

R. B. Hugunin,

Wringer Roll.

N^o 50,712.

Patented Oct. 31, 1865.

Fig. 1.

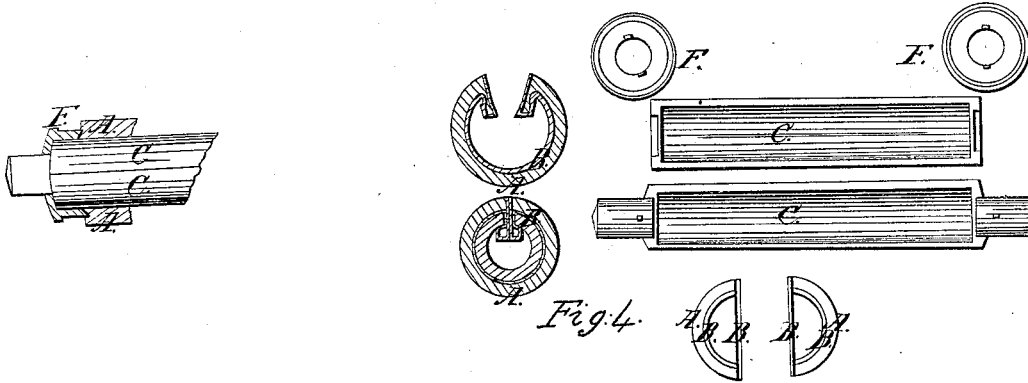


Fig. 3.

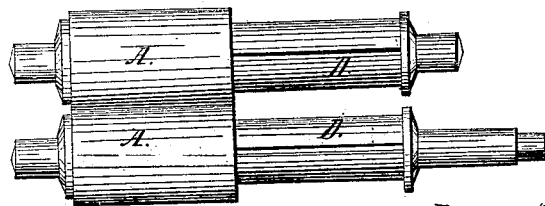
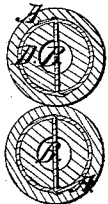


Fig. 2.



Witnesses.
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UNITED STATES PATENT OFFICE.

R. B. HUGUNIN, OF CLEVELAND, OHIO.

IMPROVED COVERING FOR ROLLERS OF WASHING-MACHINES.

Specification forming part of Letters Patent No. 50,712, dated October 31, 1865.

To all whom it may concern:

Be it known that I, ROBERT B. HUGUNIN, of the city of Cleveland, county of Cuyahoga, and State of Ohio, have invented a new and Improved Manner of Strengthening the Coverings of Rollers (for Clothes-Wringers, Washing and Starching Machines, Wine-Expressers,) and securing them permanently to the shaft over which they are used by means of cloth vulcanized onto or within the said coverings and secured to the shaft; 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 cross-sectional view of a covering to be used on a sectional shaft, made with one or more thicknesses of strong cloth vulcanized onto or within it and extending clear around on its inner side. Fig. 2 represents a cross-sectional view of the upper and lower rolls, (shafts and coverings,) showing the manner of fastening the coverings (by means of the cloth and slots in the shafts) securely and tightly to the shafts; Fig. 3, plan view of the two shafts, Fig. 2, showing the coverings partly removed. Fig. 4 is a covering made in halves, showing the cloth passing clear around on the inner surfaces and then directly across, uniting the outer surfaces. The sectional shaft is used for this form of covering.

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.

In the drawings, A represents an elastic or rubber covering, made to the proper size and thickness to cover any desired shaft, being vulcanized onto strong cloth for the purpose of giving it uniform and reliable strength. These coverings, as in Figs. 1 and 4, may be made independent or separate from the shafts and applied firmly to them when wanted; or, they may be vulcanized directly and permanently onto the same, as shown in Fig. 2. Where the covering is made separate from the shaft a sectional shaft, or one made in two parts, is used to form the roll. The sectional shaft used is the one, in substance, patented by me in the United States in September, 1864. The

rolls, with coverings 1 and 4, are made by simply passing these shafts in parts into them properly, then closing them upon the rubber and cloth by means of two semicircular clamp-plates. When closed they are held permanently secure by means of rings passed snugly over their ends well up to the coverings. When the covering forming the roll is vulcanized directly onto the shaft the shaft is first prepared by being thoroughly galvanized or japanned and baked, after which the proper cloth (prepared by forcing the raw rubber through it) is passed edgewise through the slot of the shaft (if but one slot is used) so far as to allow the sides of the same to lap snugly round to the opposite side and beyond, where it is united and gummed down onto the cloth, which extends round the shaft from that side.

After the cloth has been passed through the slot, as described, and the edges left outside lapped round so as to cover the shaft completely, then the desired thickness of rubber is wrapped over all, when the shaft and its covering is placed into a suitable mold and vulcanized.

The shaft used, Fig. 2, is substantially the same as that patented by me in the United States in August, 1864.

A very good roll can also be made by taking a long strip of cloth (prepared) and fastening the end of it firmly into the slot at the end of the shaft, and then winding the cloth angling and tightly round the shaft to the other end, and then firmly securing the end, and then vulcanizing directly over that such a thickness of rubber as may be required to make the roll.

B is cloth used in the covering, or its equivalent; C C', sectional shafts; D D', slotted shafts; E, journals of the shafts; F, rings.

To enable others to understand the operation and advantage of this cloth-inserted covering, I will briefly describe its operation.

These coverings, with strong cloth, when made separate from the shafts are made with a single or double opening from end to end, so as to allow the shaft made in two pieces to be passed in and closed snugly upon the cloth and rubber, thus holding the cloth firmly and preventing it and the covering from turning during the working of the rolls. The cloth also, from its uniform strength, insures the cover-

ing from unnecessary or undue stretching and consequent tearing. The same advantage also occurs where the covering is made permanently to the shaft. The cloth is then also held tightly in the slot and the roll prevented from turning.

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

The rubber or other non-absorbent cloth-

supported coverings A A A, &c., Figs. 1, 2, and 4, &c., whether made or vulcanized directly upon the shaft, as described, or separately and afterward applied to the shaft, substantially as and for the purposes specified.

R. B. HUGUNIN.

Witnesses:

WM. B. QUINN,
W. J. KANE.