No. 641,556. Patented Jan. 16, 1900.

H. R. SMITH.

WASHING MACHINE.

Application filed June 8, 1899.)

(No Model.)

Fig. 1.

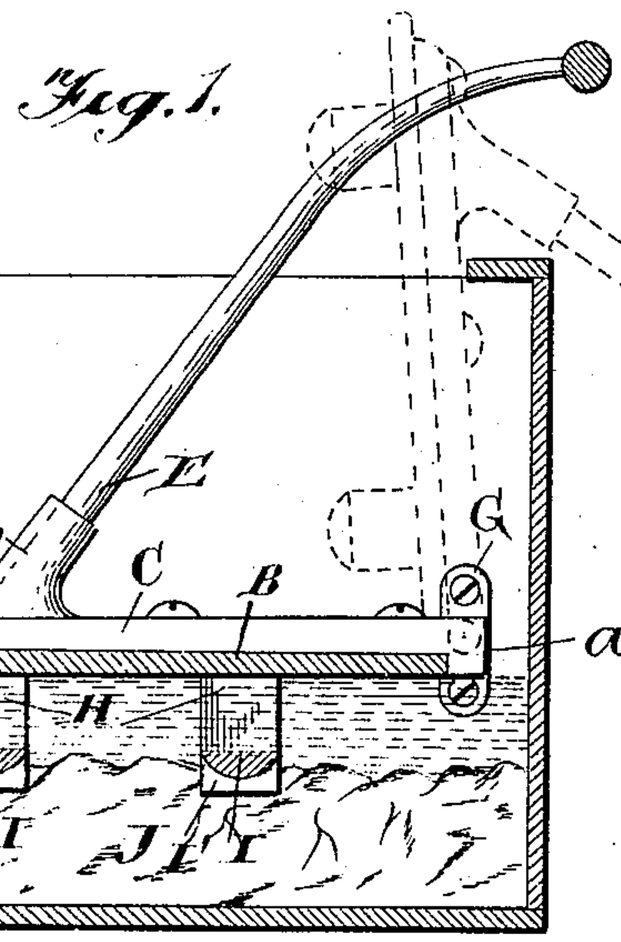


Fig. 2.

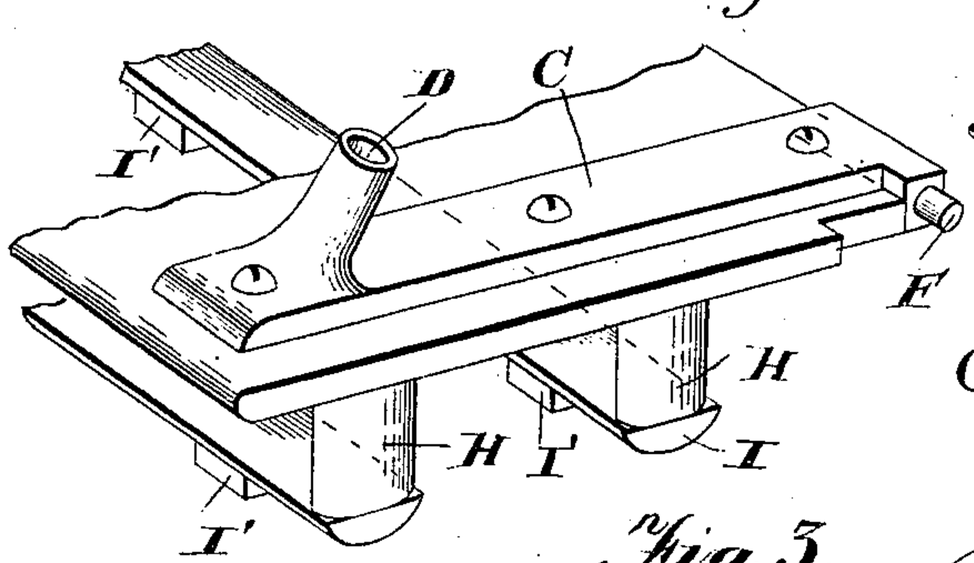


Fig. 3.

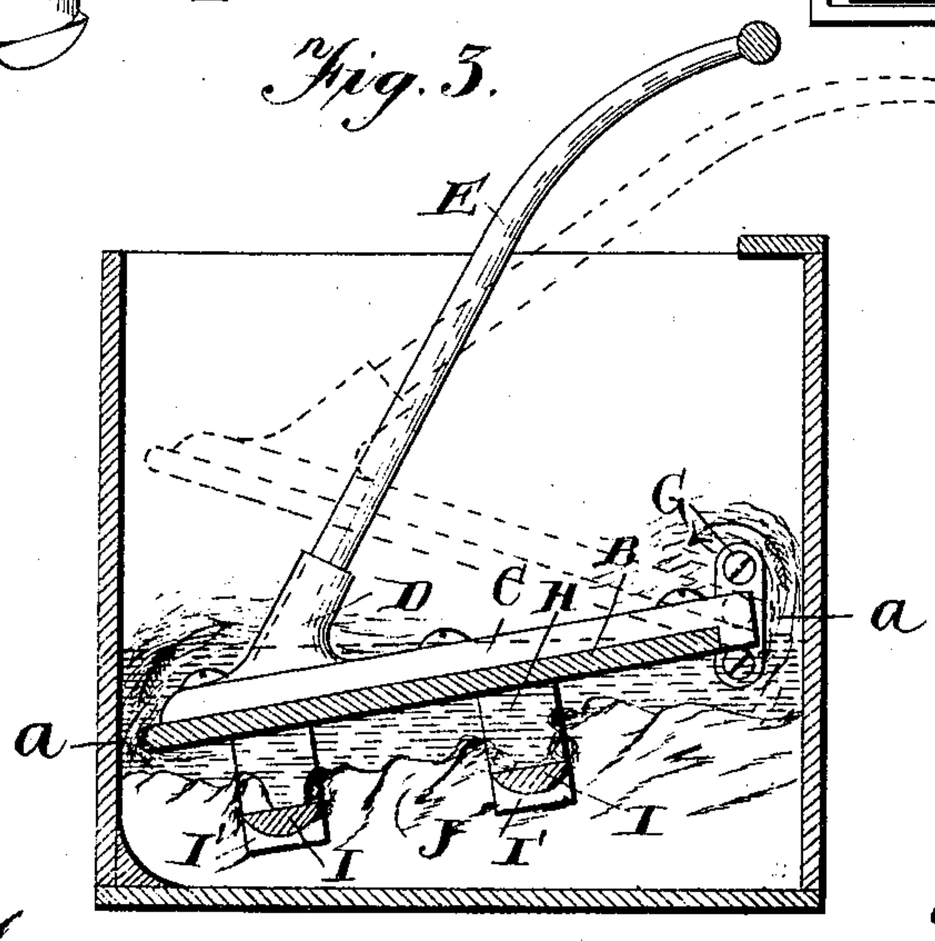


Fig. 4.

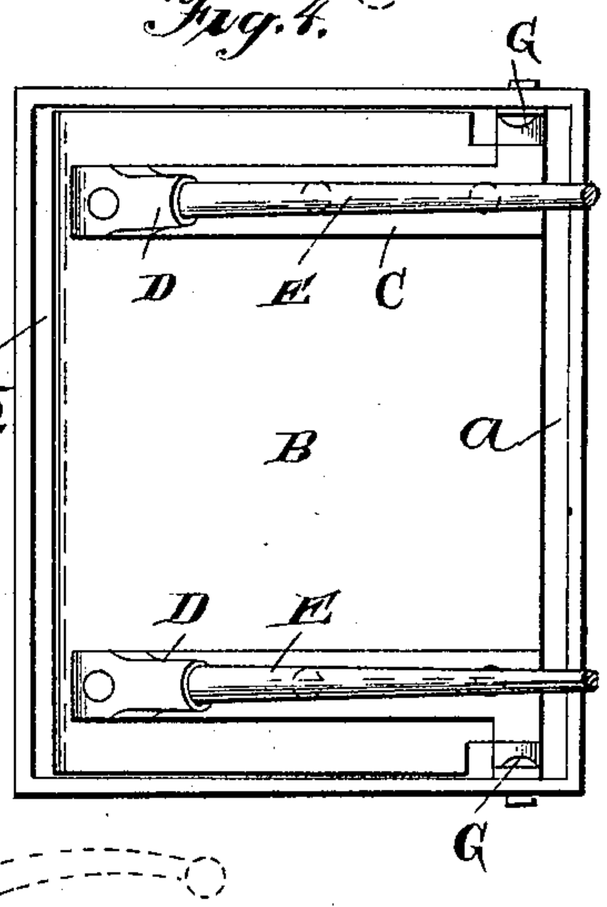
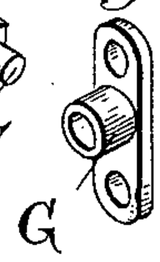


Fig. 5.



Witnesses
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UNITED STATES PATENT OFFICE.

HENRY REVERDY SMITH, OF GAMBRILLS, MARYLAND, ASSIGNOR OF ONE-HALF TO ASA A. JOYCE, OF SAME PLACE.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 641,556, dated January 16, 1900.

Application filed June 8, 1899. Serial No. 719,826. (No model.)

To all whom it may concern:

Be it known that I, HENRY REVERDY SMITH, a citizen of the United States, residing at Gambrills, in the county of Anne Arundel and State of Maryland, have invented new and useful Improvements in Washing-Machines, of which the following is a specification.

My invention relates to improvements in washing-machines, and pertains to a machine in which a box is provided for containing the clothes and water and in which box is pivoted at one side a follower constructed to press and elevate the clothes and to cause the circulation of water through the clothes by the compressing and lifting thereof, all of which will be more fully described hereinafter and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a transverse sectional view of a machine embodying my invention, the follower being shown in full lines in the position for beginning the pressing operation and elevated in dotted lines to receive the goods or clothes to be washed. Fig. 2 is an enlarged detached perspective view of a portion of the follower, showing its specific construction. Fig. 3 is a transverse sectional view showing in full lines the follower depresssed and in dotted lines the position assumed by the follower when lifted in the washing operation. Fig. 4 is a top plan view of my invention. Fig. 5 is a detached perspective view of the journal box or bearing for the pivots of the follower.

Referring now to the drawings, A indicates a box which is preferably of the form and proportion here shown, but which may be varied without affecting the spirit and scope of my invention.

B is a follower which is pivoted at one edge within the box A at a point between its bottom and its upper edge. This follower consists of an imperforate board with transverse castings C, having at one end the sockets D to receive the handles E and by means of which the follower is operated. The opposite ends of these castings C are provided with outwardly-projecting pivots F, which fit in suitable bearings G, attached to the inner side of the box.

Projecting from the under side of the imperforate follower B are the studs or projections H, which are united by the bars I, the said bars I being preferably rounded upon their outer or lower sides, as shown. This construction, it will be noted, forms bars which extend longitudinally along the imperforate follower B and form a space between the bars and the under side of the follower, the function of which will be presently stated.

In operation the clothes or articles J to be washed are placed within the box A and sufficient water placed therein to bring it to about the point illustrated in Fig. 1, which is the under side of the follower when it is in a horizontal position. The follower is then reciprocated by means of the handles E, as indicated in Fig. 3, and in this operation of the follower the clothes are pressed by the bars I, as illustrated.

Attention is directed to the fact that the follower B has its ends to fit close to the ends of the box, while it is narrower than the width of the box to form the spaces *a* at its free and pivoted side, as illustrated in Fig. 4. This is one of the essential features of my invention, and this, in connection with the bars I, enables me to quickly and efficiently wash the clothing or other articles placed in the machine in a very short time and with the minimum amount of labor.

The function of the spaces *a* at the free and pivoted edges of the imperforate follower B is to cause a circulation of the water, as illustrated by arrows in Fig. 3. The depression of the imperforate follower causes a compression or squeezing of the clothes or other articles by the bars I and forces the water through the clothes and over the top of the follower B through the spaces *a* at its opposite edges. When the follower is lifted to the position shown in dotted lines of Fig. 3, a suction is caused upon the clothes, and this, together with the fact that the clothes and other articles being washed are caught between the bars I and the under side of the imperforate follower, causes them to be lifted and their positions shifted and, in fact, turned over by the constant reciprocation of the follower. The lifting of the imperforate follower carries up with it the part of the water which flows thereover, and this water flows back through the rear space *a* below the follower

to its normal position within the box. A circulation of the water is caused, squeezed through the clothes in both directions, as illustrated by arrow. The circulation, however, around the rear or pivoted edge of the follower is found to be greatest owing to the pressing downward of the imperforate follower forcing the water back to its rear edge and thereover, and I find in operation that by a machine of this simple construction I am enabled to quickly and thoroughly cleanse the articles and with a very small amount of labor.

The essential element of my machine is the imperforate follower, which is provided with spaces at its free and its pivoted edges for causing a circulation of the water and an agitation thereof through the clothes and the bars I, which depend from the under side of the imperforate follower, the said bars being supported out of contact with the under side thereof, whereby they perform the double function of pressing or squeezing the water from the clothes and of lifting them, as before explained.

The lifting of the imperforate follower B causes a suction, as will be readily understood, which lifts the clothes from the bottom of the box, and this, together with the bars I, serves to effectively agitate and disturb the clothes or other articles and to cause them to turn over while the water is being forced through them at each movement of the follower.

Situated in one corner of the bottom of the box and at that edge opposite to the pivotal point of the imperforate follower B is a curved cleat *b*, the function of which is to cause the clothes to have a tendency to roll backward under the follower, as the current of the water in flowing up through the passage at the free edge thereof tends to carry with it the articles being washed. This curved cleat serves to assist the clothes in falling backward under the follower, as will be readily understood.

For the purpose of further assisting in pressing the water from the clothes and in causing the water to be forced at different angles through the clothes I provide the under side of the bars I with a plurality of projections I′, which may be formed by attaching additional cleats to the bars or by forming the projections integrally with the bar by cutting the bar out.

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

1. A washing-machine comprising a box, an imperforate follower pivoted at one edge within the box at a point between its bottom and its upper edge, the follower having a compressing bar or bars at its under side and out of contact therewith, the imperforate follower being made narrower than the box to form water-passages at its free and its pivoted edges, substantially as described.

2. A follower for washing-machines of the character described comprising a board having depending projections, bars connecting the said projections, and transversely-extending castings at each end thereof, one end of the castings provided with a handle-socket and the opposite ends of the casting with outwardly-projecting pivots, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

HENRY REVERDY SMITH.

Witnesses:
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W. G. GOTT.