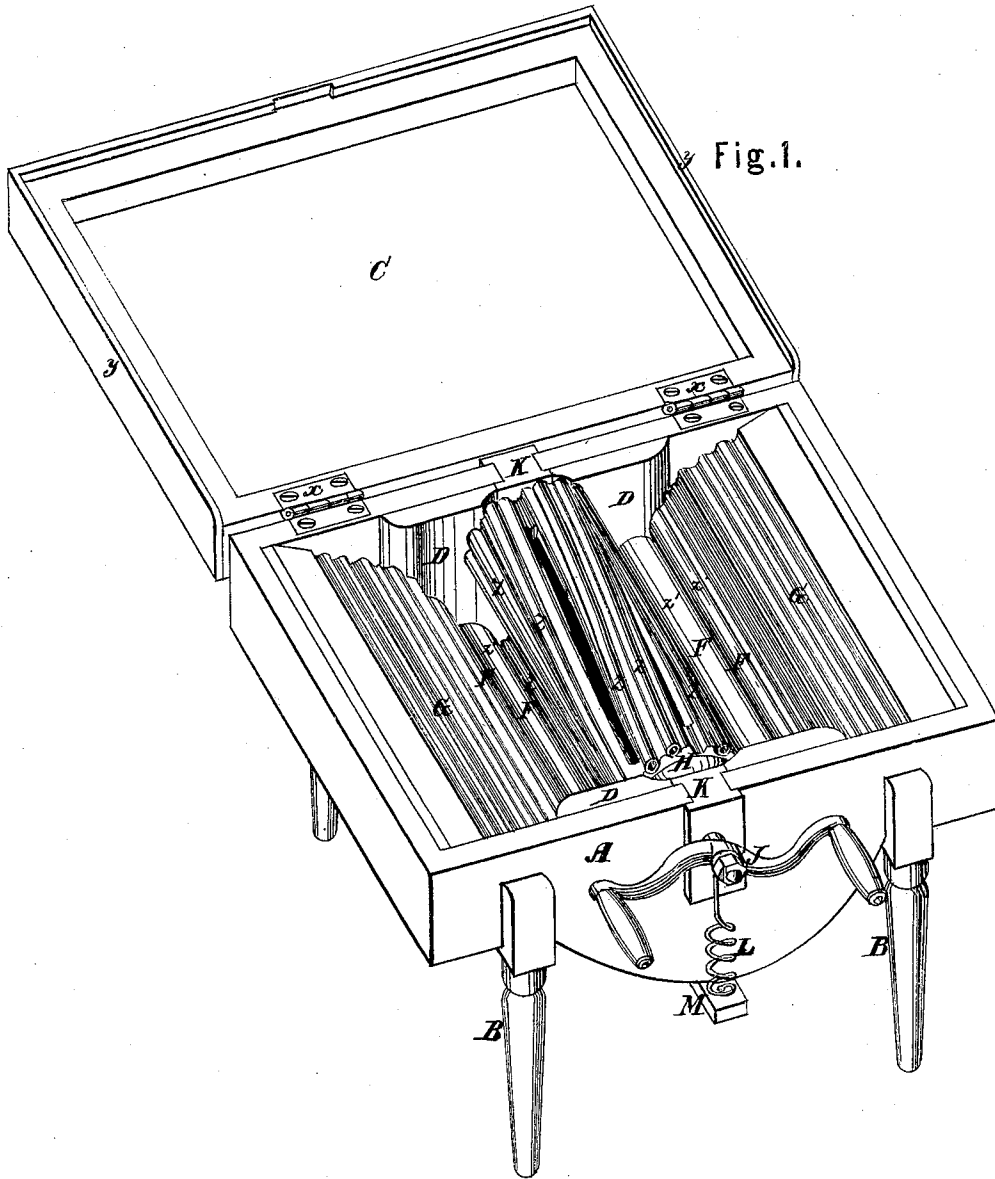


T. W. EDGAR.

Improvement in Washing-Machines.

No. 130,202.

Patented Aug. 6, 1872.



Witnesses.

Geo. L. Ewin
Walter Allen

Inventor.

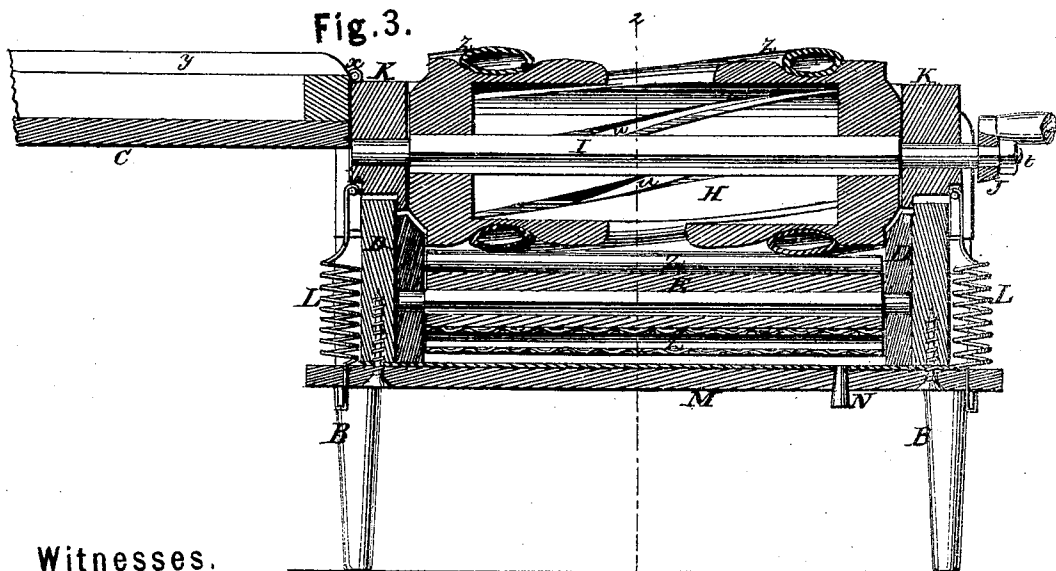
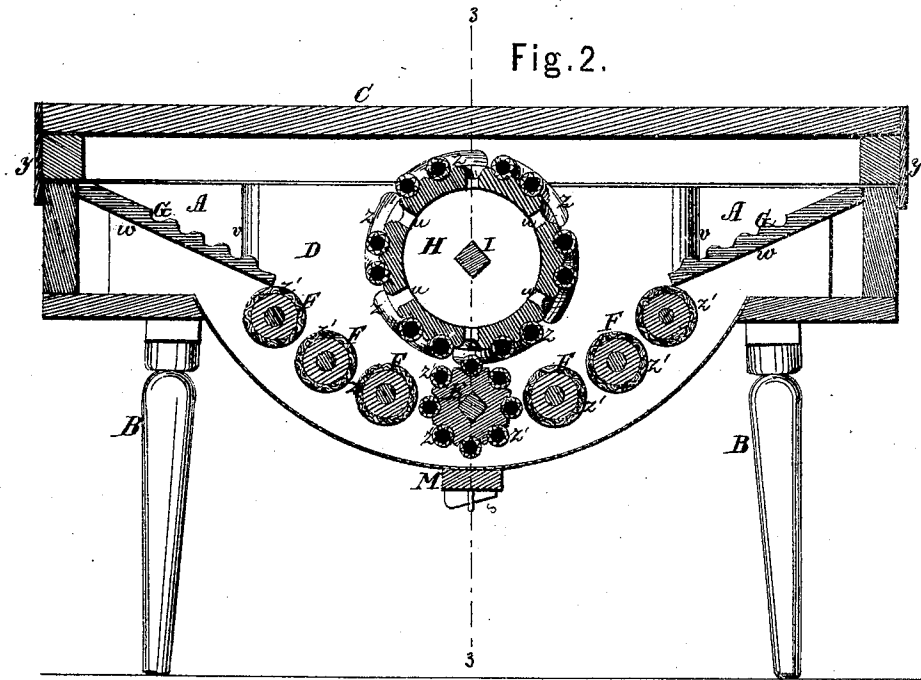
T. W. Edgar
By [Signature]
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Atty

UNITED STATES PATENT OFFICE.

THOMAS W. EDGAR, OF ESPY, PENNSYLVANIA.

IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. 130,202, dated August 6, 1872.

Specification describing an Improved Washing-Machine, invented by THOMAS W. EDGAR, of Espy, in the county of Columbia, Pennsylvania.

The machine is of the form or type in which the clothes are cleansed without rubbing, by being squeezed and propelled back and forth beneath the water by means of a rotary or oscillating cylinder in a roller-concave.

The washing mechanism consists of a horizontal cylinder mounted in yielding bearings, a concave composed of small, loose rollers, and a pair of "feed-boards" at the ends of the concave on which to soap and prepare the clothes, and removable to facilitate cleaning the tub. The tub is furnished with a hinged top, and when closed forms a neat table. The cylinder and concave are both removable, and the latter separable, so that any part can be restored. The cylinder and the rollers of the concave are constructed with elastic or flexible coverings or ribs of gutta-percha or India rubber, which allows buttons and other hard objects to embed and be thus saved from breakage, and also improves the washing action. The cylinder is also hollow and slotted so as to admit air to the clothes, and has oblique or spiral "flutes" or corrugations. The latter feature prevents the injurious crimping action of parallel fluted surfaces.

The invention consists in the said construction of rubber and concave, and in the said feed-board, and in the springs as arranged, substantially as hereinafter described.

Figure 1 is a perspective of my improved machine opened as for work. Fig. 2 is a vertical longitudinal section, showing the machine closed to serve as a table. Fig. 3 is a vertical transverse section of the machine in open condition.

The features of Figs. 2 and 3, respectively, are indicated by the lines 2 and 3.

A represents a wooden tub with shallow ends, and a deep center with metallic bottom. B B represent turned legs, which I propose shall screw in like piano-legs, to facilitate compacting for shipment. C represents a lid with sides, *y*, attached to the tub A at one edge, with hinges *x*, and serving to inclose all the washing mechanism without detaching the same, and for use as a table, and also to inclose the external parts, such as the legs, when

detached. D D represent boards suitably shaped to fit into the tub longitudinally at its sides, and E F loose wooden rollers journaled in these bearings to form the concave—the former of said rollers, located beneath the rubber, being longitudinally fluted, and the others plane and of smaller diameter. G G represent a pair of boards, fluted in part and supported on the low inclined ends *w* of the bearers D, and by the vertical shoulders *v* of the same, beyond which they project to form "feed-boards" on which to soap the clothes preparatory to feeding them beneath the cylinder. By removing these boards access is had to the space beneath the concave for cleaning the same. They are lifted by pressing on their lower ends. H represents the cylinder. This is made with a corrugated or fluted periphery, and with oblique or spiral corrugations, so as to squeeze the clothes on the longitudinally-corrugated roller or rollers E, in the concave, without crimping the clothes therein. The clothes are thus saved considerable wear, while the cylinder may be operated more easily and the washing action is improved. This cylinder is also made hollow, and with slots *u* at intervals between the corrugations, to render it more light and to admit air to the clothes, which has been found to be beneficial, as serving to bleach and purify. *z z* represent the flutes or ribs of the cylinder H and roller E, which are made of gutta-percha or India rubber; and *z' z'* represent coverings of the same material applied to the roller F of the concave. I propose applying a continuous or sectional covering to the cylinder H and roller or rollers E, with ribs formed thereon or over a ribbed surface; also employing "solid rubber" small rollers. I also propose covering the cylinder and rollers with canvas or other suitable material, if necessary, to protect the gum from injury by heat, and to prevent the clothes adhering thereto. The rubber need only be applied to the roller or rollers E beneath the cylinder. I represents the shaft of the cylinder H, and J a double crank, attached by nut *t*, for operating the cylinder by either hand. K K represent flanged slides occupying vertical slots in the sides of the tub, and forming the bearings of the shaft I; and L L, external springs for yieldingly supporting the same. M represents

a bar beneath the tub, furnishing, by its projecting ends, points of attachment for the springs L, which are secured by keys s beneath the same. N represents a waste plug or faucet for drawing off the suds.

To repair a part or to thoroughly clean the whole the cylinder H may be released by detaching the springs L and taken out, and the concave D E F then removed and taken apart. For transportation, the legs B, crank J, and springs L may all be removed and packed in the tub. The tub may be closed to form a table, as represented in Fig. 2, without detaching or changing any part.

In operation the clothes are squeezed between the cylinder H and the rollers E F of the concave, and propelled back and forth beneath the water or suds by rotating or oscillating said cylinder. The water being drawn off, the clothes may be "wrung" in the same manner by simply passing them through beneath the cylinder one or more times. By reason of this adaptation no separate wringer is necessary.

What I claim as new herein is—

1. The rubber-surfaced cylinder H and rollers E F, in combination with the tub A B, shaft I, and crank J, as herein shown and described, for the purpose specified.

2. The cylinder H, made hollow, and constructed with spiral or oblique corrugations or slots, in combination with a longitudinally-fluted roller H in its concave, as herein shown and described, for the purposes set forth.

3. In combination with the horizontal cylinder H, the removable concave, composed of the bearers D and loose rollers E F, the same being readily separable when removed from the tub, and constructed substantially as shown and described, for the purpose specified.

4. In combination with the horizontal cylinder H and its concave D E F, the feed-boards G G, removable as described, for the purposes set forth.

5. In combination with the horizontal cylinder H, the external springs L, slides K, and supporting-bar M, constructed, arranged, and attached as shown and described, for the purpose specified.

To the above specification of my rubber-roll washing-machine I have signed my hand this 19th day of March, 1872.

THOMAS W. EDGAR.

Witnesses:

OCTAVIUS KNIGHT.

JAS. L. EWING.