No. 779,483. PATENTED JAN. 10, 1905.

J. B. S. MacILWAINE.

APPARATUS FOR WASHING OR OTHERWISE TREATING PHOTOGRAPHIC PLATES, PRINTS, OR FILMS.

APPLICATION FILED FEB. 27, 1904.

2 SHEETS—SHEET 1.

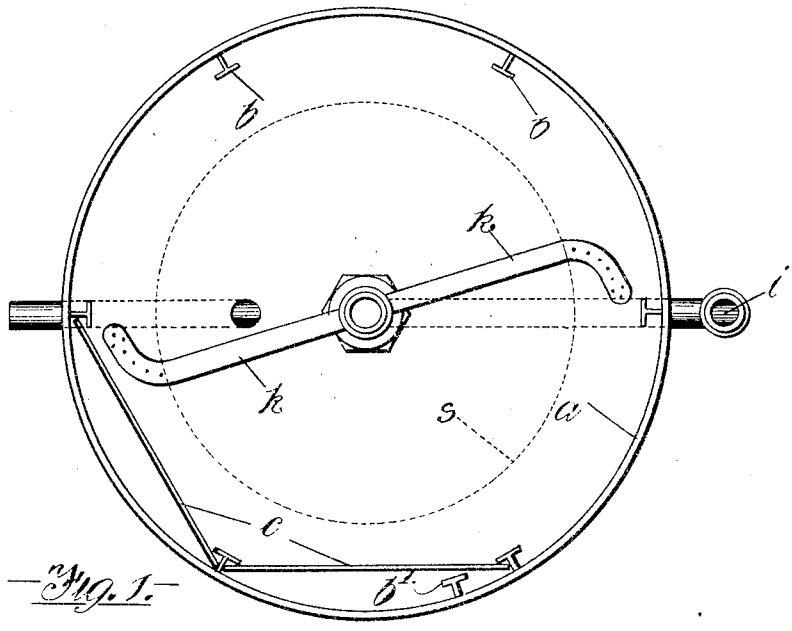


Fig. 1.

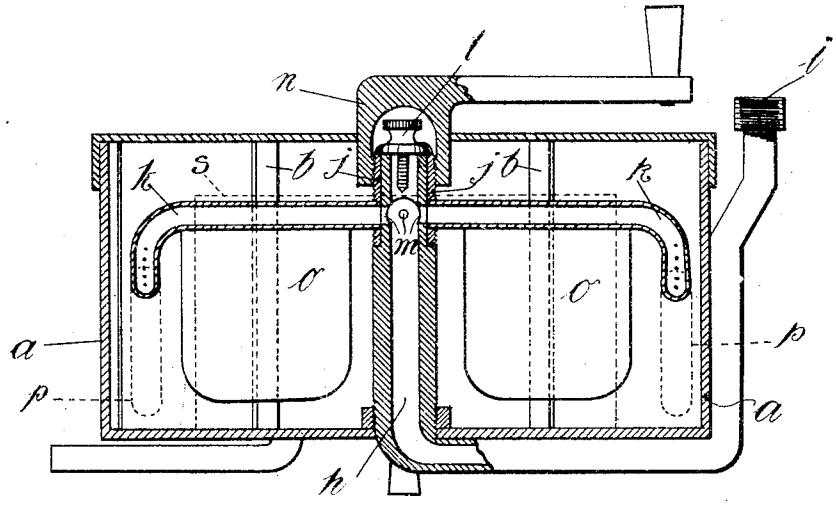


Fig. 2.

Witnesses.
James Archer.
Peter Hughes

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By
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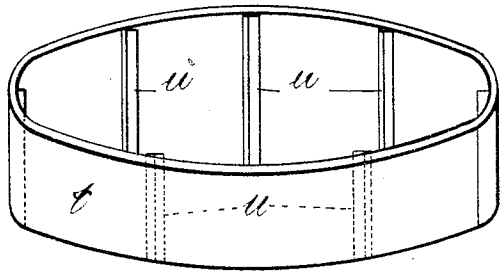


Fig. 3.

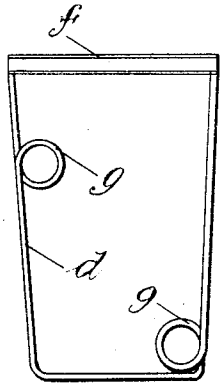


Fig. 4.

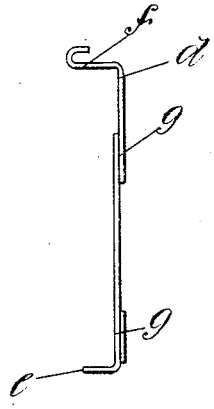


Fig. 5.

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PHOTO LITHOGRAPHED BY JAECKEL & WILHELMS LITHO. & PTG. CO., NEW YORK.

No. 779,483. Patented January 10, 1905.

UNITED STATES PATENT OFFICE.

JOHN BEDELL STANFORD MacILWAINE, OF FOXROCK, IRELAND.

APPARATUS FOR WASHING OR OTHERWISE TREATING PHOTOGRAPHIC PLATES, PRINTS, OR FILMS.

SPECIFICATION forming part of Letters Patent No. 779,483, dated January 10, 1905.

Application filed February 27, 1904. Serial No. 195,702.

To all whom it may concern:

Be it known that I, JOHN BEDELL STANFORD MacILWAINE, a subject of the King of the United Kingdom of Great Britain and Ireland, residing at Stanford House, Foxrock, in the county of Dublin, Ireland, have invented new and useful Improvements in Apparatus for Washing or Otherwise Treating Photographic Plates, Prints, or Films, of which the following is a specification.

This invention relates to improvements in apparatus for washing and otherwise treating photographic plates, prints, and films.

In carrying my invention into effect I proceed in or about the following manner, making reference to the accompanying drawings, wherein—

Figure 1 is a plan, and Fig. 2 a vertical section, of the apparatus. Fig. 3 is a perspective view of an addition. Figs. 4 and 5 show plan and side views, respectively, of a detail; and Fig. 6 is a perspective view of another detail.

a is a circular upright-sided receptacle having vertical grooves *b* round its interior, in which grooves are slipped the plates or flat films *c*, carried in clips *d*. The clips *d* are made of wire or other suitable material and have an upturned end *e* and a handle *f*, between which the plate *c* is pushed, extra "spring" being obtained by making a loop *g* in each side of the clip. Upstanding from the center of the bottom *a* of is a tube *h*, connected by a pipe *i* with a water-supply. The upper end of *h* is plugged and reduced in diameter, and round the reduced part is free to revolve a sleeve *j*, from which outstand the radial tubular arms *k*, the free ends of which are bent in opposite directions and perforated. The sleeve *j* is held in place by a shouldered thumb-screw *l*. The arms *k* open right through the sleeve *j*, and coincident with them are holes *m* in the reduced part of the tube *h*. The outside of the sleeve *j* is screw-threaded to receive a handle *n*. To the arms *k* are attached the paddles *o*, and the ends of the said arms may be bent downward, so as to nearly reach the bottom of the receptacle *a*, as shown in dotted lines at *p*.

At the bottom of *a* is an outlet *q*, connected to a water-pipe or provided with a plug *r*. The top of the receptacle *a* may be provided with a lid of any suitable kind.

To wash plates, prints, or films by hand, they are put in the clips *d* and the edges of the said plates or prints then inserted in the grooves *b*. The receptacle is then supplied with water and the handle *n* put on and revolved. Where a water-supply is available, it is connected with the pipe *i* directly by means of a flexible tube, and on turning on the water it will rush up the pipe *h* and out of the arms *k*, which will revolve by reaction in the manner of a Barker's mill and spray the water onto the plates.

The clips *d* can be used by themselves for developing, fixing, and washing plates or flat films in ordinary dishes without the fingers of the worker coming in contact with the fluids, and should the plate or flat film fall face downward it cannot come into contact with the bench or dish. Further, the handle provides a convenient means for hanging them up to dry.

In order to economize the developer, I provide the receptacle *a* with an inner wall or drum *s* of such a diameter as will leave the required annular space between itself and the receptacle *a*.

To accommodate plates of more than one size, additional grooves *b'* may be provided round the interior of the receptacle *a*, and to provide still further for various sizes drums or rings *t* may be provided to go inside *a*, the said drums having vertical grooves *u* round their interior.

For dealing with roll-films I provide a clip *v*, having two hooks *w*, which are put through one end of the film, a similar clip being attached to the other end of the film, the clips being put in two of the grooves *b* after the film has been allowed to accommodate itself as much as possible to the circular form of *a*.

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

In an apparatus for washing and treating photographic plates, prints and films the combination of a circular upright-sided receptacle having vertical grooves round its inside to receive the said plates, prints or films;

an inner drum providing an annular space between itself and the circular receptacle; a water-supply pipe upstanding in the center of the receptacle and having a reduced upper end closed by a plug and perforated horizontally below the plug; a sleeve free to revolve round the said reduced end of the water-supply pipe; tubular arms radiating from the said sleeve and opening therethrough coincidently with the holes in the reduced part of the water-supply pipe, the outer ends of radiating arms being perforated and turned somewhat downward and in opposite directions to one another; paddles on the said arms; an outlet-pipe, and a handle fitting on the top of the sleeve, substantially as hereinbefore described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN BEDELL STANFORD MACILWAINE.

Witnesses:

CECIL VERE WILSON,

CHARLES L. GRIFFITHS.