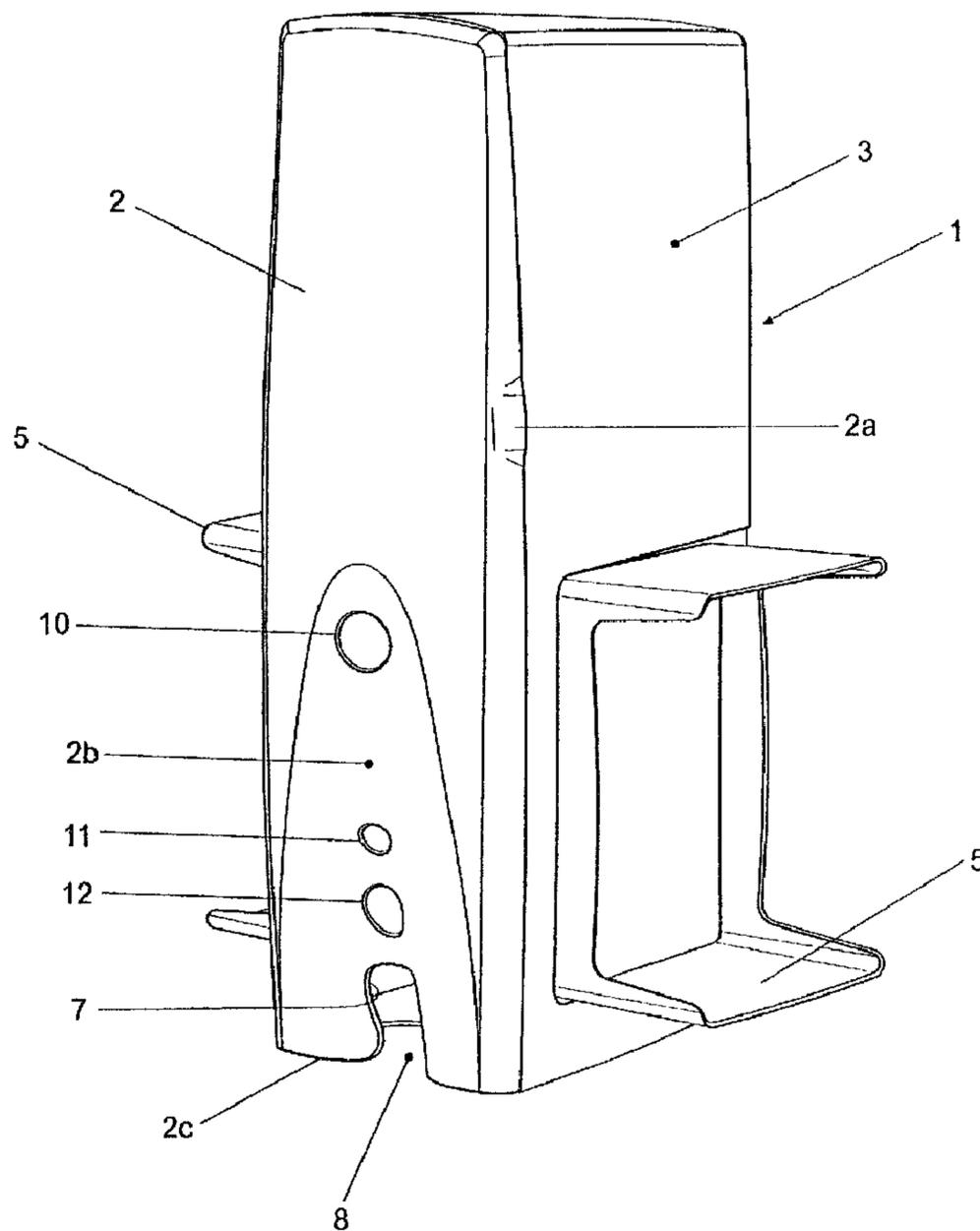




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(54) Titre : **DISTRIBUTEUR DE COUCHES**  
 (54) Title: **DIAPER DISPENSER**



(57) **Abrégé/Abstract:**

A diaper dispenser simplifying the storage and removal of diapers consisting of container designed for receiving horizontally stacked diapers, comprising a front wall, a back wall, two side walls, a bottom wall, and a removal opening disposed therebetween.

**(57) Abrégé(suite)/Abstract(continued):**

The removal opening includes an entry hole extending upwards from the lower edge of the front wall, preferably for the thumb of the hand, and a recess defined by a set-off of the front edge of the bottom wall on the side of the front wall, so that the respective bottommost diaper preferably comes to lie between thumb and index finger of the removing hand and can be withdrawn at an angle in forward and downward direction.

Abstract

5

A diaper dispenser simplifying the storage and removal of  
diapers consisting of container designed for receiving  
horizontally stacked diapers, comprising a front wall, a back  
wall, two side walls, a bottom wall, and a removal opening  
10 disposed therebetween. The removal opening includes an entry  
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removing hand and can be withdrawn at an angle in forward and  
downward direction.

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### Diaper Dispenser

This invention relates to a diaper dispenser.

5 Ready-made diapers intended for single usage, so-called disposable diapers, are put on the market rectangularly folded and individually packed in stacks of, for example, 50 pieces. Like disposable diapers, cotton diaper cloths are usually kept stacked ready for usage, folded to an approximately rectangular format. Diaper stacks, generally placed on the  
10 changing table, can easily tip over in particular when removing a diaper.

Tipping over of a diaper stacks can be prevented using diaper  
15 dispensers, designed for receiving disposable diapers, consisting of a container designed for receiving horizontally stacked diapers having a wall, a bottom and a removal opening disposed therebetween, through which the bottommost diaper can be withdrawn. A typical dispenser of this type is described in DE 296 07 763 U. The removal opening constitutes a  
20 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 adjacent to the correspondingly shortened side wall. The side  
25 wall also has a longitudinal slot opening into the transverse slot for checking the filling levels. However, removing the bottommost diaper from these kinds of dispensers is difficult.

30 In DE 296 21 781 U, a diaper dispenser of quite similar design having the same disadvantages is described, which, in addition, must be loaded with diapers from the top.

Another diaper dispenser is described in DE 201 03 529 U1. In  
35 this diaper dispenser, diapers must also be loaded from the top, which in the case of a diaper stack, e.g. comprising 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 are made more  
5 difficult or even blocked. Removal is possible through an opening provided in the container wall and thus aligned horizontally, supported by an inclined intermediate bottom as additional part, which requires a separate attachment.

10 The present invention seeks to provide a diaper dispenser, which simplifies the storage and removal of diapers.

According to a first broad aspect of an embodiment of the present invention, there is disclosed a diaper dispenser for receiving horizontally stacked diapers, comprising: a front wall that is  
15 removable from the diaper dispenser, the front wall including a flute originating from a lower edge of the front wall and extending longitudinally along the front wall; and a bottom, wherein a removal opening is disposed between the front wall and the bottom through which a bottommost diaper can be withdrawn, the removal opening  
20 comprising an approximately slot-shaped entry hole extending upwards from the lower edge of the front wall within the flute and a recess comprising a set-off of a front edge of the bottom from the lower edge of the front wall.

Preferably the diapers are individually folded before inser-  
25 tion into the dispenser.

The container forming the diaper dispenser has an inner cross-section adapted to the very similar format of folded disposable diapers from different manufacturers. Normally, conventional cotton diaper cloths are also folded to the same  
30 format. The height of the container can be dimensioned to receive two commercially available packaging units of e.g. 50

piece disposable diapers stacked one on top of the other. The container can have feet or a pedestal, so that the removal opening is accessible from below. However, the container is primarily designed for attachment to a wall, eliminating or at least reducing the required space to keep the diapers ready on the changing table. The most important advantage of the invention is to enable the respective bottommost diaper to be directly withdrawn from the diaper dispenser in forward and downward direction wasting 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 container entire width. The entry hole is preferably centrally arranged at the lower edge of the front wall of the container and is optimally designed to enable the entry of the thumb, so that the fingers come to lie below the bottommost diaper adjacent to the bottom recess. A flute, adjacent to the entry hole ensures that the bottom diapers are slightly upset in the direction towards the rear wall of the container and the bottommost diaper can better be grasped between thumb and fingers.

The entry hole preferably has a height exceeding the thickness of a stacked diaper. However, its height is expediently distinctly smaller than twice the thickness of a stacked diaper, so that the entering thumb automatically separates the bottommost diaper from the second bottommost diaper, so that the bottommost diaper can then be withdrawn in a 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 observed by providing the front wall with inspection windows. While one inspection window can be enough, a plurality of inspection windows at different levels or one elongate inspection window can also be provided.

Conveniently, the container has an approximately straight shape, for example a tetrahedral prism, which for design reasons can have slightly rounded corners.

5 To adapt its inner cross-section to diaper stacks of different formats, the container preferably has an inner wall which can be adjusted in the direction towards the front wall and then fixed parallel to the rear wall of the container. Fixing the inner wall can be achieved in particular by an elastic  
10 design and the cooperation of ribs in the container bottom and in the container cover surface, or in the container side walls, where the ribs are parallel to the rear wall of the container, and corresponding detents on the corresponding edges of the inner wall.

15

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 can be weighted by a plate-shaped body or the like.

20

Advantageously, at least one of the container side walls can be designed for attachment of a bracket supporting a shelf, on which receptacles can be deposited e.g. for powder or cream.

25

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:

30 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 of a diaper.

35 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 suitable for receiving a stack of disposable diapers, folded once for example (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 attaching a shelf unit 5, by inserting the hooks 5a.
- 10 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 diapers whose format is smaller than the maximum format pre-
- 15 determined by the dimensions of the container. To make it lighter and to use less material, the inner wall 6 merely has four longitudinal slots 6a as well as four holes 6b through which congruent holes (not shown) in the container rear wall are accessible, which are intended to receive screws by means
- 20 of which 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.
- 25 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 top to the bottom. These windows can be simple holes or
- 30 transparent plastic discs. These windows are provided for the checking of the filling level and thus are superfluous when the container 1 or at least the cover 2 are made from translucent plastic material.
- 35 What is particularly important for the functionality of the dispenser is the design of the removal opening for the dia-

pers. The removal opening comprises two cooperating recesses, where the first one is the entry hole 7, which is a central slot extending from the lower edge 2c of the cover 2 up to a height 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 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 edges of the front wall, extending from one side wall to the other, such that in the middle, at the level of the entry hole 7, it has its greatest depth or opening width. Such format, although preferred it is not essential. 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 grasped between the thumb and the fingers, slightly tilted downwards in the gripping 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 13 ensures that the stack of diapers descends reliably, and maintains the diapers in their flat position.

5 What is claimed is:

1. A diaper dispenser for receiving horizontally stacked  
diapers, comprising:

10 a front wall that is removable from the diaper dispenser, the  
front wall including a flute originating from a lower edge of  
the front wall and extending longitudinally along the front  
wall; and

15 a bottom, wherein a removal opening is disposed between the  
front wall and the bottom through which a bottommost diaper  
can be withdrawn, the removal opening comprising an  
approximately slot-shaped entry hole extending upwards from  
the lower edge of the front wall within the flute and a recess  
20 comprising a set-off of a front edge of the bottom from the  
lower edge of the front wall.

2. The diaper dispenser as claimed in claim 1, wherein the  
entry hole has a height exceeding a thickness of a stacked  
25 diaper.

3. The diaper dispenser as claimed in claim 1, wherein the  
entry hole has a height smaller than twice a thickness of a  
stacked diaper.

30

4. The diaper dispenser as claimed in claim 1, wherein the  
front wall has at least one inspection window.

5. The diaper dispenser as claimed in claim 1, wherein the  
35 diaper dispenser approximately has the shape of a straight,  
tetrahedral prism.

5

6. The diaper dispenser as claimed in claim 1, wherein for adapting an inner cross-section to diaper stacks of different formats the diaper dispenser has an inner wall which can be adjusted and fixed parallel to a rear wall of the diaper  
10 dispenser in a direction towards the front wall.

7. The diaper dispenser as claimed in claim 1, further comprising a plate-shaped body for weighting the stacked  
15 diapers.

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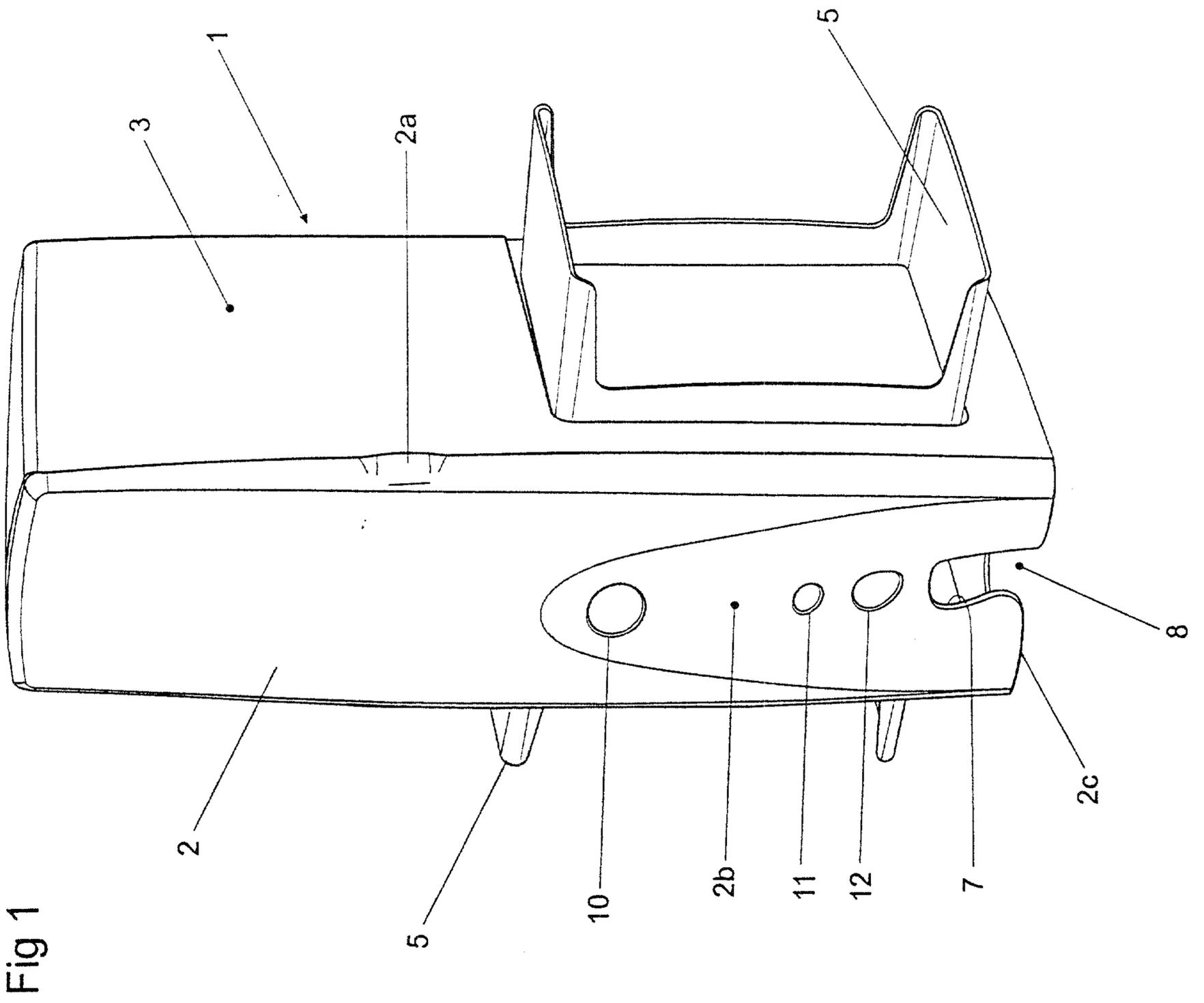
8. The diaper dispenser as claimed in claim 1, further comprising first and second side walls and a deposition bracket attached to at least one of the first and second side  
20 walls.

20

9. The diaper dispenser as claimed in claim 1, further comprising first and second side walls, wherein said front wall is substantially equal in length to the first and second  
25 side walls.

25

10. The diaper dispenser as claimed in claim 1, wherein the front wall snaps onto the diaper dispenser.



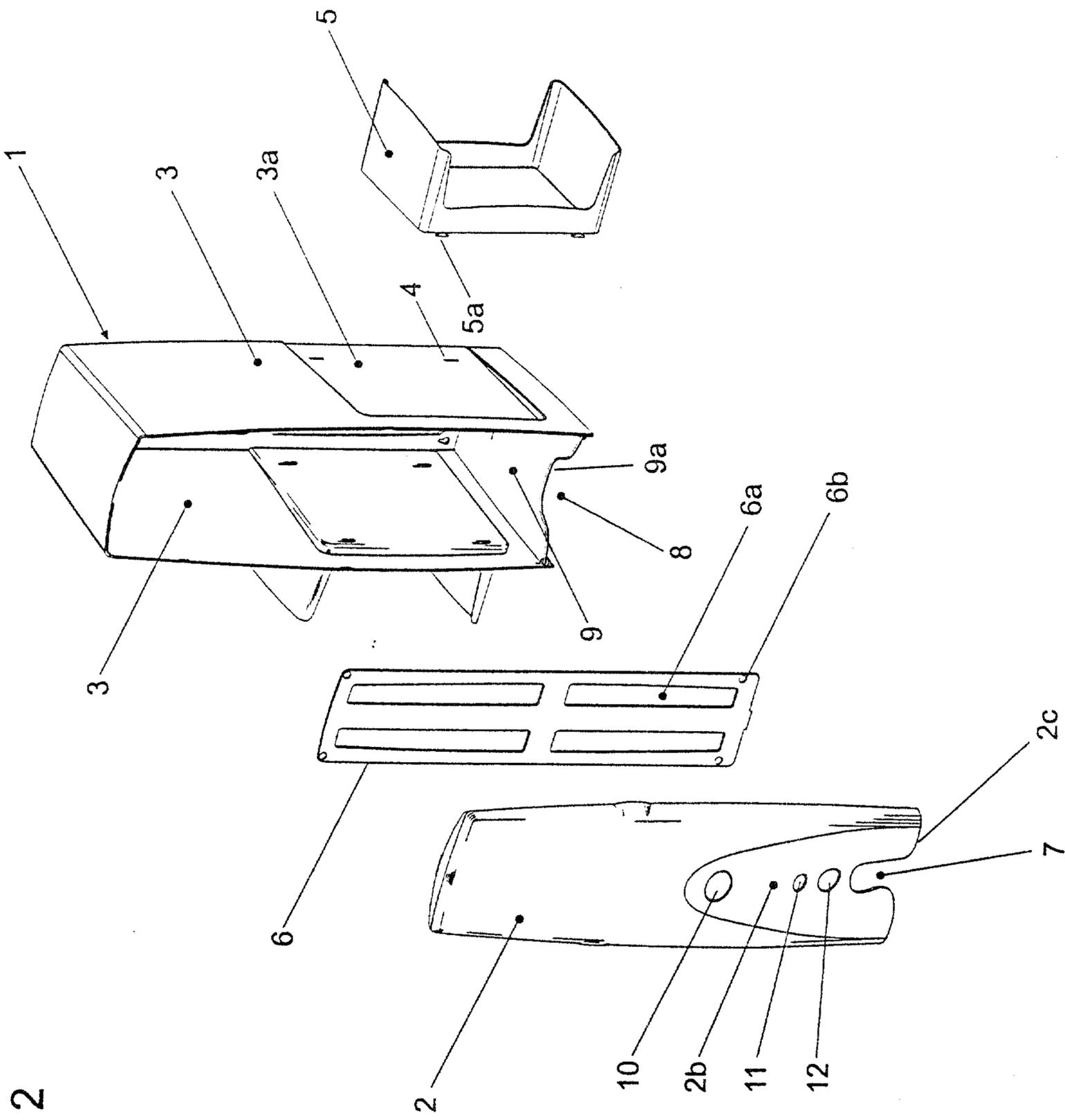


Fig 2

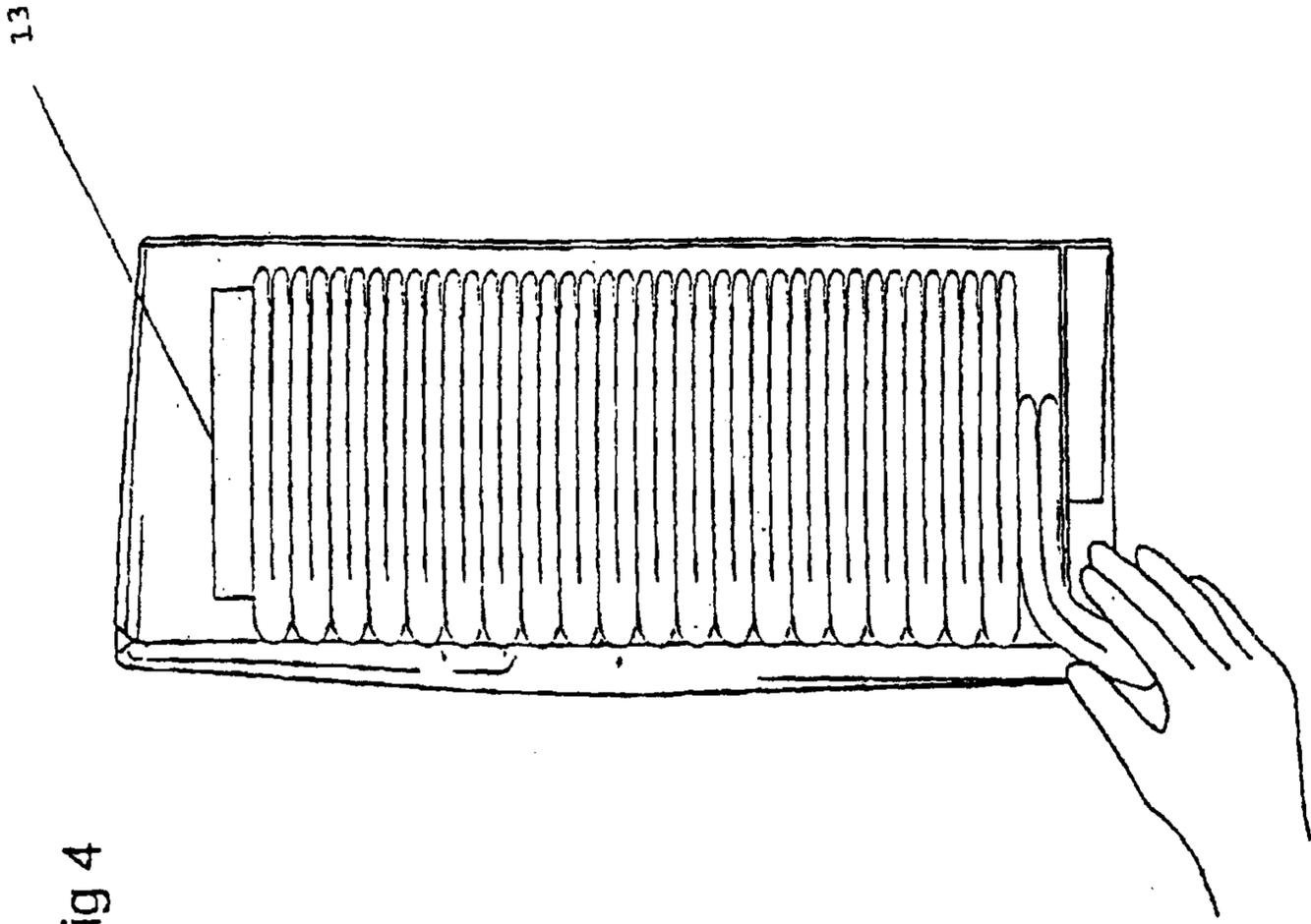


Fig 4

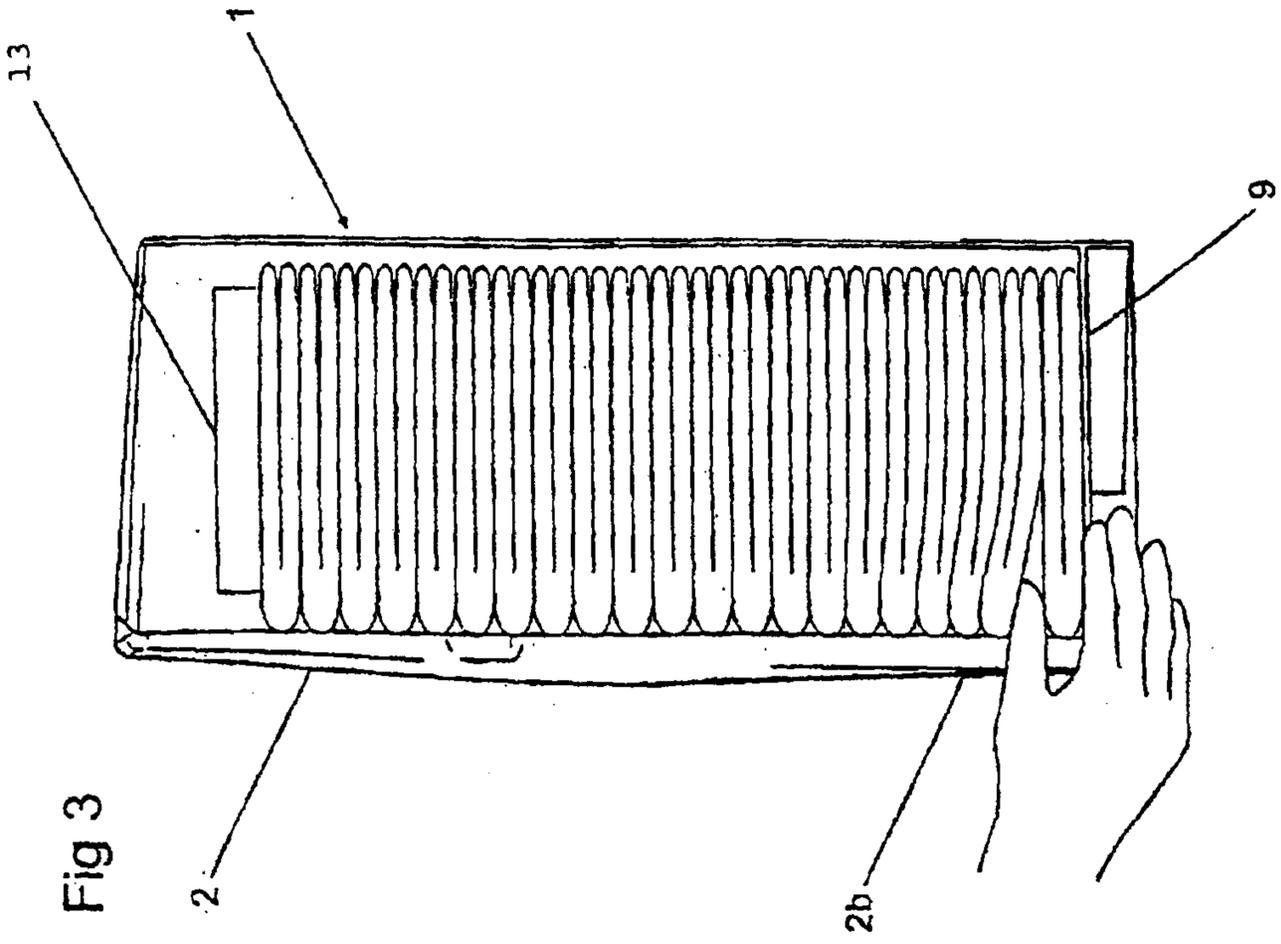


Fig 3

