No. 682,349. Patented Sept. 10, 1901.

T. H. C. BEALL.

WASHING MACHINE.

(Application filed Jan. 23, 1901.)

(No Model.)

Fig. 1.

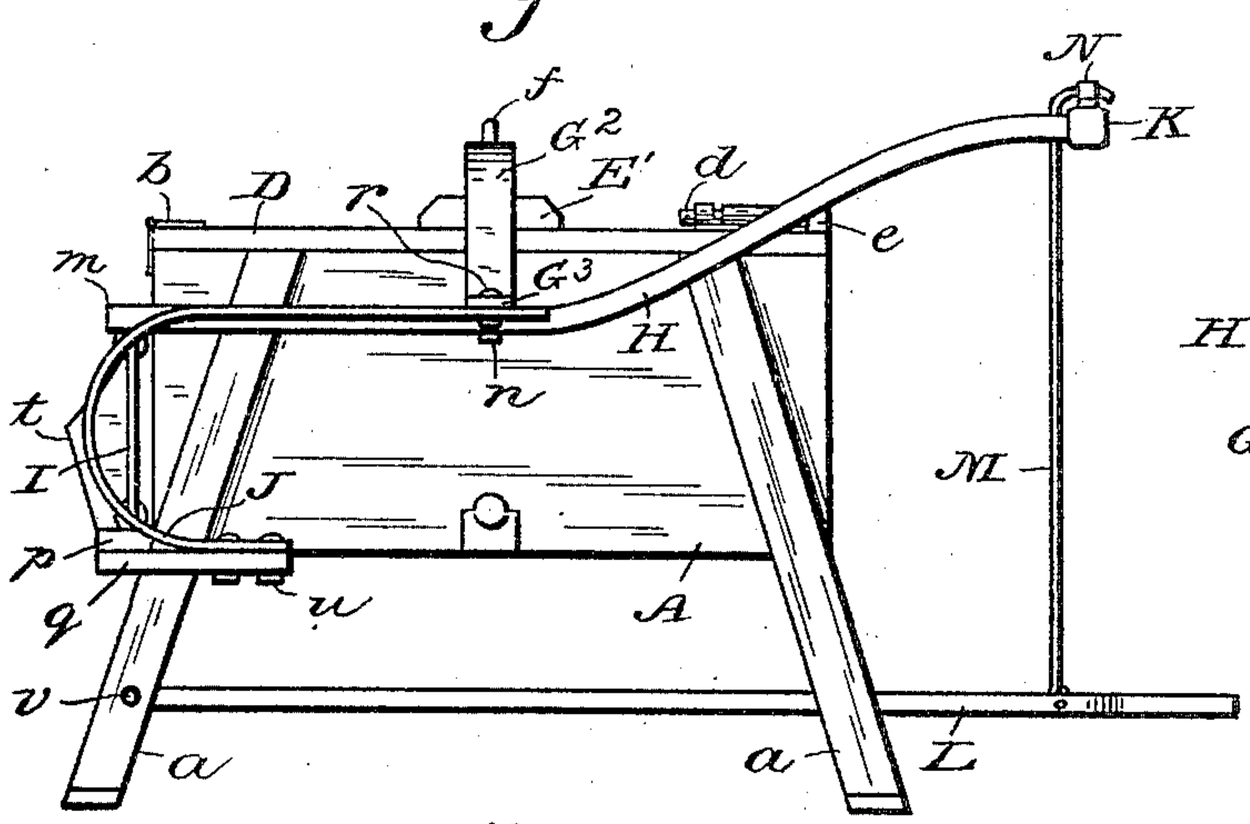

Fig. 4.

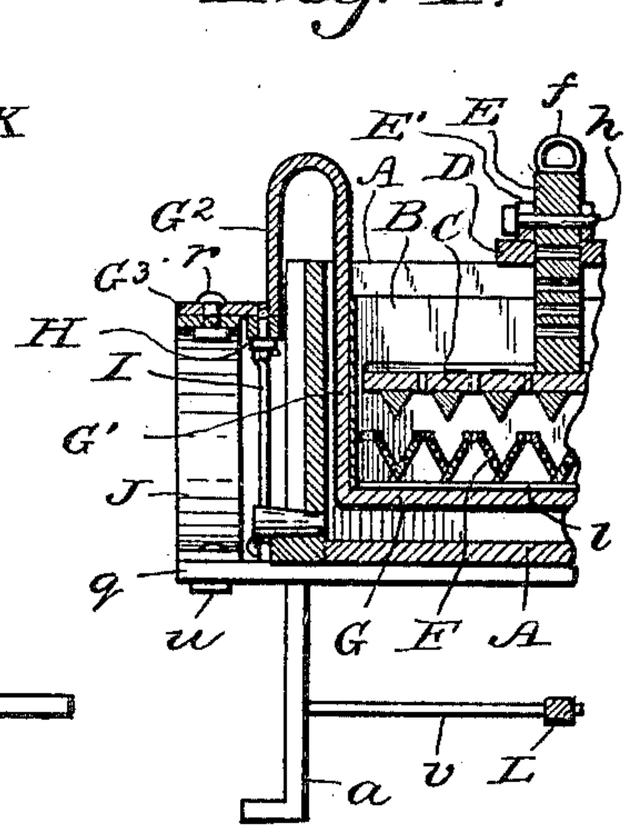

Fig. 2.

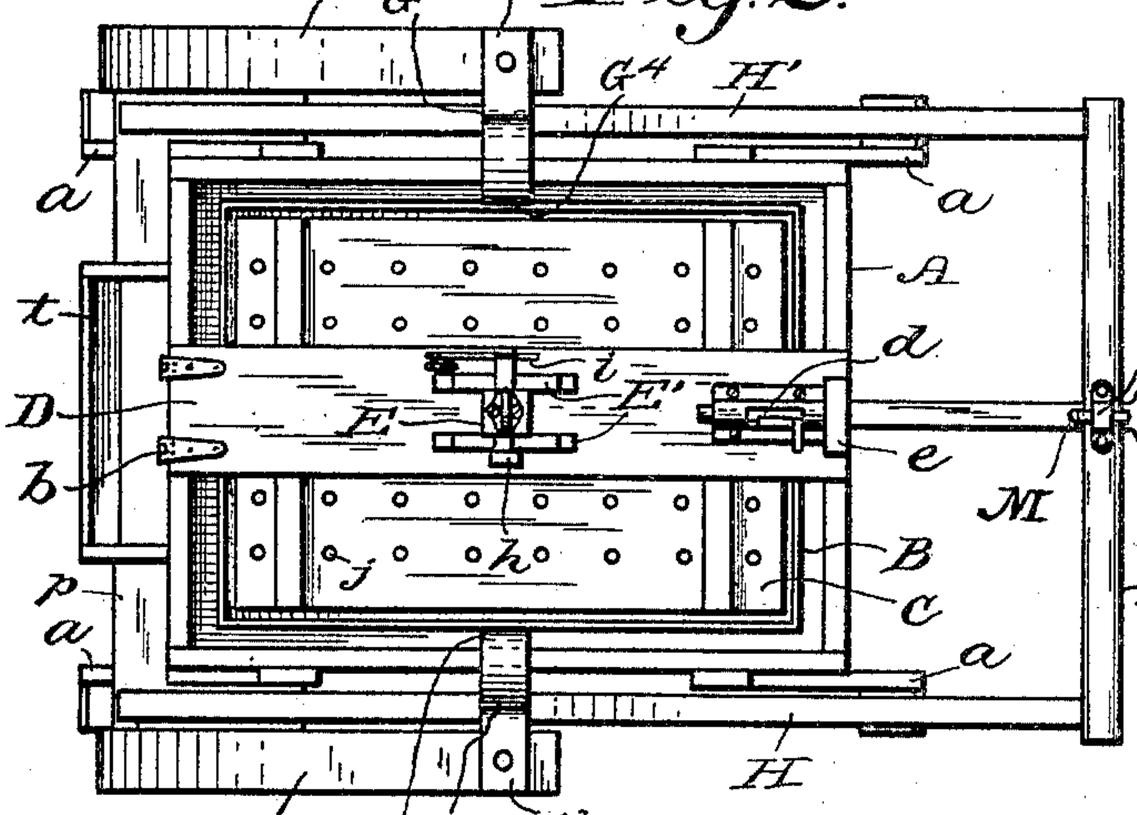

Fig. 5.

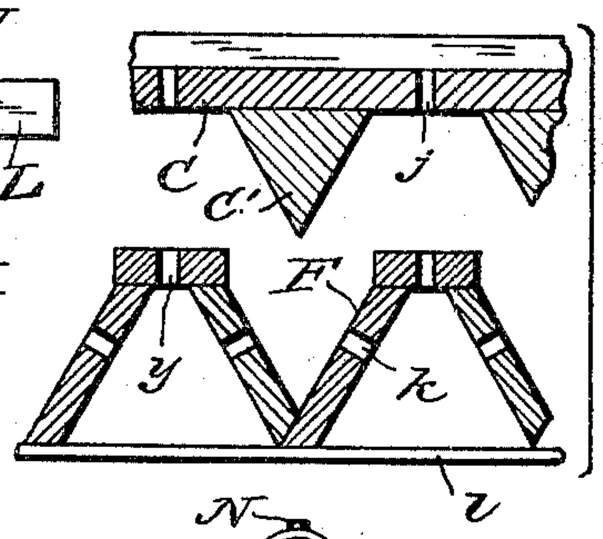

Fig. 6.

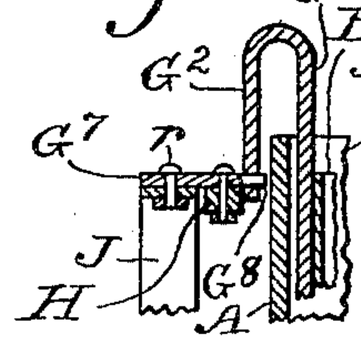

Fig. 3.

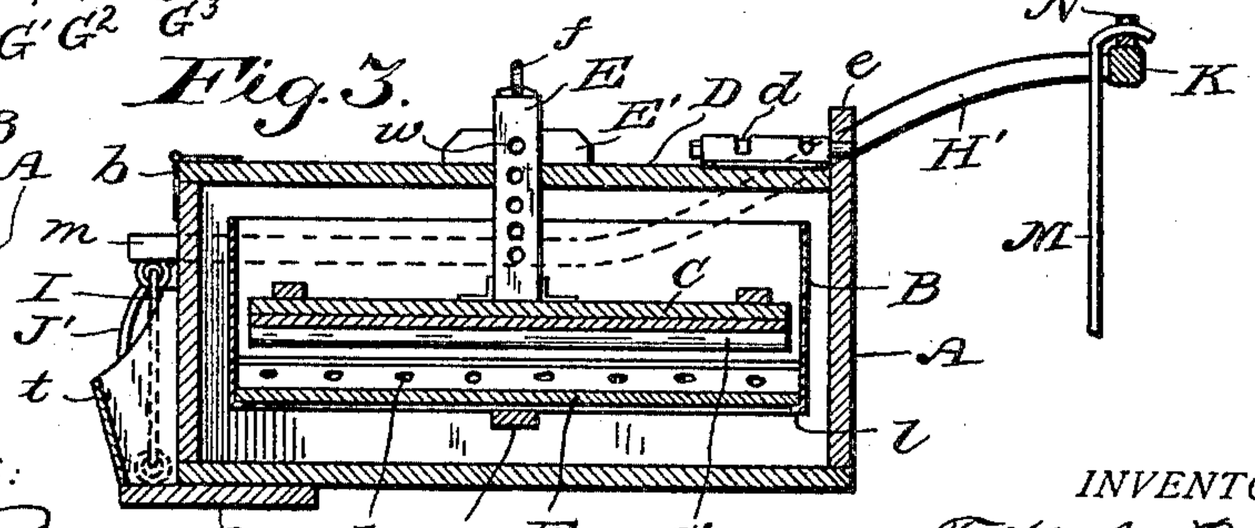

Fig. 7.

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THOMAS H. C. BEALL, OF CICERO, INDIANA.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 682,349, dated September 10, 1901.

Application filed January 23, 1901. Serial No. 44,351. (No model.)

To all whom it may concern:

Be it known that I, THOMAS H. C. BEALL, a citizen of the United States, residing at Cicero, in the county of Hamilton and State of Indiana, have invented certain new and useful Improvements in Washing-Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as 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.

My invention relates to a machine in which clothing may be washed, the object being to provide improvements in machines of this character whereby the operation of washing may be carried out with the least amount of labor and material and with the least degree of wear and tear of the articles being cleansed.

With this object in view the invention consists in the novel parts and in the combination and arrangement of parts, as hereinafter particularly described and claimed.

Referring to the drawings, in which like reference characters in the several figures indicate corresponding parts, Figure 1 represents a side elevation of a machine constructed in accordance with my invention; Fig. 2, a top plan view of the same; Fig. 3, a vertical sectional view taken longitudinally at about the center of the machine; Fig. 4, a fragmentary vertical sectional view taken transversely at the center of the water-tank; Fig. 5, a fragmentary detail view showing parts of Fig. 4 on an enlarged scale, and Fig. 6 a fragmentary detail view showing modifications of parts shown in section in Fig. 4.

In construction I provide a water-tank A of suitable size and proportions, rectangular in plan and preferably oblong for some sizes, which may be suitably composed of wood with vertical sides and flat bottom and have suitable supporting-legs *a* at the corners. Within the water-tank is a suspended vessel which I term an "agitator" B, having a plan contour corresponding to that of the tank A, but of somewhat lesser dimensions both in plan and vertically and which may have vertical sides, as indicated in Figs. 3 and 4, or the sides may be slightly slanting, as in Fig. 2, and may be made either of wood or metal, such as galvanized iron. The bottom of the agitator will be hereinafter described. The articles to be cleansed are to be placed in the agitator.

Within the agitator B is a presser C, designed in plan to nearly fill the interior of the agitator, and it is adjustably supported vertically by a beam D, removably attached to the top of the water-tank A. The beam is preferably attached by means of hinges *b* at one end, attached thereto and to the tank, and by a sliding bolt *d*, engaging an ear *e* at the opposite end of the beam. The beam may be extended laterally, so as to entirely cover the tank A, if desired. A strong post E, having laterally-disposed pin-holes *w*, is suitably secured at its lower end to the presser C, at the center of the top thereof, and extends through a suitable aperture in the beam D and through housings E′, also having suitable pin-rests, in which a pin *h* may be seated to suspend the presser C in fixed positions relative to the beam D, the pin *h* being retained by a spring-keeper *i*. The top of the post E has a suitable handle *f*, whereby to lift the presser when making adjustments or at other times. The presser C has a suitable number of perforations *j*, arranged in rows, and it is provided at the bottom thereof with ribs C′, which may be composed of wood, as indicated, or they may be portions of a sheet of corrugated iron attached to the bottom of the presser. The bottom F of the agitator B is corrugated, whether formed of wood, as indicated, or of metal, the ribs thereof registering with the spaces between the ribs C′ of the presser C, and has perforations *k* in the sides of the ribs and other perforations *y* in the tops of the elevated ribs, the bottom being suitably attached rigidly to the sides of the agitator, preferably resting on flanges *l*.

For movably supporting the agitator B, I employ an iron yoke comprising a bar G, extending across the under side of the bottom F and aiding in stiffening the same and having two opposite upright members G′ G^4 extending above and over the adjacent two sides of the tank A and thence downwardly as members G^2 G^5, at the lower ends of which are horizontal members G^3 G^6, either formed integrally therewith or suitably attached thereto.

A pair of levers H H′ extend along opposite sides of the water-tank A and have their rear ends *m* connected by links I to suitable frame-pieces *p q*, attached to the tank. To the frame-pieces are also attached by bolts *u* a pair of U-shaped springs J J′, one limb of each spring extending to the members G^3 G^6, respectively, to which they are secured by bolts *r*, in proximity to which the levers H H′ are attached to the members G^2 G^5, respectively, so that by means of the yoke the agitator is supported by the springs and the yoke may be directly actuated by the levers, thus operating the agitator against the tension of the springs, while the links act as balances and prevent undue tipping of the levers at their free ends. The free ends of the levers H H′ are connected by a handle-bar K, upon which pressure may be exerted either by the hands of the operator or by foot-power or through other means, such as connecting appliances with windmills or other engines. A treadle L may be connected to a bar *v*, extending between two of the supporting-legs, and have a connecting-rod M engaging a suitable bearing N, connected with the handle-bar. A convenient soap-box *t* may be attached to a side of the tank A. In some cases it may be desirable that the yoke supporting the agitator be hung on pivots, in which case the lower ends of the members G^2 G^5 may have a pivot-hole, and a separate plate, as G^7, having a pivot-pin G^8, may be substituted for the member G^3 or G^5. Also, obviously, the plate G^7 may be suitably connected to the spring J or to the lever H by means of pivotal connections of well-known character.

In practical use the washing solution or soap and water may be placed in the tank A either before or after placing the articles to be washed in the agitator. The beam D, carrying the presser C, may be moved out of the way and the articles then be placed in the agitator, after which the presser may be replaced and adjusted upon the articles so as to slightly press them by its weight against the bottom of the agitator, the beam D being fastened down. There should be enough liquid in the tank A and in the agitator B to immerse the articles. Then by pressing the levers down repeatedly the agitator, with the clothes or other articles, will be moved up and down, the springs coacting alternately, the presser C and the bottom F both acting as plungers, forcing the liquid through the perforations at differing angles and through the clothes, effectually cleansing them with very little power exerted, the corrugations acting together operating as rubbers.

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

1. A washing-machine including a spring-supported movable agitator having perforations in the bottom thereof, and a presser having perforations therein and adjustably supported in the agitator.

2. A washing-machine comprising a water-tank, curved springs, a yoke supported by the springs, an agitator suspended in the tank by the yoke, levers for the agitator, a beam removably attached to the tank, and a presser adjustably supported by the beam.

3. In a washing-machine, the combination with a tank, of curved springs supported by the tank, a yoke supported by the springs, an agitator suspended upon the yoke and having the perforated bottom, and a presser having the ribs and the perforations and suitably supported in the agitator independently thereof, substantially as set forth.

4. In a washing-machine, the combination of the water-tank, the curved springs supported at two sides of the tank, the yoke supported by the springs and extending into the tank, the levers attached to the yoke and having links suitably anchored, the agitator carried by the yoke vertically in the tank, the beam at the top of the tank, the presser supported adjustably by the beam, the handle-bar connecting the levers, and means whereby power may be applied to the handle-bar, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

THOMAS H. C. BEALL.

Witnesses:
P. J. FARIOR,
A. W. VOSS.