

G. M. Denison,

Washing Machine,

N^o 55,068.

Patented May 29, 1866.

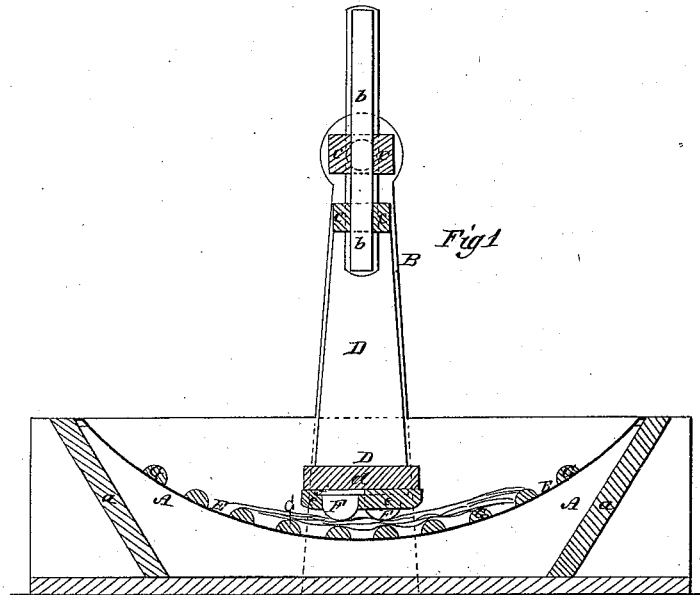
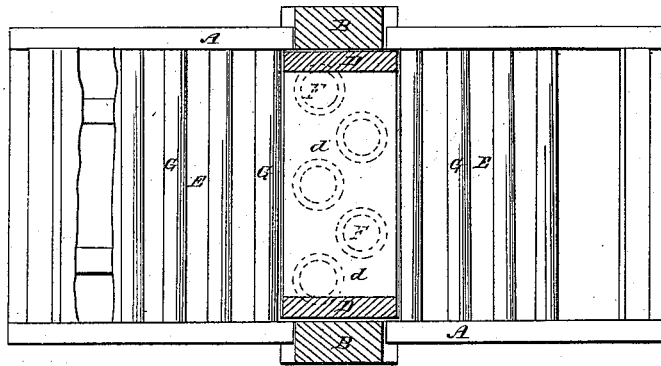


Fig 2.



Witnesses:
J. M. Coombs
Sellers.

Inventor:
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Attys

UNITED STATES PATENT OFFICE.

GEORGE M. DENISON, OF NEW LONDON, CONNECTICUT.

IMPROVED WASHING-MACHINE.

Specification forming part of Letters Patent No. 55,068, dated May 29, 1866.

To all whom it may concern:

Be it known that I, GEORGE M. DENISON, of New London, in the county of New London and State of Connecticut, have invented certain new and useful Improvements in Washing-Machines; 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 vertical longitudinal section. Fig. 2 is a horizontal section in the line *xx* of Fig. 1.

Similar letters of reference indicate corresponding parts in both figures.

This invention consists in the construction of the rubbing-surfaces of a washing machine or board with teats or knobs formed of india-rubber or other like elastic material, whereby the fabric to be cleansed is effectually rubbed during the washing process without liability of being torn or otherwise injured by the abrasion of the said rubbing-surfaces.

The invention also consists in the combination of elastic ribs on the bottom or bed with the teats or knobs of the rubber of a washing-machine, whereby a very efficient action of the movable rubbing device is obtained without liability to tear the clothing.

To enable others to understand the nature and construction of my invention, I will proceed to describe it with reference to the drawings.

A represents a shallow oblong box, the ends of which may be made sloping or inclined, as shown at *a* in Fig. 1, and which constitutes the receptacle in which the fabric to be washed and the water for washing the same is placed during the operation of the machine. Fixed upon each of the sides of this box A, at the center thereof, are two upright posts or standards, B. Circular transverse holes are formed in the upper ends of these standards, and pivoted at each end in these holes is a rock-shaft, C, from which is suspended a swinging frame, D, the said frame being provided at its upper end with rods or bars *b*, which pass through transverse slots in the rock-shaft C, so that the said bars *b* may have a sliding movement within the slots.

Spiral or other suitable springs may be placed, if desired, between the upper cross-bar, *c*, of the swinging frame D and the rock-shaft C in such manner as to press the said frame outward, and thus keep its rubbing-surface in con-

tact with the stationary rubbing-surface of the machine, or with the cloths or fabric placed thereon.

E is a false bottom which is placed in the box A, and may be of sheet-zinc or other suitable material, and removable when required; and is made concave or curved in the arc of a circle concentric with the axis of the rock-shaft C.

d is a transverse bar which is situated at the lower end or bottom of the swinging frame D, and secured by screws or other suitable means to the outer or under side of this bar or cross-piece *d* is a flat plate, *e*, in which are formed any desired number of holes, which may be circular in shape. The upper end of each of these holes next to the bar *d* has a recess or rabbet formed around it.

F represents the teats or knobs which act upon the fabric in rubbing the same, and which are made of india-rubber or other similar elastic gum or substance. These knobs are rounded at their outer ends, while their sides may be nearly or quite cylindrical, and are provided with annular flanges *f* around their bases or inner ends. These knobs are placed in the holes of the plate *e*, just mentioned, with their rounded ends projecting out therefrom, as shown in Fig. 1, and with their flanges *f* situated in the rabbet formed around the inner or upper ends of the said holes, so that the plate *e* being secured upon the inner side of the cross-piece *d*, at the bottom of the swinging frame, as hereinbefore set forth, the flanges *f* of the knobs F are firmly held between the said plate and the bottom of the swinging frame, the outwardly-projecting ends of the knobs forming hemispherical or semi-spheroidal rubbing-teats upon the bottom of the said swinging frame. Placed transversely at any required distance apart upon the concave upper side or surface of the false bottom F, and secured thereto by any suitable means, are a number of ribs, G, which may be of semi-cylindrical or other suitable shape, and are made of india-rubber or other similar elastic gum or material, and upon which the under side of the fabric is rubbed during the washing process.

The operation of the machine is as follows: The cloth or fabric to be washed being spread out upon the concave false bottom E, between it and the bottom of the swinging frame D, as shown in red lines in Fig. 1, and a sufficient quantity of water or suds being placed in the box A, the said frame is vibrated or swung to

and fro, on which the rubbing of the said knobs, or teats upon the fabric effectually loosens and removes the dirt and impurities contained therein, at the same time that the said knobs being elastic and comparatively soft, to some extent yield to the inequalities in the thickness of the cloths or fabric, and thus prevent them from being torn or injured by the rubbing operation just described, which would be likely to occur if the knobs were made of a hard and non-elastic substance, this beneficial result being materially assisted by the yielding nature of the elastic ribs G, which enables the knobs F to more easily pass over the said ribs when an unusual thickness of cloth is interposed between the false bottom and the rubbing-surface of the swinging frame.

The operation of the elastic teats or knobs

F would be the same if forming the stationary instead of the moving rubbing-surface of the machine, or if, instead of moving over the cloth or fabric, as described, the said fabric were rubbed upon and over them by any suitable mechanism or by hand only, as in a wash-board.

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

The elastic knobs F, in combination with elastic ribs G, on the surfaces of the rubber and bed, respectively, of a washing-machine, substantially as herein set forth, for the purpose specified.

G. M. DENISON.

Witnesses:

HIRAM WILLEY,
THOS. BIMER.