United States Patent [19]

Crump, Jr.

[11] **3,859,670**

[45] **Jan. 14, 1975**

[54] **SOILED DIAPER WRINGER DEVICE**

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[21] Appl. No.: **213,963**

[52] **U.S. Cl.** ..... **4/1**, 68/235 D, 68/248

[51] **Int. Cl.** **D06f 45/22**

[58] **Field of Search** ..... 4/1, 142; 15/262; 100/176; 68/235 D, 237–239, 248, 251, 262 A, 273

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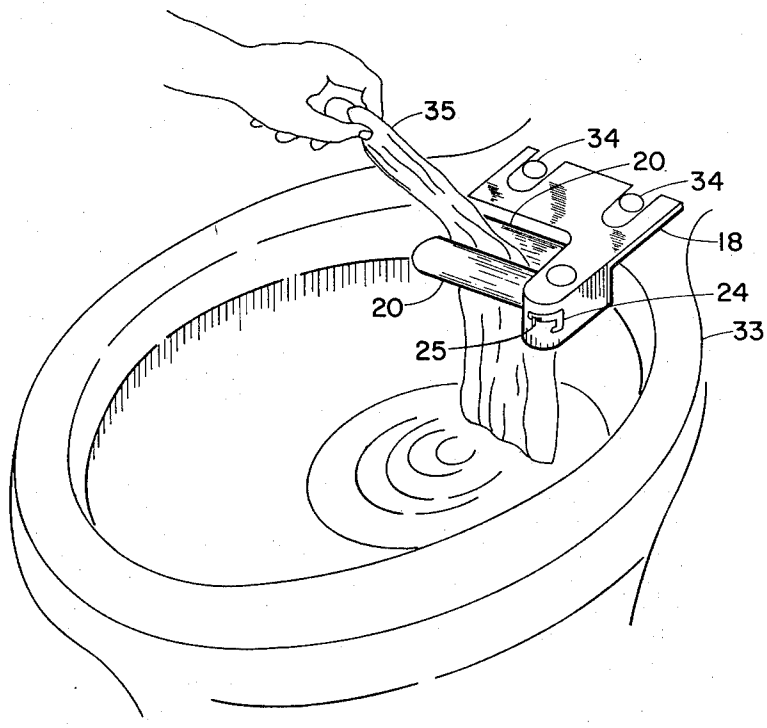
Primary Examiner—John W. Huckert

Assistant Examiner—Stuart S. Levy

[57] **ABSTRACT**

A device for wringing soiled baby diapers after the diaper has been cleaned of excess solid materials in the bathroom water closet. This invention consists primarily of two wringer rollers secured to a main attachment frame which can be secured to the conventional standard bathroom water closet seat bolts. Once the device is bolted in place below the water closet seat the device does not interfere with customary water closet usage. When it is desired to use the Soiled Diaper Wringer Device the water closet seat and cover are rotated to the usual up position at which time the device is fully exposed for wringing a soiled diaper. The device is further comprised of a lever operator for positioning one wringer roller to allow diaper insertion and resilient elastomer bands to provide wringer squeezing pressure. The invention has the novel features of providing a highly sanitary and hygienic technique for treating soiled baby diapers while at the same time can be installed on existing or new bathroom water closets without interferring with normal customary toilet bowl usage.

2 Claims, 15 Drawing Figures



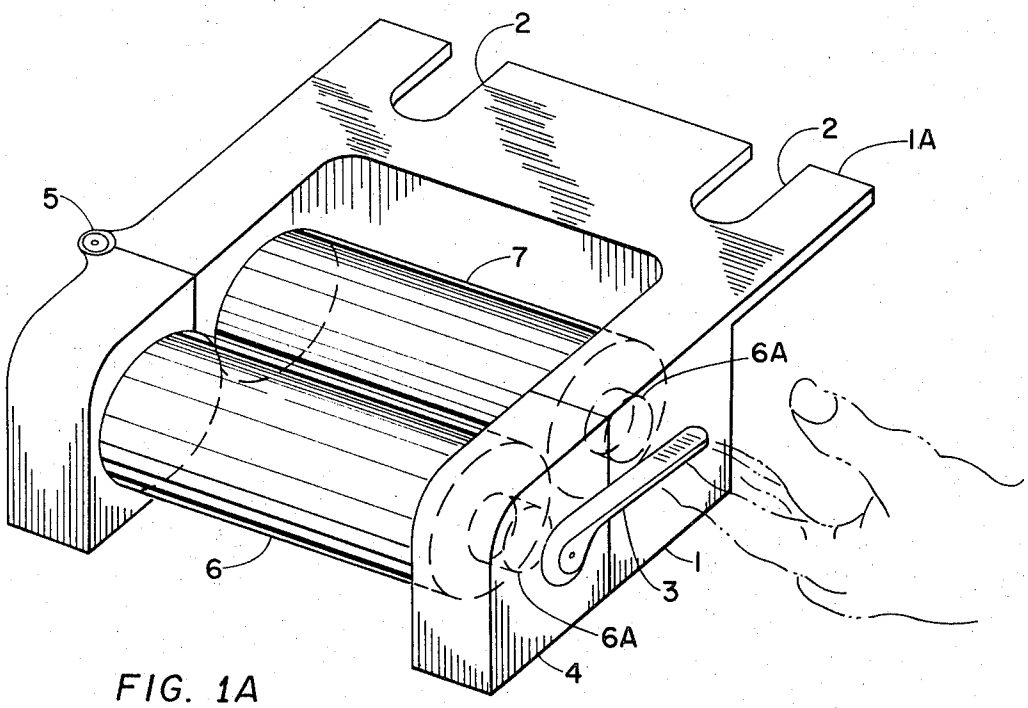


FIG. 1A

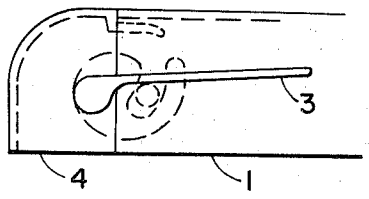


FIG. 1B

FIG. 2

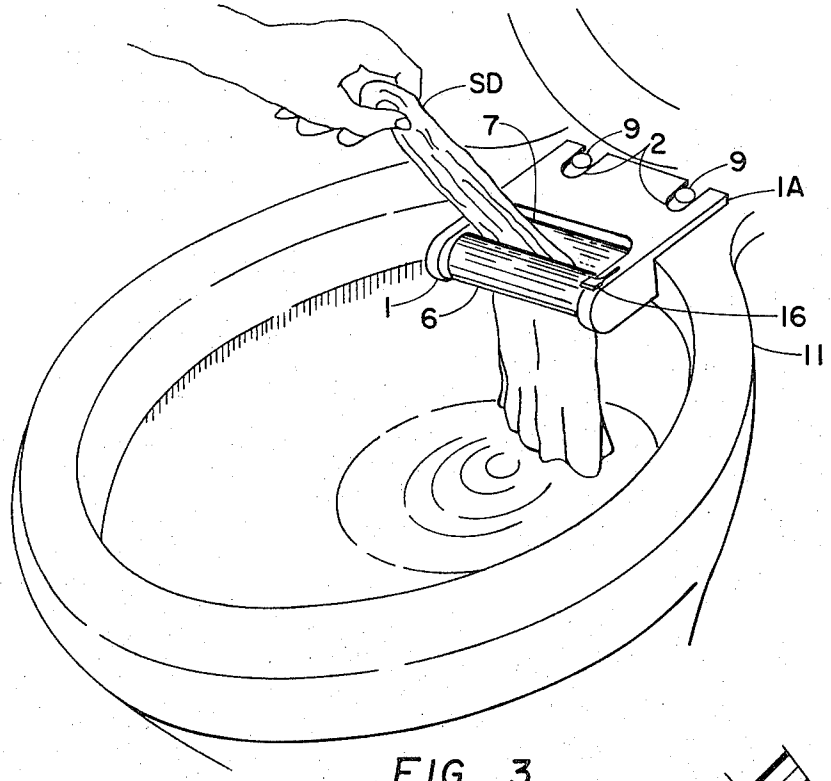


FIG. 3

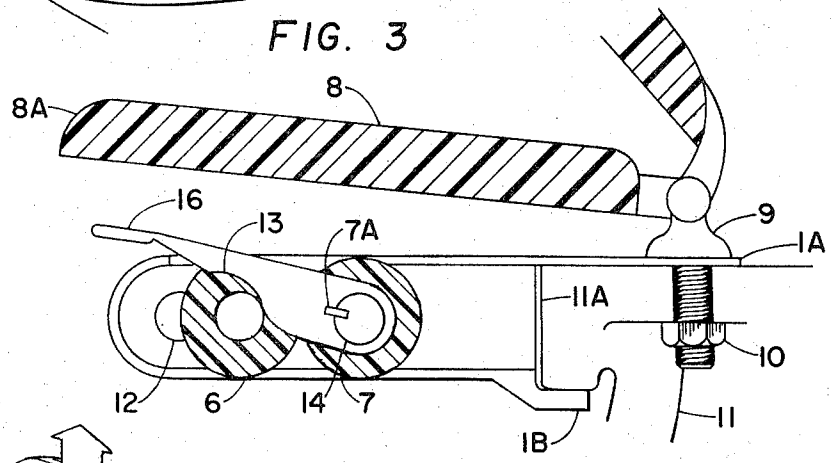


FIG. 4

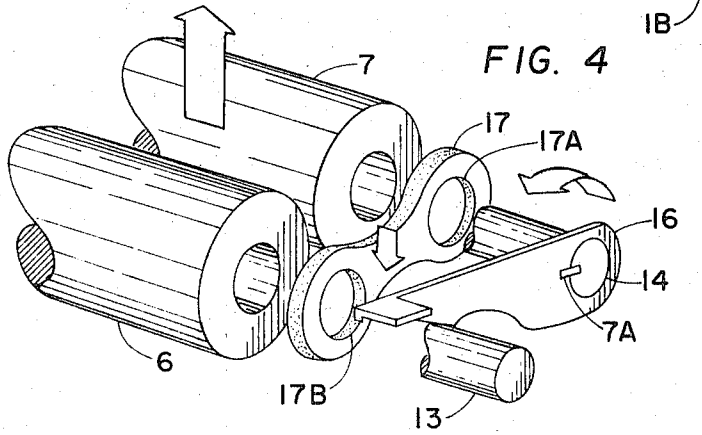


FIG. 5

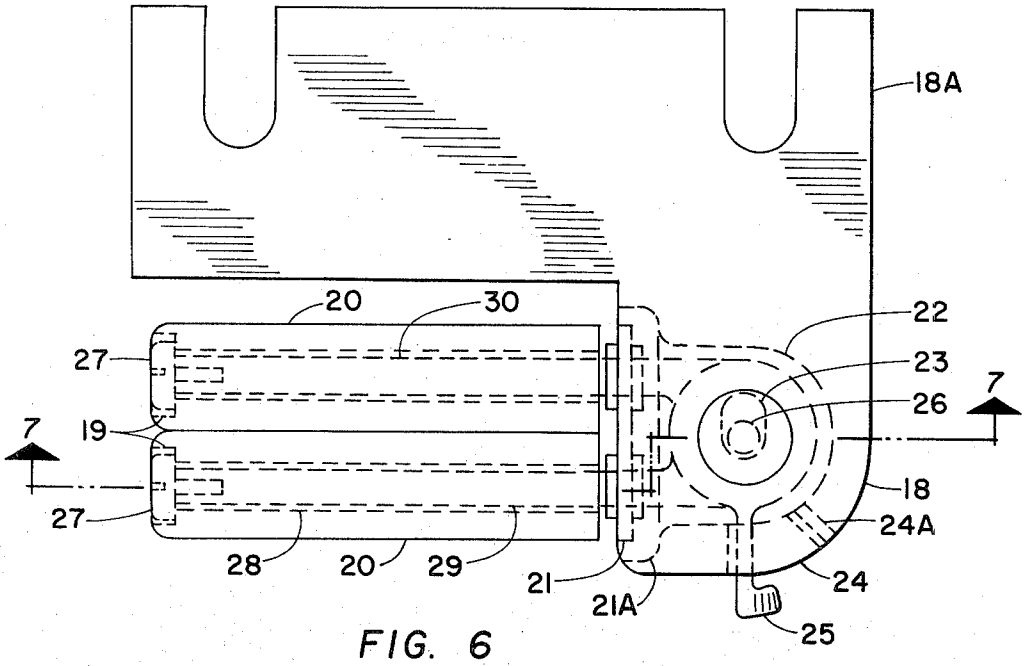


FIG. 6

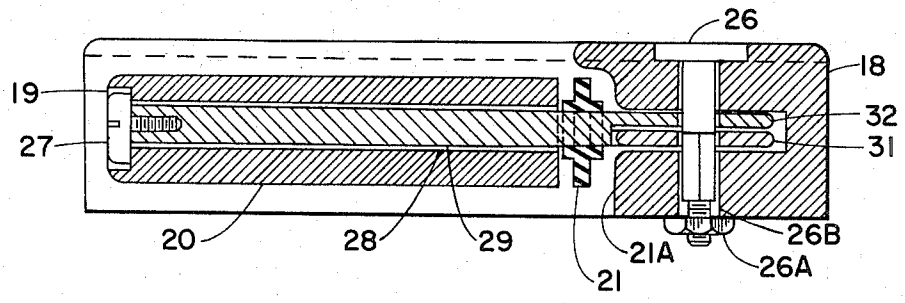


FIG. 7

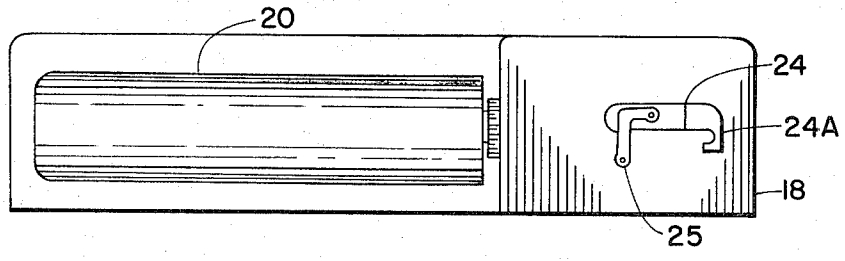


FIG. 8

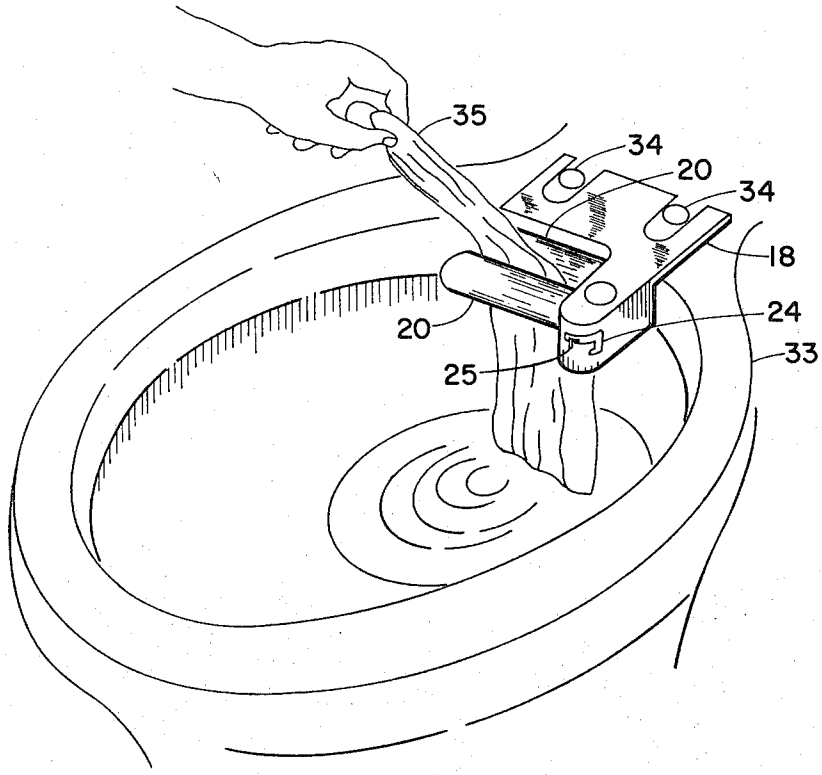


FIG. 9

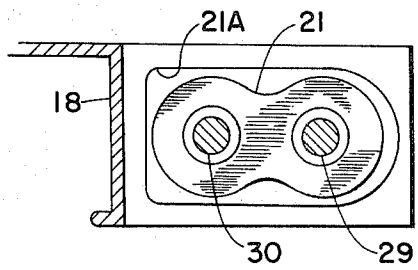


FIG. 11

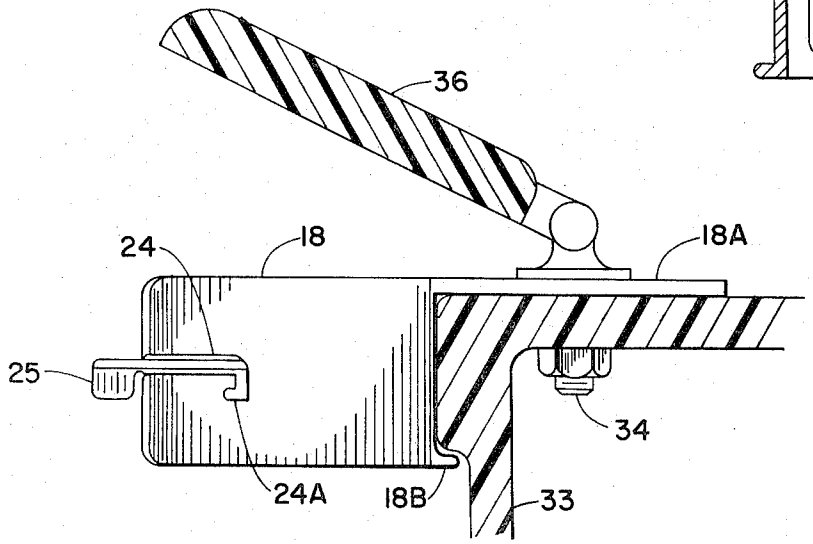


FIG. 10

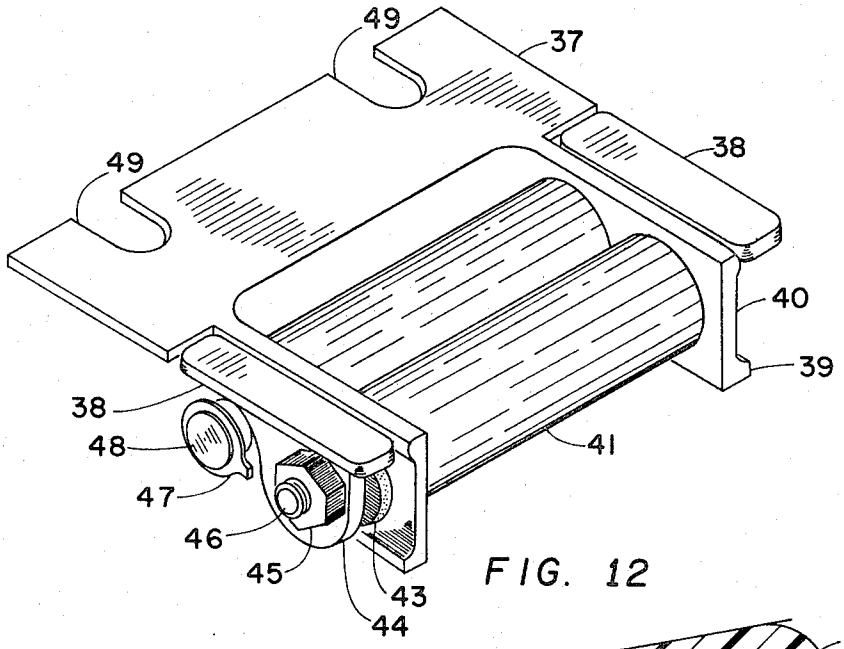


FIG. 12

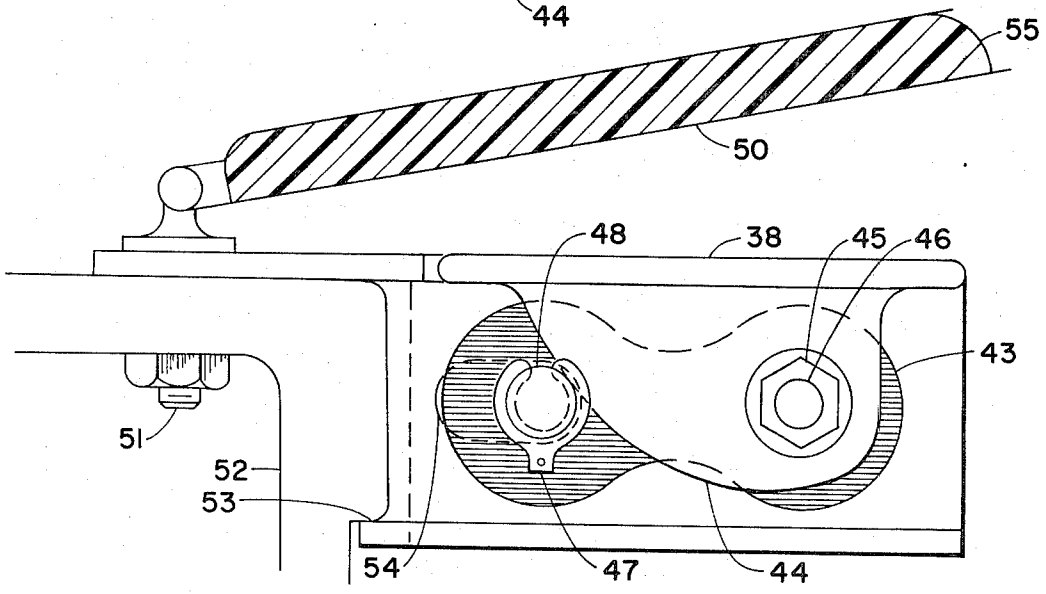


FIG. 13

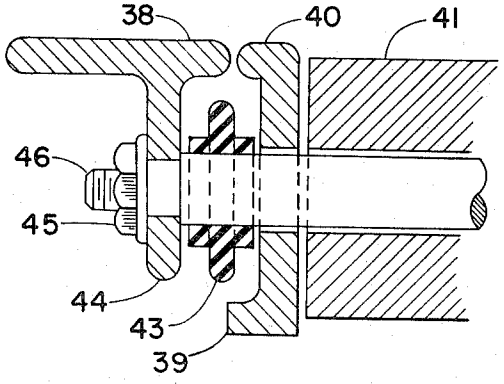


FIG. 14

SOILED DIAPER WRINGER DEVICE

This invention consists of a device which will wring out a soiled diaper prior to placing the diaper into the used diaper pail. It has the particular objective of providing a highly sanitary and fastidious method of caring for baby diapers.

Existing procedures recommended by the U.S. Department of Health, Education, and Welfare, Children's Bureau Publication Number 8-1963, require that soiled diapers have the stool emptied into the toilet and the diaper rinsed out prior to adding it to the used diaper pail.

A primary objective of my invention is to provide a device that has the capability of wringinig the soiled diapers without having to place ones hands onto the diaper in the traditional manner. This will allow a more fastidious procedure and provide a highly sanitary diaper care process.

A further objective is to provide a toilet mounting device having the optimum physical geometry and properties which will serve as a fixed installation and will not interfere with normal use of the toilet or closet.

A further objective is to provide a diaper wringer roller assembly having those physical and geometrical features which will incorporate ease of diaper insertion and will at the same time provide for optimum diaper pull-through wringer squeeze pressure. A further objective is to provide a diaper wringing device that can be readily installed in existing, as well as new, bathrooms and connected to existing plumbing fixtures without the need for specialized tools and/or equipment.

Manifestly, the Diaper Wringer Device is of such nature that hygenic as well as psychological value, may be derived from the use thereof, and the invention is well adapted to serve as a useful adjunct to the bathroom. Hygenic value is derived from the fact that the hands do not have to make contact with the soiled parts of the diaper. Therefore, the process of using this wringer device provides conditions of cleanliness conducive to the maintenance of health. It is well known that the conventional procedure for treating soiled diapers is extremely repugnant and produces negative psychological reactions. The Soiled Diaper wringer Device and process of use thereof will eliminate the most repugnant aspect of soiled diaper treatment and thus produce a positive psychological reaction to the accomplishment of this task.

Another objective of this invention is to provide a novel arrangement of rollers together with resilant elastomer bands which will function to wring out the water from the soiled diaper when it is pulled through the rollers.

A further objective is to provide a construction of maximum simplicity, economy, ease of assembly and manipulation, and readily adaptable to the numerous bathroom fixture arrangements. While, I have shown and described constructions in which my invention may be embodied, it is to be understood that these constructions have been selected merely for the purpose of illustration and that the various changes in the size, shape and arrangement of the parts may be made without departing from the spirit of the invention or the scope of the subjoined claims.

Further objectives appear in the specifications and in the claims. This invention further resides in the construction, combination and arrangement of parts illustrated in the accompanying drawing, and while I have shown therein preferred embodiments, it is to be understood that the same is susceptible to modifications and change; and comprehends other details, arrangement of parts, features, and constructions without departing from the spirit of the invention, and it is to be understood that all matter herein set forth or shown in the accompanying drawing is to be interpreted as illustrative and not in a limiting sense. In view of this disclosure, variations and modifications will doubtlessly be generated by others skilled in the art to obtain all, or part, of the benefits of this invention without duplicating the framework shown, and I therefore claim all such variations and modifications insofar as they fall within the reasonable spirit and/or scope of my proposals and claims.

These and other features of the invention will be seen from the following detailed specifications read in connection with the accompanying drawings forming part thereof, and in which:

FIG. 1A is a perspective view of one preferred form of the Soiled Diaper Wringer Device showing all members in their general relationship to one another and illustrates an arrangement which allows the outer roller to be rotated to the open position thereby providing for easy diaper insertion;

FIG. 1B is a fragmentary side view of FIG. 1A showing the latch lever and latch mechanism which holds the outer hinged roller assembly to the main attachment frame;

FIG. 2 is a sectional view illustrating a modified roller spread mechanism incorporating a cam action lever rather than a hinged outer roller as shown in FIG. 1;

FIG. 3 is a perspective assembly view of a modified form of the Soiled Diaper Wringer Device mounted on the bathroom water closet illustrating both the technique for attachment to the water closet and the process of use;

FIG. 4 is a sectional view of the Soiled Diaper Wringer Device of FIG. 3 illustrating a third form of the roller spread mechanism;

FIG. 5 is an expanded perspective view of FIG. 4 showing the rollers, resilient pressure element, roller shafts and cam action spread lever;

FIG. 6 is a plan view showing a third form of the Soiled Diaper Wringer Device for attaching the wringer rollers to the main mounting attachment;

FIG. 7 is a sectional view in the side elevation of the modified form shown in FIG. 6; taken along line 7—7 of FIG. 6;

FIG. 8 is a sectional view in end elevation of the modified form shown in FIG. 6;

FIG. 9 is a view in perspective of the modified form shown in FIG. 6 also illustrating the process of use;

FIG. 10 is a view in end elevation of the modified form shown in FIG. 6 showing the cam action roller spread lever;

FIG. 11 is a fragmentary side elevation showing the resilient elastomer band;

FIG. 12 is a perspective view illustrating a fourth form of the Soiled Diaper Wringer Device;

FIG. 13 is a view in side elevation of the modified form shown in FIG. 12;

FIG. 14 is a sectional view of the modified form shown in FIG. 13 showing the cam action roller spread levers, resilient elastomer band, roller shafts and roller;

Referring to the drawings, and more particularly to the form of the invention shown in FIGS. 1A and 1B, it will be seen that the device includes a pair of similar rollers 6 and 7. The rollers may be constructed of plastic with shafts that projects into receiving openings 6A located in the main attachment frames 1 and 4. The main attachment frame 1 has a hinge 5 and a cam action latch lever 3 which will allow the outer wringer roller 6A to be rotated open thereby providing for initial insertion of the soiled diaper.

Integral with the main attachment frame are two mounting slots 2 which allow the device to be mounted on the seat bolts of any standard bathroom water closet.

In lieu of the hinged arrangement shown in FIG. 1 the wringer rollers may be separated for initial diaper insertion by using a cam action lever 16 as shown in FIGS. 3, 4 and 5. FIG. 2 shows another form of the cam action technique for diaper insertion between the rollers. Cam action lever 15 is rotated down applying force to roller shaft 13 thereby causing roller 6 to move away from roller 7 thus providing the necessary gap for initial diaper insertion. In FIG. 4 cam action lever 16 is depresssed causing rectilinear translation of roller shaft 13 to travel outward into slot 12. Cam action lever 16 is keyed to shaft 14 by Key 7. When cam action lever 16 is depressed the rotation is transmitted through shaft 14 thereby operating a similar cam on the opposite end of the rollers. This action will cause uniform outward motion of the roller 6 into slot 12. Slot 12 is typical for both ends of the roller 6. The main attachment frame 1 is attached to the water closet 11 by loosening nuts 10 and inserting slots 2 around bolts 9 after which nuts 10 are tightened. Resilient elastomer band 17 has two circular openings 17A and 17B which fit over shafts 13 and 14. Band 17 is typical for both ends of the rollers. Band 17 holds the two rollers 6 and 7 together under pressure. When cam action lever 16 is depressed the bands 17 are streached by forcing shaft 13 outward into slots 12. This provides a gap between the rollers 6 and 7 through which the end of soiled diaper SD may be inserted up inbetween the rollers 6 and 7. Once the end of soiled diaper SD is inserted between rollers 6 and 7 cam action lever 16 can be released up thereby allowing the resilient elastomer bands 17 to apply a squeezing pressure to wringer rollers 6 and 7. As shown in FIG. 3 the soiled diaper SD is grasp with the fingers by the clean dry end and pulled through the rollers 6 and 7. The excess water is thereby removed and the diaper SD may be placed in the diaper pail. The water closet seat 8 may be placed in the downposition for normal usage. The Soiled Diaper Wringer Device remains in place and can be constructed to such physical demensions that it will fit between the inner rim 11A of the water closet 11 and the curve edge 8A of seat 8. Therefore, due to the unique mounting location of this invention it becomes a permanent part of the water closet and does not interfere with customary water closet usage. The device may be removed when the owner no longer has soiled diapers to wash. Referring to FIGS. 6–11 and more particularly to the modified form of the invention as depicted in FIG. 6, it will be seen that the device includes a pair of wringer rollers 20 each attached at one end only to a main mounting attachment frame 18. In lieu of inserting the soiled diaper from the bottom as required for the form shown in FIGS. 1–4 the modified form shown in FIG. 6 will allow the diaper to be inserted from the side. The basic function of the wringer rollers is the same in either embodiment of the invention. The invention is employed for wringing out soiled diapers after the diaper has been cleaned of all loose material in the water closet bowl.

As illustrated in FIG. 6, one wringer roller 20 is attached to shaft 30 which is connected to shaft end plate 31 which is mounted to a pivot bolt 26. Rollers 20 are fastened to shafts 29 and 30 by oval head screw fasteners 27 which are recessed into recesses 27 on the ends of rollers 20 as shown in FIGS. 6 and 7. Shaft 30 is restrained from any motion due to the square shank on pivot bolt 26 and the square opening in the shaft end plate 31. Pivot bolt 26 is square in cross section from the top of shaft end plate 31 to the nut 26A. Opening 26B is square in cross section to receive the square part of pivot bolt 26. The opening in shaft end plate 32 is circular as is the cross section of pivot bolt 26 from the top of the main mounting attachment 18 to the bottom of shaft end plate 32. In this construction the shaft 29 and shaft end plate 32 is free to rotate about pivot bolt 26 whereas shaft 30 and shaft end plate 31 is fixed by the square cross section of pivot bolt 26 in combination with the square opening 26B. Shaft 29 together with its wringer roller 20 may be rotated to a open position by applying pressure with the fingers to lever 25 in the counterclockwise direction as viewed in FIG. 6.

Observe in FIGS. 8 and 10 that when lever 25 is rotated to the extreme counterclockwise position allowed by slot 24 the lever 25 can be locked in position by insertion into the slot recess 24A. At this time, when the wringer rollers are separated, the soiled diaper may be initially inserted inbetween the two rollers 20 at which time the lever 25 is released allowing the shaft 32 together with wringer roller 20 to rotate into the closed position. Rotational resistance and wringer squeezing pressure is due to the resilient elastomer band 21 which is connected between shafts 29 and 30 as shown in FIG. 11.

Referring to FIG. 9 the soiled diaper is grasped by the clean dry end and pulled through the rollers 20. The excess water is thereby removed and the diaper may be placed into the diaper pail. Referring to FIGS. 12, 13 and 14 and more particularly to the modified form of the invention as depicted in FIG. 12, it will be seen that the device includes mounting frame 37 and a pair of wringer rollers 41 and 42 each free to rotate about its respective shaft 46 and 48. Each end of shaft 46 has a nut 45 and a square end shank which receives the square aperture of the cam action roller spread lever 44. Each end of shaft 48 has a round shank corresponding to the uniform diameter of shaft 48 which serves as a bearing surface for the cam action lever to rotate against and also as a bearing for the resilient elastomer bands 43. A keeper 47 is located at the extreme ends of shaft 48 to prevent the shaft from working out of the device. Shafts 46 and 48 are interconnected at each end by means of the resilient elastomer bands 43. A circular aperture in abutment 40 prevents shaft 46 from moving horizontally or vertically. A slotted aperture 54 in abutment 40 provides the necessary freedom for shaft 48 to move horizontially away from shaft 46. When cam action roller spread lever 38 is pushed down, either on the right or left side of the mechanism, the camming action lever 44 forces shaft 48 to move away from shaft 46 thereby providing a gap between rollers 41 and 42 which allows the diaper to be inserted

from below in between the rollers. Once the end of the diaper is between the rollers the cam action lever **38** is released which allows the resilient elastomer bands **43** to apply wringer roller pressure to the diaper. The diaper can now be grasped by the end projecting above the wringer rollers **41** and **42** and pulled through the roller **41** and **42.** The excess water is thereby removed and the diaper may be placed into the diaper Pail. The device is mounted on the water closet by means of apertures **49** and the device is so located that the device does not interfere with normal customary water closet usage. Having thus shown and described the several embodiments of the invention, it is to be understood that obvious variations can be made. Variations, therefore, in the construction and arrangement may be made without departing from the spirit and scope of the invention as disclosed in the appended claims, in which it is intended to claim all novelty inherent in the invention as broadly as permissible, in view of prior art.

While I have shown and described constructions in which my invention may be embodied, it is to be understood that these constructions have been selected merely for the purpose of illustration and that various changes in size, shape and arrangement of the parts may be made without departing from the spirit of the invention or the scope of the subjoined claims.

Having thus described my invention I claim as new and desir to secure by Letter Patent:

1. A soiled diaper wringer device comprising in combination a mounting frame, a single forwardly arranged wringer roller shaft attachment means attached to said mounting frame, said wringer roller shaft attachment means comprising in combination a slot, two cooperable wringer roller shaft end plates, said two cooperable wringer roller shaft end plates being inserted in said slot, a recess in the vertical face of said wringer roller shaft attachment means for receiving a resilient band, said wringer roller shaft attachment means containing a pivot bolt aperture for attachment to said wringer roller shaft end plates, a pivot bolt being received in said pivot bolt aperture, said pivot bolt having an upper round shank and a lower square shank whose cross section dimensions remain within the confines of the cross section diameter of the round segment of the pivot bolt, an operating lever slot communicating between the roller shaft end plate slot and an outer front vertical face of said wringer roller shaft attachment means; two wringer roller shafts, said wringer roller shafts being attached to said wringer roller shaft end plates, two wringer rollers mounted on said wringer roller shafts, one of said wringer rollers being fixed from rotation about the lower square shank of said pivotal bolt, the other wringer roller being connected to the pivot bolt round shank such that said other wringer roller along with its shaft end plate being capable of rotation about an axis perpendicular to the axis of said pivotal bolt; a resilient band, said resililent band comprising two apertures for receiving the wringer roller shafts; whereby said resilient band once installed provides resistance to separation of the wringer rollers and maintains the longitudinal contact surfaces of the rollers under pressure, said rotatable wringer roller shaft end plate having an operating lever projecting through the afore described communicating lever slot and a pivot point slot which allows rotation of said operating lever about the pivot bolt circular shank, whereby rotating said operating lever in one direction causes a separation of said wringer rollers for initial insertion of a soiled diaper, and whereby rotating said operating lever in an opposite direction causes longitudinal contact between the surfaces of the rollers for wringing said soiled diaper.

2. A soiled diaper wringer device, adapted for attachment to a toilet water closet bowl or the like comprising, in combination, a main mounting frame, two wringer roller shafts, two wringer roller shaft attachment means attached to said main mounting frame, said two wringer roller shaft attachment means each having a vertical sidewall and upper surface with said sidewalls each having apertures therein for receiving said pair of wringer roller shafts; said side wringer roller shaft attachment means each having a section of their upper surfacee removed and a cam action roller spread lever mounted therein with the top surface of said cam action spread levers being normally flush with the top surface of the main mounting frame and said wringer roller shaft attachment means, said cam action roller spread levers being operatively connected to the ends of said wringer roller shaft; each cam action roller spreader being pivotally mounted upon one of said wringer roller shafts and having a camming surface, wringer rollers mounted on said wringer roller shafts; resilient means attached to said wringer roller shafts for holding said wringer rollers in a position to provide resistance to separation of said wringer rollers, and to maintain the longitudinal contact surfaces of the rollers under pressure; fasteners of the threaded nut type for retaining said cam levers onto the ends of said one of said wringer roller shafts, keepers of the snap ring type for retaining the ends of the other wringer roller shaft in position, slots located in the side wall of each of said wringer roller shaft attachment means for guiding the said other wringer roller shaft during rectilinear translation, two slotted apertures located in the main mounting frame adapted for mounting the soiled diaper wringer device onto a pair of water closet seat bolts.

* * * * *