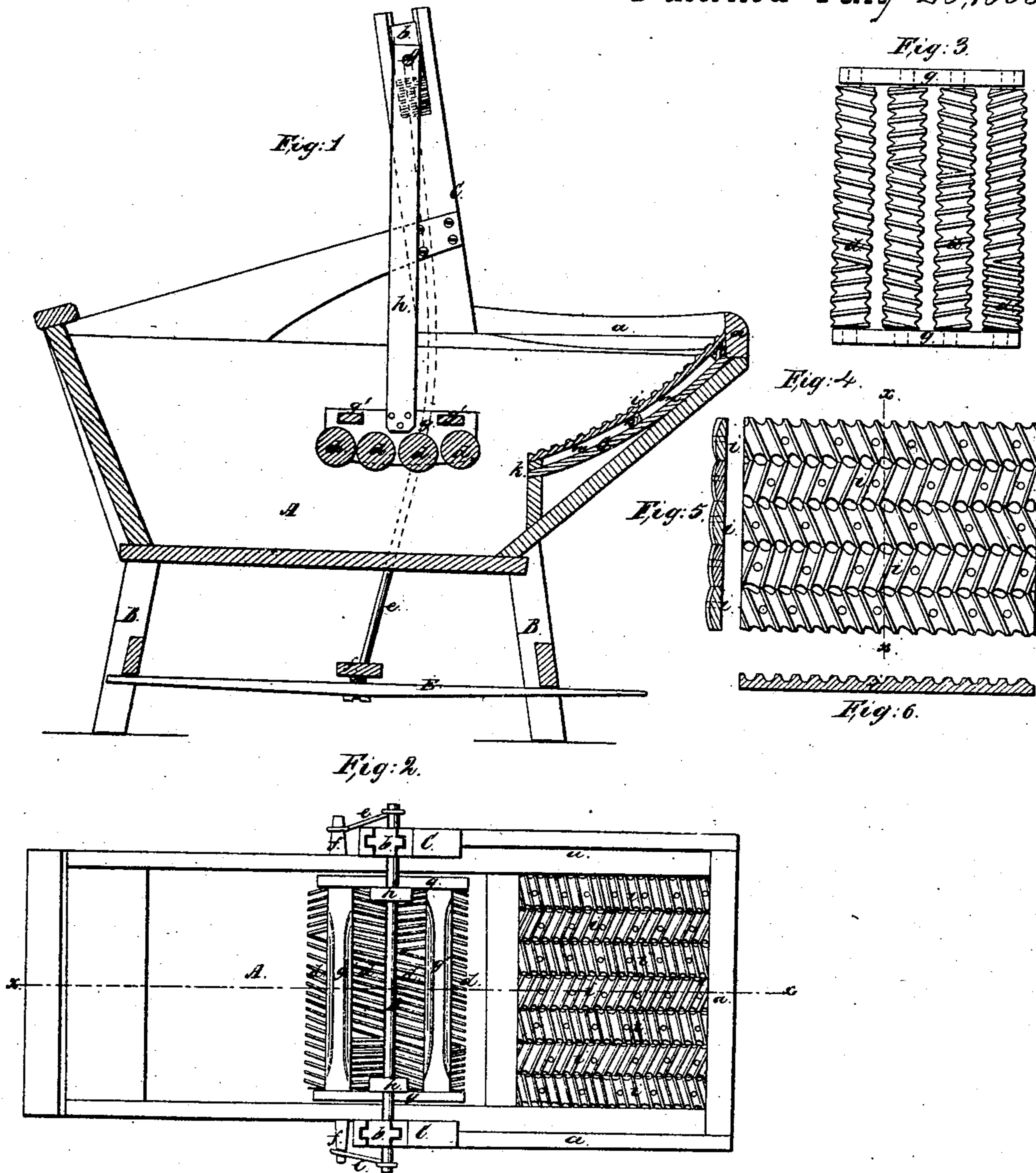


A. Hall,

Washing Machine,

N^o 39,343.

Patented July 28, 1863.



Witnesses:

*R. T. Campbell
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UNITED STATES PATENT OFFICE.

ASHMAN HALL, OF DANSVILLE, NEW YORK.

IMPROVED WASHING-MACHINE.

Specification forming part of Letters Patent No. 39,343, dated July 28, 1863.

To all whom it may concern:

Be it known that I, ASHMAN HALL, of Dansville, in the county of Livingston and State of New York, have invented a new and Improved Washing-Machine; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a vertical longitudinal section taken through the center of my improved machine. Fig. 2 is a top view of the machine. Fig. 3 is a plan view of the vibrating rubbing-rollers. Fig. 4 is a face view of the wash-board; and Figs. 5 and 6 show, respectively, a transverse and a longitudinal section through Fig. 5.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to certain new and useful improvements on the machine secured to me by Letters Patent bearing date May 4, 1858.

The object of my present invention is to more effectually prevent the articles being washed from working out at the ends of the rubbing-rollers and causing the machine to work hard and imperfectly, and at the same time to prevent any undue straining of the articles.

It also has for its object effecting an economy of soap by subjecting the articles to much stronger soapsuds while they are being rubbed than is contained in the body of the wash-tub; all as will be hereinafter described and represented.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

In the accompanying drawings, A represents the wash-box, which is constructed with vertical longitudinal sides and inclined ends, and a ledge, *a*, surrounding the upper edge at one end of the box, as shown in Fig. 2. This box A is mounted on legs B B, and has two upright standards, C C, affixed to the sides, which project up some distance above the box, and receive in their ends grooved bearing-boxes *b b*, which are mounted on springs *c c*, and receive and support the transverse rock-shaft D, which supports the rubbing-rollers *d d*. The ends of the rock-shaft D project out from the outside of each block *b* and receive the ends of connecting-rods *e e*,

which proceed downward and are attached to the ends of a transverse rod, *f*, which has connected to it a treadle, E. This treadle is used for depressing the rollers *d d*, and the springs *c c* are used for elevating the rubbing-rollers *d d*. The rollers *d* have their end bearings in the segmental side pieces, *g g*, which are connected together by transverse bars *g' g'*, and the whole are connected to parallel arms *h h*, which are suspended from the rock-shaft D. In one end of the box A the "concave" or wash-board is arranged, the surface of which is concentric with the center of vibration of the rubbing-rollers when these rubbers are at their highest point. (Shown in Fig. 1.) This wash-board is made up of a number of slats which have spirally-ribbed surfaces, the ribs of which run in opposite directions on each alternate slat, so that a number of such slats, *i i*, arranged side by side, present the appearance of zigzag ribs running from one side of the box to the other, as shown in Figs. 2 and 4. These spirally-ribbed slats *i i* incline downward from the upper toward the lower end of the inclined end of box A, and they are nailed to transverse ledges *k k*. (Shown in Fig. 1.) These rubbing surfaces or slats are furnished with a bottom board, G, which forms a space, *m*, beneath them for containing strong soapsuds, and the ledges *k k* keep a sufficient quantity of soapsuds under the slats for all practical purposes. The serrated or scalloped edges of the slats *i i* do not fit so closely together as to prevent the soapsuds beneath them from mixing with the water which is drawn up from the main body of the tub A with the clothes as they are brought over these slats to be rubbed; but should these spaces not be found sufficient, the slats themselves may be perforated, the perforations being made between the ribs, as shown in the drawings, Figs. 2 and 4. The rubber is composed of a number of rollers, *d d*, arranged in a curve concentric with the axis of the rock-shaft D. (Shown in Fig. 1.) These rollers are spirally grooved, the grooves running from one end of one roller to about two-thirds the length of this roller in one direction, and for the other third in the opposite direction. Thus, at the ends of these rollers the grooves run in opposite directions, the object of which is to cause the rollers to move the clothes, which are subjected to their rubbing action, toward

the middle of the wash-board, just sufficiently so, however, to prevent the clothes from working out at the ends of the rollers. Each roller having a right and left spiral groove formed in its surface, the tendency is to move the clothes back and forth laterally on the wash-board, and thus to subject every portion thereof to the rubbing and squeezing action of the two spirally-grooved surfaces of the rubber and wash-board.

In using the machine water is put into the main body of the tub, and strong soap and water, soft soap, or "washing compound" of any description, and the clothes are drawn from the rinsing water in the tub over the concave wash-board where the soapsuds contained in the space *m* will mix with the water in the clothes as they are rubbed and squeezed by the rubbing-rollers *d d d*, the pressure of these rollers being increased or diminished on the clothes by pressing with greater or less force upon the treadle *E*. The strong soapsuds can in this way be brought to act directly upon the clothes in only such quantities as may

be required, and being kept in a separate receptacle there will be a great deal of soap saved which would otherwise be mixed with the body of water in the tub *A*.

What I claim as my invention is—

1. The wash board composed of alternately right and left or zigzag open surfaces, substantially as described.

2. A wash-board constructed with a soapsuds receptacle, *m*, arranged beneath the open-slatted surface *i i*, substantially as and for the purposes described.

3. Combining with the zigzag-ribbed and waved wash-board the spirally-ribbed rollers, the ribs of which run in opposite directions on each roller, substantially as and for the purposes herein described.

Witness my hand in the matter of my application for a patent for an improved washing-machine this 11th day of June, A. D. 1863.

ASHMAN HALL.

In presence of—

C. P. JONES,

FRANK STEINHARDT.