(No Model.)

A. DOYLE.

DEVELOPING DISH FOR PHOTOGRAPHERS.

No. 454,518. Patented June 23, 1891.

Fig. 2.

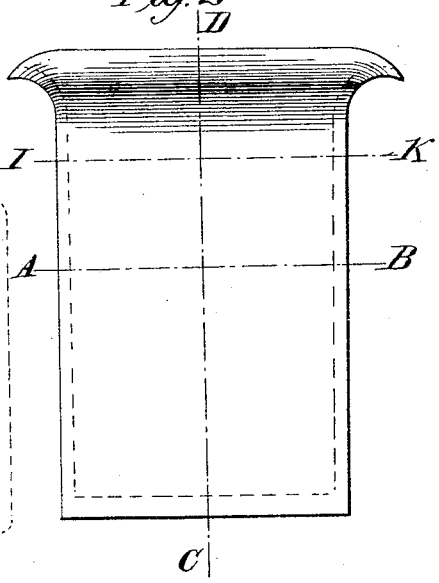


Fig. 4.

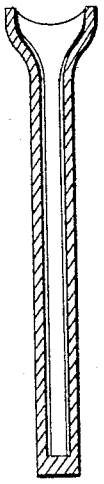


Fig. 5.

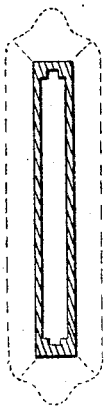


Fig. 3.

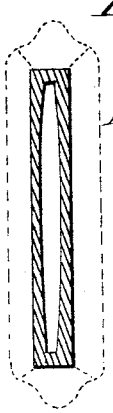


Fig. 7.

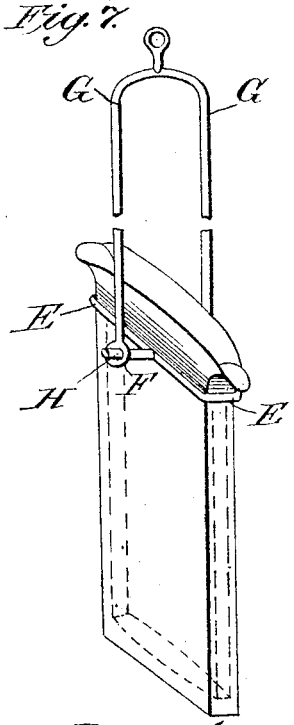


Fig. 6.

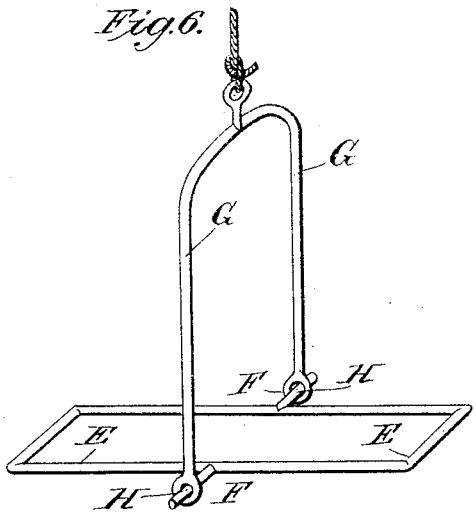
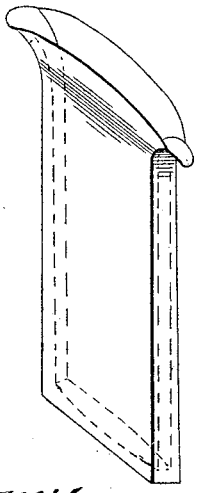


Fig. 1.



Witnesses:
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Inventor:
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UNITED STATES PATENT OFFICE.

ALEXANDER DOYLE, OF NEW YORK, N. Y.

DEVELOPING-DISH FOR PHOTOGRAPHERS.

SPECIFICATION forming part of Letters Patent No. 454,518, dated June 23, 1891.

Application filed November 26, 1889. Serial No. 331,715. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER DOYLE, residing in New York, county of New York, and State of New York, have invented an Improved Developing-Dish for the Use of Photographers, including a suspended supporting-frame to hold the said dish, and that its form is new and of my invention; and I declare that the following is a full and exact description of the same, such as will enable others skilled in the art to which it appertains to make and use the same.

Hitherto and at present the development of a sensitized plate is and has been conducted in an open dish held horizontally, necessitating, first, the removal of the plate at intervals to watch its progress; second, the immersion of the fingers in the developing-fluid and the consequent staining of the skin and risk of scratching and defacing of the plate; third, the frequent spilling of the fluid on the floor or the person; fourth, great care in the instantaneous flooding of the plate with the fluid; fifth, an oversupply of the fluid to successfully effect this; sixth, a continual rocking of the plate and dish to keep the fluid in circulation and avoid spotting the developed plate by the settlement on its surface of foreign particles in the fluid; seventh, the transfer of the plate from the developing-dish to the fixing-bath by hand.

The object of my invention is, first, to render it unnecessary to touch the plate during the progress of development or in washing and transferring it to the fixing-bath; second, to proportionately reduce the risk of accident to the plate by doing away with this necessity; third, to lessen the risk of spilling or slopping the fluid; fourth, to render unnecessary the touching of the fluid with the hands at all; fifth, to thus avoid the necessity of staining the hands and surrounding objects; sixth, to reduce the necessary amount of developing-fluid to a minimum; seventh, to insure the perfect and instantaneous immersion of the plate in the fluid; eighth, to enable the operator at all times to rapidly observe the progress of the plate without disturbing it; ninth, to avoid the necessity of holding the dish in the hands or of taking it up and laying down at every observation; tenth, to facilitate the pouring on and off the fluid without risk of accident to the plate; eleventh, to do away with the risk of spotting the plate by the settlement of foreign particles on its surface; twelfth, to make the transfer of the plate to and from the dish so easy as to avoid risk of accident; thirteenth, to aid the operator in the development of two or more plates at one time by providing a means of support to the developing-dish, by which it is at all times ready for rapid observation; fourteenth, to furnish to the dish so suspended a swaying movement sufficient to keep the fluid in circulation and do away with the necessity of doing this by hand. I accomplish these objects with a dish and suspended frame to hold the same substantially as shown in the accompanying drawings, numbered 1 to 7, inclusive, and of which the following is a description.

The size of said dish may be varied to suit the different sizes of sensitized plates in use.

Figures 2, 3, 4, and 5 are drawn one-half the size of a dish necessary to develop a four-inch by five-inch sensitized plate. Figs. 1, 6, and 7 are intended for illustration only and are not to scale. Its material is white or colored transparent glass or any other transparent material or of transparent and opaque material combined in substantially the same form. Its form may be described as a flat oblong bottle with a flaring mouth at one of its ends, Figs. 2, 3, 4, and 5. The length of this mouth is identical with the interior width of the bottle or dish, and this dimension is only enough greater than the size of the plate to be used therein as to allow the plate to slide freely into the dish through the mouth. The height of the bottle or dish is, however, somewhat greater than the other dimension of the sensitized plate to avoid filling the dish to the brim with the developing-fluid. The dotted line I K, Fig. 2, shows the top edge of the plate in the dish. The smallest dimension of the interior is reduced to a minimum, being only a trifle greater than the thickness of the sensitized plate, Figs. 3, 4, and 5. The side walls of the dish are reduced to a minimum of the necessary strength to gain additional transparency, Figs. 3, 4, and 5. The interior broad walls are slightly concaved to prevent the adherence of the plate by suction and to render impossible the scratching of its surface by contact and to cause it to slide

in and out easily and safely, Fig. 3. The edges of the flaring mouth are concaved for similar reasons. This object can also be attained by letting the plate slide into the dish in side grooves and leave the broad walls of the dish of uniform thickness, Fig. 5.

The mouth of the dish terminates at either end with a pouring spout, Figs. 1, 2, 3, 4, 5, and 7. The long sides of the flaring mouth are constructed to reduce the danger of spilling and slopping, Fig. 4, and to form a sure self-guide to the introduction of the plate into the dish.

The suspending-frame, Fig. 6, may be made of wire or other material or combined materials and comprises a collar E of a size to hold the dish under its flare end, Fig. 7. On the opposite sides are pivots F, held in pivot-holes H to the vertical arms G, allowing the neck and dish to be tilted and bring into play either pouring-spout. These arms are in one piece or united and are suspended by a cord from above, so that when the dish is suspended in the frame a swinging movement of several minutes duration can be given to it. The length of the arms G and their distance apart is such that the dish may be removed from the frame without tilting the collar E. In use this frame is permanently suspended, and when not required can be drawn to a catch on the wall and kept out of the way. When the plate is to be developed, the dish is hung in the frame or inserted after the plate is in the dish. The fluid is then poured in, or it may have been poured in before the plate is inserted, or the dish may be held in the hand without using the frame at all. It will in either case instantaneously cover the face of the plate, and the movement of the dish will keep the fluid in circulation. The progress of development can be watched through the walls of the dish. Any foreign particles in the fluid will either sink or float and cannot adhere to the face of the plate. If for cause it is necessary to pour off the fluid, the dish is tilted and the mixing-glass receives the fluid. The exact necessary quantity of fluid is known in every case, and the restricted interior reduces it to a minimum. During all this the fluid need not touch the hands nor need the plate be touched after it is placed in the dish. When the development is complete, the fluid is poured off and water replaces it, or the mouth of the dish is held under the tap. By holding the dish-mouth down over the fixing-bath the plate will slide out into the latter without touching it. The plate will be found to slide in and out of the dish uninterruptedly, and every part of the process can be carried out more rapidly than by the means now in use. In developing several plates at once in separate dishes these features will be found of great additional advantage.

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

A transparent developing-dish provided with a flaring top and extended pouring-beaks constructed to permit the introduction edgewise therein of a photographic plate, so that when introduced the plate will be held vertical during its development, in combination with the frame E and bail G, substantially as described.

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