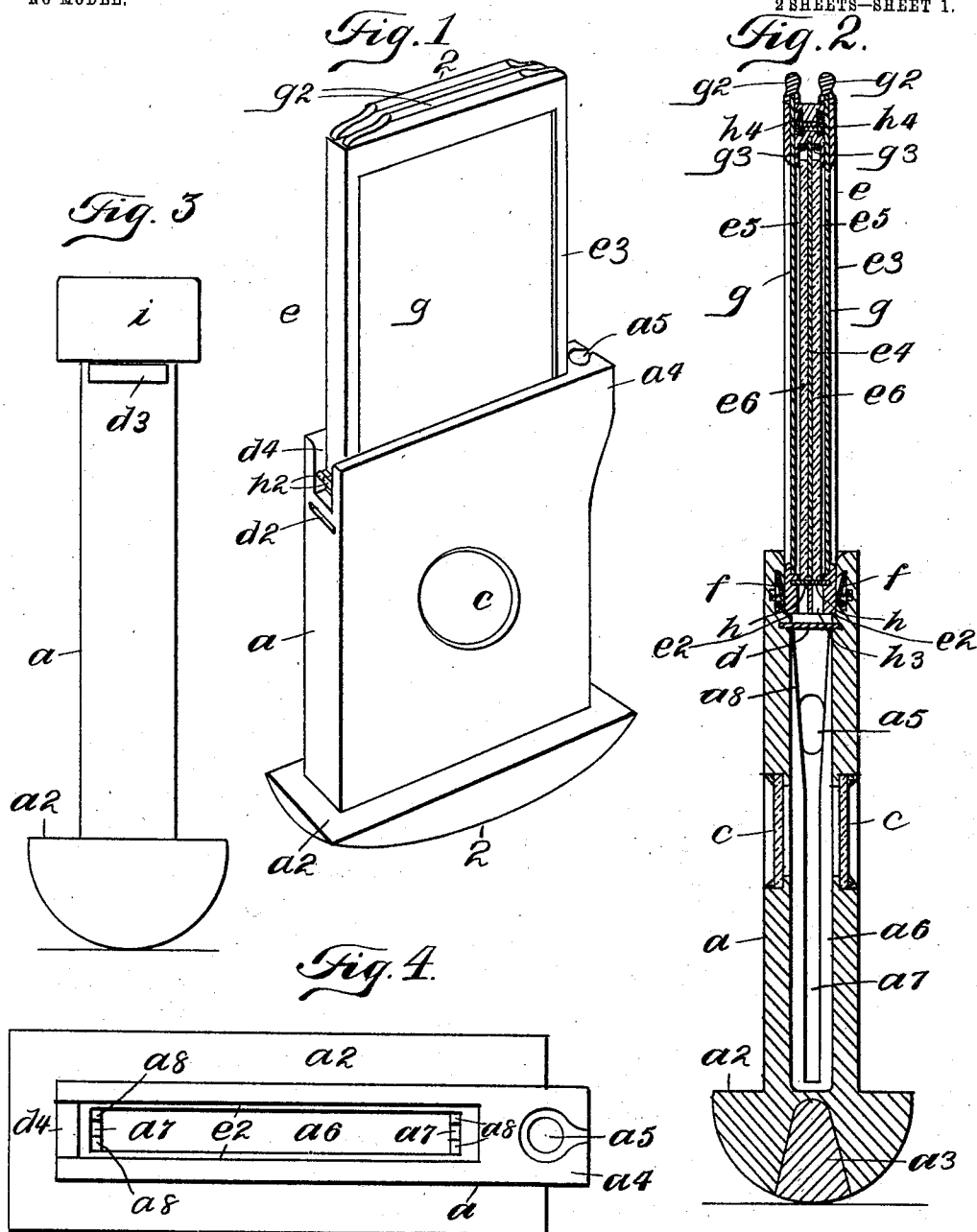
E. R. PETRIE.

PHOTOGRAPHIC PLATE DEVELOPING APPARATUS.

APPLICATION FILED MAY 10, 1904.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES

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No. 773,157.

PATENTED OCT. 25, 1904.

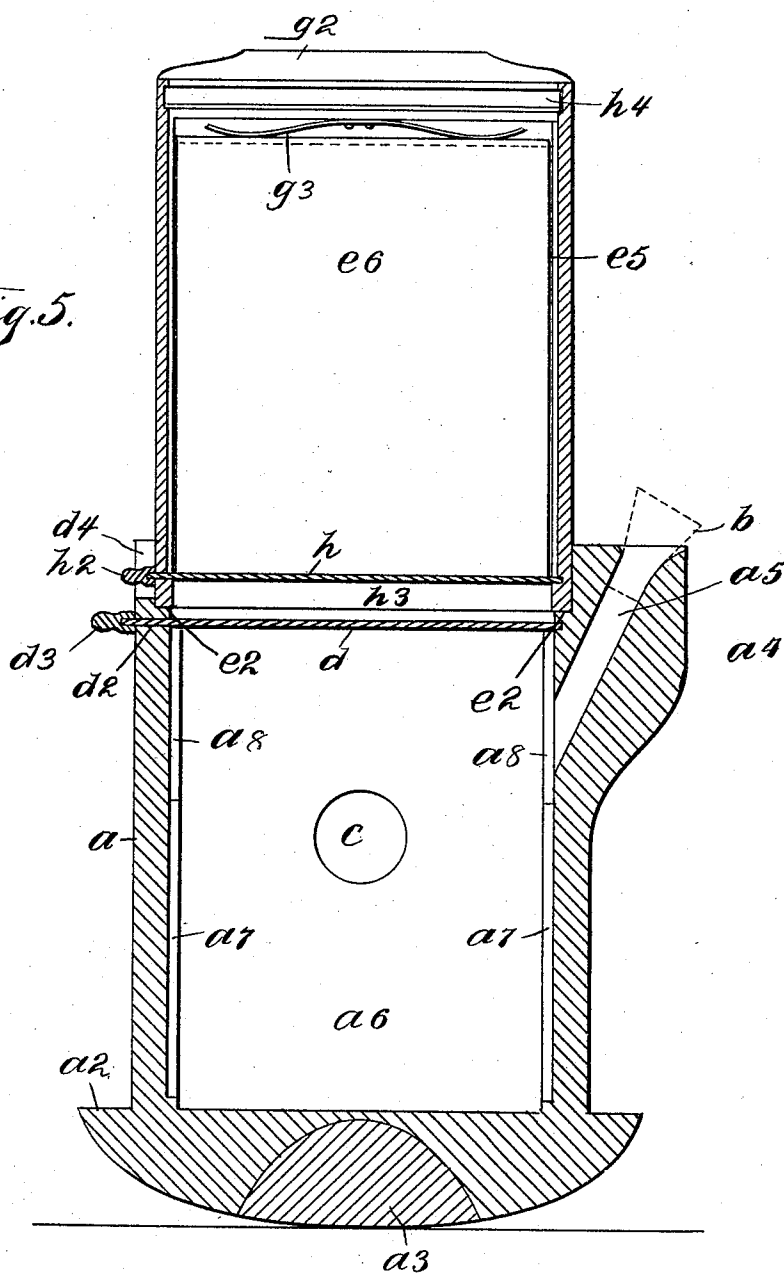
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*Fig. 5.*



WITNESSES

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## UNITED STATES PATENT OFFICE.

EDWARD R. PETRIE, OF BROOKLYN, NEW YORK.

## PHOTOGRAPHIC-PLATE-DEVELOPING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 773,157, dated October 25, 1904.

Application filed May. 10, 1904. Serial No. 207,220. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD R. PETRIE, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Photographic-Plate-Developing Apparatus, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to photographic apparatus, and particularly to means for developing and fixing photographic plates without the aid of a dark room; and the object thereof is to provide an improved apparatus of this class which may be used for the purpose of developing and fixing the image or picture on a photographic plate and also for the purpose of staining said plate when desired; and with this and other objects in view the invention comprises a developing and fixing box and also a plate-holder adapted to be used in connection therewith.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which the separate parts of my improvement are designated by suitable reference characters in each of the views, and in which—

Figure 1 is a perspective view of my complete apparatus, the box and plate-holder being shown in position for dropping a plate from the holder into the box; Fig. 2, a vertical section on the line 2 2 of Fig. 1; Fig. 3, a side elevation of the box and showing the cover thereon; Fig. 4, a plan view of the box with the cover removed, and Fig. 5 a section at right angles to that shown in Fig. 2.

In the practice of my invention I provide a developing and fixing box *a*, which is of the general form of a photographic plate and is provided with an enlarged base *a*<sup>1</sup>, the bottom of which is curved longitudinally and transversely in the form of a rocker, so that the said box may be rocked in any direction, and the central bottom portion of the base *a* is weighted with lead or other suitable material, as shown at *a*<sup>2</sup>, so that said box will normally stand in an upright position. The box *a* is provided at one side of the top there-

of with a vertically-arranged extension *a*<sup>4</sup>, having a filling orifice or passage *a*<sup>5</sup>, the outer end of which is adapted to receive a funnel or similar device *b*, as shown in dotted lines in Fig. 5, and the front and back of the box *a* is provided with ruby-glass panels *c*.

Within the box *a* is a fixing and developing chamber *a*<sup>6</sup>, at the opposite sides of which are grooves or spaces *a*<sup>7</sup>, the top walls of which are inclined outwardly, as shown at *a*<sup>8</sup>, and within the top portion of the box *a* and at a predetermined distance below the extreme top thereof is placed a slide *d*, which is adapted to be inserted through a transverse slot or opening *d*<sup>2</sup> in one side of said box, and the slide *d* is provided at one end with the usual handle *d*<sup>3</sup>.

Above the transverse slot or opening *d*<sup>2</sup> in one side of the box *a* the top portion of said box is cut out to form a recess *d*<sup>4</sup> in said side of the box, and the chamber *a*<sup>6</sup> in the box is enlarged at the top thereof or above the plate *d* in order to receive the end of a plate-holder *e*, and this enlargement of the top portion of the chamber *a*<sup>6</sup> forms shoulders *e*<sup>2</sup> in the opposite side walls and in the front and back walls of said chamber, on which the plate-holder *e* rests when said plate-holder is in the position shown in Figs. 1, 2, and 5. Within the top portion of the box *a* and above the plate *d* are placed spring-operated packings *f* of the usual form, which are adapted to bear on the opposite sides of the plate-holder *e*, at the lower end thereof, when said plate-holder is inserted into the top of the box *a*, so as to exclude all light from said box. The plate-holder *e* is substantially of the usual form in its general construction and comprises the usual rectangular frame *e*<sup>3</sup>, having a central partition *e*<sup>4</sup>, forming two plate-chambers *e*<sup>5</sup>, each of which is adapted to receive the usual photographic plate *e*<sup>6</sup>, and said plate-holder is provided in its opposite sides with the usual removable shutter-plates *g*, provided at one end with handle-pieces *g*<sup>2</sup>, and said shutter-plates are adapted to be inserted into and withdrawn from the upper end of the plate-holder in the usual manner, and in the top portions of the chambers *e*<sup>5</sup>, in which the photographic plates *e*<sup>6</sup> are placed, are springs *g*<sup>3</sup>,

against which the photographic plates  $e^6$  press when in position in the plate-holder, and in the bottom end portion of the plate-holder is placed two slides  $h$ , which are adapted to be inserted into the plate-holder and withdrawn therefrom and which when in position securely hold the photographic plates in the plate-holder  $e$ , and said slides  $h$  are provided at one end with handle-pieces  $h^2$  in the usual manner, and below the slides  $h$  the chambers  $e^5$ , in which the photographic plates  $e^6$  are placed, open downwardly through the lower end of the plate-holder, as clearly shown at  $h^3$  in Figs. 2 and 5. The plate-holder  $e$  is also provided in the opposite sides of the top end portion thereof with spring-operated packings  $h^1$  in the usual manner, which serve to close the openings through which the shutter-plates are inserted and which also bear on said plates when the latter are in position and prevent light from entering the chambers  $e^5$ .

The box  $a$  is provided, as shown in Fig. 3, with a cover  $i$ , which may be applied thereto when the apparatus is not in use and by which the chamber therein may be kept clean at all times.

The operation will be readily understood from the foregoing description, when taken in connection with the accompanying drawings and the following statement thereof. Whenever it is desired to develop a photographic plate the box  $a$  is filled with the necessary developing liquid. The lower end of the plate-holder  $e$  is then inserted into the top of said box, as shown in Figs. 1, 2, and 5. The plate  $d$  is then removed and one of the plates  $h$  is withdrawn, so as to permit one of the photographic plates  $e^6$  to drop into the box  $a$ . The plate  $d$  is then again inserted, after which the plate-holder is removed and the process of developing the photographic plate begins. In this operation the box  $a$  may be rocked in any direction on the base  $a^2$  thereof, and the process of development may be watched through the colored glass panels  $c$ . After the process of developing is completed the developing liquid is drained from the box and the said box is refilled with the fixing liquid, and the process of fixing the plate or the print thereon is carried on in the same manner as the process of developing. At the end of the fixing process the plate may be removed from the box  $a$  and the plate-holder  $e$  may be inserted into the top of said box and another plate discharged thereinto and the processes of developing and fixing repeated. After the fixing process has been completed, as hereinbefore described, the photographic plate may be stained so as to regulate the color of the picture made therefrom, if desired, and this operation is performed in the same manner as the developing and fixing process, the only difference being in the character of the liquid employed.

From the foregoing description it will be

seen that the plate-holder  $e$  which I employ differs from the ordinary plate-holder only in the fact that the lower ends of the chambers  $e^5$ , in which the photographic plates  $e^6$  are placed, are open and provided with the removable slides  $h$ , and springs  $g^3$  are placed in the top of said chambers instead of the bottom thereof.

It will thus be seen that I provide an apparatus of the class specified by means of which a photographic plate may be developed without the use of a dark room, and my improved apparatus is simple in construction and operation and comparatively inexpensive and may be used under all conditions and circumstances where apparatus of this class is required.

In the use of this apparatus the box  $a$  is always held in an upright position, and the form of the base  $a^2$  thereof is not absolutely essential; but I prefer this form for the reason that it facilitates the operation of the apparatus, and especially of the box  $a$ , in the various processes hereinbefore described, and in discharging the various liquids from said box the latter may be turned on one side and the said liquids may be discharged through the opening or passage  $e^5$ , or additional or supplemental openings or passages may be provided in the bottom portion of said box for this purpose.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a photographic apparatus of the class described, a box which is oblong and rectangular in cross-section and the chamber of which is enlarged at the top and adapted to receive the end of a plate-holder, the wider sides of said box being provided with colored panels, and the narrower sides thereof with vertically-arranged grooves enlarged at the top, said box being also provided near the top with a slide which is adapted to close the chamber therein; and a plate-holder one end of which is adapted to be inserted into the top of said box above said slide, said plate-holder being provided with the usual plate-holding chambers which open downwardly through the end of the holder which is adapted to be inserted into said box, and with transverse slides which are adapted to close said chambers at said end, said plate-holder being also provided with the usual removable shutters, substantially as shown and described.

2. In a photographic apparatus of the class described, a box which is automatically held in an upright position and open at the top and provided near the top with a transversely-movable slide, said box being also provided in its opposite sides with colored glass panels, substantially as shown and described.

3. In a photographic apparatus of the class described, a box which is automatically held in an upright position and open at the top and provided near the top with a transversely-movable slide, said box being also provided in its

opposite sides with colored glass panels, and a plate-holder adapted to be inserted into the top of said box above said slides and which is provided with means for dropping a plate  
5 into said box, substantially as shown and described.

4. In a photographic apparatus of the class described, a box having a weighted base  
10 whereby it is normally held in an upright position, the bottom of said base being formed so that said box will rock in any direction, the sides of said box being provided with colored glass panels and the top portion thereof being  
15 provided with a transversely movable and removable slide, substantially as shown and described.

5. In a photographic apparatus of the class described, a box having a weighted base  
20 whereby it is normally held in an upright position, the bottom of said base being formed so that said box will rock in any direction, the sides of said box being provided with colored glass panels and the top portion thereof being  
25 provided with a transversely movable and removable slide, and above which the chamber in said box is enlarged and adapted to receive

the end of a plate-holder, substantially as shown and described.

6. In a photographic apparatus of the class described, a box having a weighted base  
30 whereby it is normally held in an upright position, the bottom of said base being formed so that said box will rock in any direction, the sides of said box being provided with colored glass panels and the top portion thereof being  
35 provided with a transversely movable and removable slide, and above which the chamber in said box is enlarged and adapted to receive the end of a plate-holder, said plate-holder  
40 being provided with devices which form a part thereof and which are adapted to drop a plate therefrom into said box, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 9th day  
45 of May, 1904.

EDWARD R. PETRIE.

Witnesses:

F. A. STEWART,  
C. J. KLEIN.