(No Model.)

2 Sheets—Sheet 1.

J. W. ASH.

WASHING MACHINE.

No. 498,151. Patented May 23, 1893.

Fig. 1.

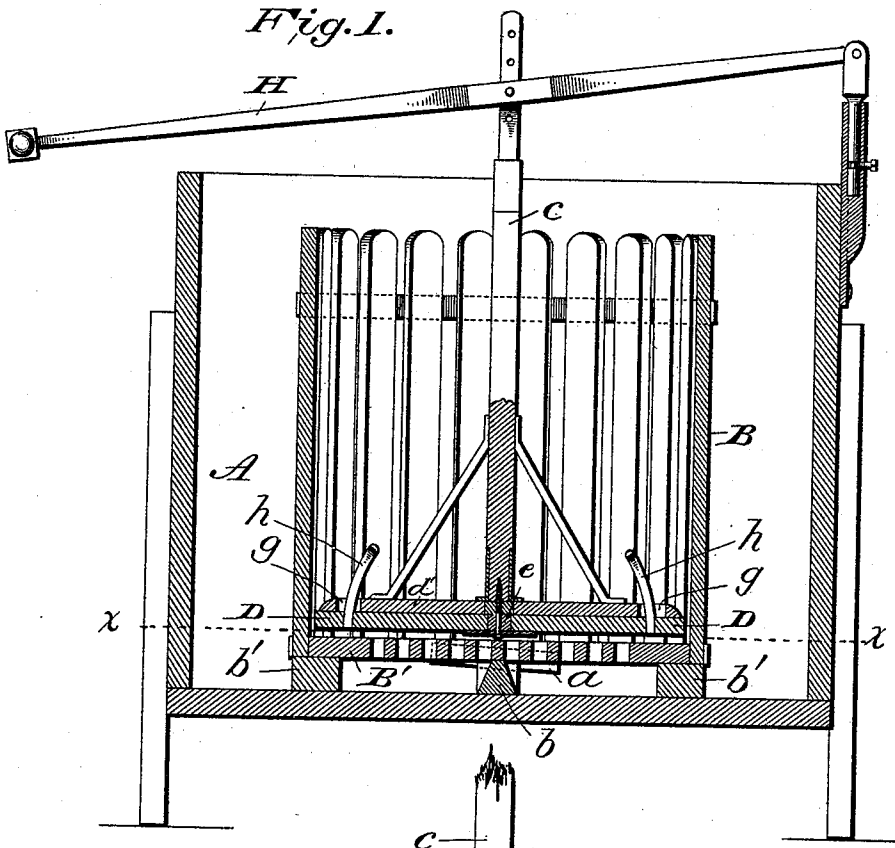
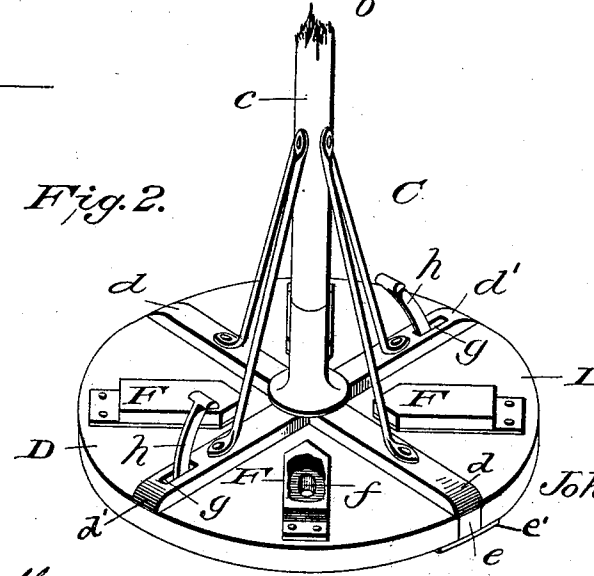


Fig. 2.



Witnesses
E. S. Elliott.
E. W. Johnson

John W. Ash.
Inventor
by
Attorney

(No Model.)

2 Sheets—Sheet 2.

J. W. ASH.

WASHING MACHINE.

No. 498,151. Patented May 23, 1893.

Fig. 3.

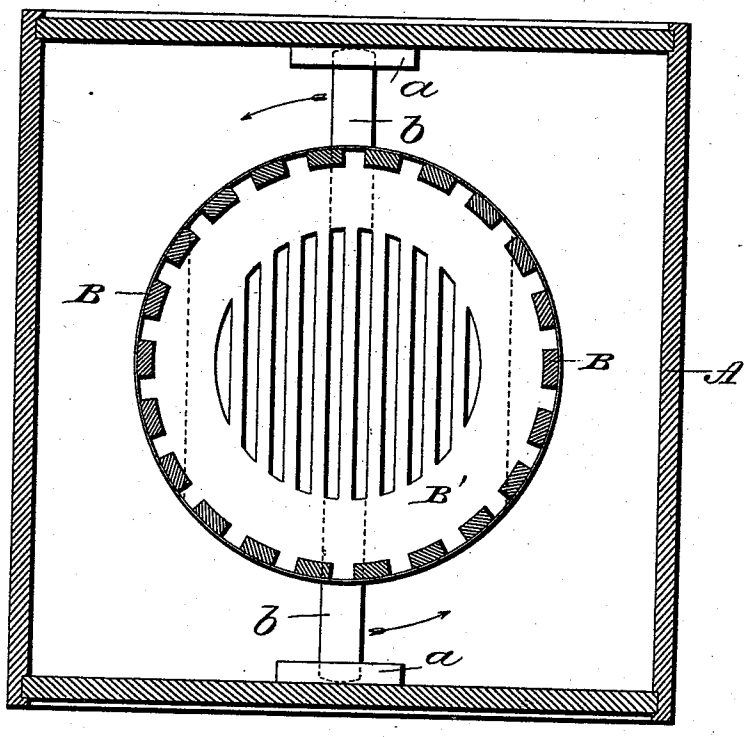
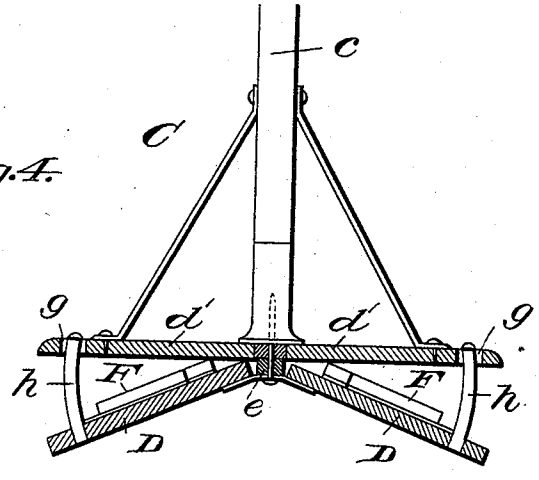


Fig. 4.



Witnesses L. S. Elliott.
E. M. Johnson

John W. Ash.
Inventor

by

Attorney

UNITED STATES PATENT OFFICE.

JOHN WILLIAM ASH, OF OGDEN, UTAH TERRITORY.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 498,151, dated May 23, 1893.

Application filed June 21, 1892. Serial No. 437,529. (No model.)

To all whom it may concern:

Be it known that I, JOHN WILLIAM ASH, a citizen of the United States of America, residing at Ogden, in the county of Weber and Territory of Utah, have invented certain new and useful Improvements in Washing-Machines; 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in washing machines, of that class in which a valved plunger is operated by a vertically moving lever, said plunger working within a crate which is adapted to be secured within a tub; and the invention consists in the construction and combination of the parts, as will be hereinafter fully set forth, and particularly pointed out in the claims.

In the accompanying drawings, forming part of this specification: Figure 1 is a sectional view. Fig. 2 is a perspective view of the plunger detached. Fig. 3 is a sectional view on the line *x*—*x* of Fig. 1. Fig. 4 is a sectional view of the plunger, the side pieces being lowered.

A designates a tub, which is provided on the inside near its bottom with cleats *a a*, adapted to retain a crate B, said crate having a central cross-bar *b* which engages with the cleats to retain the crate centrally within the tub. To the bottom of the crate on each side of the central cross-bar *b* are short supports or ledges *b'* which also bear upon the bottom of the tub. The bottom, B', of the crate is provided with strips or a grating through which the water can pass to the tub, and the central portion of the bar *b* on its upper side is beveled so as not to interfere with the passage of the water or obstruct the openings in the bottom of the crate. To the bottom of the crate are attached vertical bars which are retained in place by bands.

C designates a plunger, which is made up of a vertical bar *c* to the lower end of which are rigidly attached cross-bars *d d'* suitably braced by arms as shown, and beneath a pair of the cross-bars is a strip *e* to which the side pieces D of the plunger are attached by suitable hinges, *e'*, preferably made of a strip of flexible material, which is secured to the under side of the strip *e* and to the side pieces. The side or bottom pieces of the plunger are semi-circular in shape, and are provided with openings or apertures *f* over which are placed clap-valves F. The cross-bars *d'*, which are at right angles with the strip *e* are provided intermediately with slots *g*, and through said slots pass curved arms *h* having cross-heads at their upper ends, the lower portions being attached to the side pieces of the plunger so as to limit the downward movement thereof and permit the same to swing upward against the cross bars *d' d'*. To the upper end of the central bar *c* is secured an extension having perforations which engage with the lever H, said lever having at one end a suitable operating handle and at the other a depending pin which engages with the vertical tube or pipe carried by the tub, so that when the crate is removed from the tub the plunger may be swung to different parts of the same.

To operate this washing machine the tub is partially filled with water and suds, and the clothes placed in the crate beneath the plunger; then by simply reciprocating the handle the plunger may be raised and lowered. When the plunger is lowered upon the clothes to its fullest extent the hinged side pieces D will be in a horizontal position and the valves will be closed; now on the upward movement of the plunger the valves will be held closed and the side pieces will drop, and owing to the partial suction and vacuum between the plunger and clothes the clothes will be lifted, the water following the direction of the plunger through the grated bottom and sides of the crate. Before the plunger has made the limit of its upward movement the clothes will be dropped. Thus it will be noted that the position of the clothes is being constantly changed in the crate, and the water agitated to thoroughly clean the same.

I am aware that prior to my invention it has been proposed to provide a washing machine with a valved plunger which operates

over a false bottom placed within a suitable receptacle, and I do not claim such construction broadly in a washing machine; but

What I claim as new, and desire to secure by Letters Patent, is—

1. In combination with a tub having cleats with projecting inclined faces, a crate having a central bar which projects beyond the sides thereof and is adapted to engage with the cleats, a valved plunger secured to a lever, said lever being pivotally attached to the tub, substantially as shown, and for the purpose set forth.

2. In a washing machine the combination of a tub or receptacle having cleats *a*, a crate having a grated or open bottom, a cross-bar having a beveled central portion secured to said bottom, the ends of said cross-bar projecting beyond the sides of the crate so as to engage with the cleats, and a reciprocating valved plunger, substantially as shown, and for the purpose set forth.

3. In a washing machine, the combination of a crate adapted to be removably secured within a tub, a plunger consisting of a central bar having projecting arms secured thereto and a central strip *e*, semi-circular side pieces D hinged to the central strip and provided with apertures above which are secured valves F, substantially as shown, and for the purpose set forth.

4. The combination with a vertically movable plunger having arms *d* and *d'*, one pair of said arms being slotted, apertured sections D D pivoted to the cross strip *e*, curved arms *h* carried by the apertured sections, said arms passing through the slots, substantially as shown, and for the purpose set forth.

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

JOHN WILLIAM ASH.

Witnesses:
T. L. COX,
S. P. RICHARDS.