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Diaper Dispenser

This invention relates to a diaper dispenser consisting of a container designed for receiving horizontally stacked
diapers, comprising a wall, a bottom and a removal opening
10 disposed therebetween, through which the bottommost diaper
can be withdrawn.

Ready-made diapers intended for single usage, so-called
disposable diapers, are put on the market rectangularly
15 folded and packed individually in stacks of, for instance, 50
piece. Cotton diaper cloths usually likewise are kept ready
for usage folded to an approximately rectangular format and
stacked. The diaper stacks generally deposited on the
changing table can easily tip over in particular when
20 removing a diaper.

This is avoided by a diaper dispenser of the type mentioned
above, which is designed for receiving disposable diapers and
is known from DE 296 07 763 U. The removal opening
25 constitutes a transverse slot at the bottom end of one of the
two side walls of the container and is defined below by the
corresponding edge of the container bottom having a small
recess and above by the lower edge of the correspondingly
shortened side wall. The side wall also has a longitudinal
30 slot opening into the transverse slot for checking the
filling level. This construction for removing the respective
bottommost diaper is not much practicable.

A diaper dispenser of quite similar design with the same
35 disadvantages, which in addition must be charged with the
diapers from above, is known from DE 296 21 781 U.

Another diaper dispenser is known from DE 201 03 529 U1. In these diaper dispensers, too, the diapers must be charged from above, which in the case of a diaper stack comprising e.g. 50 diapers involves the risk that the stack will fall apart, so that one or more diapers no longer lie flat, but are jammed or bent. As a result, both the removal of the diapers and the proper descent of the stack after each removal is made more difficult or even blocked. Removal is effected through an opening disposed in the container wall and thus aligned horizontally, supported by an inclined intermediate bottom as additional part, which requires a separate attachment.

It is the object underlying the invention to create a diaper dispenser which simplifies the storage and removal of the diapers.

In accordance with the invention, this object is solved by a diaper dispenser with the features indicated in claim 1.

The container forming the diaper dispenser has an inner cross-section adapted to the very similar format of folded disposable diapers also of different manufacturers. Normally, conventional cotton diaper cloths are also folded to the same format. The height of the container can be dimensioned such that it can receive two commercially available packaging units of e.g. 50 piece disposable diapers stacked one above the other. The container can have feet or a pedestal, so that its removal opening is accessible from below. However, the container primarily is designed for attachment to a wall. This has the advantage that the space requirement for keeping ready the diapers on the changing table is eliminated or at least reduced. The most important advantage of the diaper dispenser, however, consists in that the respective bottom-most diaper can directly be withdrawn from the diaper dispenser in forward and downward direction in no time at all.

The removal opening on the one hand comprises an entry hole, and on the other hand a recess in the bottom of the container which extends at least almost across the entire container width. The entry hole preferably is arranged centrally at the lower edge of the front wall of the container and is opti-
5 mally designed for entry with the thumb, so that the fingers come to lie below the bottommost diaper in the vicinity of the bottom recess. The flute in the vicinity of the entry hole ensures that the bottom diapers are slightly upset in
10 the direction towards the rear wall of the container and the bottommost diaper can better be seized between thumb and fingers.

The entry hole preferably has a height exceeding the thick-
15 ness of a stacked diaper (claim 2). However, its height expediently is distinctly smaller than twice the thickness of a stacked diaper (claim 3), so that the entering thumb separates the bottommost diaper from the second bottommost diaper automatically, so to speak, and said bottommost diaper then
20 can be withdrawn in downward direction through the recess in the bottom of the container by applying a slight pressure.

The fact that the stock of diapers is running short can easily be recognized when the front wall has inspection windows
25 (claim 4). One inspection window can be enough. Instead, there can be arranged a plurality of inspection windows at different levels or one elongate inspection window.

Expediently, the container approximately has the shape of a
30 straight, tetrahedral prism (claim 5), which for design reasons can have slightly rounded shapes.

To adapt its inner cross-section to diaper stacks of different formats, the container preferably has an inner wall which
35 can be adjusted and fixed parallel to the rear wall of the container in the direction towards the front wall (claim 6).

Fixing the inner wall can be achieved in particular by an elastic design and the cooperation of ribs in the container bottom and in the container cover surface or in the container side walls, which ribs are parallel to the rear wall of the container, and corresponding detents on the corresponding edges of the inner wall.

To ensure that the folded diapers remain lying flat in the stack moving downwards and reducing its height with each removal of a diaper, weighting the stack of diapers by a plate-shaped body or the like can be expedient (claim 7).

Advantageously, at least one of the container side walls can be designed for attachment of a deposition bracket (claim 8), on which e.g. powder or cream receptacles can be deposited.

In the drawing, the diaper dispenser in accordance with the invention is represented in an embodiment chosen by way of example, simplified in part, in which:

Fig. 1 shows a perspective view,
Fig. 2 shows an exploded representation,
Figs. 3 and 4 show schematic side views of the filled container to illustrate the removal.

The diaper dispenser represented in Figures 1 and 2 comprises an approximately parallelepiped container 1, preferably in the form of a deep-drawn plastic part, with internal dimensions for receiving for instance a stack of disposable diapers folded once (cf. e.g. Figure 3). The container has a front wall which constitutes a cover 2 to be snapped onto the container 1 via detents such as 2a in Figure 1. The container side walls 3 have recessed plane faces 3a with slots 4 for hanging in lateral brackets 5 formed with corresponding hooks 5a.

The container 1 includes an inner wall 6 which can be adjusted and fixed parallel to the rear wall of the container in the direction towards the cover 2, in order to be able to adapt the inner cross-section of the container 1 to stacks of
5 diapers whose format is smaller than the maximum format predetermined by the depth of the container. For saving weight and material, the inner wall 6 merely has four longitudinal slots 6a as well as four holes 6b through which not represented congruent holes in the container rear wall are accessible, which are intended to receive screws by means of which
10 the container 1 can be attached to a wall. For fixing the inner wall 6, the container can have ribs at suitable points, in which ribs the edges of the inner wall 6 snap in elastically.

15 The cover 2 has a trough-like flute 2b proceeding from its lower edge, which runs out at half the height of the cover 2. In this region, a depression 10, which can serve to attach a trademark, and two windows 11 and 12 are disposed from the
20 top to the bottom. These windows can be simple holes or transparent plastic discs. They provide for checking the filling level and thus are superfluous when the container 1 or at least the cover 2 are made of an at least translucent plastic material.

25 What is particularly important for the functionality is the design of the removal opening for the diapers. The removal opening comprises two cooperating recesses, namely on the one hand an entry hole 7, which in the form of a central slot extends from the lower edge 2c of the cover 2 up to a height
30 which is slightly greater than the thickness of an average folded diaper. The entry hole 7, which is disposed in the deepest region of the trough-like flute 2b, is ergonomically shaped such that it is quite obvious for the user to introduce the thumb of his right or left hand. As shown in Figure
35 3, the fingers then come to lie below the bottommost diaper

in a recess 8 forming the second part of the removal opening, which recess is formed in the bottom 9 of the container 1 as set-off of its edge 9a on the side of the front wall. The set-off extends from side wall 3 to side wall 3, expediently, but not necessarily, such that in the middle, at the level of the entry hole 7, it has its greatest depth or opening width. Its minimum depth and thus the minimum width of the recess 8 in the bottom 9 of the container 1 must, however, be approximately equal to the thickness of the thickest commercially available diaper or diaper to be removed from the container.

Figures 3 and 4 illustrate the removal procedure. The thumb introduced through the entry hole separates the bottommost diaper from the second bottommost diaper. The bottommost diaper is seized between thumb and the fingers, slightly tilted downwards in the seized region, and then withdrawn at an angle in forward/downward direction through the slot-shaped recess in the bottom 9 of the container 1. A weighting plate 11 ensures that the stack of diapers descends reliably, the diapers maintaining their flat position.

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C l a i m s

1. A diaper dispenser consisting of a container (1)
designed for receiving horizontally stacked diapers,
comprising a wall, a bottom (9) and a removal opening
10 disposed therebetween, through which the bottommost
diaper can be withdrawn, **characterized in** that the
removal opening is disposed in the front wall (2) of the
container (1) and comprises an approximately slot-shaped
entry hole (7) extending upwards from the lower edge
15 (2c) of the front wall (2), and a recess (8) which
constitutes a set-off of the edge (9a) of the bottom (9)
of the container (1) on the side of the front wall, that
the front wall (2) has a flute (2b) in the vicinity of
the entry hole (7), and that the front wall (2)
20 constitutes a snap-on cover of the container (1).
2. The diaper dispenser as claimed in claim 1,
characterized in that the entry hole (7) has a height
exceeding the thickness of a stacked diaper.
- 25 3. The diaper dispenser as claimed in claim 1 or 2,
characterized in that the entry hole (7) has a height
smaller than twice the thickness of a stacked diaper.
- 30 4. The diaper dispenser as claimed in any of claims 1 to 3,
characterized in that the front wall (2) has inspection
windows (11, 12).
- 35 5. The diaper dispenser as claimed in any of claims 1 to 4,
characterized in that the container (1) approximately
has the shape of a straight, tetrahedral prism.

6. The diaper dispenser as claimed in any of claims 1 to 5,
characterized in that for adapting its inner cross-
section to diaper stacks of different formats the con-
tainer (1) has an inner wall (6) which can be adjusted
5 and fixed parallel to the rear wall of the container (1)
in the direction towards the front wall (2).
7. The diaper dispenser as claimed in any of claims 1 to 6,
characterized by a plate-shaped body (11) for weighting
10 the stack of diapers.
8. The diaper dispenser as claimed in any of claims 1 to 7,
characterized in that at least one of the container side
walls is designed for attachment of a deposition bracket
15 (5).