(No Model.)

2 Sheets—Sheet 1.

T. J. ST. JOHN.

MOTOR FOR WASHING MACHINES AND CHURNS.

No. 345,651. Patented July 13, 1886.

Fig. 2.

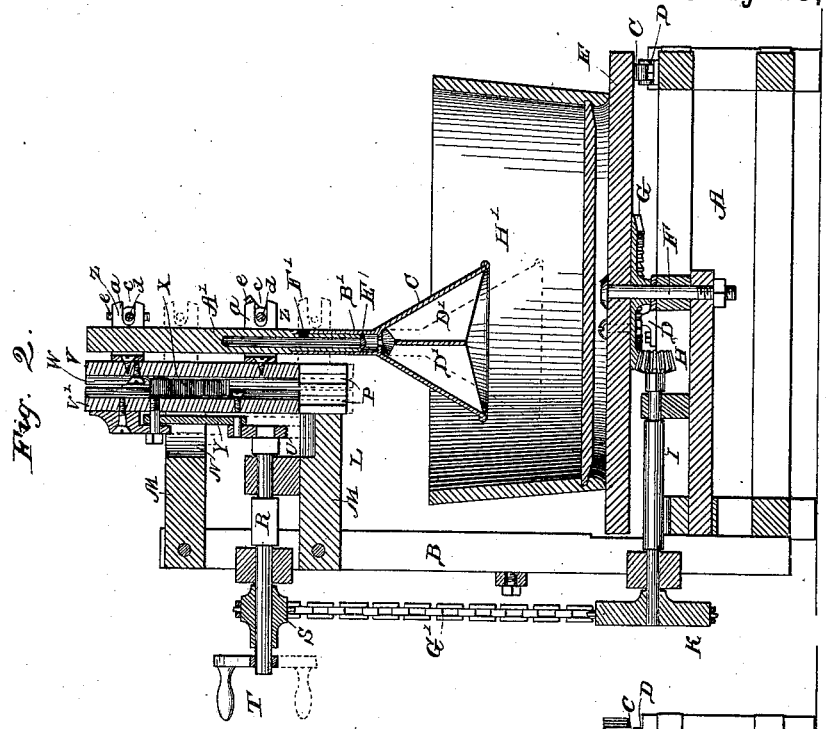
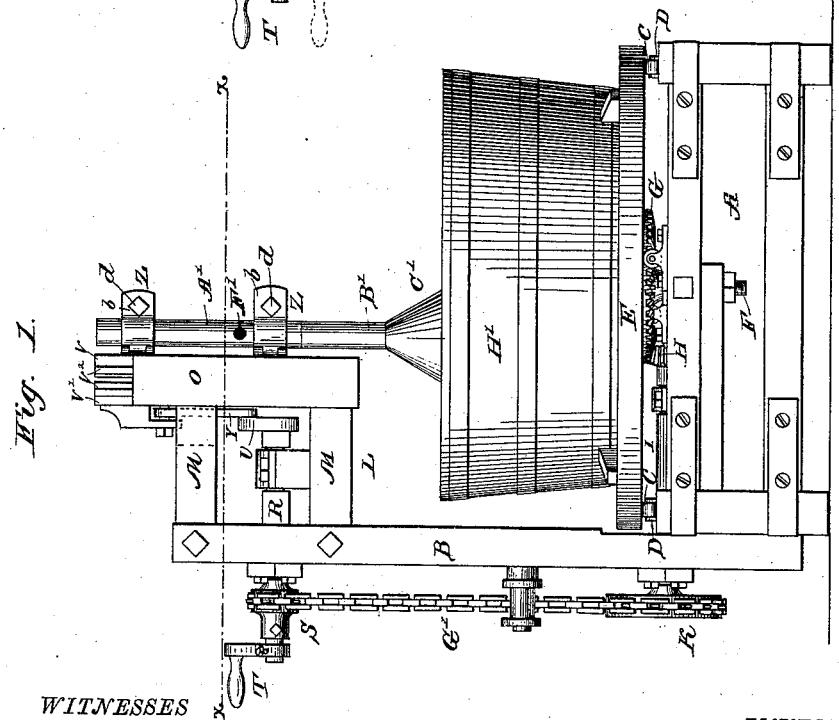


Fig. 1.



WITNESSES

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 4.

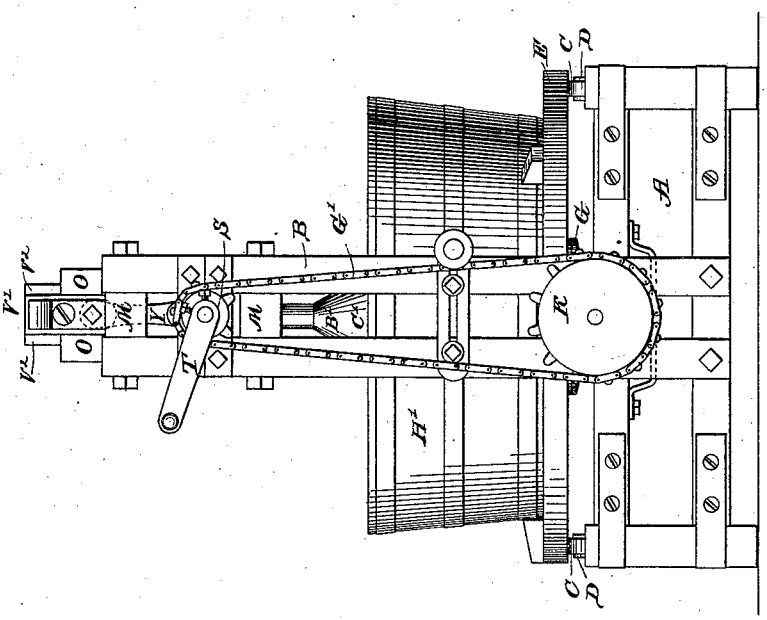
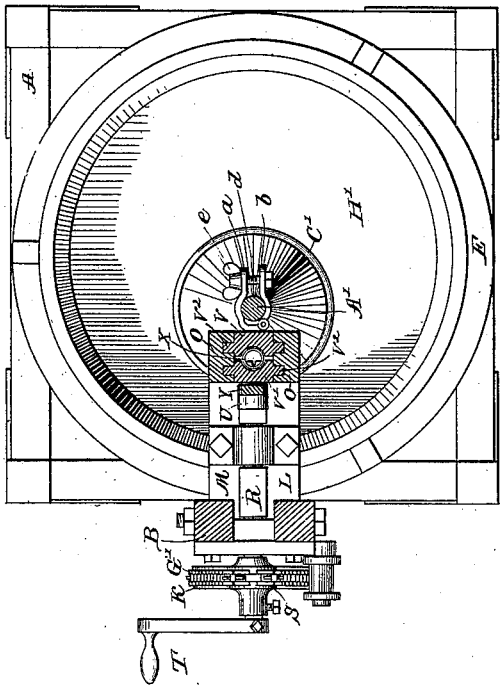


Fig. 5.



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UNITED STATES PATENT OFFICE.

THOMAS J. ST. JOHN, OF ST. JOSEPH, MISSOURI.

MOTOR FOR WASHING-MACHINES AND CHURNS.

SPECIFICATION forming part of Letters Patent No. 345,651, dated July 13, 1886.

Application filed October 9, 1885. Serial No. 179,447. (No model.)

To all whom it may concern:

Be it known that I, THOMAS J. ST. JOHN, a citizen of the United States, residing at St. Joseph, in the county of Buchanan and State of Missouri, have invented a new and useful Improvement in Motors for Washing-Machines and Churns, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to an improvement in motors for pounder washing-machines and churns; and it consists in the peculiar construction and combination of devices that will be more fully set forth hereinafter, and particularly pointed out in the claims.

In the drawings, Figure 1 is an elevation of a washing-machine embodying my invention. Fig. 2 is a vertical central sectional view of the same. Fig. 3 is a top plan view, partly in section, taken on the line *x x* of Fig. 1; and Fig. 4 is an elevation at right angles to Fig. 1.

A represents the horizontal frame-work having a vertical standard, B, at one side. A series of rollers, C, are journaled in brackets D, that are secured on the upper side of the frame A, and on these rollers bears a rotating base, E, which is journaled centrally on a bolt, F, that is secured to the frame. A gear-wheel, G, is secured to the center of the base E, on its under side, and a gear-pinion, H, meshes with the wheel G. The pinion H is secured on the inner end of the horizontal shaft I, that is journaled in the frame, and extends out beyond the vertical standard B, and a sprocket-wheel, K, is secured on the outer end of the shaft I.

L represents a frame, which is secured to the upper end of the standard B, and extends inwardly from said standard over the frame A. This frame L is composed of the horizontal arms M, arranged one above the other. The outer end of the upper arm is bifurcated or cut away, as at N, and the lower arm is recessed, and to their outer ends are secured vertical guideways O, which are provided with vertical grooves P in their opposing faces.

R represents a horizontal shaft, which is journaled in the frame L in a vertical line with the shaft I, and is provided at its outer end with a sprocket-wheel, S, and a crank-handle, T. A crank, U, is fixed to the inner end of the shaft R.

V V′ represent vertical sliding heads having vertical tongues V², that fit in the grooves P and guide the sliding heads therein. These sliding heads are recessed in their opposing faces, as at W, and in said recess is placed a coiled retractile spring, X, the upper end of which is secured to the head V, and the lower end of which is secured to the head V′. A pitman, Y, connects the crank U with the sliding head V′. It will be readily understood from this construction that by turning the crank-handle T the heads V and V′ will be caused to reciprocate vertically, and by reason of the spring X, which connects the two sliding heads, that the head V may be moved independently of the head V′. To the outer side of the head V are secured hinged clamps Z, which have each a fixed arm, *a*, and a swinging arm, *b*. The arm *a* is provided with an open slot, *c*, in its outer edge, and the swinging arm *b* has an opening, through which passes a bolt, *d*, having a nut, *e*, on its outer end. This bolt enters the slot *c*, and by turning the nut the arms of the clamp may be moved toward each other, and thereby secure the vertical handle A′ of the pounder B′ rigidly to the head V. This pounder is provided with a conical cup, C′, that is divided into four compartments by partition-plates D′. The lower end of the handle A′ is hollowed, and has a downwardly-opening valve, E′, and an outlet-opening, F′. An endless sprocket-chain, G′, connects the wheels K and S, and on the revolving base E is secured a tub, H′. The tub is partly filled with water and the articles to be washed, and the crank-handle T is turned, which imparts a reciprocating motion to the pounder B′ and a rotary motion to the tub, as will be very readily understood, thus presenting different surfaces to the action of the pounder successively. By reason of the spring X the pounder is adapted to yield when it comes in contact with a hard substance on its downstroke, thus preventing injury to the machine, and also rendering the action of the pounder less positive, to prevent it from tearing the buttons from the clothes should it come in contact therewith. On the downstroke of the pounder air and water are forced through

the clothing, and on the upstroke of the pounder the valve E' opens, thus preventing suction.

It will be readily understood that my improvement can be readily adapted for churning purposes. In such cases the pounder would be withdrawn from the machine, and a reciprocating dasher substituted therefor.

Having thus described my invention, I claim—

1. The combination, in a washing-machine, of the rotating tub, the reciprocating heads, the spring connecting said heads together, to permit independent movement of one of them, and the pounder secured to the independently-movable head, substantially as described.

2. The combination, in a washing-machine, of the reciprocating heads, the spring connecting the said heads together, to permit independent movement of one of them, and the crank-shaft R, connected to one of the heads to reciprocate them, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

THOMAS J. ST. JOHN.

Witnesses:
THOMAS KELLY,
I. ALEX. MACTRENZIE.