March 11, 1941. W. L. KAUFFMAN, 2D 2,234,258

WRINGER

Filed Oct. 7, 1938 2 Sheets-Sheet 1

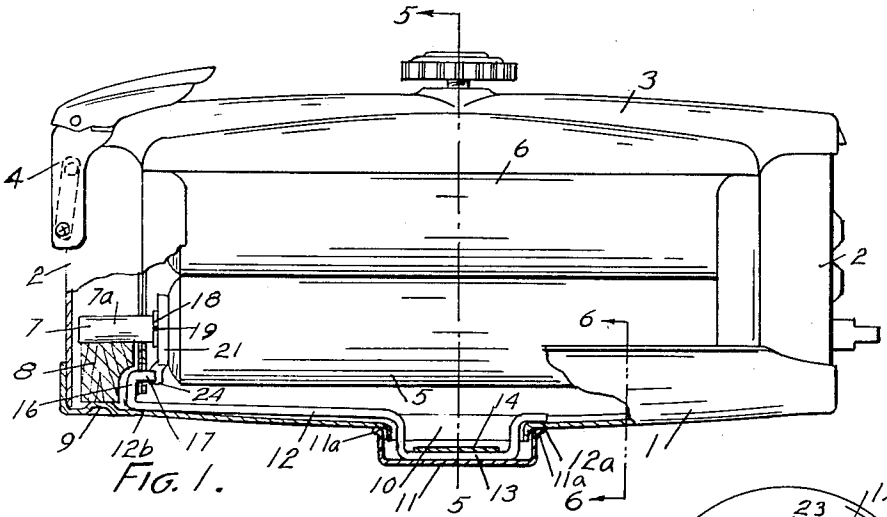


FIG. 1.

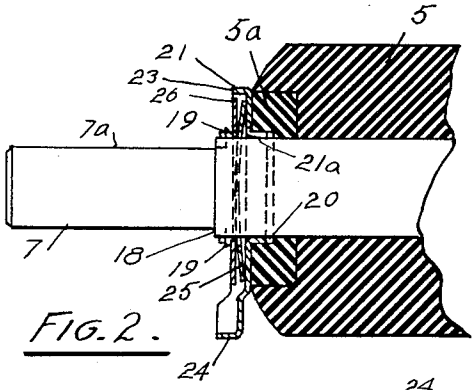


FIG. 2.

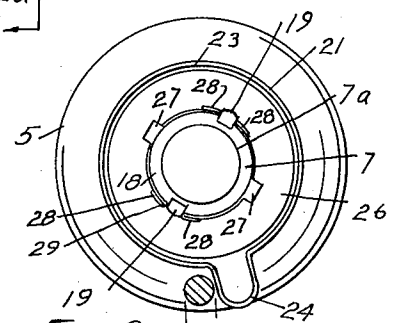


FIG. 3.

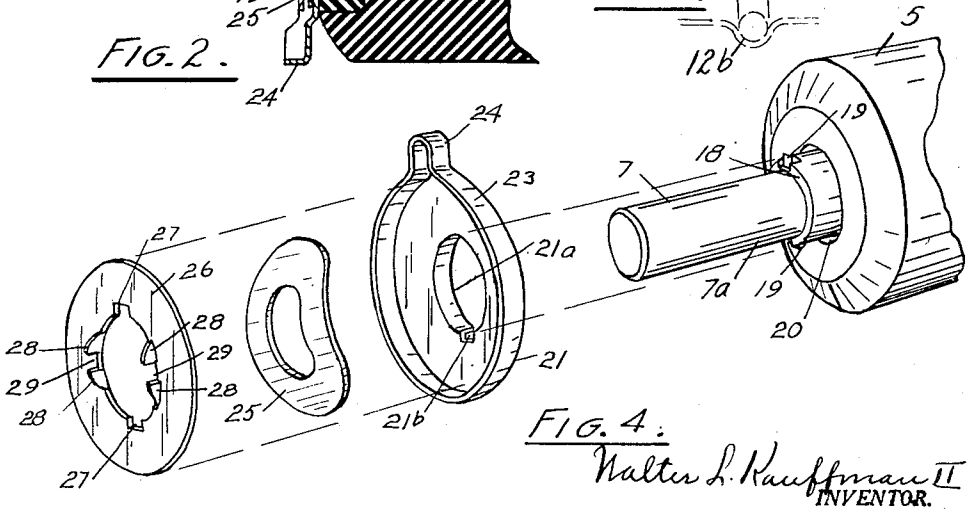


FIG. 4.

Walter L. Kauffman II
INVENTOR.

BY W. G. Lord

ATTORNEYS.

March 11, 1941. W. L. KAUFFMAN, 2D 2,234,258

WRINGER

Filed Oct. 7, 1938 2 Sheets-Sheet 2

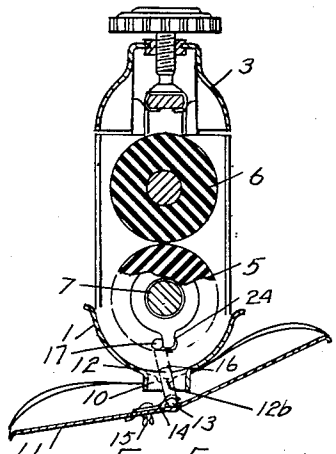


FIG. 5.

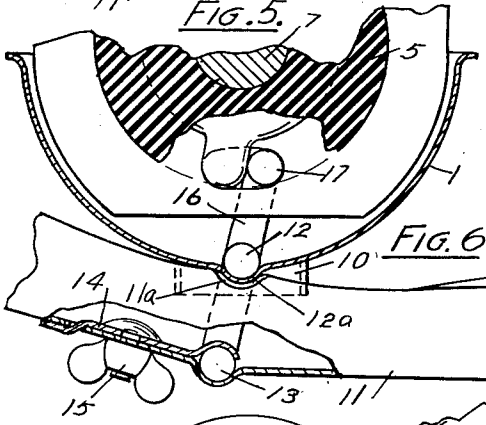


FIG. 6

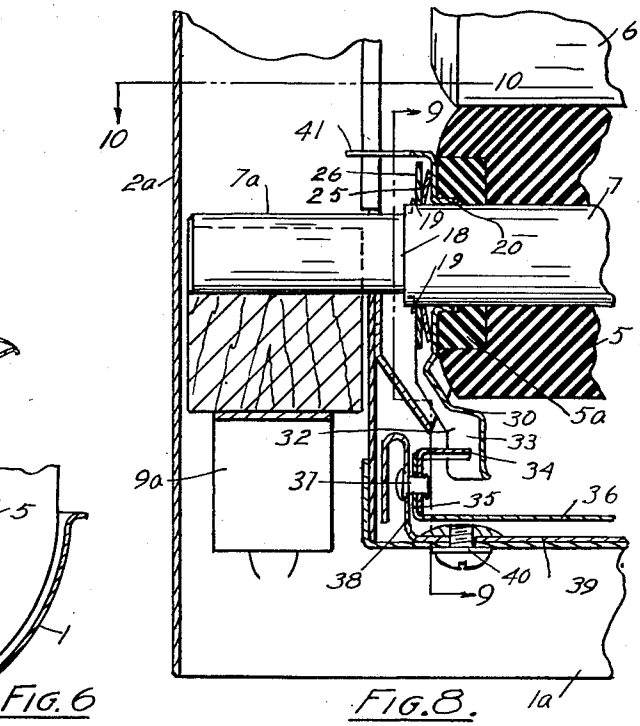


FIG. 8.

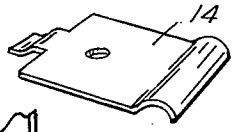


FIG. 7.

FIG. 9.

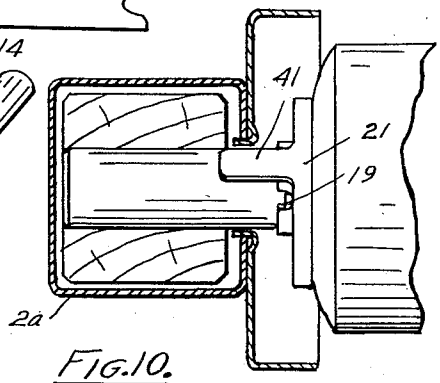


FIG. 10.

Walter L. Kauffman II
INVENTOR.

BY W. C. Lord
ATTORNEYS.

Patented Mar. 11, 1941 2,234,258

UNITED STATES PATENT OFFICE

2,234,258

WRINGER

Walter L. Kauffman, II, Erie, Pa., assignor to Lovell Manufacturing Company, Erie, Pa., a corporation of Pennsylvania

Application October 7, 1938, Serial No. 233,835

12 Claims. (Cl. 68—254)

Power wringers are ordinarily provided with means for reversing the rolls so that clothes may be introduced to the wringer from either side. In ordinary use, some means are provided for deflecting the water from the rolls back into the tub, and where the rolls are reversed, the means for accomplishing this deflection of water is usually reversed or readjusted so as to change the direction of deflection. Means have been provided in such structures for automatically reversing the deflecting means as the rolls are reversed, and the present invention is designed to improve the means for actuating the deflector. Features and details of the invention will appear from the specification and claims.

Preferred embodiments of the invention are illustrated in the accompanying drawings as follows:

Fig. 1 shows a front elevation of a wringer, partly in section.

Fig. 2 an enlarged view of a wringer roll showing the reversing device.

Fig. 3 an end view of the wringer roll with the reversing device in place.

Fig. 4 a perspective view showing the several parts of the deflecting device in disassembled relation.

Fig. 5 a sectional view on the line 5—5 in Fig. 1.

Fig. 6 a sectional view on the line 6—6 in Fig. 1.

Fig. 7 a perspective view of a clamp plate.

Fig. 8 a section of a wringer end showing an alternative construction.

Fig. 9 a section on the line 9—9 in Fig. 8.

Fig. 10 a section on the line 10—10 in Fig. 8.

Referring to the structure illustrated in Figs. 1 to 7, 1 marks the wringer base which is of the collector type; 2 side stiles; 3 a top bar detachably secured to the side stiles and provided with a resetting and releasing device 4; 5 a lower roll; 6 an upper roll; 7 a shaft for the lower roll; 8 a bearing for the shaft; 9 a projecting support in the bottom of the base for the bearing; 10 a flume or deflector opening in the bottom of the base; 11 a deflecting flume; 12 an actuating rod having a loop 13 extending down through the opening 10. The flume 11 is hung on this loop by means of a clamp plate 14 which is secured at one end to the bottom of the flume or deflector by a screw 15. By setting up the screw the flume is locked on the rod 12 and the rod 12 is drawn down slightly to put it under tension with its seats. The inner end of the rod 12 rests in a groove 12*a* in the bottom of the base and the outer end of the rod rests in a depression 12*b*. These two depressions at the ends of the rod form the bearing for the rod and leave the intermediate portion of the rod free to yield as the wing nut 15 is set up. The upper edge of the flume has grooves 11*a*—11*a* which engage the bottoms of the walls of the grooves 12*a* and 12*b* in the base so as to retain the contact of the parts. The outer end of the rod has an upturned arm 16 with an in-turned finger 17. By actuating the finger, the rod is swung and with it, the flume or deflector.

The actuating mechanism for accomplishing the movement of the deflector is mounted entirely on the shaft and is driven through frictional engagement with the end surface of the roll.

The shaft is cut down at 7*a* forming the bearing surface, and this provides a shoulder 18. Projections 19 are struck up in the shoulder. The end of the roll may have hard rubber washers 5*a* to retain its shape and the end of the rubber has an undercut groove 20 around the shaft. A friction plate 21 has a flanged opening 21*a* which is journaled on the shaft. A notch 21*b* is provided to permit the assembly of the plate to pass the projections 19. The outer periphery of the plate is provided with a flange 23. This has a projection or arm 24 formed in it, which projection or arm is adapted to engage the finger 17 of the rocking rod 12. A spring washer 25 is arranged against the friction plate and it is retained in place and anchored on the shaft by a retaining member 26. The retaining member is in the form of a plate having an opening adapted to receive the shaft. The opening has slots 27 to permit the passage of the plate 26 past the projections 19. The plate also has outwardly extending lips 28 forming a notch 29. In the assembly of the device, the plate 21 is first put into place. The spring washer 25 is put against the plate 21 and the member 26 is put on to the shaft and turned a quarter turn by depressing the washer 25. The lips 28 at one side of the notches 29 may be turned past the projections 19 so as to bring the notches 29 into register with the projections 19. As the member is released, it moves outwardly into engagement with the perforations and locks the entire assembly with the shaft. With this structure, the assembly remains with the shaft when the shaft is removed so that in servicing the wringer, there can be no mistake in making the assembly. All the operator needs to do is to put the wringer roll in place in the frame in the usual

manner and operating parts find their operating position. It will be understood that after the arm 24 engages the finger 17 the wringer roll continues to rotate, and the friction plate 21 rubs against the end of the roll, but inasmuch as the entire actuating device is anchored and carried with the roll, the friction is sufficient to actuate the deflector or flume with a very slight spring pressure on the friction plate.

When the wringer is reversed, the arm is swung around practically a full turn, backs up the finger 17, and acting on that finger, reverses or swings the flume. When the wringer is again reversed, the reverse action takes place. In the alternative construction, the wringer has an ordinary channel base 1a to which the side stiles 2a are attached. It has a lower bearing support 9a differing slightly from the bearing support in the structure of support in Fig. 1. The same frictional actuating device is used as in Fig. 1, with, however, the following changes:

The friction plate is provided with an arm 30 having side flanges 32 which form a slot 33. The arm 34 on a tilting drip board 36 extends into to the slot 33. The tilting drip board is carried by the arm 35, pivoted at 37 on the flange 38 of a water board 39. The water board is secured to the base by screws 40. This friction mechanism operates in the manner set forth in relation to the mechanism in Fig. 1, the assembly outside of the arm and a positioning device being similar. The friction plate 21 in the alternative structure has a projection 41 which is adapted to enter a slot 2b in the stile as the wringer roll is put in place. This positions the friction plate so that the slot 33 will register with the finger 34 and permit the roll to be put in place with the parts in proper position to operate.

What I claim as new is:

1. In a wringer, having a frame having a base, rolls mounted in the frame, one of said rolls and a reversing water deflector on the base; the combination with one of said rolls and its shaft and the deflector of means mounted on a roll shaft comprising a friction plate in frictional engagement with the roll end; devices on the roll shaft exerting pressure on the plate; and a connection between the friction plate and the deflector reversing the deflector with a reversal of the rolls.

2. In a wringer, having a frame and having a base, rolls mounted in the frame, one of said rolls and a reversing water deflector on the base; the combination with one of said rolls and its shaft and the deflector of means mounted on a roll shaft comprising a friction plate in frictional engagement with the roll end; devices comprising a spring anchored on the shaft exerting pressure on the friction plate; and a connection between the friction plate and the deflector reversing the deflector with a reversal of the rolls.

3. In a wringer, having a frame and having a base, rolls mounted in the frame, one of said rolls and a reversing water deflector on the base; the combination with one of said rolls and its shaft and the deflector of means mounted on a roll shaft comprising a friction plate in frictional engagement with the roll end; devices comprising a retaining member seated on the shaft; a spring between the member and the friction plate; and a connection between the friction plate and the deflector reversing the deflector with a reversal of the rolls.

4. In a wringer, having a frame having a base; rolls mounted in the frame; and a reversing water deflector under the frame; in combination with a projection struck up on the shaft of one of the rolls; at the end of a roll; and of means mounted on the roll shaft comprising a friction plate in frictional engagement with the roll end; devices on the roll shaft anchored against the projections on said shaft exerting pressure on the plate; and a connection between the friction plate and the deflector reversing the deflector with a reversal of the rolls.

5. In a wringer, having a frame having a base, rolls mounted in the frame; and a reversing water deflector under the frame; in combination with a projection struck up on the shaft of one of the rolls; at the end of a roll; and of means mounted on the roll shaft comprising a friction plate in frictional engagement with the roll; devices comprising a plate having notches permitting the passage of the device past the projection and also having locking notches adapted to seat on said projection; a spring between the notched plate and the friction plate; and a connection between the friction plate and the deflector reversing the deflector with a reversal of the rolls.

6. In a wringer, having a frame having a base, rolls mounted in the frame, one of said rolls and a reversing water deflector on the base; the combination with one of said rolls and its shaft and the deflector of means mounted on the roll shaft comprising a friction plate in frictional engagement with the roll end, said plate having a flange opening journaled on the shaft; a flanged outer periphery; an arm extending from the periphery; devices on the roll shaft exerting pressure on the plate; and a connection leading to the deflector having an operating part in the path of the arm.

7. In a wringer, having a frame and having a base, rolls mounted in the frame, one of said rolls and a reversing water deflector on the base; the combination with one of said rolls and its shaft and the deflector of means mounted on the roll shaft comprising a friction plate in frictional engagement with the roll, said plate having a flange opening journaled on the shaft; a flanged outer periphery; an arm extending from the periphery; projections struck up in the shaft spaced from the friction plate; a notched retaining member adapted to be assembled past the projections and seated thereon; and a spring between the member and the friction plate.

8. In a wringer, having a frame and having a base, rolls mounted in the frame, one of said rolls and a reversing water deflector on the base; the combination with one of said rolls and its shaft and the deflector of means mounted on the roll shaft comprising a friction plate in frictional engagement with the roll end, said plate having a slotted arm extending therefrom; and a connection between the friction plate and the deflector comprising an operating part extending into the slot of the slotted arm reversing the deflector with a reversal of the rolls.

9. In a wringer, having a frame carrying a water collector, said collector having a discharge opening and rod bearing grooves therein; rolls mounted in the frame, said rolls comprising shafts and a tilting flume under the opening; the combination with a roll shaft and the flume and the collector groove of a rod pivoted in the grooves in the collector having a part intermediate its ends extending through the opening, said part being attached to the flume, the at-

tachment of the rod to the flume placing the rod under tension and yieldingly lifting the flume into engagement with the collector; and means rocking the rod to reverse the flume with a reversal of the rolls.

10. In a wringer, having a frame carrying a water collector, said collector having a discharge opening and rod bearing grooves therein; rolls mounted in the frame, said rolls comprising shafts and a tilting flume under the opening; the combination with a roll shaft and the flume and the collector groove of a rod pivoted in the grooves in the collector having a part intermediate its ends extending through the opening, said part being attached to the flume, the attachment of the rod to the flume placing the rod under tension and yieldingly lifting the flume into engagement with the collector; a rock arm on the rod; and means carried with the roll rocking the rock arm with a reversal of the rolls, the rocking of the rock arm actuating the rod to reverse the flume.

11. In a wringer having a frame, rolls mounted in the frame, said rolls comprising shafts, said frame carrying a water collector having a discharge opening offset from an end of the roll and a movable flume below the opening; the combination with said roll shaft, flume and collector of a rod pivoted in the collector within the water receiving zone thereof and having a part extending through the opening, said part actuating the flume; and means at the end of the roll moving the rod to reverse the flume with a reversal of the rolls, the rod carrying the movement from the end of the roll to and through the offset opening to the flume.

12. In a wringer having a frame, rolls mounted in the frame, said rolls comprising shafts, said frame carrying a water collector having a discharge opening offset from an end of the roll and a rod bearing groove along the bottom thereof, and a movable flume below the opening; the combination with said roll shaft collector and flume of a rod pivoted in the groove and within the water receiving zone thereof and having a part extending through the opening, said part actuating the flume; and means at the end of the roll moving the rod to reverse the flume with a reversal of the rolls, the rod carrying the movement from the end of the roll to and through the flume at the offset position of the opening.

WALTER L. KAUFFMAN, II.