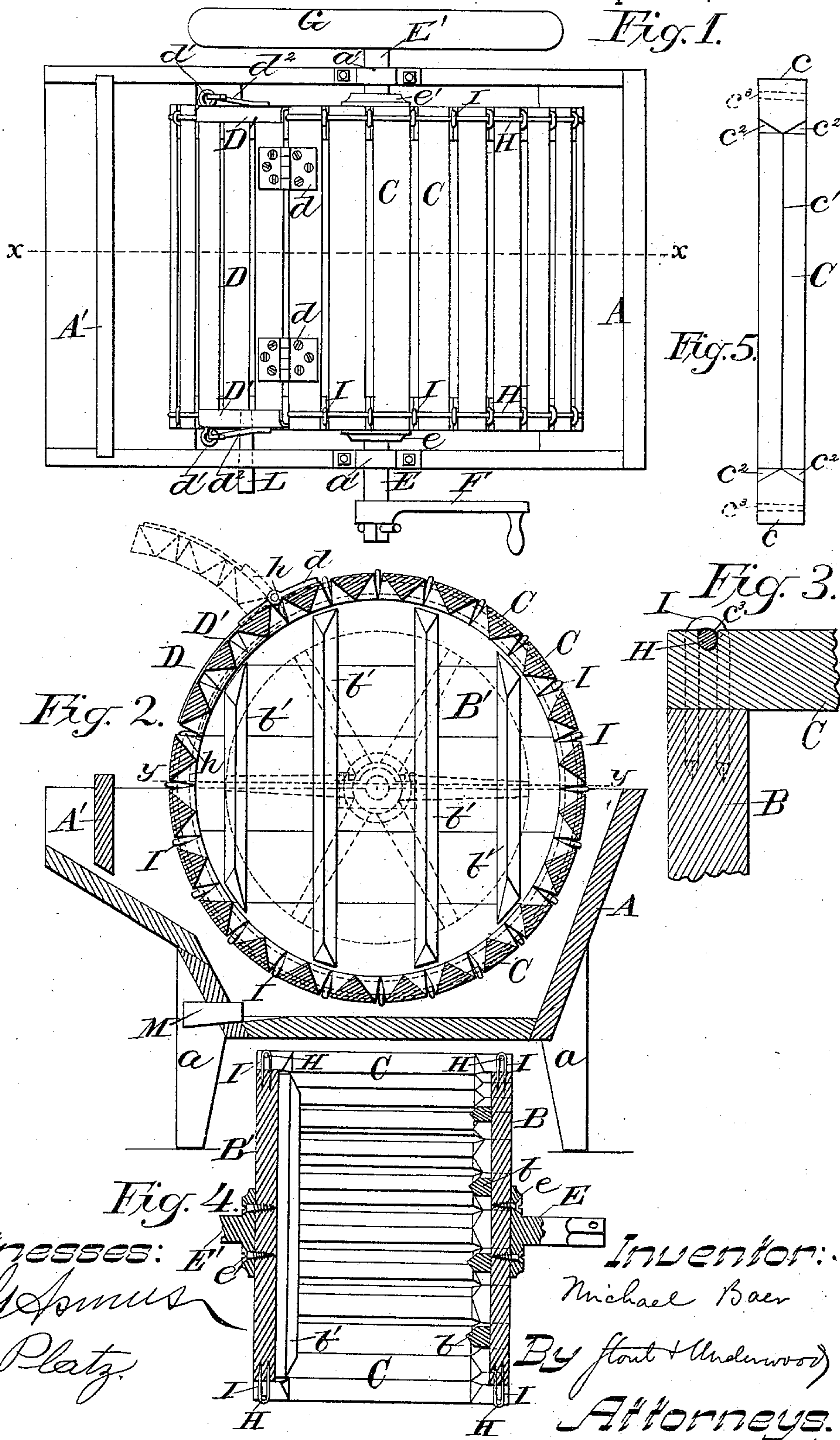


(No Model.)

M. BAER.
WASHING MACHINE.

No. 326,378.

Patented Sept. 15, 1885.



Witnesses: *E. G. Spru*
R. Platz

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UNITED STATES PATENT OFFICE.

MICHAEL BAER, OF BRILLION, WISCONSIN.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 326,378, dated September 15, 1885.

Application filed March 18, 1884. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL BAER, of Brillion, in the county of Calumet, and in the State of Wisconsin, have invented certain new and useful Improvements in Washing-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to washing-machines; and it consists in certain peculiarities of construction, as will be more fully set forth hereinafter:

In the drawings, Figure 1 is a plan view of the entire machine. Fig. 2 is a vertical longitudinal section on the line xx of Fig. 1. Fig. 3 is a detail sectional view illustrating the manner in which the ribs are secured to the cylinder-heads. Fig. 4 is a transverse horizontal section on the line yy of Fig. 2, and Fig. 5 is a plan view of one of the ribs or rubbing slats.

A is the water box or tub into which the hot water or suds are placed, and is preferably of the shape shown, mounted on legs aa , and having a wringer-board, A' , for the attachment of a wringing-machine. The washing-machine proper consists of a cylinder having two solid heads, $B B'$, connected by the ribs or rubbing-slats $C C$, to be hereinafter more specifically described.

D is a door formed of three or more of these slats, and $E E'$ are the journals of the cylinder. These journals do not pass through the cylinder, but have square ends fitting within a square hole in the plates $e e'$, or else these ends are cast solidly with the said plates, which are bolted or otherwise secured to the outside of each cylinder-head, as shown. The central part of each of these journals is round, to revolve in suitable bearings, $a' a'$, in the water-box, and then the outer ends are squared, whereby the outer end of the journal E is adapted to receive the crank F , while the outer end of the journal E' is adapted to receive the fly-wheel G . Of course, instead of making the journal ends square, they might be left round and fitted with a feather; but the construction named is the simplest and cheapest.

The cylinder-heads $B B'$ are solid, as stated, and made of as few pieces of wood as possible, and on the inside of each cylinder-head are

the straight beveled strips b and b' , respectively, the strips b on the inside of the head B being at right angles to the strips b' on the opposite head, B' .

The ribs C , which connect the two heads together to form the cylinder, are shown in plan in Fig. 5. They have square outer ends, $c c$, between which they are triangular in cross-section, with a sharp central ridge, c' , on the inner side; and the square ends are beveled down from this ridge toward the outer ends of the rib on each side of the ridge, as shown at $c^2 c^2$, making a zigzag line, when the slats are in place, just inside of the vertical line of the heads $B B'$, and these ribs c are placed far enough apart to enable the water to pass freely in and out of the cylinder. The ribs are secured to the heads in this manner. The ends of the ribs are slightly grooved, as at c^3 , on the outside, and when the ribs have been adjusted to place (where they may be held by slightly tacking them or even securing them first with nails or screws, if desired) a continuous wire, H , is passed around the entire cylinder on each side, excepting the door-space, and the ends $h h$ of this wire are sharpened and driven into the periphery of each head just outside the last ribs on each side of this door-space, as shown in Fig. 2, the said wire resting in the grooves $c^3 c^3$ of the ribs, and between each of the adjacent ribs staples $I I$ are driven down into the peripheries of the heads around the said wires, thus binding all the parts firmly and securely together. Of course the wire employed should be either galvanized or of such material as will not oxidize.

The door D is composed of several of the slats C , held together by metal plates D' at each end, and the said door is hinged at $d d$ to one of the slats C . From each of the plates D' there projects an eyebolt or catch, d' , and hooks $d^2 d^2$ are pivoted to the outside of each head $B B'$, so that when the clothes to be washed are put inside the cylinder the door can be fastened securely down by means of said hooks.

The operation of my device is very simple, but extremely effective. When the clothing to be washed has been put into the cylinder, and the door fastened down and the hot suds put into the water-box, it is only necessary to turn the crank for a short time and the clothes

will be thoroughly washed, and the fly-wheel G greatly assists in the ease of the operation. The sharp edges c' of the slats C, being disposed radially, come into contact with the clothes in every part of the cylinder, and by means of the side strips, $b b$ and $b' b'$, on the opposite faces of the heads, a twisting motion is given to the garment for the reason that the said series of strips are arranged at right angles to each other; and hence the clothes are constantly turned over and over and fresh surfaces exposed to the action of the sharp ridges c' of the slats, while the described zigzag edge formed by the bevels $c^2 c^2$ of the heads of the said slats sends the water laterally through the clothing with a shaking motion very effectual in rinsing off the dirt loosened by the ridges c' of the slats.

When the clothing is clean, a wringing-machine may be mounted on the board A' and the door D raised, as shown in dotted lines in Fig. 2, and then a pin, L, is passed through holes in the water-box and cylinder-head, as shown in Fig. 1, thus keeping the cylinder steady in place while the clothes are being taken therefrom to be passed through the wringing-machine, after which the water-box may be emptied by withdrawing the plug M in its bottom.

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

1. In a washing-machine, a cylinder having

solid heads connected by slats or ribs, and the said heads bearing on their inner sides the beveled straight strips $b b$ and $b' b'$, respectively, the strips on one head being arranged at right angles to the strips on the other head, substantially as set forth.

2. In a washing-machine, a cylinder having solid heads connected by slats or ribs with square outer ends, but triangular in central section, and having sharp central ridges radial to the center of the cylinder, and beveled, as shown at $c^2 c^2$, forming a zigzag line when the slats are in place at each end of the triangular part of the said slats, substantially as set forth.

3. In a washing-machine, the combination of a cylinder consisting of two solid wooden heads, B B', connected by the slats or ribs C, rigidly secured thereto, the outer surface of the ends of the said ribs being provided with transverse grooves $c^3 c^3$, with the wires H H, resting within the said grooves, and the staple I I, driven into the peripheries of the cylinder-heads around the wires and between the slats, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand, at Hilbert, in the county of Calumet and State of Wisconsin, in the presence of two witnesses.

MICHAEL BAER.

Witnesses:

JACOB MARX,
LIZZIE MARX.