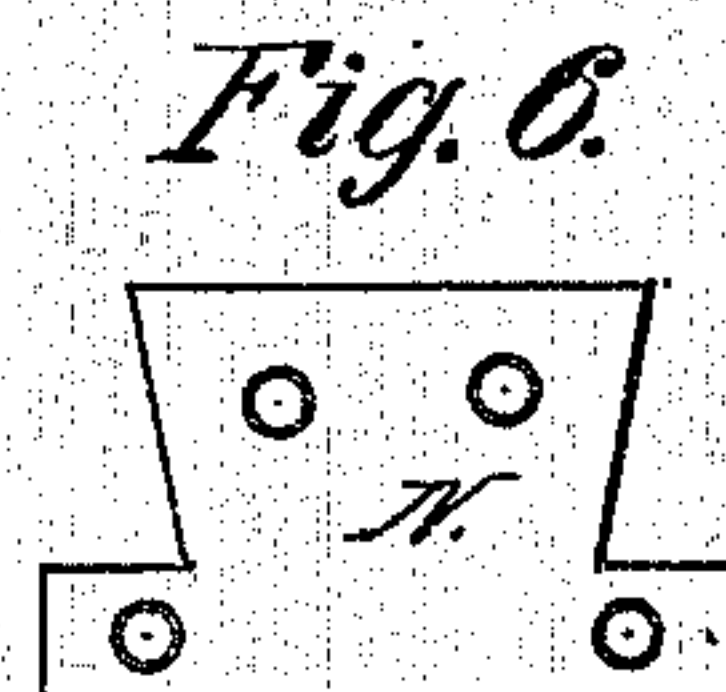
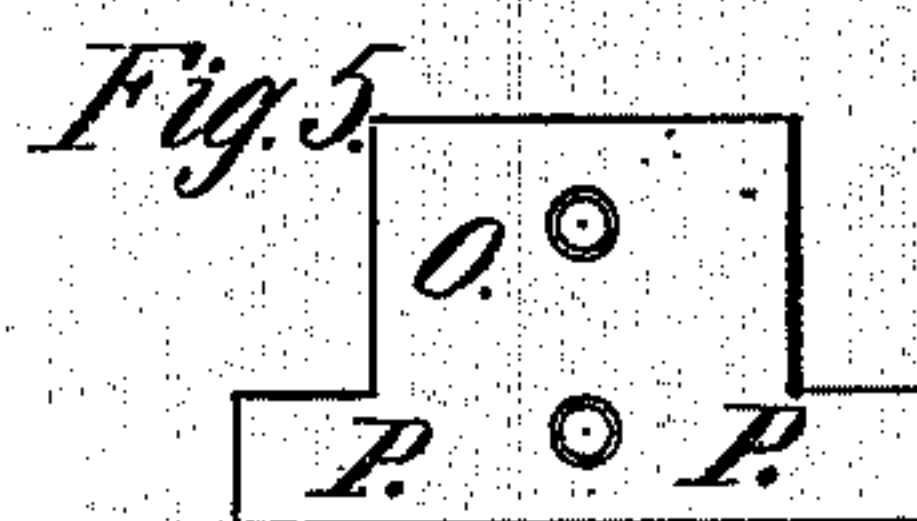
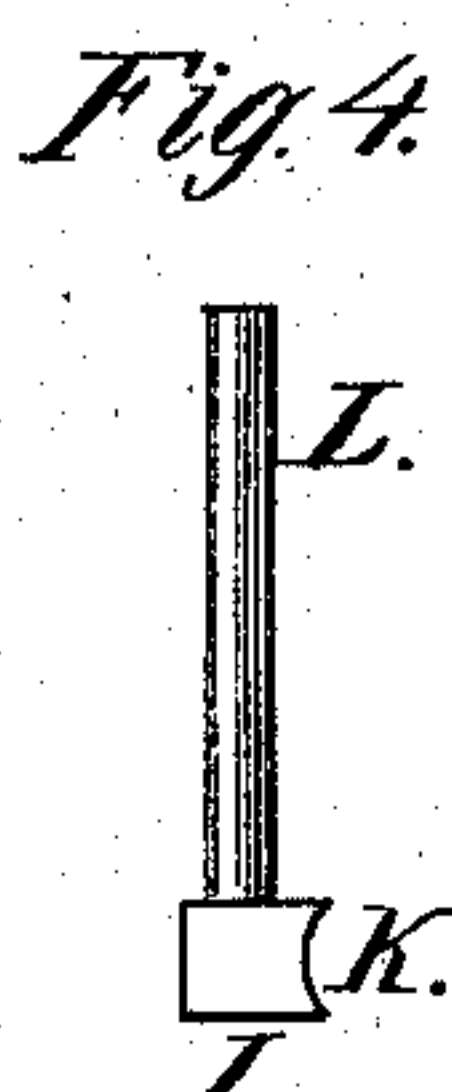
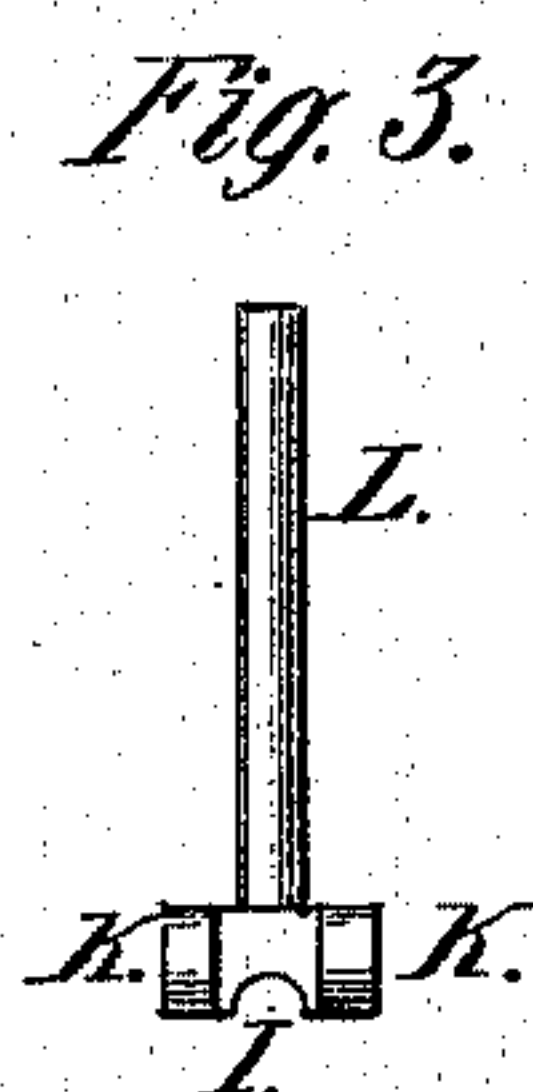
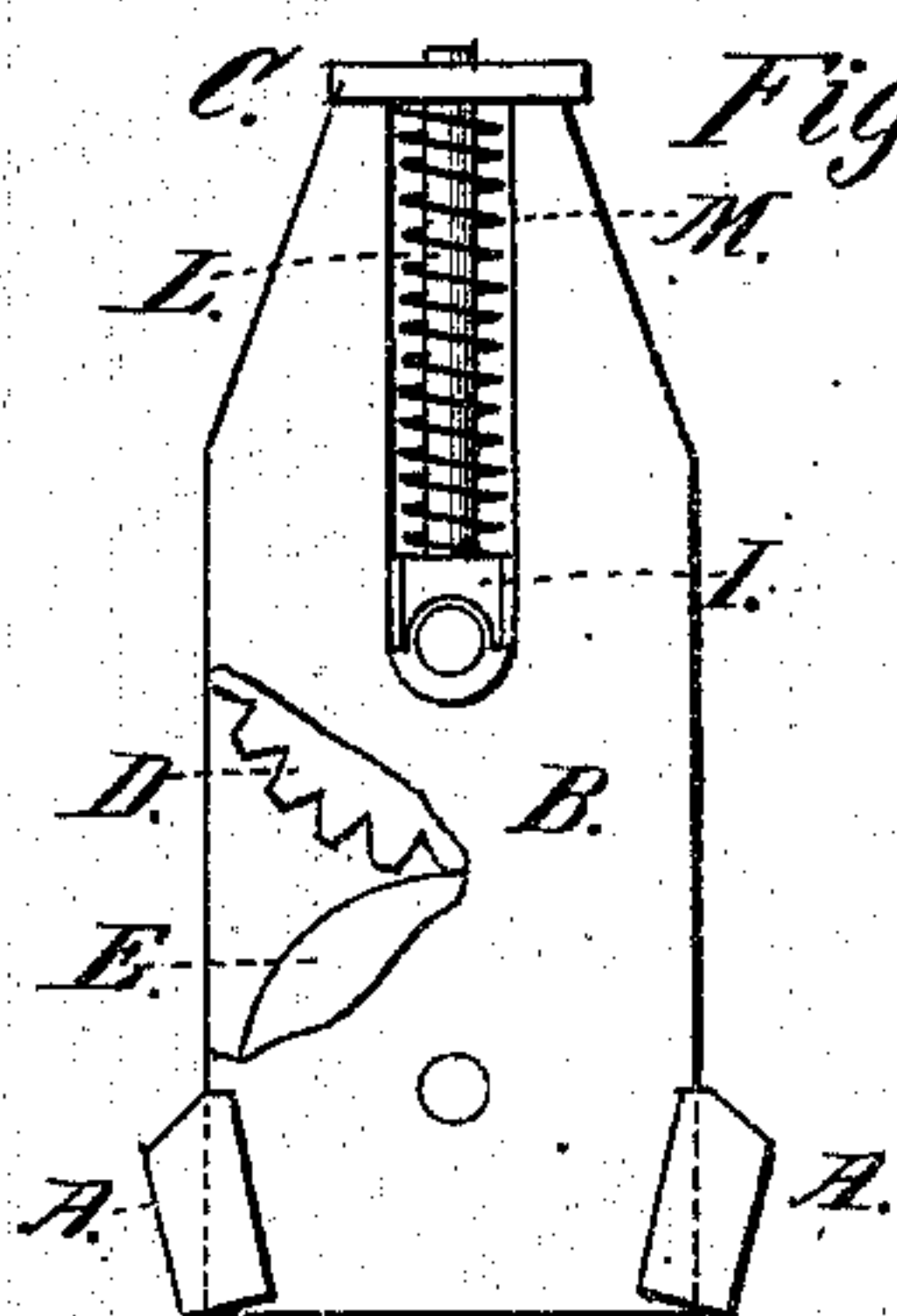
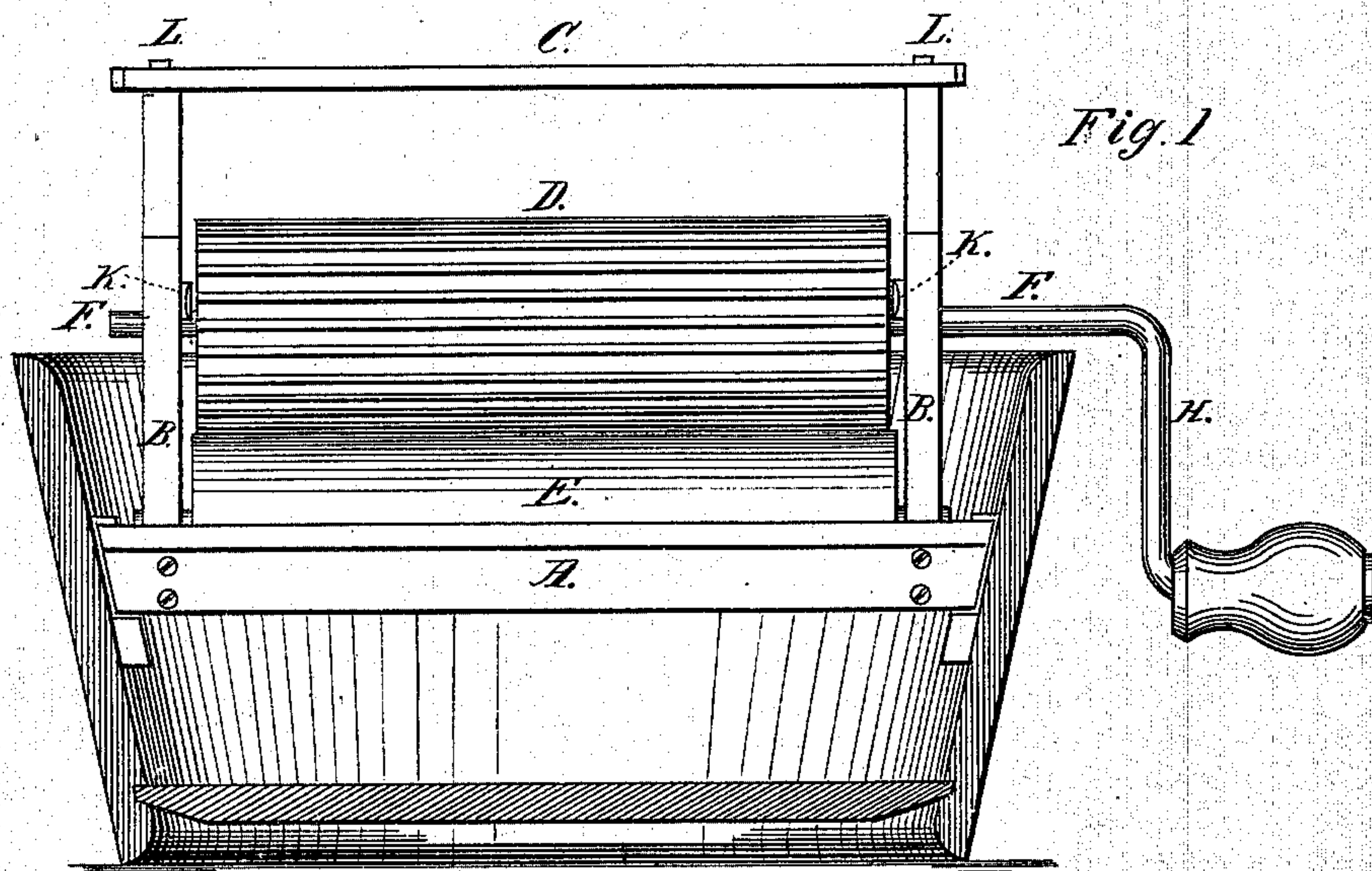


M. N. LOVELL.
Washing-Machines.

No. 139,511.

Patented June 3, 1873.



Witnesses.

G. L. Walker
George Chapman

Inventor.

Melvin N. Lovell.

UNITED STATES PATENT OFFICE.

MELVIN N. LOVELL, OF ERIE, PENNSYLVANIA.

IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. **139,511**, dated June 3, 1873; application filed November 21, 1872.

To all whom it may concern:

Be it known that I, MELVIN N. LOVELL, of the city and county of Erie and State of Pennsylvania, have invented certain Improvements in Washing-Machines, of which the following is a specification:

The object of my invention is to produce a washing-machine which shall be simple in construction, efficient in operation, and durable, and at the same time so cheap that it shall be within the reach of all classes of people. It is of the kind which are attached to a common wash-tub.

The accompanying drawings represent my invention, as follows:

Figure 1 is a side view with the tub to which it is attached in section. Fig. 2 is an end view with a part of the upright piece broken away to show the working of the machine more perfectly. Figs. 3 and 4 are views of the journal-boxes and pieces around which the springs are coiled. Figs. 5 and 6 are views of the pieces which I use in attaching it to a tub or box.

The frame-work is composed of the pieces A A, uprights B B, and top piece C. Within this frame are hung the corrugated roller D and the smooth roller E. The journals of the smooth roller run in holes in the uprights B B, which holes may or may not be bushed with metal. The diameter of the smooth roller is such that it fills the space between the pieces A A as nearly as possible without preventing its free revolution; this is to prevent the clothes from winding around it. The journals F F of the corrugated roller D pass through slots in the uprights B B, and have their bearings in journal-boxes I I. To one of the journals is attached the crank H, through which motion is imparted to the machine. The journal-boxes I I are provided with projections K K, which project past the edges of the slots in the uprights B B and engage the inner sides of them. These prevent the journal-boxes from sliding out of their places toward the outside of the machine. The ends of the corrugated roller D prevent them from sliding inward. The journal-boxes are also provided with rods L L, which pass up through holes in the top piece C. Around the rods L L are coiled the springs M M, the upper ends of which rest against the top piece C, and the lower ends against the journal-

boxes I I, thus bringing their pressure to bear on the corrugated roller D, and through it on the clothes as they pass between it and the smooth roller E. The pieces A A constitute an important part of the frame-work. Their elongations past the uprights B B serve as convenient means to fasten the machine to a common wash-tub or box, and they prevent the clothes from winding around the smooth roller E. They are so attached to the uprights B B that their upper edges shall be on a line with the center of the roller E. At the places where they are attached to the uprights B B they are grooved so as to receive the edges of the uprights B B, the grooves being made deeper at their lower edges, as shown by the dotted lines in Fig. 2. This is to bring their lower edges nearer together, to make them more useful in securing the machine to a tub or box.

To fasten the machine to a tub or box I use the pieces shown at Figs. 5 and 6, which I make from wood, but they may be made of metal. These pieces are screwed to the inside of the tub or box, as shown at Fig. 1. The machine is put into the fastening by first putting the ends of the pieces A A next to the crank onto the piece N, then letting the opposite ends of the pieces A A pass down on the piece O until they rest on the projections P P. The shape of the piece N is such that it prevents the machine from coming out of the tub or box when the machine is in use, unless the end of the machine which rests on the piece O is raised out first, when it also disengages with the piece N and can be set aside and the tub or box used for other purposes.

In the construction of my machine I do not confine myself to the use of the smooth roller E, but may substitute for it any other kinds of a roller or series of rollers.

What I claim as new is as follows:

The combination of the pieces A, the uprights B, the top piece C, the journal-boxes I with projections K, rods L, and springs M, rollers D E, tub F, and pieces N O, as and for the purpose specified.

MELVIN N. LOVELL.

Witnesses:

G. S. WALKER,
GEORGE CHAPMAN.