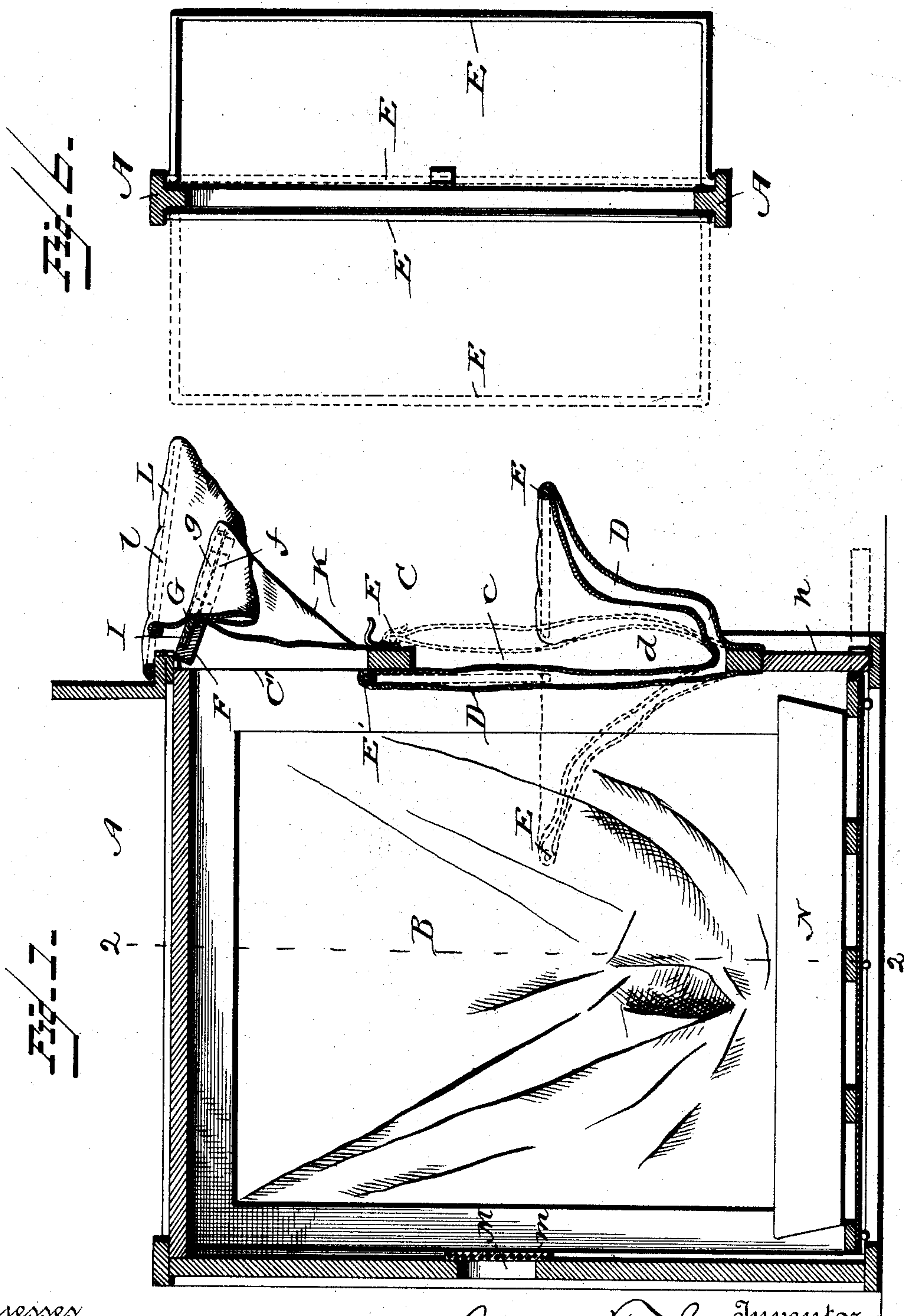


J. F. SNAPP.

PHOTOGRAPHER'S CHANGING AND DEVELOPING BOX.

No. 506,343.

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UNITED STATES PATENT OFFICE.

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PHOTOGRAPHER'S CHANGING AND DEVELOPING BOX.

SPECIFICATION forming part of Letters Patent No. 506,343, dated October 10, 1893.

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To all whom it may concern:

Be it known that I, JAMES F. SNAPP, a citizen of the United States, residing at Garza, in the county of Denton and State of Texas, have invented certain new and useful Improvements in Photographers' Changing and Developing Boxes; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The object of my invention is to provide improved apparatus for use in changing and developing photographic plates, and more especially a portable apparatus of this kind, that shall be most convenient to use, and enable the handling of plates with complete safety.

To these ends and to such others as the invention may pertain, such invention consists in the apparatus having the construction, and combination of parts hereinafter specified.

In the annexed drawings, Figure 1, is a vertical longitudinal section of my apparatus, on the line 1—1 of Fig. 2; Fig. 2, a vertical transverse section, on the line 2—2 of Fig. 1; Fig. 3, a detail plan view of the means enabling the operator to look into the box; Fig. 4, a like view of the same with the cloth covering removed; Fig. 5, a section on the line *y—y*, of Fig. 4, and Fig. 6 is a detail, partly in section and partly in elevation, showing the frames E and the part to which they are pivoted.

My apparatus, when arranged for use, is in the form of a substantially square box A, of such size as to enable plates to be conveniently handled by the two hands of the operator, inserted through openings in its opposite sides B, B. The sides B, B, are of cloth or other opaque, flexible material and have hand admitting openings at their centers. To automatically close these openings when the hand is withdrawn and also to insure the fabric around the same closely fitting the hand or arm when inserted, so that the light may not pass therethrough, I provide around each of said openings an elastic cord, that normally tends to close the opening by contracting or drawing the fabric thereat to-

gether. The sides B, B, are made somewhat full, loose, or sleeve like in form so as to allow all necessary freedom of movement of the hands within the box.

Through the side C of the box, is an opening *c* of such size as to permit the passage of the plate holders or dark slides in which are the plates. This opening has a double cover formed of a piece of opaque flexible material D, that has one end attached within and the other without the box at the lower side of the opening, being from each of these points carried upward sufficiently high to pass beyond the top of the opening, and then downward within the opening nearly to its lower side again.

It will be seen that there is provided a double fold of the material both on the inside and the outside of the box, thus enabling the opening to be closed from either, or, both sides. The upper half of each double fold is attached to a pivoted frame E, placed between the folds and consisting of two, short parallel arms connected by a longer arm. This frame is adapted to be turned from a vertical to a horizontal position, in the former closing the opening, and in the latter leaving it free. One frame swings within the box, and other outside of it, and for each a suitable hook is provided to lock it in its vertical position.

To get plates into the box without admitting light through the opening *c*, the outer frame is turned to a horizontal position as shown in Fig. 1, and the inner frame placed in its vertical position to cover the opening *c* on the inside. Plates are now placed in the pocket or receptacle *d* which will be thus formed, the plates of course being in their receptacle and the slide closed and next the outer frame turned to a vertical, closing position. It is then necessary simply to place the hands within the box by the means described, and lower the inner frame to a horizontal position and remove the plates from the receptacle. The removal of the plates from within the box is effected by simply reversing the operation described.

To enable the operator to look into the box I have provided the following means, viz:—Above the opening *c* is a second opening C' from whose upper edge, outward, projects a plate F, having through it two openings *f, f*, one for each eye, and upon this plate is a sec-

ond sliding one G having like openings *g, g*, registering with the openings *ff*. Both plates as shown are notched between the openings at *f'*, and *g'* respectively to receive the nose, but the former notch is larger, to enable the plate G to be moved without hinderance from the nose coming into contact with the sides of the notch *f'*. Pivoted to the plate F, so as to move between both plates to cover and uncover the eye openings, are two shutters H. H. Said shutters are moved by the movements of the plate G, which has a pin *h* engaging a slot in each. When said plate is moved inward, as by the pressure of the head, when placed against it, with the nose in the notch *g'*, and the eyes opposite the eye openings, said shutters will be swung to uncover said openings, while to cause them to be instantly covered again, when the head is removed, a spring I is provided that is seated in a recess provided in the rear edge of the plate G, and moves it outward.

The plate F is preferably hinged at its rear edge, as shown, and is held yieldingly in proper position by a spring J.

The opening C around the devices just described is inclosed by a loose piece of cloth K, that is supported at the top so as not to interfere with access to the eye openings, by a light wire frame L that has a semi-circular part *l* to accommodate the head of the operator, when he places his eyes over said openings. The interior of the box is illuminated by an opening M, glazed with a ruby glass *m*.

In the bottom of the box I place a tray or pan N for the reception of chemicals used in developing, which can be removed and replaced through an opening closed by a hinged door *n* in the box side C.

It will be seen that with my device, the plates can be placed within and removed from the box, most conveniently and easily, and without the admission of light; that the insertion and removal of the hands, is likewise possible, without entrance of light, and their movements within the box unimpeded; and that the means for enabling the operator to look into the box are exceedingly convenient, making the use of cloths or other like coverings wholly unnecessary, the eye openings being kept closed until the eyes are over them, and being instantly closed when the eyes are removed and pressure on the plate G removed. This last referred to feature of my invention, it will be apparent, is applicable to cameras for focusing purposes and I wish it understood that I do not limit myself herein to its use with a plate changing and developing chamber or box.

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

1. In a photographic changing and developing box, a box or compartment having flexible sides, and movable shutters mounted to be operated by pressure of the head of

the operator, and a hinged plate carrying said shutters, substantially as shown and described.

2. In a photographic changing or developing box, a box or compartment having an opening, combined with an outer and an inner cover constructed of double flexible material with its ends attached to two hinged or pivoted frames, one upon each side of said opening for independent movement in opposite directions, and constructed to hang loosely to form a pocket substantially as shown and described.

3. In a photographic changing or developing box, the combination with a suitable chamber having an opening in the same, of a hinged plate covering said opening and itself having openings and carrying a shutter adapted to cover the openings in the plate, and means to be engaged by the head of the operator to actuate said shutter, substantially as shown and described.

4. In a photographic changing or developing box, the combination of the box or compartment having openings through which the interior of the compartment may be inspected, a hinged plate over said opening and having openings and adapted to be operated in the use of the device, the shutters carried by said plate and covering the openings therein, and a spring acting on said plate, substantially as shown and described.

5. In a photographic changing or developing box, the combination of the box or compartment, having the eye-openings the movable plate carrying shutters and adapted to open and close said openings, springs connected with said shutters and adapted to normally hold the same closed, and a hinged plate for permitting the shutters to be opened by the operator in using the device, substantially as shown and described.

6. In a photographic changing or developing box, the combination of a box or compartment, said box having shutter controlled openings for the inspection of the chamber, a hinged plate carrying shutters, a spring acting on said plate, the chamber having also an opening for the reception of a developing tray, substantially as shown and described.

7. In a photographic changing or developing box a box or compartment having shutter-controlled openings combined with a hinged frame having a covered portion supporting a flexible cloth, a hinged plate on said frame, a spring acting thereon, and means for actuating the shutters by pressure by head of the operator, substantially as shown and described.

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

JAMES F. SNAPP.

Witnesses:

D. E. SNAPP,

FRANKLIN H. HOUGH.