No. 880,863

PATENTED MAR. 3, 1908.

R. A. CROSBY.

DEVELOPING TRAY.

APPLICATION FILED MAY 29, 1905.

Fig. 1.

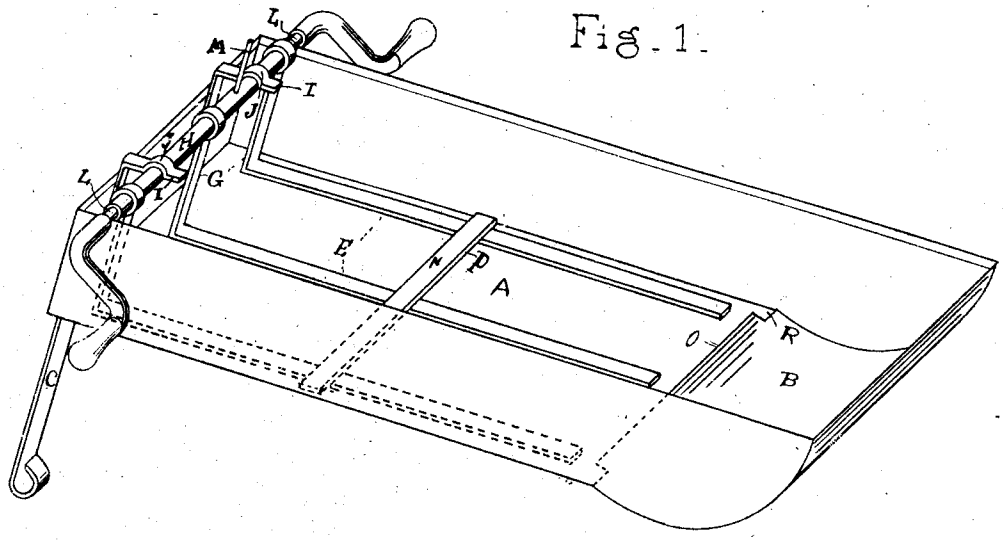
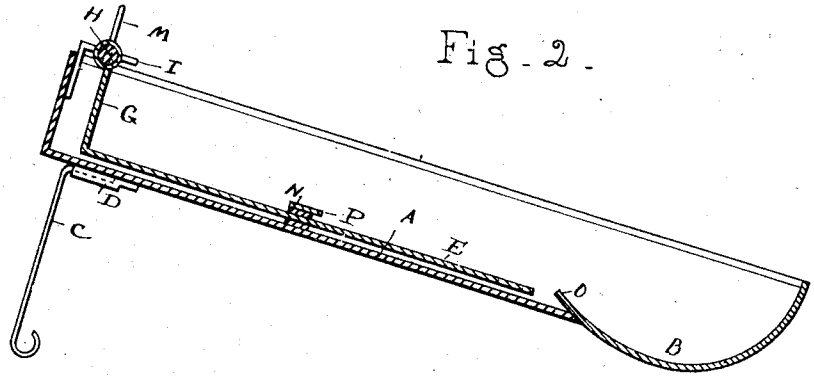


Fig. 2.



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UNITED STATES PATENT OFFICE.

ROBERT A. CROSBY, OF PORTLAND, MAINE, ASSIGNOR OF ONE-HALF TO ELGIN C. VERRILL, OF CAPE ELIZABETH, MAINE.

DEVELOPING-TRAY.

No. 880,863. Specification of Letters Patent. Patented March 3, 1908.

Application filed May 29, 1905. Serial No. 262,767.

To all whom it may concern:

Be it known that I, ROBERT A. CROSBY, a citizen of the United States, residing at Portland, in the county of Cumberland and State of Maine, have invented new and useful Developing-Trays, of which the following is a specification.

My invention relates to improvements in trays for developing or fixing photographic plates or papers.

The object of my invention is to provide a tray having a film containing portion and a developer containing portion depressed below the film containing portion, whereby the developer may be caused to flow evenly over the film by raising the end of the tray containing the developer.

It has the further object of providing means for supporting the film and means for mechanically removing the film entirely from the tray.

In the drawings herewith accompanying and making a part of this application, Figure 1 is a perspective view of my improved tray and Fig. 2 is a vertical sectional view of the same.

Same letters of reference refer to like parts.

In said drawings, I have shown one embodiment of my improved tray, A representing the film-containing portion and B the depressed developer-containing portion. The end opposite the depression is supported in raised position by standards C which are preferably removable for convenience in packing the tray for transportation. I have shown one method of removably mounting the standards which consists in providing the bottom of the tray with socket pieces D into which the bent ends of the standards are inserted as shown in dotted lines in Fig. 2.

At the line between the main portion of the tray and the depressed portion is a raised lip O extending nearly across the tray but terminating a slight distance from the walls of the tray as seen at R to permit all the developer to flow back into the recessed portion. Said lip may project upwardly above the bottom of the tray and slightly overhang coöperating with the overhang P on the slide, hereinafter described, in yieldingly retaining the film in a flat position during the developing process.

Pivotally mounted upon the tray in any convenient manner are one or more film lifting bars E which when in normal position lie flat upon the bottom of the film-containing portion of the tray. I have shown a convenient method of mounting the lifting bars wherein the bars are formed with a vertical portion G which vertical portion is secured to a rod or shaft H pivotally mounted upon the tray. For convenience I have arranged to have the rod removably mounted thereon. The rod is held in place by means of spring holders I secured to the end of the tray and having a rounded offset J therein which fits closely over the shaft as seen in Fig. 1. The shaft and the lifting bars are readily removed from the tray by slightly raising the spring holders. To prevent lateral movement of the shaft relative to the tray, I have made grooves L in the shaft into which take the edges of the tray. To limit the rotary movement of the shaft and lifting bars, I provide the shaft with a projecting bar M which when the shaft is rotated strikes against the edge of the tray and limits the movement. This is also useful in giving a sudden stop to the rotation of the shaft and lifting bars causing a jar which serves to dislodge the film from the lifting bars. Slidably mounted upon the lifting bars is a clip N which has an overhang P under which the edge of the film rests.

The operation of my improved device is as follows. The film is placed in the main portion of the tray one edge being placed under the lip O and the other under the overhang of the sliding clip N. The depressed end of the tray is then lifted allowing the developer to flow over the raised lip upon the film and the tray is rocked to and fro until the film is properly developed. The film may then be removed without touching it with the fingers by turning the shaft which raises the lifting bars with the film thereon, discharging the film into a wash pan placed near the tray. The lifting bars are preferably made of spring material so that when in the rotation of the shaft the projecting bar strikes the edge of the pan suddenly, the lifting bars spring back aiding the discharge of the film from the lifting bars.

The advantages of my improved tray are that the developer is normally contained outside the body of the pan and is flowed over and off the film evenly by raising or lowering the end of the tray. The film is entirely removable from the tray without touching it with the fingers. The position of the film

relative to the developer is such that it permits brush development, the whole tray is cheaply constructed and the parts are readily detachable to permit cleaning and economical package for transportation.

Having thus described my invention and its use I claim:—

1. A developing tray having a film-containing portion and a depressed developer-containing portion spaced apart from the end thereof and means for holding the film on the film containing portion.

2. A developing tray having a film-containing portion, a depressed developer-containing portion adjacent thereto and means for supporting the film-containing portion of the tray in a raised position.

3. A developing tray having a film-containing portion, a depressed developer-containing portion adjacent thereto and standards removably secured to the film-containing portion of the tray adapted to support the tray in an inclined position.

4. A developing tray having a film-containing portion, a depressed developer-containing portion adjacent thereto and a raised lip positioned between the film-containing and developer-containing portions of the tray.

5. A developing tray having a film-containing portion, a depressed developer-containing portion and a raised lip positioned between the film-containing and developer-containing portion extending transversely of the tray and terminating a short distance inside the walls of the tray.

6. The combination with a developing tray, of a rotatable shaft mounted thereon and having film lifting bars secured thereto, said bars being adapted to rest upon the bottom of the tray and to support a film throughout its entire length thereon.

7. The combination with a developing tray, of a rotatable shaft mounted thereon and having film lifting bars secured thereto, said bars being adapted to rest upon the bottom of the tray and to support a film throughout its entire length thereon and a clip slidably mounted upon said bars and adapted to engage the end of a film resting thereon.

8. The combination with a developing tray having a film-containing portion and a depressed developer-containing portion adjacent thereto and a raised lip positioned between the film-containing and developer-containing portions, of a rotatable shaft mounted thereon and having film lifting bars secured thereto and a clip slidably mounted on said bars, said bars resting on the bottom of the film-containing portion of the tray and said slidable clip and raised lip coöperating to hold a film upon said bars.

9. The combination with a developing tray, of a rotatable shaft mounted thereon and having film lifting bars secured thereto and means for limiting the rotating of said shaft.

In testimony whereof, I have signed this specification in presence of two subscribing witnesses this twenty-sixth day of May, 1905.

ROBERT A. CROSBY.

In presence of—

MARION RICHARDS,

ELGIN C. VERRILL.