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W. M. CHRISTOPHER

MOP PAIL AND WRINGER

Filed April 1, 1925

Fig. 1.

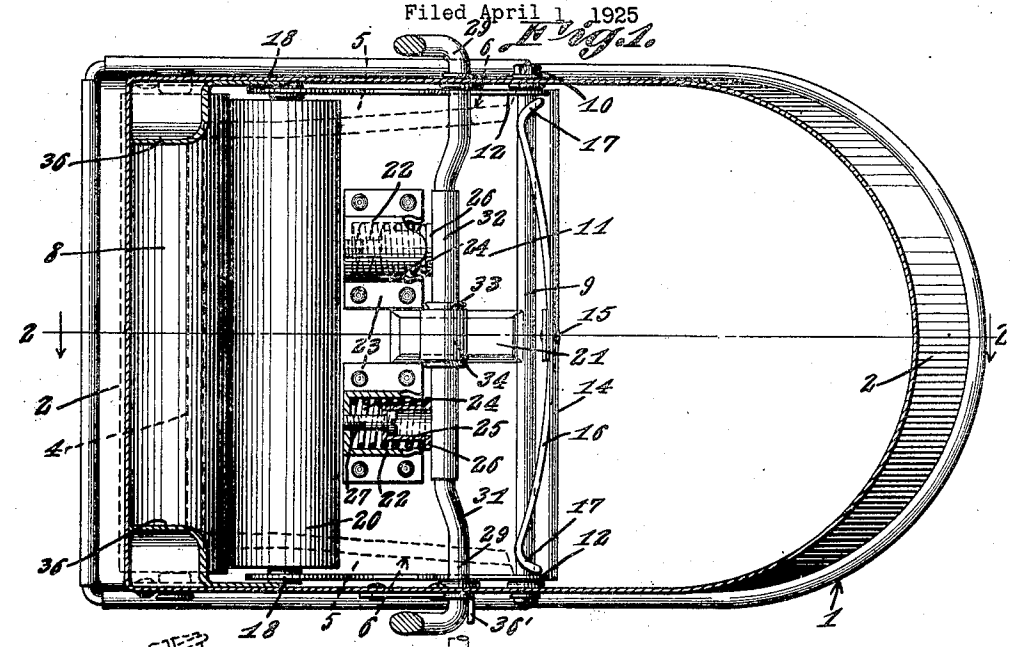
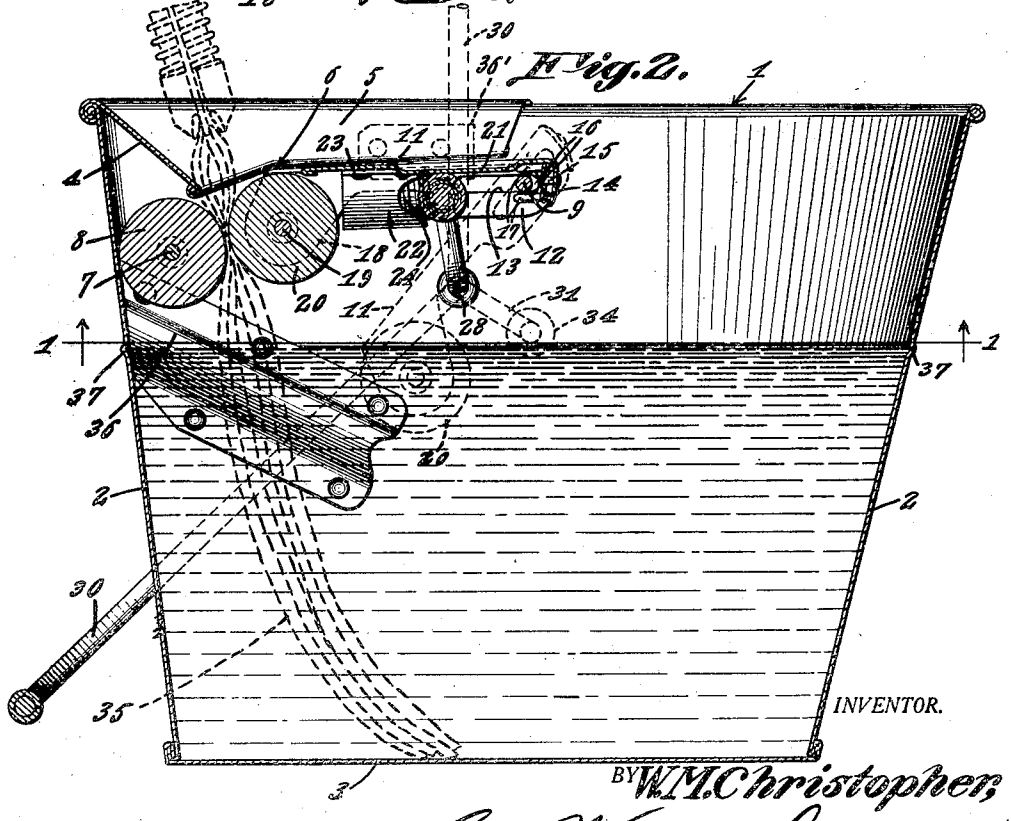


Fig. 2.



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MOP PAIL AND WRINGER.

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To all whom it may concern:

Be it known that I, WILLIAM M. CHRISTOPHER, a citizen of the United States, residing at Tonawanda, in the county of Erie and State of New York, have invented certain new and useful Improvements in Mop Pails and Wringers, of which the following is a specification.

This invention relates to the class of mop pails and attached wringers.

The primary object of this invention is the provision, in a manner as hereinafter set forth, of a mop pail and wringer of an improved structure wherein pressure may be brought to bear upon a mop, to express the water therefrom as it is drawn from the pail, through the downward movement of the bail which serves as pail handle.

Another object of the invention is the provision, in a manner as hereinafter set forth, of a mop pail and wringer having an improved means for moving a squeezer roller toward a stationary roller, to squeeze a mop and express liquid therefrom when the same is withdrawn from the pail between the said rollers.

Another object of the invention is the provision, in a manner as hereinafter set forth, in a mop pail and wringer, of improved means for retracting a wringer mechanism after the same has been released from contact with a mop which is being wrung.

A further and final object of the invention is the provision, in a manner as hereinafter set forth, of a mop pail and wringer, of strong and durable construction, unique design, positive and efficient in action, and so constructed that the catching or tearing of a mop used in connection therewith is avoided.

The invention will be best understood from the consideration of the following detailed description taken in connection with the accompanying drawing forming a part of this specification, with the understanding however, that the invention is not confined to any strict conformity with the showing of the drawing but may be changed and modified so long as such changes and modifications mark no material departure from the salient features of the invention as expressed in the appended claims.

In the drawing:—

Figure 1 is a horizontal transverse section through the pail embodying this invention, looking toward the top thereof and at the underside of the mechanism comprising the wringer structure. This section is taken upon line 1—1 of Figure 2.

Figure 2 is a vertical longitudinal sectional view taken upon the line 2—2 of Figure 1.

Referring now to the drawing in detail wherein like numerals of reference indicate corresponding parts throughout the several views, there is indicated generally by the numeral 1 a pail having the inclined sides 2 and the bottom 3. It will be noted that the pail is at its top, substantially rectangular, having two long sides and one straight short side, the other short side being arcuate in contour. The purpose for this construction will become apparent as the description proceeds.

Extending throughout the length of the short side of the pail along the top edge thereof and continuing along and for substantially half the length of each long side of the pail, is a downwardly and inwardly directed skirt or drip guard comprising the cross portions 4 and the side portions 5. It will be noted from reference to Figure 2 that the portion 4 is of greater length or extends further into the pail than the side portion 5 and that the lower edge of the side portion 5 has a slight inclination from the rear to the point 6 where the degree of inclination is increased as shown to bring this edge down to meet the lower edge of the portion 4.

Extending transversely of the pail, beneath the lower edge of the portion 4 of the drip skirt, is a shaft 7 carrying thereon a roller member 8. It will be noted that the roller member 8 has a portion thereof extending beyond the lower edge of the portion 4 of the skirt, whereas the major portion of the roller is below the skirt proper.

Extending transversely of the pail body at the upper central portion thereof is a stationary shaft 9 having upon one end outside of the pail body the securing nut 10. Upon the shaft 9 there is mounted for reciprocable swinging movement a platform indicated by the numeral 11, and this platform has depending from each side edge and adjacent the back thereof, the flanges 12 in each of which there is formed the longitudinally extending slot 13, through which slot the shaft 9 extends to pivotally support the platform.

When the platform is in the raised position indicated in Figure 2, it will be seen that the side edges thereof abut against the lower edge of the portions 5 of the skirt, and the front edge of the platform upon extreme forward movement thereof reaches the point 6 of the side portions 5 of the skirt.

The rear edge of the platform 11 is downturned as at 14 and there is secured to the central portion of the inner face of this downturned portion, by means of the clamp device 15, an arcuate spring 16 having two parallel arms upon each side of the fixed point 15 which arms are connected at their ends to form the loop 17 which overlies the rear of the shaft 9, and through their tension upon the shaft normally tend to draw the platform backwardly upon the shaft.

Depending from each side of the platform 11 adjacent the forward edge thereof, is a downwardly and forwardly extending ear 18, and extending between and connecting these ears is a shaft 19 upon which is mounted a solid roller 20. When the platform 11 is moved forwardly upon its support 9, the roller 20 comes to a point in close proximity to the roller 8 as shown in Figure 2.

The platform 11 has a central depressed bearing surface 21 extending transversely thereof midway between the sides as shown in Figure 1, and the purpose of this depressed portion will become apparent as the description proceeds.

Secured upon the under side of the platform 11, one upon each side of the raised central portion 21 is a circular housing 22 having the securing ears 23 by means of which the housing is attached to the platform, and these housings are enclosed at the end directed toward the front of the platform and open at the rear. Within each of the housings there is placed a spiral spring 24, and positioned within each of these springs 24 is a plunger member 25 having the annular flange or head 26, the underside of which bears against the spring 24 in which the plunger is placed. At the rear of each of the plungers 25 there is a screw member 27 one end of the same of which is secured in the rear end of the housing 22, and extended through the rear end of the plunger 25 and having the head thereof secured within the plunger thus preventing the spring 24 from forcing the plunger outwardly beyond a certain point. It will be noted that this screw 27 has the shank thereof threaded in the end of the housing 22 and it is therefore adjustable to increase or decrease the tension of the spring 24 by drawing the plunger in or letting it be pressed outwardly.

Formed through each long side of the pail beneath the shaft 9 and toward the front of the pail is a collared aperture 28 through which the inturned ends 29 of the bail or handle 30 extend. After passing through the apertures 28, these inturned ends 29 have the portions 31 extended at an oblique angle with respect to the sides of the bail and terminated and secured in the tubular plunger contacting member 32 as shown in Figure 1. At the central portion of this plunger contacting member 32 is a collar 33 about which a roller member 34 is positioned to revolve. This roller member 34 as will be seen upon reference to Figure 1 is in direct alignment with the depressed portion 21 of the platform and when the device is in operation to wring a mop, contacts with and rides upon the depressed portion as shown in Figure 2.

Upon reference to Figure 2 it will be seen, upon referring to the dotted line position of the bail 30, that the oblique portion 31, when the bail is in upright or vertical position extends toward the rear of the pail and downwardly. When the bail is in this position the spring 16 will have drawn the platform 11 back upon the shaft 9 and the platform will be in the downwardly inclined or dropped position as indicated in dotted lines in this figure. When the bail 30 is swung forwardly the roller 34 will rise and contact with the rear of the portion 21 and roll therealong raising the platform to substantially horizontal position. Further depression of the bail 30 will bring the tubular portion 32 in contact with the plunger 25 and the platform and roller 20 will thus be forced forwardly against the tension of the spring 16 to grip a mop, indicated in dotted lines by the numeral 35, between the rollers 8 and 20. Additional strain or pressure put upon the bail will be taken up by the springs 24, and the proper spring tension will be maintained by the roller 20 against the mop 35 thus allowing the same to be easily withdrawn from between the rollers but at the same time properly expressing the water absorbed thereby.

Upon one side of the pail 1 there is positioned the stop member 36′ which prevents the bail 30 from being swung over towards the rear of the pail, thus when it is raised it will be held in vertical position shown in dotted lines in Figure 2.

Extending downwardly and inwardly from the short side of the pail and upon the inner face of each long side thereof, below the roller 8, is the guide member 36, which projects inwardly across the ends of the rollers 8 and 20, and thus serves to prevent the mop 35 from working beyond the ends of the rollers and thereby becoming entangled around the supporting shafts thereof.

Formed circumferentially about the body 1 of the pail is a corrugation 37 to indicate the proper height to which water should be placed in the pail. When filled to the point indicated the pail will then contain sufficient

weight to prevent tipping or upsetting of the same when pressure is applied to the bail 30.

From the foregoing description it will be seen that there has been provided a unique and novel mop pail and wringer, which will be strong, durable, serviceable and satisfactory in action.

Having thus described my invention what I claim is:

1. In a device of the character set forth, a pail, a stationary roller positioned therein, a bail having the ends thereof extended through the sides of said pail, and a roller carrying means suspended in said pail for pivotal and reciprocating movement, the ends of said pail cooperating with said roller carrying means to shift said means to cause the roller carried thereby to move toward the stationary roller upon depression of the bail.

2. In a device of the character set forth, a pail, a stationary roller extending transversely of and within the same, a fixed support within said body, a platform mounted upon said support to have both swinging and reciprocating movement thereon, a compressor roller extending across the front of said platform, and a bail handle pivotally connected at its ends through the sides of said body and acting upon the platform, when swung downwardly, to raise and move the same forwardly to bring said rollers into close proximity.

3. In a device of the character set forth, a pail, a stationary roller extending transversely of and within the same, a fixed support within said body, a platform mounted upon said support to have both swinging and reciprocating movement thereon, a compressor roller extending across the front of said platform, a bail handle pivotally connected at its ends through the sides of said body and acting upon the platform, when swung downwardly, to raise and move the same forwardly to bring said rollers into close proximity, and means carried by said platform and engaging said support, whereby the platform will be retracted when the pressure upon said bail is relieved.

4. In a device of the character set forth, a pail, a stationary roller extending transversely of and within said body, a platform having downturned slotted ears one on each side thereof, means engaging in the slots of said ears for slidably and swingingly supporting said platform, a roller pivotally supported beneath and across the front of said platform, a bail handle having the ends thereof engaged through the sides of said body, and means carried by said ends whereby said platform will be caused to swing up and move forwardly when said bail is depressed.

5. In a device of the character set forth, a pail, a stationary roller extending transversely of and within said body, a platform having downturned slotted ears one on each side thereof, means engaging in the slots of said ears for slidably and swingingly supporting said platform, a roller pivotally supported beneath and across the front of said platform, a bail handle having the ends thereof engaged through the sides of said body, means carried by said ends whereby said platform will be caused to swing up and move forwardly when said bail is depressed, and resilient tensioning means carried by said platform and engaged by said end carried means.

6. In a device of the character set forth, a pail, a stationary roller extending transversely of and within the body, a platform having downturned slotted ears one on each side thereof, means engaging in the slots of said ears for slidably and swingingly supporting said platform within the body, a roller pivotally supported beneath and across the front of said platform, a bail handle having the inner portion of the sides extending through the sides of the body and having the terminal ends within the body extended at an oblique angle with respect to the sides of the handle, and a connecting element between said oblique ends adapted to rise up beneath said platform, when said bail is swung downwardly, to lift and move the same forwardly to bring said rollers into close proximity one with the other.

7. In a device of the character set forth, a pail, a stationary roller extending transversely of and within the body, a platform having downturned slotted ears one on each side thereof, means engaging in the slots of said ears for slidably and swingingly supporting said platform within the body, a roller pivotally supported beneath and across the front of said platform, a bail handle having the inner portion of the sides extending through the sides of the body and having the terminal ends within the body extended at an oblique angle with respect to the sides of the handle, a connecting element between said oblique ends adapted to rise up beneath said platform, when said bail is swung downwardly, to lift and move the same forwardly to bring said rollers into close proximity one with the other, and means carried by said platform and engaging said supporting means whereby said platform will be drawn back when said bail is released.

8. In a device of the character set forth, a pail having a substantially rectangular open top, and inwardly and downwardly extending skirt across one end edge and continuing a short distance along each side edge of the body, a normally downwardly inclined platform pivoted at its back to the sides of said body beneath the ends of said skirt, a roller carried across the front of said plat-

form, a roller extending beneath the edge of that portion of the skirt extending across the end of the pail, and a bail handle having the ends thereof extended through the sides of said body and acting, when swung forwardly, to raise said platform beneath said side skirts to bring said rollers together.

9. In a device of the character set forth, a pail having a substantially rectangular open top, and inwardly and downwardly extending skirt across one end edge and continuing a short distance along each side edge of the body, a normally downwardly inclined platform pivoted at its back to the sides of said body beneath the ends of said skirt, a roller carried across the front of said platform, a roller extending beneath the edge of that portion of the skirt extending across the end of the pail, and a bail handle having the ends thereof extended through the sides of said body and acting, when swung forwardly, to raise said platform beneath said side skirts to bring said rollers together, said platform being adapted to move forwardly and backwardly in addition to its swinging movement upon its support.

10. In a device of the character set forth, a pail having a substantially rectangular open top, and inwardly and downwardly extending skirt across one end edge and continuing a short distance along each side edge of the body, a normally downwardly inclined platform pivoted at its back to the sides of said body beneath the ends of said skirt, a roller carried across the front of said platform, a roller extending beneath the edge of that portion of the skirt extending across the end of the pail, a bail handle having the ends thereof extended through the sides of said body and acting, when swung forwardly, to raise said platform beneath said side skirts to bring said rollers together, said platform being adapted to move forwardly and backwardly in addition to its swinging movement upon its support, and a plurality of spring elements associated with said platform, certain of which acts to normally maintain the same in retracted position and others acting as roller tensioning elements.

11. In a device of the character set forth, a pail having a substantially rectangular open top, and inwardly and downwardly extending skirt across one end edge and continuing a short distance along each side edge of the body, a normally downwardly inclined platform pivoted at its back to the sides of said body beneath the ends of said skirt, a roller carried across the front of said platform, a roller extending beneath the edge of that portion of the skirt extending across the end of the pail, a bail handle having the ends thereof extended through the sides of said body and acting, when swung forwardly, to raise said platform beneath said side skirts to bring said rollers together, and guide means upon the inner face of the pail body acting to prevent a mop, positioned between said rollers, from working beyond the ends thereof and becoming entangled thereabout.

In testimony whereof, I affix my signature hereto.

WILLIAM M. CHRISTOPHER.