T. BUCKLAND.

PHOTOGRAPHIC WASHING APPARATUS.

APPLICATION FILED OCT. 18, 1912.

1,067,403. Patented July 15, 1913.

Fig. 1.

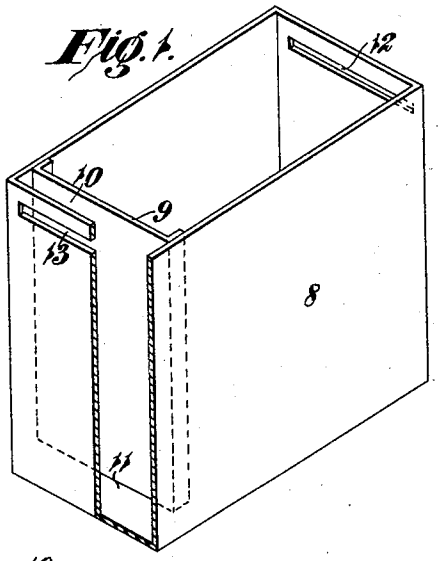


Fig. 2.

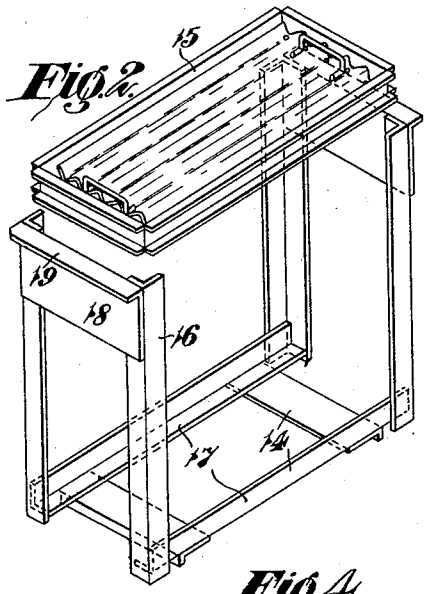


Fig. 3.

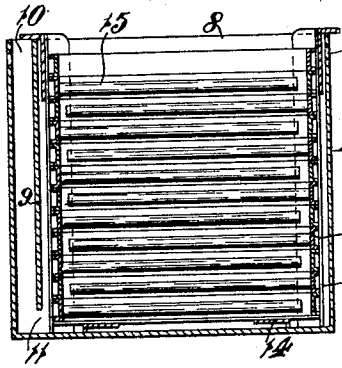


Fig. 4.

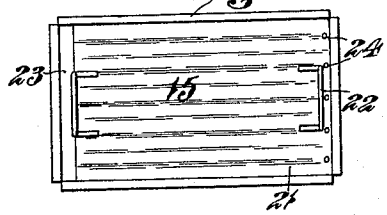


Fig. 5.



Fig. 6.

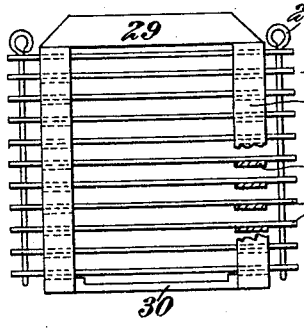
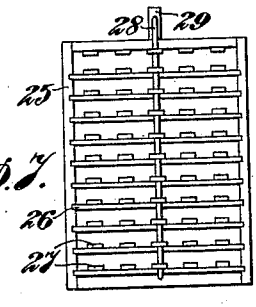


Fig. 7.



WITNESSES:

John C. Sanders

A. F. Heuman

INVENTOR:

Thomas Buckland

BY Wm. Millard Hall

ATTY.

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

THOMAS BUCKLAND, OF HUNTERS HILL, NEAR SYDNEY, NEW SOUTH WALES, AUSTRALIA.

PHOTOGRAPHIC WASHING APPARATUS.

1,067,403. Specification of Letters Patent. Patented July 15, 1913.

Application filed October 18, 1912. Serial No. 726,479.

To all whom it may concern:

Be it known that I, THOMAS BUCKLAND, a subject of the King of Great Britain, residing at "Lyndhurst," Stanley Road, Hunters Hill, near Sydney, in the State of New South Wales and Commonwealth of Australia, grazier, have invented a new and useful Photographic Washing Apparatus, of which the following is a specification

This invention relates to improved apparatus for use in photography and for general purposes where a number of sheets, films, or the like require to be separately soaked, or washed, or subjected to the influence of liquid, and it has been specially devised in order to produce a simple and cheaply constructed apparatus whereby such treatment will take place while the liquid is flowing over or about the sheets, films or the like, and whereby the handling of such sheets, films or the like, may be easily and comfortably carried on without immersing the hands in the liquid.

This improved apparatus comprises a vessel or washing tank with orifices at top and bottom for the intake and outlet (or vice versa as the case may be) of the liquid or solution, a frame or rack adapted to fit in said washing tank, and holders or trays adapted to be set one above the other on or in said frame in such manner that the liquid will flow over, or in each tray from alternate ends, and upwardly or downwardly as the case may be.

The washing tank is made large enough to receive the frame of trays or the rack and has a divided off vertical end portion with a port from the tank into same at the bottom, and said tank also has ports at the top at each end.

The frame for holding the trays has corner pillars, preferably of angle metal or other material, which are held together by longitudinal and transverse stays and said frame is adapted to comfortably fit within the washing tank.

The trays are shallow and fit within the angled corners of the frame and are of suitable size to receive the sheet or film to be treated and to contain just sufficient depth of liquid for the purposes of treatment. In order to provide for best soakage or washing the tray bottoms are corrugated ribbed or studded and they are provided with hoops pintles studs or the like of less height than the rim to prevent movement of the sheet or films. These trays have a port or opening at one end through the bottom and they are adapted to sit on the rim of a tray below.

Instead of the frame and trays there might be used a rack comprising a stand or frame fitted with shelves one above the other a slight distance apart and, if made solid, with ports or openings at alternate ends and having a corrugated ribbed or studded upper face. Or these shelves might be of perforated metal or woven wire or wire gauze or be open frames. The series of shelves are stopped at one end by one or more permanent vertical wires and at the other end by one or more removable vertical wires or the removable wires may be at both ends. But in order that the practical carrying into practice of this invention may be more easily understood it will now be described by reference to the accompanying drawings in which—

Figure 1 is a perspective view of the washing tank (partly in section) Fig. 2 a similar view of the frame and one tray, Fig. 3 a central longitudinal section of the tank with frame and trays in position. Fig. 4 is a plan of a tray and Fig. 5 an enlarged transverse section of the same. Figs. 6 and 7 are side and end elevations of one form of alternative rack.

The washing tank 8 has a division 9 to form a vertical end portion 10 with a port 11 from tank 8 into the same at the bottom and it has ports or orifices 12 and 13 at its ends. The frame 14 for holding the trays 15 comprises angular corner pillars 16, longitudinal connecting pieces 17, and cross stays 18, each top stay 18 having a flange 19 formed on it to serve as lifting and carrying members.

The trays 15 are shallow having frames 20 supporting a corrugated floor 21 on which are wire loops 22 to prevent endwise movement of films or sheets thereon. And these trays 15 have ports or openings 23 at one end which are alternate when the trays are positioned in the frame, while at the other end are a plurality of small orifices 24 to assist draining and to prevent air bubbles.

The alternative rack shown in Figs. 6 and 7 is adapted to fit in the tank 8 and is preferably made of wood (though it may be of metal). The rectangular vertical framings

25 carry transverse slats 26 each of which has thereon a plurality of longitudinal slats 27 forming shelves. The ends have removable wires 28 to prevent endwise movement of the films or sheets on the shelves. The rack also has a handle 29 for carrying &c. and a weight 30 (say of lead) to prevent it floating.

In use the negatives films, sheets, prints or the like are placed in the trays 15 fitted in the frame 14 which is placed in the tank 8 and water or chemical solution or other liquid caused to flow through said tank 8, being fed in at either end and passing either upwardly or downwardly through the openings 23 in the trays 15 and overflowing through the opening 12 or 13 as the case may be. Or alternatively the films or sheets etcetera are placed in position on the shelves 26 and 27 and secured by wires 28 and then placed in the tank.

Having now fully described and ascertained my said invention and the manner in which it is to be performed I declare that what I claim is:—

1. In apparatus of the class described, in combination, a tank having inlet and outlet openings, a removable frame adapted to be positioned in said tank, and a plurality of superposed trays supported by said frame, adjacent trays having openings in their alternate ends.

2. In apparatus of the class described, in combination, a tank having inlet and outlet openings, a removable frame adapted to be positioned in said tank, and a plurality of superposed trays supported by said frame, adjacent trays having openings in their alternate ends, said trays being provided with means to insure a flow of liquid under the film or the like which is positioned thereon.

3. In apparatus of the class described, in combination, a tank having inlet and outlet openings, a removable frame adapted to be positioned in said tank, and a plurality of superposed trays supported by said frame, adjacent trays having openings in their alternate ends, said trays being provided with means to prevent undue movement of the film or the like which is positioned thereon.

4. In apparatus of the class described, in combination, a tank provided with inlet and outlet openings adjacent the upper edges of oppositely disposed walls, a downwardly extending partition adjacent one of said walls, the lower edge of said partition being spaced from the bottom of the tank, a removable frame adapted to be positioned within said tank between said partition and the other of said oppositely disposed walls, and trays supported by said frame.

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

THOMAS BUCKLAND.

Witnesses:
FRED WALSH,
GEORGE MANSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."