

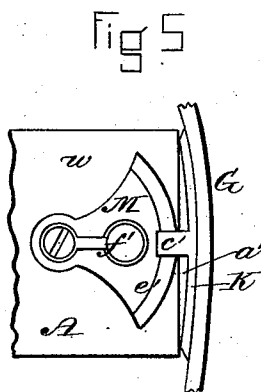
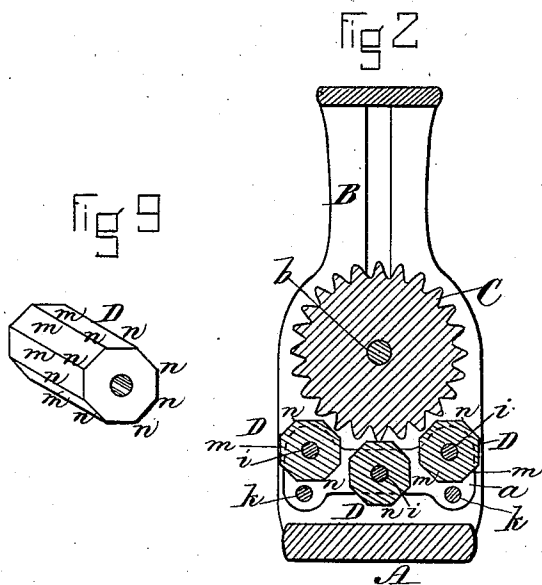
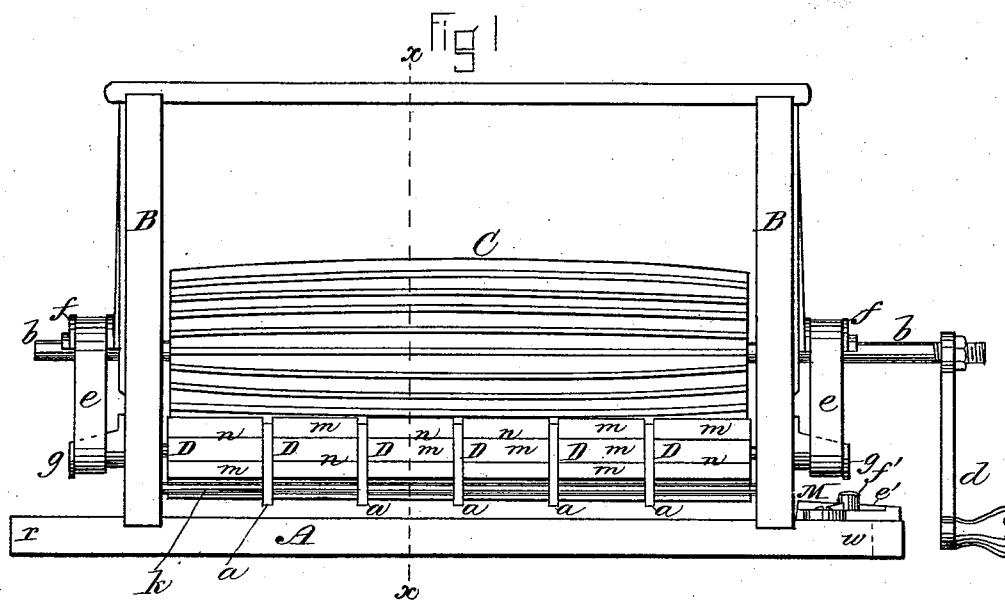
(No Model.)

2 Sheets—Sheet 1.

J. W. RICKER.
WASHING MACHINE.

No. 349,747.

Patented Sept. 28, 1886.



WITNESSES
W. J. Cambridge
Geo. A. Avery

INVENTOR
John W. Ricker
By R. S. Schenck
Att'y

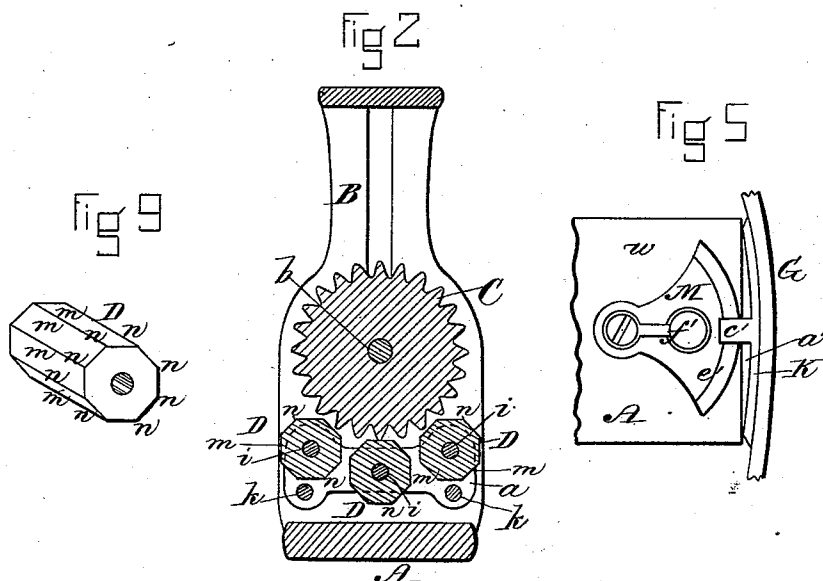
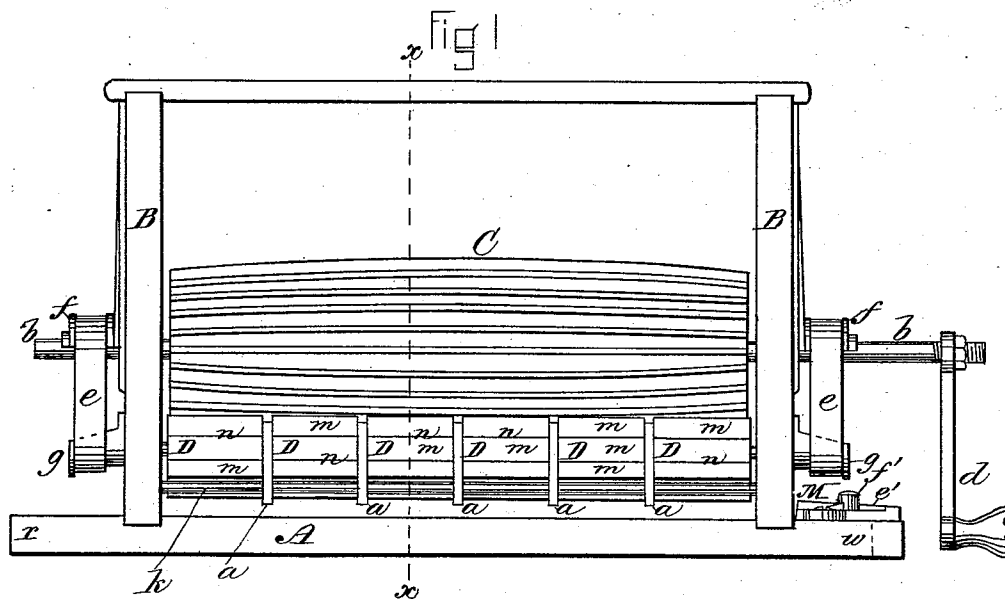
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UNITED STATES PATENT OFFICE.

JOHN W. RICKER, OF CHELSEA, MASSACHUSETTS.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 349,747, dated September 28, 1886.

Application filed April 1, 1886. Serial No. 197,480. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. RICKER, a citizen of the United States, residing at Chelsea, in the county of Suffolk and State of Massachusetts, have invented certain Improvements in Washing-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a front elevation of my improved washing-machine. Fig. 2 is a transverse vertical section of the same on the line *xx* of Fig. 1. Fig. 3 is a longitudinal vertical section through the center of the base of the machine, illustrating my improved method of securing it in place within a wash-tub. Fig. 4 is a horizontal section through one end of the base of the machine and the adjacent portion of the tub and its fastening-plate. Fig. 5 is a plan of the opposite end of the base and the fastening-plate used in connection therewith; Figs. 6, 7, and 8, details in perspective. Fig. 9 is a perspective view of one of the bed-rollers.

My invention relates to certain improvements in washing-machines; and it consists in certain novel devices for firmly securing the machine within the wash-tub, as hereinafter set forth and specifically claimed.

In the said drawings, A represents the base of the machine, from which rise two standards or end pieces, B B, which are provided with vertical slots for the reception of the horizontal shaft *b* of the main roller C, which is fluted and adapted to be rotated by the handle *d*, the roller being kept down in place by elastic bands *e* at the ends of the machine, each band passing over a movable piece, *f*, bearing on the shaft *b*, and a stationary projection, *g*, secured to the adjacent standard B. These details of construction, however, form no part of my present invention, and will not, therefore, be further described. The main roller C is of larger diameter at the center of its length than at the opposite ends, being tapered on a curve from the center toward each end, which gives its surface a convex form in the direction of its length, as seen in Fig. 1, this convexity of the surface causing the clothes to maintain a central position as they pass through the machine, and effectually preventing them from working toward either end of the roller, and thereby clogging the machine, as would be liable to

occur with a fluted roller of the same diameter throughout its length.

Immediately beneath the main roller C is placed a curved bed composed of a series of short rollers, D, of small diameter, composed of wood, rubber, or other suitable material, which are supported by and rotate upon metallic spring-rods *i*, the ends of which rest in suitable recesses in the standards B. The rods *i* are parallel to each other and to the axis of the main roller C, and are so arranged that the curvature of the bed will correspond approximately to the transverse curvature of the exterior surface of the main fluted roller C, which is kept down upon the bed by the action of the rubber bands *e*, which yield to allow of the passage of the clothes or other articles to be washed between the roller C and the roller-bed thereunder. The rods *i* are connected together by a series of bridge-pieces, *a*, through which they pass. These pieces *a* extend transversely across the machine and serve as division-plates to separate the contiguous rollers D of each row. Rods *k* are also provided, which pass through the bridge-pieces *a* beneath the rollers and serve to stiffen and re-enforce the rods *i*. The surface of each roller is composed of a series of contiguous flattened portions or parallelograms, *m*, which extend longitudinally from one end to the other of the roller, the angles of intersection of the flattened faces *m* forming corners or edges *n*, upon which the main fluted roller C acts, whereby all liability of slip is prevented and the positive rotation of these rolls thus insured, as well as the positive feed of the clothes through the machine, which is not always the case with the ordinary rolls of circular form in cross-section, on account of the liability of the main roller to slip over the wet and soapy surface of the clothes without rotating the smaller rollers, which results in the failure of the clothes to pass through the machine.

The rollers D may be of any suitable length and of octagonal form in cross-section, as shown, or of any other suitable polygonal form, to give their surfaces any desired number of flat faces or sides.

The machine is adapted to be secured in place within an ordinary circular wash-tub, G, Fig. 3, in the following manner: On the inside of the tub, at points diametrically opposite to each other, are secured, by means of screws, metallic

fastening-plates I K, for the reception of the ends of the base A of the machine. The fastening-plate I is provided with upper and lower flanges or lips, *p q*, between which one end, *r*, of the base A is placed, two horizontal pins, *s*, projecting from the plate I, entering corresponding sockets or apertures, *t*, formed in the ends *r* of the base A, and preferably provided with metallic bushings *v*, the flanges *p q* and pins *s* thus serving to securely support and confine this end of the base and prevent any lateral or vertical movement of the same. The opposite end, *w*, of the base rests upon a flange, *a'*, at the lower edge of the plate K, which is provided at its center with two projections, *b' c'*, one above the other, the lower one, *b'*, entering a slot, *d'*, in the end *w* of the base A, whereby the latter is steadied and prevented from moving laterally, while the upper one, *c'*, is located above the level of the upper surface of the base A, to which is pivoted a latch, M, having an inclined outer edge, *e'*, which fits beneath the projection *c'*, as seen in Figs. 3 and 5, and thus serves to lock the base securely and immovably in place, the inclined surface *e'* acting as a wedge to tighten the parts by exerting a downward pressure on the end *w* of the

base A, to which it is pivoted, the latch being easily swung around on its pivot by taking hold of the projection or handle *f'* on its upper surface.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination, with the base A, provided at one end with the sockets *t* and at the opposite end with a slot, *d'*, of the fastening-plate I, adapted to be secured to the inside of the wash-tub, and having the flanges *p q* and the horizontally-projecting pins *s*, adapted to enter the sockets *t*, the fastening-plate K, adapted to be secured to the inside of the tub, opposite to the plate I, and having the flange *a'* and the projections *b' c'*, the latter projecting above the level of the upper surface of the base A, and the latch M, pivoted to the base A, and adapted to be swung under the projection *c'*, all operating substantially as and for the purpose set forth.

Witness my hand this 31st day of March, A. D. 1886.

JOHN W. RICKER.

In presence of—

P. E. TESCHEMACHER,
W. J. CAMBRIDGE.