

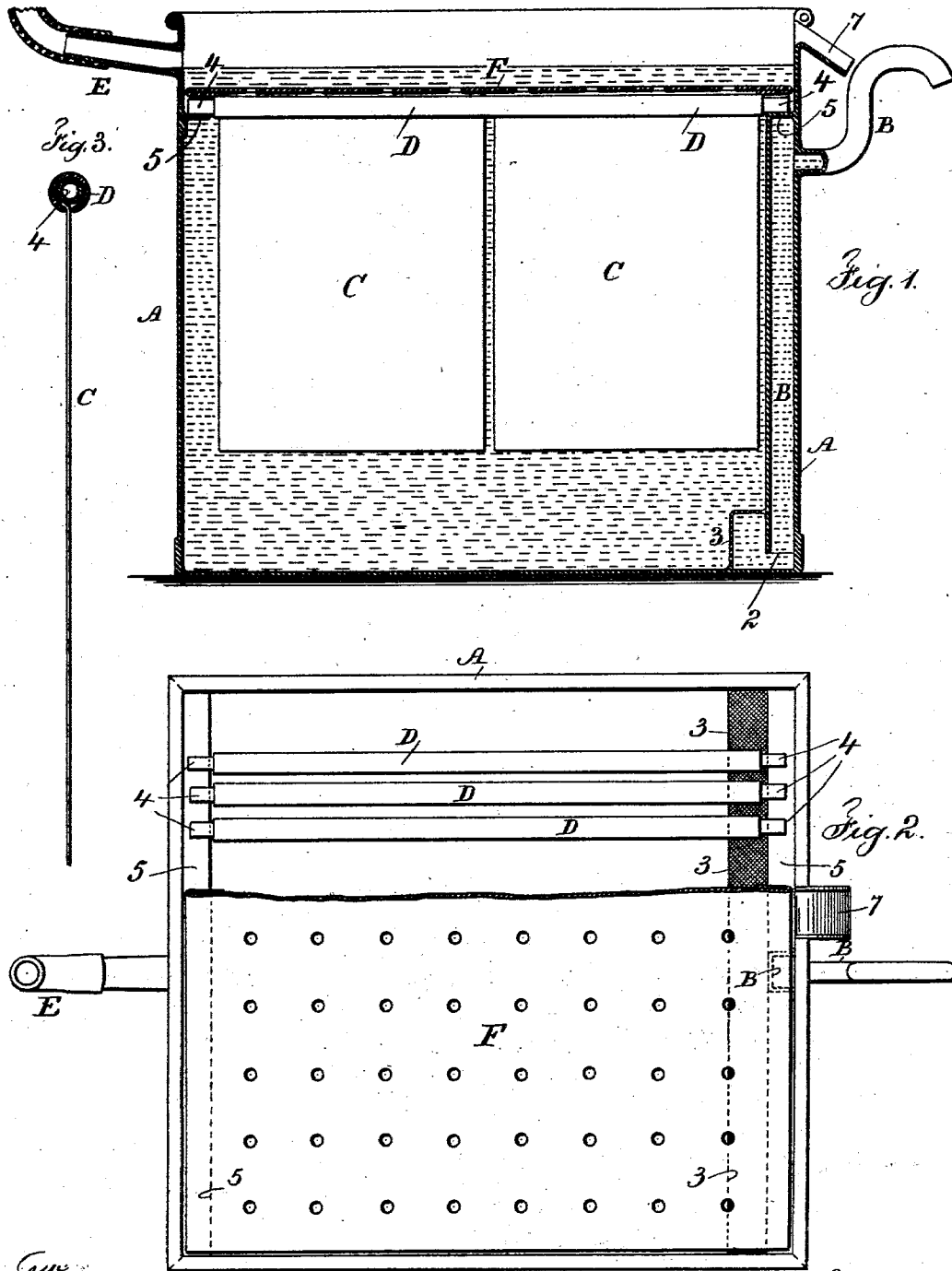
No. 633,818.

Patented Sept. 26, 1899.

E. A. DOBBINS.
PHOTOGRAPHIC WASHING TANK.

(Application filed June 19, 1899.)

(No Model.)



Witnesses

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UNITED STATES PATENT OFFICE.

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PHOTOGRAPHIC WASHING-TANK.

SPECIFICATION forming part of Letters Patent No. 633,818, dated September 26, 1899.

Application filed June 19, 1899. Serial No. 721,012. (No model.)

To all whom it may concern:

Be it known that I, EDWIN A. DOBBINS, a citizen of the United States, residing in the city, county, and State of New York, have invented an Improvement in Photographic Washing-Tanks, of which the following is a specification.

This improvement is especially designed for washing photographic prints and flexible films. Heretofore in washing such prints or films two or more have been liable to adhere together, and hence the washing action has not been uniform and the pictures and their paper or other foundation or the films have frequently become stained. Photographic plates have been received into supports and held vertical while water has flowed through the vessel containing such plates; but this has not been adapted for use with prints or pictures upon paper or other materials or films.

In the present improvement the prints are suspended from the top and the water is admitted to flow gradually downward over and between the pictures and to pass off from the bottom; but such water rises through a pipe as high as the top of the suspended pictures, and for this reason the pictures remain immersed in water; but the fresh water supplied at the top gradually descends and carries with it the chemical substances that are washed off the suspended pictures, and there is a constant and gradual supply of water from the top downward, and this not only acts to remove chemical substances that are soluble from the pictures, but it also tends to keep the pictures separate from one another.

In the drawings, Figure 1 is a vertical section of the washing apparatus, and Fig. 2 is a plan of the same, partially in section; and Fig. 3 is a cross-section showing one of the suspending devices and a photographic print held thereby in a vertical position.

The vessel A is of any desired size or shape, having reference, of course, to the size of the pictures and the number that are to be washed. This vessel for convenience is rectangular and provided with an escape-opening 2 at the bottom leading to the pipe B, which rises as high as it is desired to maintain water in the vessel A, and it is advantageous to place a netting or strip of perforated

metal at 3 over the escape-opening 2, so as to unify the escape of the water as much as possible. The height of the discharge-pipe B should be sufficient to retain water in the vessel A to entirely cover the prints that are to be washed.

The prints are represented at C. They are upon paper or other flexible material and suspended from the bars D in any convenient manner. I have represented these bars D as tubes slotted on one side and each provided with an internal bar or strip 4 for retaining one edge of the prints in the bars. I find that if the bars D are made of tubes slotted longitudinally, so that one edge of the print can be inserted in the tube and the bar 4 thrust endwise into the bar D, it holds the print firmly with very little paper, and these bars resting upon the ledges 5 and being below the water-line are where the prints will be thoroughly washed by the water that circulates down through the distributor F and escapes by the opening 2 and discharge-pipe B.

It will be seen that the water being supplied above the distributor F passes uniformly, or nearly so, down through the distributor F and washes the photographic prints thoroughly and escapes through the opening 2 and rising pipe B, and for this reason the action of the water is to keep the prints from coming into contact with each other and to constantly separate them one from the other, so that there is no liability for the prints to come into contact or be unequally operated upon by the washing-water.

By this improvement the attendant can suspend the prints to be washed, turn on the water, and allow the apparatus to be self-operating until the prints are washed, and they are easily removed from the washing vessel by lifting out the bars D, from which the prints are suspended.

It will be apparent that the water may be supplied in any desired manner; but the perforated metal plate F, I find a convenient way for distributing the water passing from the pipe E to the prints.

The tank should be adapted to the sizes of photographs to be washed, and where the tank is made for large pictures it may be used for smaller pictures, and two or more may be suspended in line from the same bar or hanger.

The tanks are advantageously adapted to particular sizes of prints; but the tank may receive a greater or less number of pictures, according to its width.

5 It is preferable that the inlets for the water be so arranged in relation to the prints that the water flows in the direction of the prints and not across them, so that the flow of the water keeps the sheets separate. The perforated distributor-plate, however, renders the
10 supply uniform at all places, and the direction of the current is downward and tends to keep the pictures separate.

The spout or lip 7, where the water flows
15 off, may be of any desired shape.

I claim as my invention—

1. In a photograph print or film washer, the combination with the vessel and the inlet and exit waterways, of devices for engaging the
20 uppermost edges of the flexible prints or films and suspending the same as hanging therefrom, and means connected to the vessel for supporting the said suspending devices at their respective ends within the vessel, substantially as specified.

2. In a photographic print or film washer, the combination with the vessel and the inlet and exit waterways, of devices for engaging the uppermost edges of the flexible prints or
30 films and suspending the same as hanging therefrom, and means connected to the vessel for supporting the said suspending devices at

their respective ends within the vessel, and means situated above the suspended prints or films for evenly distributing and directing
35 the water upon the groups of prints or films, substantially as specified.

3. In a photographic print or film washer, the combination with the vessel and the inlet and exit waterways, of means for suspending
40 the flexible prints or films vertically from one edge, said means comprising two devices co-acting longitudinally and separably movable in relation to one another to receive and nip
45 the edge of the print or film slipped between said parts, and means for supporting said suspending devices within the vessel, substantially as specified.

4. In a photographic print or film washer, the combination with the vessel and the inlet
50 and exit waterways, of means for suspending the flexible prints or films vertically from one edge, the said means comprising longitudinally-slotted tubes and rods of smaller diameter adapted to pass within the tubes and nip
55 the inserted edge of the print or film, and means for supporting said suspending devices within the vessel, substantially as specified.

Signed by me this 15th day of June, 1899.

EDWIN A. DOBBINS.

Witnesses:

GEO. T. PINCKNEY,
S. T. HAVILAND.