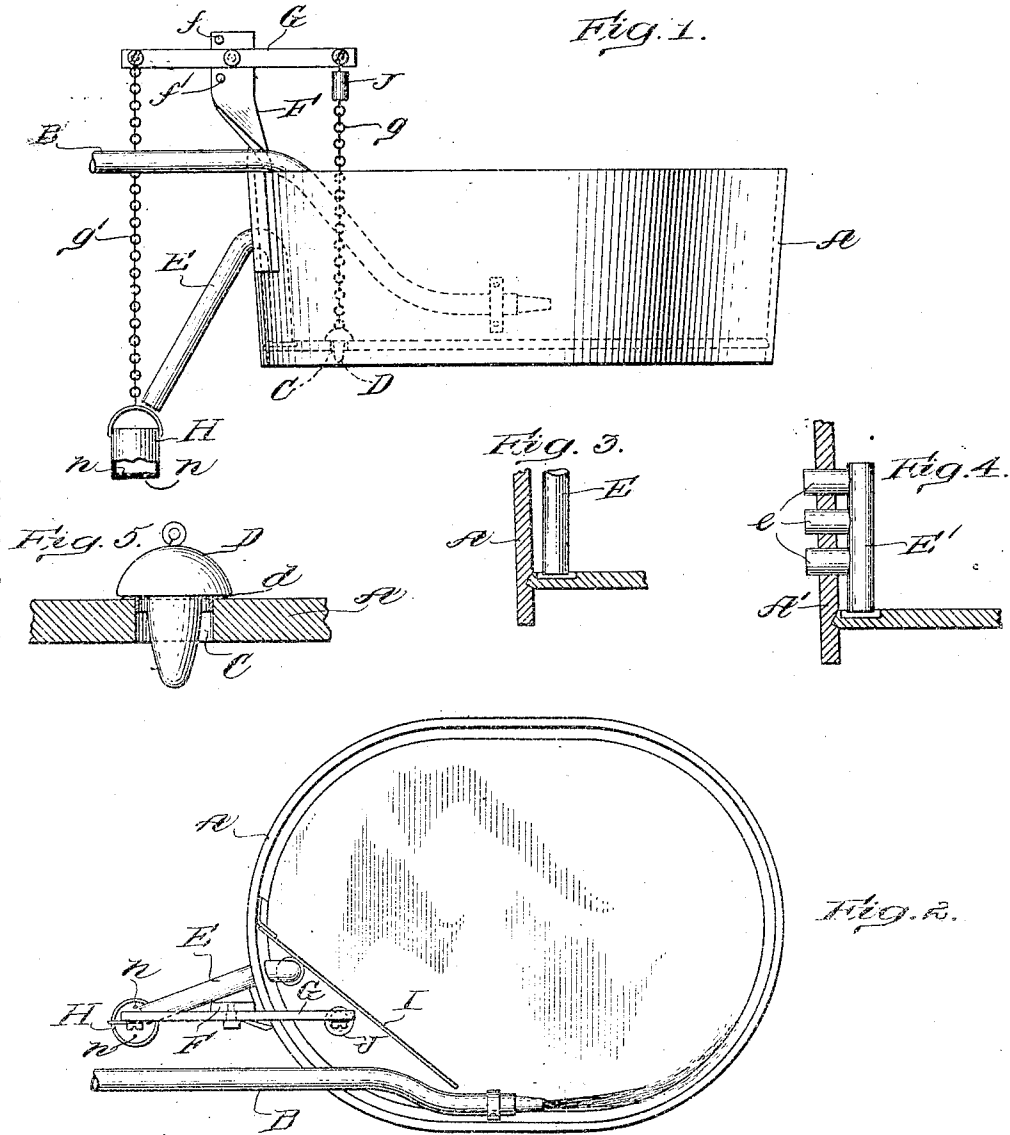


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 APPARATUS FOR WASHING PHOTOGRAPHIC PRINTS.
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UNITED STATES PATENT OFFICE.

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APPARATUS FOR WASHING PHOTOGRAPHIC PRINTS.

1,006,278.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM S. RICHARDSON, a citizen of the United States, and resident of Boston, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Apparatus for Washing Photographic Prints, of which the following is a specification.

My invention relates to apparatus for washing photographic prints.

As is well known to all persons skilled in the art, the obtaining of successful photographic prints depends in very large measure upon a proper and thorough washing thereof. It has heretofore been the common practice among amateur, and some professional, photographers, to place the prints in a basin or similar receptacle and allow the water from a faucet to fill and overflow the basin for a considerable space of time—say an hour—thus supplying more or less fresh water during the washing process but never completely changing the water at any time. Washing by this and similar methods is not sufficiently thorough to insure successful prints and photographers generally have found it necessary in order to make successful and satisfactory prints, to empty the receptacle in which the prints are washed and refill it with fresh water nine or ten times during the washing process. This necessity of emptying and refilling the washing receptacle and of occasionally moving the prints about in the water, requires the constant attendance and attention of the photographer during the whole of the washing process, and is not only a source of trouble and annoyance, but also of expense in that it keeps him from other and more profitable employment.

It is the object of my invention to provide an apparatus whereby the water receptacle or reservoir containing the prints may be automatically filled and emptied at the desired intervals of time, and the prints kept in constant motion during the whole or practically the whole of the washing process, thus insuring thorough washing of the prints without the necessity of the attendance and attention of the photographer

during the hour or more required for a thorough and successful washing.

Referring to the drawings,—Figure 1 is a side view of my improved apparatus; 55 Fig. 2 is a plan view thereof; Fig. 3 is an enlarged detail view of a port of the siphon shown in Figs. 1 and 2; Fig. 4 is a similar view of a modified form of siphon; and Fig. 5 is a side view of a valve suitable for use in my improved apparatus. 60

A is a water reservoir made of wood or other suitable material and preferably having a curved wall.

B is an inlet pipe connected with any suitable and convenient source of water supply, such as a faucet, and let into the reservoir eccentric to the center thereof, so that a substantially rotary movement is given to the water in the reservoir. In practice, I have found it convenient to employ an inlet pipe of rubber or other flexible material which may be readily placed over the edge of the reservoir and secured to the inner wall thereof as shown in Fig. 1. In the bottom of the reservoir there is provided an outlet port C which is of relatively large area to permit the rapid discharge of the water as presently to be described. A suitable closure is provided for the port C, and for this purpose I prefer to employ a valve D of the form shown in the drawings, the port C being provided with a valve seat *d* therefor. 75 80

E is a siphon of approximately the same cross sectional area as the inlet pipe B, which passes through the wall of the reservoir, the longer leg thereof being outside the reservoir. As clearly shown in Fig. 3, the bottom of the reservoir immediately below the siphon is preferably hollowed out, thus enabling the siphon to operate when the water reaches a very low level. Upon the wall of the reservoir there is mounted a post F to which is pivoted an arm G, one end thereof being secured to the valve D by a chain or other flexible connection *g*. To the other end of said arm there is secured by a flexible connection *g'*, a movable bucket H adapted to receive the water from the siphon E and provided with perforations *h* of smaller area than the cross sec- 85 90 95 100

tional area of the siphon. A counter weight J is preferably provided upon that end of the arm G to which the valve D is connected and the combined weight of said valve D chain *g* and counter-weight J is greater than the weight of the bucket H and chain *g'*. The upward and downward movement of the arm G is limited by stops *f, f'*, upon the post F. A shield I, secured to the wall of the reservoir and positioned as shown in Fig. 2, serves to prevent the prints as they move about in the reservoir, from coming in contact with and catching on the siphon E, chain *g* and valve D.

The operation of the apparatus is as follows: The reservoir being empty and the parts in their normal position, shown in Fig. 1, the prints to be washed are placed within the reservoir A and the water let in through the inlet pipe B which, by reason of its eccentric position, gives a substantially rotary movement to the water, thus agitating the prints. When the water within the reservoir has risen to a height sufficient to start the siphon, the water begins to flow therefrom into the bucket H. As soon as the combined weight of the chain *g'* bucket, and water siphoned therein is sufficient to overbalance the combined weight of the valve D, the weight of water thereon chain *g* and counter-weight J preferably employed, the bucket falls and through its pivotal connection with the valve D lifts the latter from its seat thus permitting the water in the reservoir readily and rapidly to flow from the relatively large port C, as well as from the siphon. It will be clear that when the reservoir has thus been emptied, or the water therein has fallen to a level so low that the siphon can no longer operate, the latter ceases to supply water to the bucket and the water therein flows out through the perforations *h* so that the combined weight of the valve D chain *g* and counter-weight J overbalances the bucket and chain *g'* and the valve drops back to normal closed position upon its seat.

Immediately upon the closing of the port C, in the manner above described, the water again begins to rise in the reservoir and the filling and emptying thereof goes on automatically as above described until the supply of water is shut off from the inlet pipe.

If desired, the siphon instead of being of the form shown in Figs. 1 and 3, may be made as shown in Fig. 4. In said figure, A' is the reservoir and E' a tube closed at the top and open at the bottom and having branches *e* located one above another, said branches *e* extending through the wall of the reservoir. A suitable siphon tube may be slipped over any one of said branches *e* to form therewith the longer leg of the siphon,

the remainder of the branches *e* being plugged by any suitable means. By use of the form shown in Fig. 4, the siphon may be made to start when the water reaches different heights within the reservoir.

I claim:

1. In an apparatus of the class described, the combination with a water reservoir having a discharge port in its bottom, of an inlet pipe, a closure for said port, and means responsive to the rise of water in said reservoir adapted to open said port when the water rises above a predetermined level and automatically to close said port when the water in said reservoir falls below a predetermined level, said port being of sufficient size to permit the discharge of substantially all the water from said reservoir, the supply through said inlet pipe being uninterrupted.

2. In an apparatus of the class described, the combination with a water reservoir having a discharge port in its bottom, of an inlet pipe, a closure for said port, and means comprising a siphon adapted to open said port when the water rises above a predetermined level and automatically to close said port when the water in said reservoir falls below a predetermined level, said port being of sufficient size to permit the discharge of substantially all the water from said reservoir, the supply through said inlet pipe being uninterrupted.

3. In an apparatus of the class described, the combination with a water reservoir having a discharge port, of an inlet pipe, a closure for said port, a siphon having its shorter leg inside and its longer leg outside said reservoir, a movable bucket adapted to receive the water from said siphon and to be moved thereby, and a connection between said bucket and said closure to operate the latter.

4. In an apparatus of the class described, the combination with a water reservoir having a discharge port, of an inlet pipe, a closure for said port, a siphon having its shorter leg inside and its longer leg outside said reservoir, a movable bucket and a connection between said bucket and said closure, said bucket adapted to receive the water from said siphon and provided with perforations of smaller area than the cross sectional area of said siphon, whereby said bucket will be filled with water from said siphon and operate by gravity to raise said closure, and will thereafter be emptied to permit the return of said closure to normal position.

5. In an apparatus of the class described, the combination with a water reservoir having a curved wall and a discharge port provided with a valve seat, of an inlet pipe eccentrically connected to said reservoir

whereby the water is given a substantially rotary movement, a valve adapted to close said port, a siphon having its shorter leg inside and its longer leg outside said reservoir, a perforated movable bucket adapted to receive the water from said siphon, an arm pivotally mounted on said reservoir, a connection between said bucket and one end

of said arm and a connection between said valve and the opposite end of said arm. 10

Signed by me at Boston, Massachusetts, this 28th day of March 1911.

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