

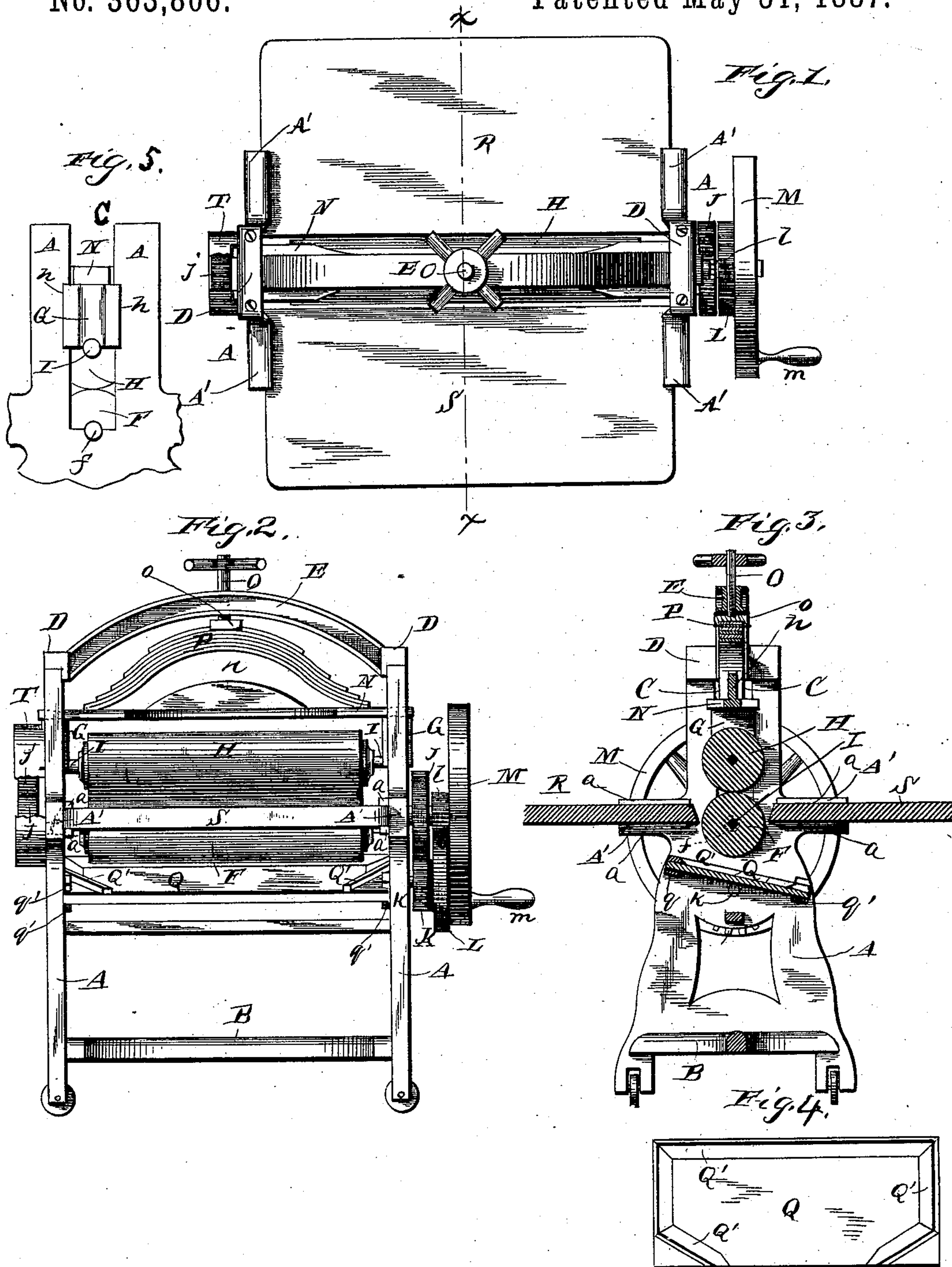
(No Model.)

T. COLLIER.

COMBINED CLOTHES MANGLE AND WRINGER.

No. 363,806.

Patented May 31, 1887.



Witnesses
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UNITED STATES PATENT OFFICE.

THOMAS COLLIER, OF RACINE, WISCONSIN, ASSIGNOR TO PHOEBE COLLIER,
OF SAME PLACE.

COMBINED CLOTHES MANGLE AND WRINGER.

SPECIFICATION forming part of Letters Patent No. 363,806, dated May 31, 1887.

Application filed October 4, 1886. Serial No. 215,276. (No model.)

To all whom it may concern:

Be it known that I, THOMAS COLLIER, a citizen of the United States, residing at Racine, in the county of Racine and State of Wisconsin, have invented a new and useful Improvement in Combined Clothes Mangles and Wringers, of which the following is a specification.

My invention relates to improvements in combined clothes mangles and wringers; and it consists of the peculiar combination and novel construction and arrangement of the various parts for service, substantially as hereinafter fully described, and particularly pointed out in the claim.

In the drawings hereto annexed, which illustrate an improved clothes mangle and wringer embodying my improvements, Figure 1 is a top plan view. Fig. 2 is a side elevation thereof. Fig. 3 is a vertical transverse sectional view on the line *xx* of Fig. 1. Fig. 4 is a detail plan view of the drip-board, and Fig. 5 is a detail side elevation with the gear-wheels removed.

Referring to the drawings, in which like letters of reference denote corresponding parts in all the figures, A designates the side pieces of the frame of my improved machine, which are each cast in a single piece, and B designates the transverse connecting-piece, which is arranged in a horizontal position at the lower ends of the vertical side pieces and is detachably bolted thereto. The side pieces are arranged parallel with each other and at a suitable distance apart, and at their upper ends they are provided with vertical slots C, which are arranged at the middle or center of the same, for a purpose hereinafter described.

The upper slotted ends of the vertical side pieces of the frame are each connected and braced by a detachable cap, D, which is secured in place by means of bolts or other suitable securing devices. These cap-pieces D are made integral with and form the ends of an arched brace, E, which carries the regulating-screw, hereinafter referred to. In order to remove the rollers from the machine, it is necessary only to remove the bolts which secure the cap-pieces in place, when the arched brace can be lifted off and the rollers quickly removed, as will be readily understood.

The lower terminal ends of the vertical cen-

tral slots of the side pieces, A, of the frame are provided with half-rounded notches or recesses *f*, which form the bearings for the lower stationary roller, F, of the machine, and between the standards of each side piece of the frame, provided by the vertical slots therein, are located vertically movable or sliding journal boxes or bearings G, which carry the upper adjustable roller, H, of the machine. These rollers F H of the machine are of any desired or suitable length and diameter, and they are preferably of wood. The rollers are carried by shafts I, which are substantially square in cross-section to prevent the rollers from rotating on the shafts.

The ends of the shafts are rounded or made circular in cross-section to adapt them to rotate very freely in the bearings provided therefor, and at one end each of the shafts is extended through their bearings and beyond the outer vertical face of one of the side pieces of the frame, gear-wheels or pinions *j* being rigidly affixed or secured on the extended ends of the shafts, and these pinions mesh or gear with each other, so that the rollers are rotated simultaneously. The shaft of the lower roller, F, is also extended beyond its bearings at its opposite end, and carries a gear-wheel, J, that is rigidly affixed thereto, so that it will rotate or turn the shaft. This gear-wheel is driven by a smaller gear-wheel, K, which is arranged beneath the same and carried by a shaft, *k*, which is journaled in the end piece of the frame, and on this shaft is fixed another gear-wheel L, which is arranged to one side of the gear-wheels J K, and it meshes with a pinion, *l*, that is rigidly secured on a large balance-wheel, M, which is fitted loosely on the extended end of the shaft of the lower roller and thus rotates independently thereof. This balance-wheel is provided with a suitable handle or crank, *m*, by which it can be conveniently turned or rotated by hand, and the motion thereof is communicated to the driving-shaft of the lower roller by the intermediate gear-wheels and pinions, as will be very readily understood.

The vertically-movable boxes or bearings G, for the upper adjustable roller of the machine, are provided at their edges adjoining the sides of the slots against which they bear with out-

wardly-projecting flanges *h*, which fit on opposite sides of the said edges of the slots, so that the bearings or boxes are prevented from having any lateral or sidewise movement, and are thereby caused to move in a vertical line only.

N designates a transverse bar which is arranged above the rollers of the machine, and the ends of this transverse bar are fitted in the slots of the side pieces of the frame and rest upon the upper sides of the vertically-movable boxes or bearings *G*. This bar is thus supported by the boxes, and it moves therewith, and the bar is provided with a vertical longitudinal strengthening rib *n* on its upper side.

O designates a vertical regulating-screw, which works in a threaded aperture or bearing in the center of the arched brace of the frame, and the upper end of this regulating-screw carries a hand-wheel or other suitable device for turning the screw by hand. The lower end of the regulating-screw has a follower, *o*, thereon, which is moved or adjusted vertically with the screw, but which does not partake of the rotary motions thereof; and the lower end or side of the follower has a vertical transverse notch or recess, into which the upper edge of the pressure-spring fits, as shown in Fig. 3. This pressure-spring *P* consists of a series of leaves or sections which are secured or connected together, and the spring is curved or arched, as shown, so that the free extremities thereof will rest or bear upon the transverse plate of the machine. It will thus be seen that when the regulating-screw is turned downwardly, the follower thereof will compress the spring, which in turn will depress the transverse plate and thereby force the bearings *G* downwardly and the upper adjustable pressure-roller *H* into contact with the driving-roller. There is considerable friction between these two rollers when they are pressed into contact with each other by the spring and regulating-screw, so that when the shaft of the lower roller is positively rotated by motion from the balance-wheel, transmitted through the gearing, the upper roller will be rotated by friction contact with the lower positively-driven roller, as will be very readily understood.

Q designates an inclined discharge-board, which is arranged beneath the rollers to direct the water falling thereon into a suitable tub or receptacle. This inclined board is supported at its upper rear edge on suitable cleats or flanges, *q*, which are cast on the inner opposing sides of the frame; and the lower edge of the said board is arranged between cleats, *q'*, which are also cast integral with the side pieces of the frame. Each side piece of the frame is provided with a pair of these flanges, *q'*, which are arranged on a plane beneath the flanges *q*, and at a considerable distance in front of the same, and the board is prevented from displacement between the flanges *q'* by means of ribs *Q'* thereon, which come in contact with the

ribs or flanges *q'*, as shown. These ribs *Q'* are arranged around the upper and side edges of the inclined board; and near the lower edges of the sides of the board the ribs converge or are inclined toward each other, so as to direct the water from the rollers and fabrics into a suitable vessel provided therefor.

The side pieces of the frame *A* are each provided on opposite sides with horizontal arms *A'*, which are arranged in substantially the same plane; and each of these horizontal arms is provided on its inner side with a pair of parallel ribs or flanges, *a*, which are cast or formed integral with the arms.

R S designate ironing-boards, which are fitted at their inner side edges, between the horizontal parallel ribs or flanges *a* of the arms *A'*; and these boards are arranged on opposite sides of the machine, as shown very clearly in Figs. 1 and 3.

The operation of my invention will be readily understood by those skilled in the art to which it relates from the foregoing description, taken in connection with the drawings. When the machine is to be used as a wringer, the tub of water, with the fabrics or clothes therein, is placed upon the horizontal connecting-piece *B* of the frame and the inclined discharge-board fitted in place beneath the rollers. The fabrics are passed through the rollers, which are rotated by the hand-piece on the balance-wheel, and the water from the rollers strikes upon the discharge-board and is deflected thereby into the receptacle. The upper roller of the machine is elevated by the fabrics passing beneath the same against the tension of the pressure-spring, and when the bulk of the fabrics is decreased, or the latter have passed through the rollers, the upper roller is pressed into contact with the lower roller by the spring, the boxes and the transverse bar being moved or adjusted simultaneously with the upper roller. The force which the upper roller exerts upon the fabrics can be varied by adjusting the regulating-screw, and after the wringing of the fabrics has been completed the screw is elevated to release the tension of the spring, thereby increasing the durability thereof. When it is desired to iron the fabrics, the boards *R S* are placed between the ribs or flanges *a* and supported thereby and by the horizontal arms of the frame. These boards can be easily and readily placed in position and detached when the machine is used for wringing purposes.

It will thus be seen that I provide an improved mangle and wringing machine, which is very simple, strong, and durable in construction, effective and reliable in operation, and comparatively cheap of manufacture.

The gear-wheels *j* at one end of the shafts of the pressure-rollers are housed within a suitable casing, *T*, which completely incloses the same, and which is secured to one of the end pieces of the frame, so that the danger of any accident is avoided.

Having thus fully described my invention,

what I claim as new, and desire to secure by Letters Patent, is—

The combination of the slotted side pieces having the lugs q on their inner faces at their rear edges, and the lugs q' at their front edges in a plane below the lugs q , the rollers journaled in the slots of the side pieces, and a drip-board supported by the lugs q q' below the rollers, the said drip-board having ribs on its upper face, which converge from the sides toward the center of the front edge, leaving the

front corners of the board free to pass between the lugs q' , and contacting with said lugs to hold the drip-board in place, substantially as set forth.

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

THOMAS COLLIER.

Witnesses:

JAMES ARMSTRONG,
PETER LIEHTER.