No. 893,103. PATENTED JULY 14, 1908.

J. H. RUBENKING, JR.

NEGATIVE WASHING DEVICE.

APPLICATION FILED JULY 17, 1907.

3 SHEETS—SHEET 1.

Fig. 1.

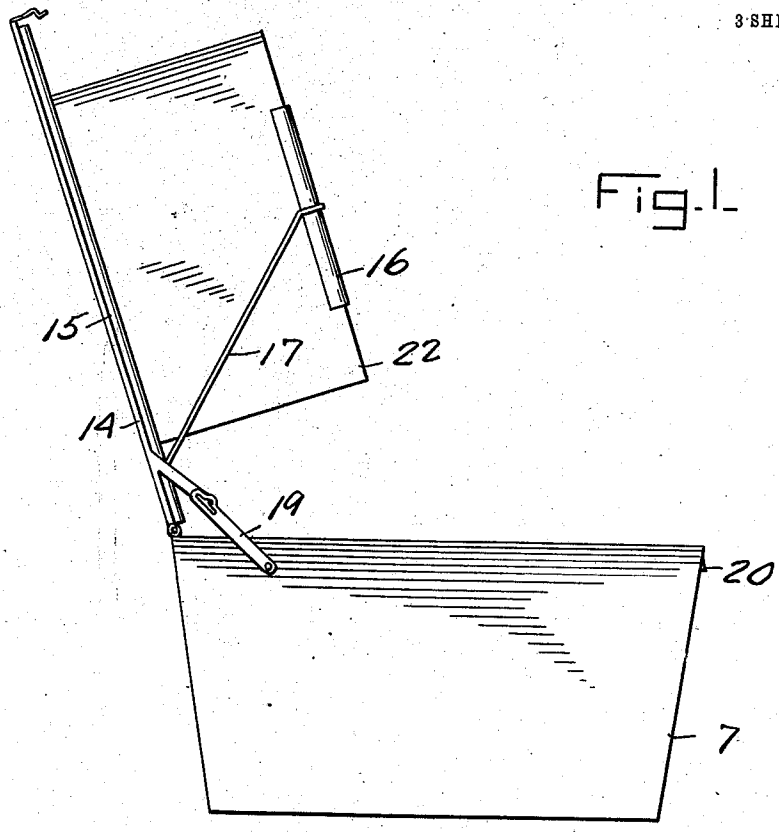
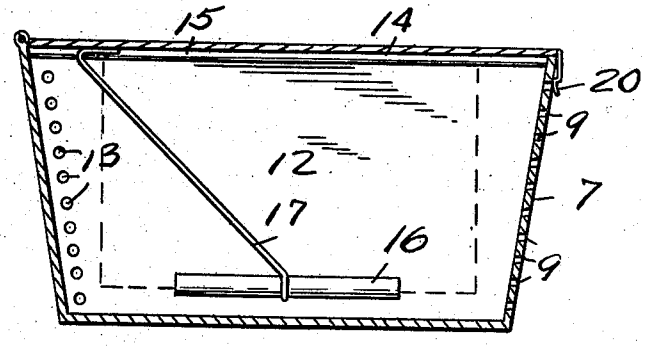


Fig. 2.



Witnesses

G. R. Thomas

H. A. McGuinness

Inventor

John H. Rubenking Jr.

By Douglas Alexander

Attorneys.

No. 893,103. PATENTED JULY 14, 1908.

J. H. RUBENKING, JR.

NEGATIVE WASHING DEVICE.

APPLICATION FILED JULY 17, 1907.

3 SHEETS—SHEET 2.

Fig. 3.

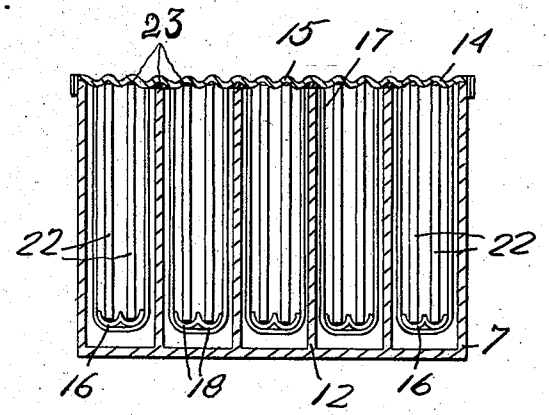
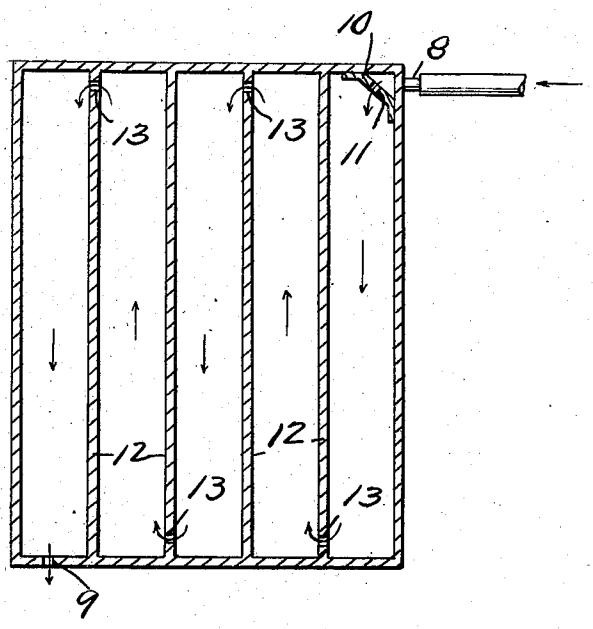


Fig. 4.



Witnesses

G. R. Thomas

H. C. Whittemore

Inventor

John H. Rubenking Jr.

By Munn & Co

Attorneys

No. 893,103. PATENTED JULY 14, 1908.

J. H. RUBENKING, JR.

NEGATIVE WASHING DEVICE.

APPLICATION FILED JULY 17, 1907.

3 SHEETS—SHEET 3.

Fig. 5.

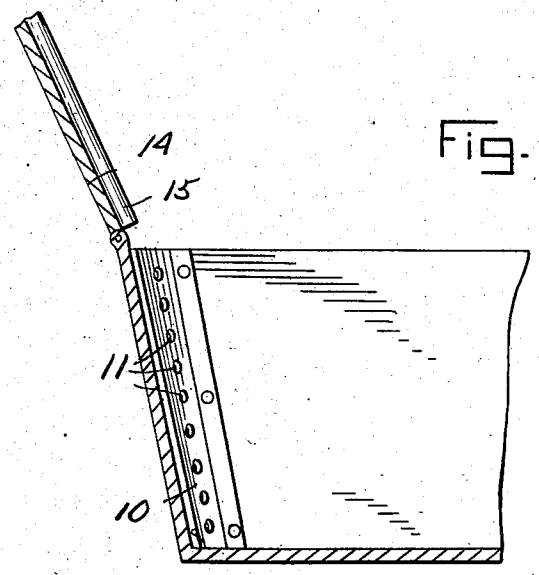
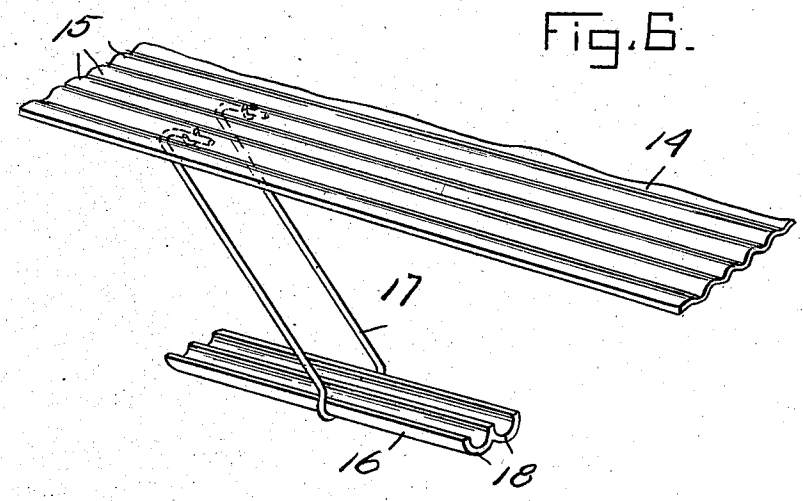


Fig. 6.



Witnesses

G. R. Thomas

R. McQuiteney

Inventor

John H. Rubenking Jr.

By Cridlebaugh & Chandler

Attorneys

UNITED STATES PATENT OFFICE.

JOHN H. RUBENKING, JR., OF BURTON VIEW, ILLINOIS.

NEGATIVE-WASHING DEVICE.

No. 893,103. Specification of Letters Patent. Patented July 14, 1908.

Application filed July 17, 1907. Serial No. 384,166.

To all whom it may concern:

Be it known that I, JOHN H. RUBENKING, Jr., a citizen of the United States, residing at Burton View, in the county of Logan, State of Illinois, have invented certain new and useful Improvements in Negative-Washing Devices; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to improvements in negative-washing devices, and it aims, broadly, to provide an extremely simple and efficient device of that class which may be manufactured at a comparatively slight cost and by means of which negatives may be thoroughly washed in the shortest possible time and with the least possible consumption of water.

More particularly, however, the invention resides in the provision of a washing device in which the negatives themselves are held in place against the corrugated inner face of the movable cover of the receptacle by a series of spring-pressed clips, whereby the negatives will be carried into position within the partitioned receptacle body when the lid is closed thereupon, during the washing operation, and will be removed therefrom at the completion of such operation.

The invention further resides in the provision of means for retaining the receptacle cover in open position, whereby, when in such position, the cover may be utilized as a rack.

With the above and other ends in view, the invention consists in the construction, combination, and arrangement of parts, all as hereinafter more fully described specifically claimed, and illustrated in the accompanying drawings, in which like parts are designated by corresponding reference numerals in the several views.

Of the said drawings—Figure 1 is a side elevation of the device with the cover in raised position, showing the negatives in place upon the cover, Fig. 2 is a transverse section through the receptacle, with the cover in its lowered position, Fig. 3 is a section at right-angles to Fig. 2, Fig. 4 is a horizontal section through the receptacle showing the formation of the inlet ports and the inlet tube, Fig. 5 is a fragmental detail view of the receptacle, Fig. 6 is a perspective view of one of the clips.

In its practical embodiment the device comprises a receptacle 7 of approximately rectangular shape formed of metal or other preferred material and provided at one corner with an inlet opening 8, and at its diagonally-opposite corner with a vertically-arranged series of outlet openings 9. Disposed within the box is a head or nozzle 10, which communicates with the inlet 8 and is provided with a vertically-arranged series of ports 11. The receptacle is further provided with a series of partitions 12 which are disposed longitudinally therewithin, and are provided at alternate ends with a vertically-arranged series of ports 13, whereby the water admitted into the receptacle through the inlet and nozzle will follow a zig-zag course through the compartments formed by the partitions, until it makes its exit through the outlet ports 9.

Hinged to the receptacle is a cover 14, which is longitudinally-corrugated, as indicated by the reference numeral 15, and as shown in Fig. 2, the corrugations being separated by longitudinally-arranged strips 23 of rubber or similar material, which contact with the upper edges of the partitions when the cover is closed and form water-tight joints between the several compartments. The cover is in turn provided with a series of metallic clips 16, which are likewise longitudinally corrugated and are connected with the cover by means of leaf-springs 17, the leaf-springs tending to draw the clips against the under face of the cover with which said clips contact when in inoperative position. The corrugations formed on the clips are indicated by the reference numeral 18 and are shown in Fig. 3, there being two corrugations to each clip, the number of clips being equal to the number of compartments formed in the receptacle. The cover and receptacle are further connected by a pair of pivotally-connected links 19, the arrangement being such that when the cover is in its raised position the pin formed on one of said links will be disposed at the upper end of the slot formed in the other link, whereby the cover will be retained in such position. The receptacle carries at its forward edge a spring lock 20, the keeper of which is secured to the forward edge of the cover.

In the operation of the device, the negatives 22 will be fitted in the corrugations formed on the cover and clips and will be held in vertical position against the cover by the action of said clips, whereby when the cover is closed upon the receptacle the negatives will be carried bodily therewith and will be lowered into the compartments formed in the receptacle, the keeper secured to the cover engaging in the spring lock with which the receptacle is provided. Water is then introduced into the receptacle through a tube or other means (not shown) fitted in the inlet opening 8; the water will then be forced to pursue the zig-zag course around each negative and across its entire surface until it makes its exit through the outlet openings 9. It will be seen therefore that by this arrangement a constant flow of water is secured over the surface of each negative, so that a minimum supply keeps a constant current moving in such a manner as to insure the thorough cleansing of the entire surface of the negative in the shortest possible time. Owing, moreover, to the fact that the current is horizontal and not vertical, any sediment which may collect in the bottom of the tank is not stirred up by the current, and the surfaces of the negatives are thus prevented from injury therefrom. At the completion of the washing operation, the cover is raised and is retained in such position, owing to the provision of the links 19, as above described, whereby the cover may be utilized as a rack, displacement of the negatives being prevented by the action of the clips.

It will be obvious that while the device may be made in any desired size, the clips themselves are self-adjusting, or, in other words, adapt themselves for use with negatives of different sizes. The receptacle and its component parts may likewise be constructed of any preferred material.

What is claimed, is—

1. In a negative-washing device, the combination, with a receptacle and a cover hinged thereto, of a series of clips carried by the cover on its under face for holding negatives thereagainst.

2. In a negative-washing device, the combination, with a receptacle and a cover hinged thereto, of a series of spring-pressed clips carried by the cover on its under face for holding negatives thereagainst.

3. In a negative-washing device, the combination, with a receptacle and a cover hinged thereto, of a series of independent U-shaped spring-pressed clips carried by the cover and adapted to engage the lower edges of the negatives, to hold the latter in vertical position against the cover.

4. In a negative-washing device, the combination, with a receptacle, of a longitudinally-corrugated cover hinged to the receptacle, and a series of longitudinally-corrugated spring-pressed clips carried by the cover and adapted to engage the lower edges of the negatives, to hold the latter in vertical position against the cover.

5. In a negative holder, the combination, with a receptacle provided with a series of longitudinal compartments, of a cover hinged to the receptacle, and a series of spring-pressed clips carried by the cover and adapted to engage the lower edges of the negatives, to hold the latter in vertical position against the cover, whereby the negatives will be lowered bodily into the compartments when the cover is closed upon the receptacle.

6. In a negative-holder, the combination with a receptacle provided with a series of longitudinal compartments, of a longitudinally corrugated cover hinged to the receptacle, and a series of longitudinally corrugated spring-pressed clips carried by the cover and adapted to engage the lower edges of the negatives to hold the latter in vertical position against the cover, whereby the negatives will be lowered bodily into the compartments, when the cover is closed upon the receptacle.

7. In a negative-washing device, the combination with a receptacle, and a cover hinged thereto, of a series of independent U-shaped spring-pressed clips carried by the cover and adapted to engage the lower edges of the negatives, to hold the latter in vertical position against the cover, and means for retaining the cover in raised position, whereby it may be utilized as a rack.

8. In a negative-washing device, the combination, with a receptacle, of a longitudinally-corrugated cover hinged to the receptacle, a series of longitudinally-corrugated spring-pressed clips carried by the cover and adapted to engage the lower edges of the negatives, to hold the latter in vertical position against the cover, and means for retaining the cover in raised position, whereby it may be utilized as a rack.

9. In a negative-washing device, the combination with a receptacle provided at diametrically opposite corners with inlet and outlet ports, of a series of partitions disposed longitudinally within the receptacle and provided at alternate ends with inlet openings, a cover hinged to the receptacle, and a series of independent spring-pressed clips carried by the cover and adapted to engage the lower edges of the negatives, to hold the latter in vertical position against the cover.

10. In a negative washing device, the combination, with a receptacle provided at diametrically opposite corners with a vertical series of inlet and outlet openings, of a series of vertical partitions disposed longitudinally within the receptacle and provided

at alternate ends with a vertical series of inlet openings, a cover hinged to the receptacle, and a series of independent spring-pressed clips carried by the cover and adapted to engage the lower edges of the negatives, to hold the latter in vertical position against the cover.

In testimony whereof, I affix my signature, in presence of two witnesses.

JOHN H. RUBENKING, JR.

Witnesses:
LELAND DAVY,
W. R. GILCHRIST.