

No. 766,483.

PATENTED AUG. 2, 1904.

W. G. WOLFE.
PHOTOGRAPHIC TRAY ROCKER.

APPLICATION FILED JAN. 4, 1904.

NO MODEL.

2 SHEETS—SHEET 1.

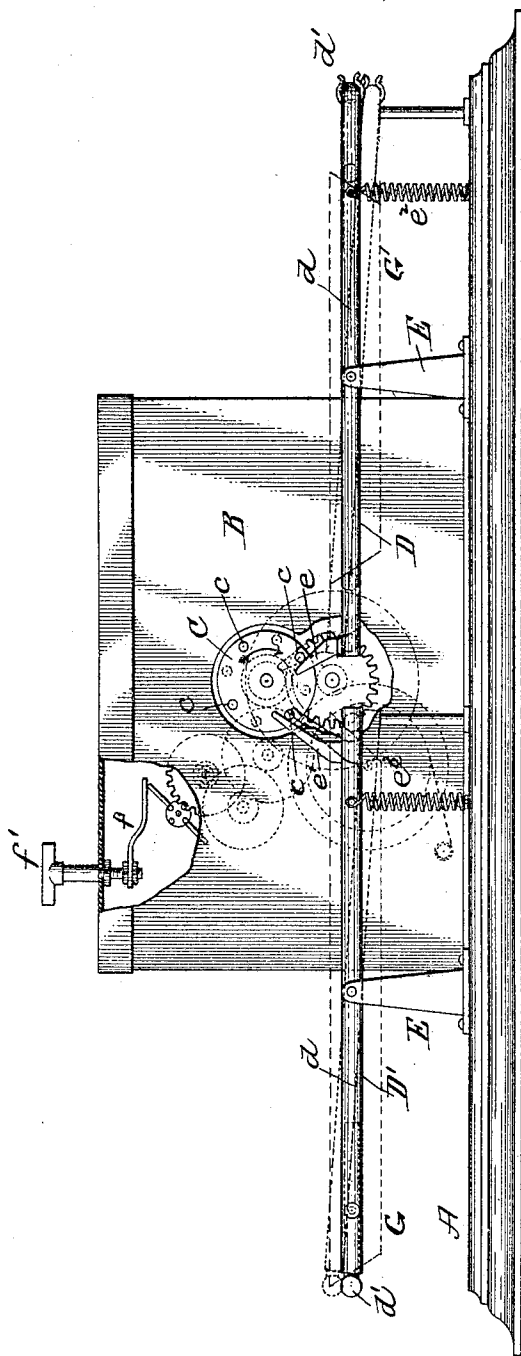


FIG. 1.

WITNESSES:
H. E. Flaherty
M. V. Foley

INVENTOR:
W. G. Wolfe
by Grant Symonds
his atty.

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2 SHEETS—SHEET 2.

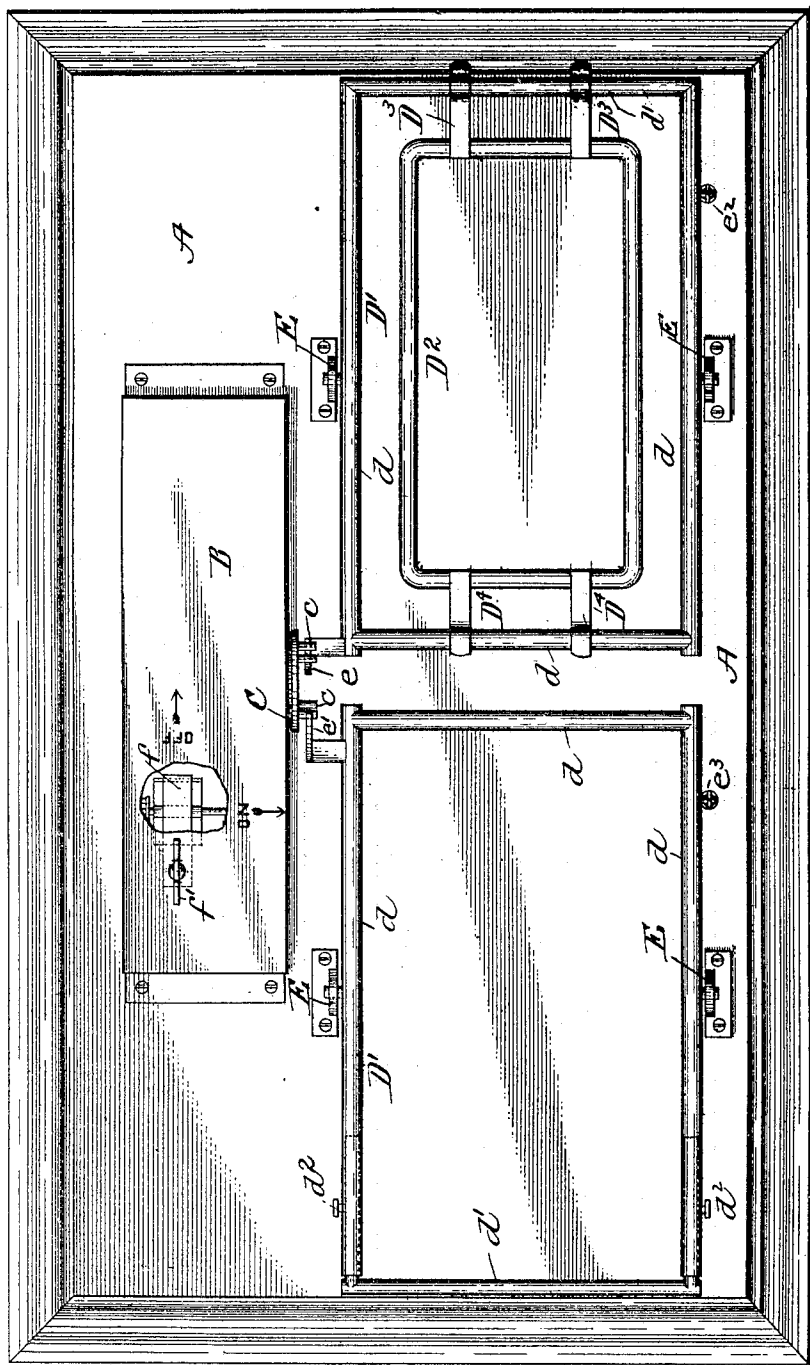


FIG. 2.

WITNESSES:

W. E. Flaherty
M. V. Foley

INVENTOR:

W. G. Wolfe
By *Wm. H. H. H. H. H.*
his atty.

UNITED STATES PATENT OFFICE.

WALTER G. WOLFE, OF WAKEFIELD, MASSACHUSETTS.

PHOTOGRAPHIC-TRAY ROCKER.

SPECIFICATION forming part of Letters Patent No. 766,483, dated August 2, 1904.

Application filed January 4, 1904. Serial No. 187,603. (No model.)

To all whom it may concern:

Be it known that I, WALTER G. WOLFE, of Wakefield, in the county of Middlesex and State of Massachusetts, have invented a new and useful Photographic-Tray Rocker, of which the following is a specification.

In developing photographic negatives, especially where a very dilute developer is used, more particularly the agent known as "pyrogallie acid," for very short exposures, it is necessary to agitate the liquid in the tray, preferably by tilting the tray from side to side and from end to end, so that it will be kept in substantially constant motion. Where the developing process is short, this tilting of the tray is not a hardship; but a diluted developer on an underexposed plate acts so slowly as to require constant agitation for a long period of time—say four or five hours, or even more in some cases.

My invention consists in an automatically-agitated tray-holder so arranged and constructed that it will receive a tray of any ordinary size and gently agitate it until the developing process has gone on for a sufficient time.

My invention will be understood by reference to the drawings, in which—

Figure 1 is an elevation, and Fig. 2 a plan, of an apparatus embodying my invention in a simple form.

A is a platform on which is mounted any ordinary clock-movement, preferably inclosed in a box, (marked B.) Upon the principal arbor of this clock is an agitating-disk C, which has projecting from its face a number of pins *c*.

I have shown in the drawings two rectangular tray-holders D D', each agitated by the disk C. One of these tray-holders, D', is made adjustable in length, so that it may accommodate itself to trays of larger sizes. For this purpose it is made in the main of brass or other metal tubing, the tubing portion of the holder, as shown, extending around three sides of the rectangle, as shown at *d*. The fourth side of the rectangle comprises a cross-bar *d'*, having two legs which extend into the ends of the tube forming the two

sides of the tray-holder and are held in place by set-screws *d''*, so that the length of the rectangle may be adjusted according to the length of the tray to be used, a weight being used, if necessary, to balance the extension. As the necessity of having an adjustable holder will not occur with most users, the tray-holder may be made non-adjustable, as shown at D, and in this latter case its holding capacity may be adjusted by the use of the frame D², which, as shown, is provided at one end with spring-clips D³, which may grasp one of the end cross-bars of the tray-holder, the other end of the frame having rests D⁴ to rest upon the opposite cross-bar of the tray-holder.

Each tray-holder D D' is pivoted on each side to an upright E, secured to the platform A so that it will swing freely on its pivots, and each is provided with an arm *e e'* within reach of the pins *c* on the disk C. When the disk rotates in the direction of the arrow, the pins as they pass downward strike the arm *e* and tilt the tray-holder D downward against the face of its spring *e''*, which immediately after the disengagement of the arm *e* from the pin returns the tray-holder to its horizontal position, perhaps causing it to rebound somewhat and so increasing the agitation of the liquid contained in the tray. The pin continuing in its course lifts the arm *e'* and with it its end of the tray-holder D' against the force of the spring *e''*. When the arm *e'* and pin *c* have disengaged, the tray-holder is pushed back into place by the spring *e''*.

The clock-movement contains, preferably, a stop-arm F, which when in the position shown in the drawings engages the fly *f* and stops the clock, but when turned by the handle *f'* into position at right angles thereto allows the clock to operate and tilt the tray-holders.

The tray used is one of ordinary construction, which sets into the tray-holder. Its position in the tray-holders is indicated by the dotted lines G in Fig. 1.

The operation of my device will be obvious from the foregoing description. It is obvious also that only one tray-holder may be used,

if thought best, and that any other form of motor may be substituted for the clock-movement shown.

What I claim as my invention is—

- 5 1. In a developing-machine, a tray-holder having an arm projecting from one end thereof, a pivotal support from said tray-holder, a motor carrying an agitating-disk adapted to engage periodically with said tray-holding
10 arm, said tray-holder being supported from below, whereby the observation of developing may be made without obstruction from other parts of the apparatus, as set forth.
2. The developing-machine above described
15 comprising a tray-holder pivotally mounted, means whereby it may be rocked, said tray-holder being adjustable in length, as set forth.
3. The developing-machine above described comprising two tray-holders each pivotally

mounted and each having an arm projected 20 from one of its ends, the arm-carrying end of said trays being adjacent to each other, in combination with means common to both tray-holders adapted to engage each of said arms in turn intermittently whereby both trays will 25 be rocked as and for the purposes set forth.

4. The developing-machine above described comprising a rectangular tray-holder, in combination with a rectangular frame adapted to rest within said tray-holder upon the bars 30 thereof, and to receive a tray smaller in size than that which the tray-holder is adapted to receive, as set forth.

WALTER G. WOLFE.

Witnesses:

GEORGE O. G. COALE,
M. E. FLAHERTY.