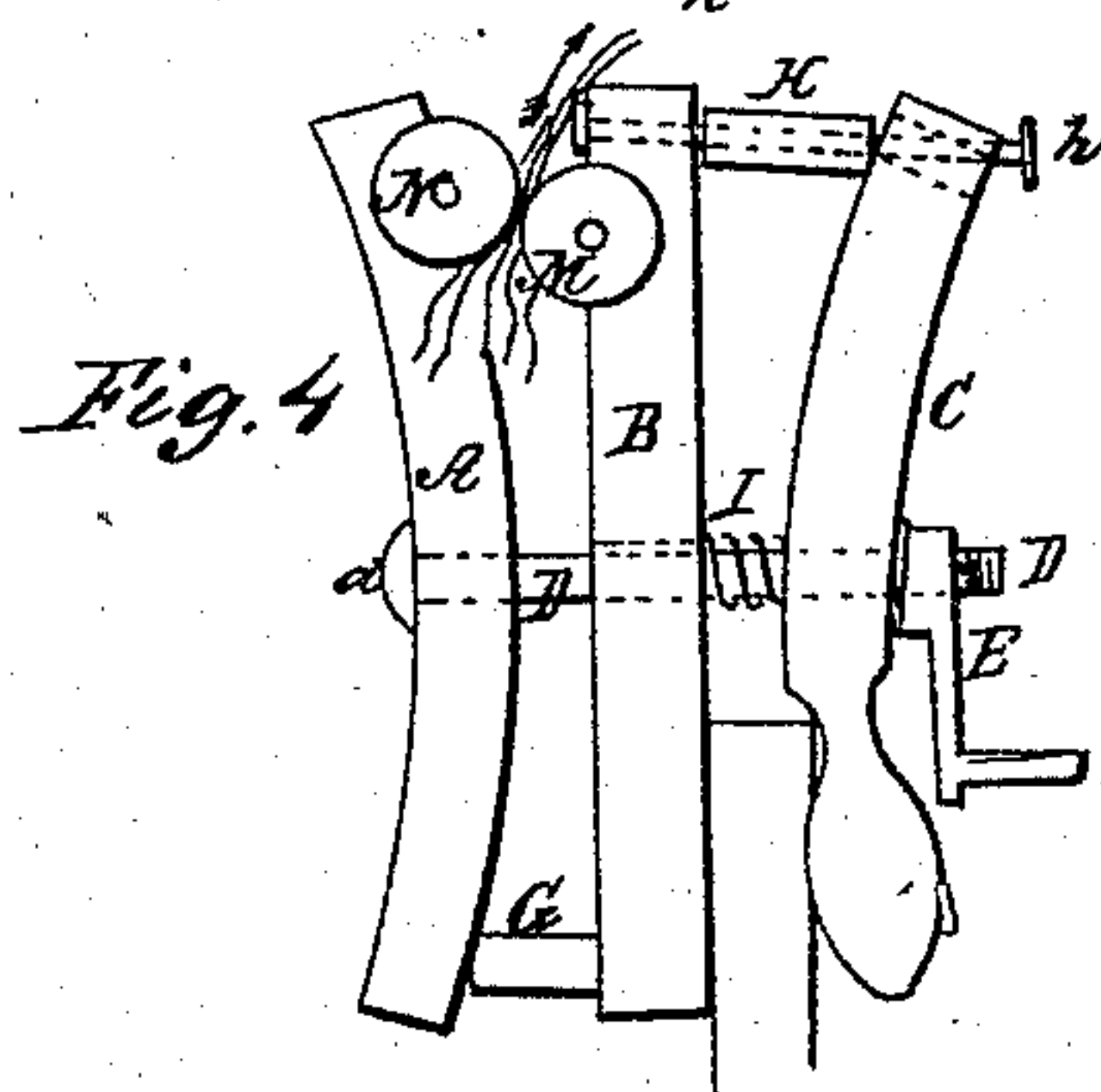
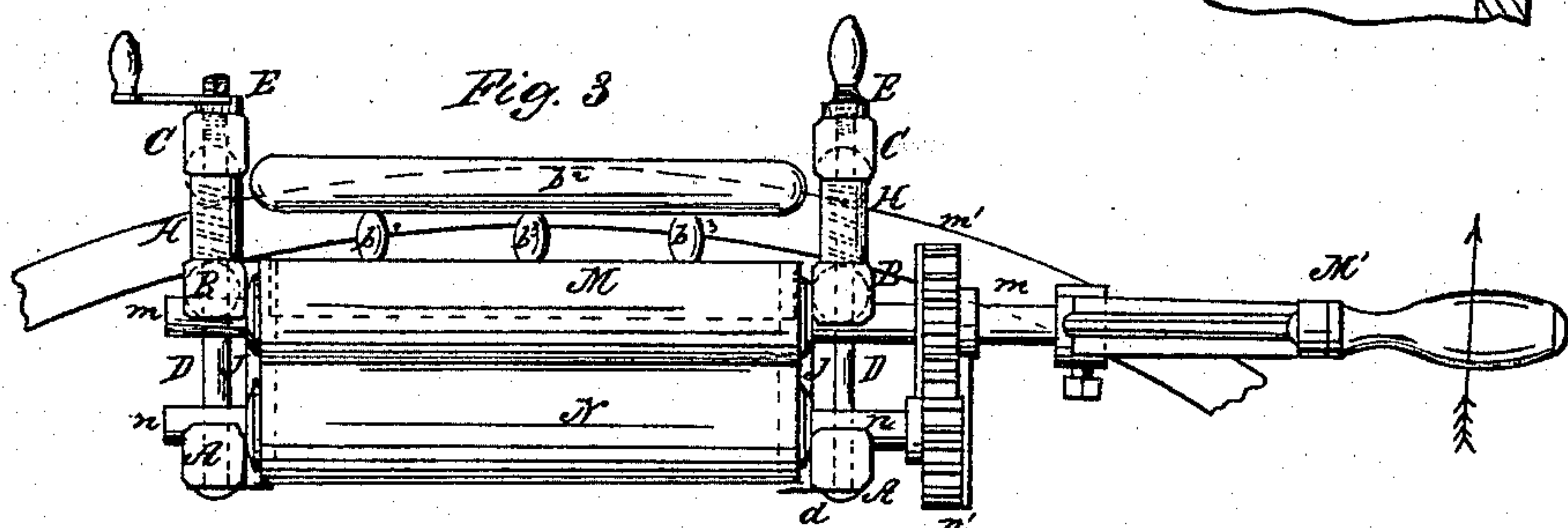
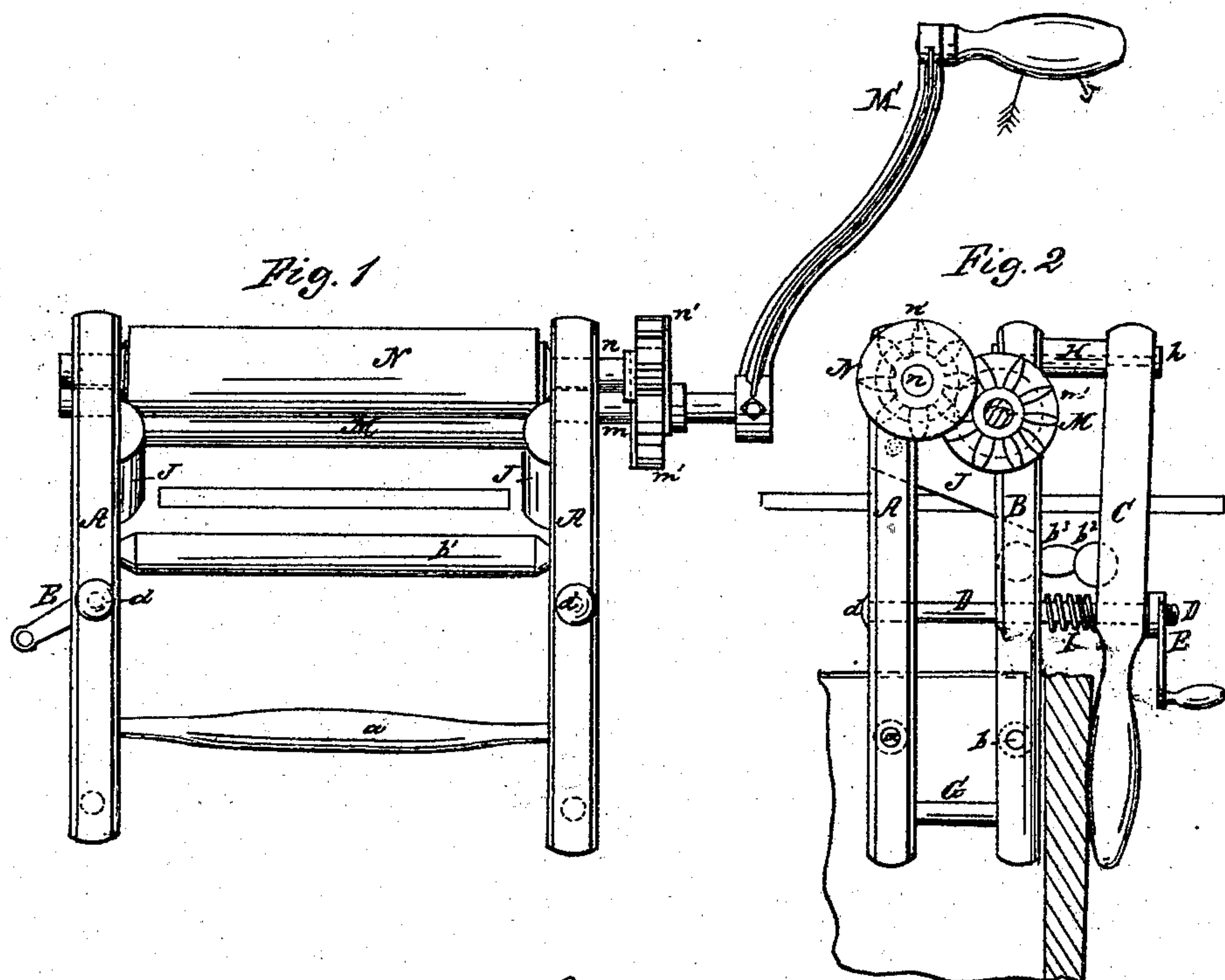


J. JOHNSON.
CLOTHES WRINGER.

No. 43,368.

Patented June 28, 1864.



Witnesses;
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IMPROVED CLOTHES-WRINGER.

Specification forming part of Letters Patent No. 43,368, dated June 28, 1864.

To all whom it may concern:

Be it known that I, JOSEE JOHNSON, of New York city, in the county and State of New York, have invented a certain new and useful Improvement in Clothes-Wringing Machines; and I do hereby declare that the following is a full and exact description thereof.

The accompanying drawings form a part of this specification.

Figure 1 is a side view of a machine with my improvement. Fig. 2 is an edge view of the same. Fig. 3 is a plan view of the same. All these figures are on the same scale and represent the same machine, always in the same condition—to wit, in position upon a tub for use, but not secured with any considerable amount of force. Fig. 4 is a sketch exhibiting an edge view corresponding to Fig. 2, but on a smaller scale, and showing the machine very tightly secured upon the tub. The force with which the machine is secured upon the tub is so great as to spring or bend the material, and this bending is indicated as carried to a very great extent. It is exaggerated much beyond what will usually occur in practice. The red outline indicated near the dark outlines in Fig. 2 represents more nearly the amount of bending which actually occurs in practice.

Similar letters of reference indicate like parts in all the figures.

My invention relates to the framing of the machine.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation by the aid of the drawings and of the letters of reference marked thereon.

A, B, and C are sets of uprights, of ash or other suitable wood, which compose the chief portion of the frame. They are connected by screw-bolts D, which pass through holes near the center of the frame in a horizontal direction. Each bolt D has a head, *d*, at its inner end—i. e., the end presented toward the center of the tub—and a screw-thread at its opposite end, which matches into a female screw on the interior of the crank or nut E. The uprights A and B are kept apart at the bottom by rigid struts G. The uprights B and C are kept apart at the top by elastic cylin-

ders of india-rubber, H, vulcanized, and at the middle height by coiled springs I, which encircle the screw-bolts D. Other members of the framing will be described further on.

M and N are rollers composed of vulcanized india-rubber. They are secured on stout shafts of iron, *m* and *n*, which shafts carry also suitable gear-wheels, *m'* and *n'*. The shaft *m* carries, also, a handle or crank, *M'*, adapted to give motion to the system in the manner which will be obvious. These rollers, shafts, gear-wheels, and crank may be constructed of any approved form and materials, and need not be particularly described.

The shafts *m* and *n* are supported in notches in the side of the uprights A and B, the shaft *n* being thus supported a little higher than the shaft *m*. They are so presented to the uprights A and B and to each other that the tightening of the screw-bolt D by the turning of the nut E presses them together.

J J are semi-cylindrical side pieces of wood. They are secured firmly upon the uprights A, and are free to move against the uprights B, or at a slight distance therefrom.

The parts now described perform the principal functions of the framing and of the entire machine. The subordinate parts are horizontal rods or pieces *a* and *b*, which connect across the framing near the bottom in the position represented, a piece, *b'*, which connects the two uprights B B a little above the middle height, as represented, and a smooth bar, *b²*, which is supported by the bar *b'* through the medium of slight pins *b³*, all as represented. The bar *b²* may, if preferred, be supported directly by the uprights C C. In either case it will be understood that the india-rubber cylinders H H are hollow, and are traversed by iron or wooden pins *h h*, which are fixed in the posts B B, and are free to move in the holes in the posts C C. The holes are sufficiently large to allow the posts or uprights C C to bend somewhat without causing them to bind.

It is well to adapt the parts to allow a very considerable spring or a permanent set of both the uprights A A and C C without disturbing the action of the machine or the freedom of motion of the proper parts. The holes in the uprights which receive the bolts D D a e

somewhat larger than said bolts, to allow them to slip easily through to any extent desired. A washer is placed on the bolts D under each of the nuts E.

My machine may be manufactured and sold separately from the tub, and may be attached and separated at pleasure. It may also be attached to tubs of different sizes, or to square boxes, if desired.

To use my machine, it is placed in the position represented, upon the edge, of a tub, and the nuts E are turned until the lower ends of the uprights C C are pressed with great force against the outside of the tub and the lower ends of the uprights B B correspondingly pressed against the inside. This pressure holds the machine firmly upon the tub, and at the same time induces a compression of the rubber cylinders H H at the top, and a pressure of the rubber rollers M N strongly together. There is also a compressive strain on the struts G G; but these are not elastic, and they allow no motion, except the very slight flexure due to the bending of the parts. If it is desired to increase the yielding elasticity of the machine, rubber or other springs may be introduced at the point G, instead of the rigid connections represented; but in such case it is important to provide by other means for resisting the vertical strain which accrues from the fact that the rollers M and N are not on the same level. The crank N is turned in the direction of the arrow by the right hand and the clothes taken up from the tub are introduced between the rollers M and N by the aid of the left hand, applied either directly or by any suitable instrument. The rolls squeeze out the water and deliver the clothes obliquely upward, allowing them to bend down by their gravity, and finally to fall into a basket. (Not represented.) The semi cylindrical side pieces, J J, prevent the framing of the machine from assuming any distorted and false condition laterally, and also guide the clothes as they are drawn up from the tub, and prevent any portion from getting over the ends of the rolls M and N. The bar *b*² supports and guides the clothes as they bend down in emerging from the machine, and prevents their touching the edge of the tub and possibly falling inside. So soon as the work is done the machine may be readily removed by slackening the nuts E E and lifting it off from the edge of the tub. In this condition the coiled springs I I act by their elasticity to separate the uprights B and C. The springs I I also perform another function while the machine lies thus idle. Through the aid of the bolts D D, which slide easily through the uprights B B, they press the uprights A and B together with the same force as they hold the uprights B and C asunder. They thus take up all the slack of the parts, and keep the rolls and framing in a condition ready for immediate application and use when required again on the same tub or on another tub.

When the machine is in use, the elastic force of the coiled springs I I contributes to press the rolls M and N together. The tension of these springs, which may be slight when the machine is not applied to a tub, becomes increased as the parts are screwed together and approximate the condition indicated in Fig. 4. Half the tension of these springs is always felt on the rubber rolls M and N, pressing them together.

I propose sometimes to use my machine as a mangle instead of a clothes-wringing machine. To do this I employ hard rolls of wood or metal in lieu of the elastic rolls M N, mounting and operating them in the manner here represented. I can construct machines in this manner specially intended for mangles, and with the hard rolls constantly mounted, or I can substitute hard for soft rolls in a machine originally intended for a wringer only. The construction of the framing here shown is very favorable to such a substitution, exchanging soft rolls for hard, and vice versa, because the shafts of the rolls are not introduced through the centers of the uprights A A and B B, but are merely sunk in deep notches therein, as indicated.

In using my machine thus adapted as a mangle I can introduce the clothes directly from a tub or basket, taking care, of course, to have the tub to which the machine is attached perfectly dry; or I can employ a slight table, introduced either permanently or at will, in the position indicated by the red outlines in the figures.

Some of the advantages due to certain features of my invention may be separately enumerated as follows: First, by reason of the facts that my middle uprights, B, carry the roll M and are strongly connected to the uprights A at the bottom, I am able to make the same devices which attach the machine to the tub also press the rolls together, thereby simplifying the mechanism, and also to make the framing of wood, the cost of which is trifling, and in a simple form, thereby producing a cheap machine, and am able, also, to make available the elasticity of the framing, either alone or as auxiliary to other springs, to maintain a uniform pressure on the rollers M N, and am also able to place the shaft *n* higher than shaft *m*, and consequently to deliver the clothes with a proper inclination outward from the tub without distorting the frame or inducing any difficulty, because the vertical strain due to the difference in level in the rollers may be all resisted by the connection G G without throwing any vertical strain upon the operating parts C, D, I, and H; second, by reason of the fact that the springs I tend to separate the uprights B and C and to press together the uprights B and A, in the manner shown, I keep the machine always in good condition, with all its parts properly retained in place when out of use, and render available the elasticity of the springs I to as-

sist in uniformly holding and pressing together the rollers M and N when in use.

Having now fully described my invention, what I claim as new therein, and desire to secure by Letters Patent, is as follows:

1. In clothes-wringing machines, the intermediate uprights, B, arranged between the uprights A and C, substantially in the manner and for the purpose herein specified.

2. In connection with the above, the employment of the springs I I, arranged at or near the middle height in the machine, substantially as and for the purposes specified.

JOSEE JOHNSON.

Witnesses:

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