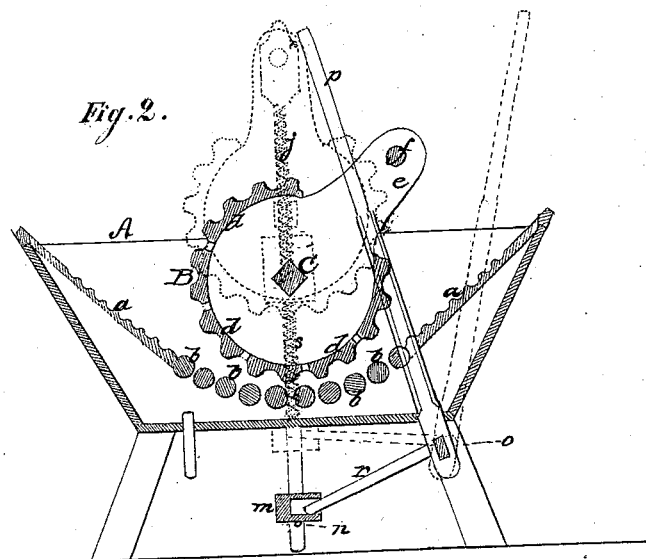
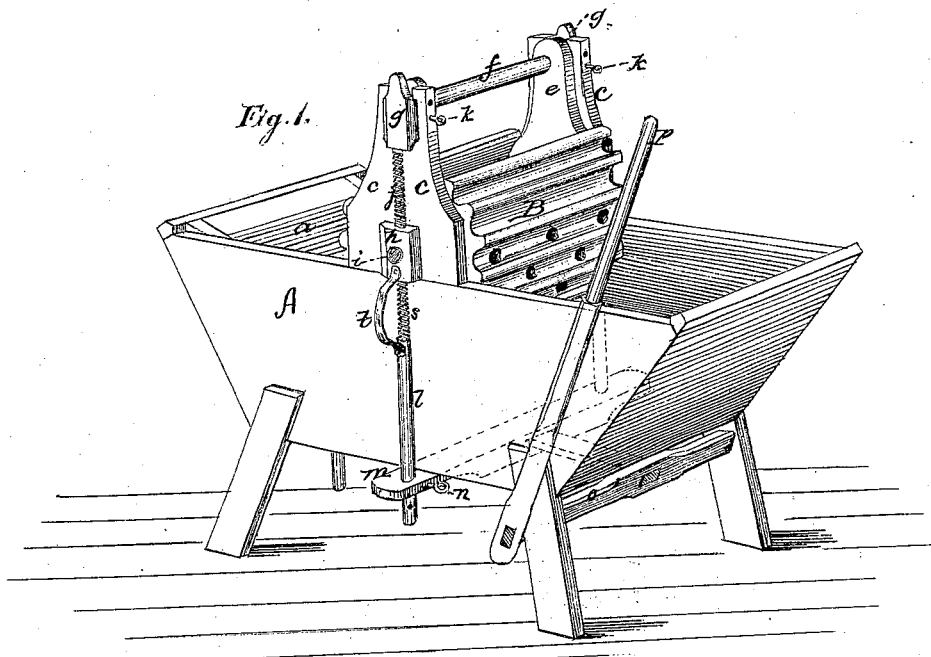


S. S. Middlekauff,

Washing Machine.

No. 109924.

Patented Dec. 6. 1870.



Witnesses:

*Phil. T. Dodge,
Chas. H. Crawford,*

Inventor:

*S. S. Middlekauff
by Dodge & Munn
his attys*

United States Patent Office.

SAMUEL S. MIDDLEKAUFF, OF HAGERSTOWN, MARYLAND.

Letters Patent No. 109,924, dated December 6, 1870.

IMPROVEMENT IN WASHING-MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, SAMUEL S. MIDDLEKAUFF, of Hagerstown, in the county of Washington and State of Maryland, have invented certain Improvements in Washing-Machines, of which the following is a specification, reference being had to the accompanying drawing.

My invention relates to that class of machines which is composed of a rotating corrugated cylinder, mounted in a box, and working upon a corrugated bottom in the same; and

The improvement consists in the application of two pair of springs, so arranged that one pair raises the cylinder whenever it is released, and the other pair permits the cylinder, when depressed, to yield upward, and thereby conform to the varying thickness of the clothes.

Figure 1 is a perspective view of my improved machine, and

Figure 2 is a longitudinal vertical section through the middle of the same.

The body A of my machine I construct of any suitable form, mount it on legs, and secure inside, at each end, an inclined corrugated board, *a*, and between the lower edges of the boards mount transverse rollers *b*, and also secure to the outer and opposite sides two upright slotted arms or posts *c*, all as shown in figs. 1 and 2.

The rubbing-cylinder, B, I construct of two end pieces or boards mounted on a shaft, C, and connected by corrugated strips, *d*, secured to their peripheries.

The ends of the shaft C project beyond the ends of the cylinder so as to form journals *i*, and the end boards of the latter are formed with arms, *e*, connected by a cross-bar, *f*.

The cylinder I mount in the body, with its journals in the slotted arms, so that, by grasping bar *f*, the cylinder can be turned on its journals.

In the upper end of each post *c* I secure a block, *g*, and on the ends of the journals *i* I place blocks *h*, and then connect the blocks *g* and *h* by strong spiral springs *j*, which serve to raise the cylinder and keep it always in an elevated position, excepting when forcibly depressed.

The blocks *g* are held by pins *k* inserted into holes in the post, and for the purpose of rendering the blocks adjustable, so as to vary the tension of the springs, a series of the pin-holes is made in each post, as shown in fig. 1.

To the lower side of each block *h* I secure one end of a spiral spring, *s*, stronger than the spring above,

and to the lower end of each spring *j* I secure a rod or bar, *l*, having a series of holes through its lower end.

Across, below the body, I place a bar, *m*, having a hole through each end, and insert the ends of rods *l* through said holes, and secure them by pins *n*, as shown in figs. 1 and 2.

Under one end of the body I mount a transverse rock-shaft, *o*, provided at one end with a hand-lever, *p*, and at the middle with an arm, *r*, the end of which enters a mortise in bar *m*, as shown in fig. 2.

By operating the lever *p* the arm *r* is caused to depress the bar *m*, and through the medium of rods *l* and springs *s*, to draw down the cylinder, so as to bear on the rollers *b*, or the clothes thereon.

It will be observed that while the cylinder is in this manner held firmly down, so as to bear strongly upon the clothes placed under it, still the springs *s* will yield and permit it to rise when thick portions or masses of clothes are carried under it.

By this arrangement all tearing of the clothes and breakage of buttons are avoided, and an elastic or yielding pressure maintained on the clothes.

The blocks *h* and rods *l* I connect by straps *t*, of such length that, while they permit the springs *s* to yield or stretch as far as necessary, they prevent them from being strained or broken by excessive tension.

In operating the machine the clothes are introduced below the cylinder, which is held up by springs *j* for the purpose, and the cylinder depressed by turning lever *p*, and then the cylinder operated by grasping bar *f* and urging it back and forth. When the clothes have been rubbed sufficiently, the lever *p* is released, and the springs *j* elevate the cylinder, so that the clothes can be readily removed.

Having thus described my invention,

What I claim, is—

1. The cylinder B, having the springs *j* and *s* arranged as described, in combination with the rollers *b*, or their equivalent, all mounted in a suitable box or body, A, as set forth.
2. The rock-shaft *o*, having the lever *p* and arm *r* attached, in combination with the cross-bar *m* and vertical rods *l*, connected by the springs *s* to the sliding journal-boxes *h*, having the cylinder-shaft C mounted therein, substantially as described.

SAMUEL S. MIDDLEKAUFF.

Witnesses:

H. B. MUNN,
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