Dec. 22, 1936. H. M. HERMAN ET AL 2,065,457

PAPER DISPENSER

Filed Sept. 23, 1935

Fig. 1.

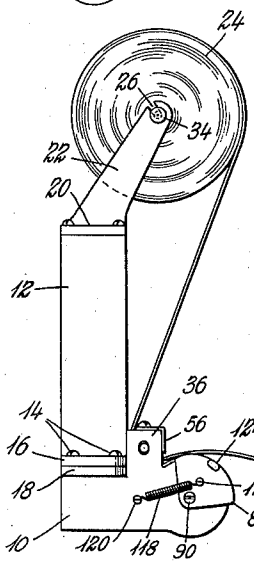


Fig. 2.

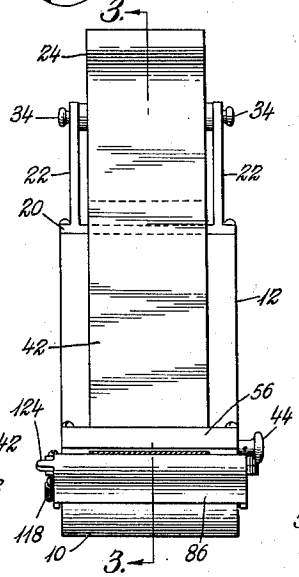


Fig. 3.

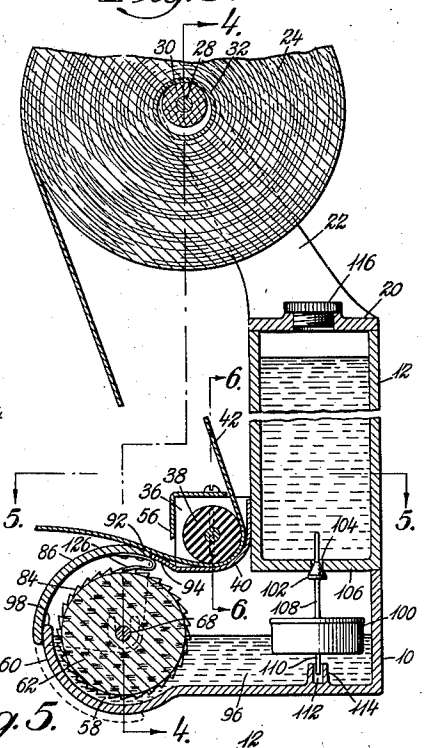


Fig. 4.

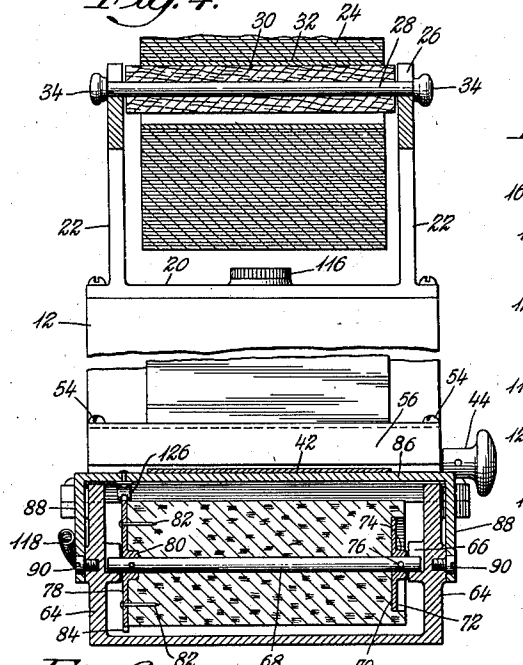


Fig. 5.

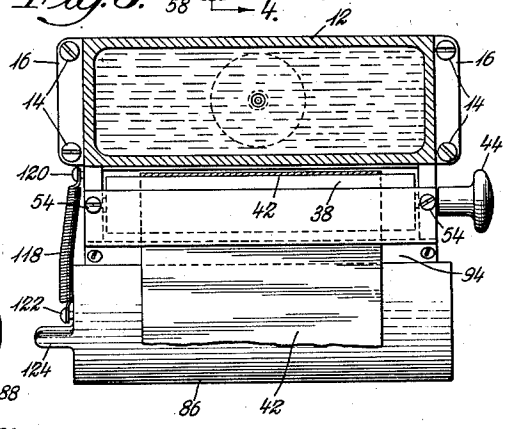
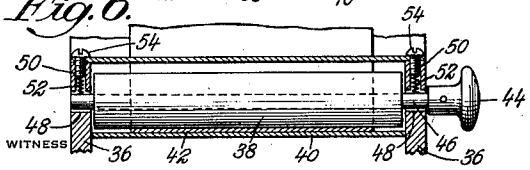


Fig. 6.



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Patented Dec. 22, 1936 2,065,457

UNITED STATES PATENT OFFICE

2,065,457

PAPER DISPENSER

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Application September 23, 1935, Serial No. 41,817

5 Claims. (Cl. 91—51)

Our invention relates to paper dispensers, and has among its objects and advantages the provision of an improved mechanism for dispensing toilet paper in a wet or dry condition, or applying a medicament thereto.

In the accompanying drawing:

Fig. 1 is a view illustrating the invention in side elevation;

Fig. 2 is a front view;

Fig. 3 is an enlarged sectional view along the line 3—3 of Fig. 2;

Fig. 4 is a sectional view along the line 4—4 of Fig. 3;

Fig. 5 is a sectional view along the line 5—5 of Fig. 3; and

Fig. 6 is a sectional view along the line 6—6 of Fig. 3.

In the embodiment selected to illustrate our invention, we make use of a base structure 10 upon which a tank 12 is attached through the medium of screws 14 passing through flanges 16 of the tank 12 and having threaded relation with the flanges 18 of the base 10. The top 20 of the tank 12 carries two spaced members 22 between which we mount a roll 24 of tissue paper such as is used in lavatories.

Referring to Fig. 4, the upper ends of the members 22 are slotted at 26 to receive the shaft 28 carrying a sleeve 30 arranged to form a support for the roll 24 which is provided with the usual paper tube 32. Each end of the shaft 28 is provided with a knob 34 to facilitate handling. These knobs engage the outer sides of the members 22 to prevent endwise movement of the shaft 28.

We provide two upstanding members 36 upon the base 10, which members support a feed roll 38 arranged in operative relation with a curved backing plate 40. The web 42, unwound from the roll 24, passes between the feed roll 38 and the plate 40, and the pressure relation between plate and the feed roll is such that the web may be dispensed by turning the roll 38 through the medium of the knob 44.

In Fig. 6, we illustrate the feed roll 38 as being mounted upon a shaft 46 passing through openings 48 which are somewhat larger in diameter than the shaft. Each member 36 is bored at 50 for the reception of a spring 52 arranged to bear against the shaft 46 and held in place by a screw 54 having threaded relation with the threaded part of the bore 50. Thus, the pressure of the feed roll 38 upon the web 42 is determined by the tension of the springs 52.

The part of the web 42 which is projected beyond the feed roll 38 may be severed by means of a blade 56 which is mounted upon the members 36 through the medium of the screws 54. We prefer to make the roller 38 of rubber or other material having suitable gripping properties for pulling the web.

In Fig. 3, the base structure 10 is illustrated as comprising a box including a shallow well 58 and a curved front wall 60. A wetting roll 62 is mounted in concentric relation with the curved wall 60. We illustrate the wetting rolls 62 as being made of cork. Such material is capable of withstanding the action of chemicals which may be used for treating the tissue before use.

Each side wall 64 of the base structure 10 is provided with a U-shaped flange 66 for receiving one end of a shaft 68 upon which the wetting roll 62 is mounted. One end of the wetting roll is recessed at 70 for the reception of a plate 72 having a hub 74 secured to the shaft 68 by means of a pin 76. To the opposite end of the wetting roll 62 we connect a plate 78 having a hub 80 connected to the shaft 68 in the same way as the plate 70. Nails 82 may be driven through openings in the plates 78 and anchored in the material of the roll 62. The plate 78 is larger in diameter than the roll 68 and is provided with ratchet teeth 84 around its periphery.

To the end that tissue may be dispensed in a dry condition, we provide a door 86 which is curved to conform to the shape of the wall 60 and is provided with end walls 88 pivotally mounted upon screws 90 so that the door may take either of the positions indicated in full and dotted lines in Fig. 3. The heads of the screws 90 fit loosely in openings in the walls 88 and the screws have threaded relation with the walls 64.

In Fig. 3, we illustrate the door 86 as being tapered at 92 to provide a meeting edge of gentle curvature which co-operates with the slightly upturned part 94 of the wall 40 to provide an unbroken surface over which the tissue may be pulled. With the door 86 positioned according to the full line illustration of Fig. 3, the tissue is prevented from moving into contact with the wetting roll 62.

In Fig. 3, we illustrate the wetting roll 62 as being partly submerged in water or a chemically treated liquid 96. The normal level of the liquid 96 is below the upper edge 98 of the wall 60. We control the level of the liquid by means of a float 100 having a valve 102 connected therewith for opening and closing the passage 104 in the bottom 106 of the tank 12. We mount the valve 102 upon a stem 108 connected with the float, which stem

has guiding relation with the bottom 106 to prevent tipping of the float.

Underneath the float we connect a short pin 110 having guiding relation with the wall of a bore 112 in a boss 114. Thus, the fluid 96 may be replenished whenever the level falls sufficiently far to open the valve 102. We provide a removable cap 116 in the top 20 of the tank to permit filling thereof.

We provide means for yieldingly holding the door 86 in either of its two positions. This means comprises a coil spring 118 having one end fastened to a screw 120 anchored in one of the walls 64 and its upper end fastened to a screw 122 anchored in one of the walls 88 of the door. In either of the two positions of the door 86, a line defined by the longitudinal axis of the coil spring passes to one side of the pivotal axis of the door. Thus, the door will be yieldingly held in either position whenever the door has been moved sufficiently far about its axis to shift the axis of the spring 118 beyond the axis of the door. A lug 124 may be provided on the door 86 to facilitate shifting.

To the inner face of the door 86 we connect a U-shaped spring member 126. One leg of the spring member is riveted to the door 86, while the other leg is arranged to engage the ratchet teeth 84. The end of the leg engaging the teeth 84 prevents rotation of the wetting roll 62 in a clockwise direction when viewing Fig. 4. However, the leg yields easily upon rotation of the roll in the opposite direction.

In cases where wet tissue is desired, the door 86 is shifted to the dotted line position of Fig. 3. Shifting of the door imparts rotary motion to the wetting roll because of the spring member 126. Thus, the upper part of the wetting roll 62 will be wet so that the tissue will be moistened immediately upon coming in contact with the wetting roll.

In operation, the tissue is unwound from the supply roll 24 through the medium of the feed roll 38. With the other hand the tissue is guided over the wetting roll 68 and the latter turned sufficiently fast to accommodate the tissue delivered by the feed roll.

We prefer to use special paper in connection with our dispenser. Better results may be attained with a paper having one side treated to provide non-absorbent properties. This side of the paper passes over the wetting roll 68 and carries with it a thin film of liquid. In making use of a paper of this type, or a paper having semi-absorbent properties, we prevent disintegration of the tissue.

Our device is easily manipulated, and wet or dry paper may be obtained through the adjustment of the door 86. The roll 62 applies the requisite amount of water to the tissue. In lieu of wetting the paper with water we may use a liquid chemically treated to provide medicinal properties.

Without further elaboration, the foregoing will so fully explain our invention that others may, by applying current knowledge, readily adapt the same for use under various conditions of service.

We claim:

1. In a paper dispenser, a wetting roll, means co-operating with the wetting roll for applying a medicament thereto, means for supporting a roll of paper and guiding the same into wetting proximity with the wetting roll, said wetting roll being rotatably mounted within a housing having an opening, a door movably connected with the housing for closing the opening, to prevent the paper from contacting the wetting roll during the closed position of the door, and means co-operating between the door and the wetting roll for rotating the latter when the door is opened.

2. In a device of the type described, a housing having an opening, a wetting roll movably mounted within the housing, said opening being positioned to expose a portion of the roll, a ratchet wheel connected with the roll, a door for closing said opening and movably connected with the housing, and means carried by the door and co-operating with the ratchet wheel for rotating the roll when the door is opened, said means yielding upon further rotation of the roll in the open position of the door, to permit continued rotation of the roll.

3. A device of the type described comprising a housing having a liquid supply tank connected therewith, valve means for establishing communication between the liquid supply tank and the housing for maintaining a predetermined liquid level in the housing, a wetting roll rotatably mounted within the housing, said housing having an opening arranged to expose a portion of the peripheral surface of the roll, a door movably connected with the housing for closing the opening, means co-operating between the door and the roll for rotating the latter when the door is moved to an open position, means for yieldingly holding the door in either of its two positions, means for supporting a roll of paper, and means for feeding paper from said roll into close proximity with the roll.

4. In a web dispenser, a liquid container having an opening, a wetting roll movably supported by said container in close proximity with said opening, means for supporting a rolled web, a backing surface for said web, a feed roll arranged in operative relation with said backing surface for unwinding the web and passing the same over the wetting roll, a door for closing said opening, said door having one edge arranged in abutting relation with said backing surface in the closed position of the door, said door being arranged to be moved for uncovering the opening, to permit the web to be moved into wetting relation with the wetting roll.

5. In a web dispenser, a liquid container having an opening, a wetting roll movably supported by said container in close proximity with said opening, means for supporting a rolled web, a backing surface for said web, a feed roll arranged in operative relation with said backing surface for unwinding the web and passing the same over the wetting roll, a door for closing said opening, said door having one edge arranged in abutting relation with said backing surface in the closed position of the door, said door being arranged to be moved for uncovering the opening, to permit the web to be moved into wetting relation with the wetting roll, and means cooperating between the door and the wetting roll for rotating the latter when the door is opened, said means yielding to permit further rotation of the wetting roll in the same direction with the door in its open position.

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