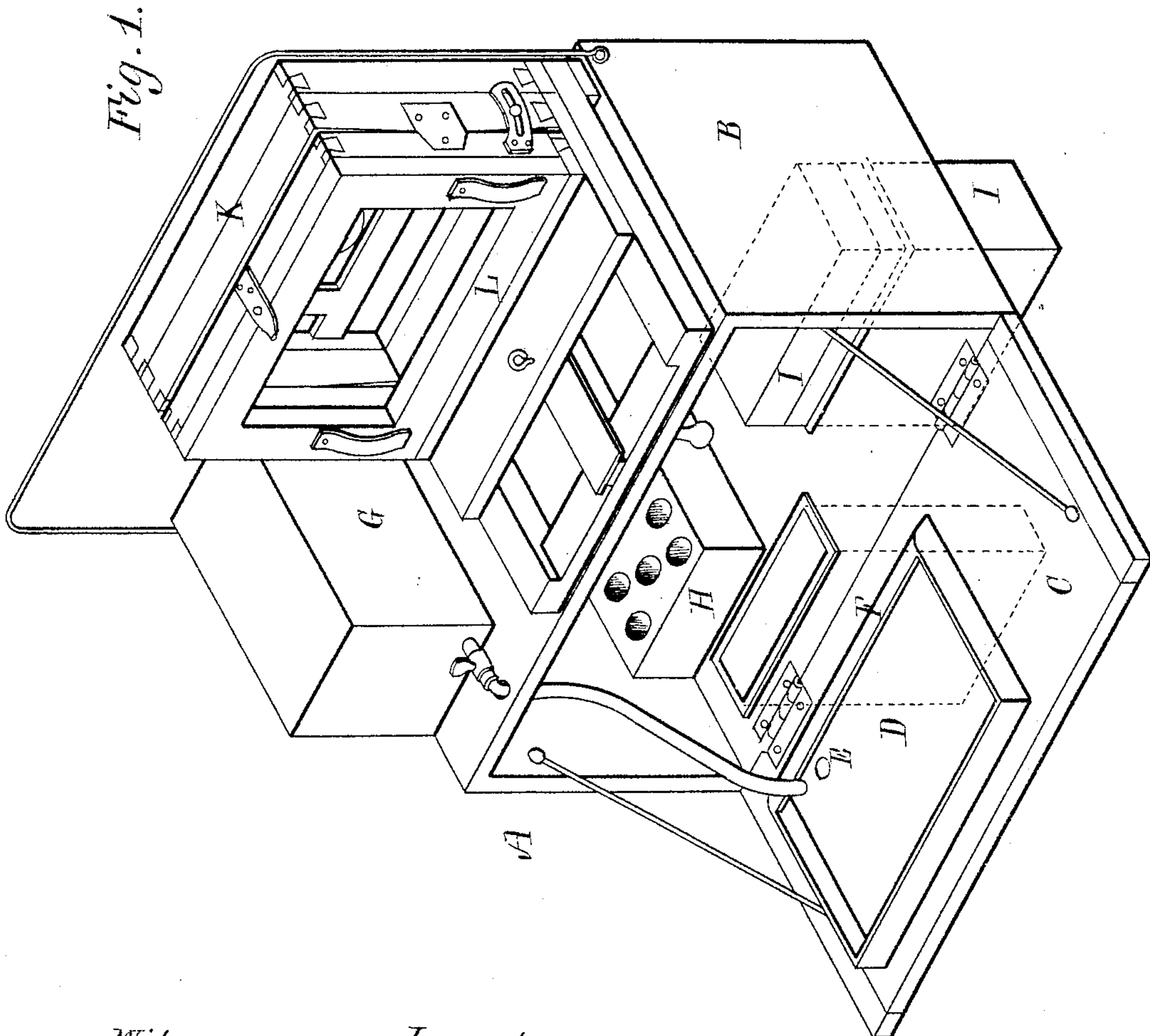


T. H. BLAIR.
Photographic Apparatus.

No. 211,957.

Patented Feb. 4, 1879.



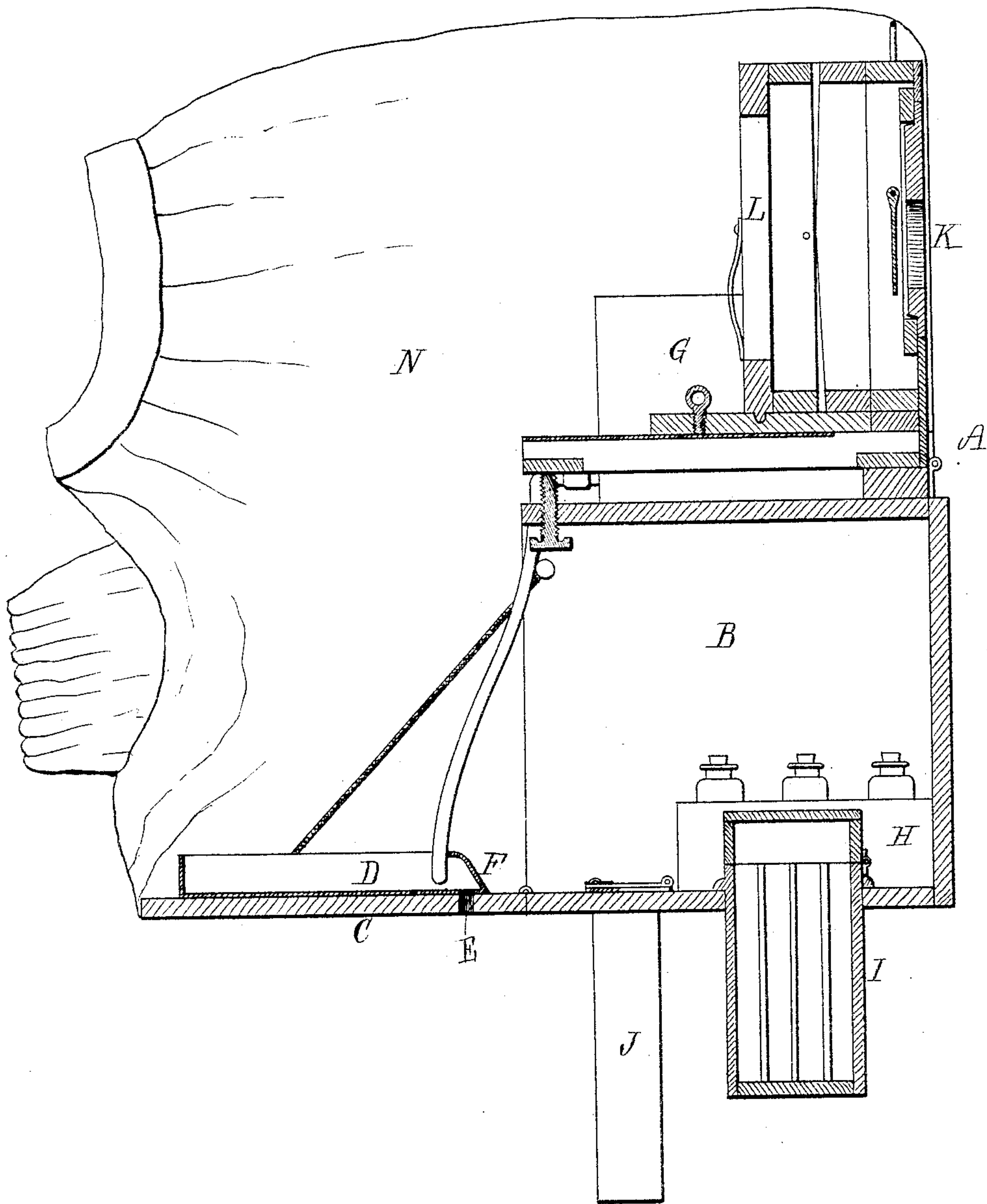
Witnesses. Inventor.
Wm. Tull Andrews for Thomas H. Blair.
Louis A. Curtis J. Curtis. Atty.

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Fig. 2.



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UNITED STATES PATENT OFFICE.

THOMAS H. BLAIR, OF FRANKLIN, MASSACHUSETTS.

IMPROVEMENT IN PHOTOGRAPHIC APPARATUS.

Specification forming part of Letters Patent No. **211,957**, dated February 4, 1879; application filed August 21, 1878.

To all whom it may concern:

Be it known that I, THOMAS H. BLAIR, of Franklin, county of Norfolk, State of Massachusetts, have invented certain Improvements in Photographic Apparatus, of which the following is a specification:

The purpose of my present invention is to simplify the process of making photographic pictures by the wet-plate method, reduce the bulk and cost of the apparatus, lessen the labor incident to the work, and obtain more satisfactory and perfect pictures as compared with previous results.

I employ, in carrying out my invention, a cabinet, in which the entire work of adjusting the focus and sensitizing, exposing, and developing the picture-plate is carried on without recourse to a dark closet, other than that of the interior of the cabinet. The cabinet contains the camera and its necessary accompaniments, the chemicals for treating the picture-plate, the chemical bath, the box for containing the picture-plates, both before and after exposure, and the sink for washing and developing the plate—in fact, the entire apparatus necessary to produce wet-plate pictures—and is in itself a dark closet in which all the work is accomplished.

The front of the cabinet is open, except as covered by a hood of cloth or other material to exclude light, and which encircles the neck and arms of the operator, his head and hands being in the interior of the cabinet, while his body is upon the outside, and I am thus enabled to dispense with the dark slide heretofore universally used, and avoid the necessity of carrying it and the picture-plate from the camera to a dark closet to develop the picture. I am also enabled to see the subject through a proper window in the hood, whether a landscape or otherwise, while the plate is being exposed, and gain other important advantages, to be hereinafter alluded to.

The drawings accompanying this specification represent, in Figure 1, a perspective view of an apparatus or device embracing my invention, the hood before alluded to being omitted. Fig. 2 is a section of the apparatus with the hood attached.

In these drawings, A represents a case, or "cabinet," as it may be properly termed, such

cabinet being composed of a rectangular box, B, open in front, and provided with a door or vertical cover, C, to close it when not in use, this cover being arranged so as, when open, to drop into a horizontal position, as shown in Figs. 1 and 2 of the drawings, and constitute an operating-table.

The sink for washing and developing the negative plate is shown at D as secured flatwise to the inner side of the door C, in order that when the door is open the sink is available for use, such sink having an escape-opening, E, by which the water or other liquids used in the developing of the plate escape. The inner or lower edge, F, of the sink is in the form of a trough, in order that when the door is closed any small amount of liquid which may remain in the sink shall not escape into the interior of the box B, or the dark closet, as it practically is.

A water-tank, G, may be placed on top of the box B, and a rubber tube or other pipe employed to connect it with the sink, to provide the latter with the requisite supply of water. In one corner of the closet B—for instance, the rear left-hand corner—I place the rack H, containing the bottles of chemicals employed in treating the picture-plate, while in the opposite rear corner I place a box, I, for containing the plates, both before and after exposure; and for convenience and safety when traveling, or when the cabinet is not in use, I arrange this box in such manner that it may be raised into the dark closet, and when the cabinet is in use the box is lowered, in order to provide all the room possible in the closet and enable ready access to be had to the plates.

The bath in which the sensitizing of the plate is effected is shown at J as arranged in the front left-hand corner of the closet B, and like the box I, and for the same reason, may be adapted to be raised and lowered.

The camera is shown at K in the drawings as of ordinary construction in general, and swiveled upon the top of the box B, and otherwise arranged so that its position may be moved to adapt its lens to the object to be photographed; and in lieu of the dark slide now universally employed to shield the sensitized plate from the action of light, in carry-

ing it from the dark closet to the camera, and vice versa, I employ simply a rectangular frame, L, of a size corresponding with that of the plate, and provided with clasps for securing the plate to it, such frame, with the plate secured to it, being introduced into the camera when the picture is to be taken.

To darken the cabinet—or, in other words, to convert it into a dark closet—I employ a hood, N, of cloth or any suitable material, and I secure three sides or edges of this hood about the top and front of the cabinet, while the remainder of the open portion of the hood is converted into a neck-band to encircle the neck of the operator, and two sleeves to inclose the arms of the operator above his elbows, his head and hands being in the interior of the cabinet or the dark closet when a picture is to be taken. To slightly illuminate the interior of the upper part of the cabinet—that is, sufficiently so to enable the operator to carry on the necessary operations therein, but more particularly to view the picture to be taken—I employ a small window of yellow glass in some proper part of the hood, while to slightly illuminate the lower part of the front portion of the box B, I employ in the adjacent part of the hood N a window of yellow cloth or other material.

To make a photographic picture within the apparatus, I proceed briefly as follows: The neck and arms of the operator are inclosed in the hood, as stated, thus enabling him to use his hands and eyes in the dark closet in adjusting the focus of the camera, and preparing, exposing, and developing the plate, and the box I and bath J lowered until their upper edges are flush with the bottom of the closet, it being understood that the door of the closet is open, and constituting an operating-table, as shown in Fig. 1 of the drawings. The operator now adjusts the camera until the focus, as evidenced upon the focusing-glass, is satisfactory; and I would here call especial attention to one feature of very great merit in my invention.

Heretofore, in taking photographic views, no access can be had to the plate after it is placed in the dark slide and introduced into the camera consequently all parts of the picture (if a landscape, the trees, sky, water, and foreground, &c.) are exposed an equal length of time, the result being that if the exposure is continued long enough to obtain a perfect copy of one part of the picture (the trees, for instance) the remainder (the sky, for instance) is injured or ruined by too long exposure.

With my system of operating, having access to the focus-glass, camera, and plate during the entire time of adjusting the focus and exposing the plate, I am enabled to conceal a portion or portions of the picture and vary the length of time during which these various parts are exposed. One method by which to accomplish this is, first, to focus the picture on the focusing-glass; then, if I wish

to conceal the sky, for instance, until another part of the picture has been exposed a portion of the requisite time, I cut a sheet of yellow paper, or other suitable material, to the outline of the sky, by means of the reflection upon the focusing-glass, and after the plate has been sensitized and placed in the camera I place this shield before the sky portion of the picture, and allow it to remain there as long as my judgment dictates, while other portions of the picture are exposed, subsequently removing the shield and permitting of exposure of the portion concealed by it.

By this method I am enabled to obtain a photographic picture of a landscape, for instance, in which all parts are equally perfect.

The focus having been obtained, as before explained, the operator now selects a plate from the box I, and has recourse to his chemicals and the bath J, and sensitizes such plate, and after securing it to the frame L places it in the camera. The plate is now exposed the requisite length of time and removed to the sink D, where the developing is effected and the plate subsequently returned to the box I for safe keeping.

I do not restrict myself to the arrangement of details as hereinbefore explained, as the position of the various features or elements of the device may be varied without departing from the intent and scope of my invention, which I consider to embrace the combination and relative arrangement of a camera and dark closet or tent in such manner that the operator has access to the camera and plate during the entire time of adjusting the focus and sensitizing, exposing, and developing the plate, and so that these operations may be carried on in the same cabinet or inclosure without exposure to outside light.

My apparatus is very compact and portable, and can be manufactured at small cost, and will enable the art of photographing by the wet-plate process to be easily carried on by amateurs in the field.

I therefore claim as my invention, and desire to secure by Letters Patent of the United States, the following:

1. The combination, with a photographic camera and a cabinet, of a hood, or its equivalent, constructed and arranged substantially as described, so that the operator has access to the dark closet or operating inclosure of the apparatus with his head and hands during the entire operation of adjusting the focus and sensitizing, exposing, and developing the negative, without necessity of removing his hands or head from said closet, as set forth.

2. An apparatus for taking photographic pictures, composed of the box B, with its door C, and hood N, constructed to admit the head and hands of the operator, substantially as set forth.

3. The combination of the box B, door C, sink D, hood N, plate receiver or box H, and bath J.

4. In a photographic apparatus, the receiver H and bath J, made adjustable vertically, substantially as and for the purpose set forth.

5. In the process of photographing with wet plates, in which the usual dark slide is omitted, and the operation of photographing is carried on in the interior of the cabinet which contains the camera, as set forth, a carrier for the plate, as herein specified.

6. The sink D, provided with the trough F at bottom.

7. The combination of the box B and the hood N, with its head and arm portions, substantially as and for the purposes described.

THOMAS H. BLAIR.

Witnesses:

F. CURTIS,

L. A. CURTIS.