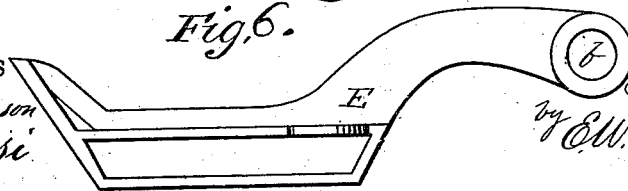
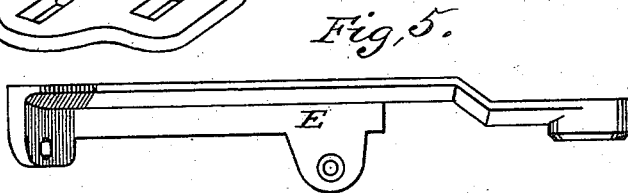
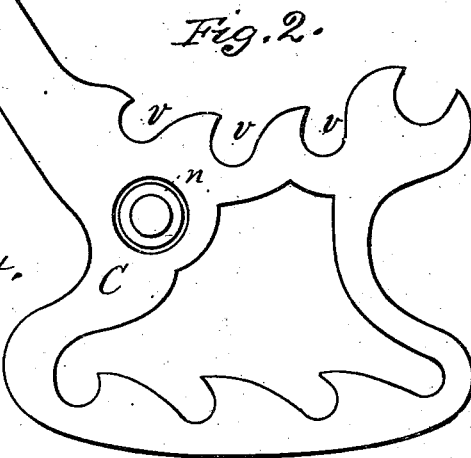
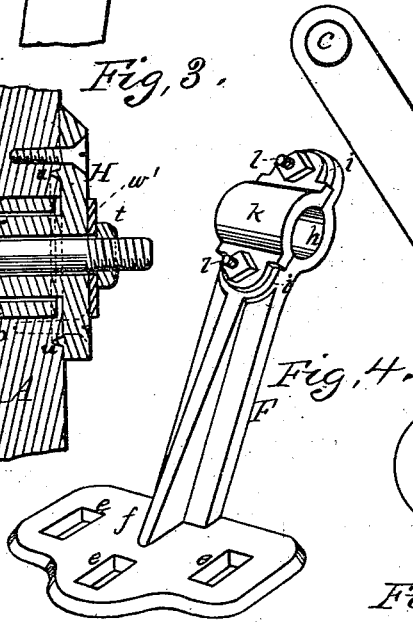
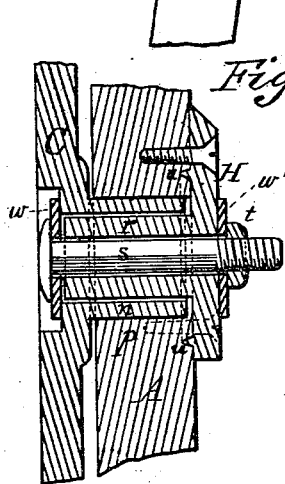
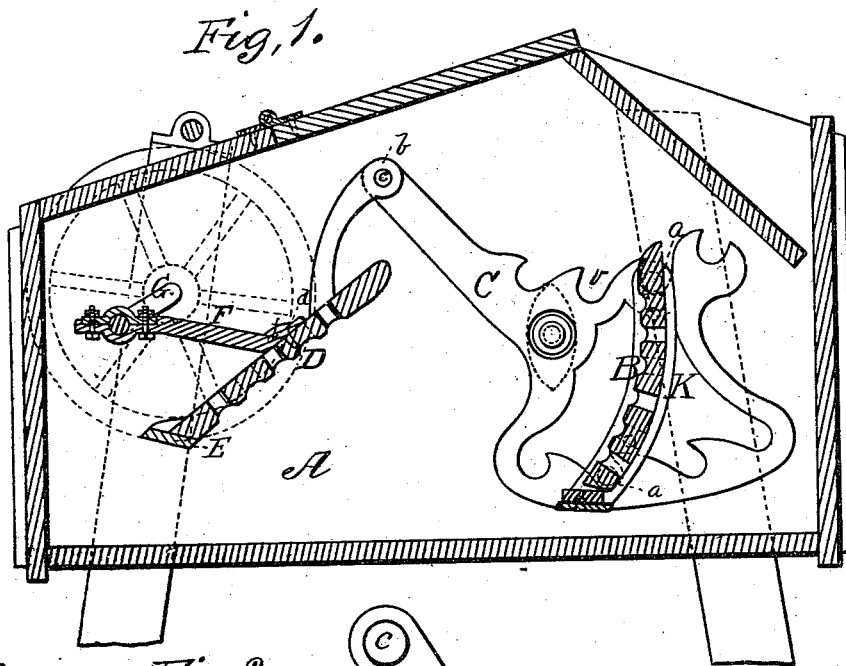


S. M. SMITH.
Washing-Machine.

No. 211,801.

Patented Jan. 28, 1879.



WITNESSES
Villette Anderson
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UNITED STATES PATENT OFFICE.

STEPHEN M. SMITH, OF YORK, PENNSYLVANIA.

IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. **211,801**, dated January 28, 1879; application filed August 17, 1878.

To all whom it may concern:

Be it known that I, STEPHEN M. SMITH, of York, in the county of York and State of Pennsylvania, 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 longitudinal vertical section of this invention. Fig. 2 is a side view of the swinging rack, showing its tubular bearing. Fig. 3 is an enlarged cross-section through the journal devices and tub-wall. Figs. 4, 5, and 6 are details of the castings.

This invention has relation to washing-machines having swinging racks or boards.

The nature of the invention consists in the construction and novel arrangement of a washing-machine having an adjustable operating-pitman coupled at one end to a revolving crank-shaft and fastened at its other end to a swinging wash-board, which is pivoted at each end to a rack provided with a bearing-tube having notches, in which the nibs of the end of the opposite wash-board are placed, according to requirements.

It also consists in a side rack having a bearing-tube extending into an opening in the tub-wall, in combination with a bearing-plate and its hollow neck adapted to receive a bolt and nut, said bolt being provided with suitable washers.

It also consists in a side rack having a bearing-tube and an arm provided on its inside with a pivot, as hereinafter shown and described.

In the accompanying drawings, the letter A designates the box or tub of the washing machine; B, the adjustable wash-board; and C, the side racks having notches *v*, in which the nibs *a* of the cast ends K of said wash-board are placed, according to requirement. D represents the opposite wash-board, which is fastened to side arms E, which have eyes *b* engaging the pivots or nibs *c* of the side racks, the latter being pivoted to the side walls of the tub. The wash-

ing is accomplished by the motion of the wash-boards toward or from each other.

The machine having the general character just referred to was patented to Leander Becker June 29, 1878, and it is upon this machine and others of similar character that my improvements are made, as follows:

To the middle of the back of the wash-board D is attached, by suitable screws *d*, passing through slots *e* of its broad attachment-flange *f*; a pitman, F, which is therefore adjustable, so that the connection between the pitman and the crank-shaft G, and those between the side plates of the wash-board, can readily be brought into harmonious action. At its upper end the pitman is bent somewhat downward or into a nearly horizontal position, flanged, and recessed in a transverse semicircular manner, as shown at *h*, to form the journal-box, which engages the lower half of the crank-shaft bearing. At each end this flange has a marginal shoulder or raised rim, *i*, forming an end guard for the corresponding end of the journal-cap *k*, which is let in between said rims and secured to the flange by suitable bolts *l*.

In pivoting the side racks in the box, the following construction is employed: Each rack C is formed with an exterior tubular flange or bearing-tube, *n*, which extends into an opening or perforation, *p*, through the tub-wall, to the exterior surface, or nearly so, but small enough in diameter to rotate freely in the opening of the wall. This opening is closed at its exterior end by a bearing-plate, H, having a hollow neck, *r*, which extends into the bearing-tube *n* of the side rack, and forms the journal upon which it works. This hollow neck *r* is chilled in the casting, so as to prevent undue wear. Its aperture or bore is square, and receives a squared bolt, *s*, whereof the head bears against a washer, *w*, which is let into an annular marginal rabbet at the inner end of the bearing-tube *n*, and the threaded end is provided with a nut, *t*, which bears against the exterior face of the plate H, and by which the parts are drawn together. The plate H is secured to the exterior of the tub by suitable screws, and it has an annular rib, *u*, on its interior surface, which engages with the wood of the tub and makes a tight joint. For fur-

ther security under the nut *t*, a rubber washer, *w'*, is usually employed.

The improved parts referred to are castings of the general form shown in the drawings. As already observed, the hollow necks of the bearing-plates are chilled. So, also, the pivots or nibs *c* of the arms of the side racks are chilled, as well as the nibs *a* of the ends K of the wash-board B, which is supported between the side racks by the engagement of said nibs *a* in the notches thereof.

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

1. The washing-machine having an adjustable operating-pitman coupled at one end to a revolving crank-shaft, G, fastened at its other end to a swinging wash-board, D, which is pivoted at each end to a rack, C, provided with a

bearing-tube, *n*, and having the notches *v*, in which the nibs *a* of the end K of the wash-board B are placed, according to requirement, substantially as specified.

2. The side rack having the bearing-tube *n* extending into an opening in the tub-wall, in combination with the bearing-plate H, its hollow neck *r*, the washers *w w'*, and the connecting bolt and nut, substantially as specified.

3. The side rack C, having the bearing-tube *n*, and an arm provided on its inside with a pivot, *c*, substantially as specified.

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

STEPHEN M. SMITH.

Witnesses:

SOLOMON MYERS,
MOSES ELICKER.