

WALL-MOUNTED DISPENSER

DESCRIPTION

The present invention relates to a wall-mounted dispenser for supplying and removing a liquid, in particular a detergent substance or a care product for personal hygiene, according to the preamble of claim 1. Accordingly, the wall-mounted dispenser comprises a replaceable container for the liquid and a wall mount for mounting the wall-mounted dispenser on a structural facility, generally on a wall. Preferably, this is the wall of a building, for example in the bathroom of a hotel or in publicly accessible sanitary installations; the structural facility on which the wall-mounted dispenser can be mounted by means of the wall mount thereof, however, can also be a piece of furniture or a special mount or a frame or the like.

In a wall-mounted dispenser of the present type, the container for the liquid can be fastened to the wall mount and removed therefrom so as either to be filled up or replaced. To this end, the wall mount has at least one upper holding element and at least one lower holding element for holding and securing the container against an inadvertent or unauthorized removal from the wall mount.

The container of a wall-mounted dispenser of the present type is provided with a dispensing unit for the dosed removal of liquid, or is connected to such a dispensing unit as soon as it is located in the wall mount as intended. This dispensing unit can be, for example, a dosing valve which dispenses the liquid downwardly by means of gravity, in particular as a reaction to a compression of the container, or the container is a pump dispenser in which the dispensing unit substantially consists of a dosing pump with an actuating head and a dispensing spout. In both cases the dispensing unit does not have to be a fixed component of the container but it can be fastened to one of the two holding elements for holding and securing the container, so that it does not have to be removed from the wall mount together with the container.

Wall-mounted dispensers of this type are used in order to provide liquid soap, for example in publicly accessible washroom areas or corresponding areas of restaurants. Particularly preferably such wall-mounted dispensers are used in hotels in order to provide liquid soap, shampoo and other care products, such as lotions or the like, on sinks, in the region of a bath tub and/or in a shower enclosure. This is because wall-mounted dispensers of the present type are characterized in that the liquid products which are present therein can be dosed and removed hygienically in a simple manner, while at the same time a certain volume of liquid products can be kept in reserve in order to extend the period of use to longer time intervals, typically of several days, before the dispenser is refilled or before the container has to be replaced.

In typical applications for a wall-mounted dispenser of the present type, it is obvious that the replaceable container has to be protected against theft. It is also important to mount the container in the wall mount such that the contents thereof is not accessible; this is because for hygienic reasons the liquid located in the container has to be prevented from being able to be handled, for example by foreign bodies being introduced or the already dispensed liquid being added back in again. In any case, the user should only be able to come into contact with the liquid dose which is dispensed as intended.

The holding elements of the wall mount, i.e. at least one upper and one lower holding element, not only have to be able to hold the replaceable container but also to secure and also to prevent an opening of the container in the wall mount. If the container is a pump dispenser of the commercially available type, for example, with a bottle and a dispensing unit screwed onto a thread of the bottle neck, the holding elements of the wall mount have to prevent the bottle from being unscrewed. This is designed to be possible only after the container has been removed from the wall mount.

In DE 10 2010 024 081 B4 this problem has been solved by one of the holding elements of the wall mount being positively engaged in a recess in the replaceable container so that the container is not only held between an upper and a lower holding element but also cannot be rotated

about a vertical axis which connects the two holding elements. Moreover, in this prior art an anti-theft device is provided, resulting in the lower holding element being able to be detached from the wall mount and thus the container being able to be released for removal only when a suitable releasing tool is positioned on the wall mount.

The object of the present invention is to develop a wall-mounted dispenser of the type mentioned in the introduction such that the handling thereof when the container is replaced is simplified relative to the prior art.

This object is achieved by a wall-mounted dispenser having the features of claim 1. Preferred embodiments and developments of the wall-mounted dispenser according to the invention are set forth in claims 2 to 20.

According to the present invention, a wall-mounted dispenser for supplying and removing a liquid, comprising a replaceable container for the liquid and a wall mount for mounting the wall-mounted dispenser on a structural facility, wherein the container is provided with a dispensing unit for the dosed removal of liquid from the container, and wherein the wall mount comprises at least one upper holding element and at least one lower holding element for holding and securing the container, is characterized in that the wall mount consists of at least two mounting parts that can be moved or adjusted in relation to each other, wherein an upper mounting part is securely connected to the upper holding element and a lower mounting part is securely connected to the lower holding element, respectively.

It is not excluded here that there are further holding elements and/or further mounting parts; it is only important that an upper holding element is fixed to the upper mounting part and a lower holding element is fixed to the lower mounting part.

By means of this embodiment according to the invention of the wall mount, the replaceable container can be held exceptionally securely and firmly in a use position, while at the same time the container can be removed with little effort from the wall mount by simply moving apart the

two mounting parts which can be moved or adjusted in relation to each other. In a pulled-apart state of the wall mount, preferably a defined removal position is adopted in which the container can be removed from the wall mount or inserted therein, wherein the mounting parts are held against one another in a defined position.

The upper mounting part and/or the lower mounting part of the wall mount which is designed according to the invention is or are preferably provided with a locking mechanism in order to lock the upper mounting part and the lower mounting part in the use position. It is preferred here if the locking mechanism can be released only by means of a separate key element, in order to take particularly good account of the requirement for anti-theft protection and the protection against handling.

The locking mechanism preferably comprises a resilient tongue and a latching element, wherein the latching element is located on the resilient tongue which is fastened to one of the upper or lower mounting parts, and in the use position of the wall mount engages in a latching manner behind a projection or a latching edge on the other mounting part.

Alternatively, a locking mechanism which comprises a resilient tongue and a latching element can be designed such that the latching element is fastened to one of the upper and lower mounting parts and the resilient tongue is fastened to the other mounting part, wherein the tongue is positively latched behind the latching element in the use position of the wall mount.

Both alternatives provide the advantage that the locking mechanism is automatically latched when the tongue and the latching mechanism are pushed together in the use position, due to the resilient restoring force of the tongue and due to the latching mechanism, and thus the locking mechanism secures the use position in a locking manner. The locking is then released by means of the separate key element.

To this end, the key element is expediently provided with at least one guide element so as to be introduced into the wall mount in the correct position, and with an actuating element for

moving the resilient tongue counter to the resilient restoring force thereof, and namely expediently such that the movement of the resilient tongue removes the latching element from its latched positive connection and accordingly releases the locking.

The locking mechanism is preferably arranged in an overlapping region in which the upper mounting part and the lower mounting part of the wall mount at least overlap in the use position.

For the anti-theft protection, it is also advantageous if fastening means for mounting the wall mount on the structural facility are also arranged in the overlapping region of the upper and lower mounting parts of the wall mount. This is because these fastening means are never accessible in the use position of the wall mount and in this regard they also cannot be released by unauthorized persons, in order to take the wall mount off the structural facility.

The overlapping region of the upper and lower mounting parts can be provided with a cover in the direction of the container. This not only improves the visual appearance and the high-quality impression of the wall mount when the container is removed, but also protects the container from possible damage when the two mounting parts are pulled apart and pushed together.

It is particularly preferred if the upper mounting part and/or the lower mounting part are provided with at least one rail, the two mounting parts being able to be moved in relation to each other along this rail. Such a rail solution ensures a high degree of stability of the wall mount even when the two mounting parts are moved in relation to each other and, in particular, when the two mounting parts are pulled apart in the removal position. The mobility of the two mounting parts in relation to each other is reduced with such a rail solution to a one-dimensional guided movement, which naturally is useful for the stability of the structure.

As already mentioned in the introduction, the replaceable container can be a pump dispenser of the commercially available type, with a bottle and a dispensing unit which is positioned thereon and which comprises a dosing pump with an actuating head and a dispensing spout.

In this case, it is advantageous if the upper holding element of the wall mount comprises a shaped part which is ring-shaped or fork-shaped for positively receiving the bottle, the bottle neck and/or the dispensing unit.

In this case, the upper holding element of the wall holder can also be provided with a further second shaped part which is spaced apart from the first shaped part for supporting and/or guiding the actuating head of the dispensing unit. This ensures a particularly stable reception of the pump dispenser in the wall mount at the point at which the actuating mechanism for the dosed dispensing of the liquid product is arranged and which accordingly is subjected to the greatest forces when the wall-mounted dispenser is operated as intended.

In particular, when the replaceable container is a pump dispenser, the lower holding element of the wall-mounted dispenser according to the invention can be a simple support for positioning a base of the container, for example with a plate-shaped, fork-shaped, disk-shaped, basket-shaped or pan-shaped design.

Within the context of the present invention, the lower holding element can also be provided with an adapter for receiving the base of the container or can be prepared for such an adapter. With a corresponding shaping of the base of the container, such an adapter can produce a positive connection therewith; however, the adapter can also be used, in particular when it is replaceable, to adapt the wall holder of the wall-mounted dispenser according to the invention to different sizes of replaceable containers.

Preferably, the adapter consists of plastics in order to protect the replaceable container.

The locking mechanism can also be manufactured substantially from plastics. In addition to the fact that this in turn protects the container from damage, it also results in significant cost advantages in the manufacture of the wall-mounted dispenser or the wall mount thereof.

The upper holding element and preferably the entire upper mounting part and the lower holding element, and preferably the entire lower mounting part, can be manufactured as a stamped and bent part from sheet metal. This ensures a maximum stability of the wall mount with a cost-effective manufacturability.

An exemplary embodiment of a wall-mounted dispenser which is designed according to the invention is described and explained in more detail hereinafter with reference to the accompanying drawings. The present invention is not limited to this exemplary embodiment, however, even if the features described and shown can be essential to the invention.

In the drawings:

Figure 1 shows a wall-mounted dispenser designed according to the invention in a use position;

Figure 2 shows the wall-mounted dispenser of Figure 1 in a removal position;

Figure 3 shows a detailed side view of the illustration of Figure 1;

Figure 4 shows a detailed side view of the illustration of Figure 2.

The exemplary embodiment of a wall-mounted dispenser which is designed according to the invention, shown in Figure 1, substantially consists of a replaceable container 1 for a liquid detergent substance and a wall mount 2 for mounting the container 1 on a wall, in the present case in the vicinity of a sink or in a shower enclosure (not shown). Also shown in Figure 1 is a key element 3 which actually does not belong to the wall-mounted dispenser but is a separate add-on part which can be taken off therefrom. The present illustration is intended to illustrate merely where the separate key element 3 is placed in order to release a locking mechanism 4.

The container 1 is a pump dispenser of the commercially available type with a bottle 5 and a dispensing unit 6 positioned thereon. The dispensing unit 6 in the present case is screwed onto a thread (not visible here) on the neck of the bottle 5, and it contains a dosing pump known per se (also not visible) with an actuating head 7 which is provided with a dispensing spout 8 for the dosed removal of the liquid care product.

The wall mount 2 consists of an upper mounting part 9 and a lower mounting part 10 which both have been manufactured as a stamped and bent part from sheet metal. The upper mounting part 9 can be fixed to a wall via fastening means 11, only a bore and a counter-bearing for a screw thereof being shown here, while the lower mounting part 10 is movably fastened to the upper mounting part 9 via a rail 12.

The upper mounting part 9 on the upper face continues into an upper holding element 13 which in the present case is designed in two parts. The upper holding element 13 consists of a fork-shaped first shaped part 14 for positively receiving the dispensing unit 6 and a second shaped part 15 which is spaced apart therefrom and which in the shape of a fork in turn supports and guides the actuating head 7.

The first shaped part 14 in this case acts at the point of the container 1 at which the bottle 5 thereof widens downwardly from the bottle neck and the dispensing unit 6 into a step, so that the container 1 is also positively protected from being moved upwardly. This function is assisted by the second shaped part 15 of the upper holding element 13 being placed directly above a screw-on sleeve 16 of the dispensing unit 6 in which the actuating head 7 is guided. A step which prevents the container 1 from being able to be moved upwardly past the second shaped part 15 is also located here.

The lower mounting part 10 of the wall mount 2 continues into a lower holding element 17. This lower holding element is designed as a plate-shaped support for a base 18 of the bottle 5, so that the container 1 as a whole is merely positioned on the lower holding element 17 but does not have to be positively held thereby. Due to the present design of the upper holding element 13,

it is nevertheless impossible for the bottle 5 or the container 1 to be able to be removed to the side from the lower holding element 17 in a non-destructive manner.

The lower holding element 17 is finally provided with an adapter 19 which is manufactured in the present case from plastics for protecting the base 18 of the bottle 5. This adapter 19 can be replaced so that the wall mount 2 can be adapted to different sizes of bottle.

Figure 1 finally illustrates that at the point at which the lower mounting part 10 transitions into the lower holding element 17 and in this regard is angled back, the lower mounting part has a through-passage 20 through which two locking pins 21 engage.

The locking mechanism 4, which is explained in more detail hereinafter, is not visible in Figure 1 in every detail since it bears a cover 22 which not only improves the visual appearance but also protects the bottle 5 of the container 1. The latter function is ensured by the cover 22 which in turn consists of plastics.

Figure 2 shows the wall-mounted dispenser of Figure 1 in a slightly different perspective and namely in a removal position, which is different from the use position of Figure 1 in which the container 1 is held and secured, and in which the container 1 can be removed from the wall mount 2 and also re-inserted therein. The same elements are provided with identical reference signs so that reference can largely be made to the description of the Figures of Figure 1.

In the removal position shown in Figure 2, the upper mounting part 9 and the lower mounting part 10 are pulled apart so that the container 1, which continues to rest on the lower holding element 17 as a support, is released from the upper holding element 13. The second shaped part 15 entirely loses contact, while the first shaped part 14 due to its fork-shaped design enables the dispensing unit 6 or the actuating head 7 to be removed toward the front from the fork-shaped first shaped part 14. In the removal position shown, the container 1 can thus be removed very easily from the wall mount 2, while the wall mount 2 is nevertheless composed in a stable manner of the two mounting parts 9, 10 fastened together.

The lower and upper mounting parts 9, 10 are pulled apart by means of a rail 12 which is formed by the lower mounting part 10 and which can be moved in a guide 23. This guide is formed by the cover 22 and a rail element 24 which are both fixed to the upper mounting part 9.

In order to form the locking mechanism 4, the rail element 24 is provided with a resiliently deformable tongue 25, a latching element 26 being integrally formed at the end thereof.

As Figure 3 shows in detail - in a detailed side view of Figure 1 - the latching element 26 is latched in the use position in the through-passage 20 of the lower mounting part, wherein the latching element engages behind a latching edge 27 formed by the through-passage 20.

The width of the latching element 26 is selected such that in the removal position (see Figure 2) it fits in the recess of the rail 12 formed by the lower mounting part 10 and does not hinder a movement of the two mounting parts 9, 10 in relation to each other therein. The wedge shape of the latching element 26, in combination with a chamfer 28 above the through-passage 20 on or in the lower mounting part 10, ensures that when the mounting parts 9, 10 are pushed together, due to the resilient deformation of the tongue 25, the latching element 26 can slide along the lower mounting part 10 until when the use position is reached it is latched behind the latching edge 27 of the through-passage 20 in the lower mounting part 10 by the resilient restoring force of the tongue 25.

The key element 3 is able to slide by means of two actuating elements 29 (Figure 1) along the wedge-shaped profile of the latching element 26 and move this latching element out of engagement with the latching edge 27, due to the resilient deformation of the tongue 25. The actuating elements 29 are designed such that they fit in the intermediate spaces between the locking pins 21 and in this regard can be moved upwardly past these locking pins. Without this fit, the locking pins 21 prevent the latching element 26 from being able to be moved out of engagement with the latching edge 27 with any tool. The release of the locking device 4 can thus be undertaken only by observing the key-lock principle, i.e. it requires the appropriate key element 3.

The key element 3 has lateral guide elements 30 to the side adjacent to the actuating elements 29. These guide elements make it easier to guide the key element 3 in the correct position into the locking device 4 for releasing the locking device 4.

Figure 4 shows once again in a detailed side view the locking device 4 in the removal position of Figure 2. The same elements are provided with identical reference signs, so that once again reference can be made to the above Figures.

Figure 4 illustrates, in particular, how the cover 22 and the rail element 24 in cooperation form a guide 23 for the rail 12 of the lower mounting part 10 and how the resiliently deformable tongue can return into the resting position with the latching element 26 in the removal position. The key element 3 has no function in this removal position and is only shown for the sake of clarity.

Finally, it should be mentioned relative to Figures 3 and 4 that these Figures illustrate how the adapter 19 is located in the lower holding element 17 and that it can be replaced in a simple manner for another adapter. The shape of the adapter 19 shown here is adapted to the shape of the base 18 of the bottle 5 used here, so that a positive connection is produced against lateral movement due to the convex and concave surfaces. This additionally secures the container 1 in the wall mount 2 when it is in the use position. At the same time, when the wall mount 2 is opened, the container 1 is prevented from slipping out of the lower holding element 17.

List of Reference Signs:

1	Container
2	Wall mount
3	Key element
4	Locking mechanism
5	Bottle
6	Dispensing unit
7	Actuating head
8	Dispensing spout
9	Mounting part (upper)
10	Mounting part (lower)
11	Fastening means
12	Rail
13	Holding element (upper)
14	Shaped part (first)
15	Shaped part (second)
16	Screw-on sleeve
17	Holding element (lower)
18	Base (of 5)
19	Adapter
20	Through-passage
21	Locking pins
22	Cover
23	Guide
24	Rail element
25	Tongue
26	Latching element
27	Latching edge
28	Chamfer

29	Actuating element
30	Guide element

CLAIMS

1. A wall-mounted dispenser for supplying and removing a liquid, in particular a detergent substance or a care product for personal hygiene, said dispenser comprising a replaceable container (1) for the liquid and a wall mount (2) for mounting the wall-mounted dispenser on a structural facility, wherein the container (1) is provided with a dispensing unit (6) for the dosed removal of liquid from the container (1), and wherein the wall mount (2) comprises at least one upper holding element (13) and at least one lower holding element (17) for holding and securing the container (1),

characterized in that

the wall mount (2) consists of at least two mounting parts (9, 10) that can be moved or adjusted in relation to each other, wherein an upper mounting part (9) is securely connected to the upper holding element (13) and a lower mounting part (10) is securely connected to the lower holding element (17), respectively.

2. The wall-mounted dispenser as claimed in claim 1, characterized in that the upper mounting part (9) and the lower mounting part (10) can be moved in relation to each other between a pushed-together use position in which the container (1) is held and secured, and a pulled-apart removal position in which the container (1) can be removed from the wall mount (2) or inserted therein.

3. The wall-mounted dispenser as claimed in claim 2, characterized in that the upper mounting part (9) and/or the lower mounting part (10) are provided with a locking mechanism (4) in order to lock the upper mounting part (9) and the lower mounting part (10) in the use position.

4. The wall-mounted dispenser as claimed in claim 3, characterized in that the locking mechanism (4) can be released by means of a separate key element (3).

5. The wall-mounted dispenser as claimed in claim 4, characterized in that the locking mechanism (4) comprises a resilient tongue (25) and a latching element (26), wherein the latching element (26) is located on the resilient tongue (25) which is fastened to one of the upper or lower mounting parts (9, 10), and in the use position of the wall mount (2) engages in a latching manner behind a projection or a latching edge (27) on the other mounting part.

6. The wall-mounted dispenser as claimed in claim 4, characterized in that the locking mechanism (4) comprises a resilient tongue (25) and a latching element (26), wherein the latching element (26) is fastened to one of the upper or lower mounting parts (9, 10) and the resilient tongue (25) is fastened to the other mounting part, and wherein the tongue (25) is positively latched behind the latching element (26) in the use position of the wall mount (2).

7. The wall-mounted dispenser as claimed in claim 4 and one of claims 5 or 6, characterized in that the key element (3) is provided with at least one guide element (30) so as to be introduced into the wall mount (2) in the correct position, and with an actuating element (29) for moving the resilient tongue (25) counter to the resilient restoring force thereof.

8. The wall-mounted dispenser as claimed in at least one of claims 3 to 7, characterized in that the upper mounting part (9) and the lower mounting part (10) have an overlapping region at least in the use position of the wall mount (2), wherein the locking mechanism (4) is arranged in this overlapping region.

9. The wall-mounted dispenser as claimed in claim 8, characterized in that the fastening means (11) are provided for mounting the wall mount (2) on the structural facility and are arranged at least partially in the overlapping region of the upper and lower mounting parts (9, 10).

10. The wall-mounted dispenser as claimed in one of claims 8 or 9, characterized in that the overlapping region is provided with a cover (22) in the direction of the container (1).

11. The wall-mounted dispenser as claimed in at least one of claims 1 to 10, characterized in that the upper mounting part (9) and/or the lower mounting part (10) are provided with at least one rail (12), the two mounting parts (9, 10) being able to be moved in relation to each other along the rail.

12. The wall-mounted dispenser as claimed in at least one of claims 1 to 11, characterized in that the container (1) is a pump dispenser, with a bottle (5) and a dispensing unit (6) which is positioned thereon and which comprises a dosing pump with an actuating head (7) and a dispensing spout (8).

13. The wall-mounted dispenser as claimed in claim 12, characterized in that the upper holding element (13) of the wall mount (2) is a first shaped part (14) which is ring-shaped or fork-shaped for positively receiving the bottle (5), the bottle neck and/or the dispensing unit (6).

14. The wall-mounted dispenser as claimed in claim 13, characterized in that the upper holding element (13) of the wall mount (2) is also provided with a further second shaped part (15) which is spaced apart from the first shaped part (14) for supporting and/or guiding the actuating head (7) of the dispensing unit (6).

15. The wall-mounted dispenser as claimed in at least one of claims 1 to 14, characterized in that the upper holding element (13) and preferably the entire upper mounting part (9) is manufactured as a stamped and bent part from sheet metal.

16. The wall-mounted dispenser as claimed in at least one of claims 1 to 15, characterized in that the lower holding element (17) of the wall mount (2) forms a support for positioning a base of the container (1).

17. The wall-mounted dispenser as claimed in claim 16, characterized in that the support is designed to be plate-shaped, fork-shaped, disk-shaped, basket-shaped or pan-shaped.

18. The wall-mounted dispenser as claimed in one of claims 16 or 17, characterized in that the support is provided with an adapter (19) for receiving the base (18) of the container (1) or is prepared for such an adapter, wherein the adapter (19) preferably consists of plastics.

19. The wall-mounted dispenser as claimed in at least one of claims 1 to 18, characterized in that the lower holding element (17), and preferably the entire lower mounting part (10), is manufactured as a stamped and bent part from sheet metal.

20. The wall-mounted dispenser as claimed in at least one of claims 3 to 19, characterized in that the locking mechanism (4) is manufactured substantially from plastics.