(No Model.)

J. H. LEHMAN.

MACHINE FOR CLEANING FABRICS.

No. 306,269. Patented Oct. 7, 1884.

Fig. 1.

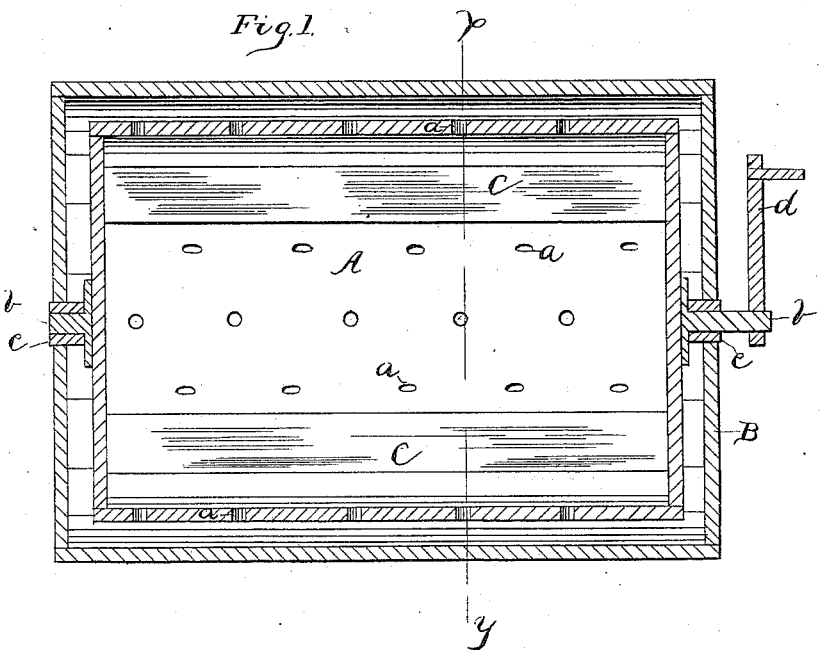
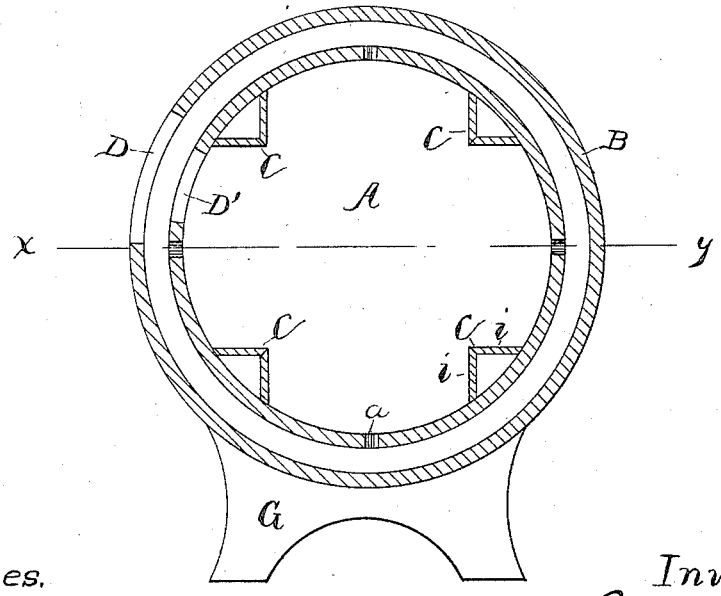


Fig. 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

JOSIAH H. LEHMAN, OF TROY, NEW YORK.

MACHINE FOR CLEANING FABRICS.

SPECIFICATION forming part of Letters Patent No. 306,269, dated October 7, 1884.

Application filed January 21, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOSIAH H. LEHMAN, a resident of the city of Troy, in the county of Rensselaer and State of New York, have invented certain new and useful Improvements in Machines for Cleaning Fabrics; and I do hereby declare that the following is a full, clear, and exact description of the invention, that will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Similar letters refer to similar parts in the several figures therein.

My invention relates to improvements in machines for cleaning fabrics; and it consists of a rotary drum provided on the inner surface of its shell with a plurality of shelves projecting therefrom angularly to its radii passing through said shelves to form double or reversed inclines.

The object of the invention is to combine mechanical instrumentalities so as to produce a machine adapted to clean fabrics with or without water, as hereinafter described.

Figure 1 of the drawings is a horizontal central section taken at the broken line *x y* in Fig. 2. Fig. 2 is a vertical cross-section taken at the broken line *x y* in Fig. 1.

A is the rotary drum, provided with numerous perforations, *a*, in its shell, and the projecting shelves C, the two exposed surfaces *i i* of which meet at their inner edges.

I prefer to construct the rotary drums with four such shelves equidistant from each other, and the inclination of their inner surfaces such that the planes which they occupy will be about right angular to each other.

When it is desired to use my rotary drum for cleaning fabrics in water or suds, it is arranged to rotate in a larger water-tight drum or reservoir, B, which is provided with axial bearings *c*, to receive the axle *b* of the inner drum. The axle may have a crank, *d*, to rotate it, or a pulley when power is used.

Both drums are provided with openings D D', for receiving the fabric, which are closed when the drums are in use.

When the rotary drum is used for cleaning fabrics in a dry condition, the outer drum is unnecessary and may be dispensed with, the axle-bearings being fixed upon any desired supporting-frame.

It is evident that when the inner drum is revolved the inclosed fabric will be caught by the projecting shelves and carried with them until it approaches the upper part of the drum, when it slides off and falls back to the lower part of the drum, when it is caught by another shelf, and the operation is continually repeated until the dirt has been expelled from the fabric.

By having the surfaces of the projecting shelves extend from the shell in a plane angular to the radial plane intersecting the shelves, the fabric slides off without twisting or rolling the goods, whereas when the shelves are constructed with their surfaces coincident with their radial planes, as they have been heretofore constructed, the goods fall off the shelves before the sustaining-surface of the latter has acquired sufficient or any downward slope or inclination, and they do not slide but roll off the shelves. The edges of the shelves offer sufficient resistance to twist and entangle the goods, forming them into a solid mass difficult to manipulate.

By having the shell of the drum cylindrical in shape, with the shelves projecting therefrom, much greater strength is obtained, as the drum can be hooped like a cask or barrel, which is a very important feature, on account of the very great diameter required for successful use of the drum.

By providing the shelves with reversed inclines, the drum may be revolved in either direction, or changed from one direction to the other.

The drum is necessarily made large in diameter, that the goods may fall far enough to acquire considerable momentum to sufficiently beat them. For this reason the cylindrical form of the shell is much superior to a polygonal form, the latter soon yielding to the successive blows from the goods falling upon it, which renders it likely to soon get out of order.

I am aware that there is nothing new in a

perforated cylinder having right-angled peripheral carriers inclined obliquely to the radii of the cylinder on the opposite sides, or in longitudinal rows of holes in the cylinder; but

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

The combination of the external imperforated cylinder, B, having opening D, and the internal cylinder, A, provided with the described V-shaped shelves C, opening D′, and longitudinal rows of perforations *a*, arranged midway between the shelves, substantially as described.

In testimony whereof I have hereunto set my hand this 19th day of January, 1884.

JOSIAH H. LEHMAN.

Witnesses:
GEO. A. MOSHER,
W. H. HOLLISTER, Jr.