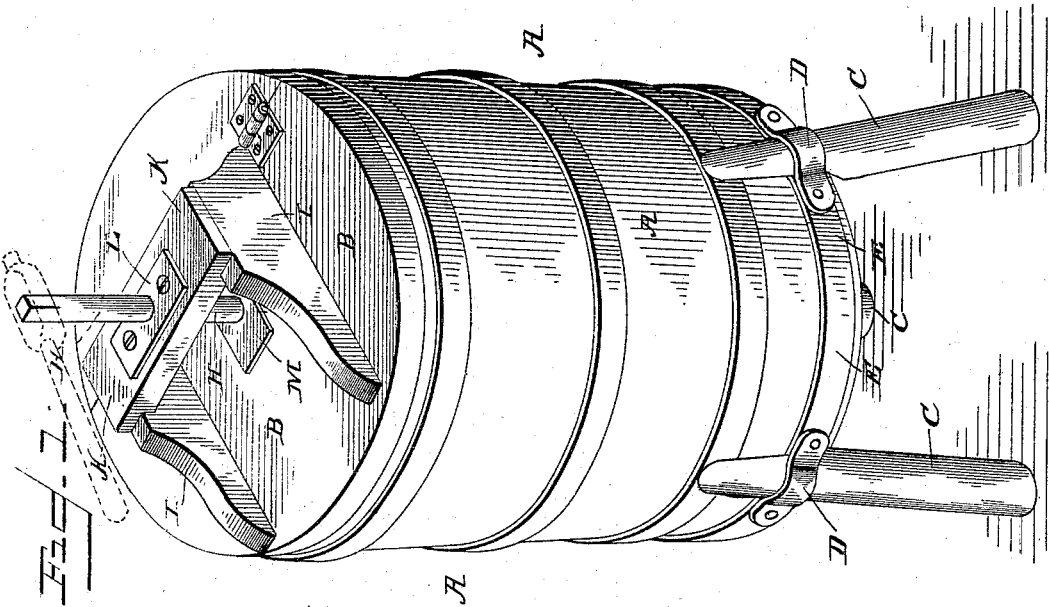
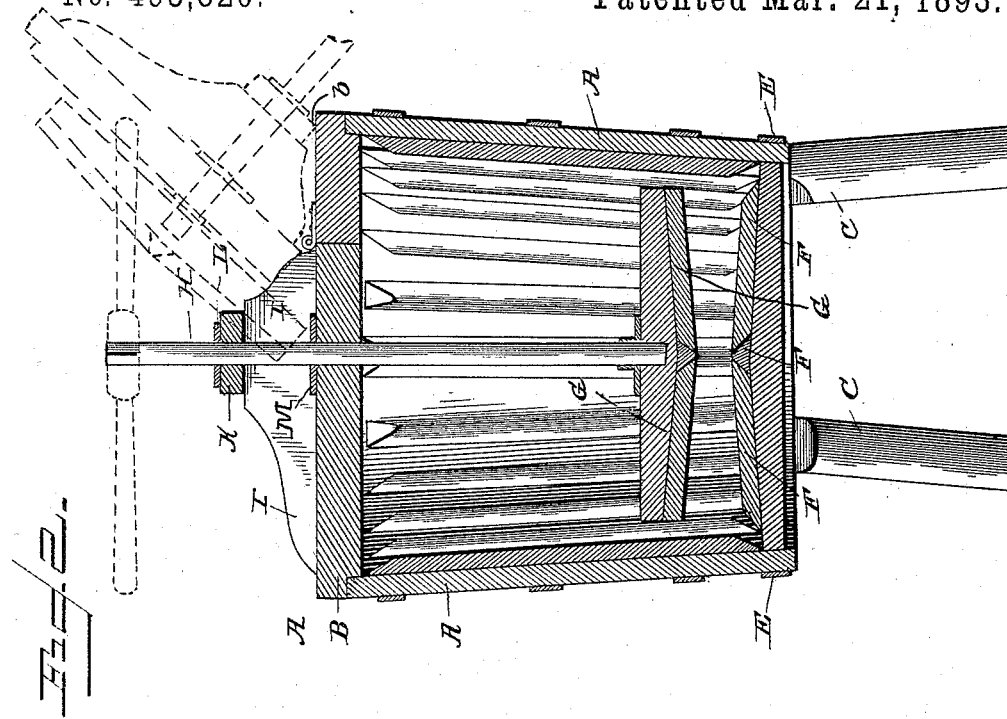


(No Model.)

W. M. COVENTRY.  
WASHING MACHINE.

No. 493,820.

Patented Mar. 21, 1893.



Witnesses

E. H. Stewart.

*[Signature]*

Inventor

W. M. Coventry,

By *his* Attorneys,

*Chas. H. Snow & Co.*

# UNITED STATES PATENT OFFICE.

WILLIAM M. COVENTRY, OF LONGTON, KANSAS.

## WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 493,820, dated March 21, 1893.

Application filed October 22, 1892. Serial No. 449,652. (No model.)

### *To all whom it may concern:*

Be it known that I, WILLIAM M. COVENTRY, a citizen of the United States, residing at Longton, in the county of Elk and State of Kansas, have invented a new and useful Washing-Machine, of which the following is a specification.

My invention relates to improvements in washing machines, of the class known as rotary rubbers, and my improvement refers particularly to the construction and relative arrangement of the rubbing surfaces, and means for maintaining them in their proper relative positions.

My invention relates, furthermore, to certain details of construction, in the manner of mounting, &c., which will be fully described hereinafter in connection with the drawings, the novel features of the device being particularly pointed out in the appended claims.

In the drawings, Figure 1 is a perspective view of a washing machine embodying my improvements. Fig. 2 is a central vertical section of the same.

A represents a tub or vessel, provided with a hinged lid, B, and supporting legs, CC, which are tapered or wedge-shaped at their upper ends to fit, removably, in metallic stirrups or straps, D, which are riveted to the lowermost hoop, E, of the tub or vessel.

Of the opposing rubbers, F and G, which form the most important feature of my invention, F is stationary or fixed and forms the bottom of the tub or vessel, and G is movable and rotary and is fixed, centrally, to the lower end of a vertical operating shaft, H, which is journaled in bearings in the lid of the tub or vessel. The opposing faces of the rubbers are oppositely convexed, that is, the upper face of the fixed rubber and the lower face of the movable rubber are convexed. The faces of the rubbers are provided, furthermore, with radially-disposed ribs or corrugations, which converge toward and meet at the apex of each rubbing face. Furthermore the sides of the tub or vessel are provided with vertically-disposed ribs or corrugations. All of the ribs or corrugations are preferably triangular in cross-section, as shown, and the outer ends of the radial ribs or corrugations and the upper and

lower ends of the vertical ribs or corrugations are chamfered to avoid corners and angles in which dirt would accumulate.

Fixed to the upper surface of the hinged lid are the parallel braces or cleats, II, which extend from the free edge of the lid to its hinged edge, or across the grain of the wood of which the lid is made, and connecting said braces is a bar, K, parallel with the surface of the lid and provided with a bearing, L, in alignment with the bearing, M, in the lid, the operating shaft of the movable rubber being mounted in these aligned bearings, as shown. These separated and aligned bearings for the operating shaft render the latter steady, preventing vibration and cramping during operation, and the braces perform the further function of preventing the lid from warping and splitting. Furthermore, the rear ends of these braces are beveled whereby when the lid is thrown back, as shown in dotted lines in Fig. 2, the latter is supported by the pressure of such beveled ends upon the upper surface of the stationary portion, b, of the lid. Thus, these braces or cleats perform a triple function.

It is well known to those familiar with the art to which my invention appertains, that there is a tendency in rotary-rubber washing machines to draw the clothes from the sides toward the center of the tub or vessel. This is caused by the fact that the center of the rubber is at rest and therefore the clothes at this point do not rotate, while the rapidly moving periphery of the rubber causes the clothes near the sides of the tub or vessel to rotate around those at the center and finally become twisted around them. To avoid this it is necessary to provide a construction whereby the tendency will be to throw the clothes outward or toward the sides of the tub or vessel, and I accomplish this by providing the rubbers with opposing convex faces, as hereinbefore fully described.

This construction produces a centrifugal movement in the tub or vessel, which throws the clothes from the center or slowly moving portion of the rubber, toward the periphery or rapidly moving portion of the same, where

they are forced more rapidly through the water, are kept more evenly distributed and separated, and are brought into contact with the ribbed or corrugated sides of the tub or vessel.

5 Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

In a washing machine, the centrally aligned rubbers having opposing convex ribbed faces,  
10 one of said rubbers being rotatably mounted,

and means to operate the same, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WILLIAM M. COVENTRY.

Witnesses:

I. T. HOLYFIELD,

J. BOTTERFF.