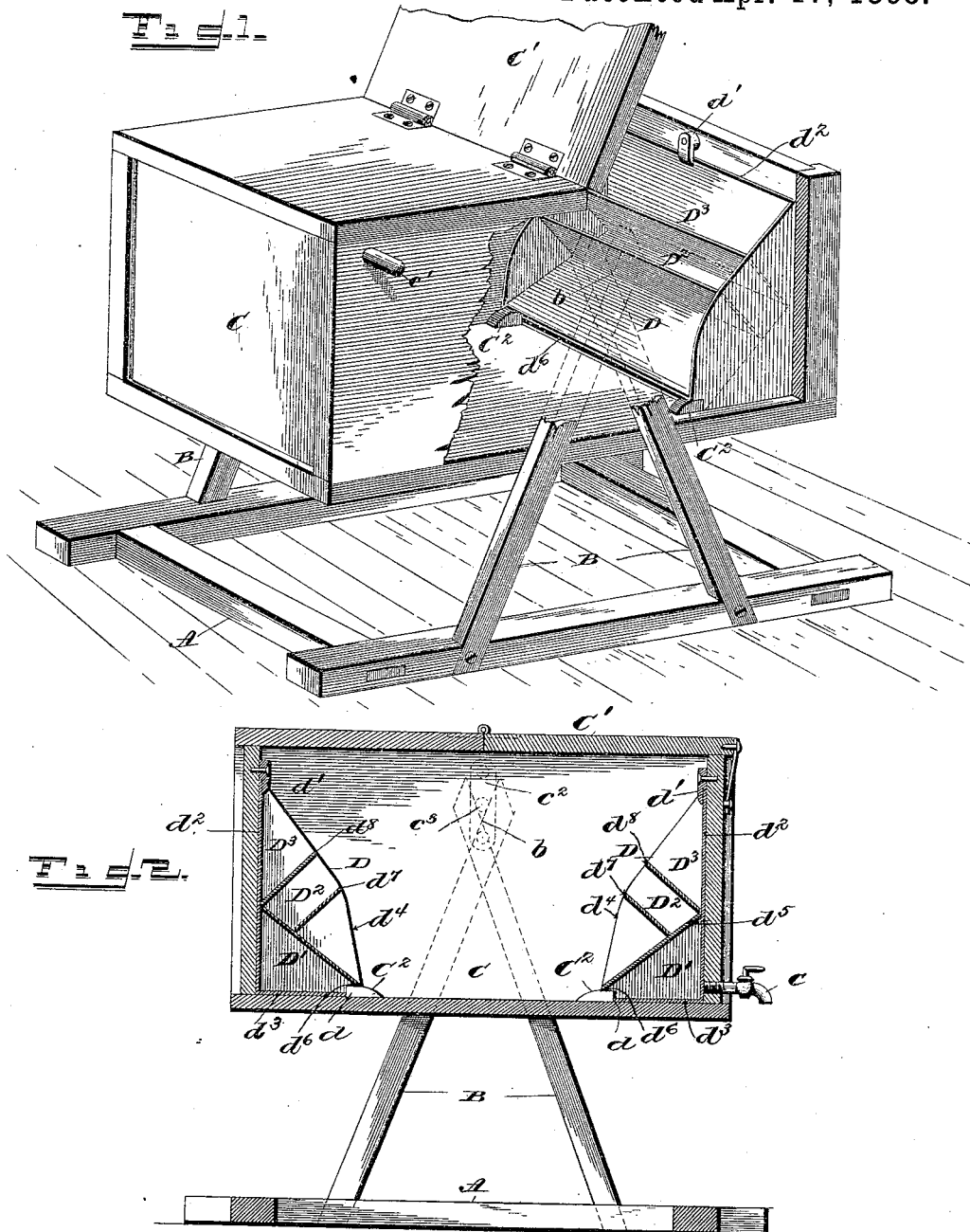


(No Model.)

O. J. GRAHAM.  
WASHING MACHINE.

No. 381,362.

Patented Apr. 17, 1888.



Oliver J. Graham,

WITNESSES

L. S. Elliott.  
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INVENTOR

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Attorney.

# UNITED STATES PATENT OFFICE.

OLIVER J. GRAHAM, OF SPOKANE FALLS, WASHINGTON TERRITORY.

## WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 381,362, dated April 17, 1888.

Application filed November 10, 1887. Serial No. 254,825. (No model.)

*To all whom it may concern:*

Be it known that I, OLIVER J. GRAHAM, a citizen of the United States of America, residing at Spokane Falls, in the county of Spokane, Washington Territory, 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 or figures of reference marked thereon, which form a part of this specification.

My invention relates to an improvement in washing-machines; and it consists in the novel construction and arrangement of the parts thereof, which will be more fully hereinafter described, and particularly pointed out in the claims.

The primary object of my invention is to provide a washing-machine in which the clothes are thoroughly integrated by the water through the medium of an under pressure of compressed air and end buckets throwing water over the top surface of the same when the machine is operated, whereby the clothes are more readily and quickly cleansed.

The secondary object of my invention is to provide an improved form of washing-machine having an oscillating movement which is adapted to be operated by young and elder persons without undue effort, suitable removable end buckets and compressed-air chambers being mounted therein, and the cleansing operation upon the clothes being alternately received from each end of the machine in contact with the said buckets.

I attain these objects by my preferred form of construction, as illustrated in the accompanying drawings, wherein like letters of reference indicate similar parts in the several views, and in which—

Figure 1 is a perspective view, partially broken away, of my improvement. Fig. 2 is a longitudinal vertical section thereof.

A indicates the rectangular base-frame, and B the inclined standards secured thereto, and having a fork, *b*, formed by crossing their upper ends.

C represents the rectangular washing-box,

having a hinged top lid, C', which is adapted to be clamped down to the box, an end drain-faucet, *c*, and operating hand-grips *c'*, secured to the upper side portions thereof. As shown in dotted lines in Fig. 2, suitable plates, *c''*, are secured to the central upper part of each side of the box C, carrying trunnion-pins *c'''*, which bear in the forks *b* of the crossed standards B.

On the interior surface of the bottom of the box C, at a regulated distance from the ends and resting against the sides thereof, cleat-blocks C<sup>2</sup> are mounted, which are engaged by the lower inner recessed ends, *d*, of the two removable bucket-frames D, which are mounted contiguous with the ends of box C, and held stationarily when mounted by top turn-buttons, *d'*, which engage with the upper portion of the rear plates thereof.

The bucket-frames D are preferably constructed of metal; but wood may be used, if desired, and consist of a vertical back plate, *d''*, meeting the lower horizontal plate, *d'''*, at right angles, and side plates, *d'''*, with inclined edges, the said side plates, *d'''*, and horizontal plates *d'''* having the lower inner recesses, *d*, formed therein. A short distance above the horizontal plate *d'''*, and secured to and braced by the sides *d''* and back plate, *d'''*, a downwardly-inclined plate, *d''''*, is mounted, which does not touch the inner edge of the horizontal plate *d'''*, but forms a narrow opening, *d'''''*, therewith. By means of this construction a triangular compressed-air chamber, D', is formed, the air having ingress thereto and egress therefrom through the narrow opening *d'''''*. Secured to the upper part of the plate *d'''* two plates, *d''''''* and *d'''''''*, are mounted at upward and reverse angles to the plate *d'''*, and extend across the said latter plate *d'''*, and are secured to and supported by the side plates, *d'''*. The plates *d''''''* and *d'''''''* form a bucket, D<sup>2</sup>, between them, and between the plate *d'''* and the back plate, *d'''*, another bucket, D<sup>3</sup>, is formed.

When the clothes with the water are placed in the box C, the same is oscillated or rocked by grasping the handles *c'*. The water and the clothes will necessarily gravitate to the lowest side, and the air will be forced and compressed into the air-chamber D', and the buckets D<sup>2</sup> and D<sup>3</sup> will collect and retain a quantity of water therein. The chamber D having the

single narrow ingress-opening  $d^6$ , the air will be compressed therein to such an extent that a resistance against the entrance of water into said chamber will be the result. When the box is tilted in the opposite direction, the air escapes from the chamber D and expands under the clothes and forces the water upward therethrough, and at the same time the water collected in the buckets  $D^2$  and  $D^3$  will be dashed upon the top surface of the clothes. By this means a thorough integration of the clothes by the water will be obtained, and the attainment of a quick and thorough cleansing of the clothes will be the result.

The utility, advantages, and adaptability of my improvement being obviously apparent, it is unnecessary to further enlarge upon the same herein.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the oscillating

washing-box, of the internal removable end attachments comprising a compressed - air chamber and dashing-buckets in each, substantially as described.

2. The combination, with the rectangular oscillating washing-box, of the cleat-blocks  $C^2$ , the turn-buttons  $d^7$ , and the frames or attachments D, held between said cleat-blocks and turn-buttons and comprising the back plate,  $d^2$ , the horizontal plate  $d^3$ , the side plates,  $d^4$ , the downwardly-inclined plate  $d^5$ , which, with said back, horizontal, and side plates, form the compressed - air chamber  $D'$ , and the angularly-mounted upwardly-projecting plates  $d^7$  and  $d^8$ , forming the dashing-buckets  $D^2$  and  $D^3$ , substantially as described.

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

OLIVER J. GRAHAM.

Witnesses:

W. W. D. TURNER,  
JOHN DUGAN.