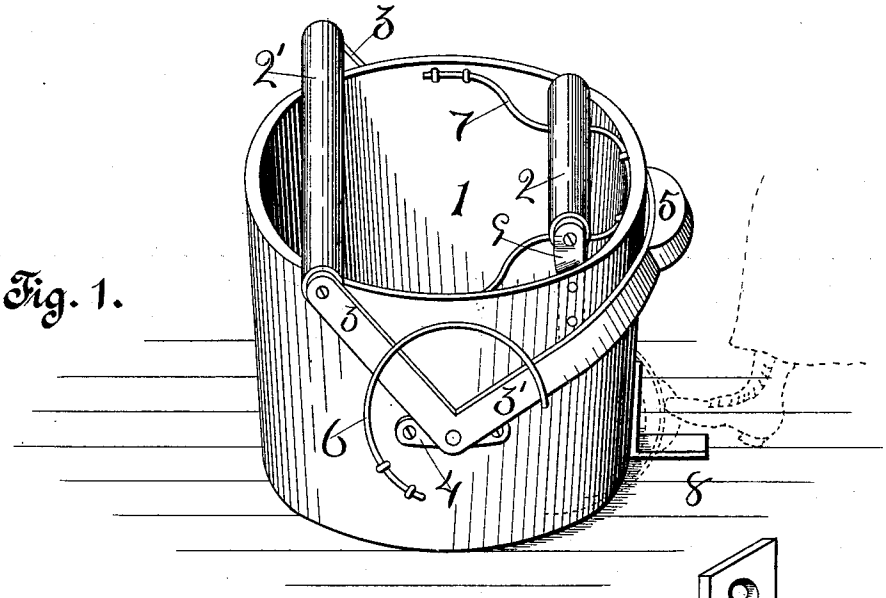
(No Model.) 2 Sheets—Sheet 1.

B. F. WARNER.

COMBINED MOP TUB AND MOP WRINGER.

No. 480,303. Patented Aug. 9, 1892.

Fig. 1.



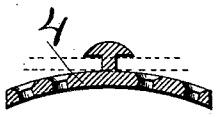


Fig. 4.

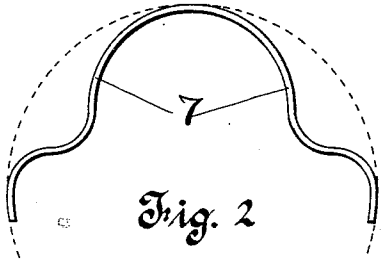


Fig. 2

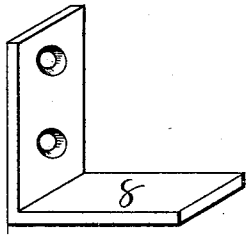


Fig. 5.

Fig. 3.

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his ATTORNEY

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 2 Sheets—Sheet 2.

B. F. WARNER.

COMBINED MOP TUB AND MOP WRINGER.

No. 480,303. Patented Aug. 9, 1892.

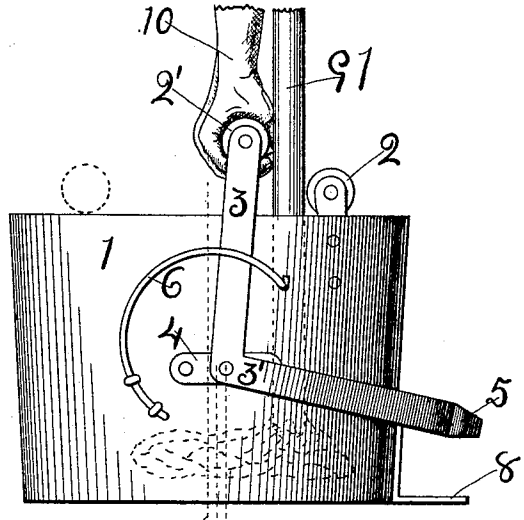

Fig. 6.

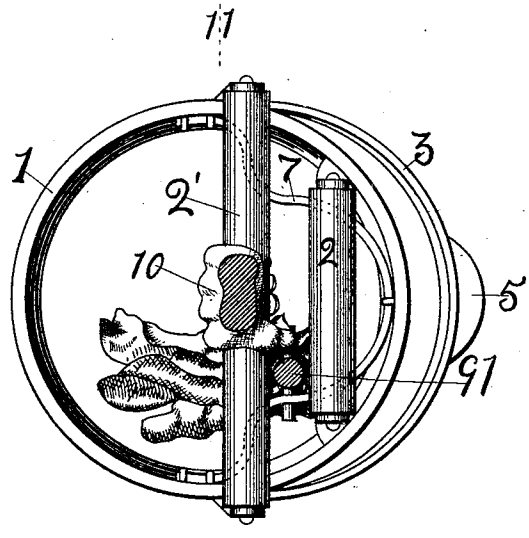

Fig. 7.

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

BENJAMIN F. WARNER, OF BLAIR, NEBRASKA.

COMBINED MOP-TUB AND MOP-WRINGER.

SPECIFICATION forming part of Letters Patent No. 480,303, dated August 9, 1892.

Application filed December 12, 1891. Serial No. 414,847. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN F. WARNER, a citizen of the United States, residing at Blair, in the county of Washington and State of Nebraska, have invented a new and useful Combined Mop-Tub and Mop-Wringer, of which the following is a specification.

My invention relates to improvements in mop-tubs having in connection a pair of rollers for wringing the mop; and the objects of my improvements are, first, to dispense with the use of the ordinary bail or handle; second, to provide means to support the handle of the mop in a perpendicular position while carrying the tub and mop; third, to provide an improved combined mop-tub and mop-wringer of the least possible number of simply-constructed co-operative elements. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the whole contrivance set up ready for use. Fig. 2 is a top view of the guide wire or gatherer detached from the tub. Fig. 3 is a view of the double or bifurcate bell-crank or rectangular lever 3 and 3′, shown before the central portion 3′ is bent to the **U** shape. Fig. 4 shows a horizontal longitudinal section through the center of the pivot-piece 4, and Fig. 5 is a perspective view of the inverted bracket 8. Fig. 6 is a side elevation of the contrivance suspended as in carrying the mop-handle supported upright between the rollers and between the gatherer and the hand. Fig. 7 is a top view showing relative positions of the mop-handle, the rollers, the gatherer, and the hand grasping the roller 2′.

Similar numerals refer to similar parts throughout the several views.

The bucket or tub 1, which may be of any suitable material, has a horizontal stationary roller 2 placed near one side and close down to the top of the tub, its ends journaled in the upper ends of a pair of ears 9, which are twisted to fit and riveted or otherwise securely fastened to the inner surface of the tub. Another roller 2′ of sufficient length to span the top of the tub outside is journaled in the free ends of the double or bifurcated bell-crank 3 and 3′. The double angular lever or bifurcate bell-crank, made of a single piece of metal, has the ends 3 set at an angle edgewise from the central portion 3′, about as shown in Fig. 3. In this figure is also shown the perforations at the extreme ends, in which the roller 2′ is journaled, those at the center by which the treadle 5 is attached, and those at the angles to receive the pivots 4. The central part 3′ is bent laterally **U**-shaped, so that the angles are each seated on a pivot 4 on nearly opposite sides of the tub in such a position that when the treadle 5 is pressed down it brings the roller 2′ over in contact with the roller 2.

In Fig. 6 is shown more fully the precise location of the pivots 4, the perpendicular broken line 12 indicating the axis of the tub, the broken line 11 the center of gravity of the tub and its rigid attachments, and the broken line 13 the axial line of the pivots. In this figure and in Fig. 7 is shown the perpendicular handle of the mop 19, as well as the hand 10, grasping the roller 2′.

A wire **C**-spring 6 has one end fixed by driving staples over it or otherwise firmly attached, while the free end is bent to form a hook and set so as to engage the under side of the **U**-shaped arm 3′, thus elastically holding up the treadle 5 and the roller 2′ away from roller 2 to the opposite side of the tub, so that the mop may be dropped down between the rollers into the tub. The bracket 8 has screw-holes in its perpendicular part by which it is attached to the wall of the tub directly beneath the treadle 5 and flush with the bottom of the tub and prevents the machine from tilting toward the operator when pressure is applied on the treadle. The pivot-pieces 4, which support the double or bifurcate bell-crank, are provided with screw-holes through the plate portion by which they are attached, and have the stud or blank pivot headed after inserting in the angle of crank, and are set so that their axial line passes to one side of the axial line of the tub toward the side of tub having the stationary roller 2 and the bracket 8, in order that the weight of these parts, as well as the tension of the **C**-spring may be overcome and the tub hang perpendicular or slightly inclined in the opposite direction when lifted and carried by the roller 2′, which serves as a bail-handle for this purpose. The gatherer 7 is made of

a single piece of wire bent to the form shown in Fig. 2 and attached inside of tub near the top and directly beneath the roller 2, the ends of the wire toward roller 2′. (See Fig. 1.) A portion near the center of each half of the gatherer is bent in a reverse curve, forming a curved shoulder arched toward the center of the top of the tub. The gatherer is located a distance below the rollers, being in contact with no other part of the machine but the inside of tub. All water arrested by it is deposited in the same.

The following points in the operation of my machine will be plainly apparent: When pressure is applied by the foot on the treadle 5, it brings the roller 2′ in contact with the mop suspended between the two rollers, then drawing up the mop by the handle the gatherer 7 gathers in the edges of the mop, so that they are pressed by the rollers, the same as the central portion. This gatherer also keeps the edges of the mop away from the sides of the tub while wringing, and, being made of ductile wire and attached only at its ends and center, the reverse curves lying between the points of attachment may be bent toward or from each other at will to fit the size of mop used, thus working equally well with large or small mop, and as the rollers are located down as close to the top of the tub as possible no water is ever scattered outside. The treadle does not go quite down to the floor when the mop is inserted between the rollers, but near enough that the heel of the foot rests on the floor to steady the operator, and by pressing heavy or light with the toe on the treadle the mop may be wrung very dry, or less so, as desired, and the operator remain in an upright and comfortable position, with both feet on the floor in such a manner as to stand firm and have perfect control of himself and the machine. The mop may be set in the tub and the roller 2′, grasped in the hand to carry the machine, swings up to a position directly above the pivots, by which the tub and its attachments are suspended in the lower ends of the arms 3 and 3, which, with the roller 2′, journaled between their upper ends, constitute the handle or carrying-bail, the pivots being located on the tub at such points that the center of gravity of the tub and its stationary attachments fall to the side of the axial line of the pivots opposite to roller 2. Hence when suspended the tub and its stationary attachments tilt, so that roller 2 will swing over and sustain the handle of the mop in an upright position between the rollers. If for this purpose or any other this tilting of the tub in carrying is desired to be made more positive—that is, grip the handle of the mop more firmly between the rollers—the free end of the **C**-spring may be unhooked from the **U**-shaped arm 3′ and hooked on again, as desired. It is shown unhooked in Fig. 6; but this is rarely ever necessary and only convenient when carrying an empty tub with a very heavy mop and handle.

I am aware that prior to my invention mop-wringers have been made consisting of one stationary and one movable roller operated by a lever or levers, and I therefore do not make such a broad combination claim; but

What I do claim as new, and desire to secure by Letters Patent, is—

1. In a combined mop-tub and mop-wringer, the combination of the tub 1, having the horizontal stationary roller 2, journaled between the upper ends of ears attached to the inside of tub at top and nearer one side, also having the gatherer 7, made of a single piece of wire curved to fit and attached to the inner surface of the tub a distance below the roller 2 with its ends toward the opposite side of tub, a portion near the center of each half bent in a reverse curve arching toward center of tub, the bifurcate bell-crank having the **U**-shaped arm 3′, with treadle 5, and the integral end arms 3 and 3, with the roller 2′ journaled between their upper ends, the lower ends or angles pivoted to the sides of tub at such points as to swing roller 2′ in contact with roller 2 and suspend the tub nearly upright when raised by roller 2′, substantially as shown and described.

2. In a combination mop-tub and mop-wringer, the tube 1, having the roller 2, the gatherer 7, consisting of a single piece of wire curved to fit and attached to the inner surface of the tub a distance below the roller 2, the ends toward the opposite side of tub, and a portion near the center of each half bent in a reverse curve arching toward the center of the tub, the pivots 4, and the brackets 8, in combination with the bifurcate bell-crank 3 3 3′, seated at its angles on the pivots 4 and having the roller 2′ journaled between its ends 3 3 and the treadle 5, and the **C**-spring 6, one end attached to the tub, the free end bent to form a hook adapted to engage and actuate the bell-crank or to be disengaged from same, the pivots 4 so placed that when the machine is suspended by the roller 2′ the stationary roller 2 will bear against roller 2′, substantially as described.

3. The gatherer 7, consisting of a single piece of ductile wire bent in a general curve to fit and attached at its ends and center to the inner surface a distance below the rollers of a combined mop-tub and mop-wringer, portions near the center of each of the halves of the wire bent in reverse curves adapted to be adjusted toward or from each other by bending, substantially as shown and described.

Signed at Blair, in the county of Washington and State of Nebraska, this 9th day of December, 1891.

BENJAMIN F. WARNER.

Witnesses:
GEO. W. VAUGHAN,
W. E. DAVID.