J. O. Couch,

Wringer,

No. 49,025. Patented July 25, 1865.

Fig. 2.

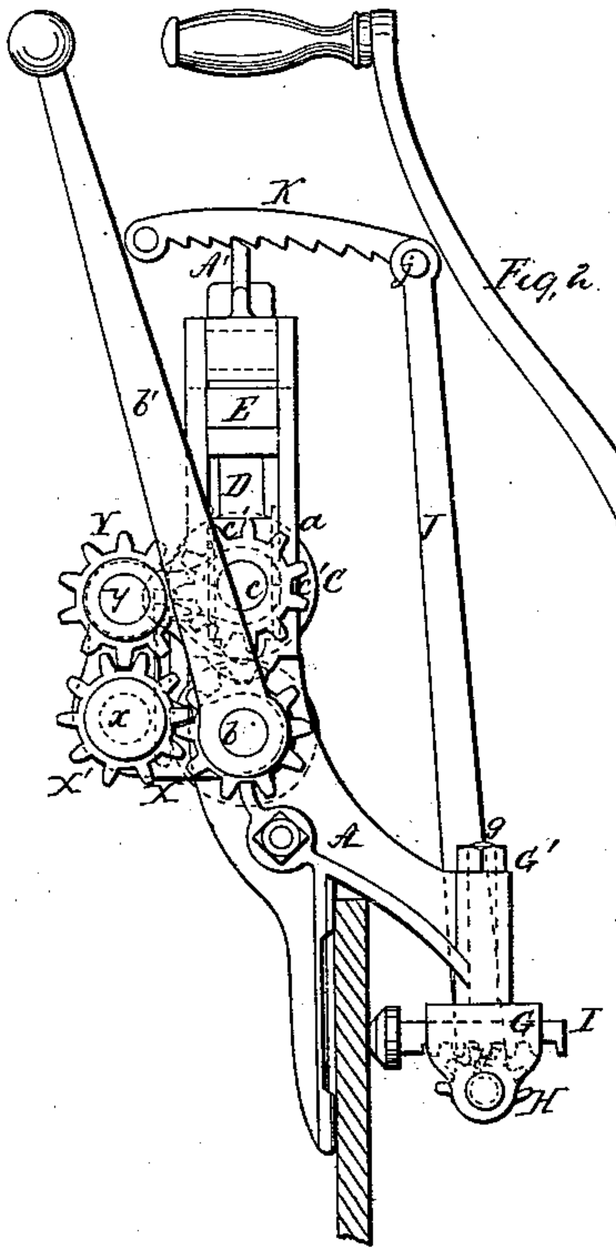


Fig. 1.

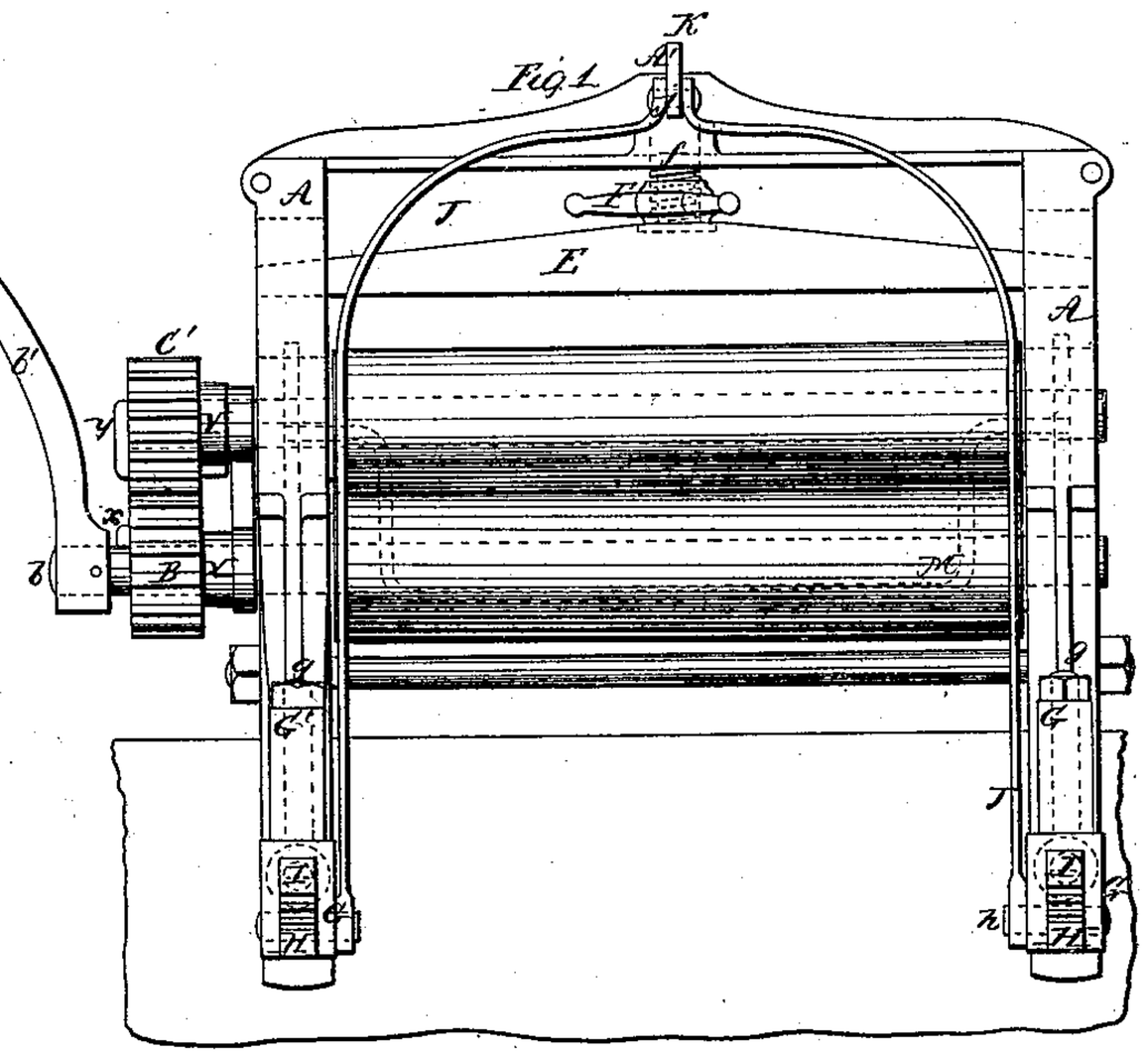


Fig. 3.

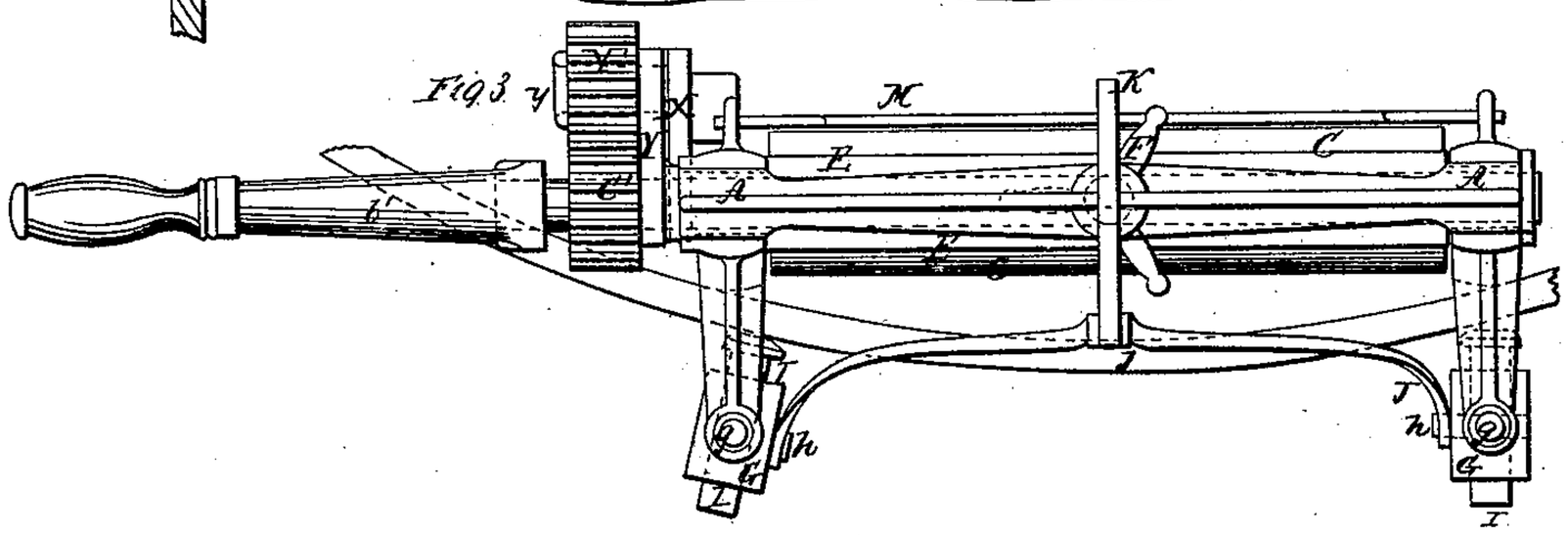


Fig. 4.

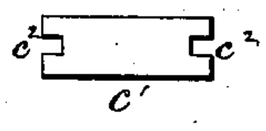
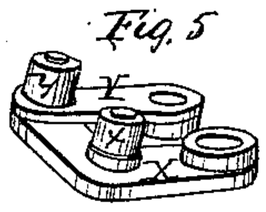


Fig. 5.



Witnesses;

D. W. Stetson

H. W. Stetson

Inventor,

John O. Couch

per D. W. Stetson Attorney

UNITED STATES PATENT OFFICE.

JOHN O. COUCH, OF MIDDLEFIELD, ASSIGNOR TO METROPOLITAN WASHING-MACHINE COMPANY, OF MIDDLEFIELD, CONNECTICUT.

WRINGING-MACHINE.

Specification forming part of Letters Patent No. **49,025,** dated July 25, 1865.

To all whom it may concern:

Be it known that I, JOHN O. COUCH, of Middlefield, in the county of Middlesex and State of Connecticut, have invented certain new and useful Improvements 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 the wringer complete. Fig. 2 is an end view, and Fig. 3 a plan view, of the same. The wringer is represented as attached to a tub, the outlines of a portion of the tub being shown in red. Fig. 4 is a plan view of one of the boxes in which the shafts are mounted.

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

Tints are employed to aid in distinguishing parts, and do not indicate materials.

The metal-work of my wringer may be iron properly japanned, galvanized, or otherwise protected from oxidation. I have represented the framing as of cast-iron. The spring in the upper part of the machine may be of ash.

My invention relates to the details of the mechanism; and to enable others skilled in the art to make and use my invention, I will proceed to describe it specifically by the aid of the drawings and of the letters of reference marked thereon.

A A is the rigid framing of the machine. B is the lower roll, and C the upper roll, both made of rubber or analogous elastic material, and mounted on iron shafts.

The shaft *b* is turned by a crank, *b'*. The shaft *c* is provided with a gear-wheel, C', which receives motion corresponding to the gear-wheel B' on the shaft *b*, but in the opposite direction. The motion is communicated through a train of intermediate gearing, X' Y'.

Intermediate gearing analogous to my wheels X' Y' have been before used in wringers. The novelty of this part of my invention lies in the mode in which these wheels are mounted and connected. This is effected by the aid of two malleable-iron castings, X and Y. The casting X is bell-cranked or L-shaped, and is provided with two stout studs, *x y*, adapted to carry the wheels X' and Y', and allow them to turn freely thereon, with suitable linchpins or equivalent means for retaining the wheels on the studs. The stud *x* is in the center or at the angle of the casting X. The stud *y* is at the extremity of the upper arm of the casting X. At the extremity of the lower arm or horizontal arm of the casting X a hole is formed corresponding to the shaft *b*, which turns freely within it.

Y is a straight casting, with a hole at each end. The shaft *c* turns freely in the hole at one end, and the casting Y is thickened at that point to afford a firm bearing, as indicated in Fig. 3. The stud *y* stands in the hole in the other end of the casting Y, and turns or oscillates slightly in opposite directions as the rolls B and C are strained apart and approach each other in the act of wringing large materials.

The parts X and Y, with the studs *x y*, (cast on the part X and matched together and mounted as represented,) may be very cheaply made and form a very firm and strong construction. The construction is stiff laterally, and is also stiff vertically, so long as the rolls B C, and consequently their shafts *b* and *c*, remain at any given distance apart; but a change in their distance is allowed by simply a slight revolution of the part or link Y around the stud *y*.

The rigid arm A^2, which projects from the framing A, performs an important function by supporting the cranked lever X. Such levers have been double and mounted on opposite sides of the gearing and carry the gears loosely in all former machines where such levers and gears are employed. My lever, being single, is much cheaper, and by having the gears run on studs which are fixed firmly in the lever it secures a more firm and satisfactory conveyance of the power; but the form induces a side strain on the lever tending to twist it around horizontally. The arm A^2, by bearing fairly against the smooth back of the lever, effectually prevents this.

The shaft *c* is carried in boxes *c'*, which traverse vertically on guides on the frame A. These guides (indicated by *a* in Fig. 2) are re-

ceived in grooves indicated by c^2 in Fig. 4. A block of rubber, D, is interposed between the top of each box c' and the corresponding end of the transverse spring E. The center of this spring E is pressed down to any desired extent by a nut, F, which turns on a stout screw, *f*, which is cast or otherwise formed on the transverse or top piece of the framing A. The center of the spring E will be depressed, and consequently the tension of the spring E and of the connecting-springs D D will be greater in proportion as the nut F is turned in the right direction. By turning F in either direction the pressure may be adjusted very nicely.

In case the material being run or passed through the machine is much thicker at one end of the rolls B C than at the other the rolls at that side will increase their distance and the spring E will rock or tilt like an inverted scale-beam, turning on the head or bearing of the nut F as a center. This arrangement leaves no screw or other adjusting means projecting above the framing A, while it gives all the facility for rapid and accurate adjustment which is desired.

On the top of the framing A, at the center, is a projection, A′, which holds the wringer to the tub through the aid of certain mechanism which will now be described.

G G are castings adapted to turn on the axis *g*, which extends up through an arm of the framing A, and is provided at its upper end with a nut, G′, as represented.

H H are small wheels provided with stout teeth or gearing and mounted on the short shafts *h* carried in the casting G.

I I are racks operated by the gearing H, and provided with a soft head or bearing-piece, *i*, which presses against the tub and confines the entire machine firmly thereto when the gear-wheels H are turned in the proper direction.

J is a bail or duplex lever, formed as represented, and fitted upon square ends of the shafts *h*, which project through corresponding holes in the bail J, as will be obvious.

K is a rack or toothed arm connected to the upper extremity of the bail J by the joint *j*, and adapted to catch and hold firmly on the projection A′, before referred to.

In order to remove the machine from the tub, the rack or toothed arm K is lifted out of contact with A′, and the bail J is moved so as to turn the gear-wheels H and withdraw the soft head *i* by the movements of the racks I I. This liberates the machine and allows it to be lifted off. In applying the machine upon the same or a different tub the reverse of this operation is performed, and on drawing the bail J with sufficient force toward the projection A′ at the top of the machine and letting the rack or arm K fall thereon by its gravity it securely locks and holds the whole. The bail J is fitted loosely upon the square heads of the shafts *h*. This allows a considerable change of position of each part relatively to the other. I find this an advantage, and adjust my machine to fit upon tubs of different radius by twisting around the castings G and their contained gear-wheels H and racks I, which I prefer to turn to such an extent as shall make the racks I I stand always in a position radial, or nearly so, to the tub. To thus swivel the castings G it is necessary simply to slacken the nut G′ by any suitable wrench and turn the part G in its socket to the extent desired. Then, on setting the nut G′ tightly down again, the whole is held firmly until some change of position is again required. The bail J and its connections will operate the racks I with the same success whether the position of the casting G be square or at right angles with the rolls B C or considerably oblique thereto. Both these positions are indicated in Fig. 3, the casting G at the right hand in said figure being square and at the left hand adjusted in an oblique position. The bent wire M is introduced to guide the clothes in entering the machine, and also to detach them or peel them off, if any thin fabric chances to stick to the lower roll.

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

1. The combination of the single bell-cranked piece X, carrying rigid studs *x y*, with the single straight link Y, and with the supporting-arm A^2, arranged on a clothes-wringing machine so as to secure firmness and economy, substantially in the manner herein set forth.

2. The arrangement of the pinching-nut F, stationary screw *f*, within the framing A of a wringing-machine, substantially as and for the purposes herein set forth.

3. The rack I and pinion H, in combination with the duplex lever or bail J and suitable confining means, K A′, substantially in the manner and for the purposes herein set forth.

4. In combination with a roller-wringer, the use of the bent wire or rod M, so mounted and arranged as to perform the double function of a guide and a clearer, substantially as herein set forth.

5. In combination with a clothes-wringer, the adjustable castings G *g*, carrying the slides I I, to pinch the tub or vessel, and adapted to be turned and set in various positions, substantially as and for the purpose herein set forth.

6. The soft bearing-pieces Q, in combination with the slides I and the adjustable castings G *g* of a clothes-wringing machine, substantially as herein set forth.

JOHN O. COUCH.

Witnesses:

NELSON COE,

PHEBE S. COE.