

UNITED STATES PATENT OFFICE.

HARRY C. FULLER AND HORACE W. ELLIS, OF BROCKTON, MASSACHUSETTS.

PHOTOGRAPHIC DEVELOPING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 780,498, dated January 24, 1905.

Application filed September 6, 1904. Serial No. 223,400.

To all whom it may concern:

Be it known that we, HARRY C. FULLER and HORACE W. ELLIS, citizens of the United States, and residents of Brockton, in the county of Plymouth, State of Massachusetts, have invented a new and useful Photographic Developing Apparatus, of which the following is a specification.

This invention relates to certain new and useful improvements in photographic apparatus, and more especially to a machine or apparatus for use in developing negatives.

It has for its objects, among others, to provide an improved apparatus or machine by which the negatives may be developed with greater ease and rapidity and by which we may develop at the same time negatives that have been exposed from one to six or eight seconds, thus effecting a great saving not only in time but in expense.

We provide a rack in which the negative-supports are inclined, so that the liquid and any other substance may readily slip off as soon as loose and pass out at the faucet provided at the bottom of the tank. The developing-tank is provided with a series of negative-supports, all pivoted to a common support, so they may be synchronously turned at any desired angle. Perfect safety is afforded the negatives and a perfect plan of washing is provided.

All the parts may be of any desired size or capacity, and by means of the cover and cap provided for the hypo-tank it can be removed to the light, and when desired the pivoted supports may be rocked up and down to cause a slow wash, which is so desirable in the perfect developing of a negative.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be specifically defined by the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the numerals of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a substantially central vertical section through the developing-tank. Fig. 2 is a top plan view of the rack thereof removed.

Like numerals of reference indicate like parts throughout both views.

Referring now to the details of the drawings, the tank is preferably rectangular in horizontal cross-section and is provided with a cover 3, adapted to fit tightly over the upper end of the tank and provided with a vertical tubular extension 4, open at the top and adapted to be closed by a tightly-fitting cap 5, as seen best in Fig. 1. The cover should be provided with a suitable knob or handle 16, as seen in Fig. 1, by which it may be manipulated.

The developing-tank is provided with means whereby the negatives may be supported and rocked or moved so as to give them a slight wash. Such means is seen in Figs. 1 and 2 and comprises a suitable base, in this instance composed of the two plates or strips 17, connected near their mid-length by the transverse plate or strip 18, which may or may not be integral therewith. Rising centrally from each of the plates or strips 17 is a vertical rod 19, the upper end being joined by a cross portion 20, preferably integral therewith, as shown, the height of the side rods being in accordance with the depth of the tank in which it is to be employed. The rods are provided upon their inner or adjacent faces with openings in which are mounted to rock the ends of rods 21, which are parallel with each other in a common vertical plane and in vertical line with the connecting-strip 18, as seen best in Fig. 2. On each of these rods is fixed in any suitable manner a skeleton support 22, the form of which is best seen in Fig. 2, being a rectangular surrounding thin metallic plate, and upon the upper edges thereof are the lugs 23, integral therewith and bendable for a purpose which will be obvious. These supports or frames are all designed to be moved in unison in any suitable manner, as by the vertical rod 24, having a plurality of openings through which pass the rings 25, one on each support or frame, so that when the said rod 24 is moved up or down all the supports must of necessity be rocked upon the center pivots thereof. This rod is provided with a suitable knob or handle 26, which is received in the vertical tubular extension of the cover, as seen in Fig. 1.

In use the negative is removed from the

camera and placed in the rack and the rack then placed in the developer and covered, develop five minutes more or less, and then remove to the hypo-tank and leave in the hypo 5 the requisite length of time. By placing the cover and cap on the hypo-tank it can be removed to the light, which is a great advantage. If it be desired to do more than one set of negatives, when the negatives are re- 10 moved from the hypo place them in the drier and set them in the tank and fill with water, then open the faucet and allow running water to enter the tank while washing, so as to keep up a circulation, then refill the rack and de- 15 velop as before. When developing, remove the cap and take hold of the knob of the rod and move it up and down slowly, which will cause a slow wash, so desirable in the perfect developing of a negative.

20 The negatives cannot become displaced in washing or developing, and neatness is assured in the room or other place where the work is done. By providing for the inclination of the negatives while developing and 25 washing we insure the perfect removal of all matters that might accumulate on the negatives were they kept in a horizontal position.

Modifications in detail may be resorted to without departing from the spirit of the in- 30 vention or sacrificing any of its advantages.

What is claimed as new is—

1. In a developing apparatus, a tank having a cap with vertical extension and removable closure therefor, and a negative-holding rack 35 removable within the tank and having operating means extended into said extension.

2. In a developing apparatus, a tank having

a cover with tubular vertical extension, a removable cap for said extension, and a removable negative-supporting rack within said 40 tank, the supports of which are mounted for pivotal movement.

3. In a developing apparatus, a tank, and a removable rack therein, the supports of said rack being independently pivotally mounted, 45 and means for moving all of them simultaneously.

4. In a developing apparatus, a tank having a vertical tubular extension with removable closure, and a rack removably inserted in the 50 tank and having negative supports provided with holding-lugs and means for moving them in unison.

5. In a developing apparatus, a negative-supporting rack comprising a base, uprights 55 rising therefrom and connected to form a handle, rods pivotally supported on said uprights, and negative-supports movable with said rods.

6. In a developing apparatus, a rack comprising a base, vertical supports rising there- 60 from and connected to form a handle, horizontal rods pivotally mounted in said supports, racks mounted on said rods, rings on the racks, and a rod having pivotal connection with all of said rings, as and for the pur- 65 pose specified.

In witness whereof we have hereunto set our hands in the presence of two witnesses.

HARRY C. FULLER.
HORACE W. ELLIS.

Witnesses:

W. H. WINSLOW,
SEWELL P. HOWARD.