R. C. BROWNING.

WRINGERS.

No. 180,837. Patented Aug. 8, 1876

Fig: 1.

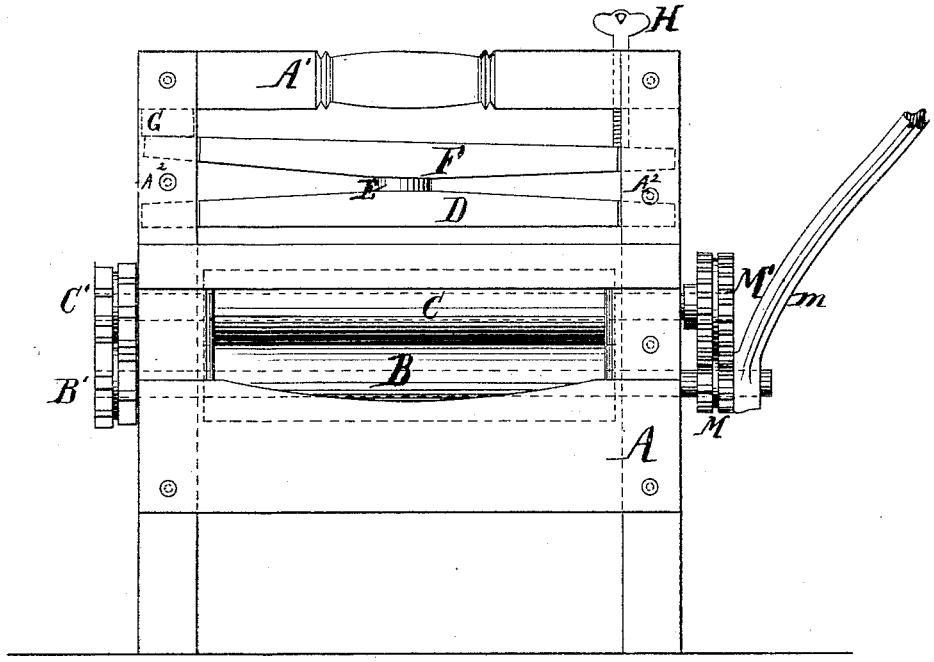

Fig: 2.

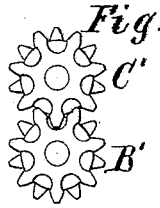

Fig: 3.

Witnesses:

A. Henry Gentner

C. C. Stetson.

Inventor:

R. C. Browning

by his attorney

T. D. Stetson

UNITED STATES PATENT OFFICE.

ROSS C. BROWNING, OF ORANGE, NEW JERSEY.

IMPROVEMENT IN WRINGERS.

Specification forming part of Letters Patent No. **180,837**, dated August 8, 1876; application filed July 21, 1876.

To all whom it may concern:

Be it known that I, ROSS C. BROWNING, of Orange, in the county of Essex and State of New Jersey, doing business in the city of New York, have invented certain new and useful Improvements relating to Clothes-Wringers, of which the following is a specification:

My invention relates to the gearing, and obtains the effect of purchase-gear, and provides for communicating uniform motion from one roll to the other with a simpler arrangement of the mechanism, and at less cost for construction and repairs than any arrangement before known to me.

I employ step-gear at both ends, with a bearing-surface, to prevent bottoming, also in each pair of gears. One end is purchase-gear, a small pinion being turned loose on the extended end of a shaft by means of a crank gearing into another larger wheel fixed on the other shaft. The effect of this pair of gears is to transmit a slow motion to one roll. The effect of the gears at the other end is to communicate an exactly similar motion in the proper direction to the other roll. The use of an additional shaft to communicate the power through purchase-gear would not realize the same advantages, because of the increased material and labor involved. The use of a corresponding set of four wheels, all at one end of the rolls, would not realize the same advantages, because of the great overhang of the shafts required with such arrangement, and the great strain it would bring on the bearings at that side of the machine. My arrangement distributes the side strain on the bearings on the two sides of the machine.

The accompanying drawings form part of this specification.

Figure 1 is a front view of the machine complete. Fig. 2 is an end view of the gearing on the left side—that which engages the rolls together; and Fig. 3 is an end view of the gearing on the right side—the purchase-gear.

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

A is the fixed framing; B, the lower roll, and C the upper roll. B′ and C′ are step-gear wheels, keyed or otherwise firmly set on the overhanging ends of their respective rolls, on the left side of the machine. The shafts need only overhang on this side to an extent equal to the width of these wheels. M′ is a large step-gear wheel, keyed or otherwise firmly fixed on the opposite overhanging end of the shaft C. This shaft need only overhang at this end to an extent equal to the width of this wheel. M is a smaller step-gear wheel, having the crank *m* keyed on a sleeve extending from the wheel M, or otherwise firmly attached thereto. This wheel M, with its attached crank *m*, is mounted loosely on the overhanging end of the shaft B. This shaft need only overhang to an extent equal to the width of the wheel M and of the hub of the crank *m*.

The drawings show a wide space between the wheels M M′ and the adjacent side of the framing. Such space may be allowed, because the arrangement is such that the overhang required, even with that, is trifling. My invention allows these wheels M M′ to turn close to the framing, and thus to reduce the necessary overhang of the shaft still more than is shown.

I employ ordinary sliding boxes, guided in the ordinary manner, (not represented,) to bear down the shaft of the upper roll C, and subject them to the pressure of a spring, D, which is thickest in the middle, and receives at the central point, through an upright cylindrical mass of rubber, E, the force of a corresponding but reversed spring, F. This spring F bears under a fixed stop, G, on one side of the machine, and is pressed down by a thumb-screw, H, on the other side of the machine. The cross-bar A′ at the top of the machine is free from incumbrance or strain, and is conveniently turned at the center to serve as a handle. Both the springs D and F are free to tilt. The tilting of the lower spring D allows the upper roller C to tilt in passing through irregular masses of clothing. The tilting of the upper spring F insures a uniform action of the upper spring, and, consequently, of both springs F and D, however much or little the screw H is turned down; that is to say, the single screw H, being turned down a little, gives a gentle pressure, and, being turned down much, gives a severe pressure, and in both cases the pressure is distributed on both ends of the rolls without possibility of derangement of position.

An effect analogous to this is obtained with

the long-approved arrangement, in which two screws are employed; but the presence of two screws not only involves more labor in increasing or relaxing the pressure, but involves a possibility—which, in practice, is almost a certainty with unskilled washerwomen—that one screw will be clear down, while the other is clear up. My arrangement saves the expense of one screw, saves the labor of adjusting more than one screw, insures a certainty that when the pressure is satisfactory to the operator the springs are approximately level, or in their best position for effective working, and leaves the top cross-bar of the frame free to be used as a convenient handle.

I insert a pin through the frame at each of the points marked A^2. They serve as stops to arrest the rise of the boxes, which press down on the bearings of the upper roll B. They correspond with the stops described in the Bailey and Couch patent of 1862. The stop on the side adjacent to the purchase-gears M M′ must allow but a little rise of the upper roll, or but little separation of the rolls on that side of the machine. The stop on the other side, adjacent to the gearing B′ C′, may allow much more. The teeth for the purchase-gears M M′ must necessarily be short, while the gearing B′ C′ at the opposite end may be of coarser pitch, and the teeth may be long and slender, so that the rolls may be allowed to separate wider at that end without throwing the teeth out of gear.

I prefer step-gear with a bearing, as shown, between the two series of steps, not only for the locking-gears B′ C′, but also for the purchase-gears M M′; but a portion of the advantages of the improvement may be realized with ordinary gears.

I claim as my invention—

In combination with the rubber wringer-rolls B C and the supporting-framing A, the gears B′ C′ on one end of the rolls, and the purchase-gears M M′ on the other end of the rolls, arranged for joint operation, as herein specified.

In testimony whereof I have hereunto set my hand this 19th day of July, 1876, in the presence of two subscribing witnesses.

R. C. BROWNING.

Witnesses:

THOMAS D. STETSON,

CHAS. C. STETSON.