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MEANS FOR DISPENSING TOILET PAPER IN WET OR DRY CONDITION

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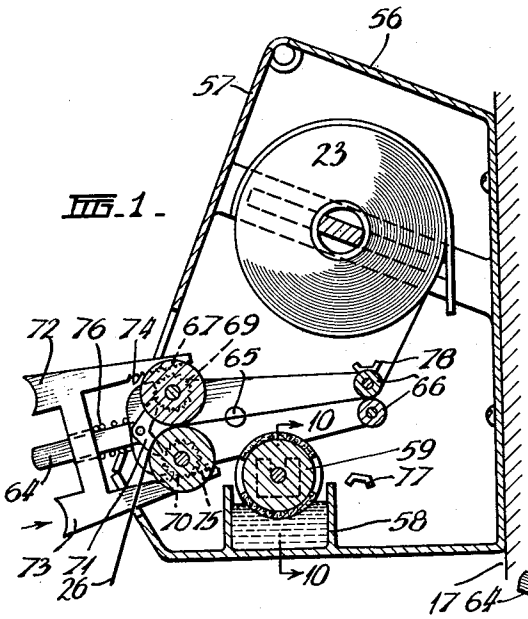


FIG. 1.

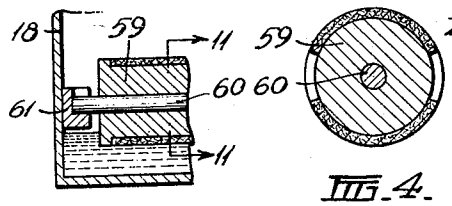


FIG. 3.

FIG. 4.

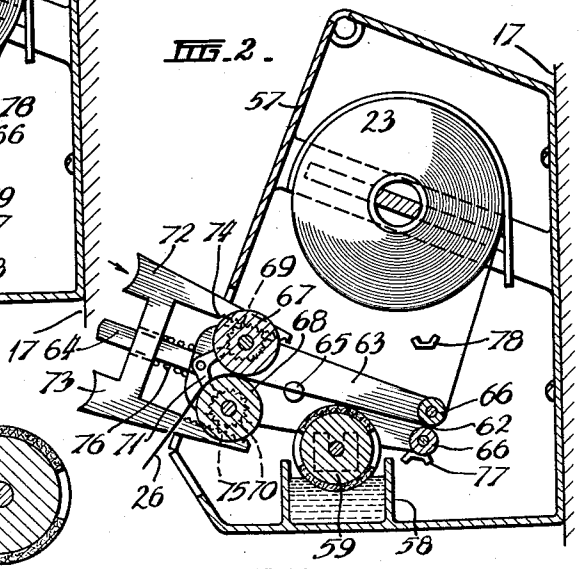


FIG. 2.

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MEANS FOR DISPENSING TOILET PAPER IN WET OR DRY CONDITION

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This invention relates to a new and improved toilet requisite and it refers particularly to a device for dispensing toilet paper or tissue having a detergent and/or antiseptic applied to it. The invention also relates to a toilet paper or tissue dispenser having means for applying a liquid to at least one side of the paper or tissue.

An important object of the invention is to provide a toilet paper dispenser having means for applying to a surface of the toilet paper a liquid so that the toilet paper will then carry a readily-releasable detergent and/or antiseptic.

Another object is to provide a toilet paper dispenser so constructed and arranged that toilet paper or tissue dispensed or drawn from the device may be dry or wet with a detergent and/or antiseptic, as required. A dependent object is to provide relatively simple means whereby a liquid may be applied to at least one surface of toilet paper or tissue being fed or drawn from a toilet paper holder and/or dispenser at the requirement of the user.

The invention provides a toilet paper holder having a frame adapted to be mounted on a wall or other suitable support, a mounting for a roll of toilet paper or tissue, a well or trough for containing a quantity of liquid for application to the toilet paper or tissue, and means for applying the liquid to at least one surface of the toilet paper or tissue prior to its being drawn or fed from the device. The liquid may be a liquid detergent, or a liquid antiseptic, or a liquid detergent-antiseptic, or it may be water—in which case the detergent and/or antiseptic is first applied to the paper so as to be released therefrom on application of the water so that a part at least of the detergent and/or antiseptic will be capable of being removed from the toilet paper with a wiping action.

The invention also provides a particular mounting for a roll of toilet paper or tissue, the mounting having a spool or core, mounting means whereby the spool may be readily supported in a toilet paper holder or dispenser and brake means for restraining the roll of tissue from overrunning when the toilet paper or tissue is drawn or fed from the holder or dispenser. The toilet paper mountings are made so as to be readily interchangeable.

The toilet paper holder or dispenser also incorporates means for supporting a tank of liquid to be applied to the toilet paper so as to ensure that there is a continuous supply of liquid to the liquid-applying means which may be in the form of a static pad of sponge or foam material, or in the form of a spray arranged to disperse liquid over the surface of the paper, or in the form of a roller or sets of rollers for direct application of liquid from a tank to the paper. The invention also incorporates press-button or equivalent means for dispensing the toilet paper or tissue from the roll whilst simultaneously applying liquid to it or not selectively, as required.

In order that the invention may be readily understood and conveniently put into practical form we shall now describe, with reference to the accompanying illustrative drawings, several practical constructions of apparatus made according to this invention. In these drawings:

FIGS. 1 and 2 are longitudinal cross-sections through a construction wherein there is a roller for applying liquid to the toilet paper and wherein there is push-button mechanism for feeding the paper from the dispenser, FIG. 1 showing the feed mechanism in the "Dry" ejection position and FIG. 2 showing the feed mechanism in the "Wet" ejection position;

FIG. 3 is a vertical transverse cross-section through the roller for applying liquid to the toilet paper or tissue, the section being on the plane and in the direction indicated by the line and arrows **10—10** of FIG. 1; and

FIG. 4 is a longitudinal cross-section of the roller, taken on the plane indicated by the line and arrows **11—11** of FIG. 3.

In FIGS. 1 to 4 we illustrate a construction of apparatus wherein there is a roller feed of liquid to the paper web and wherein the apparatus is constructed to provide for an automatic ejection of the paper or tissue from the dispenser when a button is pressed.

In this construction the casing **56** has a front plate **57** hingedly connected to it at **16** and the roll **23** of toilet paper is mounted in the casing in the manner as described above. In the lower part of the casing is a trough **58** with a roller **59** mounted rotatably therein. Said roller **59** has an axle **60** which is journalled in bearings **61** provided on the inner sides of the side plates **18**, and the trough **58** is supplied with liquid from a tank **39** mounted in a compartment **38** (not shown) provided in the casing as previously described.

A frame **62**, consisting of two spaced, parallel side plates **63**, a back plate, a front plate and a forwardly extending guide **64** at one side of the front plate, is pivoted at **65** between side plates **18** of the casing **56** so as to be capable of movement in a vertical plane. At the rear of the frame **62** are two guide rollers **66** between which the paper web **26** is fed, and near the front of the frame **62** are two feed rollers **67, 68** for drawing the paper **26** past the roller **59**. The rollers **67, 68** are mounted on axles so as to be freely rotatable between the side plates **63** and pinion gears **69, 70** are mounted on the end of each of the roller axles corresponding to the location of the guide **64**. That is to say, the pinion gears **69, 70** are at the same side of the frame **62** as is the guide **64**.

Associated with the gears **69, 70** are pawls **71** for permitting rotation of each of the gears in one direction whilst preventing reverse rotation.

Slidably mounted on the guide **64** is an actuating member having at its front end two push buttons **72, 73**, and at its rear end two racks **74, 75** adapted to engage with and turn the pinion gears **69, 70**, respectively. A spring **76** on the guide **64** is operative to move the actuating member forwardly. As hereinafter described, the actuating member is mounted on the guide **64** with sufficient play to enable it to tilt.

The racks **74** and **75** are spaced apart a distance greater than the distance across the outer extremities of the teeth of the pinions **69, 70** in such manner that when one of the racks is placed in operative engagement with its pinion by tilting the actuating member on guide **64**, the other rack will be disengaged from its pinion, and when the actuating member is moved forwardly by the spring **76** both racks will be out of engagement with the pinion gears.

The apparatus is so proportioned that when the upper push button **72** is pressed rearwardly the frame **62** will be caused to pivot in a clockwise direction until the rear end of the frame engages with a stop **77** provided within the casing **56**, and when the push button **73** is pressed rearwardly the frame **62** will be caused to pivot in the opposition direction until the rear end of the frame **62** engages with a second, upper stop **78**. In the former instance the downward movement of the guide rollers **66** will be such as to cause the web of pa-

per 26 to press upon the upper surface of the wetting roller 59—see FIG. 2—and in the second case the guide rollers 66 will be lifted a sufficient distance for the web 26 to be clear of the wetting roller 59—see FIG. 1. Thus, the press button 72 is the "Wet" button and the lower button 73 is the "Dry" button, providing for ejection or feed of wet or dry toilet paper respectively. In the first instance, too, the actuating member is moved rearwardly with the rack 74 operating the pinion gear 69—the rack 75 being held clear of the pinion 70—so as to induce a clockwise rotation of the feed roller 67. In the second case the rearward movement of the actuating member effects rotation of the feed roller 68 in an anticlockwise direction due to the engagement of the rack 75 with the pinion 70 (the rack 74 being then clear of the pinion 69). In each case, the paper web 26 is caused to travel forwardly.

When the actuating member is released, so that it is pushed forwardly by the spring 76, the two rollers 67, 68 are held against reverse rotation by the pawls 71 so that feed back of the paper web 26 is prevented.

The toilet paper of the roll 23 is made either as a laminate—that is to say, of two or more different plies of paper bonded together in any suitable fashion, as with the grain of one ply at right angles to the grain of the adjacent ply—or of a double thickness—as by making the paper double the desired width and folding it down the middle so that the one surface of the paper is on the outerside and the other surface is on the inside of the folded paper. It is preferred that the under surface of the paper—that to which liquid is applied—should have a gloss or relatively non-absorbent surface so that the paper will act as a carrier of or for the liquid but not as an absorbent carrier. Thus, the liquid applied to the under surface of the paper may be removed therefrom with a wiping action and not with a squeezing action.

It is preferred that the paper be impregnated with a detergent and/or antiseptic, and that the liquid applied to the surface of the paper be water—the water being for the purpose of enabling the release of the detergent and/or antiseptic from the paper. A suitable antiseptic is that known by the trade mark Cetavlon (Cetrimide) or that known by the trade mark Zephiran (alkyl-dimethyl-benzyl-ammonium chloride). Alternatively, the detergent and/or antiseptic may be applied in liquid form to the paper by a pad or spray in place of the wetting roller of FIGS. 1–4.

What we claim is:

1. A toilet paper dispenser comprising a toilet-roll holder having a dispensing aperture, a frame pivoted on the holder about a horizontal axis for guiding paper toward such aperture, a pair of feed rollers for advancing the paper to the aperture rotatably mounted on the frame, an actuating member mounted for rocking and longitudinal movement relative to the frame, two selective actuating areas on the actuating member alternatively to exert opposite moments on said frame about said horizontal axis, wetting means mounted on said holder, and means responsive to use of each of such actuating areas to rotate one of said feed rollers and so advance the paper and to rock the frame in a desired direction about said axis, one of such directions serving to contact the paper with the wetting means and the other of said directions serving to place the paper out of contact with the wetting means.

2. The paper dispenser of claim 1 wherein said actuating member has a rack for each feed roller, each feed roller has a pinion, and said racks are alternatively engageable with the pinions.

3. A toilet paper dispenser comprising a casing having a dispensing aperture, a roll of paper mounted within the casing for rotation to advance a free end of said paper to the aperture, means for wetting the paper carried adjacent the bottom of the casing, a frame pivotally mounted on a substantially horizontal axis within the casing and adjacent said aperture for pivotal movement thereacross, a pair of substantially vertically disposed rollers rotatably mounted on said frame and cooperating to contact and advance the free end of the paper through the aperture, a pinion on each roller, and an actuating member freely carried on the frame and extending through the aperture and mounted for tilting and longitudinal movement relative to the frame, said actuating member having a pair of racks vertically straddling the frame freely disposable adjacent said pinions for alternative engagement therewith selectively to rotate the roller associated with each pinion upon such movement of the actuating member relative to the frame and advance the paper a predetermined amount while simultaneously optionally pivoting about its axis toward or away from said wetting means to permit the paper to be dispensed in a wet or dry condition.

4. A toilet paper dispenser comprising a casing having a dispensing aperture, means for mounting a roll of paper within the casing for rotation to advance a free end of said paper to said aperture, means for wetting the paper carried adjacent the bottom of the casing, a frame pivotally mounted within the casing and adjacent said aperture for vertical movement thereacross, a pair of opposed rollers mounted for rotation on said frame and adapted to receive the free end of said paper therebetween and advance it through said aperture, a pinion on each roller, and an actuating member freely carried on said frame and extending through said aperture, said member thereby being adapted for tilting and longitudinal movement relative to said frame, said member having an upper and lower rack and terminating exteriorly of the casing in upper and lower push areas, said racks being adapted for alternative engagement with the pinions of said opposed rollers whereby pressure against one of said push areas meshes one rack and its mating pinion to pivot the frame away from said wetting means, and pressure against the other push area meshes the other rack and its mating pinion to pivot the frame toward and in contact with said wetting means, one of said rollers in either case being rotated to advance said paper a predetermined amount.

5. The paper holder of claim 4 wherein said racks are spaced apart a distance greater than the distance across the outer extremities of said pinions.

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