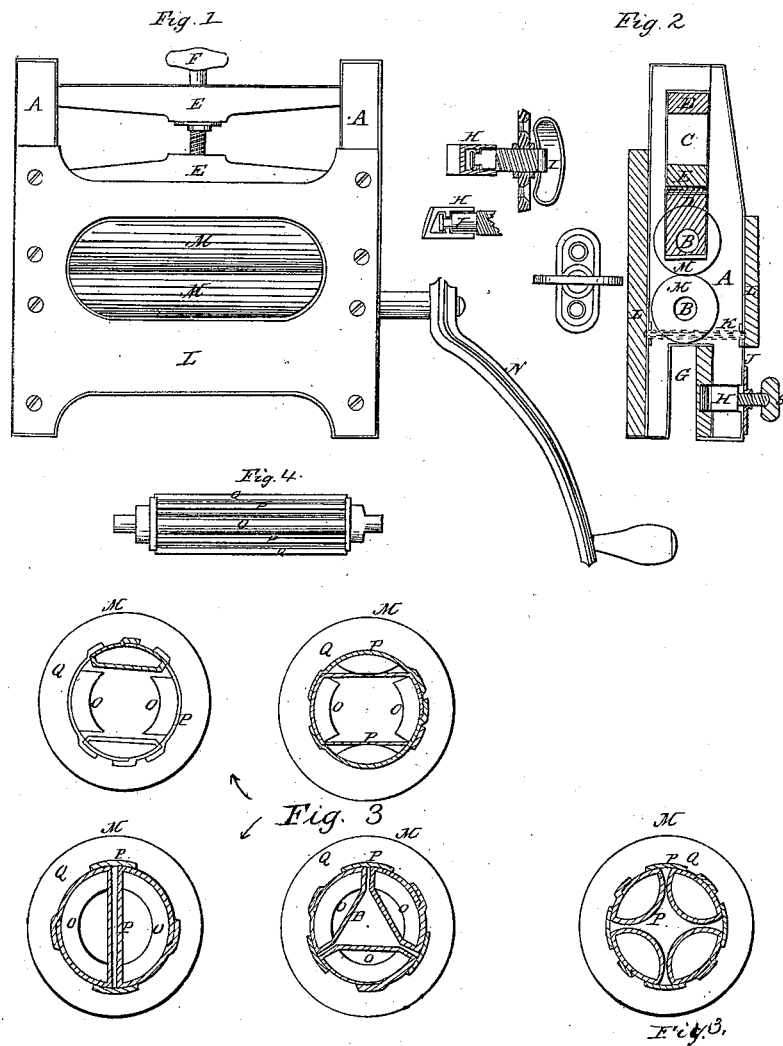


R. B. Hugunin,

Wringer,

N^o 53,001,

Patented Mar. 6, 1866.



Witnesses.
P. H. H. H.
J. D. H. H.

Inventor:
R. B. Hugunin

UNITED STATES PATENT OFFICE.

ROBERT B. HUGUNIN, OF CLEVELAND, OHIO.

IMPROVED ROLLERS AND FASTENINGS FOR CLOTHES-WRINGERS.

Specification forming part of Letters Patent No. 53,001, dated March 6, 1866.

To all whom it may concern:

Be it known that I, ROBT. B. HUGUNIN, of the city of Cleveland, county of Cuyahoga, and State of Ohio, have invented a new and efficient method of permanently securing and supporting to the shaft the elastic coverings of rollers, (used for clothes-wringers, wine-expressers, &c.,) so as to prevent them from becoming loose and turning, thereby rendering them valuable and useful till the coverings are actually worn out; and I have also invented an improved and simple frame to be used in connection with the said rollers; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a front view of the frame and rollers as used in wringing. Fig. 2 is a view of the ends of the rollers, journal-blocks, wooden springs, and movable clamps for fastening the frame to the tub; Fig. 3, cross-sectional views of the shafts, showing them with two, three, and four openings for securing the cloth to the shaft, also illustrates the way the cloth is passed through the shafts and the manner of securing the same; Fig. 4, a plan view of a shaft.

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

To enable those skilled in the art to fully understand my invention, I will proceed to describe its construction and operation.

A A are the two end pieces of the frame; B B, holes in the end pieces, A A, and journal-blocks for the journals of the shaft; C C, mortised slots on the inner sides of the end pieces, A A, for the journal-blocks and ends of springs to move in; D D, journal-blocks; E E, two springs of wood or other suitable material, the lower one resting its ends on the tops of the journal-blocks, through which pass the journals of the upper shaft, the upper one against the upper ends of the slots C C; F, an adjusting-screw passing down through the middle of the upper spring, (if but one screw is used,) and then through a female screw-plate secured on the under side of said spring down onto the center of the lower spring, where the point rests upon a small iron plate. This screw is used for tightening up the springs, and thus regulating the pressure upon the rollers.

G G are beveled slots, cut upward from the lower ends of the pieces A A, to receive the sides of the tub or box on which it may be desired to use the wringer; H H, movable clamp-pieces, made open, with a beveled or rounded point, having on its inner sides two projections, so made and arranged as to hold the point of the propelling-screw so as to allow the same to move freely within it and at the same time follow the forward and back motion of the screw. These pieces work in square openings.

I I are thumb-screws for propelling the clamp-pieces H H; J J, screw-plate through which the screws I I move.

The clamp-pieces H H and thumb-screws I I, in combination with the screw-plates J J, make a most efficient and simple fastening for the frame to the tub, the rounded or beveled point to the clamp allowing it to accommodate itself to the surface of a large or small tub or box, as may be required, while the play on the point of the screw to which it is attached prevents its binding or bending the screw; K K, common bolts and washers, riveted down, passing through the end pieces, A A, from side to side above the slots G G, to protect the end pieces from splitting where they pass over the tub.

L L, side pieces of the frame, connecting the two end pieces. These also act as guides to the clothes by preventing them from getting beyond the rollers at the ends.

M M are rollers; N, crank; O O, &c., Fig. 3, cross-sections of hollow metal shafts, with two, three, and four openings, for securing the cloth to the shafts; P P, &c., cloth passed through these openings and the ends fastened; Q Q, &c., elastic coverings vulcanized upon or over and around the shafts and to the cloth after its being passed through the shafts and secured.

The shafts O O, &c., are made of iron or any other suitable metal that will stand the high heat necessary in vulcanizing, cast hollow of a proper thickness, with as many openings cast in them (and of such shape) as may be necessary for securing the cover with the strength required in proportion to the work the roll has to do. When these shafts are cast and their journals properly turned up, they are japanned and baked or galvanized, and then passed into the rubber-factory to be covered or finished.

In covering, one or more plies of strong cloth or wire-cloth, or both combined, after being thoroughly prepared with raw gum, (or rubber,) is cut to the proper shape and passed edgewise clear through the openings, (if but two openings are used.) The sides are then drawn tightly together, lapped over, and pressed down, the gum on the cloth firmly uniting the cloth when pressed together. Thus one side of the shaft between the two openings is covered. To cover the other side a similar piece of cloth is passed through the same opening as before, the sides brought around and pressed down over the uncovered side. Still greater strength may be given to this shaft-secured foundation for the elastic covering by winding the cloth-prepared shaft above described with an additional layer of cloth over its entire surface; or single strips may be cut of sufficient length and width to cover the seams where they may be pressed or gummed down, thus tying the cloth together on both sides where it penetrates through the shaft. This process, in connection with vulcanizing, makes this cloth covering as perfect and strong as if woven through and around the shaft, as described.

When rollers for constant use are required, such as used in laundries, &c., they should be made with as many openings for securing the coverings as the diameter of the shaft will admit of without sacrificing its due strength. In covering them with prepared cloth with three or more openings, pass the proper-sized pieces edgewise through and lap them round, so as to cover the parts of the shaft between each two openings in detail, after which the seams may be covered and the pieces of cloth united where they penetrate the shaft by proper strips, as before described, or, instead, an entire piece of cloth may be wrapped around over all for that purpose.

Wire-cloth might be used to good advantage next to the shaft to take the wear on the edges near the openings, if there should be any wear there more than elsewhere.

The operation of giving the shaft the final covering may be briefly described as follows: After the shaft has been covered with the prepared cloth, as described, the desired thickness of raw rubber is wrapped over all, (the cloth and shaft.) The whole is then placed

in a suitable mold and vulcanized. This process cures the rubber to the cloth, firmly uniting the edges of the same where lapped over, making the cloth, to all intents and purposes, a part and parcel of the rubber and the roll in itself complete.

The fastenings of the cloth to the shaft, as described, differ from the fastening and covering patented by me on the 31st day of October, 1865, in this respect: The fastening then patented consisted of but one piece of prepared cloth passed through the shaft, the cloth being of sufficient size to lap around and cover the entire shaft, each end covering one-half the shaft. This covering would answer very well for turning the roll one way, but in reversing or turning backward the covering would slip, and by this means become loose and chafe the cloth off where it penetrated the shaft, and sooner or later allow the shaft to turn without the covering, and thus render it worthless.

The present coverings are made to allow the roll to turn either way, and should the cloth, by accident or otherwise, give way in any one or two places where it penetrates the other cloth would hold the covering still secure. In operation these rollers are put into my improved frame the same as other rollers in other frames, and worked in the same manner as other wringers.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. As a new article of manufacture, shaft-fastened elastic rollers, when made in combination with hollow metal shafts with two or more openings in the same, with cloth or wire-cloth, or both combined, prepared with raw gum, and consisting of two or more pieces passed through the openings of the said shafts and the sides lapped around and elastic vulcanizable gum vulcanized thereon, for the purposes specified.

2. The combination of the clamps H H, thumb-screws I I, and screw-plates J J, as described, for the purposes specified.

R. B. HUGUNIN.

Witnesses:

PERRY PRENTISS,
JNO. D. PATTEN.