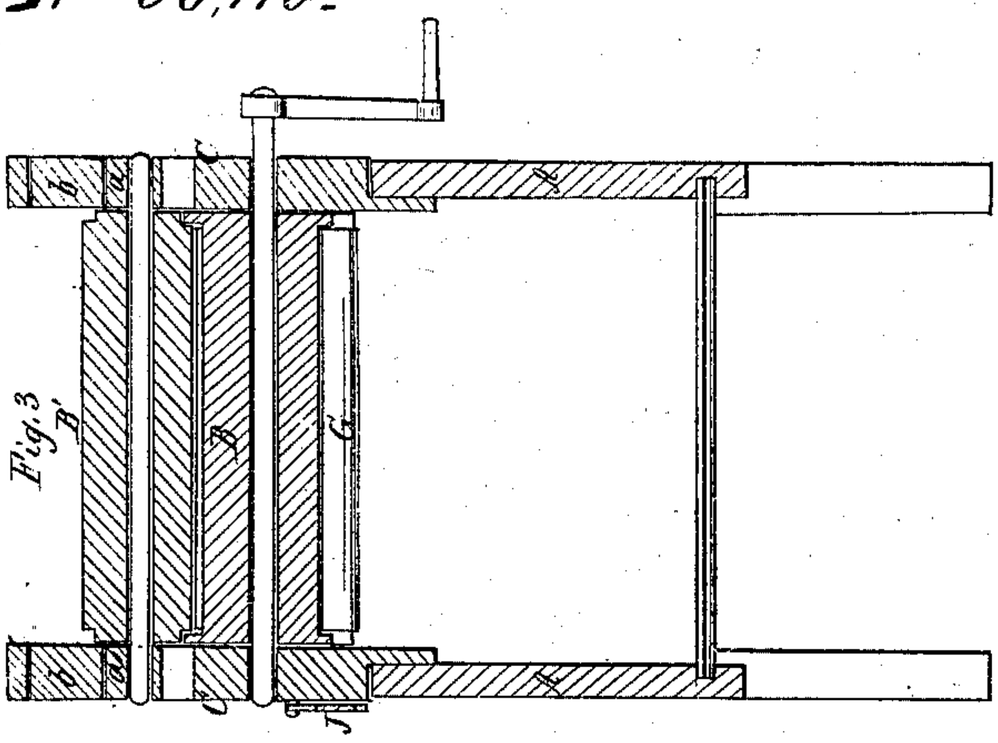
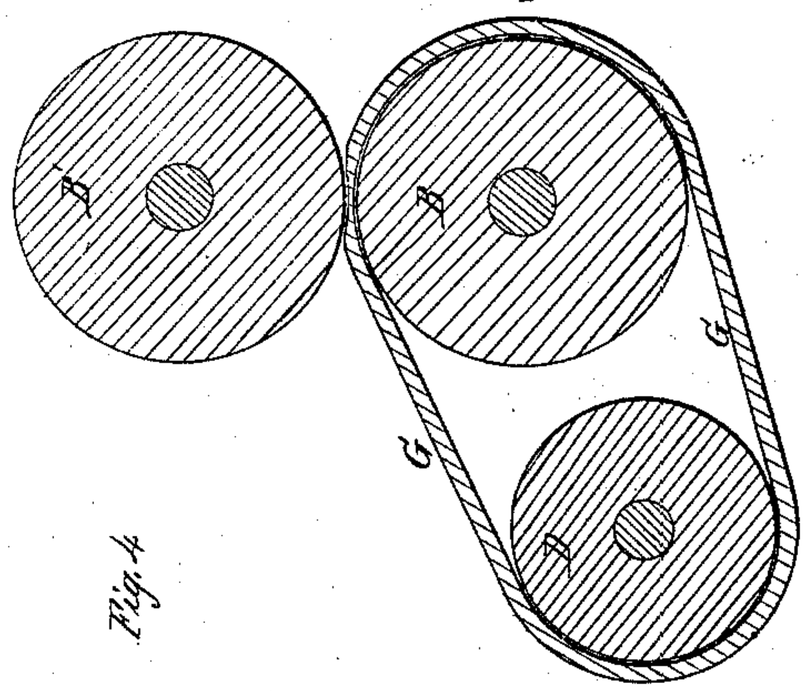
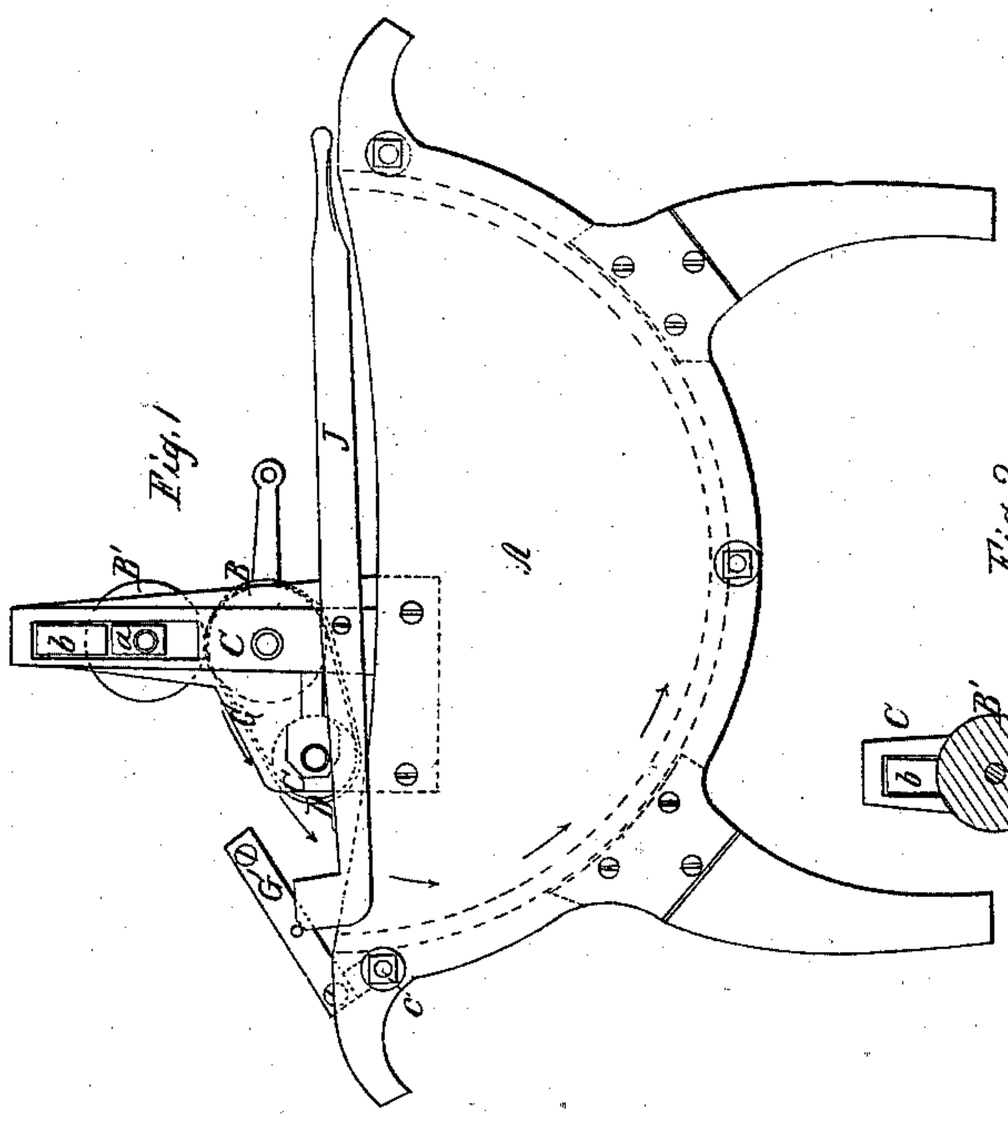
W. S. Shoemaker,

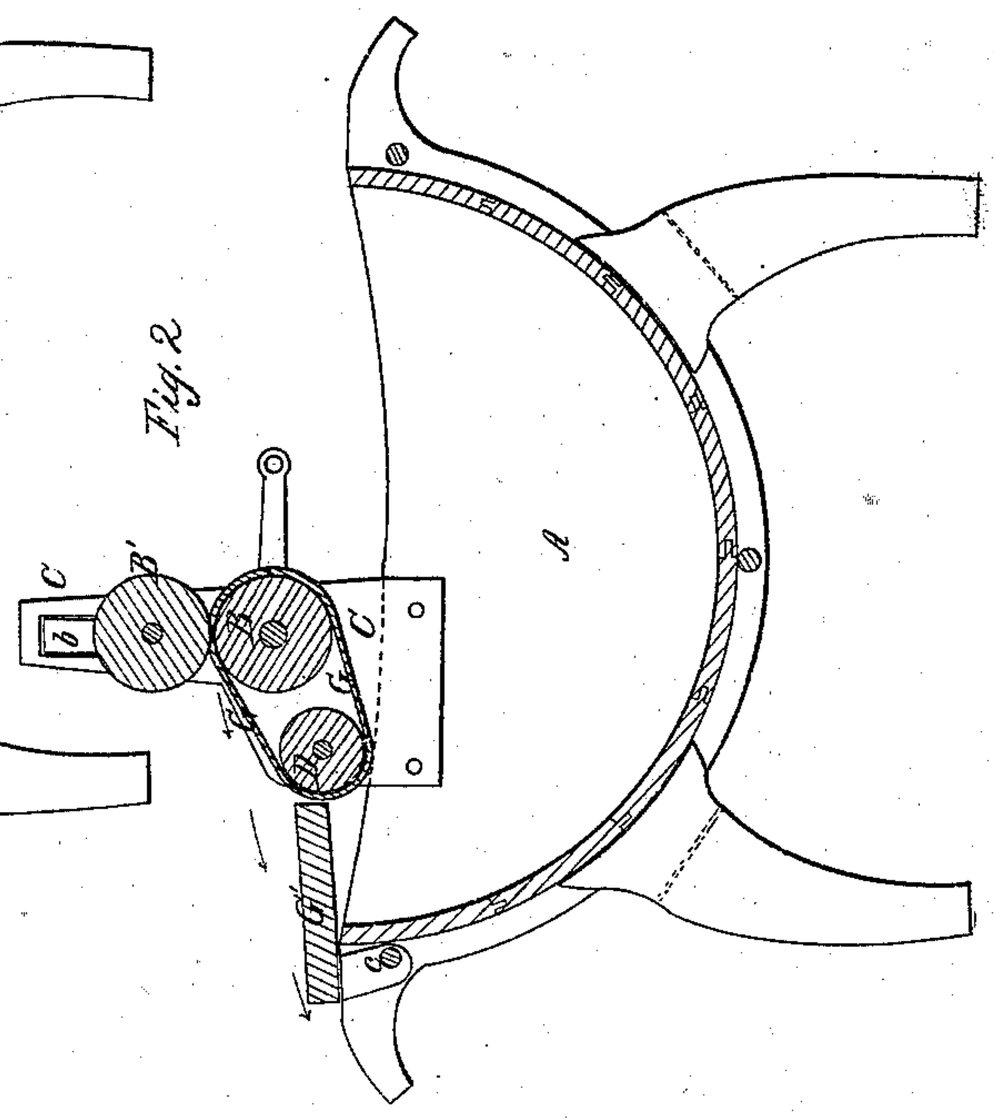
Washer and Wringer,

No. 56,110. Patented July 3, 1866.









UNITED STATES PATENT OFFICE.

W. S. SHOEMAKER, OF GREENWOOD P. O., MARYLAND.

IMPROVEMENT IN WASHING AND WRINGING MACHINE.

Specification forming part of Letters Patent No. **56,110**, dated July 3, 1866.

To all whom it may concern:

Be it known that I, W. S. SHOEMAKER, of Greenwood P. O., Baltimore county, State of Maryland, have invented a Combined Washing and Wringing Machine; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is an elevation of one side of my improved machine. Fig. 2 is a longitudinal section taken in a vertical plane through the center of the machine. Fig. 3 is a transverse section taken in a vertical plane through the centers of the squeezing-rollers. Fig. 4 is an enlarged cross-section through the three rollers and their elastic apron.

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

This invention relates to a novel machine which is adapted for washing and wringing articles by compression between rollers.

The squeezing-rollers for combined washing and wringing machines have hitherto been constructed of wooden or metallic cores covered with india-rubber; but it has been found that the rubber will soon stretch and become loose upon the cores, so as to render the entire roller useless.

The object of my invention is to employ wooden or metal rollers with india-rubber interposed between them; but instead of confining the rubber upon the rollers, as hitherto, I employ an endless india-rubber apron in conjunction with two squeezing-rollers, and keep this apron in place by means of a stretching-roller, so that articles passed between the squeezing-rollers will be subjected to elastic pressure and yielding surfaces, and when the belt or apron becomes loose or worn out it can be readily removed and another substituted, as will be hereinafter described.

Another object of my invention is to employ a hinged shelf in conjunction with an elastic endless belt or apron, in such manner that this shelf can be made to conduct the articles from the wringing and washing rollers out of the wash-tub after the wringing operation, as will be hereinafter described.

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

In the accompanying drawings, A represents the wash-tub, which may be made of any suitable capacity and shape. If it is made semicircular, as shown in the drawings, the two sides are grooved to receive the ends of the bottom pieces, which are tongued and grooved together, so as to form tight joints. The tub is secured together by means of transverse bolts, and mounted upon legs, as shown in Figs. 1 and 2.

B B′ represent two rollers, which may be made of wood, metal, or other hard substance, and which are arranged one above the other, so that their surfaces will touch. These rollers or cylinders have their bearings in metal standards C C, which are bolted rigidly to the sides of the tub A. The lower roller may have fixed bearings in said standards, but the upper roller, B′, should have its end bearings in blocks *a a*, that are fitted to work up and down in slots in the standards, and which are held down by means of india-rubber blocks *b b* or other suitable springs. These springs *b b* are designed to allow the upper roller, B′, to rise and accommodate it to articles varying in size and to hold this roller down by a yielding elastic pressure.

If desirable, adjusting-screws may be applied to the standards C C above the springs *b b*, for the purpose of regulating their pressure upon the bearing-blocks *a a* of the upper roller. This upper roller may be made of some hard wood having an iron shaft running through it, and it may be covered with a piece of canvas, or left uncovered.

D represents a small cylindrical roller, which, like the two squeezing-rollers B B′, may be made of wood or metal, and which has its end bearings in the standards C C a little below a horizontal plane passing through the axis of the lower roller, B′.

Over the two rollers B′ and D a thick india-rubber belt, G, is stretched, as shown clearly in Figs. 2 and 4. This belt or endless apron serves two very important objects, viz: It forms an elastic surface for the roller B, and obviates the necessity of casting rubber around this roller, as hitherto, and it also forms an apron, which serves, in conjunction with the hinged shelf G′, to conduct the articles out of the tub after they have been washed and wrung.

The shelf G′ is hinged to the transverse bar

c, and made of sufficient width to touch the edges of the standards, as shown in Fig. 2, and form an inclined plane for conducting the articles out of the tub. It is not intended that the edge of the shelf shall press upon the elastic belt G, for which purpose the metallic end pieces of this shelf project slightly beyond the upper edge thereof, so as to rest against the edges of the standards C C when the shelf is brought in a position to conduct off the articles as they pass between the squeezing-rollers and over the inclined portion of the belt.

When it is not desired to use this shelf G′ it is elevated, as shown in Fig. 1, and held in this position. As the shelf is hinged to the rear end of the wash-tub, it will be found convenient to employ a lever, J, for adjusting this shelf, as shown in Fig. 1.

The two standards C C may be connected together by means of rods, so as to form a portable frame, or such a frame may be cast in one piece, with suitable bearings for the three rollers B, B′, and D, and also with suitable clamps for securing the frame to a tub.

If desirable, an elastic belt, like G, may be applied to the upper roller, B′; but I have found by experience that one elastic belt, when made of the required thickness, will answer a very good purpose.

If desirable, the ends of the stretching-roller D may have their bearings in adjustable blocks, so that in the event of the belt working loose it can be tightened.

It will be seen from the above description that I secure all the advantages of elasticity of the rollers, which have india-rubber surfaces formed on them by casting, and at the same time provide for removing the elastic covering from the rollers and supplying its place with new whenever it is found necessary. I also employ a rubber belt which has a larger amount of surface than is presented by either one of the squeezing-rollers.

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

1. The hinged shelf, in combination with the wash-tub and the rollers, substantially as and for the purpose described.

2. The hand-lever J, in combination with the hinged shelf, rollers, and wash-tub, substantially as and for the purpose described.

3. The combination of the two squeezing-rollers B B′, stretching-roller D, rubber belt G, and hinged shelf G′, substantially as and for the purpose described.

W. S. SHOEMAKER.

Witnesses:

MATTHEW MURRAY,

E. B. S. SHOEMAKER.