No. 630,500. Patented Aug. 8, 1899.

J. K. GRAEME.

PHOTOGRAPHIC DEVELOPING APPARATUS.

(Application filed June 12, 1899.)

(No Model.)

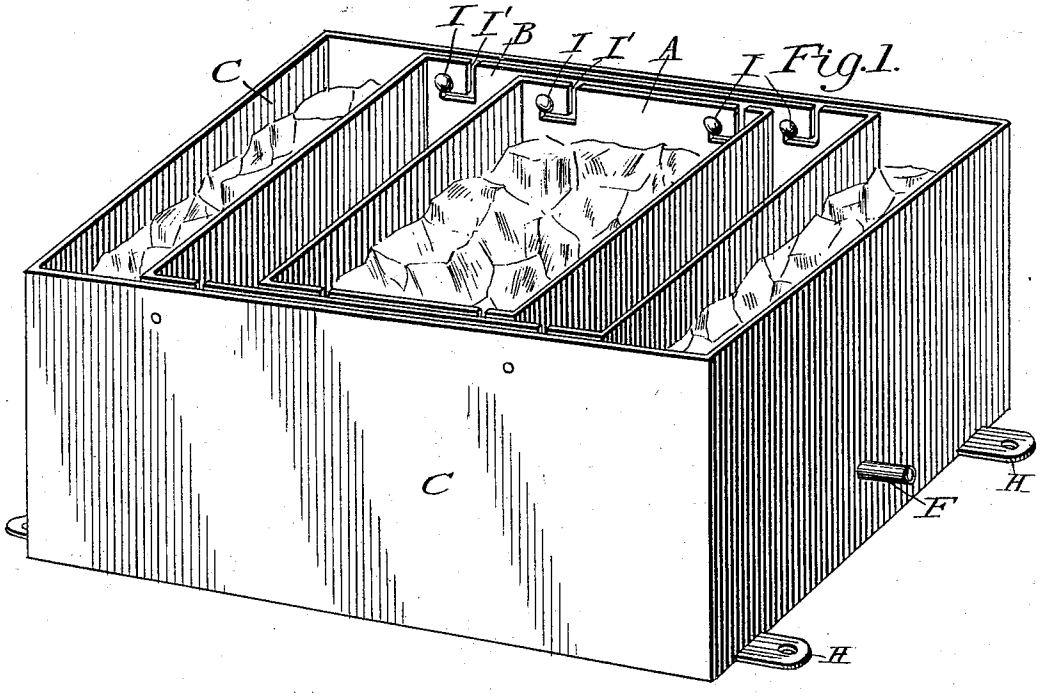


Fig. 1.

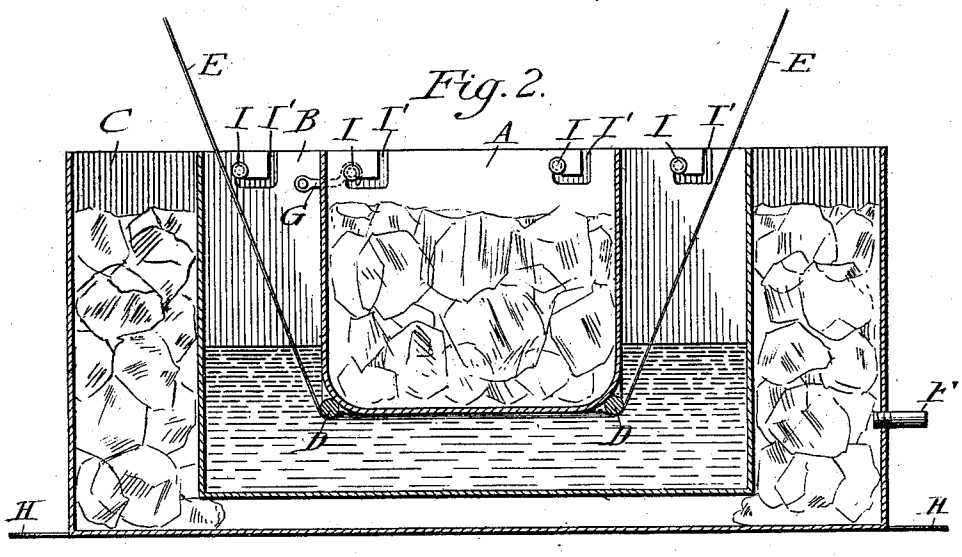


Fig. 2.

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UNITED STATES PATENT OFFICE.

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PHOTOGRAPHIC DEVELOPING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 630,500, dated August 8, 1899.

Application filed June 12, 1899. Serial No. 720,209. (No model.)

To all whom it may concern:

Be it known that I, JOHN K. GRAEME, a citizen of the United States, residing at Washington, District of Columbia, have invented a Developing-Box, of which the following is a specification, taken in connection with the accompanying drawings, of which—

Figure 1 is a perspective view, and Fig. 2 a vertical central section, of the device.

The object of my invention is to provide a developing-box in which the development of photographic films can be effected, and is especially adapted for use in warm weather, at which time great difficulty is experienced in retaining the emulsion upon its support or base when the work of developing said film is attempted.

The apparatus consists of three boxes. A is the inner box, holding ice for cooling the developer, serving as a support for film E when the latter is developed. B is the box in which the developer is placed and cooled. C is the outer box, which acts as a support for boxes A and B and contains ice for cooling the developer in conjunction with box A.

D are friction-rollers around which the film E is drawn in its passage through the developer.

F is an outlet for the water from the ice in box C.

Boxes A and B can be removed from box C, and the latter can be used for washing films or photographs.

H are holes whereby the box C can be fastened to a table or shelf.

I I are headed pins secured upon the inner side of the box C near the top edge, which engage with bayonet-shaped slots or openings I′, formed near the top of boxes A and B, thus permitting not only the removal of said boxes when necessary or desirable, but the tilting of box A, thus enabling the operator to adjust thereunder said film.

G is a hook adapted to engage with one of the pins I, its function being to retain box A in its normal position with respect to its supporting-box B. When it is desired to tilt box A in order to place the film thereunder, the hook G is raised from engagement with the pin I and the said box disengaged from the pins, after which a reëngagement thereof with the pin adjacent to hook G is made and the hook again brought into engagement with the pin, whereupon the box is tilted and the film introduced thereunder. After this has been accomplished the box is again engaged with both of the pins through the slots above described. The hook is again brought into engagement with its pin, whereupon the film may be drawn through the developer and the desired work thereon be easily accomplished.

In the practical operation of the device in the development of the films I pour the developer in box B and put ice in boxes A and C, then tilt box A upon I as a pivot, insert the film E face or coated side down under box A, then lower the latter into box B, fasten box A with hook G, and then draw the film E up and down until developed.

What I claim, and desire to secure by Letters Patent is—

1. In a device for developing films, the combination with a support and a box secured thereon adapted to contain the developer under which the film to be developed is drawn, of an ice-box for cooling the same substantially as described.

2. In a device for developing films, the combination with a support and a box pivoted thereon adapted to contain the developer, under which the film is drawn, of a second box, and an ice-box for cooling the same, as and for the purpose set forth.

3. In a device for developing films, the combination with a box under which the film is drawn, of a second box outside the same, adapted to contain the developer and an outside box adapted to contain a cooling medium for the developer and upon which box the two first-named boxes are supported, as shown and described.

4. In a device for developing films, the combination with a box adapted to contain a cooling medium and under which the film is drawn, of a second box outside the same, adapted to contain the developer, and an outside box adapted to contain a cooling medium for the developer, and upon which box the two first-named boxes are supported substantially as described.

5. In a device for developing films, the combination with the box C adapted to contain a

cooling medium, and the box B supported thereon adapted to contain the developer, of the box A also supported on box C, said box A adapted to receive thereunder the film to be developed.

6. In a device for developing films the combination with the box C, adapted to contain ice, and having headed pins secured upon the inner side near the top edge thereof, and the box B having bayonet-shaped slots near its top edge to engage said pins adapted to contain the developer, of the box A also formed with bayonet-slots for engagement with the pins and having friction-rollers over which the film is drawn in its passage through the developer as shown and described.

7. In a device for developing films the combination with the outer box C, the middle box B adapted to contain the developer, of the inner box A supported upon said box C and adapted to be tilted thereon for the adjustment of the film passing thereunder, said boxes A and C, adapted to contain a cooling medium for the developer as set forth.

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