(No Model.)

J. H. SLACK.

WASHING MACHINE.

No. 448,377. Patented Mar. 17, 1891.

Fig. 1.

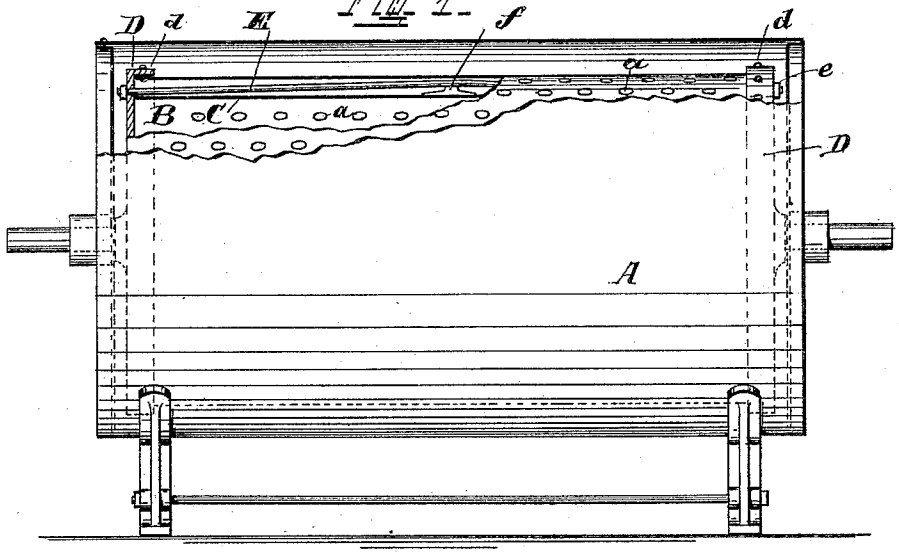


Fig. 2.

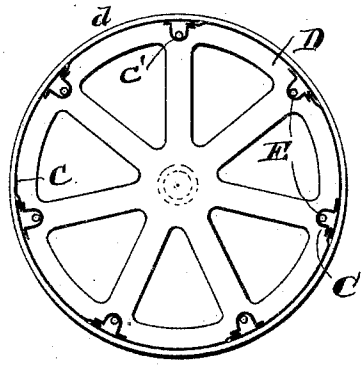


Fig. 3.

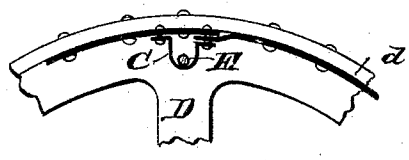


Fig. 4.

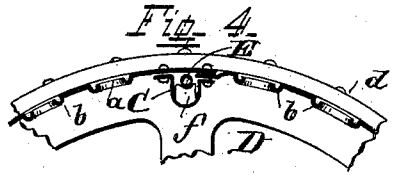


Fig. 5.

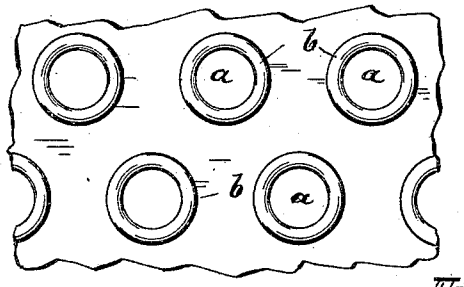


Fig. 6.

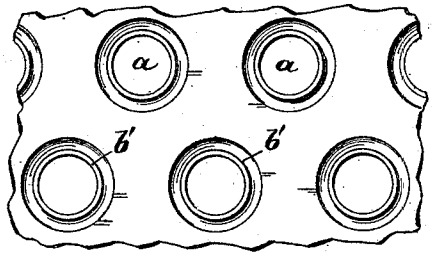
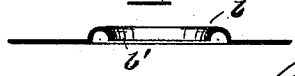


Fig. 7.



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOHN HENRY SLACK, OF CINCINNATI, OHIO, ASSIGNOR TO THE A. M. DOLPH COMPANY, OF SAME PLACE.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 448,377, dated March 17, 1891.

Application filed September 10, 1890. Serial No. 364,504. (No model.)

To all whom it may concern:

Be it known that I, JOHN HENRY SLACK, a citizen of the United States, residing at Cincinnati, Hamilton county, State of Ohio, have invented certain new and useful Improvements in Washing-Machines, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates more particularly to that class of washers having an outer stationary cylinder or casing to contain the water and washing fluids and an inner rotatable cylinder in which the clothes are deposited, as will more fully hereinafter appear.

In the accompanying drawings, Figure 1 is a perspective view of my improved washer as preferably constructed, a portion of the outer and inner cylinders being broken away, showing one of the truss bolts or rods which pass through the corrugated ribs on the inner face of the rotatable cylinder to prevent bulging or torsion of the latter when in operation. Fig. 2 is a vertical cross-section through the inner cylinder, the same being removed from the outer stationary cylinder. Fig. 3 is a cross-section on an enlarged scale, taken through a portion of the inner cylinder near its end portion, showing the preferred mode of connecting the perforated embossed sections which go to make up the body portion of said cylinder, and also the corrugated ribs on the inner face thereof through which the truss-bolts pass. Fig. 4 is a view similar to Fig. 3, taken at or near the center of said cylinder, showing the boss or lug in said rib over which the truss-bolt passes. Fig. 5 is an inner face view, on an enlarged scale, of the preferred form of perforated embossed metal of which the body portion of the inner cylinder is made up. Fig. 6 is a view taken on the reverse side to that shown in Fig. 5, showing one mode of forming the embossed portion around the perforations. Fig. 7 is a cross-section taken through one of the embossed perforations shown in preceding figures.

My invention consists more particularly in the formation of the embossed perforations in a sheet of suitable metal of which the inner cylinder is made up. It will be seen in Figs. 5, 6, and 7 that each perforation is surrounded by a smooth raised or embossed portion, or, in other words, perforations within an embossed figure.

My invention also consists in the construction of the inner cylinder, the body portion of which has the inwardly-embossed perforations.

As shown in Fig. 1, and, as already stated, my improved washing-machine consists of an outer stationary water-cylinder A and an inner rotatable cylinder B. The body portion of this inner cylinder is made up of sheets of suitable material having perforations *a* therein, each perforation being surrounded by a raised or embossed portion *b* on its inner surface, as more clearly shown in Figs. 5 and 7, the edge or surface metal forming said embossed perforations being turned inward and rounded outward within said perforations, as shown at *b'*, Fig. 7, at or nearly on a plane with the outside surface of said metal, as shown, thus producing a smooth embossed ring *b* around said perforations on the inner face of the cylinder. When formed, as shown, the embossed portion *b* is struck up integral with the sheet; but it is evident said embossed portions might be formed separate from the sheet and clamped in the perforations, as eyelets &c., without departing from my invention. The perforations *a* and their surrounding raised portions may be of any desired outline other than that herein shown. The sheets thus embossed and perforated may be secured together cylindrically in any desired manner, the mode shown being to overlap the meeting edges of said sheets and then rivet them together, the rivets passing through one side flange of the corrugated ribs, which are riveted to the inner face of said inner cylinder. Having formed the body portion of the perforated embossed cylinder, it is then secured within the flanged heads D and riveted to the inwardly-projecting flanges *d* of said heads, as shown. The truss-bolts E, which pass through the ribs C and through said heads, assist to retain the body portion of the cylinder within the flanged heads.

As shown in Figs. 1 and 4, the truss-bolts E pass over a boss or lug *f*, centrally located within the ribs C, the object of which is to prevent torsion or bulging of the body portion in operation, the tension of truss-bolts

E on said lugs *f* tending to retain the central portion of said cylinder in its normal position. The heads of the inner cylinder are provided with suitable journals, which rest in suitable bearings in the ends of the outer casing, as shown in Fig. 1, in which position said cylinder may be rotated or alternately rotated in opposite directions. Any suitable driving mechanism may be employed for rotating said inner cylinder, which latter is provided with a suitable lid.

While it is preferred to connect the body portion of an inner cylinder thus perforated and embossed within its flanged heads in the manner described, it is evident that the body portion of a cylinder thus perforated and embossed may be otherwise constructed without departing from my invention.

The advantages of my invention are obvious. The perforations permit of water passing through the inner cylinder, and the embossed portions surrounding said perforations prevent catching and tearing off buttons or rending the clothes, and at the same time afford a superior rubbing-surface to more perfectly cleanse the same.

What I claim as new, and desire to secure by Letters Patent, is—

A washing-machine having an outer stationary cylinder and an inner rotatable cylinder, the body portion of said latter cylinder having perforations therein, each perforation being surrounded by a smooth embossed or raised portion, the metal forming said embossed portion being turned inward and rounded outward within said perforation, and suitable means for rotating said cylinder, for the purposes set forth.

JOHN HENRY SLACK.

Witnesses:
E. D. TRIBBET,
A. H. DUWELINS.