No. 729,055. PATENTED MAY 26, 1903.

W. FORGER.

WASHING APPARATUS.

APPLICATION FILED DEC. 9, 1901.

NO MODEL.

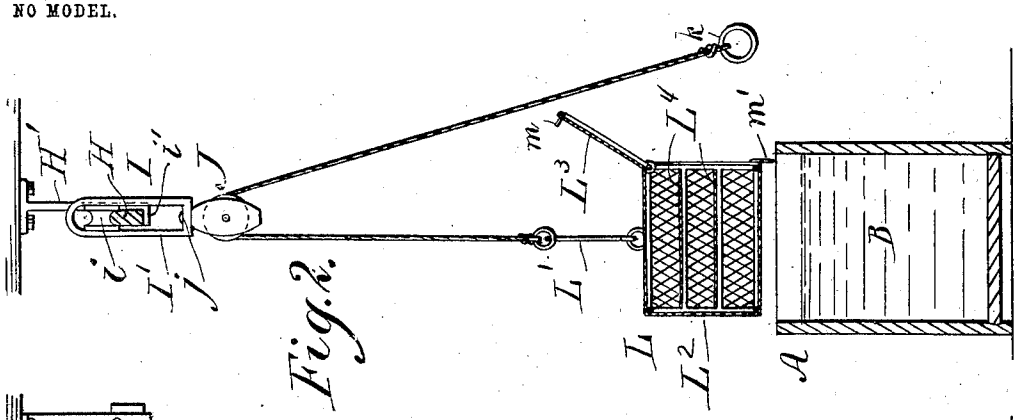

Fig. 2.

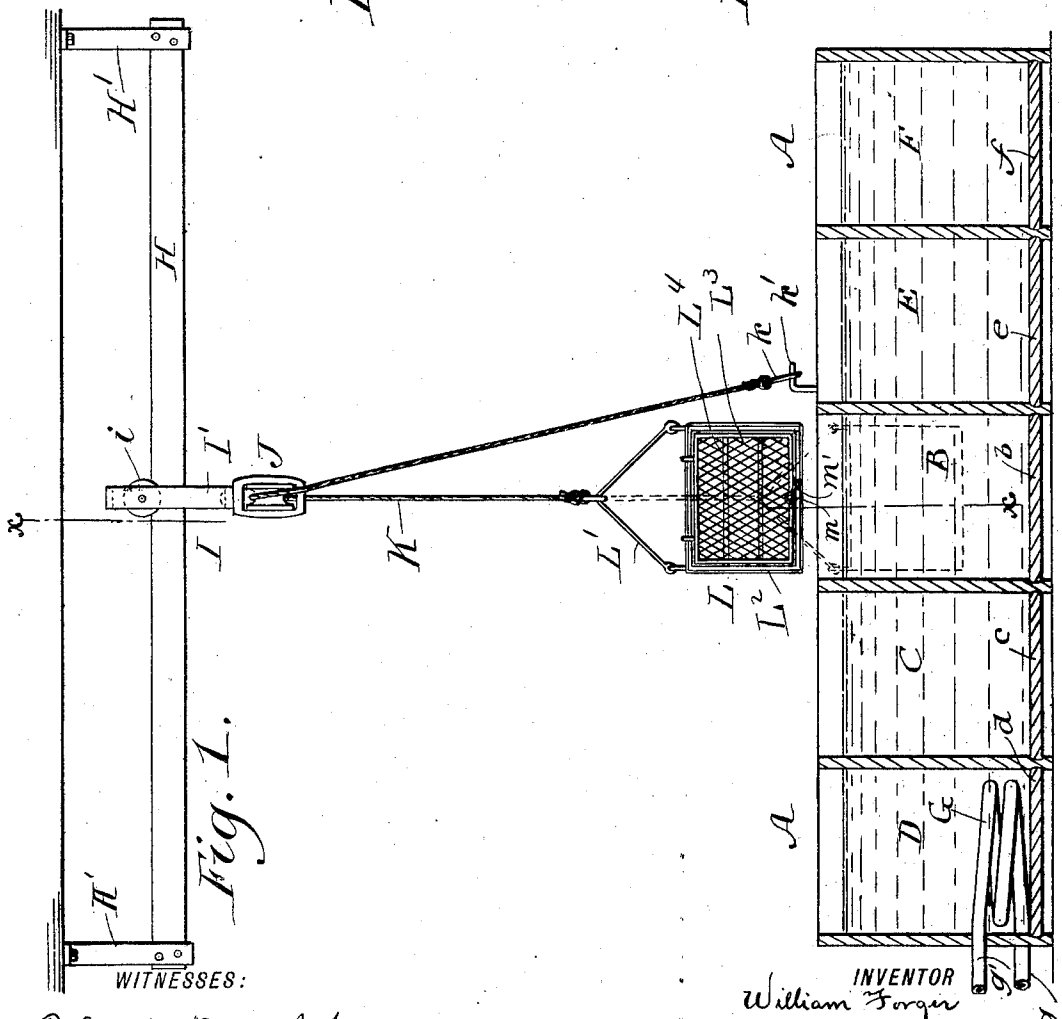

Fig. 1.

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No. 729,055. Patented May 26, 1903.

UNITED STATES PATENT OFFICE.

WILLIAM FORGER, OF NEW YORK, N. Y.

WASHING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 729,055, dated May 26, 1903.

Application filed December 9, 1901. Serial No. 85,131. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM FORGER, a citizen of the United States, and a resident of New York, county of New York, and State of New York, have invented certain new and useful Improvements in Washing Apparatus, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof, in which similar letters of reference indicate corresponding parts.

The subject of the present invention is a washing apparatus more particularly designed for lace curtains and other fabrics of a delicate texture; and the said invention embodies a tank containing a series of successively-arranged compartments, with the water in each differently conditioned for the successive immersion of the fabric, the specific relation being that an intermediate compartment contains a dirt-loosening liquid, while compartments at opposite sides of the same are for the boiling and rinsing operations, repectively, the immersion of the fabric within said compartments being provided for by a receptacle divided by a series of horizontal screen shelves or partitions to permit the articles to be so arranged therein as to insure their efficient treatment in the several compartments.

The improved apparatus also includes provision for the raising and lowering of the fabric-receptacle and its transfer from one compartment to another, the relative proportions of the receptacle and each compartment being such that while the receptacle will occupy each compartment to a highly-satisfactory extent sufficient clearance will be afforded to permit the raising and lowering provision to be manipulated to effect the rapid up-and-down movement of the receptacle without liability of its becoming bound or jammed within said compartment.

In the accompanying drawings, forming part of this specification, Figure 1 is a vertical longitudinal sectional view of a washing apparatus embodying my invention; and Fig. 2 is a transverse vertical sectional view of said apparatus, the section being taken in the plane indicated by the dotted line $x\,x$, Fig. 1.

A horizontally-extended rectangular tank A is suitably supported at its base and is divided into a series of water-tight compartments B, C, D, E, and F, disposed in the order indicated in Fig. 1, and each having a top opening commensurate with the horizontal dimensions of its interior.

b, c, e, and f are the bottoms of the compartments B, C, E, and F, respectively, while immediately above the bottom d of the compartment D and within the latter is arranged a steam heating-coil G, the supply and return sections $g\,g'$ of which extend through water-tight openings therefor in the end wall of the tank for receiving and exhausting the steam.

At an elevation centrally over the tank A is a horizontal track or way H, longitudinally disposed relative to said tank beneath and suspended by being secured to the lower horizontal bends i' of hangers H', suitably secured at their upper ends—as, for instance, to the ceiling. Movably supported on this track or way is a carrier I, comprising a narrow vertical frame I', journaled in the upper part of which is a grooved roller i, bearing on the upper rounded edge of the track. A pulley-block J has a swivel connection j with the bottom bar of the carrier.

Passing over the pulley of the block J is a rope or cable K, one end of which is attached to a ring carried by the bail L' of a receptacle L, while the other and free end is provided with a large ring k, adapted to serve as a handle for operating the rope K and for a further purpose. The receptacle L consists of a square frame L^2 for the attachment of top, bottom, and side sections of reticulated or screen material. The receptacle, however, is closed at one of its sides by a door L^3, hinged at its top and designed to be securely closed when desired by any suitable fastening device. In Fig. 1 I have illustrated for this purpose a projection m on the lower part of the door-frame and adapted when the door is closed to be engaged by a hook m', which is pivoted to the lower front part of the receptacle L to secure the door in closed position. The receptacle L is subdivided by a series of horizontal shelves or partitions L^4, also of reticulated or screen material.

In practice the fabrics to be washed are placed upon the shelves or partitions L^4 of the receptacle in a folded or other condition best calculated to properly subject them to the washing operation, and after such intro-

duction of the fabrics the door L^3 is then closed and secured. Assuming that the compartment B contains warm water and a soap or other detergent in solution therein, the liquid-level being at the height indicated in this as well as in the other compartments, the rope or cable is operated to lower the receptacle, with its contents, into the compartment B until it is submerged beneath the water-level therein, as indicated by the dotted lines in Fig. 1. Here the receptacle is permitted to remain for a period calculated to loosen the dirt in the fabrics, and, if deemed necessary, the rope may be manipulated to cause the receptacle to rapidly move up and down in the water to promote the more effective circulation of the latter through the screen walls and partitions and the consequent increased loosening of the dirt. The receptacle L may next be raised from the compartment B and by means of the traveling carrier moved to a position immediately over and lowered into the compartment C, containing water of a similar temperature, with soap or other cleansing agent, as in the compartment B. The loosening and circulation are now continued in the presence of a comparatively purer body of water. After this step has been completed the receptacle is transferred to the compartment D, where on account of the coil G the fabrics undergo a boiling operation. Next the receptacle is transferred to and successively introduced into the compartments E F, wherein the fabrics are thoroughly rinsed, after which the receptacle is raised above the tank and held in an elevated position by causing the ring k of the rope to engage a hook k', provided therefor on the side of the tank. The door L^3 can then be unfastened and opened and the fabrics removed and dried.

It will be understood from the foregoing that delicate fabrics can be thoroughly washed by subjecting them to several conveniently-conducted operations and without in any manner rendering them liable to injury.

Warm or hot water may be introduced into any compartment desired by any suitable means.

The improved apparatus considered in the light of its capacity and efficiency is comparatively simple and inexpensive.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

In a washing device, the combination with top, side and bottom walls constructed with numerous openings therein forming a receptacle for carrying articles to be washed, of a side of the same material, formed with like openings and hinged on said receptacle so as to form a door thereto, a latch operating on said door whereby it may be held in closed position, and shelves having openings similar to said walls within said receptacle, upon which the articles to be washed may be laid to expose a large surface both above and below to a washing liquid.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 20th day of November, 1901.

WILLIAM FORGER.

Witnesses:
SAM S. SPALDING,
ROBERT HICINBOTTOM.