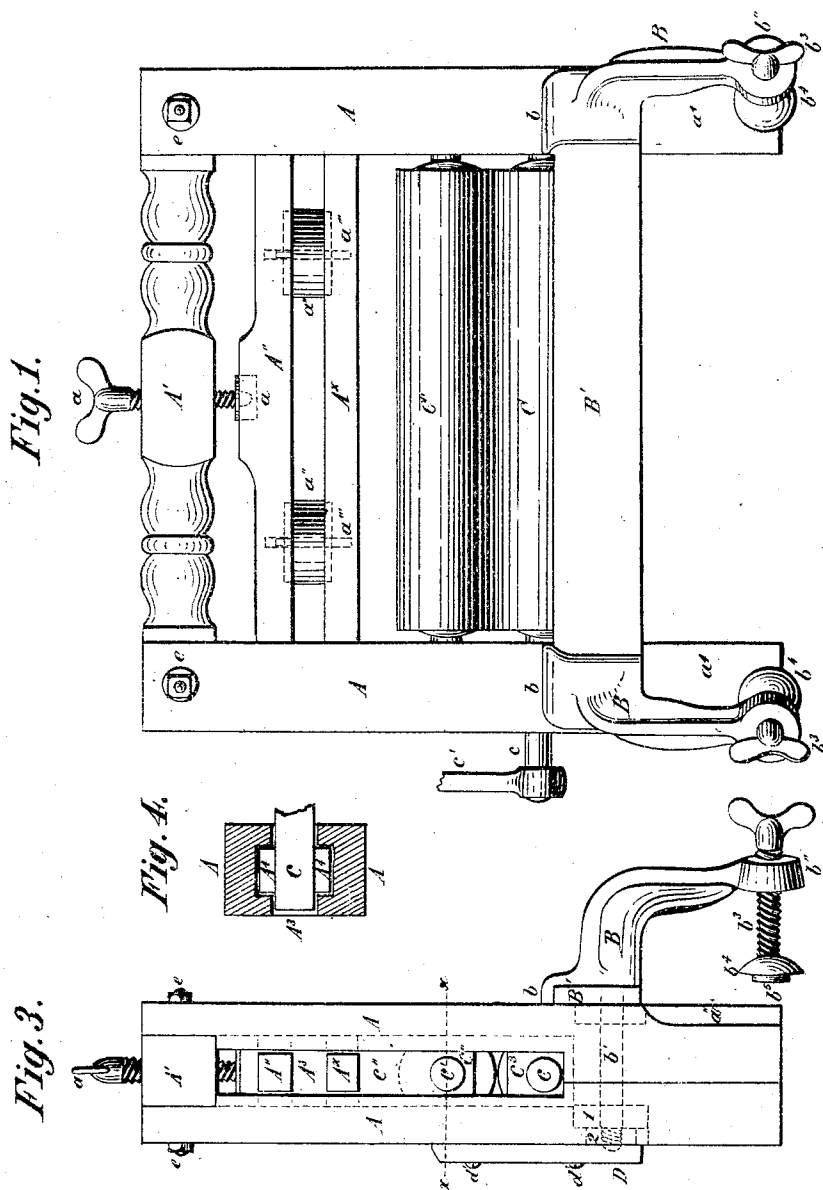


T. E. McDONALD.

Clothes-Wringers.

No. 135,237.

Patented Jan. 28, 1873.



Attest:

J. Mason Hoagler.
John Williams

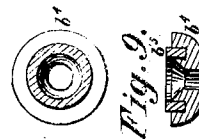
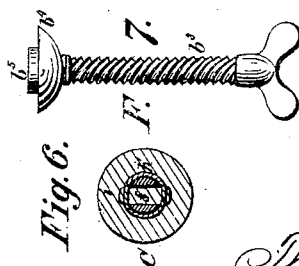
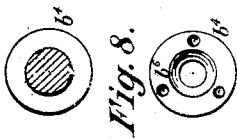
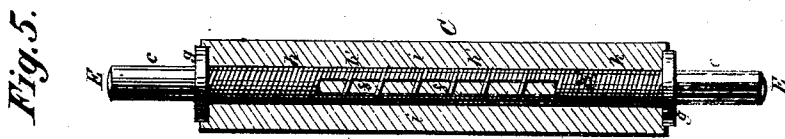
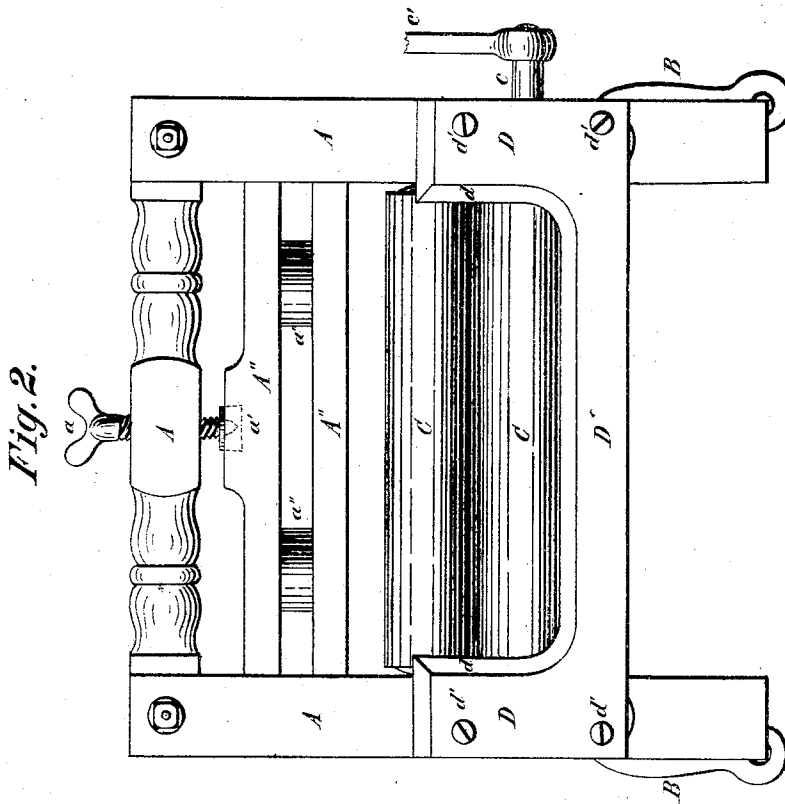
Inventor:

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By N. Cramford, atty.

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John Mason
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Thomas E. McDonald
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UNITED STATES PATENT OFFICE.

THOMAS E. McDONALD, OF TRENTON, NEW JERSEY.

IMPROVEMENT IN CLOTHES-WRINGERS.

Specification forming part of Letters Patent No. 135,237, dated January 23, 1873.

To all whom it may concern:

Be it known that I, THOMAS E. McDONALD, of Trenton, in the county of Mercer in the State of New Jersey, have made certain Improvements in Clothes-Wringers, of which the following is a specification:

The invention consists in the construction and arrangement of the parts of the wringer; and it also consists in the construction of the wringer-rolls, as will be fully hereinafter described.

In the drawing, Figure 1 is a front elevation of the wringer. Fig. 2 is a view of the rear or opposite side. Fig. 3 is an end view. Fig. 4 is a cross-section of one of the ends through *x*. Fig. 5 is a longitudinal section of a wringer-roll. Fig. 6 is cross-section of same. Fig. 7 is a side view of clamp-screw detached; and Figs. 8 and 9, modifications of the clamping-pad in Fig. 7.

A A are the two end frames, having the upright slot A^3 , in which the presser-bars and journal of the rolls can slide. $A^4 A^4$ are transverse upright grooves in the end pieces A, and in which the bearings or boxes $c'' c^3$, that bear the journals *c* and c' of the rolls, are fixed and slide therein. A^1 is the upper tie and press-beam, and secured to the ends A A, as seen in Fig. 3, by screw-bolts *e*. A'' and A^* are presser-bars, situated below the press-beam A^1 , with their ends in the slot A^3 of the ends A, as seen in Fig. 3. *a* is a press-screw for giving the amount of pressure on the wringer-rolls, going perpendicularly through the beam A^1 , and with a screw-nut therein, and its lower end bearing in a step, a' , in the upper presser-bar A'' . $a'' a''$ are rubber-springs inserted in shallow sockets in the under side of presser-bar A'' , and upper side of bar A^* , in which they snugly fit. In their centers, and going perpendicularly through them and projecting a short distance below their lower ends and fast in bar A^* , are guide-pins a''' , that are coincident with holes to receive them in bar A'' , when the springs a'' are contracted by the screw *a*, and serve to keep the springs always in position. B B are the clamping-arms, of cast metal, and galvanized, for clamping the wringer to the tub or vessel to which it is attached, set at an angle with ends A, and having the projecting flanges *b* at their upper ends to go over and grasp the tie-piece B' and

the screw-bolt b^1 that passes through the tie-piece B' and end pieces A, terminating in a screw-thread at its outer end, when nuts 2 are turned on and bearing against washers 1, when the clamp-arms and end pieces will be fast together. This construction of clamp-arm and mode of attaching it to the wringer-frame makes the clamp-arm much stronger, and will stand more strain from the clamp-screw b^3 , that passes through its lower extremity to bear upon the tub or vessel to which it is to be clamped, by forcing it hard against the part a^4 of the ends A, as the screw-rod b^1 , which may be a rod with the clamp-arm cast upon and around its end, or if the clamp is of malleable cast metal, may be a part of it with a screw-thread cut upon its end, than where the upper part of the arm B is simply a thin plate and screwed with wood screws to the frame A, as is usually done, as well as it holds the tie B' much better by the flange *b* going above and grasping its upper edge, and the screw-rod b^1 passing through it and the end A. C is the lower, and C' is the upper wringer-roll, both having journals, *c*, in the usual manner. One of journals *c* is made longer so as to extend through the frame and receive the turning-crank c' that gives motion to the wringer-rolls. $b^3 b^3$ are clamping-screws, screwing through the lower ends of the clamp-arm B at b'' , and having pivoted buttons b^4 on their ends, with a pad of rubber or other flexible material, b^5 , securely attached to and projecting therefrom, to bear against the tub or vessel and prevent bruising or wearing where the clamp-screw acts upon the tub. The pivoted buttons b^4 will turn on clamp-screw b^3 to conform to the shape of the tub on its outside.

In Fig. 8 a modification is shown of the manner of attaching the rubber pad to the button b^4 by means of the holes b^6 ; or the rubber pad b^5 may be a ring placed in a circular groove in the button, as seen in Fig. 9.

D is the cross-tie on the rear side of the wringer, cut out with the parts D' extending upon the frame A, and projecting inward to be less in distance between the parts D' than the length of the wringer-rolls C and C', and so as to guide the clothes between the rolls and keep them from getting at the end of and in contact with the journals of the rolls, and are secured to the frame by screws d' . The

edges of tie D are beveled off, as at *d*, to allow the clothes to easily and smoothly pass over and between the parts as they pass between the rolls.

This construction and arrangement of the parts of a wringer allows of great freedom of motion and certainty of action, as well as ease in operation, as the springs *a''* are so placed between the two bars *A''* and *A^x* and from their ends, that there is still some elasticity in the bar *A^x* outside of the springs, just enough with the springs themselves to give all the elasticity needed in operating the wringer; even under strong pressure the rolls will act without sticking.

In constructing the rolls of a wringer, the shaft or spindle E, Fig. 5, of round iron is slotted through one-half or more of its length between the collars *g*. By punching or slitting them the spindle is wound tightly and closely with small but strong cord or metal wire to the slot, when the parts of the spindle on each side of the slot are wound also, as seen at *h*, and when so wound, the slot is filled with raw or unvulcanized rubber *f*, when a few turns of the cord or twine *h'* are made over the slot; then unvulcanized sheet rubber *i* of the usual form is wound around the entire length of the spindle between the collars *g*, and the whole

vulcanized together, when the rubber *i*, forming the body of the roll, will have thoroughly been united with the rubber *f* in the slot of the spindle and the roller is complete, making a roll that will not get loose from or turn upon the spindle. In very large rolls the winding of the spindle with cord or wire on the sides of the slot may be omitted.

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

1. The presser-bars *A''* *A^x*, springs *a''*, screw *a*, in combination with journal-boxes *c''* in grooves *A⁴*, substantially as and for the purpose described.

2. The clamping-arm B, when constructed and applied in the manner and for the purpose substantially as described.

3. The wringer-roll C, constructed upon the spindle or shaft E, having the open slot and wound with the cord or wire, in combination with the rubber *f* in the open slot, and the rubber forming the roller surface, substantially as described.

THOMAS E. McDONALD.

Witnesses:

RANDOLPH H. MOORE,
FRANK R. BRANDT.