April 16, 1968 H. F. DRURY 3,377,827

DIAPER WRINGER

Filed Feb. 23, 1966

FIG. 1.

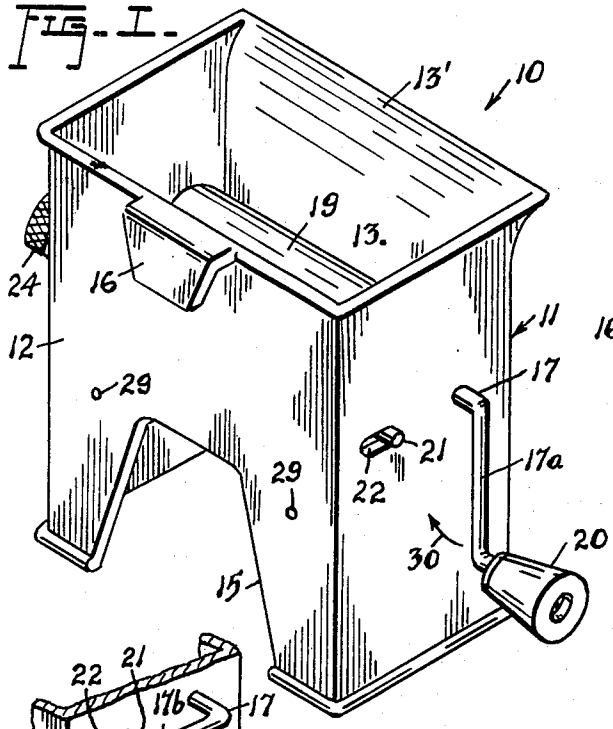


FIG. 2.

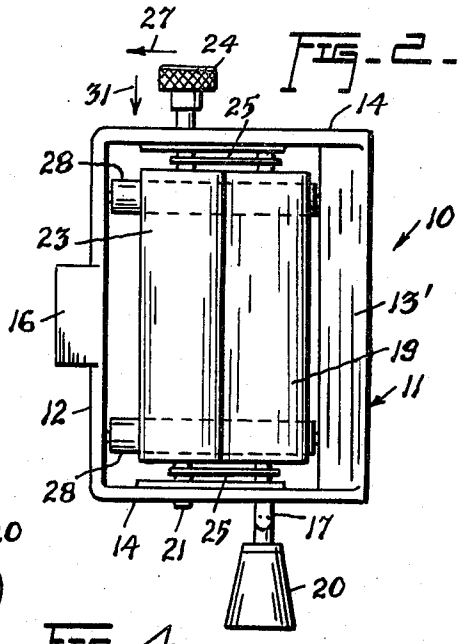


FIG. 5.

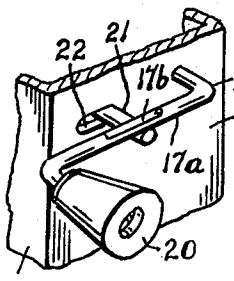


FIG. 4.

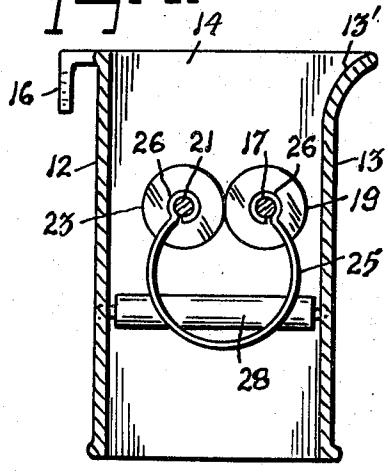


FIG. 3.

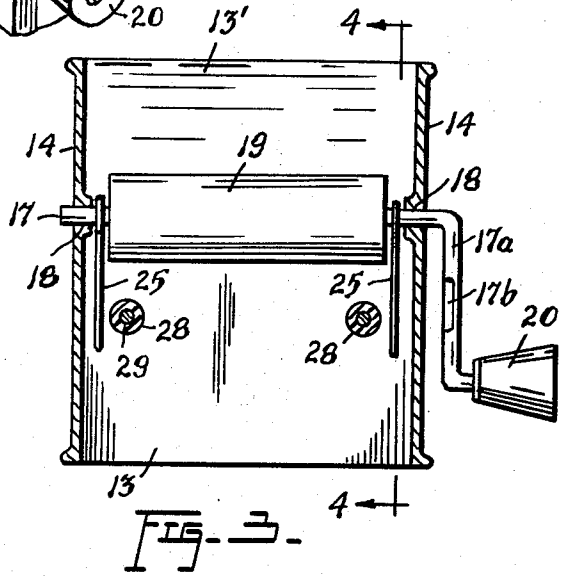
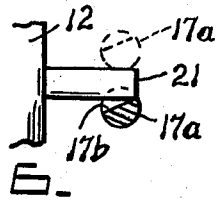


FIG. 6.



INVENTOR

Harry F. Drury

BY Munson H. Lane

ATTORNEY

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DIAPER WRINGER

Harry F. Drury, Rte. 5, Box 313,
Jackson, Miss. 39212

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ABSTRACT OF THE DISCLOSURE

A housing containing two wringer rollers mounted on two shafts, one of which is provided with a handle. The second shaft is movable laterally toward and away from the first shaft, and springs carried by the shafts urge the rollers together. The second shaft is also axially slidable and may be projected to engage the handle, thus locking the first shaft against rotation in one direction. The handle has a bevelled portion for unlocking itself from the second shaft when rotated in the opposite direction.

This invention relates to new and useful improvements in wringers and in particular the invention concerns itself with a wringer for diapers.

The principal object of the invention is to facilitate prewashing and wringing of soiled diapers in a toilet bowl without the conventional necessity of placing hands in the toilet water or touching the soiled portion of the diaper. This object is attained by the provision of a device which includes a housing with an open top and bottom and a pair of wringer rollers in the housing. One of such rollers is resiliently biased toward the other but is movable away therefrom so that when a soiled diaper is placed in the toilet bowl, an unsoiled corner portion of the diaper may be inserted between and frictionally held by the rollers. The device may then be vertically reciprocated by hand so as to slush the diaper in the toilet water, whereupon the rollers may be rotated to wring the diaper without touching the same by hand. One important feature of the invention resides in the arrangement of the wringer rollers and of the resilient means by which they are biased.

Another important feature involves the provision of means for locking the wringer rollers against rotation in a direction such as would withdraw a diaper from the wringer into the toilet bowl if the toilet is inadvertently flushed.

Some of the advantages of the invention reside in its simplicity of construction, efficient and sanitary operation, and in its adaptability to economical manufacture.

With the foregoing more important object and features in view and such other objects and features as may become apparent as this specification proceeds, the invention will be understood from the following description taken in conjunction with the accompanying drawings, wherein like characters of reference are used to designate like parts, and wherein:

FIGURE 1 is an isometric view of the diaper holder and wringer in accordance with the invention;

FIGURE 2 is a top plan view thereof;

FIGURE 3 is a vertical sectional view;

FIGURE 4 is a sectional view, taken substantially in the plane of the line 4—4 in FIG. 3;

FIGURE 5 is a fragmentary isometric view showing the crank in its locked position; and

FIGURE 6 is an enlarged, fragmentary detail illustrating the operation of the crank locking means.

Referring now to the accompanying drawings in detail, the diaper holder and wringer is designated generally by the reference numeral **10** and embodies in its construction a box-like housing **11** which has an open top and an open bottom and includes a front wall **12**, a rear wall **13** and a

pair of side walls **14**, it being noted that the upper portion of the rear wall **13** is outwardly curved so as to form a lip **13'**, as shown. The lower portion of the front wall **12** is formed with an open recess **15**, and a suspension hook **16** is provided at the upper edge of the front wall.

A shaft **17** is rotatably journalled in transversely aligned apertures **18** formed in the side walls **14** and a wringer roller **19** is provided on the shaft. One end portion of the shaft **17** is angulated to from a crank **17*a*** carrying a finger knob **20**, whereby the shaft may be turned to impart rotation to the wringer roller **19**.

A second shaft **21**, normally parallel with the shaft **17**, is rotatable, axially slidable and laterally shiftable in a pair of slots **22** which extend in the side walls **14** in radial relation to the shaft **17**, so that the shaft **21** may be moved in the slots toward and away from the shaft **17**. The shaft **21** carries a wringer roller **23** which cooperates with the roller **19**. A finger knob **24** is secured to the shaft **21** on the side of the housing **11** opposite from the crank **17*a*** of the shaft **17**, the shaft **21** being long enough so that the knob **24** is normally spaced away from the housing as shown in FIG. 2.

Resilient means are provided for biasing the shaft **21** toward the shaft **17** and thus urging the roller **23** toward the roller **19**. These means comprise a pair of wire springs **25**, disposed in spaces between the ends of the rollers **19**, **23** and the side walls **14**. Each spring **25** is ring-shaped and provided at its ends with a pair of eyes **26** which are biased toward each other by the resiliency of the spring. The eyes **26** of the springs encircle the shafts **17**, **21** as shown in FIG. 4 and the springs thus urge the roller **23** toward the roller **19**. However, the roller **23** may be moved away from the roller **19** against the action of the springs **25** by virtue of the slots **22**. In so moving, the roller **23** may remain substantially parallel to the roller **19**, as for example, while a diaper passes between the rollers, or the roller **23** may move away only at one end from the roller **19**, as for example, by pushing the knob **24** in the direction of the arrow **27** in FIG. 2, while the other ends of the rollers remain together.

A pair of guide rollers **28** are rotatably supported by shafts **29** in the housing **11** below the wringer rollers **19**, **23** and at right angles thereto, the shafts **29** being journalled in the front and rear housing walls **12**, **13** and the rollers **28** being disposed adjacent the side walls **14**, inwardly of the springs **25**.

When the invention is to be used, it is held above a toilet bowl (not shown) and a soiled diaper (also not shown) is dropped into the bowl while an unsoiled corner portion of the diaper is held by the fingers and passed into the open bottom of the housing **11**. The roller **23** is separated from the roller **19** as by pushing the knob **24** in the direction **27**, and the aforementioned corner portion of the diaper is inserted between the rollers where it is frictionally held as soon as pressure on the knob **24** in the direction **27** is discontinued. It will be noted that the recess **15** in the housing front wall **12** affords clearance for convenient insertion of the diaper between the rollers **19**, **23**, while the guide rollers **28** prevent the diaper from becoming entangled with the springs **25**.

While the diaper is held by the rollers **19**, **23** and the housing **11** is held by the hand, vertical reciprocating movement is imparted to the housing, thus causing the diaper to slush in the toilet bowl for cleaning. The crank **17*a*** may then be turned in the direction of the arrow **30** (see FIG. 1) in order to draw the diaper upwardly in the housing between the rollers **19**, **23**, the diaper thus being effectively wrung by these rollers and passing over the lip **13'** at the open top of the housing to drop into a diaper pail, or the like. It will be noted that apart from inserting the unsoiled corner of the diaper between the wringer rollers, the entire washing and wringing procedure is

carried out without the necessity of touching the diaper or placing hands in the water in the toilet bowl.

If it is desired to soak the diaper in the toilet bowl before wringing, the device may be suspended by the hook 16 from a suitable support (not shown) as or adjacent the bowl, the diaper depending from the device so suspended into the toilet water. Means are provided to safeguard against the possibility of the diaper being withdrawn downwardly from between the wringer rollers into the toilet bowl if the toilet should be inadvertently flushed. These means lock the shaft 17 against rotation, which is effected by pressing the knob 24 inwardly toward the housing 11 as indicated at 31 in FIG. 2, which causes the shaft 21 to be projected outwardly at the opposite side of the housing so that the projected shaft lies in the path of rotation of the crank 17*a*. The crank 17 may be turned counter-clockwise (against the direction of the arrow 30) only until it comes in contact with the projected shaft 21 as shown in FIG. 5, whereupon the crank will be locked against further counter-clockwise rotation to prevent downward withdrawal of the diaper from between the wringer rollers by inadvertent flushing of the toilet.

It will be noted that the crank 17*a* is provided with a bevelled portion 17*b* in the region of the crank which comes in contact with the shaft 21. When after soaking, the diaper is to be wrung by upward passage thereof between the rollers 19, 23, the crank 17*a* is simply rotated in the clockwise direction of the arrow 30 and as the bevelled crank portion 17*b* comes in contact with the underside of the projecting shaft end 21 as shown in FIG. 6, the projecting shaft end will be pushed inwardly by the bevelled crank portion 17*b* to facilitate continued rotation of the crank in the clockwise direction.

Manifestly, the hook 16 may also be used for hanging the device on a suitable support when the device is not in use.

While in the foregoing there has been described and shown the preferred embodiment of the invention, various modifications may become apparent to those skilled in the art to which the invention relates. Accordingly, it is not desired to limit the invention to this disclosure, and various modifications and equivalents may be resorted to, falling within the spirit and scope of the invention as claimed.

What is claimed as new is:

1. A diaper holder and wringer, comprising in combination a housing having an open top and bottom, a

first wringer roller rotatably mounted in said housing transversely thereof, a second wringer roller mounted in the housing substantially parallel to said first roller and movable laterally toward and away from the first roller, resilient means biasing the second roller toward the first roller, a hand crank for rotating one of said rollers, first and second shafts rotatably journalled in said housing and carrying the respective first and second wringer rollers, said hand crank being provided at one end of the first shaft exteriorly of the housing, and the second shaft being axially slidable in the housing whereby an end portion thereof may be projected into the path of rotation of said hand crank to lock the first shaft against rotation in one direction.

2. The device as defined in claim 1 together with a pair of rotatable guide rollers mounted in said housing below and at right angles to said first and second wringer rollers.

3. The device as defined in claim 1 wherein the open top of said housing is formed with an outturned lip, and wherein the bottom portion of said housing is provided at one side thereof with a recess for facilitating insertion of a diaper between said wringer rollers.

4. The device as defined in claim 1 together with a bevelled portion provided on said hand crank for engagement with the projected second shaft when the crank is rotated in the opposite direction, whereby to automatically retract the second shaft from the path of rotation of the hand crank.

5. The device as defined in claim 1 wherein said resilient means biasing the second roller toward the first roller comprise a pair of ring-like springs each having a pair of eyes at the ends thereof resiliently urged together, said springs being disposed in said housing at the ends of said rollers and having the eyes thereof mounted on said shafts.

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LOUIS O. MAASSEL, *Primary Examiner.*