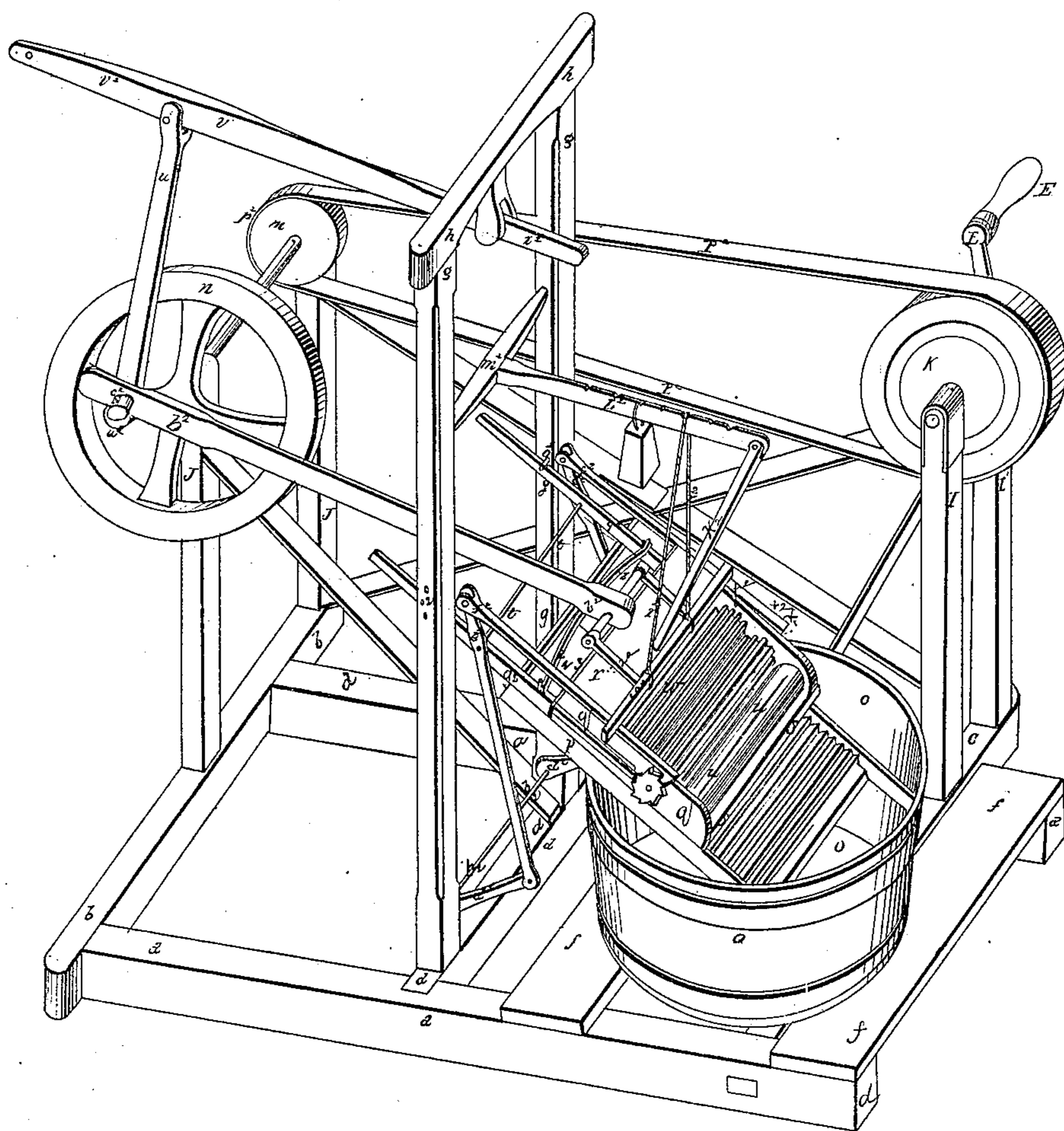


E. Julier.

Washing Machine

N^o 19,299,

Patented Feb. 9, 1858.



UNITED STATES PATENT OFFICE.

EDWARD JULIER, OF McCONNELSVILLE, OHIO.

WASHING-MACHINE.

Specification of Letters Patent No. 19,299, dated February 9, 1858.

To all whom it may concern:

Be it known that I, EDWARD JULIER, of McConnellsville, in the county of Morgan and State of Ohio, have invented, made, and used certain new and valuable Improvements in the Combination of Ordinary Wash-tubs and Washboards with Certain Mechanical Contrivances; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which the figure is a perspective view of the machine shown as complete.

To enable others to be skilled in the manufacture, use, and operation of my improvements, I describe the nature thereof, which consists in employing or using an ordinary round or circular wash tub and an ordinary fluted, ridged, or corrugated washboard, and combining in use therewith certain automatic devices, which being set in motion feed in the clothes between rollers, and at one and the same time rubbing, squeezing, changing and turning the clothes, in their movement over the surface of the washing board, as will be more fully described hereafter.

The construction of my improvements is as follows, viz: A base or superstructure is formed of two longitudinal sills or timbers a, a, a, a, a, a , united at a proper distance from each other by cross ties or transverse timbers b, b, c, c , and one or more intermediate rails d, d . and over this superstructure toward the front end are two flooring cross pieces f, f, f, f . To the central cross tie d, d , is mortised an upright framing, composed of two vertical studs g, g, g, g , confined at their upper extremity by a cross head timber h, h . To the base or superstructure, a, a, a, a , are affixed by mortises, two small framings, or standard bearings i, i, i, i, j, j, j, j . The standard i, i, i, i , is narrower than the one marked j, j, j, j . To the extremity of this narrow standard are suitable journal boxes and working therein the axle of a driving or motor wheel k, k , provided with a suitable crank handle L, L . The standard bearing j, j, j, j , is nearly as

wide again as the smaller standard bearing i, i, i, i , and is also provided with journal boxes in which work an axle having a small band wheel m , and also a balance or fly wheel n, n . On the flooring pieces f, f, f, f , is arranged an ordinary, suitable size washtub o, o, o, o , in which is adjusted at a proper inclination an ordinary washing board P, P, P, P . The tub and board are kept firmly in position by any suitable method. The tub being let down into the flooring, and the washing board kept steady by short legs at its end, or by sharp points driven in the lower end so as to stick into the side of the tub. The whole superstructure and framing to be made proportionate to the size of the tub to be used, or so constructed so as to enable the use of any suitable size tub.

Upon the washing board is arranged a sliding carriage, in width corresponding to the width of the washing board. This sliding carriage is formed of two suitable side pieces q, q, q, q , with slots r, r . These side pieces are held by an end rail s, s , and a connecting cross rod or bar t, t . Toward the front end of this carriage is a plain or smooth roller u, u , its journal ends entering the side pieces q, q, q . Next two fluted or grooved rollers v, v, w, w , are also connected to the sliding carriage. To the journal ends of the roller v, v , are ratchet devices x, x . The roller w, w , has its journal ends inserted in the slots r, r , and to the extremities of this roller w, w , is attached a yoke y, y, y, y , connected to or resting against a flexible strip or spring piece z, z . To the side pieces q, q, q, q , is connected on top a cross board \mathcal{C}, \mathcal{C} , and attached thereto on top, is a small yoke a^2, a^2 , connecting with which is a driving pitman rod b^2, b^2 , connecting with and working on the crank arm of the balance wheel n, n , by an open slot or nick c^2 , formed in its connecting end. Attached to the side pieces q, q, q, q , by the rod or bar t, t , is an automatic feeding and turning device, formed of the shoulder pieces d^2, d^2, d^2, d^2 , the elbow lengths e^2, e^2 and the reaching, grasping forearms f^2, f^2, f^2, f^2 . The shoulder pieces are connected and held

in position by the rod g^2, g^2 , inserted in the uprights or vertical studs g, g, g, g , and the elbow lengths e^2, e^2 , are also by means of a rod h^2, h^2 , connected to the shoulder pieces d^2, d^2 , while the elbow lengths e^2, e^2 are connected to the side pieces q, q, q, q , by the rod t, t . The reaching, grasping fore arms f^2, f^2, f^2, f^2 are jointed onto the elbow lengths by pins or bolts i^2, i^2 , and the ends of these reaching, grasping fore arms are formed with clutch joints j^2 , which work in or adjust themselves to the ratchet formation w, w .

In the cross board $\&, \&$, is formed a hole, or depression, into which is fitted a staff rod k^2 , and jointed to the upper end of which is a notched pressure beam L^2, L^2 , its butt end, mortised into an axis rod m^2 , the ends of which work in holes or journal places formed in the uprights or studs g, g . Pendant from this notched pressure beam is a weight n^2 . The slender ends q^2, q^2 , of the side pieces q, q, q, q , slide in between guide pins o^2, o^2 , inserted into the upright studs g, g, g, g . Thus is completed the whole of the mechanism of my improvements for washing.

The operation is as follows. The usual preparations for washing clothes, being completed by applying the soap to the clothes, they are then placed upon the rollers u, u, v, v, w, w , of the sliding carriage, when motion being given to the driving motive wheel k, k , motion is communicated to the whole mechanism by the band P^2, P^2, P^2 , when the clothes are drawn in between the fluted feeding rollers v, v, w, w , and are rubbed over the washing board through the backward and forward action or movement of the sliding carriage, formed of the side pieces q, q, q, q , and, as the clothes pass in, between the fluted rollers, they are drawn through, entirely, and pass down under the smooth squeezing roller u, u , and drop down into the tub of water, whence they are lifted by manual agency, and placed on the fluted rollers again, and passed through them as often as desired. It must be observed, that the roller w, w , by having its journal ends working in the slots r, r , can accommodate itself to any thickness or bulk of clothes, and the pressure of the spring piece z, z , causes the roller w, w , to sufficiently retain the clothes, so that they may pass regularly through the rollers.

It will be observed that the operation of feeding in the clothes is brought about automatically, through the reaching, clutching office of the forearms f^2, f^2 , and by this means, the rubbing up and down, and changing, the clothes as is done in the ordinary mode of manipulation, is imitated and effectually accomplished, and it is believed that this especial manner of washing clothes, or passing them to and fro automatically

has never been done heretofore, upon an obliquely arranged stationary common washing board.

In order to get the required pressure according to quantity and quality of the clothes to be washed, and to regulate the rubbing, the pendant weight n^2 , is adjusted in any notch of the pressure beam L^2, L^2 . If much pressure is desired the weight is brought forward on the beam; if less pressure the weight is carried back. When it is desired to continue the rubbing on one portion of any garment; or for instance to rub the wristbands of garments; the reaching, grasping, clutch forearms f^2, f^2, f^2, f^2 , are lifted up by means of the cord r^2, r^2 , attached to the cross strip s^2, s^2 , by which means, the feeding in of the garment is prevented, until rubbed sufficiently.

In large operating machines, the side pieces are designed to be hinged or jointed at their slender parts q^2, q^2, q^2, q^2 , so that the sliding carriage, rollers and all can be thrown upward out of the way so as conveniently to get at the washing board, and to enable the ready removal of it and the tub when desired.

A sufficient quantity of water or suds is always contained in the tub, so as to saturate the clothes well in the passing up and down over the washing board.

Among the various advantages pertaining to my washing machine improvements, I will mention, that a child of eight or nine years of age can set the whole in motion and soon learn to operate with the mechanism. Beside too, if desired, a beam t^2, t^2 may be suspended from the cross head of the upright studs, or framing, and having a connecting pitman rod u^2, u^2 , hitched on to the crank arm of the balance wheel n, n , may thus give motion to the beam t^2, t^2 , when to the short arm v^2, v^2 , may be attached and operated a staff churn, if desired, thus admitting of performing the double service of washing and churning by one motive power, simultaneously, and thus economizing labor.

It is deemed useless to enter more minutely into the merits of my improvement and advantages gained in the use thereof, for the operation, and attending greatly improved result, must be manifest to all familiar with the usual laborious, and imperfect systems of washing clothes.

My washing mechanism can be constructed sufficiently cheap to enable their general introduction and use.

What I claim as new and of my own invention and desire to secure by Letters Patent of the United States, is—

1. The construction and arrangement of the sliding carriage composed of the side pieces q, q, q, q^2, q^2, q^2 , the compensating yoke y, y , the pressure spring piece z, z , the

plain roller u , the ratchet rollers v, v, x, x , the compensating roller w, w , the staff rod k^2 , and notched pressure beam and weight L^2, L^2, n^2 , combined and operating together
5 with the driving pitman rod b^2, b^2 , as set forth.

2. I also claim the jointed shoulder pieces d^2, d^2 , the elbow lengths e^2, e^2 , and fore-

arms f^2, f^2 , when arranged and combined as set forth, and operated in connection with 10 an ordinary wash tub or board.

EDWARD JULIER. [L. s.]

Witnesses:

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