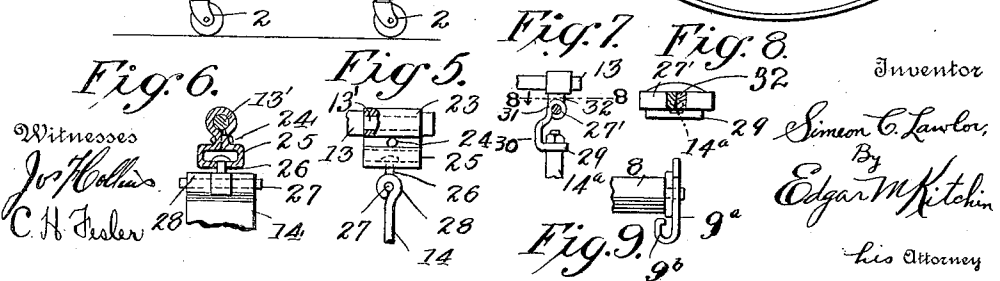
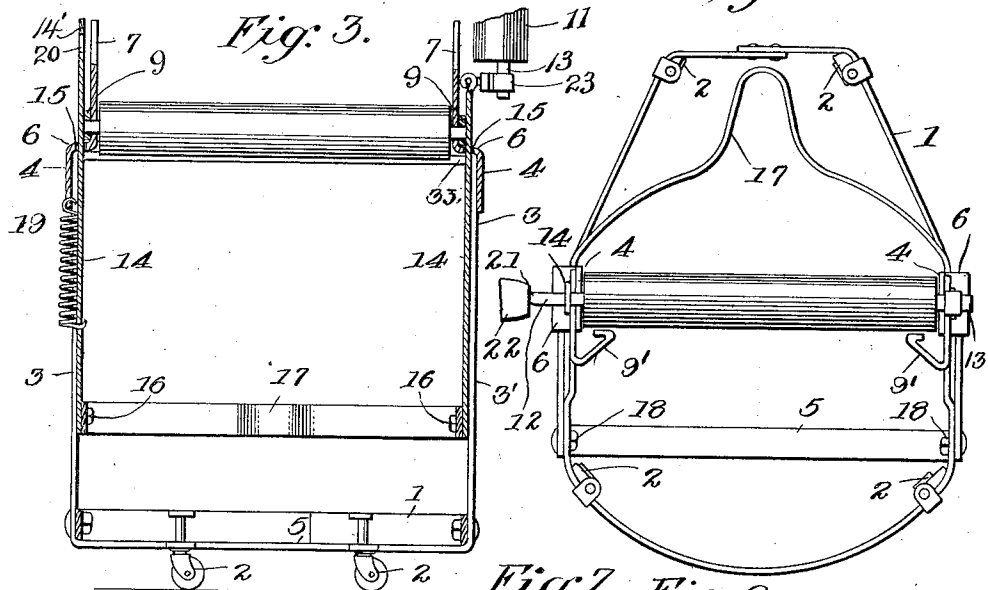
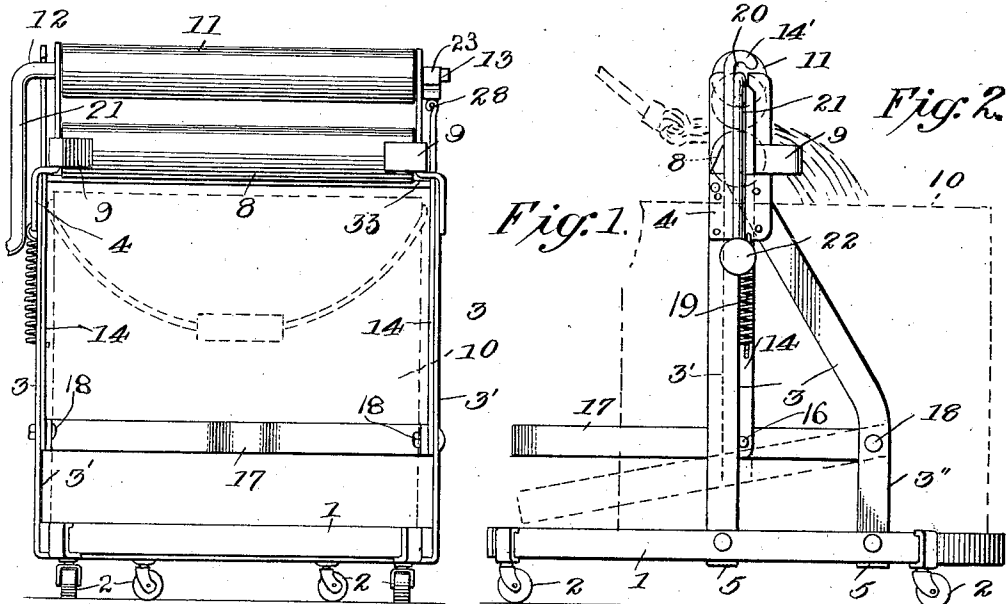


S. C. LAWLOR.
MOP WRINGER.
APPLICATION FILED JUNE 5, 1911.

1,056,916.

Patented Mar. 25, 1913.



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SIMEON C. LAWLOR, OF CHICAGO, ILLINOIS.

MOP-WRINGER.

1,056,916.

Specification of Letters Patent.

Patented Mar. 25, 1913.

Application filed June 5, 1911. Serial No. 631,381.

To all whom it may concern:

Be it known that I, SIMEON C. LAWLOR, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Mop-Wringers; and I do hereby 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.

This invention relates to wringers particularly of the type especially adapted for wringing mops, and one of the objects in view is the convenient combination of the wringing apparatus with a receptacle carrier.

A further object in view is the more efficient controlling of the operative relation of the wringer rollers, and a still further object is the manual control of the relative tension between such rollers.

With these and further objects in view as will in part hereinafter become apparent and in part be stated, the invention comprises certain novel constructions, combinations and arrangements of parts as hereinafter specified and claimed.

In the accompanying drawing,—Figure 1 is a view in rear elevation of a wringer structure embodying the features of the present invention. Fig. 2 is a view in side elevation thereof. Fig. 3 is a vertical, central section therethrough, parts being seen in elevation. Fig. 4 is a top plan view thereof. Fig. 5 is a detail elevation of a fragment showing the swivel connections. Fig. 6 is a transverse, vertical section therethrough. Fig. 7 is a detail, edge view of a modified embodiment of one of the mop view thereof. Fig. 9 is a detail plan of a modified embodiment of one of the mop guides and adjacent parts.

Referring to the drawings by numerals, 1 indicates an inclosing or supporting frame preferably mounted suitably on casters 2. The frame 1 may consist merely of a flat strip of material say strap iron, preferably of heavy gage, rounded at one end for accommodating a receptacle as hereinafter specified, flattened at the side portions and tapering at the other end for accommodating movement of the foot lever hereinafter described.

Carried by the frame 1 at the opposite

sides thereof are the upstanding side frames 3, 3. Each side frame is preferably made up of an upright 3' and a spaced upright 3'', having its upper portion bent edge-wise toward the upright 3', and the upper end portions of the two uprights connected by a plate 4 which is riveted or otherwise secured to the uprights. Each of said uprights preferably consists of a relatively flat strip of material, preferably substantially the same in character as the material employed in frame 1. To form a sort of flooring in the bottom of the frame 1 suitable cross pieces are provided, and as a matter of convenience, as well as efficiency in construction, I form the cross pieces by employing a single strip of material for the two uprights 3', one at each side, and another single strip of material for the uprights 3'', one at each side, the connecting strip 5 between the lower end portions of the respective uprights constituting the said flooring cross pieces. Each plate 4 forms a part of the respective side frame and extends above the upper ends of the uprights and is formed with an offset portion 6 immediately above such upper end, and the plate extends thence upwardly above the offset portion. The upper portion of each plate 4 is slotted vertically longitudinally, as at 7, and each of said slots is open ended at its upper end forming in fact an upwardly opening elongated notch.

A wringer roller 8 is journaled in the plates 4 immediately above the offset or shouldered portions 6 and engaging and retained by the projecting journals of the roller are mop guides 9, 9, each consisting of a preferably flat strip of material extending rearwardly, and thence bent inwardly at an incline toward the roller. The inner end may again be bent inwardly to avoid leaving an abrupt shoulder or squared portion which may be liable to engage the fiber of the mop, but the essential feature of the guide is the inclined portion 9', which is disposed for directing the material of the mop into the pail or receptacle 10, seen in dotted lines, during the process of wringing the mop.

Incidentally in Fig. 9 is indicated a modified embodiment of the guides which may, instead of being shaped in the manner just described, be formed of a relatively flat strip of material 9^a engaging the respective jour-

nal of roller 8 and formed with a rounded inwardly turned portion 9^b which serves the same function as the inclined portion 9'.

Disposed above the roller 8 is a similar roller 11 whose journals 12 and 13 extend through the respective slots or notches 7. The said journals 12 and 13 are preferably somewhat elongated and are engaged by portions connected to or a part of straps 14, 14', which straps extend downwardly through slots 15 in the offset portions 6, the said straps being guided in the slots and being disposed just outside of the mop guides 9, so as to prevent their detachment or disconnection from the journals of roller 8. The straps 14 extend downwardly to and pivotally engage, as at 16, with a lever 17. The lever 17 obviously may be constructed in various ways but consists preferably of a bail-like structure, the respective end portions of which are pivoted to the uprights 3'', as at 18, and the intermediate portion of the bail-like structure is brought together and formed into a forwardly extending portion adapted to be engaged for manipulating the lever. Of course, in operation, the lever may be manually operated either by the foot of the operator or otherwise as preferred. At one side a coil spring 19 has one end engaging plate 4 and the other end extending downwardly and engaging the respective strap 14 for drawing upwardly on the same so as to normally hold the straps and parts sustained thereby in an elevated position, as seen in full lines in Fig. 2, it being apparent that when the operator places his foot upon lever 17 and presses it downwardly, and thus stretches the spring 19, the parts will be drawn downwardly to the position indicated in dotted lines in Fig. 2, so that the two rollers will be in substantial engagement with each other. Obviously, other or additional springs might be employed to assist the spring 19, but I have found that the single spring operates very efficiently. The upper end of the strap 14 which is engaged by the spring 19 is formed with an open eye 20 producing a hook-like portion 14', and the journal 12 extends through said eye and is adapted to be drawn down by being engaged by the hook 14' when the lever 17 is operated, and to be elevated by engagement of the lower portion of the eye with the journal when the lever is released, the said journal 12 extending beyond the eye and being bent preferably into the form of a crank 21, which may be provided with a suitable handle 22.

The journal 13 is swiveled to the respective strap 14 in such manner as to allow the roller 11, when the journal 12 is withdrawn from the eye 20, to have a compound movement, that is, a swinging vertical movement and a swinging horizontal movement. This swivel may obviously assume various forms,

one embodiment being illustrated in the main figures of the drawing, including Figs. 5 and 6, and another embodiment being seen in Figs. 7 and 8. For the purposes of this case that disclosed in Figs. 5 and 6 is indicated as preferred, and consists of a strap looped into an eye 23 surrounding journal 13 and extending thence downwardly and having the portions of the strap riveted together, as at 24, and being thence bent into a loop 25 through the lower horizontal portion of which extends the rotatably mounted rivet 26, which carries the transversely disposed pintle 27. The journal 13 engaged by eye 23 is preferably reduced in diameter, as at 13', for forming shoulders at the ends of the eye 23 for preventing movement of the eye longitudinally of the journal. The upper end of the respective strap 14 is bifurcated, and the arms of the bifurcation bent into eyes 28 surrounding the pintle 27, the opening of the bifurcation accommodating the rivet 26, and allowing travel thereof with the vertical swing of the roller 11. Thus the rivet 26 and parts carried above the same may be swung vertically without affecting the strap 14, and at the same time the swivel member comprised of the eye 23, loop 25 and intermediate portions may oscillate or swing pivotally horizontally, whereby the roller 11 is free, when its journal 12 is released from eye 20, to swing horizontally by the relative movement about the rivet 26, and the roller is also free to swing vertically by the relative movement of the rivet 26 and pintle 27 relative to the eyes 28. It will thus be seen that the operator may readily open or lift the one roller relative to the other for gaining free and ready access to the parts for cleansing purposes, and to restore the parts to their normal operative position it is only necessary to swing the roller 11 back into place with the journal 12 in position in eye 20. As above intimated, other methods of swiveling may be employed, one of which is illustrated in Figs. 7 and 8, in which 14^a indicates a member, the equivalent of strap 14, the upper end of which is formed cylindrical and threaded and extends through an eye or aperture in the horizontal flange 29 of a swivel plate 30. The upper end portion of the plate 30 is bifurcated and formed with eyes 31, while a strap 32 is formed into a loop surrounding the journal 13, and has its lower ends extending into the bifurcation and between the arms thereof, and is connected to and retained by a pintle 27' journaled in the eyes 31. Thus the roller carried by the journal 13 may be swung vertically by rotation of the pintle 27' in eyes 31, and said roller may also be swung horizontally by the freedom of the plate 30 to swing horizontally about the upper portion of the strap member 14^a.

In operation, the operator places the pail

on the flooring cross pieces 5, and after his mop has become saturated in use he places it between the rollers 8 and 11 and exerts downward pressure on the lever 17, as by placing his foot thereon, and then revolves the crank 21 from left to right, that is counter-clockwise, which feeds the material of the mop between the rollers and presses the moisture out of such material. As the pail is disposed immediately beneath the rollers the expressed moisture is deposited in the pail. Here it will be observed that the offsets 6 are not only advantageous in providing guides for the straps 14, but also cause the underframing to be wide enough to receive a receptacle of a diameter as great or greater than the length of the wringer rollers, so that liability of the spilling of water from the ends of the rollers over the edges of the pail is largely obviated. As the material of the mop passes between the rollers it will feed over the guides 9 and the edge portions of such material will be directed inwardly thereby, thus avoiding any excessive flaring of the material, or any liability of the material spreading out beyond the edges of the pail. After the mop has been sufficiently wrung out the operator merely elevates his foot from the lever 17 and proceeds with the mopping operation, the upper roller, 11, having been elevated by the action of spring 19, so that the material of the mop will have been entirely released.

In operation, of course, the presence of the casters 2 greatly enhances the utility of the structure by facilitating transportation and eliminating the labor of carrying the pail around.

The side frames are preferably rendered more rigid and firm in their relative positions by a cross rod 33, which is riveted at its ends, or otherwise rigidly connected to the upper portions of the frames just beneath the rollers.

What I claim is:—

1. In a device of the class described, the combination of a support, a roller journaled therein, a second roller adjacent the first roller and having projecting journals, a strip detachably connected with one of said journals, an eye engaging the other journal, a strip pivotally connected to the eye, and means for moving said strips longitudinally for moving the roller connected therewith toward the other roller.

2. In a device of the class described, the combination of side frames, each formed with a slotted offset portion, a roller journaled in the side frames, a second roller adjacent the first roller, operating strips connected to the second roller and extending through and adapted to be guided by the

slots of said offset portions, and means for actuating the strips, each strip having portions lying at opposite sides of the respective side frame resultant from extending through the slot of such side frame.

3. In a device of the class described, the combination of a support, a roller journaled therein, a second roller disposed above the first roller and having projecting journals, a strip loosely connected with one of said journals, an eye engaging the other journal, a strip pivotally connected to the eye, means for pulling down upon said strips for bringing the upper roller toward the lower roller, and a spring disposed for elevating the upper roller.

4. In a device of the class described, the combination of side frames formed with upwardly opening slots, a roller having its journals at times extending through said slots, a roller journaled in the side frames beneath the first mentioned roller, a spring pressing the rollers apart, and means engaging the journals of the upper roller for drawing the upper roller toward the lower roller, the engagement with one of the journals being detachable, and the engagement with the other journal being pivotal.

5. In a device of the class described, the combination of side frames having upwardly opening slots at the upper ends, a roller journaled in the side frames beneath said slots, a roller above the first mentioned roller having journals at times extending through said slots, a swivel connection with one of the journals of the upper roller, a detachable connection with the other journal, means engaging said connections for moving the upper roller toward the lower roller, and a spring disposed for pressing the rollers apart.

6. In a device of the class described, the combination of side frames having upwardly opening slots at their upper portions, a roller journaled in the side frames beneath said slots, a roller having journals adapted at times to extend through said slots, a sleeve loosely engaging one of the journals of the last mentioned roller, a swivel connection with said sleeve adapted to allow the roller to swing horizontally, a pivotal connection with said swivel connection adapted to allow the last mentioned roller to swing vertically, and means for moving the rollers toward each other.

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

SIMEON C. LAWLOR.

Witnesses:

WILLIAM S. BARBEE,
FRED W. MURPHY.