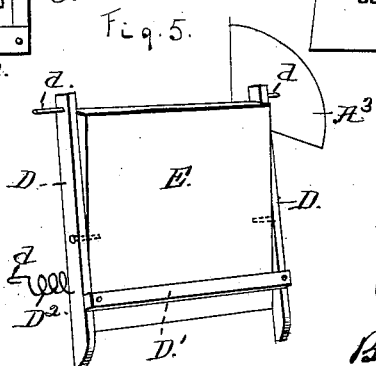
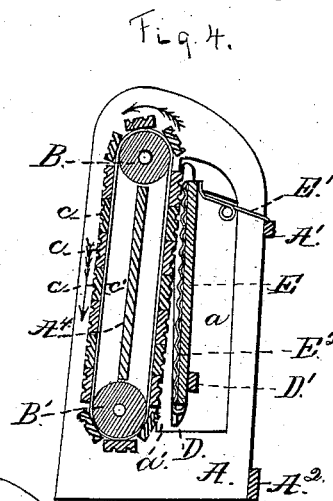
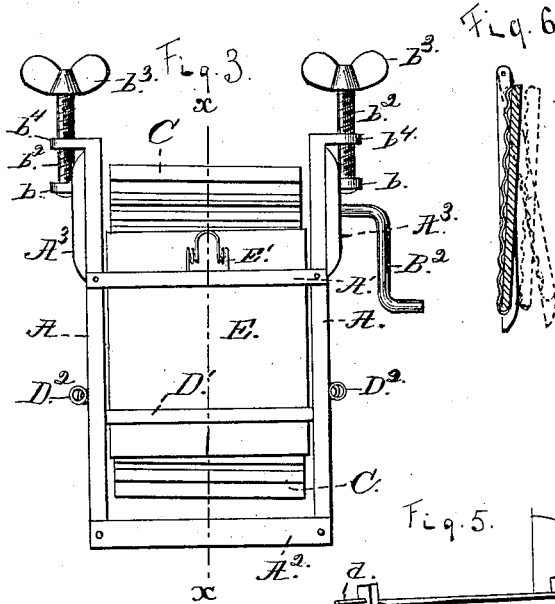
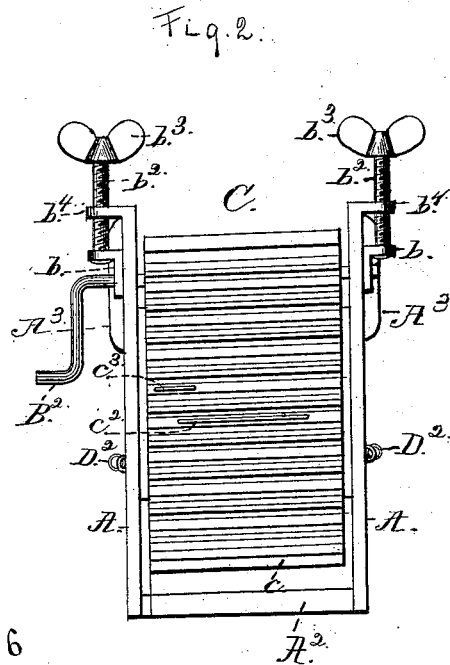
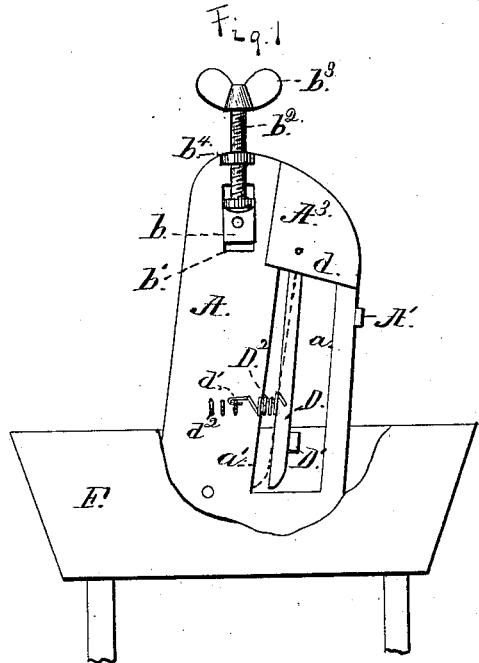


(No Model.)

C. PELMULDER.  
WASHING MACHINE.

No. 304,554.

Patented Sept. 2, 1884.



Witnesses  
N. A. Clark,  
R. B. Mifflin.

Inventor  
Charles Pelmulder  
By R. B. & A. P. Lacey

# UNITED STATES PATENT OFFICE.

CHARLES PELMULDER, OF ROCKWELL CITY, IOWA.

## WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 304,554, dated September 2, 1884.

Application filed August 16, 1883. (No model.)

### *To all whom it may concern:*

Be it known that I, CHARLES PELMULDER, a citizen of the United States, residing at Rockwell City, in the county of Calhoun and State of Iowa, have invented certain new and useful Improvements in Washing-Machines; and I do 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 the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in roller and bed washing-machines; and it consists in the construction, combination, and arrangement hereinafter described and claimed.

In the drawings, Figure 1 is a side view of my machine in position in a suds-box, the latter being broken away to better show the machine. Fig. 2 is a front view; Fig. 3, a rear view, and Fig. 4 is a vertical section, of my machine on line *x x*, Fig. 3; and Fig. 5 represents the supplemental frame and back board in detail, and Fig. 6 is a detached vertical section showing the motion of the supplemental frame and the back board.

The main frame of my machine is composed of the two side boards, A A, the upper and lower rear cross-bars, A' A', and the two side cleats or plates, A<sup>2</sup>, and the brace-board A<sup>4</sup>, all arranged as clearly shown. The side boards, A A, are constructed with the opening *a*, in which the supplemental frame, hereinafter described, is placed and operates.

The rollers B B' are journaled in the side boards, A A, in front of the opening *a*, and respectively near the upper and lower ends of the main frame. In practice I prefer to journal the upper roller, B, in bearings *b*, which are movable up and down in the slots or mortises *b'*, in which they are placed, and to adjust these bearings by set-screws *b<sup>2</sup>*, having thumb-heads *b<sup>3</sup>*. These screws are passed through threaded bearings *b<sup>4</sup>* and swiveled at their lower ends to the bearings *b*, so that as the said screws are turned the bearings *b* and the roller B will be adjusted up or down, so as to vary the tension of the endless rubber, hereinafter described. This endless rubber C is composed of corrugated slats *c*, mounted on

the flexible belts *c'*, and it is placed around the rollers B B', as most clearly shown in Fig. 4. This endless belt is given motion by the revolution of the roller B, which is provided with the operating-crank B<sup>2</sup>.

In operation the direction of motion is that indicated by the arrows, and the face of the slats *c* in their upward passage from roller B' to roller B move about in line with the forward wall, *a'*, of the opening *a*. On the slats *c*, I secure loops *c<sup>2</sup> c<sup>3</sup>*, by means of which the clothing to be washed is held to the endless rubber.

The supplemental frame is composed of the side bars, D D, and the bar D', fastened at its opposite ends to the bars D on the rear edge of and near their lower ends. This frame is made of a width equal that of the main frame, and it is placed in the opening *a* of the side boards, A, and its side bars, D, are movable to and from the wall *a'* of the said opening *a*. The supplemental frame is pivoted at its upper end to the main frame, preferably by means of the pins *d*, passed from its side bars, D, into the cleats A<sup>3</sup> of the said main frame, and its lower end is connected with the said main frame by coil-spring D<sup>2</sup>, secured at one end to the supplemental frame, and extended to and secured to the main frame at a point in front of the opening *a*. I prefer to form this latter connection by forming hooks *d'* on the forward end of springs D<sup>2</sup>, and arranging a series of eyes, *d<sup>2</sup>*, on the boards A, so that the hook *d'* can engage any one of said eyes desired for the purpose of increasing or diminishing the tension of the spring D<sup>2</sup> on the lower end of the supplemental frame, according to the character of the articles being washed. The wash-board E is pivoted between the bars D of the supplemental frame. Its lower end butts against the bar D' of said frame, and its upper end is supported, with a capacity to yield backward, by the spring E', mounted on cross-bar A' of the main frame, and bearing between the same and the rear of the board E at or near the upper end of the latter. By this construction it will be seen that the back board at its lower end partakes of the yielding motion of the lower end of the supplemental frame, and at its upper end has an independent yielding support, as shown. This back board is provided on its face or side next the

rubber C with the corrugated facing E<sup>2</sup>, and its lower edge next the rubber C is rounded, as shown in Fig. 4, to permit the clothing to be readily drawn up between the back board and the rubber in the operation of washing. Normally, the springs D<sup>2</sup> hold the supplemental frame close against the walls a' of opening a, and the back board, E, flush against the endless rubber, as indicated in dotted lines, Fig. 1; but as heavy clothing or other articles are drawn between the rubber and back board or bed, the said frame is forced out to about its position shown in the said figure and Fig. 4.

In practice sufficient water is placed in the suds-box F and the machine is placed down therein. The articles to be washed are then secured to the rubber C by loops c<sup>2</sup> or c<sup>3</sup>, and motion being given the said rubber, as described, the articles are drawn rapidly through the water, thence up between the rubber and the bed or back board, and a thorough cleansing of the same is rapidly and easily accomplished. By the construction described it will be seen that the bed or back board has a yielding support throughout its entire length. At its pivot, and below the same, it yields with the supplemental frame, and above its pivot it is provided with an independent spring-support, as described. By this means an equal even pressure is exerted on the articles being

washed during the whole of their passage between the rubber and the bed or back board, and the operation of the machine is rendered even and the dirt is rubbed and pressed out of the articles.

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

In a washing-machine, the combination of the main frame, the endless rubber passed around suitable rollers, and provided with means whereby to carry the clothing, the frame D, provided with the bar D', pivoted at one end, d, to the main frame, a spring, D<sup>2</sup>, connecting the opposite end of the frame D to the main frame, the back board, E, pivoted in the frame D, and having one end supported by the cross-bar D' of said frame, and a spring, E', mounted upon the main frame and supporting the back board at the end thereof opposite that supported by the bar D', all substantially as described and shown, and for the purposes specified.

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

CHARLES PELMULDER.

Witnesses:

J. C. TOLIVER,  
W. E. GRAY.