

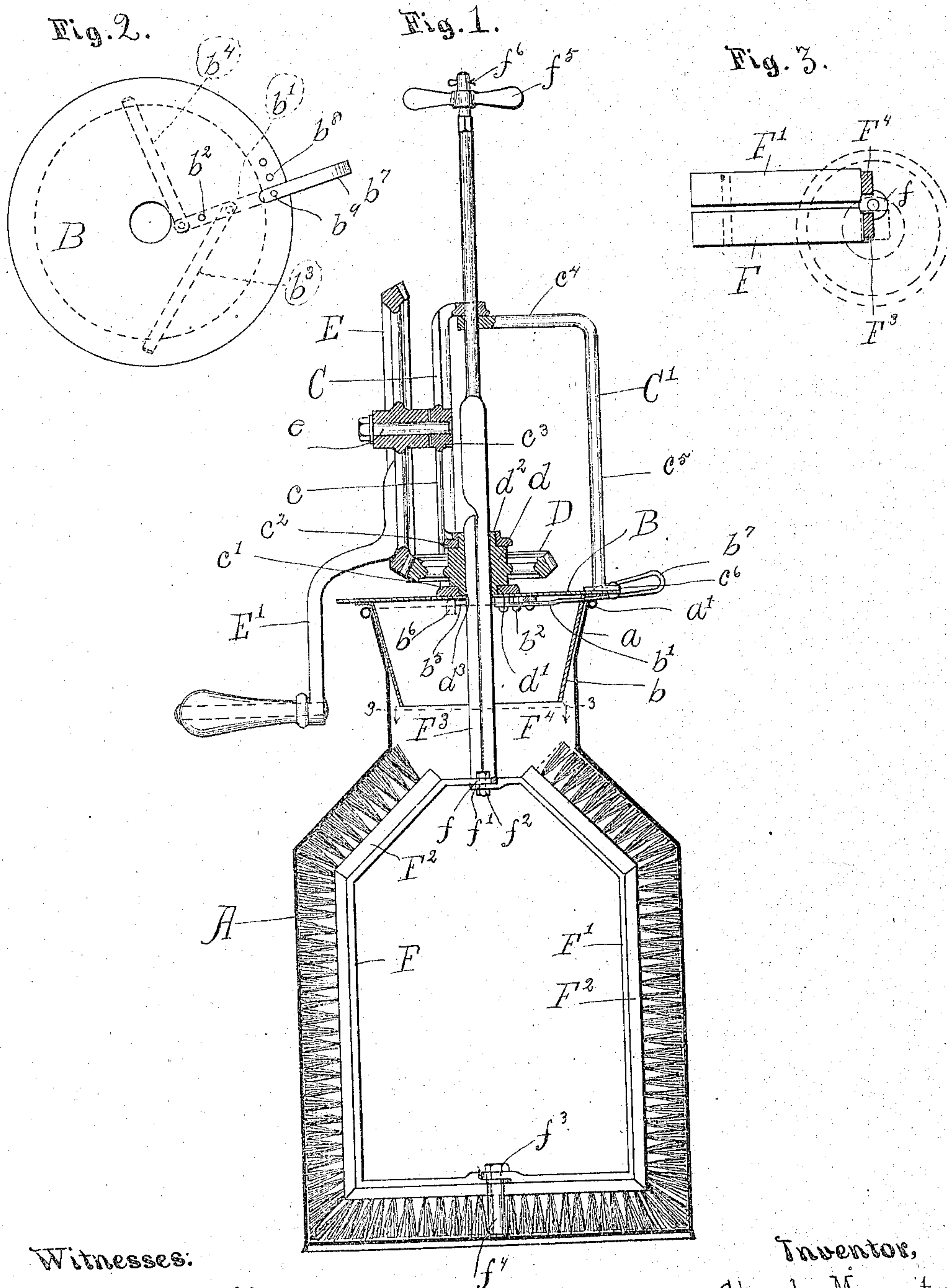
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Patented July 3, 1900.

C. MARWITZ.
MILK CAN WASHER.

(Application filed Sept. 18, 1899.)

(No Model.)



Witnesses:

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UNITED STATES PATENT OFFICE.

CHARLES MARWITZ, OF OAK PARK, ILLINOIS.

MILK-CAN WASHER.

SPECIFICATION forming part of Letters Patent No. 653,144, dated July 3, 1900.

Application filed September 18, 1899. Serial No. 730,843. (No model.)

To all whom it may concern:

Be it known that I, CHARLES MARWITZ, of Oak Park, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Milk-Can Washers, of which the following is a specification.

This invention relates to improvements in milk-can scrubbers or washers, and refers more specifically to a portable device adapted to be conveniently transferred from can to can and operated manually.

Among the objects of the invention are to provide a construction in which the brush members of each can be readily folded, so as to permit their ready insertion and removal; to provide means for automatically locking the brushes in operative position, while at the same time permitting the necessary manipulation of the brushes to insure their reaching all parts of the interior of the can; to provide a simple mechanism for automatically centering the brushes within the can, combined with means for locking the apparatus positively to the can-body during operation; to provide a simple gear mechanism whereby the brushes may be driven at a relatively high speed, and in general to provide a simple, reliable, and efficient device of the character referred to.

The invention consists in the matters hereinafter described, and more particularly pointed out in the appended claims, and the same will be readily understood from the following description, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation, with parts shown in axial section, of a preferred embodiment of my invention shown as applied to a milk-can of the usual construction, the latter being shown in axial section. Fig. 2 is a plan view of the base-plate, showing more particularly the arrangement of the clamping mechanism, all other parts being omitted. Fig. 3 is a sectional view taken on line 3 3 of Fig. 1 and looking downwardly, the relative position of the driving-pinion being indicated in dotted lines and the brushes being removed from the brush-frames.

Referring to said drawings, A designates as a whole an ordinary milk-can having the usual outwardly-flaring mouth or neck *a* and reinforcing-bead or outturned flange *a'*.

B designates a base-plate having the form of a sheet-metal disk somewhat larger than the mouth of the milk-can and provided at its under side with a conical downwardly-extending flange *b*, adapted to enter the mouth of the milk-can, said flange being considerably deeper than the depth of the flaring portion of the milk-can, so that it will fit and center itself within milk-cans having mouths of somewhat smaller dimensions as well as in the can shown. In order that said base-plate and the mechanism mounted thereon may be clamped securely to the mouth of the milk-can, a clamping mechanism is provided, consisting of a clamping-lever *b'*, pivoted between its ends at a point a short distance from the center of the disk, as indicated at *b²*, and arranged to extend approximately radially outward some distance beyond the margin of the plate to form a handle. At points equidistant from the pivot *b²* clamping-arms *b³* *b⁴*, respectively, are pivotally connected with said lever and arranged to extend oppositely out through suitable guide-openings *b⁵* in the flange *b*, the outer ends of said clamping-arms being formed into downturned hooks *b⁶*, adapted to engage the bead *a'* of the can when the clamping-lever is oscillated so as to retract said arms. In order to lock the clamping mechanism in clamped position, the outer end of the clamping-lever, which is of strap metal, is returned upon itself, as indicated at *b⁷*, and arranged to overlie the upper periphery of the base-plate, while the latter is provided with a series of locking-apertures *b⁸*, arranged at intervals apart concentrically with the pivot *b²* and adapted to receive a downwardly-projecting stud *b⁹*, mounted upon the return portion *b⁷* of the clamping-lever.

Upon the base-plate B is mounted a supporting-frame comprising two main upright members C C', the former of which is conveniently made in the form of a casting having diverging side members *c*, converging together at their upper ends and united at their lower ends and at two intermediate points by means of cross-bars *c'* *c²* *c³*, respectively. The member C' may conveniently be simply a rod or bar provided at its upper end with a horizontal portion *c⁴* and a vertical portion *c⁵*, the lower end of which is provided with a foot *c⁶*,

suitably bolted to the base-plate; it being understood that, as shown in the drawings, the frame member C' will be arranged at right angles to the plane of the casting C, so that
5 said frame as a whole has a triangular base.

Between the cross-bars $c' c^2$ is arranged a horizontally-disposed pinion D, the hub d of which is provided with trunnions or journals $d' d^2$, respectively, engaged with suitable
10 journal-apertures formed in the said cross members $c' c^2$.

E designates a driving-gear mounted in position to intermesh with the pinion D upon a suitable bearing-stud e , which projects outwardly from the cross-bar c^3 of the frame member c . The driving-gear E is provided with a suitable handle E', rigidly connected therewith, whereby it may be driven manually, said handle being bent or deflected
20 outwardly to avoid interference with the base-plate, as indicated clearly in the drawings.

Describing now the brushes and their driving connection with the gear mechanism hereinbefore described, F F' designate two skeleton frames conveniently having the form of
25 metal bars and each frame suitably shaped to conform approximately to the internal conformation of one vertical half of the can. Said brush-frames are arranged to meet at their upper and lower ends upon the axial
30 line of the can and are each provided at said meeting ends with laterally-offset overlapping pivot-ears $f f'$, through which are inserted pivot-bolts $f^2 f^3$, the arrangement of these
35 offset ears and pivot-bolts being such that the brush members may be folded together upon each other, as indicated at Fig. 3.

Upon the brush-frames F and F' are mounted a series of brushes F^2 , adapted to reach all
40 parts of the interior of the body of the can, and in order that the weight of the brushes and brush-frames may not rest upon the bristles or brush of the lower end brushes the pivot-bolt f^3 is extended downwardly to form
45 a supporting-stud f^4 , which supports the frame by resting in contact with the bottom of the can.

Each brush-frame is provided with a shank, as $F^3 F^4$, respectively, of oblong rectangular
50 form in cross-section throughout the intermediate portion of its length, the pivotal arrangement of said brush-frames being such that when the brush-frames are opened out into alinement with each other the said shanks
55 will be brought together and will in practical effect form a single shank of rectangular cross-section. The pinion D is provided with a corresponding axially-arranged rectangular aperture d^3 , adapted to receive said shanks
60 when thus folded together, as indicated clearly in Fig. 1. The shank F^4 is arranged to extend upwardly beyond the pinion through suitable bearing-apertures formed in the upper ends of the frame members C C', that portion of said shank extending through the
65 frame members being made round and of uni-

form diameter for some distance above and below its engagement with said frame members, so as to enable the brushes to be rotated
70 freely and at the same time lifted up and down to accommodate cans of different height interiorly. In order to facilitate such manipulation of the brushes, the upper end of said shank F^4 is provided with a handle f^5 ,
75 rotatably journaled thereon and secured in position by a suitable key f^6 . The shank F^3 is made to terminate at a short distance above the pinion D, while the angular portion of the shank F^4 above the end of the shank F^3 is abruptly enlarged to the same cross-sectional
80 size and shape as the pinion-aperture, so that when the base-plate is released from the can the frame and gear mechanism may be lifted bodily upward until the pinion passes out of engagement with the shank F^3 , while the
85 brushes remain in position within the can.

The operation of the device may be briefly described as follows: The base-plate and gear mechanism mounted thereon being lifted upwardly relatively to the brush-frames, so that
90 the pinion engages the enlarged angular part f^7 of the shank F^4 , the brush-frames may be folded together, so as to permit their ready insertion within the can. After the brushes have been inserted within the can a partial
95 rotation of the frame relatively to the can will result in opening out the brushes into alinement with each other, whereupon the shanks being thus brought together the pinion D and connected parts will be free to slide down-
100 wardly upon the shanks until the base-flange b of the base-plate rests within the flaring part of the mouth of the can. The base-plate is now locked to the rim of the can-mouth by means of the clamping mechanism, and the
105 device is in readiness for operation. In operating the device the operator simply turns the driving-gear with one hand, while with the other he lifts the brushes up and down (in case this be required) until the can is
110 brushed or scrubbed clean, it being understood that the can has been partly filled with suitable cleaning fluid. The withdrawal of the apparatus is obviously the exact reverse operation from that described in applying it
115 to the can.

From the foregoing description it will be seen that the objects of the invention are fully attained by the apparatus described and a simple practical and durable machine pro-
120 duced which may be manufactured and sold at a comparatively-small price, thus enabling dealers who use but a small number of cans to afford the apparatus, while at the same time it approaches, if not equals, in capacity
125 and efficiency machines which have heretofore been operated by power.

While the present construction is deemed a preferred and practical embodiment of my invention, yet it will be understood that the
130 details thereof may be somewhat modified without departing from the invention. I do

not therefore wish to be limited to the details shown, except as made the subject of specific claims.

I claim as my invention—

- 5 1. In a receptacle-washing machine, the combination of a pair of brush-frames hinged together and provided with independent shanks arranged to extend parallel with each other, a driving-pinion constructed to telescope upon and engage said shanks to hold the brush-frames in operative position and means for rotating the pinion.
- 15 2. In a receptacle-washing machine, the combination of a pair of brush-frames, hinged together and each provided with a shank, one of which is longer than the other, said frame being hinged so as to enable the shanks to be brought together to form in effect a single shank when the brush-frames are in operative position, a pinion apertured to receive said shanks when the latter are brought together and having sliding but non-rotative engagement with the same, a frame supporting said pinion and a driving-gear mounted upon the frame and intermeshing with the pinion.
- 25 3. In a receptacle-washing machine, the combination of a pair of brush-frames, hinged together and each provided with a shank, one of which is longer than the other, said frames being hinged so as to enable the shanks to be brought together to form in effect a single shank when the brush-frames are in operative position, a pinion apertured to receive said shanks when the latter are brought together and having sliding but non-rotative engagement with the same, a frame supporting said pinion, a driving-gear mounted upon the frame and intermeshing with the pinion, the end of the longer shank being extended beyond the pinion and provided with a rotatably connected handle whereby the brush-frames may be manipulated during rotation.

4. In a milk-can-washing apparatus the combination with a brush mechanism, of a base-plate for supporting said mechanism, provided at its under side with a conical guide adapted to engage the flaring mouth of the milk-can to center the apparatus relatively to the can.

5. In a milk can-washing apparatus, the combination with a brush mechanism, of a base-plate for supporting said mechanism, provided at its under side with a conical guide adapted to engage the flaring mouth of the milk-can to center the apparatus relatively to the can and means for positively locking said base-plate to the can.

6. In combination with a milk-can-brushing apparatus, and a base-plate adapted to support said apparatus upon the milk-can, a clamping mechanism comprising a clamping-lever, pivotally mounted between its ends upon the base-plate, clamping-arms pivotally connected with said lever at points equidistant from, and at opposite sides of, its pivotal support and means for locking the clamping-lever in a determined position.

7. In a milk-can-brushing apparatus, the combination of the hinged frames $F F'$, having the shanks $F'' F'''$, the base-plate B , the supporting-frame $C C'$ mounted upon said base, the intermeshing gears D, E mounted in said frame, the former having sliding but non-rotative engagement with the shanks of the brush-frames, and the handle f mounted upon the upper end of the extended shank, substantially as set forth.

In testimony that I claim the foregoing as my invention I affix my signature, in presence of two subscribing witnesses, this 12th day of September, A. D. 1899.

CHARLES MARWITZ.

Witnesses:

ALBERT H. GRAVES,
HENRY W. CARTER.