

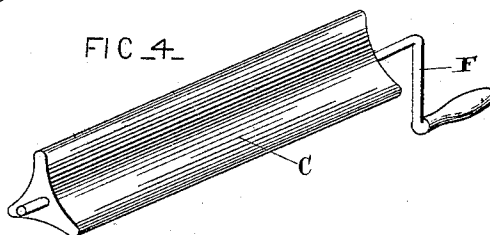
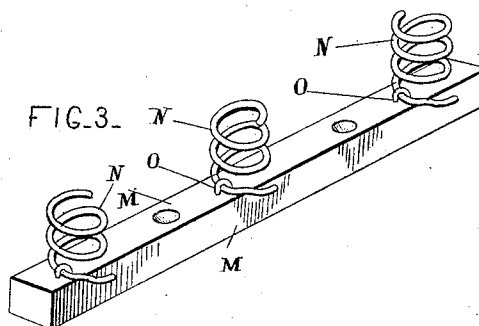
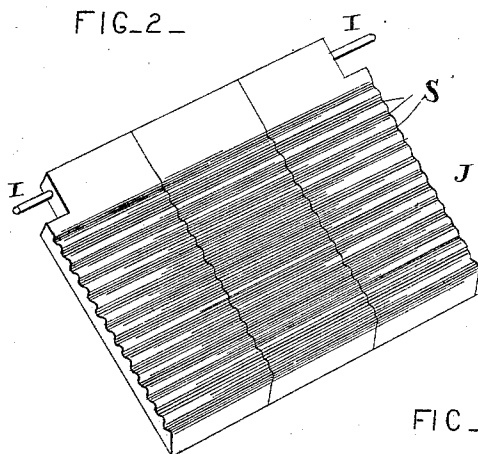
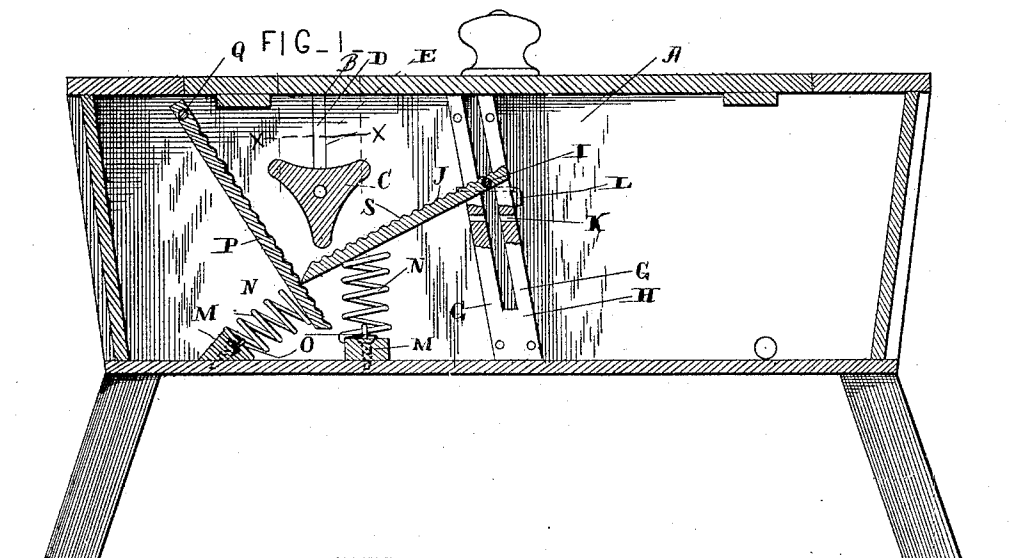
(No Model.)

2 Sheets—Sheet 1.

W. J. CAMPBELL.
WASHING MACHINE.

No. 460,387.

Patented Sept. 29, 1891.



WITNESSES_

Geo. E. French.
Roland H. Fitzgerald

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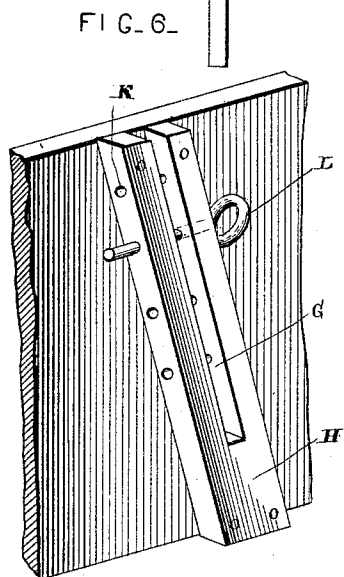
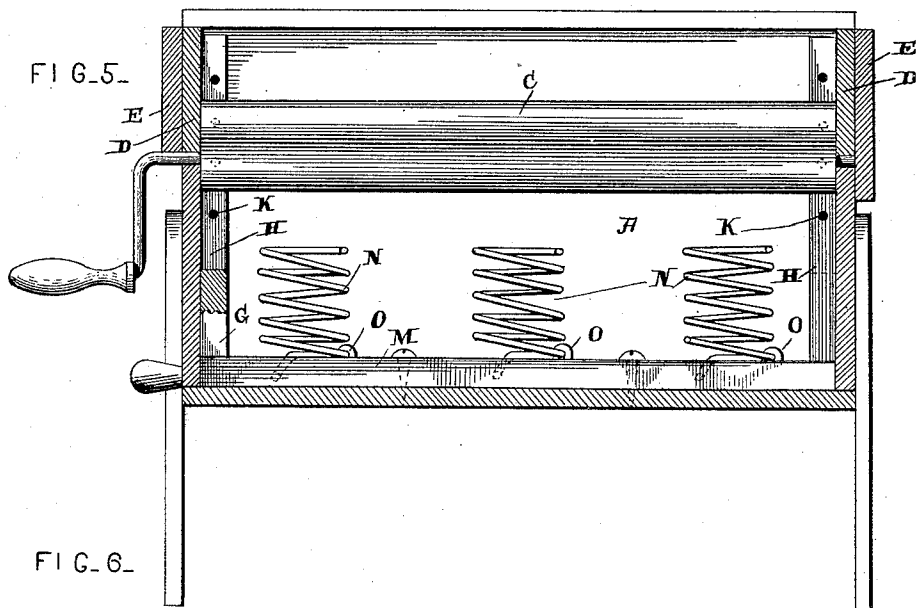
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2 Sheets—Sheet 2.

W. J. CAMPBELL.
WASHING MACHINE.

No. 460,387.

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WITNESSES.

Geo. C. Tucker

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UNITED STATES PATENT OFFICE.

WILLIAM JAMES CAMPBELL, OF REED'S GAP, PENNSYLVANIA.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 460,387, dated September 29, 1891.

Application filed May 27, 1891. Serial No. 394,272. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM JAMES CAMPBELL, of Reed's Gap, in the county of Juniata and State of Pennsylvania, have invented certain new and useful Improvements in Washing-Machines; and I do hereby 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in washing-machines; and it consists in certain novel features of construction and arrangement, which will be fully described hereinafter, and referred to in the claims.

The object of my invention is to produce a washing-machine of the construction herein shown and described for the purpose to be presently set forth, whereby a simple, effective, and cheap washing-machine is produced.

Figure 1 is a longitudinal vertical section of a washing-machine which embodies my invention complete. Fig. 2 is a detached view of one set of rubbing-boards. Fig. 3 is a detached view of one of the spring-supporting steps, and Fig. 4 is a detached view of the roller. Fig. 5 is a vertical cross-section of Fig. 1, taken through the blocks D and E. Fig. 6 is a detached perspective showing the blocks H.

A indicates a suds-box, which is of any desired shape, size, or construction that may be preferred, and in opposite sides of which near one end are the vertical slots B, which form the bearings for the roller C. The upper ends of these slots are filled with a strip or block D, and upon the outside of these filling-strips are the blocks E. One of these blocks E passes down below the lower end of the adjacent slot and entirely closes it, with the exception of sufficient room inside below its filling-strip for the end of the roller-shaft or journal. The block E at the opposite side of the machine, and under which extends the operating end or roller, which is provided with an operating-handle F, has its lower end to bear upon the operating end of the roller-shaft.

Secured to the inner sides of the box a suitable distance from the roller are the blocks G, which are provided at their upper ends

with the vertical slots H, in which the ends of the rod I rest, upon which the outer ends of the sections of the rubbing-board J are pivoted. The blocks G are provided with a series of perforations K, which receive the pins L, by means of which the height of the outer ends of the sections of the rubbing-board J is regulated, and in this way its angle in relation to the angle of the other rubbing-board is adjusted as may be desired, and the outer corners of the two outer sections of the rubbing-board J are cut away, as shown, in order to pass around the blocks G.

Fastened to the bottom of the box A by means of screws are the two spring-supporting steps M, so that they can be adjusted toward or away from the roller, and thus regulate the tension of the upper surfaces of the rubbing-sections against the roller, as may be desired, as will be readily understood. Placed upon these supporting-steps are the spiral springs N, which are secured in place by having their lower ends forced into openings formed in the sides of the steps, and staples O, which are driven over a portion of the springs which rest upon the supporting-step. The outer supporting-step is made triangular, as shown, and the springs are secured to the inner inclined face thereof in the same manner just described of securing the springs to the other supporting-step. Passing through the upper and outer ends of the sections of the rubbing-board P is a rod Q, upon which they are pivoted, the rod having its ends supported by the sides of the box A. Formed in the upper surfaces of the rubbing-section are the horizontal grooves S, which cause a friction upon the goods being washed.

The roller is made triangular in shape, and the spaces between the edges of the triangle are grooved out, as shown, for the purpose of a water and air space as the roller revolves, into which the goods are gathered and pressed. The roller being triangular, it will gather the goods in one side thereof and lift them out at the other side more readily than would be the case if the roller was round and provided with flutes in the usual manner.

The object of making the rubbing-boards in sections, as shown, is that they work independently of each other and adapt themselves to the thick and thin places in the cloth as it

passes under the roller and over the rubbing surfaces.

A machine constructed as above described is simple, cheap, and durable, and will rapidly and thoroughly clean the goods passing through it.

Having thus described my invention, I claim—

1. In a washing-machine, a box, a roller journaled therein, the rubbing-surfaces at each side of the roller, and pivotal rods which pass through the said rubbing-surfaces, the rod supporting one of the sections being vertically adjustable, for the purpose described, substantially as set forth.

2. In a washing-machine, a box, a roller journaled therein, rubbing-surfaces at each side of the roller and which extend at an angle, pivotal rods which pass through the upper ends of the surfaces, vertical slots at the

inner side of the box in which the ends of one of the pivotal rods are placed, and a device for holding the said rod in an adjusted position within the said slots, the parts combined substantially as and for the purpose described.

3. In a washing-machine, a box, a roller journaled therein, rubbing-surfaces at each side of the roller and which extend at an angle, pivotal rods which extend through the upper ends of the said surfaces, spring-supporting steps secured to the bottom of the box under the rubbing-surfaces, and springs secured to the said steps, the parts combined substantially as specified.

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

WILLIAM JAMES CAMPBELL.

Witnesses:

WM. A. PANNEBAKER,
JOHN HARRY.