

(No Model.)

G. H. JANTZ.
WASHING MACHINE.

No. 448,654.

Patented Mar. 24, 1891.

FIG. 1.

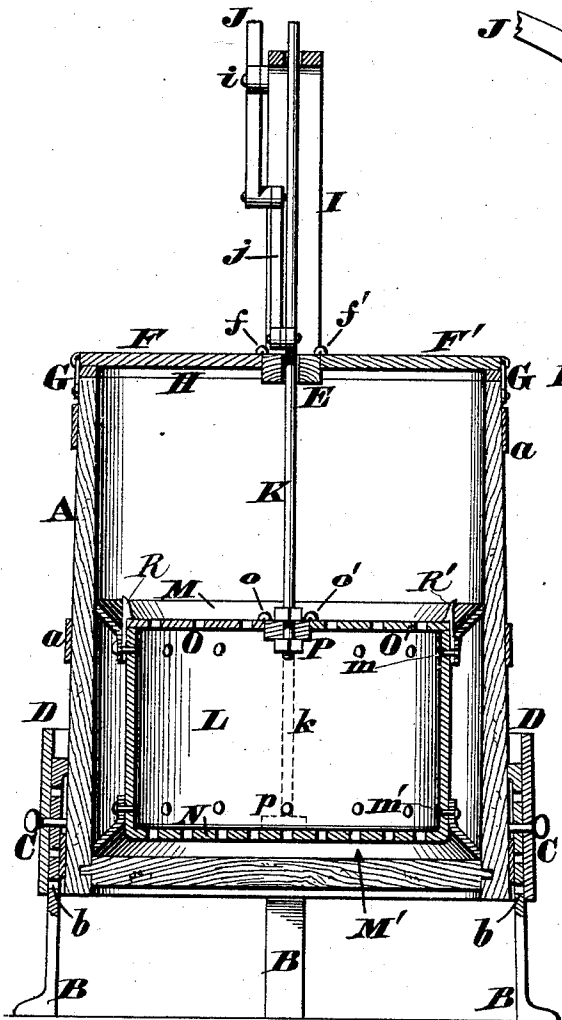
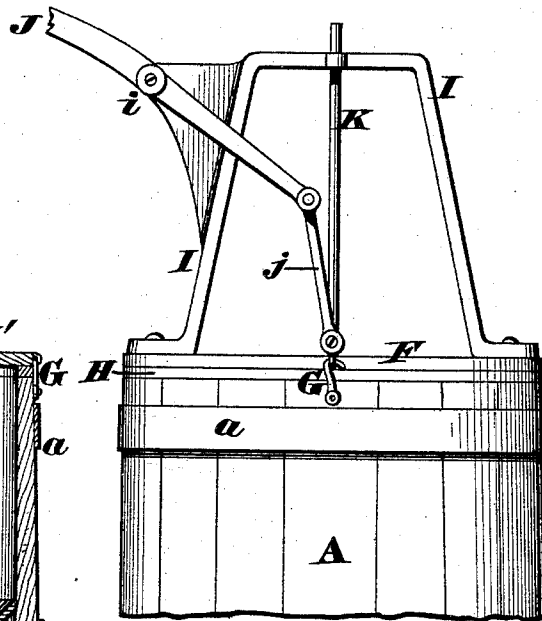


FIG. 2.



Attest.
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UNITED STATES PATENT OFFICE.

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WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 448,654, dated March 24, 1891.

Application filed January 20, 1890. Serial No. 337,438. (No model.)

To all whom it may concern:

Be it known that I, GUSTAV H. JANTZ, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, 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, reference being had to the annexed drawings, which form part of this specification.

My invention comprises a specific construction of those washing-machines which have a hollow reciprocating plunger that contains the clothes to be cleansed, the details of said machine being hereinafter more fully described, and then pointed out in the claim.

In the annexed drawings, Figure 1 is a vertical section of my washing-machine, the hollow plunger being seen at the bottom of the tub. Fig. 2 is a side elevation of the upper portion of the machine.

A represents an upright tub or suds-box whose interior is cylindrical, while its exterior is slightly larger in diameter at bottom than at top, in order that the hoops *a* may not fall off when said vessel shrinks, the vessel being maintained at any convenient height by means of feet B, perforated at *b* to admit pins C. These pins engage also with suitable holes in sockets or keepers D, secured to the sides of the tub and near the lower end thereof. The upper end of said tub has a bearer E attached across it, which bearer has a pair of solid or imperforate covers *F F'* hinged to it, as at *ff'*.

G are hooks or other convenient fastenings wherewith said lids are closed firmly against a packing-ring H at the top of the tub.

Attached to bearer E is a standard I, more clearly seen in Fig. 2, which standard has pivoted to it at *i* a lever or handle J, having a link *j*, coupled to a rod K, occupying an axial position within the washing-machine and carrying the hollow plunger. This plunger consists of a short cylinder L, preferably of sheet metal, and of somewhat less diameter than the tub, so as to afford room for the attachment of a pair of packings *M M'*, which are secured in place by rivets *m m'*. The outer margins of these packings bear against the interior of the vessel A, thereby preventing a

flow of water through the annular space between said vessel and plunger L. The bottom or lower head N of this plunger is a fixture to the latter, and is either composed of perforated metal or wire-cloth, or otherwise arranged to support the weight of the clothes, and at the same time to allow a free passage of water through them; but the top or upper head of said plunger consists of a pair of perforated plates or wire-cloth lids *O O'*, hinged at *o o'* to the same cross-bar P to which the plunger-rod K is secured. The free edges of these lids must be locked by some simple appliance, spring-fasteners being preferably used, as seen at R R'.

In constructing this machine the tub A is made a little more than twice the length of plunger L, in order that the latter may approach quite near the top and bottom of said tub at every alternate stroke. Consequently when the clothes are loosely placed within the plunger, the tub filled about half full of water, and the lever J set in motion, said plunger is caused to reciprocate vertically within said vessel A. As the plunger ascends, the upper packing M prevents the suds descending directly into the bottom of the tub and compels the water to pass through the lids *O O'*, and then down through all the clothes or other soiled articles housed within said plunger. This forcible driving of the water through the plunger and its contents is due to the fact that there are no openings in the lids *F F'* for the escape of the fluid, and on this account it is subjected to considerable pressure between said plunger and lids; hence the necessity of the fastenings G G for holding said lids tightly against the packing H; but during the downstroke of the plunger this action is exactly reversed, the lower packing M' preventing any direct upward escape of the suds and compelling them to ascend through the perforated bottom N and then pass through the clothes. It will thus be seen that the water or suds are forced through the garments, thereby cleansing them by an infiltration or sluicing process and preventing the injurious action incidental to all rubbing or rolling machines.

I am aware that it is not new to provide washing-machines with hollow reciprocating plungers to contain the clothes, and therefore my

claim is not to be construed broadly, but is expressly limited to the within-described specific combination of devices.

The object of the corrugations S or W is to produce some little friction against the clothes as they surge up and down within the plunger at every alternate stroke of the latter.

I claim as my invention—

The combination, in a washing-machine, of the closed cylindrical tub A, a rod K, traversing the top of said tub and carrying a hollow plunger L, which plunger has a perforated bottom N, a pair of perforated lids O O',

hinged to its top at o o', an upwardly and outwardly inclined packing M, secured near its upper end, and a downwardly and outwardly sloping packing M', attached near its bottom, all as herein described, and for the purpose set forth.

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

GUSTAV H. JANTZ.

Witnesses:

JAMES H. LAYMAN,
FRANCIS M. BIDDLE.