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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) **Locking device**

(57) A locking device for paper or towel dispensers is disclosed. The locking device is intended for detachably attaching two parts of the dispenser to each other. The locking device is comprising at least one tongue (1) attached to one of the parts to be connected and a retainer (2) formed to the opposite part. The tongue and the retainer are arranged to be brought into a mutual

locking position by means of the mutual approaching motion of the parts, whereby the material flexibility of the tongue and/or the retainer is used to engage the parts. The tongue and/or the retainer have two optional operating positions, one of them having the locking to be opened by means of a distancing motion of the parts and the other only by means of an opening tool.

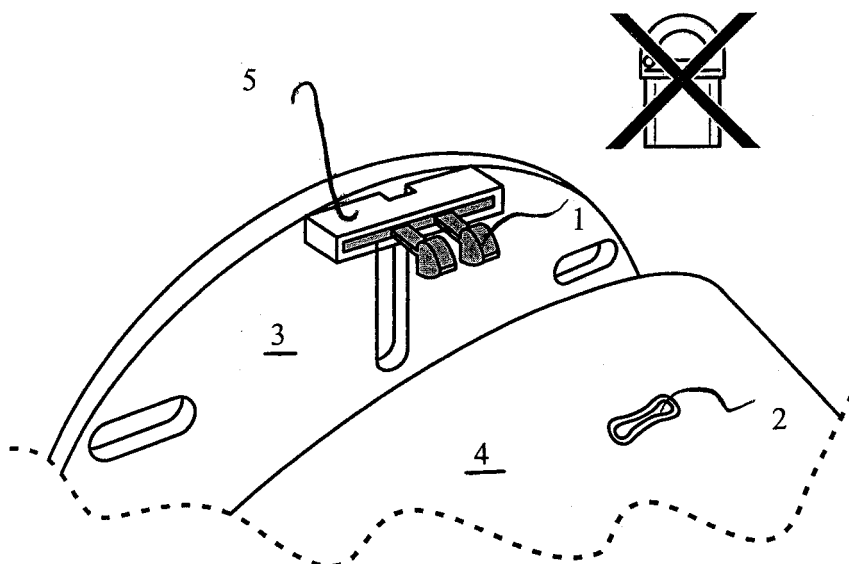


Fig. 1

Description

[0001] The present invention concerns a locking device to be used in the housings of different towel dispensers and the like. This kind of housings comprise in general two basic parts to be separated or opened with respect to each other in order to refill the towel product to be dispensed. In the dispensers mounted in public places the separation or opening of the parts must be lockable only to be opened with an opening tool, in order to eliminate the misuse of the products of the dispenser. On the other hand, corresponding dispensers and the products included therein are used in places, where the use is controlled or does not include any risk of misuses. In the last-mentioned places the locking hinders the use, the opening tool must always be at hand when the dispenser must be refilled or a malfunction occurs.

[0002] An improvement for the problems has been provided by means of a locking device of the present invention, said locking device being based on a locking device of a traditional type, comprising at least one tongue fixed to one part of the dispenser to be connected with the other part, and a retainer formed to the opposite part, said tongue and retainer being arranged to be engaged to a mutual locking position by means of a mutual approaching motion of the parts and by means of the material spring of the tongue and/or the retainer. According to a basic idea of the invention, the tongue and/or the retainer have two optional operating positions, whereby the locking can be opened in one of them by distancing the parts from each other and in the other only by means of an opening tool.

[0003] The invention will be described in more details in the following, with respect to the enclosed drawing, wherein

Figure 1 shows a locking device in accordance with the present invention in one operating position,

Figure 2 illustrates the changing of the operating position of the locking device, and

Figure 3 shows the locking device in the other operating position.

A part of the back plate 3 of the towel dispenser and the housing 4 of the dispenser are shown in the figures. The back plate is meant to be attached as usual for example to the wall of a room. The housing 4 can be pushed into contact with the back plate after the refilling stage for the operating situation. For keeping the parts reliably in the mutual position required by the operation of the dispenser, the dispenser includes a locking device 5. In the solution shown in the figures, the locking device comprises two tongues 1 projecting from the back plate. The tongues are manufactured of a flexible material, and their projecting end is equipped with a beveled surface. Due to the beveled surface and the flexibility, the tongues

bend downwards, when getting into contact with the edge of the housing 4, when the parts of the dispenser are pushed together. After the parts of the dispenser have reached the locking position, the ends of the tongues 1 spring up behind the retainer below the openings 2 of the housing. The projecting ends of the tongues have behind the beveled surface a locking claw that engages the retainer.

[0004] In the position of Figure 1 of the locking device, the locking claw is more gently sloping in the projecting direction of the tongues, whereby the provided locking effect in the retainer is limited. The housing 4 can be pulled outwardly from the back wall 3 with a reasonable power, whereby the edge of the retainer presses the tongues 1 down by sliding against the more gently sloped locking claw.

[0005] Figure 2 shows the changing of the operation mode of the locking device. The tongues 1 are mounted on a suitable frame piece 6 that can be turned in the locking device so that the tongues 1 set in a position that is 180° rotated about the axial direction thereof. In this position, a part having a sharp locking claw in the projecting end of the tongues comes out. The tongues in this position are firmly engaged to the retainer of the housing, whereby the housing cannot be pulled out of the back wall. For pulling it out, the tongues 1 must be pressed by means of a tool designed for this purpose, through the opening 2 of the housing 4.

Claims

1. A locking device for paper or towel dispensers for detachably attaching the two parts of the dispenser to each other, said locking device comprising at least one tongue (1) attached to one of the parts to be connected and a retainer (2) formed to the opposite part, and the tongue and the retainer are arranged to be brought into a mutual locking position by means of the mutual approaching motion of the parts and by means of the material flexibility of the tongue and/or the retainer, **characterized in that** the tongue and/or the retainer have two optional operating positions, one of them having the locking to be opened by means of a distancing motion of the parts and the other only by means of an opening tool.
2. A locking device in accordance with Claim 1, **characterized in that** the at least one tongue (1) of the locking device can be turned 180° about the axial direction for changing the operating position.
3. A locking device in accordance with Claim 2, **characterized in that** the locking device has in its tongue (1) in one operating position a beveled locking claw engaging the retainer (2) and in the other operating position respectively a sharp locking claw.

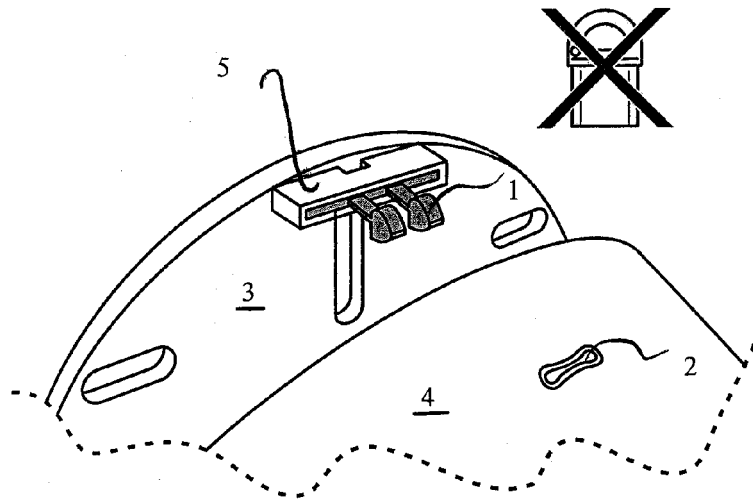


Fig. 1

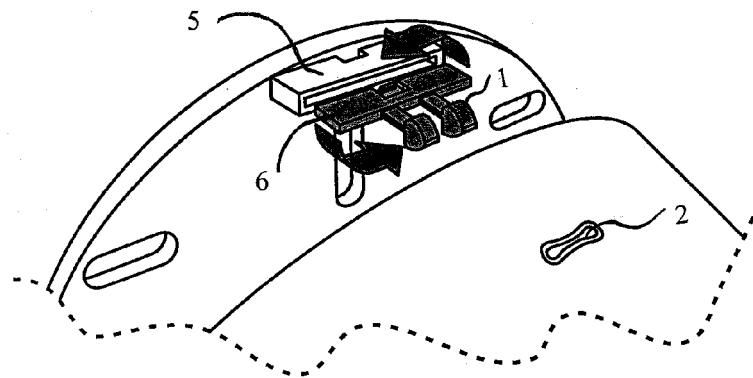


Fig. 2

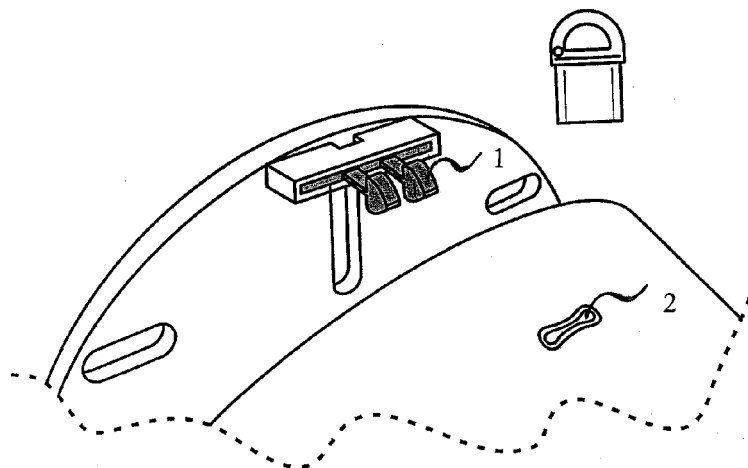


Fig. 3