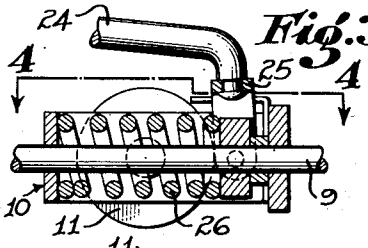
Oct. 20, 1953 A. SWANSON 2,655,681

MOP WRINGER APPARATUS

Filed March 11, 1950 2 Sheets-Sheet 1

Fig. 3



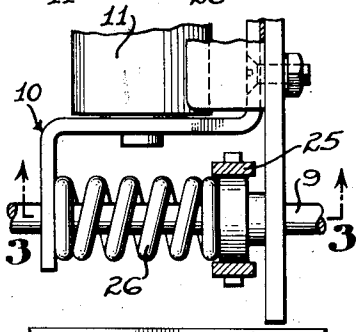


Fig. 4

Fig. 9

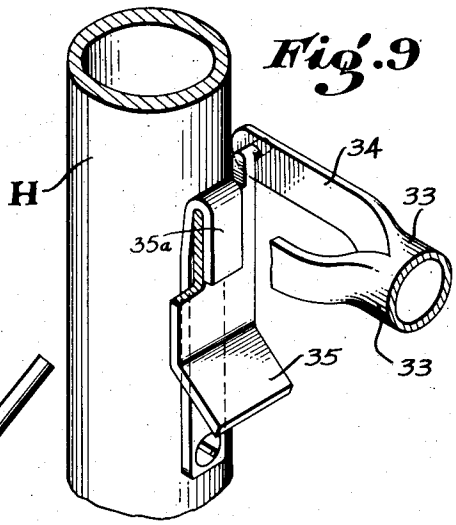


Fig. 1

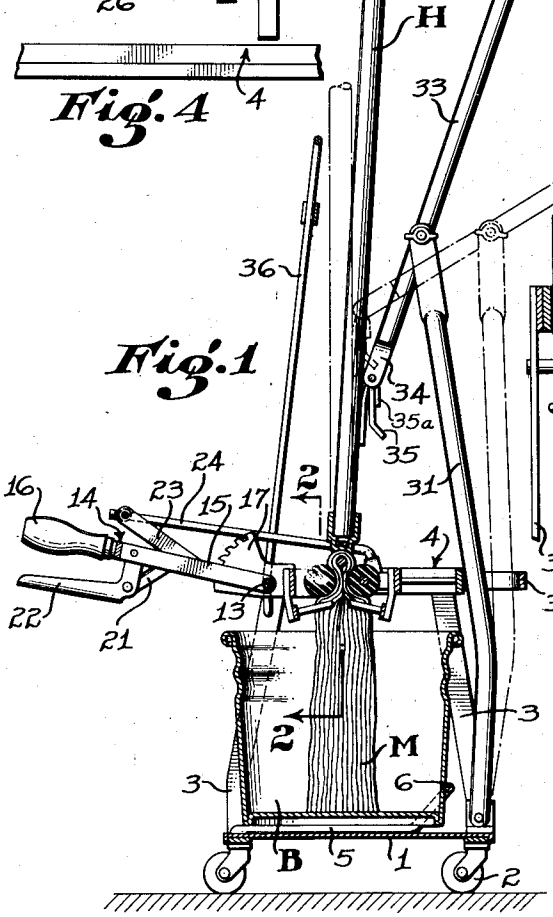
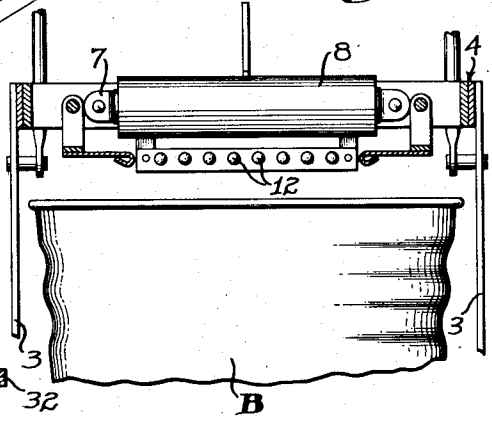


Fig. 2



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Oct. 20, 1953 A. SWANSON 2,655,681

MOP WRINGER APPARATUS

Filed March 11, 1950 2 Sheets-Sheet 2

Fig. 5

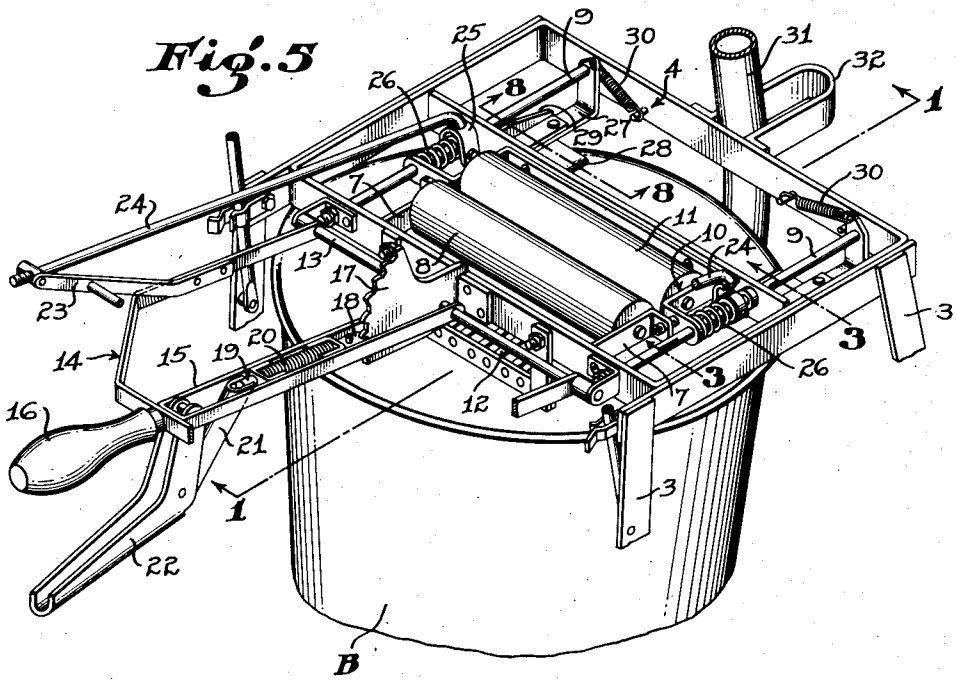


Fig. 6

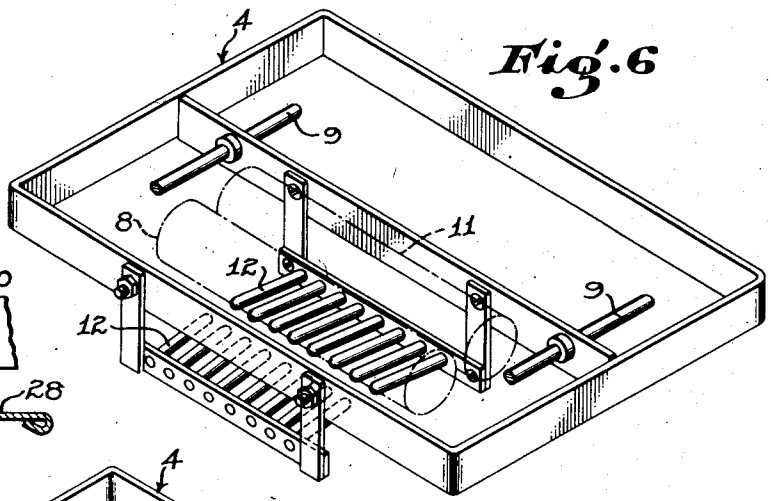


Fig. 8

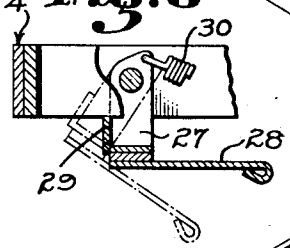
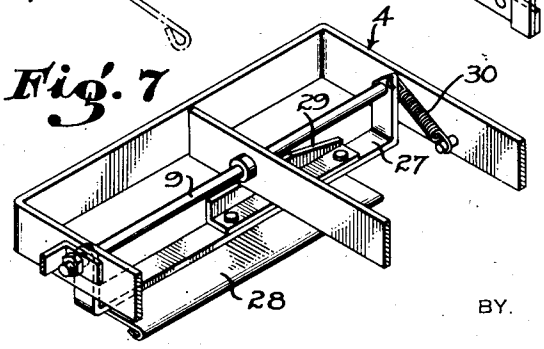


Fig. 7



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MOP WRINGER APPARATUS

Arthur Swanson, Elsinore, Calif.

Application March 11, 1950, Serial No. 149,184

7 Claims. (Cl. 15—262)

1

My invention relates to mop wringer apparatus and included in the objects of my invention are:

First, to provide a mop wringer apparatus which enables one to wring a mop with a minimum of effort without handling or touching the mop head.

Second, to provide an apparatus of this class which incorporates a novelly arranged and easily operated means whereby the wringing action may be adjusted to a preselected degree of dampness in the mop head.

Third, to provide an apparatus of this class which incorporates an automatically operated comb, adapted to enter the strands of the mop head to straighten the same simultaneously with the wringing action so that the mop when removed is ready for use.

Fourth, to provide an apparatus of this class in which the edges of the mop are automatically guided into position within the extremities of the wringer members.

With the above and other objects in view as may appear hereinafter, reference is made to the accompanying drawings, in which:

Figure 1 is a sectional view of my mop wringer apparatus with the section being taken substantially along with the plane represented by 1—1 of Figure 5, with a mop in place.

Figure 2 is an enlarged fragmentary sectional view taken through 2—2 of Figure 1.

Figure 3 is a further enlarged fragmentary sectional view taken through 3—3 of Figures 4 and 5.

Figure 4 is a fragmentary sectional view taken through 4—4 of Figure 3.

Figure 5 is an enlarged fragmentary perspective view, showing the wringer apparatus in its clamping or wringing position.

Figure 6 is a fragmentary perspective view similar to Figure 5, but with portions of the apparatus removed to show particularly the mop combing means.

Figure 7 is a fragmentary perspective view with parts omitted to illustrate the mop edge engaging member and associated mechanism.

Figure 8 is a fragmentary sectional view through 8—8 of Figure 5.

Figure 9 is an enlarged perspective view of the connecting means between the mop handle and the mop elevating arm.

My mop wringing apparatus includes a platform 1 mounted on castors 2 and carrying uprights 3 which support a frame 4. The platform 1 is provided with track members 5 joined by a loop which forms a stop 6. The track members are adapted to receive a bucket B.

2

The frame 4 is rectangular and one side carries a fixed wringer roller bracket 7 which journals a fixed wringer roller 8. Guide rods 9 extend between the ends of the frame outwardly of the roller 8 and support a movable wringer roller mounting or carriage 10. The mounting 10 carries a movable wringer roller 11, which is adapted to be moved to and from the fixed wringer roller 8. The bracket 7 and the mounting 10 are provided with depending supports which carry combs 12, the teeth of which are directed toward each other and are adapted to penetrate the strands of a mop M clamped between the rollers 8 and 11.

Mounted along the side of the frame which carries the bracket 7 is a shaft 13 which journals a lever frame 14 which is in general U-shaped. Bars 15 extend from the central portion of the frame to the shaft 13 and a handle 16 extends outwardly from the frame in alignment with the bars 15. Mounted between the bars 15 and secured to the frame 4, is a ratchet section 17. Mounted between the bars 15 and carried thereby is a pawl 18, pawl shaft 19, and a spring 20, so arranged as to urge the pawl 18 into engagement with the ratchet 17. The pawl shaft 19 is connected by a link 21 to a hand-clamp lever 22 disposed under the handle 16 so as to be readily gripped to disengage the pawl 18. Braces 23 extend upwardly from the sides of the lever frame 14 and are pivotally connected to struts 24 which extend over the guide rods 9 and are equipped with yokes 25 slidable on the guide rods. Springs 26 are disposed between the yokes 25 and the movable wringer roller mounting 10 so that movement of the handle 16 and lever frame 14 effects movement of the roller 11 to and from the roller 8. Pressure between the rollers when in engagement, or pressure against the mop therebetween, is determined by the compression of the springs 26. The degree of compression is determined by the position of the pawl 18 with respect to the ratchet 17. In the position shown in Figures 1 and 5, maximum compression is obtained.

The guide rods 9 are provided with pivotally suspended brackets 27 to which are attached deflector plates 28, so disposed as to extend under the rollers 8 and 11 when the deflector plates are in their horizontal positions. The deflector plates 28 are adapted to tilt laterally clear of the rollers so as to admit a mop therebetween, that is, the deflector plates 28 move between the solid and broken line positions shown in Figure 8. This movement is accomplished by a cam 29 forming a part of each bracket 27. Each cam is engaged by a portion of the movable roller mounting or

carriage 10, as shown best in Figures 7 and 8. Springs 30 attached to the brackets 27 tend to hold the plates 28 in their downwardly directed or retracted positions.

Pivotally connected to the platform 1 is a strut 31, the intermediate portion of which passes through a guide or retainer 32 carried by the frame 4. The upper end of the strut 31 is pivotally connected to a lever 33. One end of the lever is provided with a yoke member 34 which pivotally supports a catch plate 35. The catch plate is adapted to engage under a hook member 35a secured to the mop handle H, as shown in Figures 1 and 9.

The side of the frame 4 opposite from the lever 33 is provided with a draw yoke 36 or other means for pulling or pushing the apparatus from place to place.

Operation of my mop wringing apparatus is as follows:

The handle 16 is disposed in an upward position, which opens the space between the wringer rollers 8 and 11 and at the same time permits disposition of the deflector plates 28 in their retracted position. The rollers and deflector plates thus form the boundaries of a rectangular opening through which a mop may be readily inserted and caused to enter the mop bucket B. After appropriate wetting of the mop, the handle 16 is depressed, causing the wringer rollers to clamp the mop adjacent the handle. Before or after this operation, the loop 34 is caused to engage the catch 35, whereupon the lever 33 is pivoted so as to draw upwardly on the mop handle H. In so doing, the rollers squeeze and wring the mop strands.

It will be observed that the center of gravity of the mop is below the loop 34, particularly when the mop is wet, so that it tends to maintain an upright position. Thus the mop may be wrung without touching either the mop or the handle and, before or after wringing, the mop may remain suspended from the loop 34 and catch 35 as the apparatus is wheeled about.

It will also be observed that by reason of the pivotal movement of the strut 31 on the base 1, the pivotal connection with arm 33, and the pivotal connection of catch 35 to loop 34, the resulting movement of the mop is in vertical alignment with the wringer.

When the rollers are moved into clamping engagement with the mop head, the combs 12 enter between the strands of the mop, as shown in Figure 1, so that when the mop is drawn upwardly the strands are straightened and untangled. The deflector plates not only aid in guiding the mop but also compress the mop laterally and aid in positioning the mop strands so as to facilitate action of the combs 12; that is, the strands are prevented from spreading out so that the combs can properly function to straighten the strands.

Having fully described my invention, it is to be understood that I do not wish to be limited to the details herein set forth, but my invention is of the full scope of the appended claims.

I claim:

1. A mop wringing apparatus, involving: a frame structure adapted to receive a mop bucket; a mop clamping means carried by said frame including roller jaws under which said bucket is adapted to be disposed, said roller jaws adapted to receive a mop therebetween; mop-edge engaging means operably associated with said clamping means and movable laterally with respect to the mop; and means engageable with the mop handle to draw said mop through said roller jaws, said means including a strut pivotally connected at its lower end to said frame and extending to a point above said roller jaws, a lever fulcrumed at the upper end of said strut, and means for attachment to a mop, whereby said lever may forceably draw said mop upwardly between said roller jaws in a substantially vertical plane.

2. A mop wringing apparatus, involving: a frame structure adapted to receive a mop bucket; a mop clamping means carried by said frame including roller jaws under which said bucket is adapted to be disposed, said roller jaws adapted to receive a mop therebetween; comb means movable with said jaws and adapted to penetrate the strands of said mop; mop-edge engaging means operably associated wtih said clamping means and movable laterally with respect to the mop; and means engageable with the mop handle to draw said mop through said roller jaws, said means including a strut pivotally connected at its lower end to said frame and extending to a point above said roller jaws, a lever fulcrumed at the upper end of said strut, and means for attachment to a mop, whereby said lever may forceably draw said mop upwardly between said roller jaws in a substantially vertical plane.

3. A mop wringing apparatus, involving: a frame structure adapted to receive a mop bucket; a mop clamping means carried by said frame under which said bucket is adapted to be disposed, said mop clamping means including a pair of wringer rollers; a lever and latch means to effect relative opening and closing of said rollers and incorporating a yieldable element whereby the rollers yieldably engage a mop positioned therebetween; and a coarse comb means having large blunted teeth disposed below said wringer rollers and movable therewith to penetrate the strands of a mop engaged by said rollers to straighten the same as said mop is drawn upwardly between said rollers.

4. A mop wringing apparatus, involving: a frame structure adapted to receive a mop bucket; a mop clamping means carried by said frame under which said bucket is adapted to be disposed, said mop clamping means including a pair of wringer rollers; a lever and latch means to effect relative opening and closing of said rollers and incorporating a yieldable element whereby the rollers yieldably engage a mop positioned therebetween; mop-edge engaging means operably associated with said clamping means and movable laterally with respect to the mop; and a coarse comb means having large blunted teeth disposed below said wringer rollers and movable therewith to penetrate the strands of a mop engaged by said rollers to straighten the same as said mop is drawn upwardly between said rollers.

5. A mop wringing apparatus, involving: a frame structure adapted to receive a mop bucket; a mop clamping means carried by said frame under which said bucket is adapted to be disposed, said mop clamping means including a pair of wringer rollers; a lever and latch means to effect relative opening and closing of said rollers and incorporating a yieldable element whereby the rollers yieldably engage a mop positioned therebetween; mop-edge engaging means operably associated with said clamping means and movable laterally with respect to the mop; comb means disposed below said wringer rollers and movable therewith to penetrate the strands of a mop engaged by said rollers; and a lever device

for disposing in a vertical position the handle of a mop held between said rollers and operable to draw vertically upwardly on said handle and to withdraw the mop forceably from between said rollers.

6. A mop wringing apparatus, involving: a pair of relative movable wringer rollers adapted to receive a mop therebetween; a pair of mop-edge engaging members disposed below and at the ends of said rollers, said members being movable axially with respect to said rollers to dispose the edges of the mop within the extremities of said rollers; mechanism coordinating the movement of said rollers and mop-edge engaging members, including a handle and latch means; comb means disposed below said wringer rollers and movable therewith to penetrate the strands of a mop engaged by said rollers; and means engageable with the mop handle to draw said mop through said rollers, said means including a strut pivotally connected at its lower end to said frame and extending to a point above said rollers, a lever fulcrumed at the upper end of said strut, and means for attachment to a mop, whereby said lever may forceably draw said mop upwardly between said rollers in a substantially vertical plane.

7. A mop wringing apparatus, involving: a pair of relative movable wringer rollers adapted to

receive a mop therebetween; a pair of mop-edge engaging members disposed below and at the ends of said rollers, said members being movable axially with respect to said rollers to dispose the edges of the mop within the extremities of said rollers; mechanism coordinating the movement of said rollers and mop-edge engaging members, including a handle and latch means; and means engageable with the mop handle to draw said mop through said rollers, said means including a strut pivotally connected at its lower end to said frame and extending to a point above said rollers, a lever fulcrumed at the upper end of said strut, and means for attachment to a mop, whereby said lever may forceably draw said mop upwardly between said rollers in a substantially vertical plane.

ARTHUR SWANSON.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
422,487	Anderson	Mar. 4, 1890
898,787	Sawyers	Sept. 15, 1908
1,271,621	Schmoliner	July 9, 1918
2,147,782	Abbott	Feb. 21, 1939
2,159,523	Greenstreet	May 23, 1939