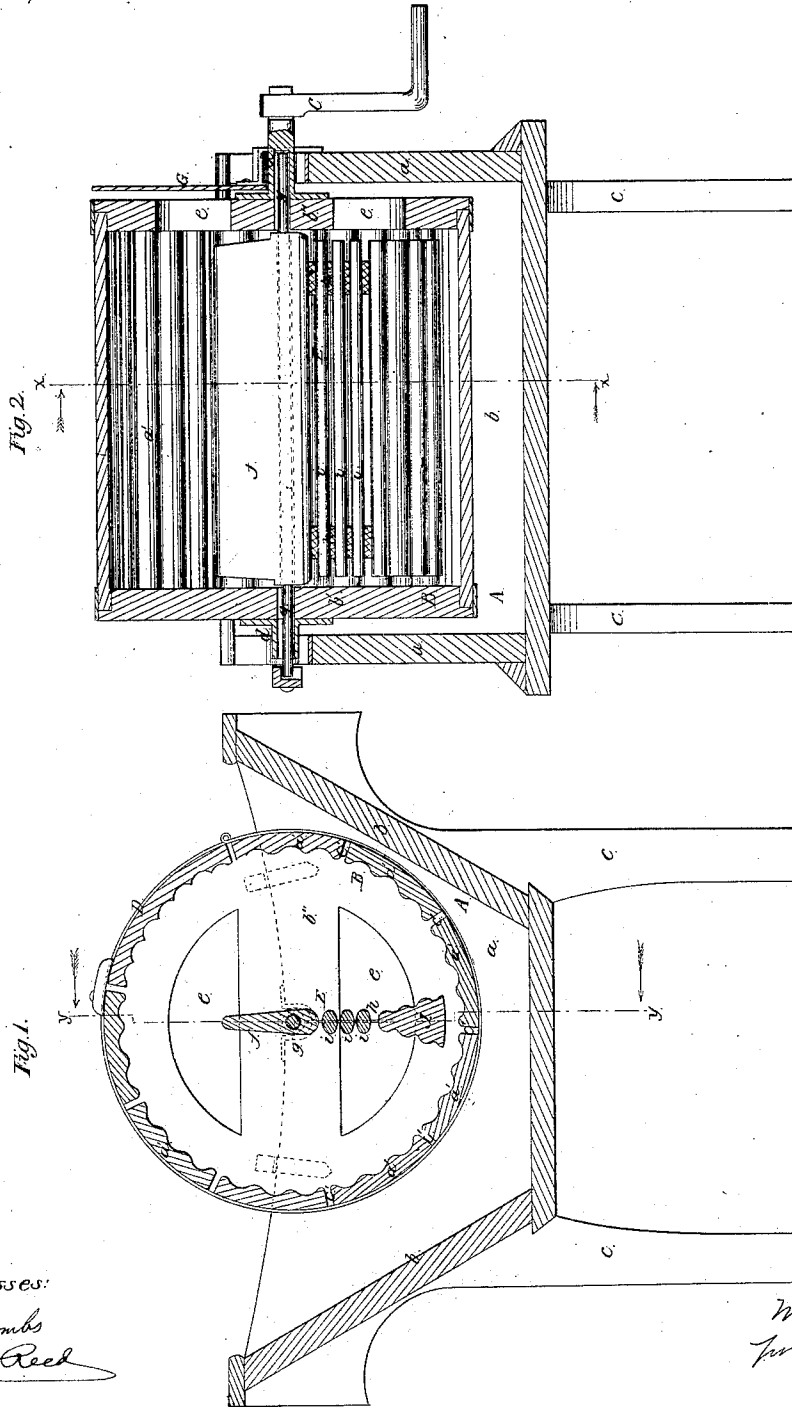


M. L. Grover,

Washing Machine,

N^o 37,226.

Patented Dec. 23, 1862.



Witnesses:

J. W. Burns
Geo. Reed

Inventor:

M. L. Grover
per Munn & Co
attys.

UNITED STATES PATENT OFFICE.

MORGAN L. GROVER, OF DUPLAINVILLE, WISCONSIN.

IMPROVED WASHING-MACHINE.

Specification forming part of Letters Patent No. 37,226, dated December 23, 1862.

To all whom it may concern:

Be it known that I, M. L. GROVER, of Duplainville, in the county of Waukesha and State of Wisconsin, have invented a new and Improved Clothes-Washing Machine; 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, making a part of this specification, in which—

Figure 1 is a side sectional view of my invention, taken in the line *xx*, Fig. 2; Fig. 2, a transverse vertical section of the same, taken in the line *yy*, Fig. 1.

Similar letters of reference indicate corresponding parts in the two figures.

This invention relates to an improvement in that class of clothes-washing machines in which a rotating or a reciprocating partially-rotating clothes cylinder is employed and fitted within a suitable suds-box.

The invention consists in the employment or use of a cylindrical clothes-receptacle, formed of staves or slats, with open spaces between them to admit the suds, said staves or slats being grooved or fluted at their inner surfaces, and the clothes-receptacle having a rubber suspended within it, constructed and arranged in a novel way, as hereinafter fully shown and described.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents a suds-box, which is constructed with two parallel sides, *a a*, and two inclined end pieces, *b b*. This suds-box is supported at a suitable height by legs *c* or any proper framing.

B is a cylindrical clothes-receptacle, which is constructed by securing slats or staves *a'* to the periphery of two circular heads, *b' b''*. The slats or staves have spaces *c'* allowed between them, and the inner surfaces of said slats or staves are fluted or corrugated longitudinally, as shown in both figures.

The clothes-receptacle is hung upon journals *d d*, the bearings of which are in the upper edges of the side pieces, *a a*, and one of said journals is provided with a crank, C. The head *b''* of the cylinder has two openings, *e e*, made in it, both of which are shown in Fig. 1. The other head, *b'*, is solid. The clothes-receptacle is provided with a door, D,

through which the clothes to be washed are placed in and removed from the receptacle.

Within the clothes-receptacle B there is suspended a rubber, E. This rubber is formed in part of a flat strip of wood, *f*, provided with a journal, *g*, at each end, the bearings of which are within the journals *d d* of the clothes receptacle, and to the lower edge of *f* there are attached two straps or pieces of webbing, *h h*, which pass through a series of parallel slats, *i*, and are attached at their lower ends to a bar, *j*, which in its transverse section is in the form of an isosceles triangle, as shown in Fig. 1. The two opposite sides of the bar *j* are fluted or corrugated longitudinally, and the slats *i* are of elliptical form in their transverse section, as also shown in Fig. 1. The portion of the rubber E below the journals *g g* is heavier than the part *f* above said journals, and consequently the gravity of the rubber has a tendency to keep it in a vertical position, as will be fully understood by referring to Fig. 1.

The operation is as follows: The clothes to be washed are placed in moderate quantity in the receptacle B, and the suds-box A is supplied with warm suds in sufficient quantity to project up about an inch within the receptacle B. The latter is then turned slowly, first in one direction and then in the other, for from three to five minutes. They are then removed from the receptacle and wrung. This operation is repeated with other clothes until enough are obtained for the second part of the process, which is performed by removing the rubber from the receptacle and placing the clothes previously operated into the receptacle until the latter is about three quarters full. The suds-box is then supplied with boiling hot water, and the clothes, if very dirty, may be rubbed with soap. The receptacle B is then turned about five minutes and the work is done.

In the first operation or process the rubber E subjects the clothes to a certain degree of rubbing and friction, and prevents the clothes from rolling up compactly, keeping them in an unfolded or open state, so that all parts of them will be duly acted upon. During this first operation the clothes-receptacle is supplied with air through the openings *e*, but during the second operation it is preferable to have the openings *e* closed, and this is done by placing a semicircular plate, G, on the

suds-box A, which covers the outer side of the head *b''* above the suds-box, as shown in Fig. 2.

I do not claim a rotating or a reciprocating partially-rotating clothes-receptacle, for they have been previously used; but

I do claim as new and desire to secure by Letters Patent—

The combination of the clothes-receptacle B

and rubber E, constructed and arranged as shown, and used in connection with the suds-box A, for the purpose specified.

MORGAN L. GROVER.

Witnesses:

A. COOK,

R. B. HAMMOND.