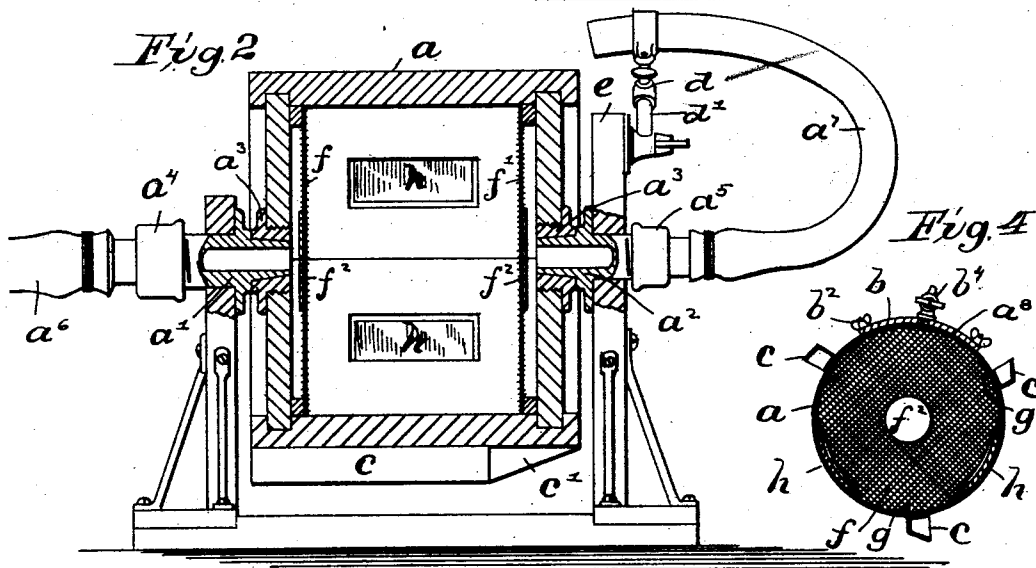
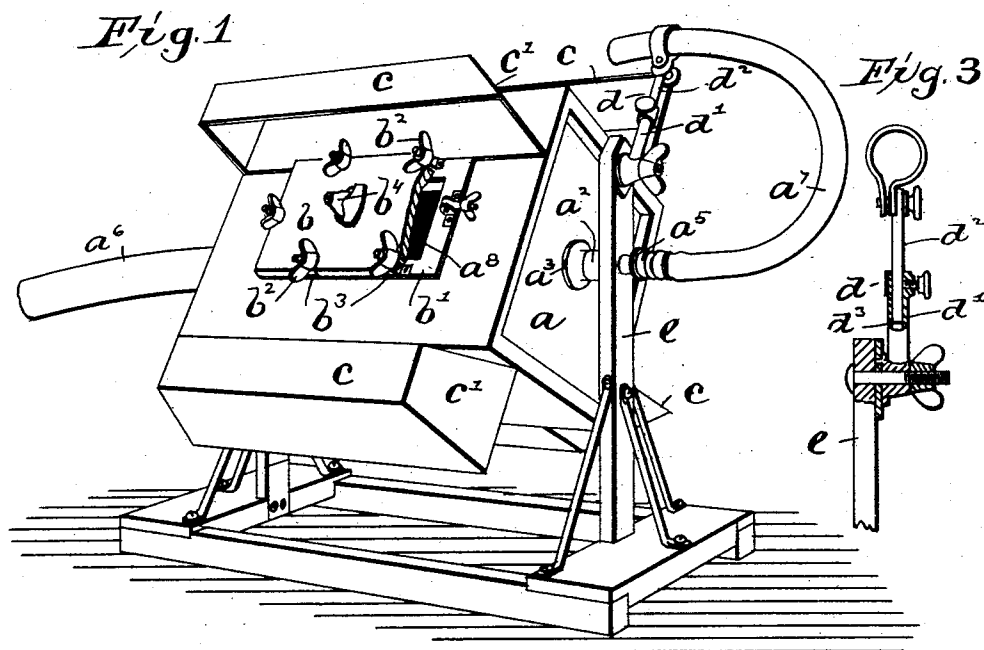


(No Model.)

D. ARGERBRIGHT.
PHOTOGRAPHIC PRINT WASHER.

No. 586,280.

Patented July 13, 1897.



Witnesses
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UNITED STATES PATENT OFFICE.

DANIEL ARGERBRIGHT, OF TROY, OHIO.

PHOTOGRAPHIC-PRINT WASHER.

SPECIFICATION forming part of Letters Patent No. 586,280, dated July 13, 1897.

Application filed May 25, 1896. Serial No. 593,028. (No model.)

To all whom it may concern:

Be it known that I, DANIEL ARGERBRIGHT, a citizen of the United States, residing at Troy, in the county of Miami and State of Ohio, have invented certain new and useful Improvements in Photographic-Print Washers, of which the following is a specification.

My invention relates to a device for washing photographic prints; and the object of my invention is to provide a machine in which photographic prints may be thoroughly and completely immersed in the washing-bath, in which they are adapted to be moved gently, so as to separate the prints one from the other while subjected to the action of a continuous supply of fresh water or other washing liquid.

In carrying out my invention I employ an automatic intermittently-rotating receptacle having inlet and outlet orifices through which the washing liquid is admitted and discharged, while the receptacle is kept completely filled, the device being adapted to be intermittently and slowly rotated to cause the prints to change position and float gently through the washing-bath. I attain these objects by the constructions shown in the accompanying drawings, in which—

Figure 1 is a perspective view of a device embodying my invention. Fig. 2 is a longitudinal sectional view of the same, and Fig. 3 is a detail of a portion of the same. Fig. 4 is a transverse sectional view of a modification.

Like parts are represented by similar letters of reference in the several views.

In the said drawings, *a* represents the washing-receptacle, which is preferably made square in cross-section. It may be made of any suitable material, the drawings illustrating a wooden box, the parts thereof being fitted together so as to make it water-tight. This box is supported on hollow trunnions *a'* and *a''*, each of which is preferably made slightly conical at the end and fitted with a ground joint into a sleeve *a'''* in the respective ends of the receptacle *a*. The trunnions *a'* and *a''* are screw-threaded at their outside and adapted to be connected by suitable couplings *a⁴* *a⁵* to hose-pipes *a⁶* *a⁷*, which furnish the inlet and outlet for the washing liquid.

The box *a* is preferably supplied with an opening *a⁸* at one side thereof, having a re-

movable plate *b*, adapted to fit said opening and tightly close the same through the medium of a rubber or other suitable gasket *b'*, hinged thumb-screws *b²*, operating in slotted openings *b³* in the edge of the plate, being adapted to hold said plate securely in position and permit its ready removal by loosening the thumb-screws and turning them back, as indicated at one end in Fig. 2, where the plate is shown broken away to more clearly illustrate the construction. This plate is also preferably provided with a petcock *b⁴* to permit the escape of the air from the receptacle when the same is being filled, though this air-escape orifice may be located at any other convenient point, if desired.

On the outside of the receptacle *a* and preferably at the four corners I place troughs *c*, which are adapted to receive the water discharged from the discharge-hose *a⁷* and furnish the means for intermittently rotating the receptacle. These troughs *c* are preferably formed tapering at one end, as shown at *c'*, the angle of the trough being at that end where the hose or nozzle discharges into the same, so as to form a more complete cut-off as the receptacle intermittently rotates, thus insuring the delivery of the liquid into one trough until the next trough is brought into position to receive it.

In order to accomplish the object of my invention, the discharge pipe or hose *a⁷* is secured and held in the proper position by an adjustable holder *d*, by which the end of said hose pipe or nozzle is raised or held at a point above the top of the receptacle and at a suitable angle to discharge into the troughs *c*. This holder *d* is preferably made in two parts *d'* and *d²*, the part *d'* being adjustably secured to one of the standards *e*, which supports the trunnion *a²*, the part *d²* being adjustably secured in a suitable socket *d³* in the part *d'*, so as to be readily adjustable to bring the end of the hose or nozzle at the proper angle of discharge.

Within the receptacle *a*, at the respective ends, are screens *f* and *f'*, which may be formed of any suitable material, preferably of brass or galvanized wire, to hold back the prints and prevent the same from coming into the inlet and outlet openings. Each of these screens is provided with a solid central por-

tion f^2 , which stands immediately opposite the inlet and outlet openings and forms a deflector which deflects the currents and causes the incoming liquid to be intimately mixed with that contained in the receptacle and prevents any decided currents toward the outlet-opening. These screens are preferably held in position by some suitable means which permits their removal for cleaning or otherwise.

In the operation of this device the plate or cover is removed by unloosening the screws and turning them back, as heretofore indicated. The prints are placed through the opening a^5 into the receptacle, which has been partially filled with water through the supply-hose a^6 , and which may be connected to any suitable water-supply. After the prints are placed therein the receptacle is closed by clamping the plate over the opening, the petcock b^4 being opened and water admitted through the supply-opening until the vessel is completely filled, the air being excluded, after which the petcock b^4 is closed. The water or other liquid is permitted to flow into the opening until it is discharged at the discharge end of the outlet hose or pipe a^7 , from which it falls into one of the troughs c . As soon as a sufficient quantity of the liquid has passed into the trough the receptacle is caused to rotate one-fourth of a revolution, thus emptying the trough already filled and bringing another one into position to be filled. This intermittent rotation of the receptacle, which is entirely filled with the liquid, will cause the prints to be carried up and slightly agitated, so as to float in the washing liquid, through which they will again gradually and slowly settle to the bottom. At each quarter-turn they will again be slightly agitated and caused to float through the liquid, thus separating the individual prints and bringing them into the action of the incoming washing liquid, completely washing the same.

In Fig. 4 I have shown the device slightly modified. In this case the washing-receptacle a is made round and is constructed of sheet metal of any suitable kind. Three troughs c are employed, and it may be here stated that the receptacle may be of any suitable shape and any number of troughs employed. If the outer casing or receptacle is made cylindrical in shape, I preferably provide on the inner periphery a series of ribs or projections g , which, as the casing is intermittently rotated, will assist in carrying up the prints and agitating the same.

It should be stated that the receptacle will be supported in any suitable frame and any of the constructions herein may be modified to suit the varying conditions.

The receptacle is preferably provided on one or more sides with glass-covered openings h , through which the operation of washing may be observed from time to time, if desired.

Having thus described my invention, I claim—

1. In a photographic-print washer, a rotating casing adapted to be completely filled with the washing liquid, said casing having outlet and inlet openings, and means, substantially as described, for automatically and intermittently rotating said casing for a portion of a revolution by the action of the washing liquid which passes through said casing and escapes at said outlet-opening, substantially as specified.

2. A washer, such as described, consisting essentially of a rotating casing having central supply and discharge openings, the point of discharge being elevated to a point above the top of said casing, and retaining-receptacles on the outside of said casing adapted to receive the liquid-discharge from said point of discharge and cause the receptacle to intermittently rotate, substantially as specified.

3. In a washer, such as described, a casing rotatable on hollow journals or trunnions adapted to form inlet and outlet openings for said casing, an air-escape in said casing with means for closing the same, a detachable door or lid in one side of said casing, a hose pipe or conduit connected to the outlet-opening and extended to a point above the top of said casing, and means on the outer periphery of said casing to cause the same to revolve intermittently by the discharge from said outlet-opening, substantially as specified.

4. The combination with a rotating casing having a detachable lid or cover on one side thereof, an outlet and an inlet opening for said casing, and means, substantially as described, for rotating said casing intermittently and automatically by the discharge from said outlet-opening, substantially as specified.

5. The combination in a washer, substantially as described, having a rotating casing adapted to rotate on hollow trunnions which form inlet and outlet openings for said casing, screens at each end of said casing adjacent to said openings, each of said screens being provided with a central deflector arranged opposite said inlet and outlet openings, substantially as and for the purpose specified.

6. The combination with the rotating casing, the hollow journals or trunnions on which the same rotates, outlet and inlet openings through said journals, a flexible hose or pipe connected to said outlet-opening, and an adjustable arm adapted to support said pipe so that the discharge end is above the top of said casing, substantially as specified.

7. The combination with the rotating casing having the outlet and inlet openings as described, of a series of troughs arranged on the outside of said casing, a pipe or conduit connected to the discharge-opening with the discharge end adjacent to the line of rotation of said troughs, each of said troughs being inclined or beveled at one end, substantially as specified.

8. The combination with an intermittently-rotating casing, and the hollow trunnions on which the same revolve, outlet and inlet

openings extending through said trunnions, screens having deflectors arranged adjacent to said openings, a detachable lid on one side of said casing, and means for securing said lid in position, troughs or receptacles arranged around the outside of said casing, and a discharge-pipe leading from said discharge-opening to a point above said casing, and an adjustable holder for holding said discharge-pipe in different positions to cause the same to discharge into said troughs or receptacles, substantially as specified.

9. The combination with an outer rotatable casing having inlet and outlet openings extending through the journals on which said casing revolves, means for rotating said casing completely filled with water or other liquid, and means, substantially as described,

for producing an intermittent rotary movement of said casing, substantially as specified. 20

10. The combination with a rotating casing, outlet and inlet openings extending through the trunnions or journals on which the same revolves, a pipe connection from the outlet-opening extended to a point above said casing, and troughs or projections on the outside of said casing into which said pipe is adapted to discharge, substantially as specified. 25

In testimony whereof I have hereunto set my hand this 6th day of May, A. D. 1895. 30

DANIEL ARGERBRIGHT.

Witnesses:

J. H. DAVY,
MAME SPICER.