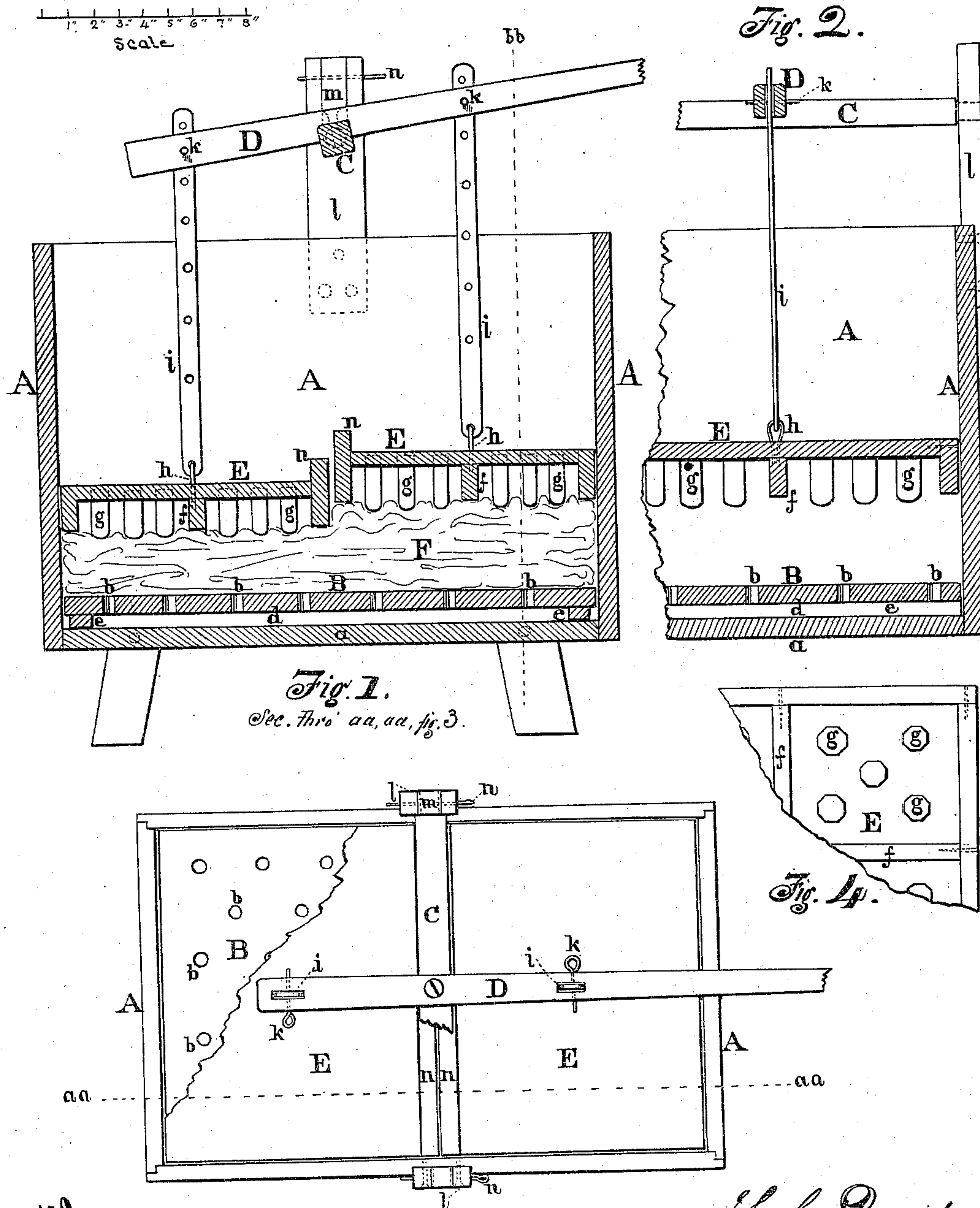


J. C. STEWART.
Washing-Machines.

No. 144,237.

Patented Nov. 4, 1873.



Witnesses
James Thurston
Edmund Quincy

Fig. 3.

John C. Stewart
by E. Thurston,
his Attorney

UNITED STATES PATENT OFFICE.

JOHN C. STEWART, OF EUREKA, ILLINOIS.

IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. **144,237**, dated November 4, 1873; application filed August 19, 1873.

To all whom it may concern:

Be it known that I, JOHN C. STEWART, of Eureka, in the county of Woodford, in the State of Illinois, have invented an Improvement in Washing-Machines; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the annexed drawings, making a part of this specification, in which like letters of reference refer to like parts, and in which—

Figure 1 represents a vertical longitudinal elevation along the dotted line *a a*, *a a*, Fig. 3; Fig. 2, a vertical cross-section along the dotted line *b b*, Fig. 1; Fig. 3, plan, with portion of one of the dashers or pistons *E* broken away to show the perforated false bottom *B*, and with axle *C* in like manner broken off to show the elevated sides *r* of the dashers *E E*; Fig. 4, view of under side of part of one of the dashers or pistons, showing the cells and the dividing-partitions, together with the kneading-fingers *g g*, &c.

This invention consists of two shallow inverted boxes, having division-plates, forming cells, in combination with pins placed in each cell, and a perforated false bottom resting upon cleats in the bottom of the machine, the said boxes having the usual mechanism for operating them, and arranged to act alternately as vacuum-formers and as clothes-kneaders, as will be hereinafter more fully explained, and pointed out in the claim.

In the drawings, *A A A* represent an oblong box, closed on all sides but the top; *B*, a false bottom, resting upon bars or cleats *c c*, and perforated throughout for the passage of soap-suds or water to and from the space *d* below it through the holes *b b*, &c., when drawn up by the action of the sucking pistons or boxes *E E* on the clothes *F*. *C* is a horizontal axle or shaft, having bearings at either end in the standards *l l*, rising from either side of the box *A*, which axle may be removed, (to put in the clothes, &c.,) with its attached lever *D*, by removing the respective pins, *n n*, which confine their several blocks, *m m*, over the bearings of the said axle. *D* is a lever, terminating beyond the end of the box *A* in a straight handle, to which lever, at equal distances from

the axle and over the center of each of the pistons or dashers *E E*, are hung, by pins *k k*, the vertical rods *i i*, one to each piston. These rods are each made adjustable, at any hole in their extent, to said lever, as will best operate with the quantity of clothes in the machine, and are connected with their respective pistons, *E E*, by a staple or eye, *h h*, or any similar pivot or hinge. *E E* are two horizontal shallow inverted boxes of equal size, each occupying, horizontally, one-half of the space between the sides of the box *A*, and attached freely to one of the rods *h h*, as above described. They are closed at the top, and their side pieces inclose a hollow of about one to one and one-half inch in depth, this shallow space being again subdivided into four by crossing divisions *f f* of the same depth. The cells thus formed are studded with several vertical pins, *g g*, &c., set firmly in the bottom of the cell, and project about one-fourth of an inch beyond the mouths of the same, and are designed to press and knead the clothes. The contiguous sides of the pistons are carried above the surface of each box by a rising guard or wall, *n n*, to prevent overlapping of the pistons, or collision, when in motion. *F*, the clothes and soap-suds.

The operation of this invention is as follows: The clothes are put with warm suds into the box *A*, upon the false bottom *B*, and below the pistons *E E*, which latter are worked moderately up and down by hand-power on the lever *D*—a child of nine or ten years of age can work it—forcing the suds through the clothes from one piston to the other, alternately. The cells in each piston form a partial vacuum when rising over the clothes and water, drawing the latter through the holes *b b b*, &c., in the false bottom *B*, up through the texture of the clothes, thus expelling the dirt and suds more or less at each motion, a similar action taking place on the descent of the piston. The clothes also receive a thorough kneading from the pressure of the pins or fingers *g g*, &c., within the cells, and the soap-suds are driven from one piston to the other through the clothes *F* from the pressure of both piston and fingers *g g*, &c., at each descent of the latter, keeping the suds in a constant circuit from the space below the

bottom B through the holes *b b b*, &c., into the clothes and back again, taking each piston on its route.

I do not claim boxes or pistons provided with pins in connection with a perforated false bottom, as I am aware that the same is not new; but

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

The two shallow inverted boxes *E E*, having division-plates *f*, forming cells, in combination

with the pins *g* and the perforated false bottom B, substantially as and for the purpose set forth.

In testimony that I claim the foregoing washing apparatus I have hereunto set my hand this 8th day of August, 1873.

JOHN C. STEWART.

Witnesses:

JAMES THURLOW,
JAMES M. MORSE.