(No Model.) 2 Sheets—Sheet 1.

W. H. HORNBY & L. M. LENT.

WASHING MACHINE.

No. 471,862. Patented Mar. 29, 1892.

Fig 1

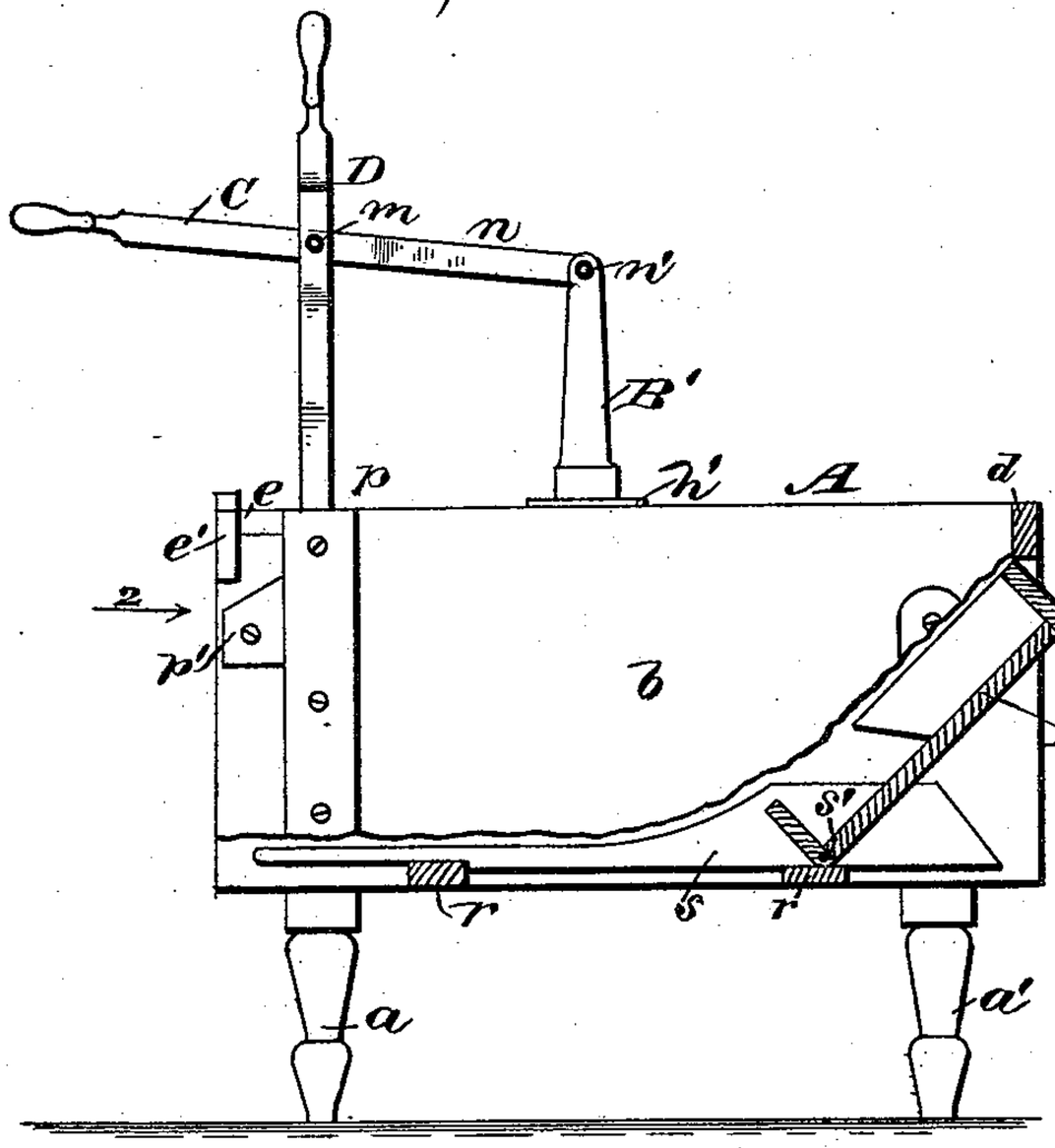


Fig 2

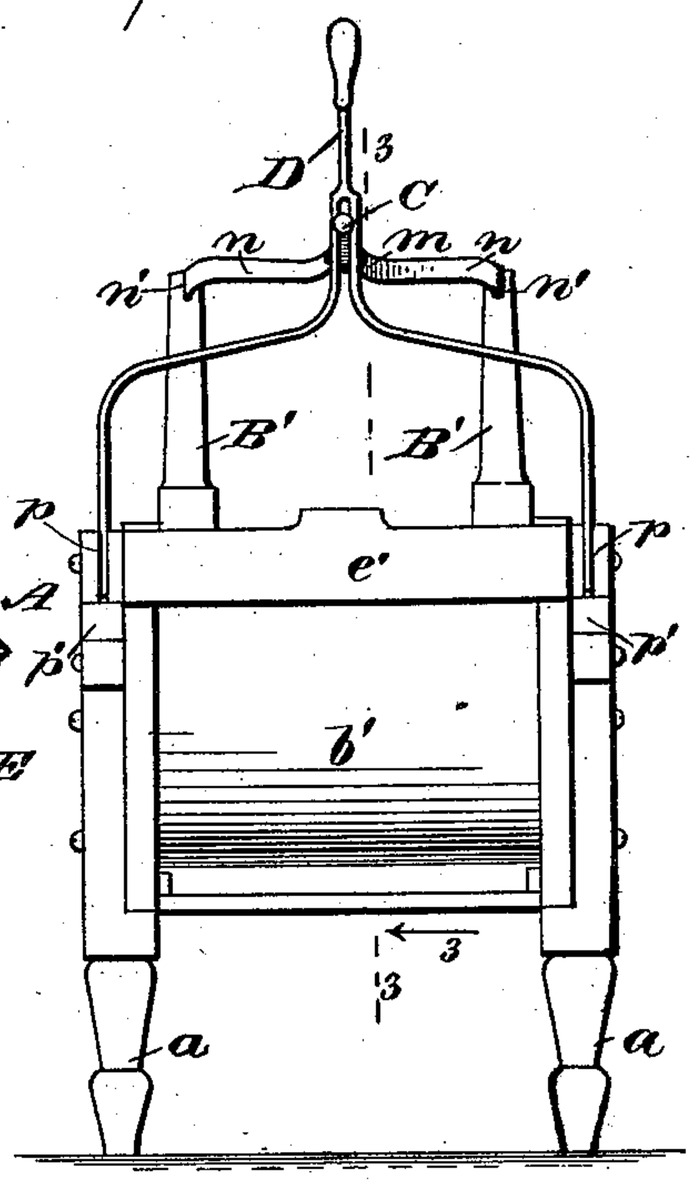
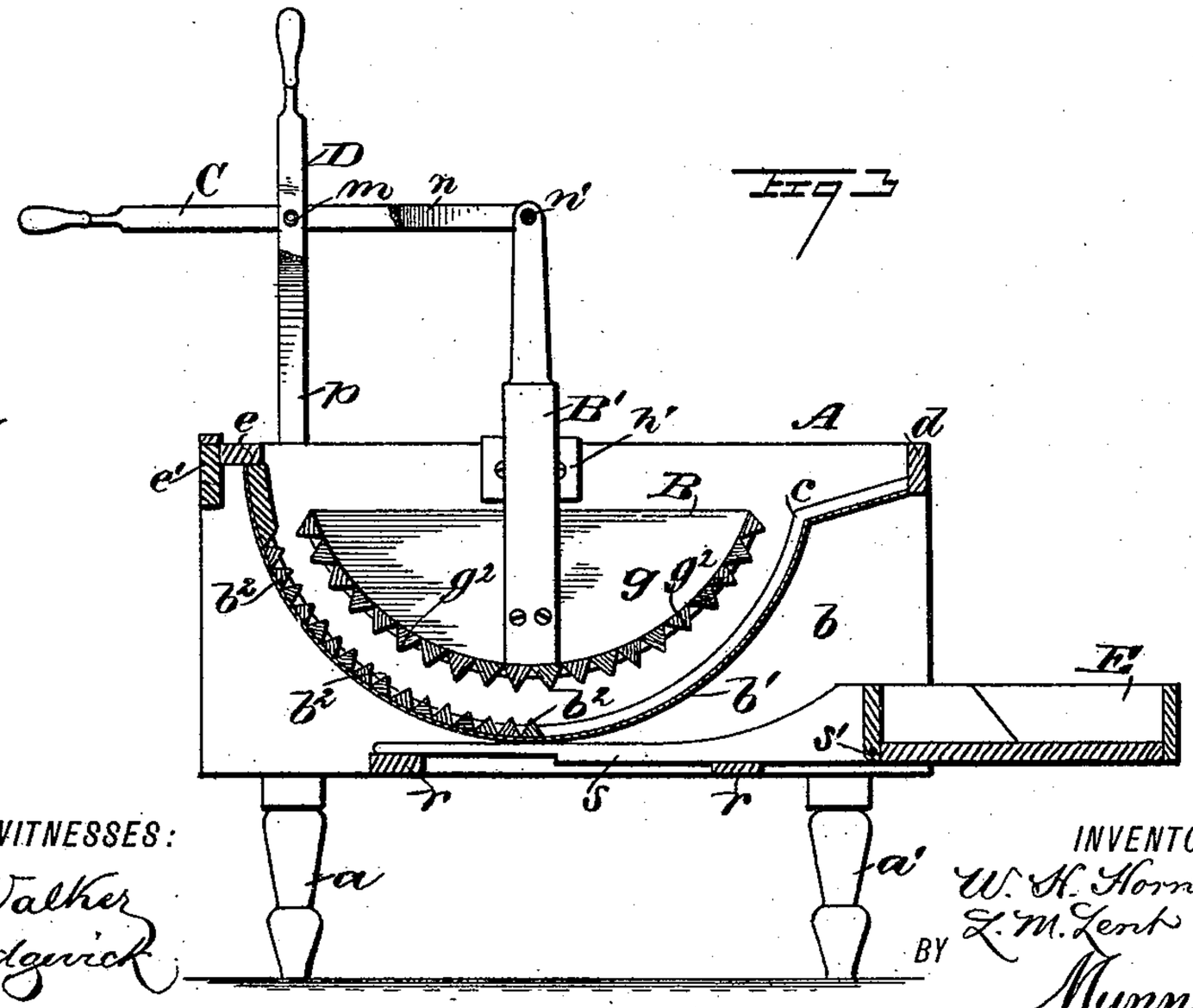


Fig 3



WITNESSES:
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Fig 4

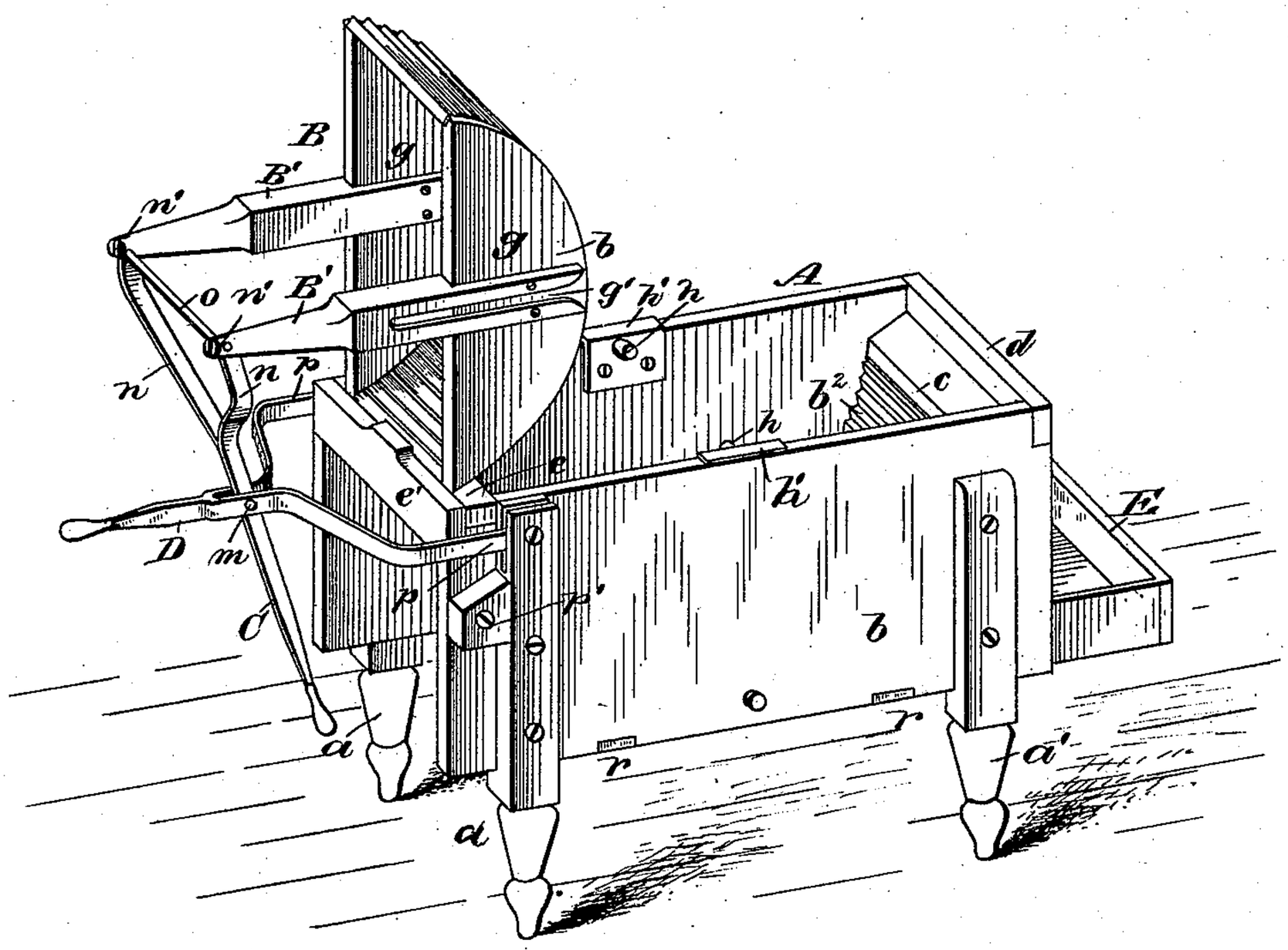
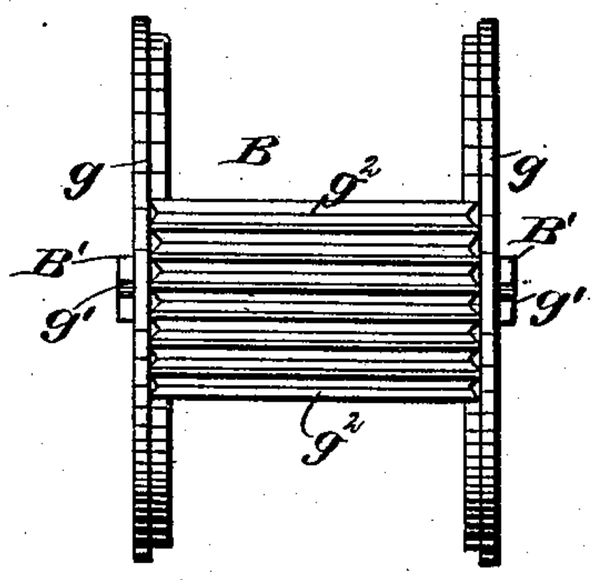


Fig 5



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UNITED STATES PATENT OFFICE.

WILLIAM HENRY HORNBY, OF TORONTO, AND LUCAS MILTON LENT, OF RIDGETOWN, CANADA.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 471,862, dated March 29, 1892.

Application filed August 20, 1891. Serial No. 403,170. (No model.) Patented in Canada September 7, 1888, No. 29,833.

To all whom it may concern:

Be it known that we, WILLIAM HENRY HORNBY, of Toronto, in the county of York, Province of Ontario, and Dominion of Canada, and LUCAS MILTON LENT, of Ridgetown, in the county of Kent, Province of Ontario, and Dominion of Canada, have invented a new and useful Washing-Machine, (for which we have obtained Letters Patent in Canada, No. 29,833, dated September 7, 1888,) of which the following is a full, clear, and exact description.

This invention relates to improvements in washing-machines of a type employing a concave rubber bed and a convex rubber that is adapted to rock above the bed; and has for its objects to provide a simple and convenient device of the character indicated, which by its construction affords complete control of the rubber, to rock, elevate, depress, remove, and replace said portion of the machine without disconnection of any attached parts, a further object being to provide a convenient clothes receptacle or tray wherein clothes passed through a wringer will be received, said tray being adapted to fold within the machine when not in service.

To these ends our invention consists in the construction of parts and their combination, as is hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side view of the machine broken away to expose interior parts. Fig. 2 is an end view of the device opposite the arrow 2 in Fig. 1. Fig. 3 is a vertical longitudinal section on the line 3 3 in Fig. 2, viewed in the direction of arrow 3 in said figure. Fig. 4 is a perspective view of the machine, showing the position of parts when the rubber is removed from the suds-box; and Fig. 5 is a reverse plan view of the rubber-frame detached, with a portion of the rubber-face removed from the frame.

The suds-box A is made rectangular or oblong, its dimensions being proportioned to the capacity desired for the machine, and is preferably constructed of wood properly joined to afford strength and neatness of finish, four legs a a' being provided, which are affixed in a substantial manner to the sides b of the suds-box near each corner.

Within the box A a concave bottom b' is located and secured by an attachment of each end to a side b of the box in any suitable manner, said bottom portion being preferably constructed on an inclined plane from the point c, near the upper edge to engage a transverse top bar d of the box-frame A, which bar is at the rear end of the machine and is designed to receive and support a clothes-wringer that may be clamped thereon. (Not shown.)

Transversely on the concave bottom b' a series of angular rubber bars b^2 are formed or affixed, which are by preference given an inverted-V form, as shown in Fig. 3. These rubber bars may be extended partly over the interior of the convex bottom plate b' or farther than is shown, if desired, and at the front end of the suds-box are dispensed with near the upper edge of the bottom b', which is supported at this point by an attachment to cross-pieces e e' of the box-frame A.

The rubber B consists of two sides g, held spaced apart and parallel by the rubber strips g^2. Said strips, which are preferably made triangular in cross-section, as shown in Fig. 3, have their ends seated in the rabbeted lower edges of the sides, which edges are curved in a similar manner, so that the series of rubber strips when in place provide a convex or semi-cylindric ribbed rubber face.

Oppositely and centrally on the sides g of the rubber B two standards B′ are erected, which are projected therefrom a proper distance above the upper edges of the sides at an equal distance from the opposite terminal edges of the ribbed bottom. Said standards are slitted longitudinally, so as to permit them to embrace the sides g when slid thereon, the parallel limbs thus produced being secured by screws upon the sides, as indicated in Figs. 3 and 4.

The exterior limbs of the standards B′ are longitudinally bifurcated to provide opposite channels therein, which channels g' are designed to permit a sliding engagement therewith of similar cylindrical studs h, that are projections from two bracket-plates h', these

latter-named parts being L-shaped in cross-section and fitted and secured oppositely upon the inner sides of the suds-box A at about its center of length and caused to bear with one flange of each upon the top edges of the box, so that the rubber B may be slid vertically and rocked horizontally within the suds-box A.

To facilitate the manipulation of the rubber B two bifurcated levers C D are provided. The lever C is pivoted at *m* in the fork of the lever D, and is thereby adapted to project laterally therefrom, its limbs *n* having their terminals loosely secured to the upper ends *n'* of the standards B', the connection of parts being stiffened by the cross-brace *o*. The other lever D has its ends *p* located in slots formed in the upper ends of the legs *a* and thereto pivoted, so that said lever may be vibrated from a horizontal to a vertical plane and the reverse, the downward movement of the lever being limited by its impingement upon the check-blocks *p'*.

Below the bottom *b'* of the suds-box A the sides *b* are stayed by the transverse strips *r*, which also afford support to two parallel slide-bars *s*, between the sides of which a rectangular tray E is pivoted at one end, as shown at *s'* in Figs. 1 and 3.

It will be seen that the slide-bars *s* where they engage the tray E are adapted to form a part of each side wall of said tray when the latter is in a horizontal position and drawn out from the suds-box a proper degree, as represented in Fig. 3, the inward movement and upward folding of the tray locating the latter within the suds-box frame, so as to be out of the way when not in service.

In use the lever C D are grasped, and by an obvious manipulation are given the position shown in Fig. 4, which will remove the rubber B from the suds-box A for the introduction or removal of material, such as clothes. If a proper quantity of soapy water is placed in the suds-box with the clothes, and the rubber B located on the latter by moving the levers C D into the position shown in Figs. 1, 2, and 3, a downward pressure and vibration of the rubber by a manipulation of the levers will speedily cleanse the surface operated upon, which may be readily changed, so as to bring the rubber into scrubbing contact with all parts of the fibrous material being washed. When the goods have been washed, the rubber B can be placed in the position indicated in Fig. 4, and the clothes rinsed by changing the soapsuds for clear water, after which, if a wringer is secured in position on the bar *d*, the clothes passed through it will be received by the tray E, which has been previously drawn out to assume the position represented in Fig. 3.

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

1. The combination, with the suds-box having pivot-studs *h*, stops *p'*, and a forked lever D, the arms *p* of which are pivoted above the stops to swing down thereon, of the rubber B, having standards provided with bifurcations *g'* to receive said pivots, and a forked lever pivoted to the upper ends of said standards and pivoted between its ends to the lever D between the ends thereof, substantially as set forth.

2. In a washing-machine, two bifurcated levers, one pivoted within the fork of the other and having its limbs pivoted to a vibratory rubber of the machine, the forked lever that supports the first-mentioned lever, having its ends pivoted to the sides of the washing-machine, substantially as described.

3. The combination, with the suds-box having slides *s s* mounted thereunder, of the tray E, pivoted between the slides and having the rear portions of its sides cut away, the forward ends of the slides forming continuations of the sides of the tray, substantially as set forth.

WILLIAM HENRY HORNBY.
LUCAS MILTON LENT.

Witnesses as to William Henry Hornby:
E. D. CAHILL,
WM. L. ROSS.

Witnesses as to Lucas Milton Lent:
NATHANIEL MILLS,
OMAR KERN WATSON.