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(12) # EUROPEAN PATENT APPLICATION

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(54) **Paper towel dispensing and soiled towel stowing equipment.**

(57) Paper towel dispensing and soiled towel stowing equipment has a cabinet (10) at the top portion of which a roll (30) of paper towelling is housed with a paper feed mechanism (36, 38, 42, 46) located therebehind and which on downward movement against biasing (50) causes paper to be dispensed forwardly to be torn off against a serrated edge on a lip (22).

A container (24) is located in the bottom of the cabinet to receive crumpled soiled towels. A tamping device (44) is urged to compress the soiled paper towels in the container (24) on each downward movement of the paper feed mechanism.

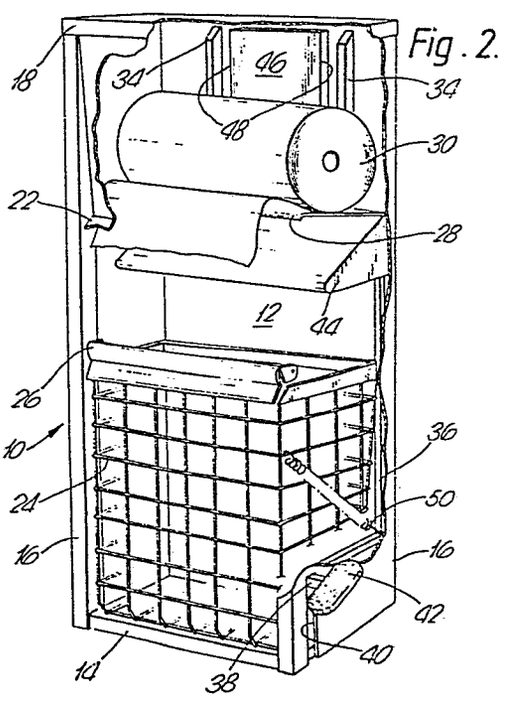

Fig. 2.

EP 0 147 214 A1

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PAPER TOWEL DISPENSING AND SOILED TOWEL STOWING EQUIPMENT

This invention relates to paper towel dispensing and soiled towel stowing equipment.

Paper towel dispensers are nowadays in widespread use in washrooms and the like. They come into the category of convenience accessories which are so much a part of modern life.

A problem incident to the use of paper towel dispensers, especially in public places, such as hotels, restaurants, and railway and bus stations, where there is considerable through-passage of people, in that receptacles for soiled paper towels are filled to capacity very quickly as the soiled paper towels are crumpled and occupy an undue amount of space when heaped up. As a result the receptacles overflow and soiled paper towels are scattered about to the detriment of premises where paper towel dispensers are available.

In paper towel dispensing and soiled paper towel stowing equipment in accordance with the present invention, a receptacle for soiled paper towels is directly below the dispenser and the paper feed mechanism urges a tamping device downwardly in or towards the receptacle to compress soiled paper towels accummulated therein.

Preferably, two or more rails extend uprightly from a back wall of a cabinet, a tray support to carry a roll of paper towelling slopes downwardly towards said rails, and a hinged plate is adapted to abut at its outer end the roll of paper to maintain said roll in contact with said rails.

Preferably also, the paper feed mechanism comprises a member located between said rails and being connected to a shank capable of rocking movement against biasing when in a downward movement to cause the member to move out beyond the rails to engage said paper, and on a return biased upward movement to cause the member to move in within said rails to prevent paper engagement.

An embodiment of the present invention will now be described, by way of example, with reference to the accompanying drawings, in which:-

Fig. 1 is a perspective view from the front and one side of a paper towel dispensing and soiled towel stowing equipment according to the present invention;

Fig. 2 is the same view as shown in Fig. 1 with part of the front and side cut-away to reveal the interior;

Fig. 3 is a side view with the nearer side removed to reveal the interior;

Fig. 4 is a front view with the top and side walls removed; and

Fig. 5 is a cross-section on the line V-V of Fig 4.

Referring to the drawings, paper towel dispensing and soiled towel stowing equipment is shown as a cabinet 10 with a back wall 12, a bottom wall 14, two side walls 16 and a removable top wall 18. The back wall 12 is adapted to be secured to a wall and the other walls secured to the back wall. A baffle 20 extends across the top of the open front of the cabinet 10 and slopes inwardly from top to bottom with a bottom lip 22 cranked forwardly for its outer edge which is serrated to lie vertically below the top of the baffle 20 as shown. The top portion of the cabinet 10 houses the paper towel dispenser and the bottom portion of the cabinet is occupied by a soiled towel stowing receptacle, namely a container 24, in one form a basket as shown, held in position in the cabinet 10 by a retaining bar 26 pivoted at each end to a corresponding side wall 16. In its lowered position the bar 26 abuts and holds the top of the container 24 in place and in its raised position it is located above the pivot to enable the container 24 to be removed from the cabinet for emptying and then replacing. A plastic liner may be placed in the container if desired.

A tray support 28 is provided for receiving a roll 30 of paper towelling. The support 28 is sloping downwardly from front to back and the outer free end of the roll

is passed over the front of the support to hang down and be caught by an intended user to be pulled up against the serrated edge of the lip 22 and be torn off. The baffle 20 masks the roll. The top wall 18 is removable to enable fresh rolls of paper towelling to be inserted. A plate 32 (Fig 3) is hinged to the undersurface of the top wall towards the back thereof to slope downwardly and forwardly under gravity to abut against the roll 30. The weight of the plate 32 against the roll 30 causes it to tend to roll down support 28 towards the back wall 12 whereat two transversely spaced upright rails 34 are proudly mounted as shown, the roll 30 abutting against them as shown.

A paper feed mechanism comprises an upright shank 36 cranked forwardly at its bottom end and having a laterally extending arm 38 secured to the outer end thereof to extend through a slot 40 in one of the side walls 16 as shown and carrying on the outside of the side wall a foot pedal 42. The upper end of the shank 36 mounts a transversely extending tamping device 44. The device 44 carries a member 46 having gripping means to grip the roll of paper (as hereinafter described) to feed it from the roll on a downward movement of the shank 36. The depth of the member 46 is less than the depth of the rails 34 so that when not in use the member is not touching the paper. To prevent distortion during movement of the tamping device 44, stub pins 44A (Fig 4) project from the lateral sides of the device 44 to engage in and track slots (not shown) in the inside of each wall 16.

In this embodiment, the member 46 has two, one at each lateral edge toothed edges 48 which grip the paper in the roll without damaging it during a dispensing movement. The shank 36 is resiliently biased by a spring 50 anchored between the respective side wall 16 and the apex of the crank whereby the biased position of the arm 38 is at the top of the slot 40. An element, such as an arcuate plate or stub rod 52, is provided to the rear of the shank

to enable the shank to rock thereabout with a lug 54 on the opposite side thereof to prevent disengaging of the shank from the rod 52 whereby when the pedal 42 is depressed, the shank rocks about the rod 52 to abut at the bottom end of the back wall causing the member and the edges 48 to move out past the rails 34 to partially embed in the paper of the roll, and, on the downward movement of the feed mechanism, cause paper to be fed out or dispensed from the roll. On release of the foot pedal at the bottom of the stroke, the spring returns the shank and member 46 to their original position. The spring also biases the bottom of the shank forwardly causing the top part and device 44 and members 46 to move back with the consequent disengaging of the toothed edges from the roll whereby preventing the paper being rolled in the opposite direction on the return of the member to its original position.

The tamping device 44 moves down on each depression of the shank 36 to compact soiled paper towelling in said container 24.

In use, the user pushes the shank 36 downwards by depressing the foot pedal 42 to cause the member's teeth to pull a length of paper off the roll 30 which length issues from the front of support 28. The user grips the paper and pulls up as shown in Fig. 3, the paper then tearing along a line in contact with the serrnated edge at 22. After use, the soiled towel is then crumpled and thrown into the container 24. On each downward stroke of the shank 36, the soiled towels are compressed by tamping device 44.

In a modification, the foot pedal 42 can be replaced by a push button actuated electric motor (not shown).

The gripping means may be other than toothed edges, for example roughened surfaces to have friction contact with the paper.

CLAIMS

1. A paper towel dispensing and soiled paper towel stowing equipment in which a receptacle for soiled paper towels is directly below the towel dispenser characterised in that a paper feed mechanism (36, 38, 42,46) urges a tamping device (44) downwardly to compress soiled paper towels accumulated in said receptacle (24).

2. A paper towel dispensing and soiled paper towel stowing equipment as claimed in Claim 1, characterised in that two or more rails (34) extend uprightly of and proudly from a back wall (12) of a cabinet (10), a tray support (28) to carry a roll (34) of paper towelling slopes downwardly towards said rails (34), and a hinged plate (32) is adapted to abut at its outer end the roll (30) of paper to maintain said roll (30) in contact with said rails (34).

3. A paper towel dispensing and soiled paper towel stowing equipment as claimed in Claim 2, characterised in that the paper feed mechanism comprises a member (46) located between said rails (34) but not projecting beyond the front of said rails (34) in a biased position, the member (46) being connected to a shank (36) capable of a rocking movement against the biasing (50) when in a downward movement to cause the member (46) to move out beyond the rails (34) to engage said paper, and on a return upward movement to cause the member (46) to move under the biasing (50) to be within said rails (34) to prevent paper engagement.

Fig. 1.

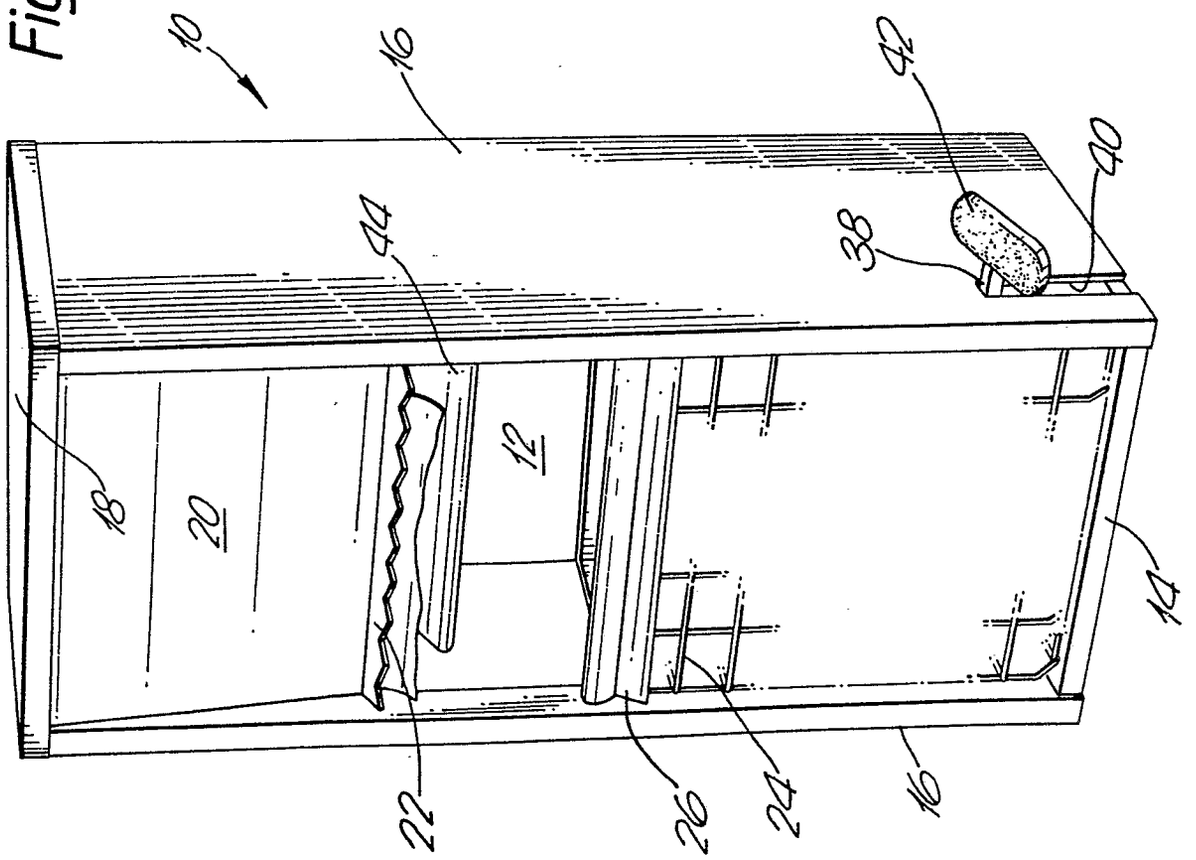
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Fig. 2.

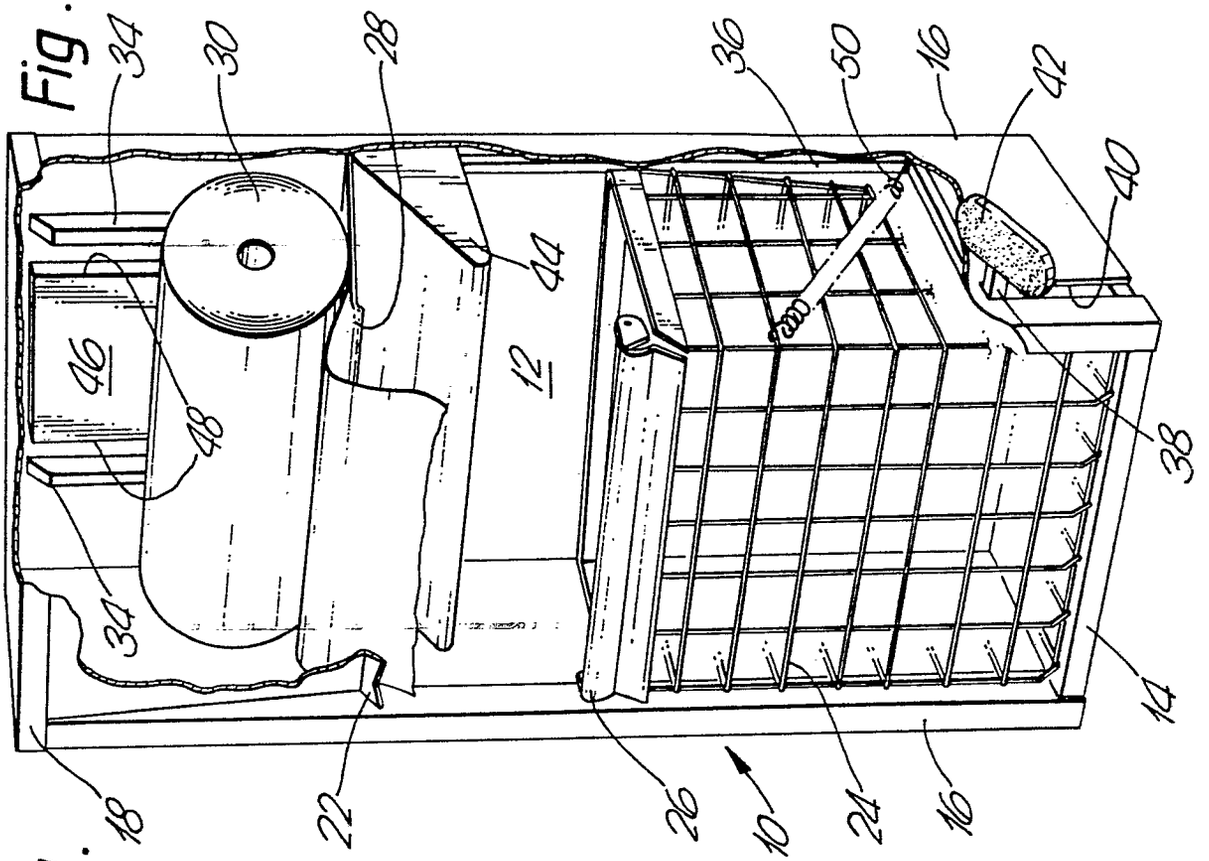
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Fig . 3.

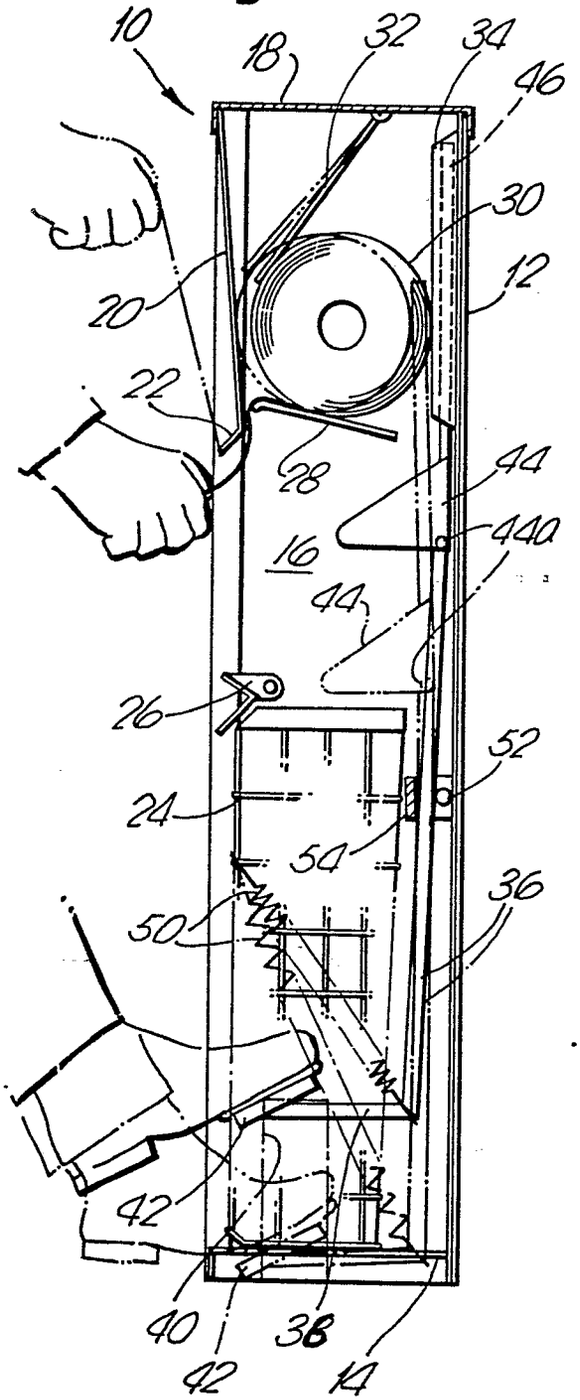


Fig . 4.

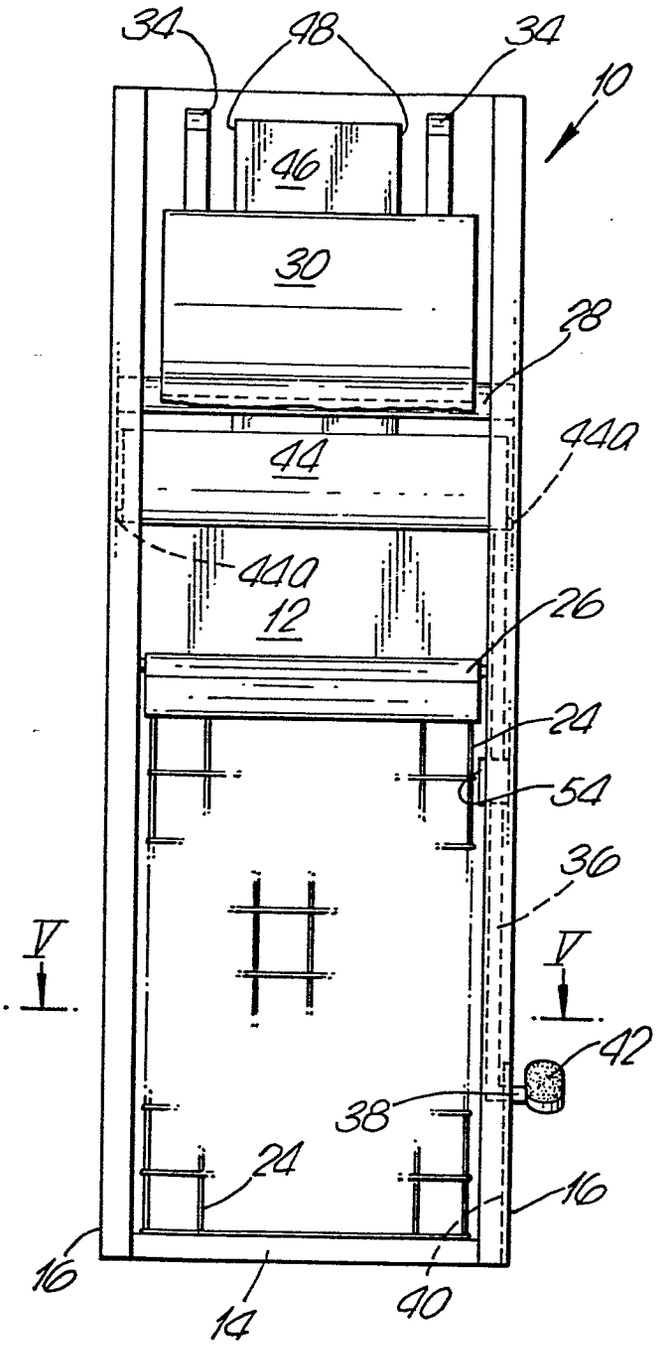
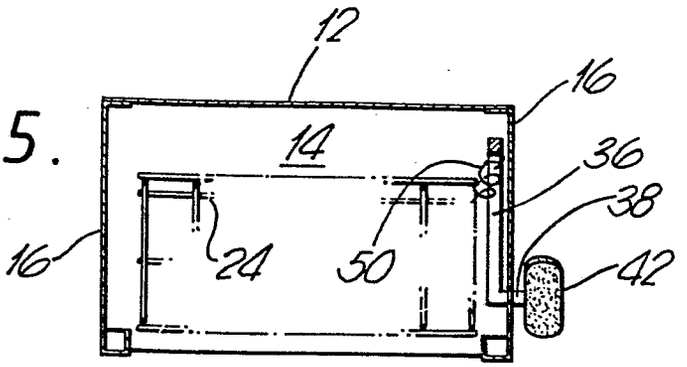


Fig . 5.



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EUROPEAN SEARCH REPORT

0147214
Application number

EP 84 30 9023

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl 4)
X	US-A-2 478 815 (FORMAN) * Claims 1-3; figures 2-4 *	1	A 47 K 10/46
A	FR-A-1 440 814 (GROGNOT) * Page 1, column 2, line 13 - page 2, column 1, line 11; figures 1,3 *	2	
A	DE-A-2 205 186 (MAISCH) * Page 4, line 4 - page 6, line 14; figure 1 *	2,3	
A	US-A-4 408 811 (RICHARDSON, CAMPBELL)		

TECHNICAL FIELDS SEARCHED (Int. Cl.4)

A 47 K
B 65 H

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	26-03-1985	PORWOLL H.P.

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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