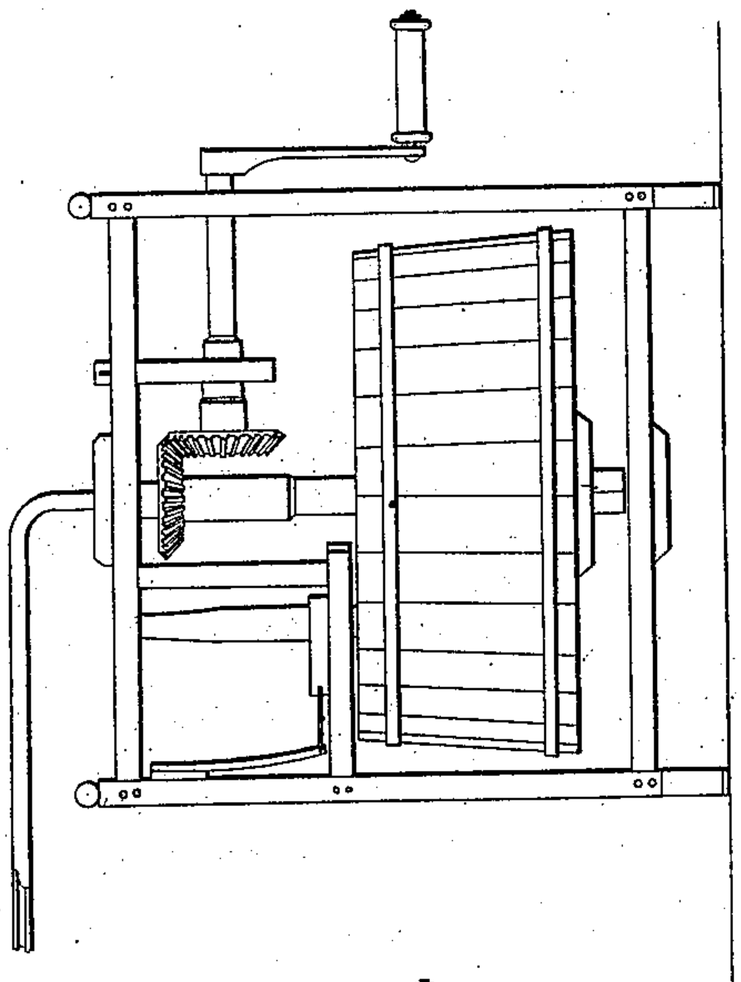
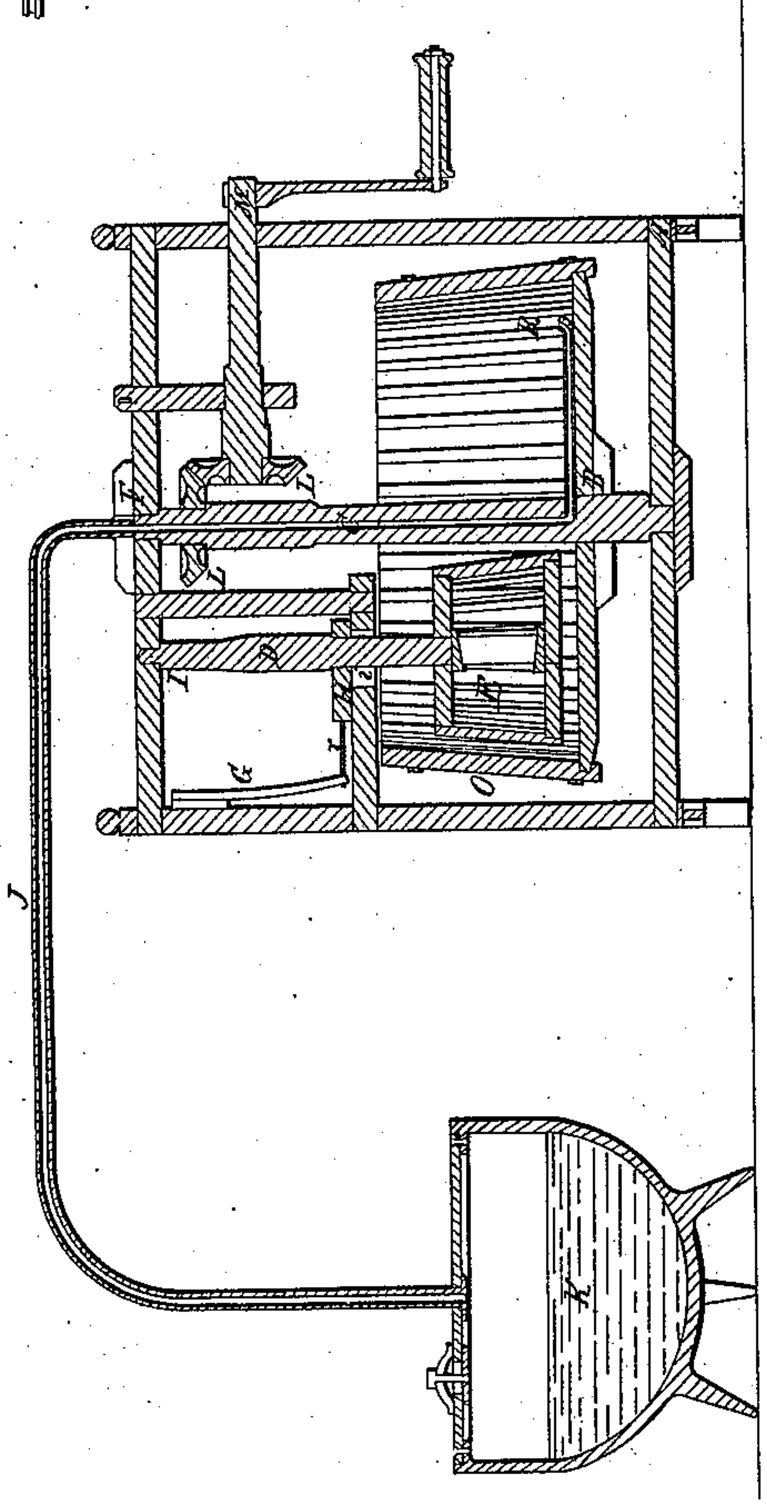
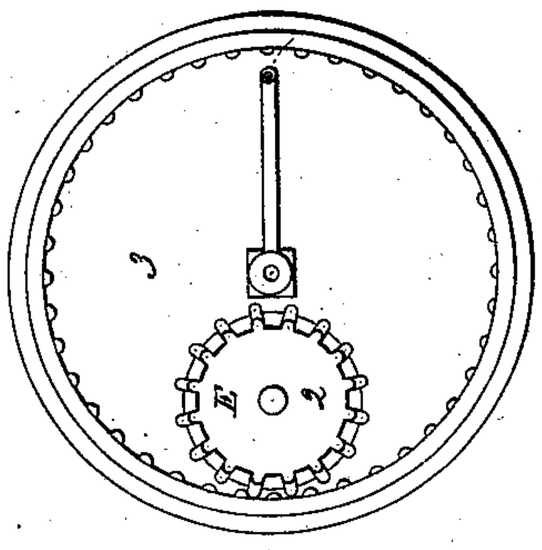
E. D. Tippett,

Washing Machine,

No. 4,893, Patented Dec. 17, 1846.







UNITED STATES PATENT OFFICE.

EDWD. D. TIPPETT, OF WASHINGTON, DISTRICT OF COLUMBIA.

WASHING-MACHINE.

Specification of Letters Patent No. 4,893, dated December 17, 1846.

To all whom it may concern:

Be it known that I, EDWARD D. TIPPETT, of Washington, in the District of Columbia, have invented a new and Improved Washing-Machine, which I denominate a "Centrifugal Washing-Machine;" and I do hereby declare that the following is a full and exact description of the same.

The nature of my invention consists in the peculiar mode of washing clothes by a revolving washing tub and washer; the water having a centrifugal force by the impetus given to the tub by the application of cog wheels and the common crank. The washer is located in the tub, and so constructed as to have a constant pressure against the side of the tub, and revolves simply by contact, either against the tub or the clothes, as they pass between it and the tub by the centrifugal force of the water. The revolving washer is permitted to vary according to the unevenness of the clothes in the tub, by a spring, the effect of which is to squeeze or press the clothes against the side of the tub as they pass around each revolution. There is no friction to injure the clothes by this process; it is merely the simple process of squeezing out the water and again giving water to the clothes by constant rotary motion. The clothes to be washed are laid around the inside of the tub as even and as regularly as is convenient in the quantity of suds necessary for the number of clothes to be washed. By turning the crank the water and clothes will have a centrifugal force and pass with great velocity between the washer and the inside of the tub, and in a few minutes many pieces may be effectually washed without the smallest injury. Two or more washers may be used.

Another important feature is the mode of keeping the suds or water hot in the tub during the whole operation. This is performed by admitting or communicating steam from a common boiler, which may be made for the purpose, or by using a common pot with a tight lid, through the axis upon which the tub revolves down into the water, and by one or more tubes to the extremity of the tub at various points. This, by experience, is found to constitute an important part of the discovery, as the same soap suds may again and again be used by boiling them, and the strength thereof be communicated in the most pure and clear state to the water in the tub for a second washing by condensation. The steam, thus entering the water at the bottom of the tub, becomes condensed, and if, produced from the soap suds, is found to possess a degree of softness and a quality highly important for washing, while it must be admitted, that, by thus boiling down the suds and thus extracting the water, the soap would again be formed in the boiler.

To enable others skilled in the mechanical arts to make and use my invention, I will refer to the drawing and describe its construction, and explain by letters designating each part by name, showing as comprehensively as practicable the nature and effect of each part.

The frame is constructed nearly square, of four pieces of timber mortised together as seen at A, and to be as large as may be required, according to the quantity of washing to be done, which must at all times govern the diameter of the washing tub B. The frame must be large enough to admit the washing tub to revolve horizontally upon its axis C, clear of the frame A. The washing tub is here drawn open with a side view, in order to show more clearly the location and effect of the revolving washer E, which is suspended vertically in its journals, as seen on its axis D, and at the point *i*, and so hung as not to touch the bottom of the washing tub B, but to press against the side of the tub as seen at O. In the timber *i* there is a short oblong throttle, so called by mechanics, as seen in cut V, through which the axis of the washer plays; this is to permit the variation of the washer E to the unevenness of the clothes, as they may happen in the operation.

H is a compensating journal, consisting of a simple piece of wood or other material through which passes the shaft D of the washer E, and which rests on the timber *i*, and is connected with the spring G by a cord or other material as seen at *r*, which is lengthened or shortened to give the required pressure of the clothes against the side of the washing tub.

The axis C is hollow to the bottom of the washing tub and is steam tight at the journal F. The steam is admitted through one or more tubes in the bottom of the tub at the extremity as represented coming out at the point R.

J is a steam pipe leading from the boiler K, which is represented as being in a furnace.

L, L, are two right angular miter wheels, one on the axis of the washing tub, and the other on the crank axis. By turning the crank M, the whole operation is performed with great ease.

The washer E is made by nailing half round slats to two flanges on wheels as represented by cut 2, forming a kind of trunnel head, to allow the water to pass through it as it revolves. It may be made with flanges only without slats. The washing tub has also half round slats nailed vertically to the staves as represented in cut 3, which shows the top of the washing tub. This is also necessary to confine the clothes in their proper position, as also to press the water out next to the tub.

Having thus described the construction and arrangement of the several parts composing my washing machine, what I claim therein as new and desire to secure by Letters Patent, is—

The manner of combining the washer and tub as herein described, by means of which various thicknesses of clothes may readily pass through between the extreme inner periphery of the tub and the washer when driven by the centrifugal force created by the motion of the tub to its extreme inside.

EDWARD D. TIPPETT.

Witnesses:
A. Tho. Smith,
L. Arnold.