Wheeler & Bishop,

Wringer,

No. 37,655. Patented Feb. 10, 1863.

Fig 2.

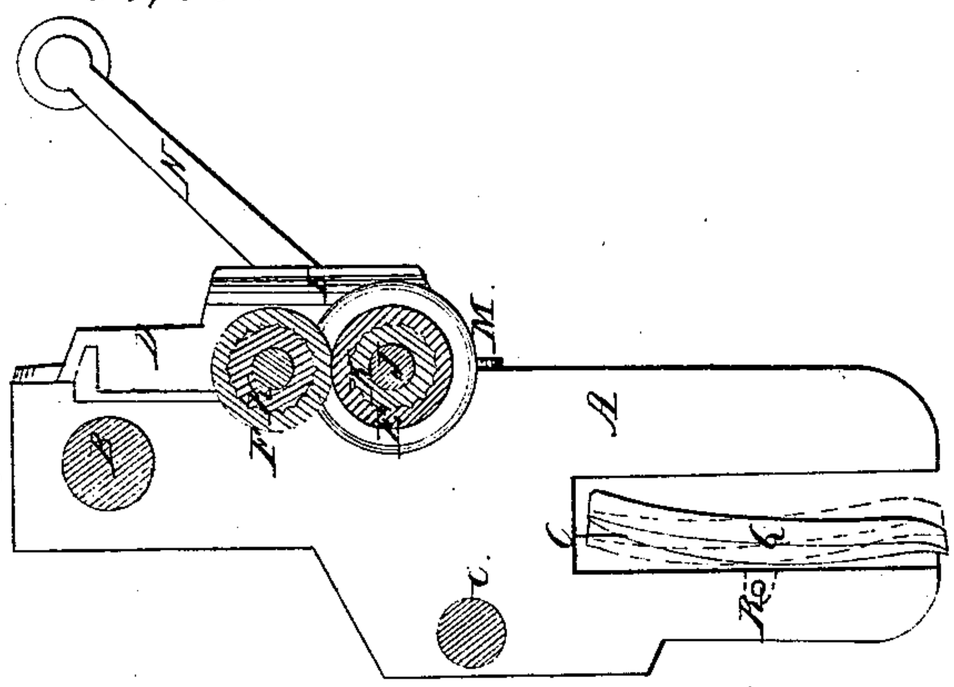


Fig 3.

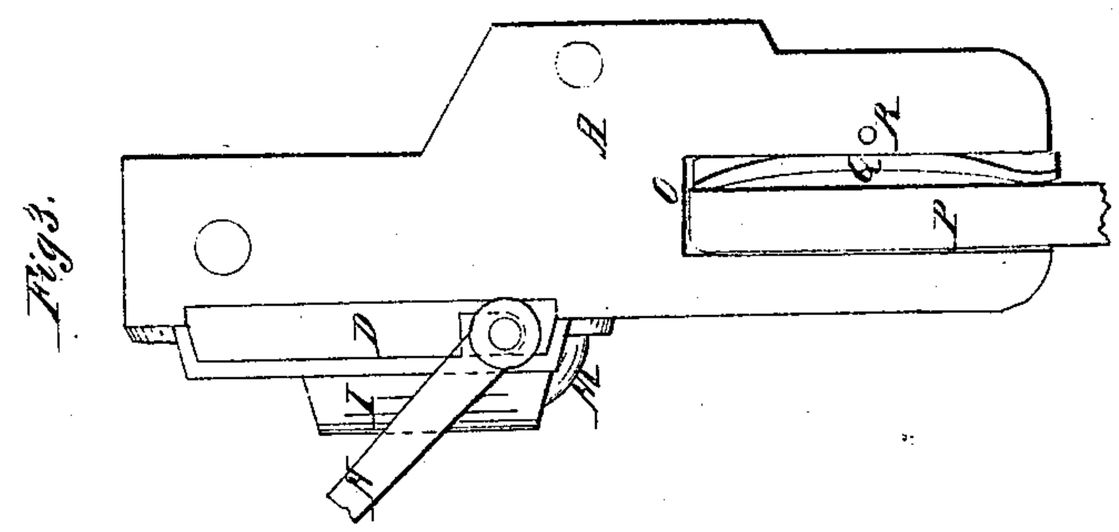


Fig 1.

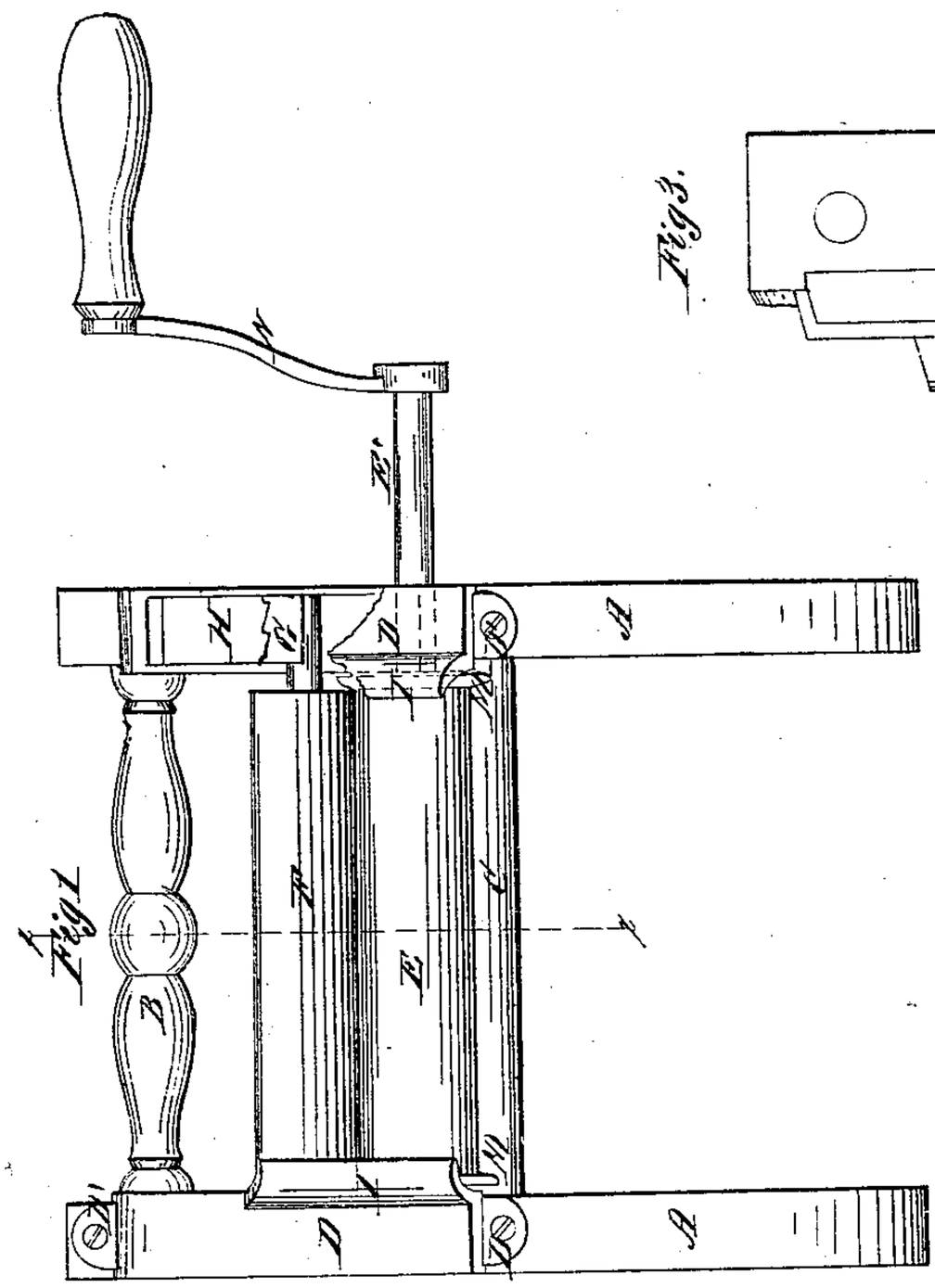
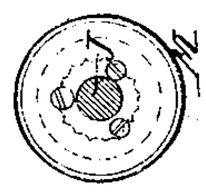


Fig 4.



Witnesses.

W. H. Rundgs

H. A. Wheeler

UNITED STATES PATENT OFFICE.

JOHN W. WHEELER AND HENRY S. BISHOP, OF CLEVELAND, OHIO.

IMPROVED CLOTHES-WRINGING MACHINE.

Specification forming part of Letters Patent No. **37,655,** dated February 10, 1863.

To all whom it may concern:

Be it known that we, JOHN W. WHEELER and H. S. BISHOP, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented new and useful Improvements in Clothes-Wringers; and we do hereby declare that the following is a full and complete description of the construction and operation of the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a front view. Fig. 2 is a cross-section in the direction of the line *x x* in Fig. 1, and Figs. 3 and 4 are sectional views.

Like letters refer to like parts.

The nature of our invention relates, first, to the form and structure of the rollers; and, second, to the devices for securing the machine to the tub.

A A represent the side pieces. They may be made either of wood or metal and secured together by two cross-pieces, B and C. Upon the front side of the frame are secured the boxes D by means of the screws D′. The lower roller is represented at E, and the upper roller at F. The journals of the roller F have sliding boxes G, which are inclosed in the outer boxes, D, and are pressed down by gum-elastic springs H or by spiral springs. Upon the front of the machine a lip, I, projects from the boxes D, extending inward in front of the rollers, to protect the clothes from getting over the ends.

The rollers consist each of an iron shaft, J, about half an inch or more in diameter, and covered between the journals with a cylinder of wood, K, from half an inch to three-fourths of an inch thick, making the external diameter from one and a half to two inches. These cylinders of wood are driven tightly upon the shaft of iron, and the outside is fluted to prevent the external covering of rubber from turning. This external covering, E and F, consists of vulcanized rubber (common hose-pipe cut into sections of suitable length answers a good purpose) drawn tightly upon the fluted wood K. The roller E has upon each end a circular flange, M, about an inch in diameter greater than the elastic roller E, by means of which the rubber on both rollers is prevented from working off from the wooden core K, and also from being broken down by use. This flange is secured by screws, and in putting it on the rubber covering to the wooden fluted core is caused to project about one-fourth of an inch beyond the end of the core, so that in screwing on the flanges the rubber is condensed and pressed firmly against the flange, in which position it is securely held, even when in use. Ordinarily the flange is below the surface of the roller, in which case the rubber is pressed laterally, and there is a considerable thickness of the rubber working over the flange, and it requires a greater amount of thickness to secure the same amount of elastic pressure than when flanges are used that project above the rubber, as in our improvement, in which case the rubber need not be as thick and may be of part ply, (cloth,) which is less expensive, and by use of the flange above described the objections before stated are obviated. In all cases, whether the rubber covering is made with or without one or more ply incorporated in its body, the tendency is for the covering to elongate over the flanges, (when they are below the surface,) and thus to reduce the elasticity of the rollers, and which cannot, consequently, receive the full pressure of the springs; but by the use of the flanges M the whole force of the springs is obtained upon the rollers, and the covering of the rollers need not be as thick with the flange as without it. The shaft of the roller E is extended through the box on one side, as seen in Fig. 1 at E′, to which is attached the crank N, by which the rollers are rotated. The lower ends of the side pieces are slotted, as seen at O, Figs. 2 and 3, for the purpose of fitting upon the edge of the tub P, which part is shown in Fig. 3 in vertical section. Upon the outer surface or face of the slot that goes upon the outside of the tub is pivoted a curved lever, Q, which oscillates upon the pivot R. The face of this lever is concave, so that when the machine is depressed upon the edge of the tub the top of the tub, after passing the pivot R, presses back the top of the lever and forces the lower end against the outer surface of the tub and holds it fast. The slots that contain the pivoted curved levers are cut upon a circle as regards each other, so that they will fit neatly upon the circle of the tub. The wooden cylinders upon the iron shafts are used both for the purpose of strengthening and increasing the diameter of the rollers. In covering these

wooden fluted cylinders we use vulcanized rubber hose with one or more "ply" of cloth incorporated therein, for the reason that where pure rubber is used, and consequently without the support of the ply, the rollers are liable to twist around and crack, and thus become useless, while with our improvement this liability to crack and twist upon the shaft is wholly obviated, for the reason that the inflexible wooden core offers sufficient resistance to preserve the normal form, while at the same time a sufficient elasticity is gained for the surface.

What we claim as our improvement, and desire to secure by Letters Patent, is—

1. Covering the body of the roller-shaft with fluted wooden cylinders, in combination with the circular flange M, as specified.

2. The curved levers Q, centrally pivoted to the one side of the slot O, the faces of the slot and of the levers being at right angles to a radial line from the center of the tub, and operating as and for the purpose herein set forth.

3. Extending the flanges M beyond the surface of the rubber, for the purpose of supporting the ends of the rollers, in the manner herein described.

4. The combination of the elastic rollers, consisting of alternate layers of ply and rubber, the fluted cylinders, and central shaft, when arranged and operating conjointly as and for the purpose herein set forth.

JOHN W. WHEELER.
HENRY S. BISHOP.

Witnesses:
W. H. BURRIDGE,
H. H. WHEELER.