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(72) Inventors:
• **Mattila, Iiro**
35300, Orivesi (FI)
• **Achton, Kim**
4632, Bjaeverskov (DK)

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(74) Representative: **Haimelin, Jukka Ilmari**
Oy Jalo Ant-Wuorinen Ab
Iso Roobertinkatu 4-6 A
00120 Helsinki (FI)

(71) Applicant: **Metsä Tissue Oyj**
02100 ESPOO (FI)

(54) **Sheet towel dispenser**

(57) A dispenser for paper towel products is disclosed. The towels are taken in form of sheets from the dispenser. The dispenser is comprising an essentially horizontal housing (1) for receiving a paper towel stack (2) formed by sheets to be dispensed and stacked to lay horizontally in the dispenser. The sheet towels in said housing (1) are lowering by gravity in sliding contact with the side walls of the housing, corresponding to the amount of the sheets that are removed through the slot (4) in the lower part of the housing. The side walls of the housing are provided with fins (3) projecting inwards for partially supporting the side edges of the towel stack, and preventing an undue packing of the stack (2).

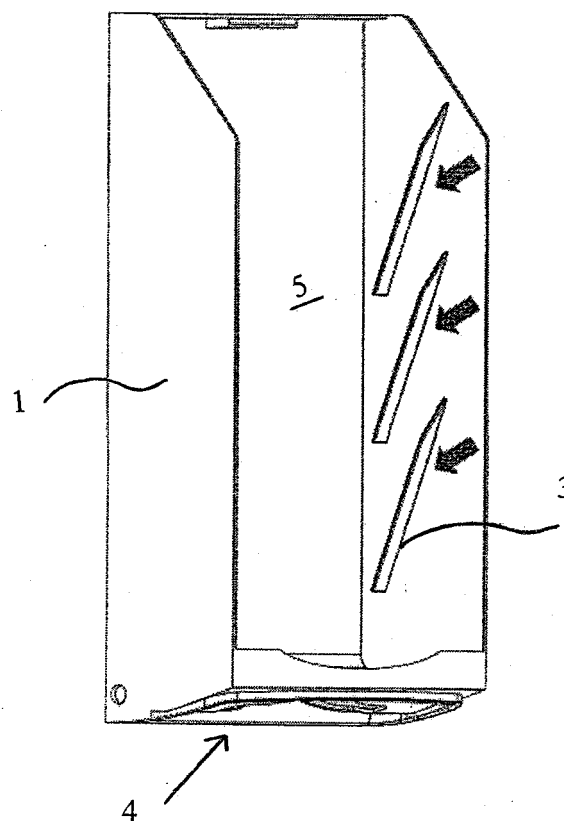


Fig. 1

Description

[0001] The present invention concerns a dispenser, to which hand towels as sheets, especially as folded sheets, are stacked, having the sheets in the horizontal direction, and the towel sheets are taken from a slot in the lower part of the dispenser by catching the lowest sheet of the stack through the slot. The towel sheets are manufactured traditionally of a suitable paper, porous and absorbent. The sheet stack is accommodated in a vertical housing forming a basic part of the dispenser, the horizontal cross section corresponding essentially to the size of the sheets or the folded size of the sheets in the stack. The horizontal cross-section is slightly bigger than the size of the sheets, whereby the sheet stack can lower when the sheets are taken into use. The dispenser is refilled with towel sheets either through an openable front wall or an openable lid portion.

[0002] A problem with this kind of a towel sheet dispenser of prior art is the amount of the sheets that can be loaded to the dispenser. The weight of a full-height stack in the dispenser causes a compression load to the lower part of the stack, that impedes the removal of the lowest sheet under the stack through the opening.

[0003] Said packing problem of the stack can be significantly improved by means of a dispenser in accordance with the present invention, the essential characteristics thereof being stated in the enclosed claim 1. Characteristics of different embodiments of the invention are included in the dependent claims.

[0004] The invention will be described in more detail by means of the enclosed drawings, where

Figure 1 shows a dispenser in accordance with the invention, having the front wall removed, and

Figure 2 shows a dispenser loaded with sheet towels.

[0005] The basic part of the dispenser is formed in a traditional way by a frame housing 1 designed to be fixed to the place of use of the dispenser, for example on the wall of a room. The frame housing defines a vertical space having a width corresponding to one dimension of the sheets, and a depth in turn corresponding to the opposite dimension of the sheets, or the corresponding dimension of the sheet having the sheet folded in an appropriate way. This space is loaded with the sheets to be used, for example the paper hand towels in a way shown by Figure 2, into a stack 2 formed by the horizontal sheets. The loading can be performed through an openable front wall or alternatively through an openable lid part. For the use of the dispenser it is advantageous, if the biggest possible amount of sheets can be loaded at a time.

[0006] For decreasing or avoiding the packing problem caused by the sheet stack, there are fins 3 mounted onto both opposite side walls of the housing. The projection of these fins from the inner wall of the housing is dimensioned so that they support the side edges of the sheet stack, whereby the high sheet stack does not create too strong compression load to the lower part of the sheet, whereby the lowest sheet to be taken through the opening 4 at the lower part of the dispenser can be removed without problems.

[0007] In the embodiments of the invention shown in the figures, the fins 3 on the inner side walls of the housing are placed with an even distribution substantially over the total length of the side walls. Alternatively, the fins can be located with alternating distribution, whereby the distribution in the upper part of the dispenser is denser than that in the lower part. Correspondingly, the scope of protection of the invention also covers an embodiment, wherein only the upper part of the dispenser is provided with the fins, the stack of the lower part lowering as usual with a distance to the side walls of the dispenser, and the lower part of the stack remains more uniform by construction.

[0008] The fins are preferably mounted deviating from the horizontal direction, parallel with each other, for example inclined towards the back wall 5 of the housing. With this inclination it is possible to have influence on the positioning of the sheets in the stack, in other words in the shown embodiment the stack is carried through touching against the back wall of the housing. This arrangement provides a certain degree of freedom for the dimensions of the sheet in the direction of depth of the housing, so that the stack stays uniform, even though the dimension of the sheets in that direction were somewhat smaller than the depth of the housing. On the other hand, the sheets are made to set in an advantageous position to be drawn out in the vicinity of the opening 4.

[0009] A dispenser in accordance with the invention provides in the above mentioned way the use of a higher housing 1 having a bigger batch refilling capacity. Alternatively or in addition to this property, sheet material can be used having a lower self-supporting strength (stiffness), in other words, the material can be softer and correspondingly more absorbent.

[0010] The invention is described in more detail by means of the enclosed drawings, where

Claims

1. A dispenser for towel products in form of sheets, said dispenser comprising an essentially horizontal housing (1) for receiving a towel stack (2) formed by sheets to be dispensed, stacked to lay horizontally, the sheet towels in said housing lowering by gravity in sliding contact with the side walls of the housing, corresponding to the amount of the sheets removed from the lower part of the housing, **characterized in that** the side walls are provided with fins (3) projecting inwards for partially supporting the side edges of the towel stack.
2. A dispenser in accordance with Claim 1, **characterized in that** the fins (3) are inclined with respect to

the horizontal level, essentially parallel with each other.

3. A dispenser in accordance with Claim 2, **characterized in that** the fins (3) are inclined towards the back wall (5) of the housing. 5
4. A dispenser in accordance with any of the preceding Claims from 1 to 3, **characterized in that** the fins (3) are arranged with equal distribution over the total height of the housing (1). 10
5. A dispenser in accordance with any of the preceding Claims from 1 to 3, **characterized in that** the fins (3) are arranged with a denser distribution in the upper part of the dispenser than its lower part. 15
6. A dispenser in accordance with any of the preceding Claims from 1 to 3, **characterized in that** there are fins (3) only in the upper part of the dispenser. 20

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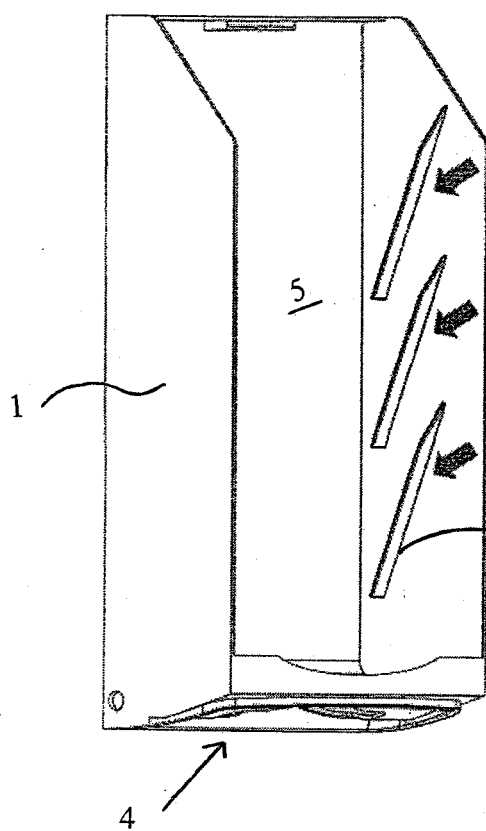


Fig. 1

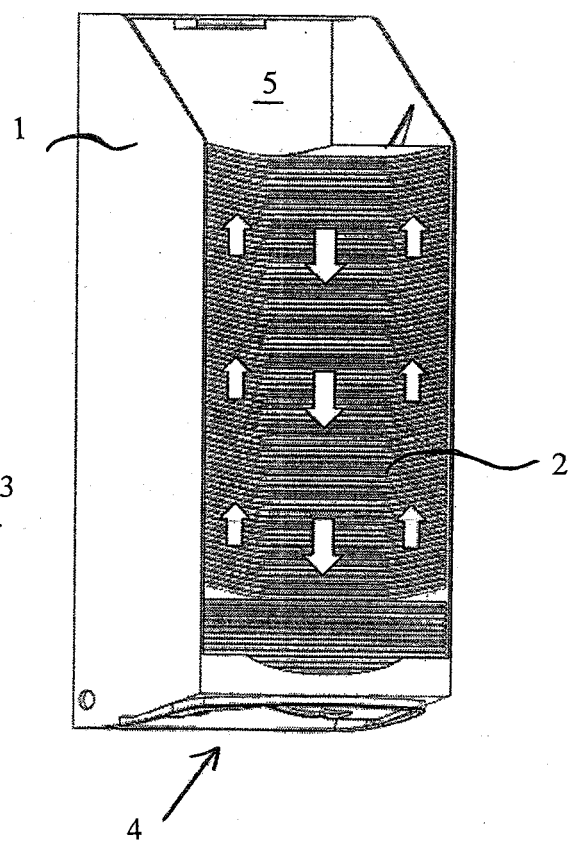


Fig. 2