

A. BARTOL.  
PHOTOGRAPHIC DEVELOPING APPARATUS.  
APPLICATION FILED MAY 23, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

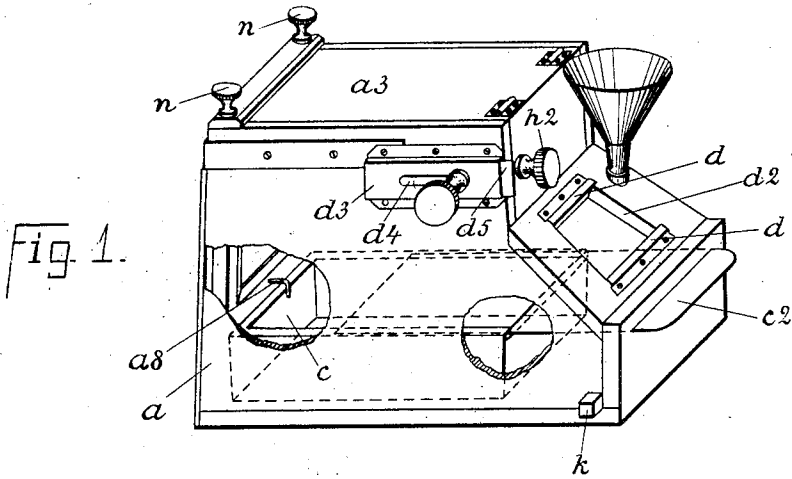


Fig. 1.

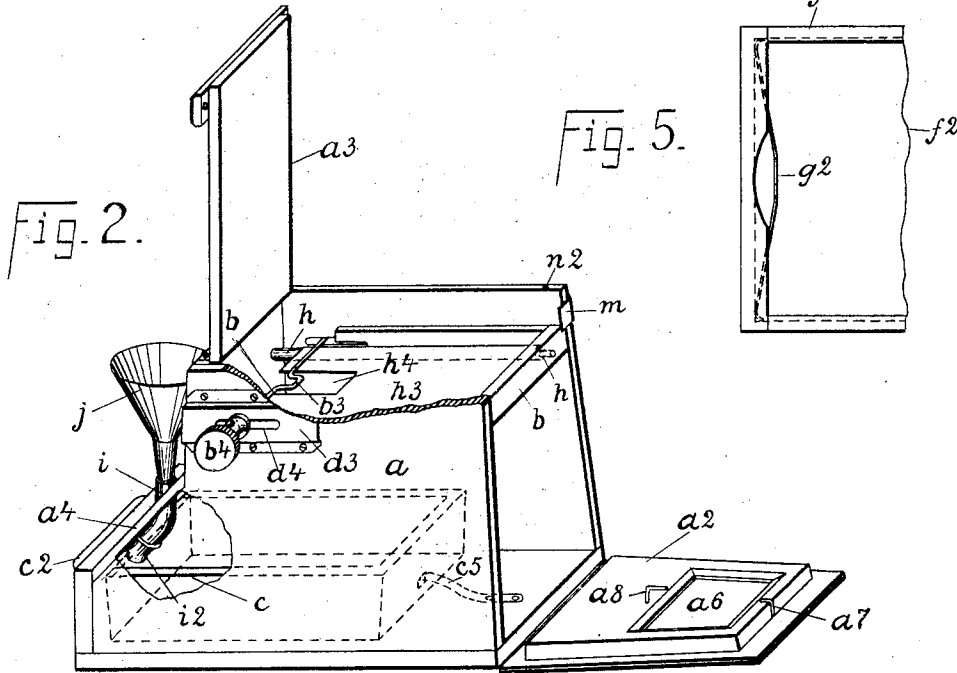


Fig. 2.

Fig. 5.

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2 SHEETS—SHEET 2.

Fig. 3.

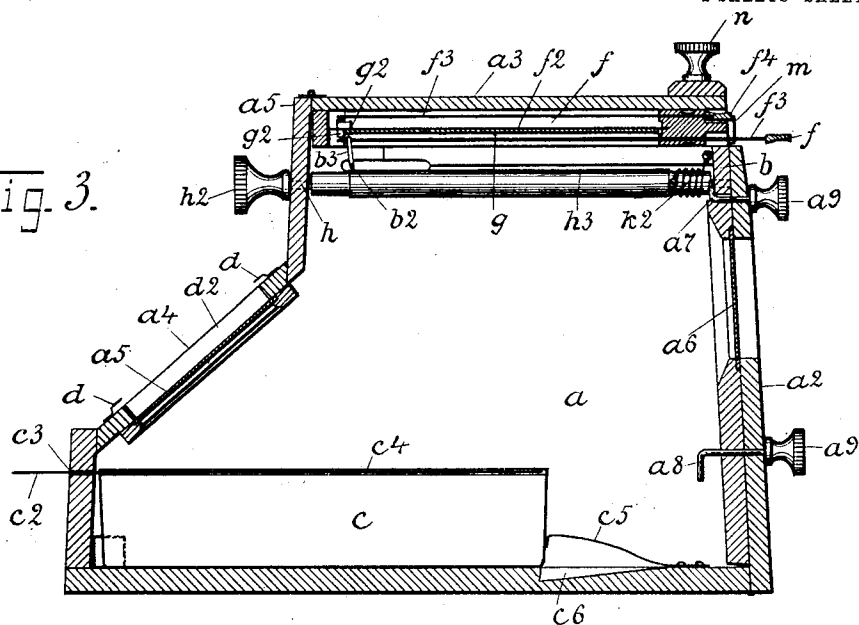
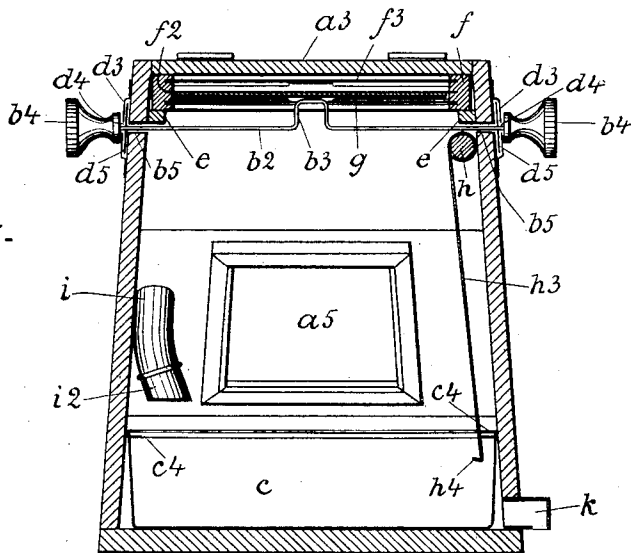


Fig. 4.



WITNESSES

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# UNITED STATES PATENT OFFICE.

AUGUST BARTOL, OF NEW YORK, N. Y.

## PHOTOGRAPHIC DEVELOPING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 745,558, dated December 1, 1903.

Application filed May 23, 1903. Serial No. 158,395. (No model.)

*To all whom it may concern:*

Be it known that I, AUGUST BARTOL, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Photographic 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.

The object of this invention is to provide an improved apparatus for developing photographic plates without the use of a dark room, said apparatus being compact in form and simple in construction and operation; and with this and other objects in view the invention consists in an apparatus of the class specified constructed as hereinafter described and claimed.

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 improved apparatus, part of the side wall of the box or case which I employ being broken away and the front end and left-hand side and top thereof being shown; Fig. 2, a similar view showing the right-hand side, the rear end, and the top, the rear end and top being open; Fig. 3, a sectional side elevation; Fig. 4, a sectional end elevation, and Fig. 5 a plan view of one end of a plate-holder which is used in connection with my improved apparatus.

In the practice of my invention I provide a main box or case  $a$ , having a hinged rear end  $a^2$  and a hinged top  $a^3$  and the central front end portion of which is inclined inwardly and backwardly at an angle of about forty-five degrees, as shown at  $a^4$ , and above which is an upright front end portion  $a^5$ , to which the top  $a^3$  is hinged.

In the front inclined end portion  $a^4$  is placed a ruby glass  $a^5$ , and the hinged rear end portion  $a^2$  is provided with a ruby glass  $a^6$  and with two hook members  $a^7$  and  $a^8$ , the shanks of which pass through the rear end portion  $a^2$  and are provided with knobs or handles  $a^9$ , and the object of the hook member  $a^7$  is to

hold the rear end member  $a^2$  closed, and to accomplish this result it operates in connection with a transverse bar  $b$  at the top of the box or case and forming a part thereof.

Within the box or case is placed a box  $c$ , which is open at the top and provided with a removable cover  $c^2$ , consisting of a slide adapted to be passed through a horizontal slot or opening  $c^3$  in the bottom front wall of the front end of the box or case, and the box  $c$  is provided at the top and in the sides thereof with keepers  $c^4$ , designed to receive the cover  $c^2$ , and this cover may be made of tin, rubber or any suitable material. In the rear portion of the box or case is secured a spring  $c^5$ , which is adapted to operate in connection with or to bear on the rear end of the box  $c$  and to hold it in the position shown in Fig. 3, in which position it is closely adjacent to the front bottom wall at the front of the box or case, and the bottom of the box or case is provided with a recess  $c^6$ , adapted to receive the spring  $c^5$  when it is depressed, so that the box  $c$  may be drawn backwardly, and the hook member  $a^8$  is designed to hold the box  $c$  in its rearmost position, and for this purpose said hook member may be manipulated so as to engage the rear end of the said box  $c$ .

The inclined portion  $a^4$  at the front end of the main box or case is also provided with keepers  $d$ , into which supplemental ruby or other colored glass may be inserted, if desired, and the amount of light which passes through the opening  $d^2$ , which is closed by the ruby glass  $a^5$ , may thus be regulated.

At the opposite sides of the main box or case and near the top corners thereof are placed longitudinal keepers  $d^3$ , each of which is provided with a longitudinal slot  $d^4$ , and in these keepers are placed slides  $d^5$ , through which passes a rod  $b^2$ , having a central crank portion  $b^3$  and end handle portions  $b^4$ , and the rod  $b^2$  is secured in the slides  $d^5$ , and said rods and said slides may be moved longitudinally of the main box or case, as will be readily understood, and the sides of the main box or case are provided with longitudinal slots or openings  $b^5$ , which correspond with the slots  $d^4$  in the keepers  $d^3$ .

Within the top portion of the main box or case and over the rod  $b^2$  are secured longitudinal cleats  $e$ , between which and the hinged

cover  $a^3$  is a space to receive a plate-holder  $f$ , and this plate-holder  $f$  is of well-known form and forms no part of this invention, but is provided with a central longitudinal partition  $f^2$  and with two slides  $f^3$ , arranged on the opposite sides of the partition  $f^2$ , and these slides are provided each with a handle  $f^4$ , whereby they may be drawn out from the plate-holder or inserted therein in the plate-holder  $f$ . In Figs. 3 and 4 I have shown an ordinary photographic plate  $h$ , and at the rear end of the plate-holder and at each side of the central partition  $f^2$  thereof is placed a spring  $g^2$ , and these springs  $g^2$  hold the photographic plates, one of which is shown at  $g$ , in the plate-holder in the usual manner, and it will be understood that all these features of the plate-holder are of well-known construction and form no part of this invention.

At one side of the main box or case and below the cleats  $e$  and below the rod  $b^2$  is a larger rod  $h$ , which is passed longitudinally through the main box or case and closely adjacent to the side thereof and one end of which projects at the front end of the main box or case and is provided with a knob or handle  $h^2$ , by which it may be turned, and the rear end of this rod is supported in the transverse bar  $b$  at the top of the rear end of the main box or case. That portion of the rod  $h$  within the main box or case is enlarged, and secured thereto is a horizontal partition-plate  $h^3$ , which forms a trap-door and which is preferably composed of sheet metal and the front end of which is provided with a loop  $h^4$ , which forms an acute angle to the body portion of said plate, and the front end of the plate  $h^3$  is provided centrally with a longitudinal opening  $h^4$ , in which the crank member  $b^3$  of the rod  $b$  works.

In the inclined portion  $a^4$  of the front end of the main box or case is secured a tube  $i$ , adapted to receive a funnel  $j$ , and the lower end of which is provided with an extension or a supplemental member  $i^2$ , which is adapted to discharge into the box  $c$ , and at one side of the main box or case and at the bottom thereof, and preferably at one of the front corners, is a discharge port or passage  $k$ , through which liquids may be discharged from the main box or case.

The normal position of the plate  $h^3$  is that shown in Fig. 2, and the rod  $h$  is provided with a spring  $h^2$ , one end of which is secured thereto and the other to the main box or case, and this spring serves to hold the rod  $h$  and plate  $h^3$  in the position shown in Fig. 2, in which said plate extends horizontally across the main box or case, and in order to depress the plate  $h^3$  into the position shown in Fig. 4 the rod  $h$  is turned by the knob or handle  $h^2$ .

The operation is as follows: When the plate  $g$  has been exposed in the camera in the usual manner, the corresponding slide  $f^3$  is inserted into position within the plate-holder, and the plate-holder  $f$  may then be removed from

the camera in the usual manner without danger to the plate, and in order to develop the plate by means of my improved apparatus the plate-holder is inserted into the main box or case through the rear end thereof, and said plate-holder is held into position by a spring-catch  $m$ . When this has been done, the slide  $f^3$  beneath the plate  $g$  is withdrawn and the rod  $b^2$  is turned so that the crank member  $b^3$  will strike the spring  $g$  at the rear end of the plate-holder, and this operation will release the photographic plate  $g$ , and it will drop onto the trap-door plate  $h^3$ . The rod  $h$  is then turned so that the trap-door plate  $h^3$  will move downwardly into the position shown in Fig. 4, and the photographic plate  $g$  will fall into the box  $c$ , with the central side thereof uppermost. The developing liquid is then poured into the box  $c$  through the funnel  $j$ , and the development of the photograph or picture on the plate  $g$  may be observed through the ruby glass  $a^6$  at the rear end of the main box or case, the necessary light to permit of this operation being admitted through the glasses  $a^5$  and  $a^6$ . When the picture or photograph has been sufficiently developed, the rear hinged end portion  $a^2$  of the main box or case, which forms a door, may be opened, the springs  $c^5$  depressed, and the box  $c$  drawn backwardly into the rear end of the main box or case, as shown in Fig. 1, in which position it may be held by the hook member  $a^8$ , and the main box or case may then be tilted, so as to discharge the developing liquid out of the box  $c$  into the bottom of the main box or case, from which it will be discharged through the port or passage  $k$ , and after this the box  $c$  may be moved forwardly again, and water or other liquid may be poured therein through the funnel  $j$ .

The hinged cover  $a^3$  of the main box or case is provided with thumb-screws  $n$ , which operate in holes  $n^2$  in the top of the side portions of the main box or case and by means of which the hinged cover may be secured whenever desired, and it will be understood that the photographic plate may be removed from the box  $c$  whenever necessary by lowering the hinged rear end portion  $a^2$  of the main box or case, and the box  $c$  may also be removed whenever desired.

Either artificial or natural light may be admitted through the ruby glasses  $a^5$  and  $a^6$  to enable the operator to observe the developing of the picture on the plate within the box  $c$ , and in this manner it will be apparent that photographic plates may be developed without the use of a dark room and with far less trouble and inconvenience than usually accompanies this process.

Although I have shown and described a plate-holder of particular form, it will be apparent that any suitable construction of plate-holder may be employed, all that is necessary in this connection being that a plate-holder be employed from which the photographic

plate may be discharged in the manner herein described, and it will also be apparent that many changes in and modifications of the details of the construction of my improved apparatus may be made without departing from the spirit of my invention or sacrificing its advantages.

The object of making the rod  $b^2$  movable longitudinally of the main box or case is to adapt the device to plate-holders of different lengths, and the object of the lip  $h^4$  on the trap-door  $h^3$  is to catch one edge of the photographic plate when said plate  $h^3$  is turned down and turn the said photographic plate over into the box  $c$ .

It will be understood that the box  $c$  is in the rearmost part of the box or case  $a$  when the photographic plate is dropped into said box  $c$ , and any number of the boxes  $c$  may be employed, or any suitable tray or trays may be used in place thereof, and the box or tray  $c$  may be removed from the main box or casing before the development of the picture is fully completed, in which event the cover  $c^2$  will be removed therewith and will serve to protect the picture from the light.

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

1. In an apparatus of the class described, a main box or case having a hinged end portion, a ruby glass in the other end thereof, another ruby glass in the hinged end portion, a developing-box placed within the main box or case, a cover for said box adapted to be inserted through the stationary end wall of the main box or case, a rod passing through the top portion of the main box or case and provided with a partition-plate normally held transversely of the main box or case and adapted to be depressed by turning said rod, a plate-holder adapted to be inserted into the top portion of the main box or case over said partition-plate, and means for discharging a photographic plate therefrom onto said partition-plate, substantially as shown and described.

2. In an apparatus of the class described, a main box or case having a hinged end portion, a ruby glass in the other end thereof, another ruby glass in the hinged end portion, a developing-box placed within the main box or case, a cover for said box adapted to be inserted through the stationary end wall of the main box or case, a rod passing through the top portion of the main box or case and provided with a partition-plate normally held transversely of the main box or case and adapted to be depressed by turning said rod, a plate-holder adapted to be inserted into the top portion of the main box or case over said partition-plate, and means for discharging a photographic plate therefrom onto said partition-plate, consisting of a rod passing transversely through the main box or case and provided with a crank member operating in a slot

or opening in the end of the partition-plate, substantially as shown and described.

3. In an apparatus of the class described, a main box or case having a hinged end portion, a ruby glass in the other end thereof, another ruby glass in the hinged end portion, a developing-box placed within the main box or case, a cover for said box adapted to be inserted through the stationary end wall of the main box or case, a rod passing through the top portion of the main box or case and provided with a partition-plate normally held transversely of the main box or case and adapted to be depressed by turning said rod, a plate-holder adapted to be inserted into the top portion of the main box or case over said partition-plate, and means for discharging a photographic plate therefrom onto said partition-plate, and a funnel mounted in the stationary end portion of the main box or case and adapted to discharge liquids into said box, substantially as shown and described.

4. An apparatus of the class described, comprising a main box or case one end of which is hinged and the opposite end of which is provided centrally with a backwardly-inclined portion, a ruby glass secured in the inclined end portion and in the hinged end member, a developing-box adapted to be placed in the main box or case and provided with a cover which is adapted to be passed through the stationary end wall thereof, a rod passing through the top portion of the main box or case and adjacent to one side thereof and provided with a partition-plate normally held in a horizontal position and provided at its free edge with an angular lip, a photographic-plate holder adapted to be inserted into the top portion of the main box or case and means for discharging a photographic plate from said holder onto said partition-plate, substantially as shown and described.

5. An apparatus of the class described, comprising a main box or case one end of which is hinged, a ruby glass placed in one of the walls of said box or case and in the hinged end, a developing-box adapted to be placed in the main box or case, a partition-plate placed in the top portion of the main box or case and adapted to swing vertically, a photographic-plate holder adapted to be inserted into the main box or case above the partition-plate and means for discharging a photographic plate from said plate-holder onto the partition-plate, 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 22d day of May, 1903.

AUGUST BARTOL.

Witnesses:

F. A. STEWART,  
C. E. MULREANY.