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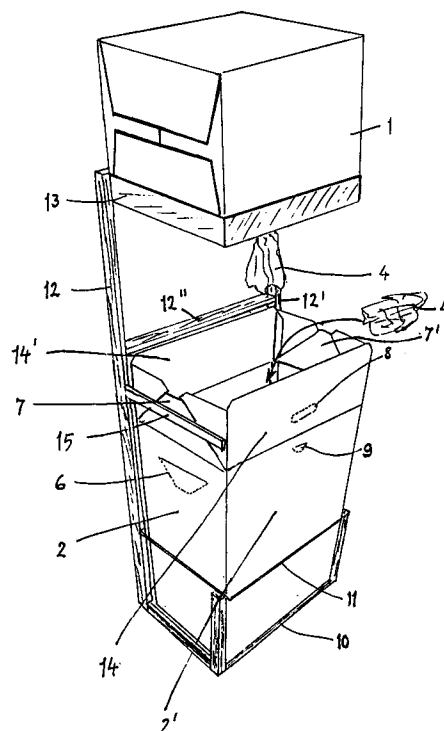
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S-200 11 Malmö 6(SE)(54) **A system for dispensing paper towels and collecting used paper towels, and containers for the same.**

(57) The invention relates to a system for dispensing paper towels (4) and collecting used paper towels (4'). The container (1) for dispensing paper towels (4) is made of recyclable cardboard material and serves both as packaging for transport and as a holder for the paper towels during dispensing thereof. One surface of the container has a star-shaped section that may be torn out, where the points formed therein serve to tear off the paper towels. The collection container for waste paper (4') has a top section (7,7',14, 14') which when folded together provides two interfolded sections (7,7') projecting out from two sides of the container, and where the outermost end of said section may be pressed into an opening (6,6') formed in said container's sides to snap in behind the lower edge of the opening. Both containers are made of recyclable cardboard material, and are preferably mounted in a common rack (10,11,12,12',12'',13, 15). The volume of the collection container is adapted to the volume of used paper towels (4') that come from a single paper towel roll in the container for dispensing the paper towels.

FIG.1

The present invention relates to a system for dispensing paper towels and collecting used paper towels, where the paper towel roll lies in a first container which on the underside thereof is provided with a tear-off device for tearing off the paper, and where beneath the first container is provided a second container to receive the used paper towels, and where the first container and the second container are placed in a fixed relationship to one another, for example in a common rack. Further, the invention relates to a container for dispensing paper towels, where the container on one side thereof is provided with a spiked tear-off aperture for tearing off the paper, and a container of recyclable cardboard material, preferably for collecting paper waste for recycling, for example used paper towels.

The invention also relates to the utilization of an apparatus for dispensing paper towels and collecting used paper towels.

In this description and in the patent claims, cardboard material should be understood to mean corrugated cardboard, solid pasteboard or cardboard, these being of varying qualities and construction according to structural requirements.

Previously known is the use of paper towels where the container for dispensing the paper towels is on the underside thereof provided with a tearing edge, so that when drawn out of the container the paper can readily be torn off against the tearing edge. Such containers are often made, at least partially, of transparent plastic material. In other cases the container is made of opaque plastic material, optionally with some metal parts. It is practical for such containers to be screwed solidly to a wall, and the paper must then be placed in the container. The paper towel rolls are most often supplied in larger or smaller cartons, perhaps packed in plastic, and must be removed from the packaging before being placed into the container, which procedure is often considered cumbersome.

A second significant problem with such paper towel containers that are mounted on a wall is that they cause considerable littering of a lavatory if the collection container is situated at a different place in the room, or is too small to receive all the paper that is thrown into the container. This necessitates, not least, a constant supervision of the lavatory in order to ensure that the paper is not thrown on the floor or has not fallen out of the container because the latter has become full.

A further significant problem with the known solutions is that the containers must be emptied, and cleaning personnel must pick up the waste paper that has been used for all imaginable cleaning purposes in a lavatory, including drying of hands and other bodily parts or wiping up bodily fluids such as blood or saliva, wiping the nose, or

the like. For cleaning personnel, this represents a major question of hygiene.

The purpose of the present invention is therefore primarily to ensure that the hygiene in the lavatory is as good as possible and, not least, that the replacement of paper towel rolls and removal of waste paper is as simple as possible.

In its rolled-up form, paper toweling has a volume that is considerably smaller than the volume the paper assumes after its intended use. This makes it necessary for the waste receptacle to have a considerably greater volume than that of the paper towel roll.

According to the invention, the system is characterized in that said first and second containers are both made of recyclable cardboard material, and that the first container serves both as a container for transport and as a dispenser for the paper towels. In the case that a common rack is not utilized, it is practical that the container for dispensing paper towels be situated on a wall rack, and the container for receiving used paper towels is situated in a second rack, preferably fixed to the wall, below the first container.

The container for dispensing the paper towels is characterized in that it consists of a box of recyclable cardboard material, that the container is designed to serve both as packaging for transport and as holder for the paper towels during dispensing thereof, that a surface section of the box has a star-shaped section adapted to be torn out of said surface to form the spiked aperture, and that the points of the cardboard material thus formed which point in toward the center of the aperture are stiff enough that the paper towel drawn out of the aperture may be torn off against these points. Hence, one obtains the considerable advantage that the paper towel roll need not be removed from its packaging to then be placed in a separate container with a tearing edge. This simplifies to a considerable degree the replacement of the paper towels when there is a need for this.

The container of cardboard material, preferably for collecting waste paper, is characterized in that the top section of the container in its folded-together state for closing of the container (fig. 3) has two interfolded triangular or trapezoidal sections that project out from two respective sides of the container, that said respective sides have a panel area capable of being pushed or bent inward, which is perforated along all edges thereof except along the upper edge, and that the outermost end of said section is adapted to be pressed into the opening formed by said panel area and to snap in there behind the lower edge of the opening. This panel area capable of being pushed or bent inward may preferably have a trapezoidal shape.

Thus, when the paper towel roll is used up, the

container for used paper towels would normally be full or nearly full. Since both the container for dispensing paper towels and the receptacle for collecting the used paper towels are both made of cardboard material, both the paper towels that are used and the cardboard material in the container would be recyclable. Therefore, before the collection container is closed, it would be expedient for the person responsible for replenishing the lavatory to place the container for dispensing paper towels -- possibly in a collapsed or knocked-down state, into the collection container, at the same time that a new collection container and a new container for dispensing paper towels are put into place. The full collection container with the empty paper towel roll or box, together with the used paper towels, can then be sent to a receiving station for processing and recycling of paper waste.

With this solution, the personnel who undertake replacement of the paper towel roll and fetching of the collected waste paper, would be able to close the collection container in a secure manner without using tape or other solutions that would make closing of the container a cumbersome operation.

To facilitate carrying of the container or even several containers, it would be expedient to provide the top and adjacent vertical sides of the container with panel areas that may be pressed or bent inward to form a hand grip.

The invention will be elucidated further with reference to the enclosed illustrations.

Figure 1 illustrates the system for dispensing paper towels and collecting used paper towels,

Figure 2 illustrates the container for dispensing of paper towels, and

Figure 3 illustrates the container for collecting paper waste.

In fig. 1 the container for dispensing the paper towels is designated with reference numeral 1. The paper towel 4 projects downward from the underside of container 1, and the container is placed in a rack section 13, for example, a tray having an opening in the center thereof so that the paper 4 may pass therethrough.

Beneath container 1 is a container 2 for waste paper 4'. Container 2 has uppermost on its wide sides respective top sections 14,14' which are to form the cover of the receptacle when it is closed. At the same time that sections 14,14' are folded inward and partially overlap with each other, as shown in fig. 3, sections 7,7' at the top of the container's narrow sides are simultaneously folded together outwardly to form triangular or trapezoidal sections, as is clearly depicted on fig. 3. The narrow sides of the container are provided with panel areas 6,6' adapted to be pushed or bent inward, and said triangular or trapezoidal sections

projecting out from the two respective sides of the container are pressed into said panel areas 6,6'. Since said triangular or trapezoidal sections extend slightly below the lower edge of said area 6,6' that may be pressed or bent inward, the pushing inward of said triangular or trapezoidal sections 7,7' will result in a snap fastening engagement with the lower edge of the opening. The receptacle will thus be closed in an effective manner without any difficult manipulations, the use of adhesive tape, or the like.

By providing the container's top section 14 and adjacent vertical side 2' with panel areas adapted to be pressed or bent inward, designated by reference numerals 8 and 9, respectively, there can be formed in the container a practical hand grip/handle, which will facilitate the removal of the container. Such a solution for the hand grip also makes it possible for the person who removes the collection container to carry two such containers at one time.

It would be expedient to utilize a common rack for containers 1 and 2, although this should in no way be regarded as a limiting solution for the invention.

The rack shown in fig. 1 is therefore to serve merely as an illustration of one of many possible solutions for positioning containers 1 and 2 in a fixed relationship with one another.

The rack may expediently consist of a bottom section 10 having frame section 11 for holding container 2 in place. To prevent premature closing of the container, i.e., prior to removing the container from the rack, and to simultaneously accommodate the desire to brace the top of container 2, a pair of arms 15 may be arranged on said rack, one on each side thereof. The rack will be provided with uprights 12,12' and, if necessary, horizontal braces 12". It is expedient to complete the rack at the top with a tray 13.

When the paper toweling is delivered from the manufacturer, it is found inside a box 1 made of cardboard material. The design of the box, such as is shown in fig. 2, shall not be regarded as a limiting feature for the idea of the invention, since other box designs are also conceivable. The box is sealed when it reaches the consumer. On one surface of the box is provided a star-shaped section 3' which is adapted to be torn out of said surface to form thereby a star-shaped aperture. This is done by first pushing in a circular section 3 in the star-shaped section 3', whereafter a finger may be inserted into the hole 3 thus formed, in order to pull out the star-shaped section 3'. This gives access to the paper towel. The points of cardboard material thus formed which point in toward the center of the aperture will be stiff enough (determined by the nature of the cardboard ma-

terial) that the paper towel 4 drawn out through the aperture can easily be torn off on these points.

the first container (1) is folded together before it is placed in the second container (2).

Claims

1. A system for dispensing paper towels and collecting used paper towels, where the paper towel roll lies in a first container (1) which on the underside thereof is provided with a tear-off device (3') for tearing off the paper, and where beneath the first container (1) is provided a second container (2) to receive the used paper towels (4'), and where the first container (1) and the second container (2) are placed in a fixed relationship to one another, for example in a common rack (10,11,12,13,15), **characterized in** that said first and second containers (1,2) are both made of recyclable cardboard material, and that the first container (1) serves both as a container for transport and as a dispenser for the paper towels.

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2. A container for dispensing paper towels, where the container on one side thereof is provided with a spiked tear-off aperture for tearing off the paper (4), **characterized in** that the container consists

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3. A container of recyclable cardboard material, preferably for collecting paper waste for recycling, for example, used paper towels (4'), **characterized in** that the top section (14,14';7,7')

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4. A container as disclosed in claim 3, **characterized in** that said panel area (6,6') has a trapezoidal shape.

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5. The utilization of an apparatus for dispensing paper towels and collecting used paper towels, where the paper towel roll is situated in a first container (1) of recyclable cardboard material which serves both as a container for transport and as a dispenser for the paper towels, and on the underside of one of the cardboard surfaces is provided with a spiked tear-off aperture (3') for tearing off the paper, and where beneath the first container (1) is mounted in a fixed relationship thereto a second container (2) of recyclable cardboard material to receive the used paper towels (4') and the first container (1) when full, for transporting away the material of the first container (1), the second container (2) and the used paper towels (4) as a recyclable unit.

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6. The utilization as disclosed in claim 6, where

FIG.1

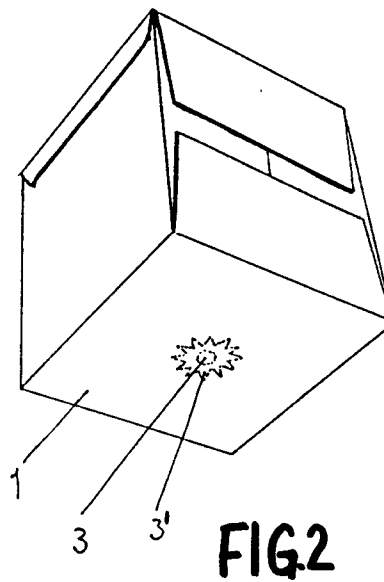
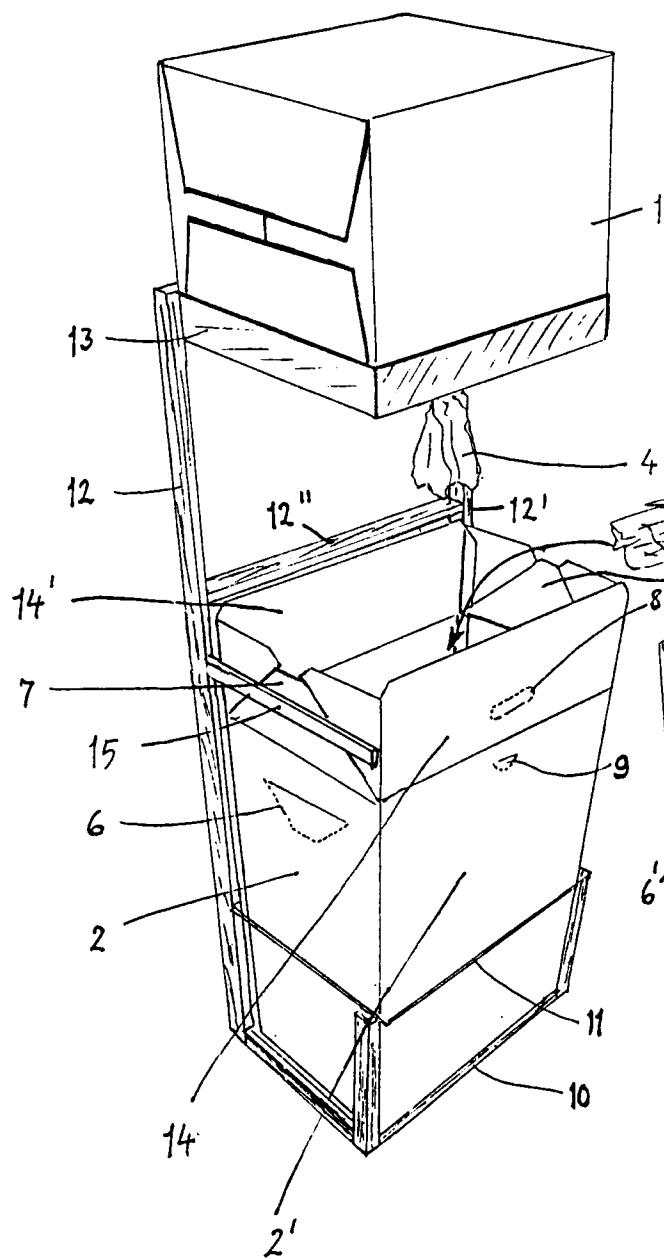
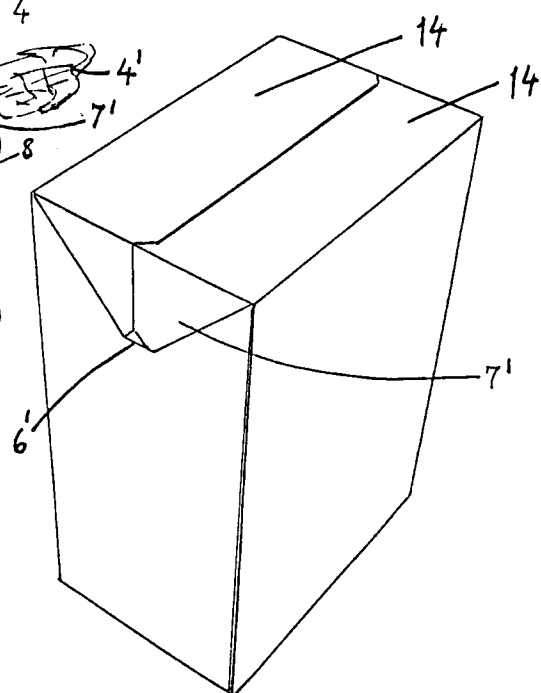


FIG.3





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PARTIAL EUROPEAN SEARCH REPORT

Application Number

which under Rule 45 of the European Patent Convention
shall be considered, for the purposes of subsequent
proceedings, as the European search report

EP 92 10 1912

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.5)
Y	EP-A-0 147 214 (KELSO) * Page 2, line 14 - page 3, line 13; figures 1-3 *	1	A 47 K 10/46
A	---	5	
Y	US-A-3 089 597 (KAPLAN) * Column 1, lines 10-16; column 2, lines 32-37; column 3, lines 69-75, column 4, lines 1-16; figure 1 *	1	
A	-----	5	
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			A 47 K B 65 D

INCOMPLETE SEARCH

The Search Division considers that the present European patent application does not comply with the provisions of the European Patent Convention to such an extent that it is not possible to carry out a meaningful search into the state of the art on the basis of some of the claims

Claims searched completely : 1, 5, 6

Claims searched incompletely : 4

Claims not searched : 2, 3

Reason for the limitation of the search:

Incomplete claims.

Place of search

THE HAGUE

Date of completion of the search

13-05-1992

Examiner

BARBAS A.

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