(No Model.)

G. H. COBB.

PHOTOGRAPHIC APPARATUS FOR HOLDING AND DEVELOPING DRY PLATES.

No. 444,422. Patented Jan. 13, 1891.

Fig. 1.

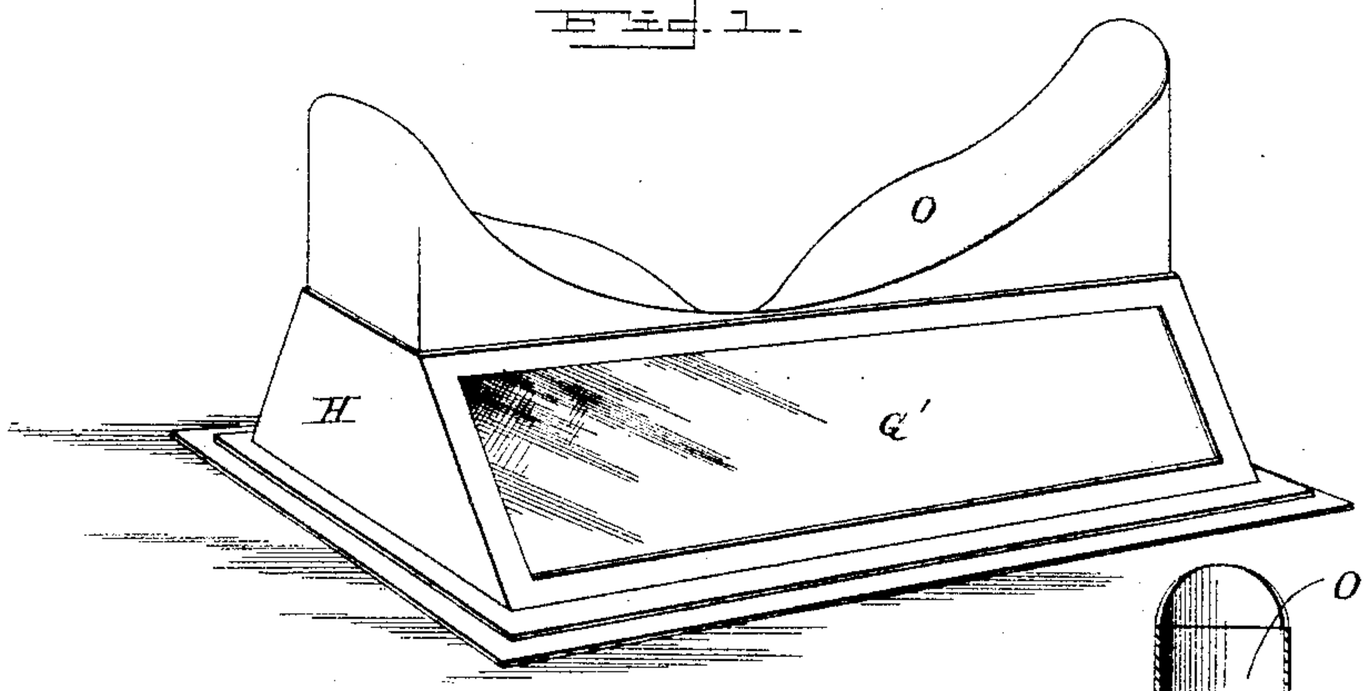


Fig. 2.

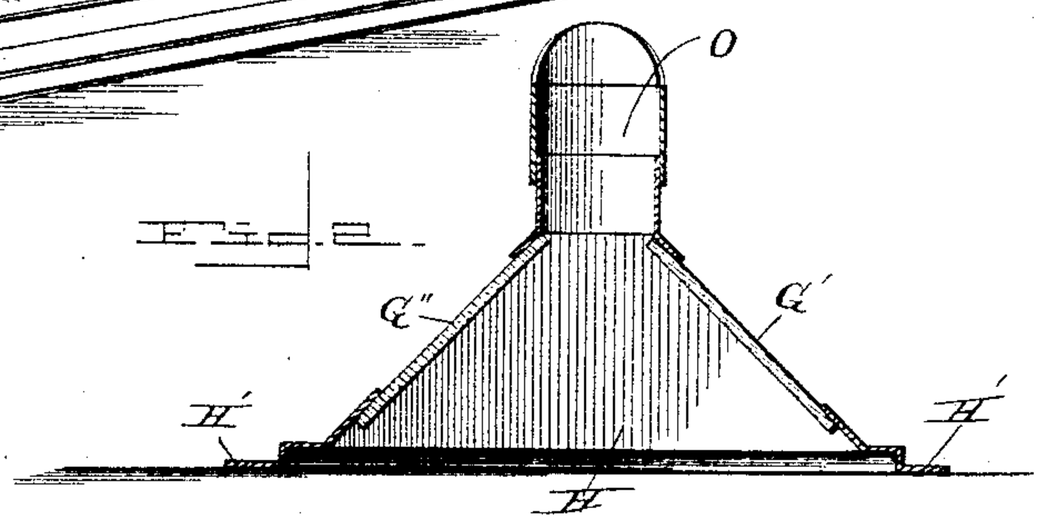


Fig. 3.

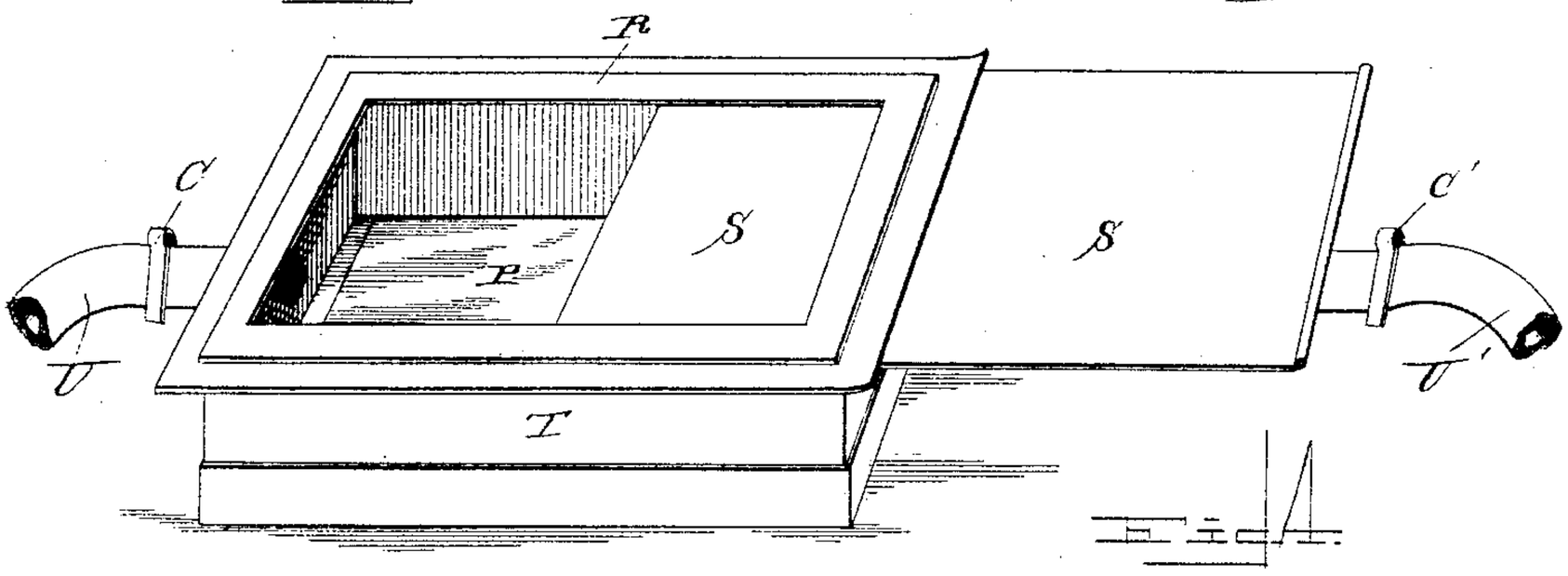
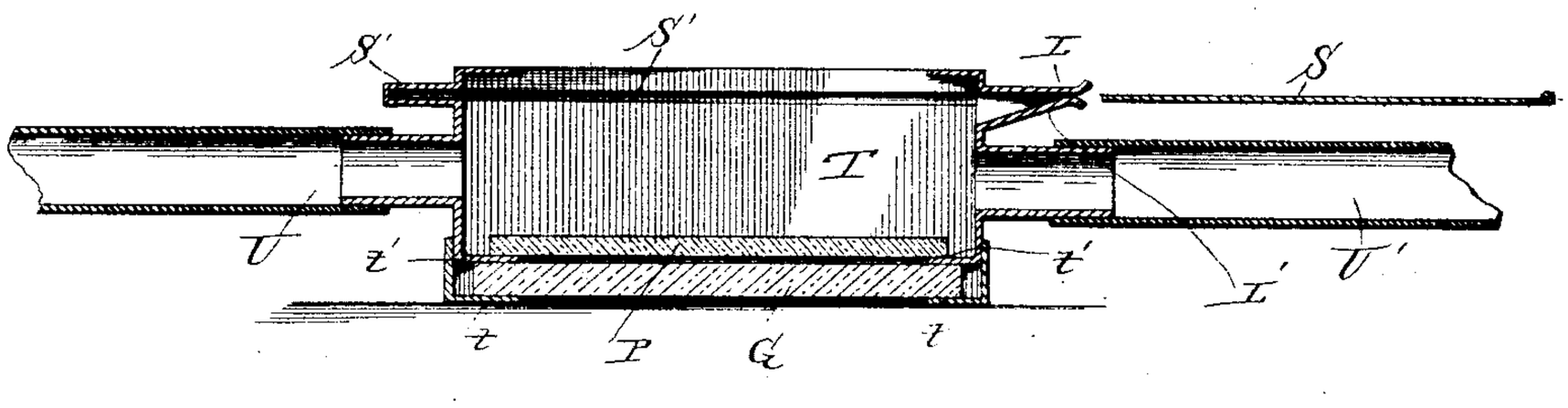


Fig. 4.



WITNESSES.

Walter N. Pumphrey.

J. R. Broadbent

INVENTOR.

George Henry Cobb by Butterworth, Hall, Brown & Smith his Attorneys

UNITED STATES PATENT OFFICE.

GEORGE HENRY COBB, OF ELMIRA, NEW YORK.

PHOTOGRAPHIC APPARATUS FOR HOLDING AND DEVELOPING DRY-PLATES.

SPECIFICATION forming part of Letters Patent No. 444,422, dated January 13, 1891.

Application filed April 12, 1890. Serial No. 347,635. (No model.)

To all whom it may concern:

Be it known that I, GEORGE HENRY COBB, a citizen of the United States, residing at Elmira, in the county of Chemung and State of New York, have invented certain new and useful Improvements in Photographic Apparatus; and I do hereby 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.

My invention consists of the improved apparatus for use in holding and developing dry-plates in photography, hereinafter to be more particularly described and claimed.

In the drawings, Figure 1 is a perspective view of the detachable extension to the tray, which constitutes the main feature of my apparatus. Fig. 2 is a vertical cross-section of the same. Fig. 3 is a perspective view of the tray. Fig. 4 is a vertical cross-section of the same.

While the advance in the art of photography has placed in the hands of the amateur photographer all varieties of small and convenient forms of apparatus for taking pictures, the improvement along this line in cameras has not been kept pace with by a similar simplification of the apparatus for developing plates on which views are taken and the printing of said views. It is still necessary to have a large dark room for the development of these plates, and this renders it generally necessary for the amateur photographer to wait until his plates accumulate and then send them to a professional photographer for development. To avoid this and to produce a small and conveniently portable apparatus in which the development of what is known as "dry-plates" may be successfully carried on, I have designed the apparatus herein described and illustrated, in which—

T is a small tray of sufficient size to admit a dry-plate, and of an inch, or thereabout, in depth. The tray T has its bottom formed of a glass plate G, which glass is of the kind known as "ruby" glass, which admits only the non-actinic rays of sunlight. This plate G may be held to the tray in any desirable manner, the arrangement illustrated in Fig. 4 consisting of certain lugs or projecting flanges *t' t'* on the bottom of the tray, which overlap the plate G, while a frame T', fitting over the tray, has similar inwardly-projecting flanges *t*, which grasp the outer edge of the plate G and hold the same against the bottom of the tray. Suitable tubes U and U' open into the interior of the tray and form a water-tight connection therewith. Clips C C' or other equivalent and convenient forms of apparatus are used to close these tubes at will. The slide S fits tightly in grooves in the top of the tray, passing between the elastic lips L L' and terminating in the pocket S', so that when in place it completely shuts off all access of light to the interior of the tray.

An upper extension H is provided for the tray, which is preferably detachable therefrom. In the construction shown, said extension has projecting flanges H', which fit over a raised ledge R on the upper face of the tray, and thereby maintain the extension in position and prevent the admission of sunlight through any cracks or open spaces between the surfaces of the parts in conjunction. This extension H has an opening O, which is so shaped as to fit the face of the operator touching a line passing across the forehead and back across the face under the eyes. This extension is preferably of some partially elastic material, so that the contact between it and the face of the operator may be perfect.

If desirable, plates of ruby glass G' G'' may be inserted in the form of panels in the sides of the extension H, as shown in Figs. 1 and 2, although in many cases the glass plate G admits sufficient light for the purposes in view.

The mode of operation of my invention is the following: A dry-plate P, which has been exposed in the camera, is put in the tray T at night and the slide S shut. When it is desired at any time to develop said plate, the extension H is placed on top of the tray and a bottle containing a developing solution is attached to one of the tubes, as U. The operator then places his eyes at the opening O in the extension, closing said opening completely and withdraws the slide S. The light admitted through the panels of ruby glass enables him to watch the plate as he pours the developing solution through the tube U onto it. The bottle which contains this so-

lution should be of an opaque material or else ruby glass. When the operator sees that the development of the plate has advanced far enough, he permits the developing solution to run back into the bottle by tipping the tray and closing the tube U by means of the clip C. He then attaches a bottle containing a fixing solution to the other tube U′, and opening the same pours in the fixing solution. After this has been returned to the bottle one of the tubes may be attached to a water-supply and the plate washed in the tray.

I have found that the single plate or panel of ruby glass G is usually sufficient, but that the additional plates G′ G″ are sometimes desirable and of value. The tray T may of course be also used as a plate holder, in which case suitable cleats for holding the plate P in place at the bottom of the tray would be used, and then the tray would be introduced bodily into the camera and the plate exposed while in the tray. Removing the tray and ending its functions as a plate-holder, the plate would be already in it, and the development may be proceeded with at once, whereas when a separate plate-holder is used the plate cannot be removed from the original plate-holder until night-time, or until it is taken into some dark room, where the transfer from the plate-holder to my developing-tray can be made.

An elastic band may be used to hold the detachable extension in place, and this or another band may be also used to surround the head of the operator and hold the apparatus close to his face.

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

1. In a developing-tray for photographic use, the combination of the tray, the upper extension thereof which has an opening that fits the face of the operator, the panels of glass in said extension for admitting non-actinic light, the slide for shutting off light, the tubes discharging into the interior of the tray, and apparatus for closing said tubes at will, substantially as described.

2. In a developing-tray for photographic use, the combination of the tray, the upper extension thereof which has an opening that fits the face of the operator, the panels of glass in said extension for admitting non-actinic light, the slide which shuts off light from above, the tubes discharging into the interior of the tray, and the clip for closing said tubes, substantially as described.

3. In a developing-tray for photographic use, the combination of the tray, the upper extension thereof which has an opening that fits the face of the operator, the slide which shuts off light from above, the panel of glass in the bottom of the tray for admitting non-actinic light, the tubes discharging into the interior of the tray, and the clip for closing said tubes, substantially as described.

4. In a developing-tray for photographic use, the combination of the tray, the upper extension thereof which has an opening that fits the face of the operator, the panels of glass in said extension and the panels of glass in the bottom of the tray for admitting non-actinic light, the slide for shutting off light, and the tubes discharging into the interior of the tray, substantially as described.

5. In a developing-tray for photographic use, the combination of the tray, the upper detachable extension thereof which has an opening that fits the face of the operator, the panels of glass in said extension for admitting non-actinic light, the slide for shutting off light, the tubes discharging into the interior of the tray, and apparatus for closing said tubes at will, substantially as described.

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

GEORGE HENRY COBB.

Witnesses:

GEO. C. MILLER,

HARRY M. CLARKE.