H.E. Smith,

Washing Machine,

No. 40,774, Patented Dec. 1, 1863.

Fig: 1.

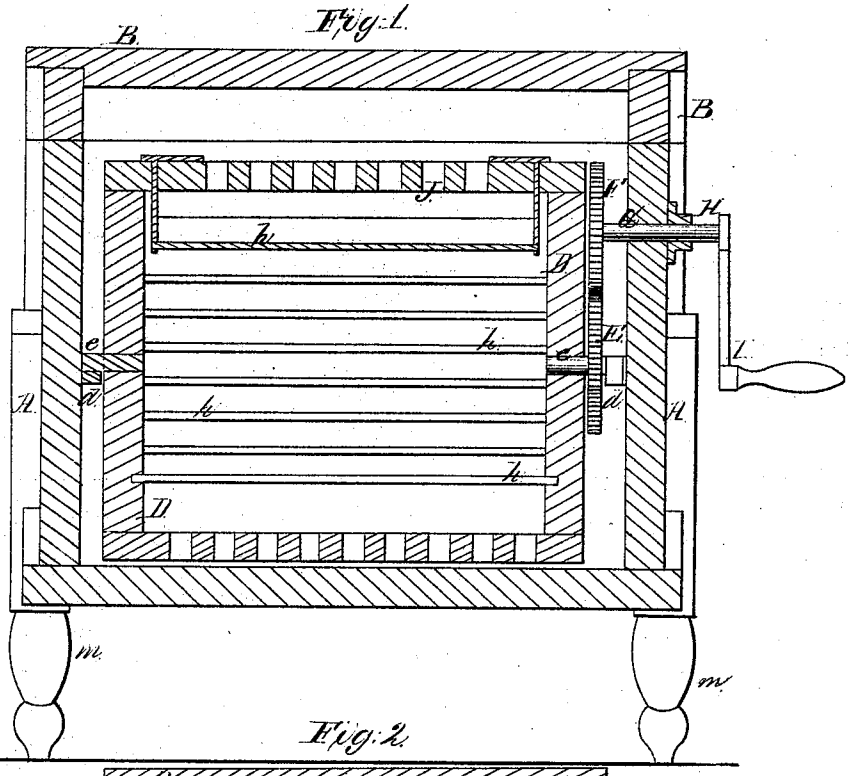
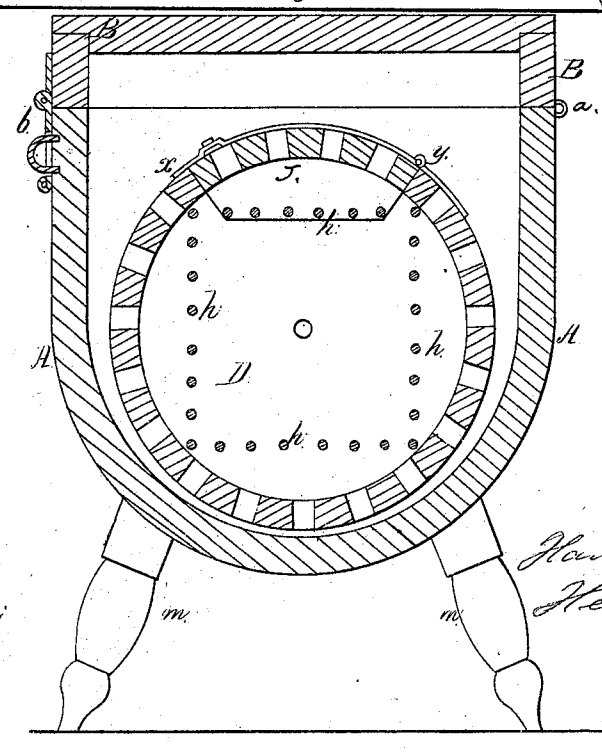


Fig: 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

HAMILTON E. SMITH, OF PITTSBURG, PENNSYLVANIA.

IMPROVED WASHING-MACHINE.

Specification forming part of Letters Patent No. **40,774**, dated December 1, 1863.

To all whom it may concern:

Be it known that I, HAMILTON E. SMITH, of Pittsburg, Allegheny county, Pennsylvania, have invented an Improved Washing-Machine; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon.

My invention consists of a perforated cylinder, or its equivalent, with an internal cage, the whole being constructed and operating in a reservoir. substantially as described hereinafter, for the purpose of thoroughly cleaning the clothes contained in the said cage.

In order to enable others skilled in machinery of this class to make and use my invention, I will now proceed to describe its construction and operation.

On reference to the accompanying drawings, which form a part of this specification, Figure 1 is a vertical section of my improved washing machine, and Fig. 2 a transverse vertical section.

A is the reservoir for containing the water, suds, &c.; and B is the cover, which is hinged on one side to the reservoir at *a* and secured at the opposite side by means of the staple and catch *b* or other suitable fastening. The lower portion of the reservoir is in the present instance of the semi-cylindrical form represented in the drawings, the whole being supported on suitable legs, *m*.

D is a hollow perforated cylinder, the journals *e e'* of which are adapted to bearings *d d*, secured to the ends of the trough A on the inside of the same. To the journal *e'* of the perforated cylinder is secured a cog-wheel, E, which gears into a similar wheel, F, on the shaft G, the latter turning in the end of the trough and in a suitable plate, H, secured to the same. This shaft G may be furnished with an ordinary handle, I, when the machine has to be operated by hand, or with a pulley for the reception of a driving-strap. A portion of the cylinder, from the point *x* to the point *y*, is cut away for the reception of the lid J, which is perforated in the same manner as the cylinder, and which when closed forms a continuation of the said cylinder. This lid is hinged to the cylinder at one edge, and is secured to the other by any suitable fastenings. Within the cylinder, and extending from end to end of the same, are arranged four rows of rods, *h*, forming in the present instance a square cage, as seen in Fig. 2, one of the rows of rods being secured to the lid, so that on opening the latter access may be had to the interior of the cage. Water, suds, &c., having been deposited in the trough, the lid J is opened, the clothes to be washed thrown into the cage, after which the lid is closed and secured, as is also the cover B of the reservoir A. As the cylinder D revolves, the clothes are rolled over and over, so that all portions are exposed to the action of the agitated water. At the same time the pressure of the clothes against the rods *h h* of the cage causes the water contained within the folds to be forced through the interstices of the fabric, driving therefrom the accumulated dirt.

Perforated cylinders or vessels revolving in reservoirs have been heretofore used for washing purposes with very good results. I have found by practical test, however, that the good effect is increased by arranging a cage within the cylinder, the clothes never coming in contact with the latter, inasmuch as they are confined within the limits of the cage.

A revolving perforated vessel of square, hexagonal, or other form may be used in place of the cylinder, and the rows of rods may be arranged in other forms than that of a square. In all cases, however, the rods should be so arranged as to maintain the clothes at a distance from the interior of the cylinder or vessel, so that they may be as much exposed as possible to the action of the agitated water.

I claim as my invention and desire to secure by Letters Patent—

The perforated cylinder D, or its equivalent, with its internal cage, the whole being constructed and arranged to revolve in a reservoir, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HAMILTON E. SMITH.

Witnesses:

LEONARD S. JOHNS,

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