J. O. Couch.

Wringer,

No. 50,531 Patented Oct. 17. 1865.

Fig. 1

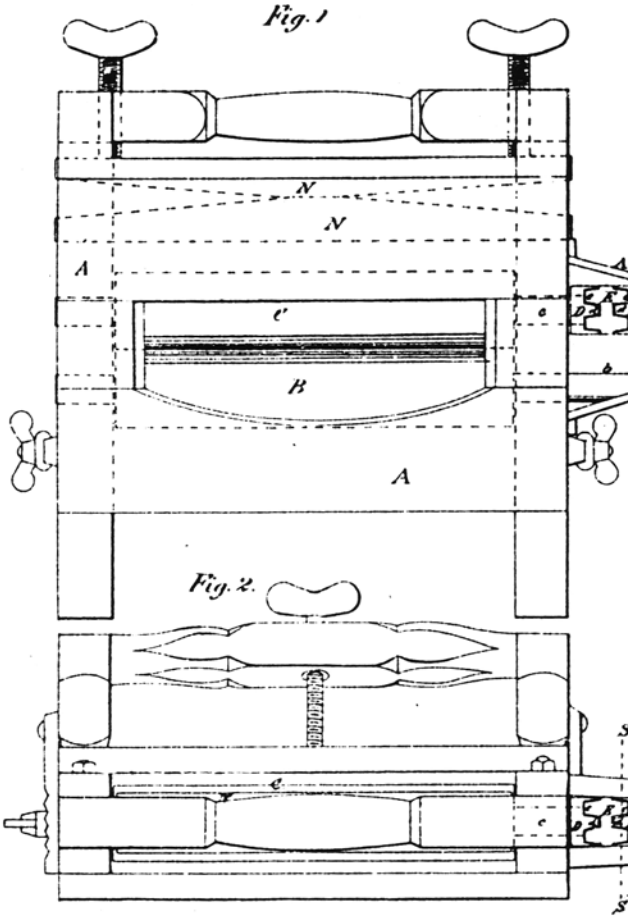


Fig. 3.

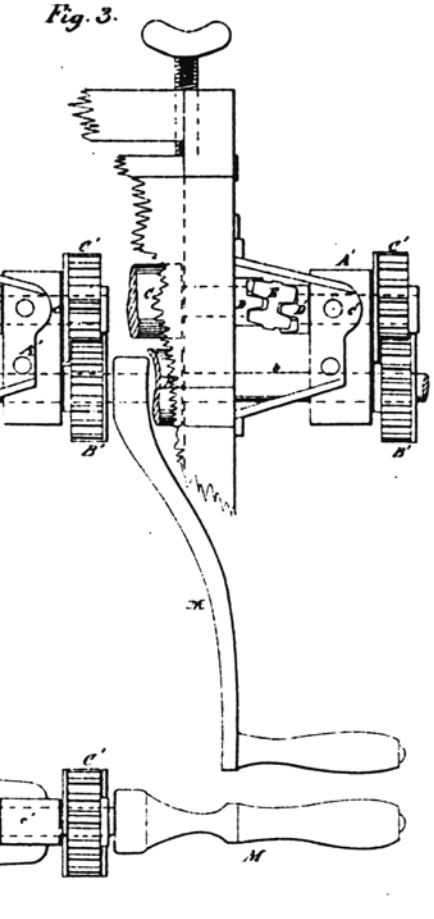
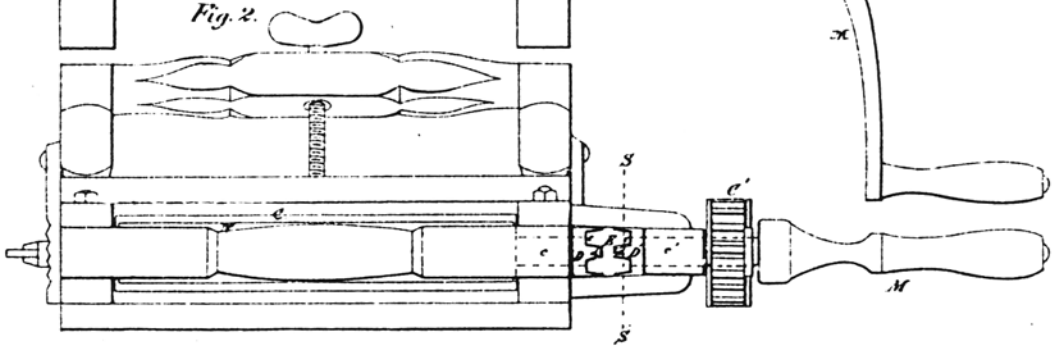


Fig. 2.



Witnesses:

Lyman Mudy

L. McSchlitmann

Fig. 4

Fig. 5

Fig. 6.

Inventor.

John O. Couch

UNITED STATES PATENT OFFICE.

JOHN O. COUCH, OF MIDDLEFIELD, CONNECTICUT, ASSIGNOR TO THE METROPOLITAN WASHING MACHINE COMPANY, OF SAME PLACE.

WRINGING-MACHINE.

Specification forming part of Letters Patent No. **50,531**, dated October 17, 1865.

To all whom it may concern:

Be it known that I, JOHN O. COUCH, of Middlefield, in the county of Middlesex, in the State of Connecticut, have invented a certain new and useful Improvement in Clothes-Wringers; 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, and Fig. 2 a plan view, of my clothes-wringer when the rolls are in contact each with the other. Fig. 3 is a side view of a portion of the machine when the rolls are widely separated in the act of wringing a blanket or other large article. Figs. 4 and 5 are perspective views of certain parts detached. Fig. 6 is a cross-section of a portion on the line S S in Fig. 1.

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

My wringer is of the class in which rollers are employed to wring or express the water. The rollers may be of any approved material, but I prefer vulcanized rubber.

My invention relates to the provisions for imparting rotary motion properly to each from a single crank, or other impelling power, and at the same time allowing one or both of the rolls to move bodily, so as to increase and diminish their distances each from the other as is required by the exigencies of the work.

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

A is the frame. B is the lower roll, and *b* the shaft therefor. M is the crank by which it may be conveniently turned by the hand.

A′ is an addition to the frame A. It projects out a considerable distance from the main frame A, and supports the shaft *b* in a cylindrical hole, as indicated.

B′ is a gear-wheel firmly fixed on the shaft *b* just without the projecting frame-work A′.

C is the upper roller, and *c* is the shaft therefor. This shaft is shorter than the shaft *b*. It is carried in boxes, so that it is free to rise and sink in the framing A, and is pressed down upon the roll B by the tension of the springs N, and suitable adjusting means, which may be constructed and arranged in any approved manner. On the end of the shaft *c* is firmly fixed a casting, D, having its face divided into several segmental sections, some of which are prominent and others depressed. The prominent sections are indicated by *d*. They project in directions parallel to the axis, and may with some propriety be called "crown-teeth."

C′ is a gear-wheel meshing into B′. It is firmly fixed on a short shaft, *c*′, which shaft is firmly and steadily supported in a cylindrical hole in the projecting frame A′. The inner end of this short shaft *c*′ carries the casting D′, exactly similar to the casting D. E is a coupling-bar, which serves, with the aid of the castings D and D′, to form a peculiarly strong and serviceable coupling between the shafts *c* and *c*′. The segmental projections on the faces or ends of the parts D D′ and the corresponding segmental projections *e* on the coupling-bar E may be extended inward quite to the center, so as to form more properly sectors than segments, but this is not material so long as they extend sufficiently inward to fulfill the functions required and form proper bearings against the parts which they are intended to match in the various oblique positions which the parts assume.

The taper form or wedge-like form of the segmental spurs or projections is very plainly shown in Fig. 1, red dotted lines being introduced to indicate the inclination of their faces very conspicuously. The red lines show the plane of the inclined faces prolonged or extended. The prominent segments *d*, with their inclined faces arranged as represented on the castings D and D′, match into precisely corresponding ends of the coupling-bar E *e*, and act with equal, or nearly equal, effect to convey the motion, whether the shafts *c* and *c*′ are exactly in line or considerably out of line. In Fig. 1 those shafts are in line, or nearly so, the rolls C and B being compressed tightly together. In Fig. 3 the shafts are considerably out of line, or, in other words, their prolonged axes do not coincide in position by reason of the shaft *c* being greatly elevated out of its ordinary position.

The rotary motion of the shaft *b* is imparted through the gears B′ and C′ to the short shaft *c*′. This shaft never changes its position to any considerable extent, but is maintained stiffly

by the extension-frame A′, as described. The casting D′ is therefore always rotated powerfully without moving bodily up or down. The corresponding casting D *d*, on the contrary, moves up and down with the variations in the thickness of the goods being wrung. The bar E *e*, by fitting the segmental spurs *d*, both on the casting D and on the casting D′, assumes all the angular positions which are required, and receives and communicates the motion smoothly and strongly from the one shaft to the other in all positions. It cannot be displaced endwise for obvious reasons, and it cannot be displaced laterally except by the breaking of some of the projecting segments, either on the castings D and D′ or on the coupling-bar E. The inclination of the edges of the projecting segments *d* and the corresponding inclination of the parts on E, which take hold thereon, tends to generate an end pressure on the shafts *c* and *c*′, which should be guarded against by suitable collars on the shafts, or by other obvious means which are familiar to mechanics. The rubbing motion on these inclined faces creates a resistance by the friction; but this is of little moment in comparison with the great simplicity and durability of the mechanism. Nearly the same effect as my projections *d* and *e* may be obtained by corresponding projections having faces which are not inclined, provided sufficient space or play is left between the segments; but I prefer the inclined faces, as represented.

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

The double-ended crown-coupling E *e*, in combination with the lobed or toothed part D *d* on the shaft *c*, and the corresponding part D *d* on the shaft *c*′, and with the yielding roll C of a clothes-wringing machine, all arranged and adapted to operate substantially in the manner and for the purposes herein set forth.

JOHN O. COUCH.

Witnesses:
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