2 Sheets—Sheet 1.

D. T. JONES.

Washing-Machine.

No. 209,693. Patented Nov. 5, 1878.

Fig. 1.

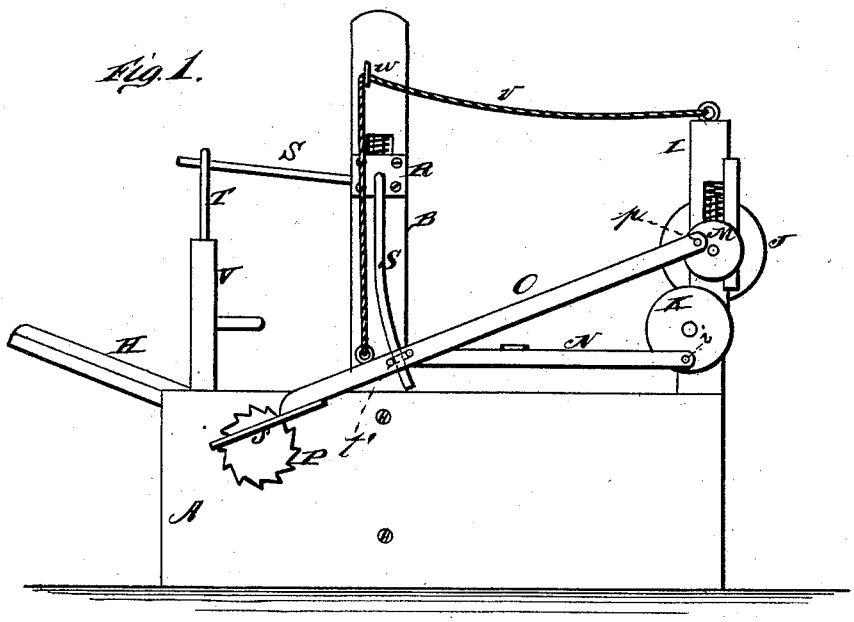
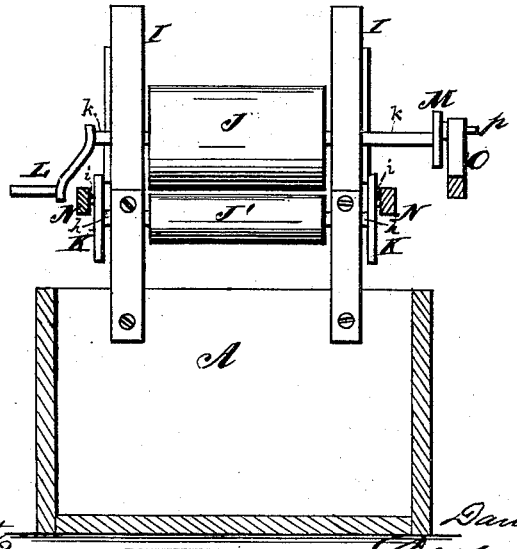


Fig. 2.



WITNESSES

Robt Ewett

Jas. J. Sheehy.

INVENTOR.

Daniel T. Jones.

Gilmore, Smith & Co

ATTORNEYS.

2 Sheets—Sheet 2.

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Fig. 3.

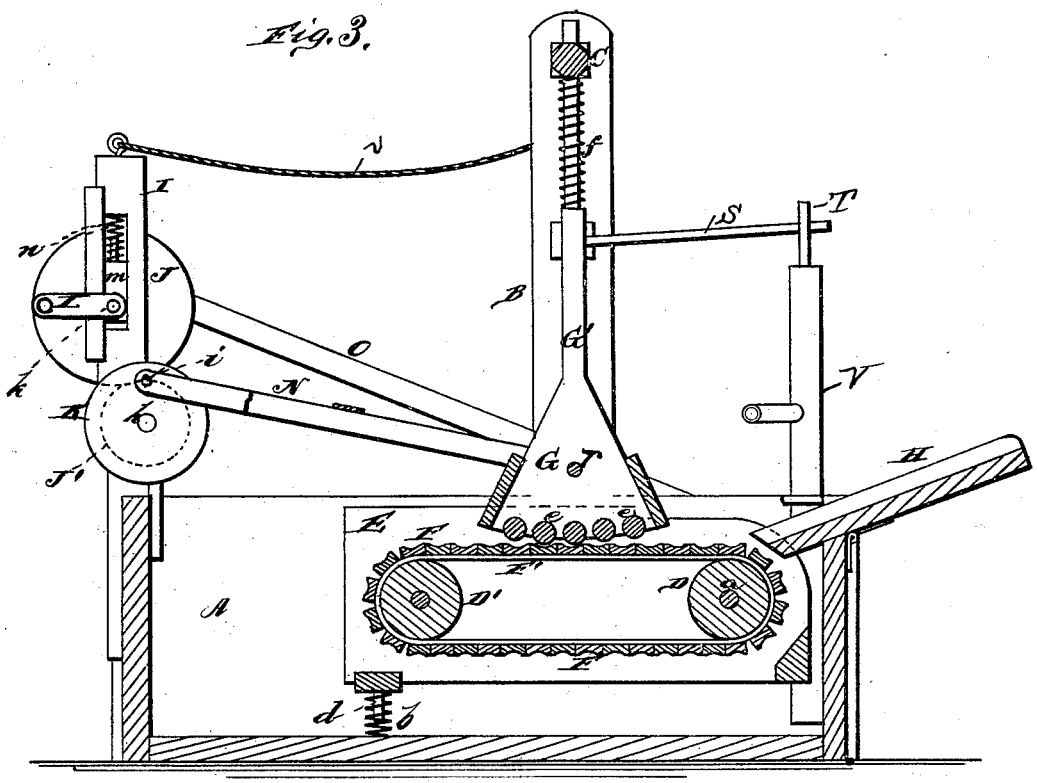
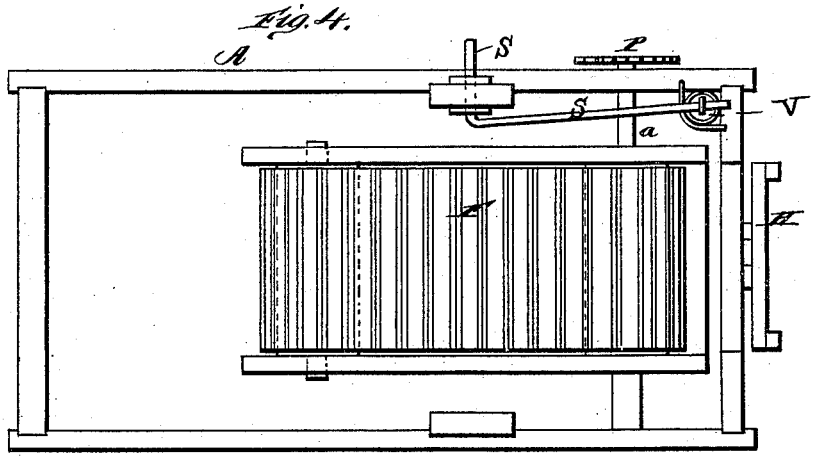


Fig. 4.



WITNESSES

Robt Ewett
Jas. J. Sheehy

INVENTOR.

Daniel T. Jones.
Gilmore Smith & Co
ATTORNEYS.

UNITED STATES PATENT OFFICE.

DANIEL T. JONES, OF YELLOW SPRINGS, OHIO.

IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. **209,693**, dated November 5, 1878; application filed February 16, 1878.

To all whom it may concern:

Be it known that I, DANIEL T. JONES, of Yellow Springs, in the county of Greene and State of Ohio, have invented a new and valuable Improvement in Washing-Machines; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a side view of my washing-machine. Fig. 2 is a transverse vertical section. Fig. 3 is a longitudinal vertical section, and Fig. 4 is a plan view with the rocking bar removed.

This invention has relation to that class of washing-machines shown in Letters Patent to John H. Atwater, dated July 31, 1855, No. 13,344; and my improvement consists in the construction and arrangement of the washing-machine with a pump, and the whole operated from a wringer attached to one end of the washing-machine box, as will be hereinafter more fully set forth.

The annexed drawing, to which reference is made, fully illustrates my invention.

A represents a rectangular box of any suitable dimensions, provided at one side of its center with two parallel standards, B B, in the upper ends of which is journaled a rocking bar, C.

E represents a frame containing two rollers, D and D′, placed in the ends of the frame, the journals of the roller D′ having their bearings in the sides of said frame. The roller D is secured on a shaft, *a*, which passes through the sides of the frame E, and has its ends extended to pass through the sides of the box A, said shaft thus forming also a pivot, upon which the frame E may be thrown up from the bottom of the box when necessary.

The frame E is located in the box A in such a position that the shaft *a* will be near the front end of the box, the inner end of said frame being supported on the bottom of the box by means of one or more spiral springs, *b*, encircling pins *d*, allowing the frame to yield a certain distance.

Around the rollers D D′ are passed elastic belts F′ F′, to which are secured slats F F, which are corrugated, as shown, thus forming an endless yielding apron, over which the clothes are rubbed.

The rubber consists of a series of rollers, *e e*, arranged on the arc of a circle in a frame, G, having two arms, G′ G′, extending upward. The upper portions of these arms are made round, and are surrounded by spiral springs *f f*, after which the ends of said arms are passed upward through holes in the rocking bar C, which, as stated, is journaled in the upper ends of the standards B B.

At the front end of the box A is hinged a feed-table, H, which, when in use, stands at an angle to feed the clothes to the endless apron F F′, and when not in use can be thrown down to hang against the front end of the box.

At the rear end of the box A are secured two standards, I I, between which are placed two wringer-rollers, J J′. Both of these rollers are made with solid centers, inclosed in rubber of any suitable thickness. The lower roller, J′, is of smaller diameter, and has its journal-bearings in the standards I I, and upon the ends of its journals *h h* are secured disks K K, having crank or wrist pins *i i* projecting from the same, as shown.

The journals *k k* of the upper roller, J, pass through slots in the standards I I, and above said journals, in the slots, are placed bearing-blocks *m m*, actuated by means of springs *n n* to throw or hold the upper roller, J, against the lower roller, J′, and still allow said upper roller to yield to the thickness of clothes passed between the rollers.

On one of the journals *k* is fastened a crank, L, for turning the roller J, and by turning said roller it will be seen that the lower roller, J′, is turned by friction. On the end of the other journal *k* is a disk, M, with crank or wrist pin *p*, as shown.

Upon the wrist-pins *i i* of the disks K K are placed pitmen N N, which connect with a rod, *r*, passing through the center of the rubber frame G, to give said frame a reciprocating or swinging motion.

Upon the wrist-pin *p* of the disk M is placed an arm, O, provided at its forward end with a hook or pawl, *s*, which engages with a ratchet-wheel, P, secured upon the end of the shaft *a* of the roller D, and by which means the end-

ess apron F F′ thus obtains an intermittent rotary motion.

Through a box, R, inserted in one of the standards B is passed a crank, S, one arm of which extends downward on the outside and passes through a loop or staple, *t*, on the side of the arm O, so as to be moved with it.

The other arm of the crank S connects with the piston-rod T of a pump, V, which is located at the front end of the box, and is thus intermittingly operated to supply water in the rubber frame G on top of the rollers *e e* therein.

It will be noticed that in my machine the power is applied to the wringer, and from the wringer communicated to the swinging rubber, the rotating endless apron, and the pump.

The pawl *s* can be disengaged from the ratchet-wheel, when desired, by means of a cord, *v*, connected to the arm O, and passing upward through an eye, *w*, on the standard B, and thence back to the wringer-frame where the operator is, and thus by simply pulling on said cord the pawl may be lifted and the motion of the endless apron stopped at once.

I am aware that rubbing beds or surfaces have heretofore been supported on pins encircled by vertically-yielding springs, and to such devices no broad claim is made.

I claim—

1. In a washing-machine, the combination of a swinging and yielding rubber, an intermittingly rotating and yielding apron, a pump, and connecting mechanism, substantially as described, for operating the same from and by the rotation of a pair of wringer-rolls located at one end of the washing-machine box, substantially as herein set forth.

2. The combination, with a washing-machine box, A, of the frame E, roller D, with shaft *d*, roller D′, one or more springs, *b*, and pins *d*, and the endless elastic belts F′, with corrugated slats F, all substantially as and for the purposes herein set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

DANIEL T. JONES.

Witnesses:

W. A. HOPKINS,

W. H. HAWKINS.