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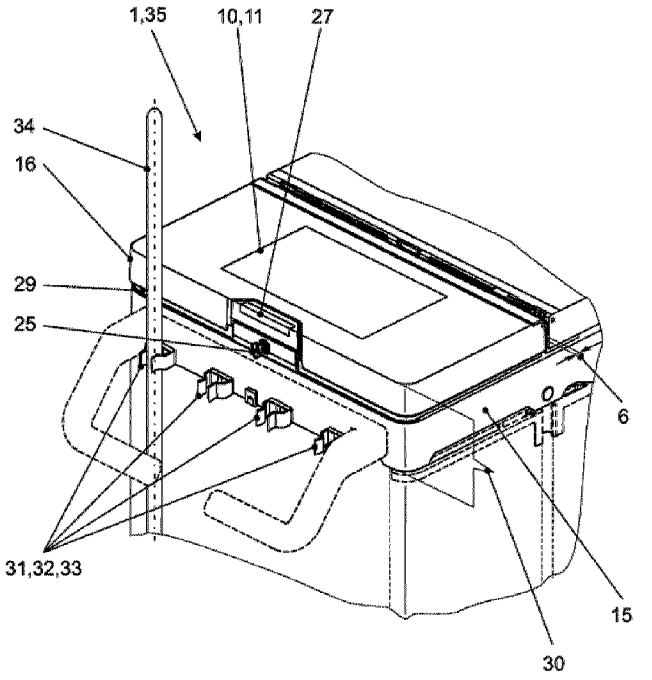

(57) Abrégé/Abstract:
The invention relates to a cleaning cart which comprises a support body (1) and a communication device holder (2) for receiving a mobile communication device (3), the communication device holder (2) being secured to the support body (1).

Abstract

The invention relates to a cleaning cart which comprises a support body (1) and a communication device holder (2) for receiving a mobile communication device (3), the communication device holder (2) being secured to the support body.

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CLEANING CART AND FRAME THEREFOR

Description

Technical field

The invention relates to a cleaning cart and a frame therefor.

Prior art

A cleaning cart is generally known in the art and is used for professional building cleaning, for example, wherein all cleaning utensils required for cleaning are contained in, or on, the cleaning cart.
These may normally include cleaning equipment, cleaning cloths and/or cleaning products, for example.

A cleaning cart has the advantage that a plurality of cleaning utensils can also be transported by the user in an energy-saving and convenient manner.
The cleaning itself and the use of the cleaning cart has hitherto taken place in an exclusively analog manner with the user of the cleaning cart statically working through his cleaning schedules on his own.

It is important to observe in this case, however, that there can be no digital communication between a cleaning headquarters and the cleaning cart and/or the user, for example. Even the rapid collection of information from the Internet which may be necessary to answer unexpected queries relating to the user's everyday working life, for example, has hitherto been functionally disconnected from the cleaning cart.

Presentation of the invention

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The problem addressed by the invention is that of developing a cleaning cart of the kind referred to above in such a manner that the user's work is made easier through digitization of the cleaning cart.

This problem may be solved according to one or more aspects and/or embodiments according to the present disclosure.

In order to solve the problem, a cleaning cart is provided comprising a support body and a communications equipment holder for receiving a mobile communications device, wherein the communications device holder is fixed to the support body.
The advantage of this is that the cleaning cart can be quickly and easily equipped with a mobile communications device, for example a tablet computer or a smart phone, and thereby digitized. The mobile communications device means that the cleaning cart is constantly online and the user of the cleaning cart is constantly able to communicate anywhere in the world. It may be that he sends communications to a cleaning headquarters, receives communications from a cleaning headquarters, and/or is connected to the Internet, so that cleaning utensils can be reordered directly where necessary or special cleaning instructions can be directly downloaded from the Internet, for example.
Suitable apps are installed on the communications device for this purpose.

The digitization of the cleaning cart by means of the mobile communications device held in the communications device holder makes it possible to prevent parts of buildings from being accidentally cleaned which are not even dirty, for example. The digitization of the cleaning

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cart also makes it possible to communicate the current location of the cleaning cart.

For example, the user may communicate with a cleaning headquarters in real time when cleaning utensils are running out, for example, or when a piece of cleaning equipment has to be repaired.

Cleaning carts and users can be sent in an automated and systematic manner to wherever their deployment is required.

The support body may have a two-shell design comprising a first outer shell and a second inner shell, wherein the first shell covers the second shell in a substantially dome-shaped manner, wherein the first shell and the second shell delimit an intermediate space, wherein the communications device holder is arranged in the intermediate space, and wherein the first and the second shell can be folded away from one another by means of a hinge in order to open up the intermediate space. The arrangement of the communications device holder in the intermediate space means that the mobile communications device held by the communications device holder is well protected from external influences. The intermediate space and the mobile communications device located therein are equally protected from exposure to impurities and/or dampness as from unauthorized access. It may be provided for this purpose, for example, that the intermediate space is sealed from the environment and/or can be locked by at least one lock.

The communications device holder may be connected to the first shell or to the second shell in a force-fitting and/or form-fitting manner. Hence, it is possible, for example, for the communications device holder to be formed from rubber bands, by means of which the mobile communications device is held on the inside of the first shell.

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It may be provided according to one embodiment that the support body and the communications device holder or the second shell and the communications device holder are each formed integrally merging into one another and of uniform material. This means that the cleaning cart design comprises a small number of parts.

According to another embodiment, the communications device holder may be configured as a separate component.

The communications device holder may be arranged on the side of the second shell facing the first shell. The communications device holder may comprise a cupped recess, for example, which is adapted to the shape of the mobile communications device being received.

The second shell may have an aperture or a recess in which the communications device holder is arranged. This means that the communications device holder is always in the same position and is connected to the second shell in a manner that makes it easy for the user to use.

The communications device holder may comprise an adapter for receiving different communications devices.
The communications device holder in this case may be adapted to a tablet computer which is being used or to a smartphone, for example.

The communications device holder is preferably arranged in the aperture or recess in the second shell in a substantially surface-flush manner. In this case, it is advantageous that there are no sharp-edged recesses or projections within the intermediate space and the user of the cleaning cart can deposit the mobile communications device being used in the communications device holder, or remove it from said communications

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device holder, particularly easily and safely. Moreover, the surface-flush arrangement of the communications device holder means that the intermediate space can be cleaned easily and thoroughly.

The first shell may have a transparent viewing panel which is substantially congruent with the communications device holder. The mobile communications device is visible from outside through the viewing panel when it is used as intended.
The transparent viewing panel may be tinted where necessary.
If, for example, a mobile communications device is arranged in the communications device holder of the cleaning cart, but is not switched on, the mobile communications device cannot be identified through the tinted transparent viewing panel. This means that the mobile communications device arranged in the intermediate space is better protected from unauthorized access or theft.

The mobile communications device in the communications device holder is only switched on when the cleaning cart is in use and it can be seen and/or used through the transparent viewing panel.

The viewing panel is preferably arranged in the first shell in a non-detachable manner. In this case, it is advantageous that the intermediate space is not accessible through the viewing panel. This also makes unauthorized access to the communications device more difficult. The intermediate space and the mobile communications device received in the communications device holder are only accessible when the first and the second shells are folded away from one another about the hinge.

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According to another embodiment, it may be provided that the viewing panel is arranged in the first shell in a force-fitting and/or form-fitting and non-destructively detachable manner. A mobile communications device may be mounted in the communications device holder in such a manner that the transparent viewing panel is initially removed from the first shell, the mobile communications device is then inserted into the communications device holder through the opening that has been created, and the viewing panel is then fitted again into the first shell, in order to close off the intermediate space and protect the mobile communications device from external influences. Opening the intermediate space in order to deposit the mobile communications device in the communications device holder is not necessary in a case like this.

The viewing panel may be connected to the first shell by a latching device.

The viewing panel may be configured as a touch-sensitive operating panel for operating the mobile communications device arranged in the communications device holder. The handling of the mobile communications device is thereby simplified to the greatest extent possible. The user of the cleaning cart can also operate the mobile communications device with damp and/or dirty fingers, without it being damaged. Direct contact with the mobile communications device by the user is prevented by the touch-sensitive operating panel.

The second shell may have at least one storage area for storing at least one peripheral unit of the communications device adjacent to the communications device holder. In this case, it is advantageous that the cleaning cart can be operated in a largely self-contained manner even during a prolonged period of use.

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A peripheral unit may be a power pack for the mobile communications device, for example, so that the function thereof can be guaranteed even when it is used frequently and/or over a prolonged period of time, for example when it is constantly online.

The storage area may have at least one peripheral unit holder for receiving the peripheral unit. In this peripheral unit holder, the peripheral unit corresponding to the communications device may be received in the communications device holder.
The communications device and peripheral unit may be received in the corresponding holders in a force-fitting and/or form-fitting manner. Unwanted sliding of the mobile communications device and of the peripheral unit in the respective holder is thereby prevented.

The second shell may have at least one storage area for further objects adjacent to the communications device holder. This storage area may be used to store a pen and paper thereon, for example. Other objects which the user of the cleaning cart may wish to carry with him, without carrying them on his person, can be placed thereupon and are arranged in the intermediate space in a captive manner, in the same way as the communications device and/or peripheral unit.

The support body may be configured as a cover for an upwardly open container, the first shell being the outer cover and the second shell the inner cover. The communications device holder thereby forms an integral part of the cover and therefore of the cleaning cart. As described in greater detail below, the outer cover can be moved into the open position along with the inner cover, in order to clear the opening of the container.
The hinged connection of the outer and inner cover means, moreover, that the intermediate space can be opened in

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order to make the communications device holder with the communications device accessible.

The cover can be moved into the open or closed position, where necessary, by means of a spring-damper system. It is advantageous in this case that the spring-damper system makes the cleaning cart substantially easier to handle. The cover can be moved into the open or closed position by the spring-damper system substantially automatically.

The spring-damper system may comprise end-position damping. It is advantageous in this case for the cover to travel into its end position in a damped manner. Unwanted noises or vibrations which could cause damage to the cleaning cart are thereby prevented.

According to an advantageous embodiment, it may be provided that the end position damping starts from a first opening angle of the cover $\geq 45°$. This means that the cover travels during opening from the start of the end position damping gently into its end position, irrespective of whether the cover is loaded with a mobile communications device or not.

The cover may have a second opening angle $\geq 90°$ which is delimited by a limit stop.
The second opening angle may be 90° to 95°. It is advantageous in this case that the opening of the upwardly open container is completely clear when the cover is open. This is an advantage that should be highlighted, particularly in the case of professional applications.

The limit stop may be arranged in at least one lateral cover side of the outer cover. There is therefore no need

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for a separately produced and fitted component for the limit stop.

The limit stop may be formed by a form fit. A design of this kind is simple and cost-effective to produce and functions in a maintenance-free manner over a long service life.

The outer cover may comprise a first lock for locking the cover in its closed position and/or the inner cover may comprise a second lock for locking the inner cover in the outer cover. The first lock in the outer cover locks the cover in its closed position on the container. Moreover, it is ensured that the intermediate space between the inner and the outer cover cannot be opened in an unauthorized manner, even if the entire cover is in the open position. The content located in the intermediate space is therefore protected from unwanted access from outside.
Even if the cover is in the open position, the second lock must be opened in order to gain access to the intermediate space.

According to an advantageous embodiment, it may be provided that the second lock is arranged after the first lock in a functional series connection. With an embodiment of this kind, in order to gain access to the intermediate space and the content located therein, particularly the mobile communications device, the first lock must be opened to begin with, so that the cover can be moved into the open position in respect of the container which is closed by it. Then, when the cover is open, the second lock must be unlocked in order to be able to fold the inner and outer cover away from one another. Only then is the intermediate space in which the communications device holder is located accessible. Expensive communications devices such as tablet

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computers, for example, and/or the confidential data stored on them are thereby particularly reliably protected from unauthorized access.

Simplified handling for the user of the cleaning cart may result from the outer cover preferably comprising a first unlocking mechanism, following the actuation of which the cover is automatically moved from its closed position as far as the limit stop into its open position by means of the spring-damper system when exposed to spring force. In this case, it is advantageous that the user can actuate the unlocking mechanism using his elbow. Following actuation of the unlocking mechanism, the cover automatically swings into the open position and completely opens up the opening in the container. It is not strictly necessary for the user of the cleaning cart to have his hands free in order to actuate the unlocking mechanism. Operation of the cleaning cart is thereby made easier.

The outer or the inner cover may comprise a second unlocking mechanism, following the actuation of which the intermediate space between the outer cover and the inner cover can be moved into the open position.

As previously described, this second unlocking mechanism can also be unlocked by the user's elbows.

In order to open the intermediate space, the user can use his fingers to release a snap-in hook which connects the two covers to one another.

The first unlocking mechanism may be configured as a spring-loaded snap-in latch which is unlocked simply by pressing and is automatically locked when the cover is moved into the closed position.

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The cleaning cart may comprise an upwardly open container and a support body or a cover, as described above in each case, wherein the support body or the cover can be connected to the upwardly open container by means of a frame.

The frame and the support body or the frame and the cover may form a preassemblable unit. In this case it is advantageous that the preassemblable unit can be fitted as a whole onto the upwardly open container and connected thereto. The preassemblable unit is particularly manageable in terms of size and weight. The user of the cleaning cart can remove the preassemblable unit from the container after finishing work and take it with him for evaluation at the cleaning headquarters, for example. At the cleaning headquarters, the mobile communications unit can be read and prepared for its next deployment, where appropriate.

Alternatively, the frame can be used once along with the cover and it engages with the upper frame of the cleaning cart via snap-in hooks. The cover frame is then released by unlocking the snap-in hooks, for example four or six of them, which are arranged around the circumference.

The frame and the support body or the frame and the cover may be connected to one another by means of the spring-damper system. Handling is thereby simplified, as already described.

The frame may have functional elements on the outer circumference which are preferably formed by holding clamps or hooks for cleaning utensils, for example.

Moreover, the invention relates to a frame, as previously described, for an upwardly open container of a cleaning cart.

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Existing analog cleaning carts with at least one upwardly open container can also be digitized subsequently by the frame according to the invention. Existing cleaning carts can be equipped easily and cost-effectively by simply replacing the frame.

Brief description of the drawing

An exemplary embodiment of the cleaning cart according to the invention is explained in greater detail below with the help of Figures 1 to 4.

These each show as a schematic representation:

Figure 1 an exemplary embodiment of a cleaning cart according to the invention as a perspective plan view,

Figure 2 the cleaning cart from Figure 1 with an accessible intermediate space in which a communications device holder with a mobile communications device is arranged,

Figure 3 the cleaning cart from Figure 2 with the cover completely folded open and the upwardly open container freely accessible,

Figure 4 a detail of the cleaning cart from Figure 1 which shows the limit stop of the cover.

Embodiment of the invention

An exemplary embodiment of the cleaning cart according to the invention is shown in Figures 1 to 4.

The support body 1 with its first outer shell 4 and its second inner shell 5 is formed in the exemplary

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embodiment shown by a cover 35 for an upwardly open container 15, wherein the first shell 4 is configured as the outer cover 16. The second shell 5 is configured as the inner cover 17.

Moreover, the cleaning cart comprises a communications device holder 2 for receiving a mobile communications device 3 which is in the form of a tablet computer in the exemplary embodiment shown, wherein the mobile communications device 3 is arranged in the communications device holder 2 in a captive manner.

The outer cover 16 and the inner cover 17 delimit an intermediate space 6 in which the communications device holder 2 and the communications device 3 are arranged. The intermediate space 6 is accessible on account of the outer cover 16 and the inner cover 17 being foldable away from one another about the hinge 7.

Figure 1 shows a plan view of the cleaning cart as a perspective representation. The cover 35 which comprises the outer cover 16 and the inner cover 17 is fastened to the frame 29 which is arranged and locked on the upwardly open container 15.

The outer cover 16 comprises a transparent viewing panel 10 which is configured as a touch-sensitive operating panel 11 for operating the communications device 3 which is arranged in the communications device holder 2 and cannot be seen here. The transparent viewing panel 10 may be tinted, for example, in such a manner that the mobile communications device is substantially hidden beneath the transparent viewing panel 10 when it is not in use. In this way, the communications device 3 is better protected from theft.

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The touch-sensitive operating panel 11 is in contact with the display of the mobile communications device which is immediately adjacent. Although the user does not have direct access to the display of the mobile communications device, actuation thereof by means of the touch-sensitive operating panel 11 is possible without any problems.

The outer cover 16 is provided with the first lock 25 for locking the cover 35 in the closed position shown here. Moreover, a second lock 26 is provided between the inner cover 17 and the outer cover 16.

The outer cover 16 and the inner cover 17 in Figure 2 are pivoted away from one another about the hinge 7 and the intermediate space 6 is freely accessible.
It can be seen in Figure 2 that the communications device holder 2 is arranged in a recess 9 in the inner cover 17 flush with the surface. To the left and right of the communications device holder 2, no longer covered by the viewing panel 10 when the intermediate space is closed, further storage areas 12 are provided for the storage of peripheral units 13 of the communications device 3, for example. The peripheral units 13 are also arranged in corresponding holders 14. Both the communications device 3 and the peripheral units 13 are thereby arranged within the intermediate space 6 in a non-slip manner.

Figure 3 shows the cleaning cart from Figure 2, wherein, however, the outer cover 16 and the inner cover 17 are fixed to one another by the second lock 26 and the intermediate space 6 is thereby closed.

By contrast, the first lock 25 is opened so that the cover 35 is in the open position overall. The upwardly open container 15 is thereby freely accessible.

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The cover 35 is held in its open position by the spring-damper system 18 which comprises the end position damping 19. The end position damping 19 in the exemplary embodiment shown here starts from a first opening angle 20 of 45°, irrespective of whether the cover 35 is fitted with a mobile communications device 3 or not.

From the first opening angle 20, the cover 35 moves in a damped manner into its end position, wherein the end position is delimited by a limit stop 22. In the exemplary embodiment shown, the cover 35 located in the end position forms a second opening angle 21 between the closed position which is shown in Figure 1 and the open position which is shown in Figure 3 which is slightly more than 90°.

Figure 4 shows a detail from one of the lateral cover sides 23, 24 in Figure 1. The limit stop 22 shown in Figure 4 is integrated in at least one lateral cover side 23, 24 of the outer cover 16. In the open position, as shown in Figure 3, the open cover 35 is held on the limit stop 22 by the spring-damper system 18 with elastic pretensioning in a form-fitting manner.

The outer cover 16 comprises the first unlocking mechanism 27, following the actuation of which the cover 35 automatically moves from its closed position as far as the limit stop 22 into its open position by means of the spring-damper system 18 when exposed to spring force. The intermediate space 6, by contrast, may be opened or closed by the second unlocking mechanism 28, wherein the second unlocking mechanism 28 forms an integral part of the outer cover 16 or the inner cover 17.
Both unlocking mechanisms 27, 28 should be as easy as possible for the user to actuate. For example, this can take place in that at least one of the unlocking mechanisms 27, 28 is configured as a spring-loaded snap-

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in hook which is unlocked simply by pressing. This unlocking can take place quickly and easily, for example, in that the user actuates the snap-in hook with his elbow. If, on the other hand, the cover should be closed, it is pressed by the user into the closed position. The spring-loaded snap-in hook then automatically closes the cover on the upwardly open container.

In the case of the cleaning cart which is shown, the frame 29 and the cover 35 form the preassemblable unit 30. This unit 30 may be fitted as a whole on the upwardly open container 15 and locked thereto.

By way of example, the container 35 is provided with functional elements 31 on the outer circumference which are formed by holding clamps 32 or hooks 33 in the exemplary embodiment shown here. In this way, cleaning equipment 34 can be accommodated on the cleaning cart, for example.

The digitized cleaning cart can be used to monitor cleaning quality, to keep an electronic log book or check lists, to complete or prepare forms and reports, to prepare and/or manage cleaning schedules electronically, to notify completion of the cleaning electronically and/or to transmit the site at which the cleaning cart is located to the cleaning headquarters.

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CLAIMS:

1. A cleaning cart comprising a support body and a communications equipment holder for receiving a mobile communications device, wherein the communications device holder is fixed to the support body;
wherein the support body has a two-shell design comprising an outer first shell and an inner second shell, wherein the first shell covers the second shell in a dome-shaped manner, wherein the first shell and the second shell delimit an intermediate space, wherein the communications device holder is arranged in the intermediate space, wherein the first and the second shell can be folded away from one another by means of a hinge in order to open up the intermediate space;
wherein a first shell has a transparent viewing panel which is congruent with the communications device holder; and
wherein the viewing panel is configured as a touch-sensitive operating panel for operating the communications device arranged in the communications device holder.

2. The cleaning cart as claimed in claim 1, wherein the communications device holder is connected to the first shell or to the second shell in at least one of a force-fitting manner and a form-fitting manner.

3. The cleaning cart as claimed in claim 2, wherein the communications device holder is connected to the first shell or to the second shell in both a force-fitting and form-fitting manner.

4. The cleaning cart as claimed in claim 1, wherein the support body and the communications device holder or the second shell and the communications device holder are each formed integrally merging into one another and of uniform material.

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5. The cleaning cart as claimed in any one of claims 1 to 4, wherein the communications device holder is arranged on the side of the second shell facing the first shell.

6. The cleaning cart as claimed in any one of claims 1 to 5, wherein the second shell has an aperture or a recess in which the communications device holder is arranged.

7. The cleaning cart as claimed in claim 6, wherein the communications device holder is arranged in the aperture or recess in a surface-flush manner.

8. The cleaning cart as claimed in any one of claims 1 to 7, wherein the viewing panel is arranged in the first shell in a non-detachable manner.

9. The cleaning cart as claimed in any one of claims 1 to 8, wherein the viewing panel is arranged in the first shell in at least one of a force-fitting manner and a form-fitting manner, and in a non-destructively detachable manner.

10. The cleaning cart as claimed in claim 9, wherein the viewing panel is arranged in the first shell in both a force-fitting and form-fitting manner.

11. The cleaning cart as claimed in claim 9 or 10, wherein the viewing panel is connected to the first shell by a latching device.

12. The cleaning cart as claimed in any one of claims 1 to 10, wherein the second shell has at least one storage area for storing at least one peripheral unit of the communications device adjacent to the communications device holder.

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13. The cleaning cart as claimed in claim 12, wherein the storage area has at least one peripheral unit holder for receiving the peripheral unit.

14. The cleaning cart as claimed in any one of claims 1 to 11, wherein the second shell has at least one storage area for storing further objects adjacent to the communications device holder.

15. The cleaning cart as claimed in any one of claims 1 to 14, wherein the support body is configured as a cover for an upwardly open container, the first shell being an outer cover and the second shell an inner cover.

16. The cleaning cart as claimed in claim 15, wherein the cover can be moved into the open or closed position, where necessary, by means of a spring-damper system.

17. The cleaning cart as claimed in claim 16, wherein the spring-damper system comprises end-position damping.

18. The cleaning cart as claimed in claim 17, wherein the end position damping starts from a first opening angle of the cover ≥ 45°.

19. The cleaning cart as claimed in any one of claims 15 to 18, wherein the cover has a second opening angle ≥ 90° which is delimited by a limit stop.

20. The cleaning cart as claimed in claim 19, wherein the second opening angle is 90° to 95°.

21. The cleaning cart as claimed in any one of claims 19 to 20, wherein the limit stop is arranged in at least one lateral cover side of the outer cover.

22. The cleaning cart as claimed in any one of claims 19 to 21, wherein the limit stop is formed by a form fit.

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23. The cleaning cart as claimed in any one of claims 15 to 22, wherein at least one of the outer cover comprises a first lock for locking the cover in its closed position, and the inner cover comprises a second lock for locking the inner cover in the outer cover.

24. The cleaning cart as claimed in claim 23, wherein both the outer cover comprises a first lock for locking the cover in its closed position and the inner cover comprises a second lock for locking the inner cover in the outer cover.

25. The cleaning cart as claimed in claim 23 or 24, wherein the second lock is arranged after the first lock in a functional series connection.

26. The cleaning cart as claimed in any one of claims 16 to 18, wherein the outer cover comprises a first unlocking mechanism, following the actuation of which the cover is automatically moved from its closed position as far as the limit stop into its open position by means of the spring-damper system when exposed to spring force.

27. The cleaning cart as claimed in any one of claims 15 to 26, wherein the outer or inner cover comprises a second unlocking mechanism, following the actuation of which the intermediate space between the outer cover and the inner cover can be moved into the open position.

28. The cleaning cart as claimed in any one of claims 26 or 27, wherein the first unlocking mechanism is configured as a spring-loaded snap-in latch which is unlocked simply by pressing and is automatically

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locked when the cover is moved into the closed position.

29. A cleaning cart, comprising:
a container that opens upwards by a frame; and
a support body or a cover for the container that opens upwards, the cover comprising an outer first shell and an inner second shell, the outer first shell comprising an outer cover and the inner second shell comprising an inner cover, wherein the support body or the cover is connectable to the container.

30. The cleaning cart as claimed in claim 29, wherein the frame and the support body or the frame and the cover form a preassemblable unit.

31. The cleaning cart as claimed in any one of claims 29 or 30, wherein the frame and the support body or the frame and the cover are connected to one another by means of a spring-damper system.

32. The cleaning cart as claimed in any one of claims 29 or 31, wherein the frame has functional elements on an outer circumference.

33. The cleaning cart as claimed in claim 32, wherein the functional elements are formed by holding clamps or hooks for cleaning utensils.

34. A frame for an upwardly open container of a cleaning cart as claimed in any one of claims 29 to 33.

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Fig. 1

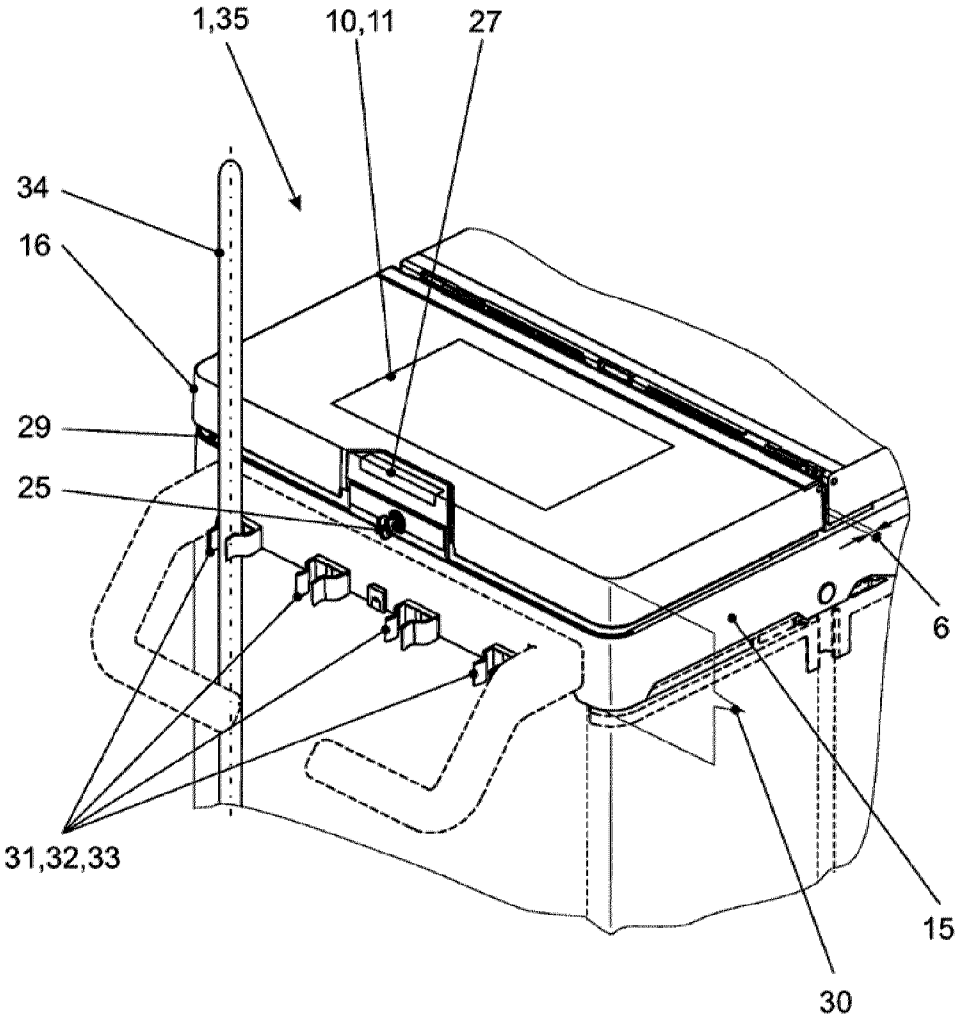

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Fig. 2

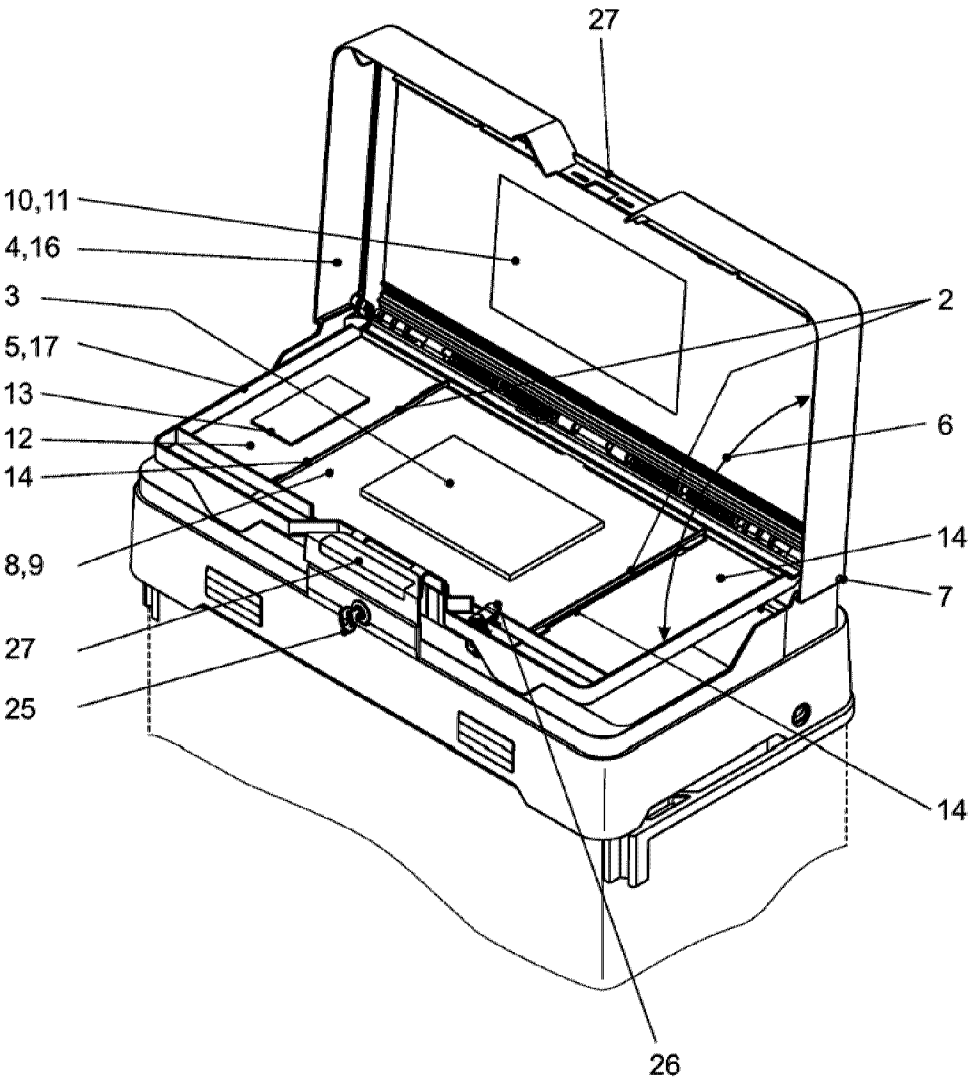
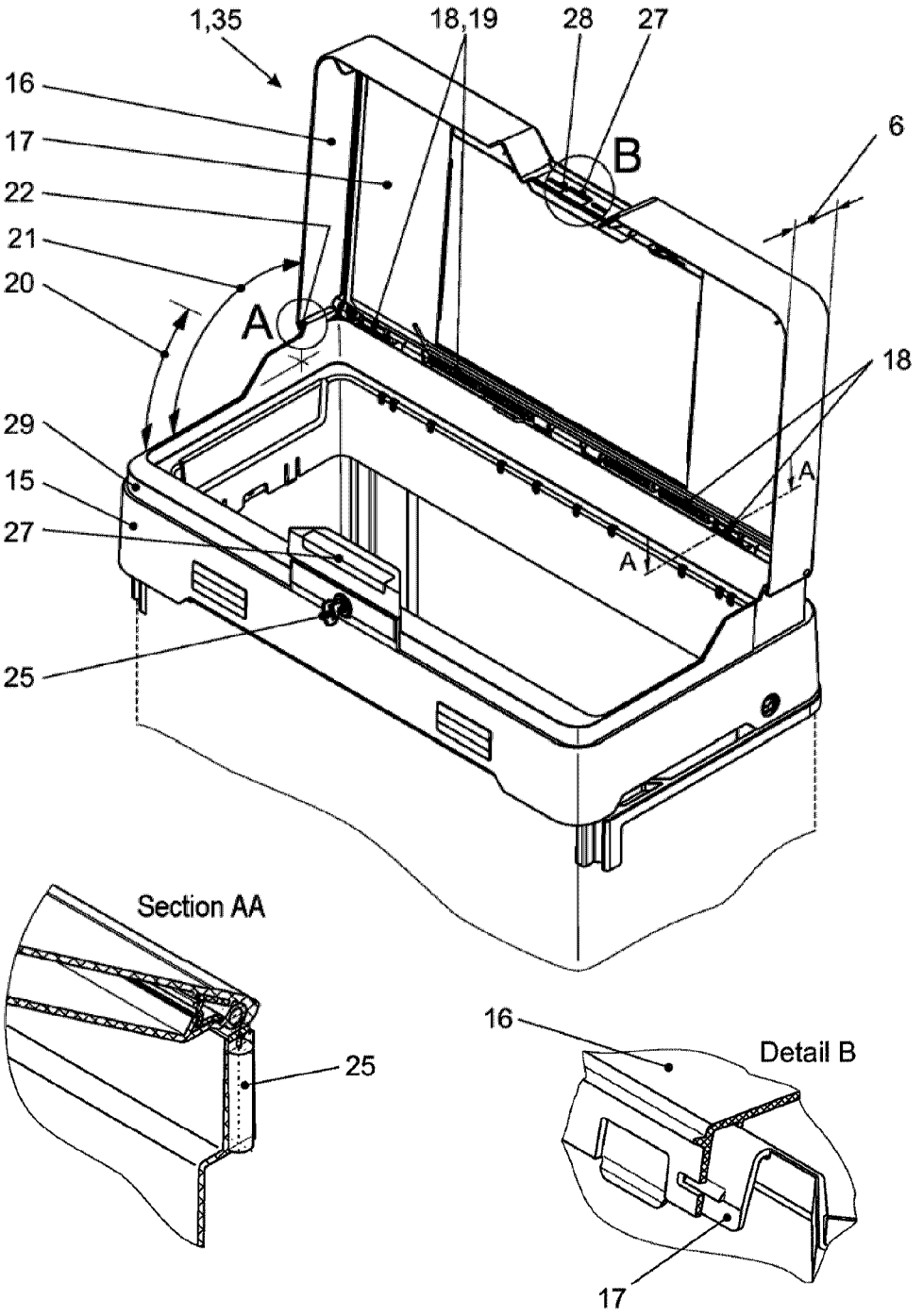


Fig. 3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Detail B
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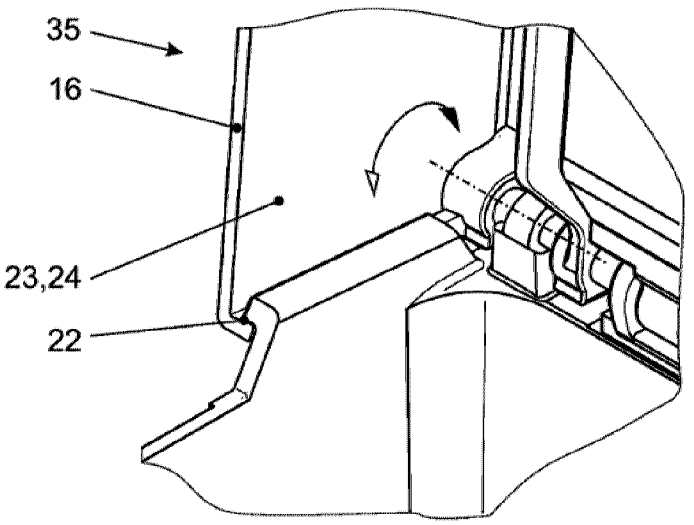
Fig. 4 Detail A (Fig.3)



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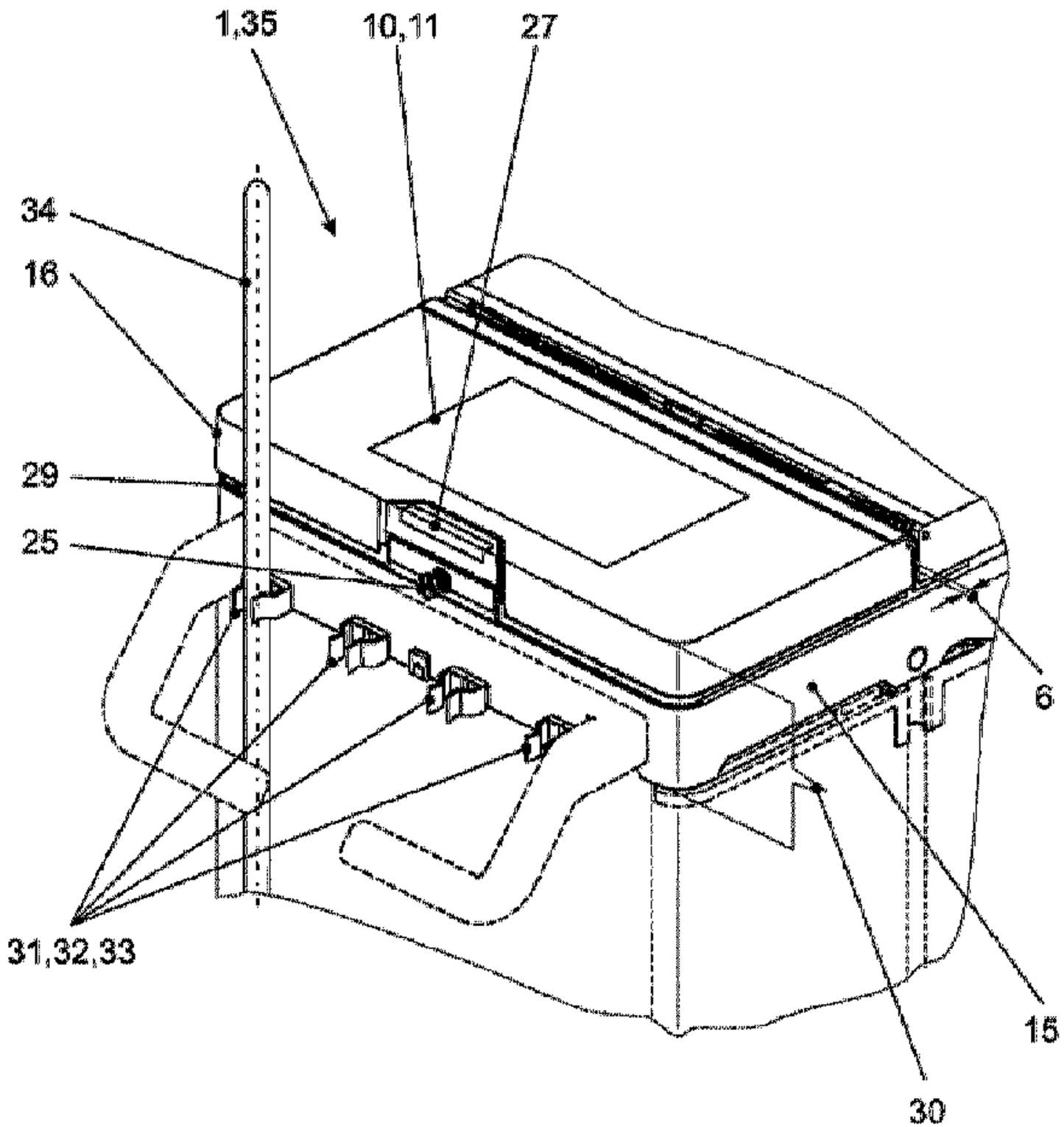
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