

DEVICE FOR UNLATCHING FOLDABLE SIDE WALLS OF BOXES OR CONTAINERS

The invention relates to a device for unlatching foldable side walls of boxes or containers, wherein the side walls are hinged to the base whose two opposite end walls can be latched to the adjacent side walls and the unlatching is carried out by lifting arcuate actuating handles mounted and guided, resiliently prestressed, on outer faces of the end walls, motion-redirecting means on two outer ends of the actuating handle having handle ends projecting upward in the lifting direction, the motion-redirecting means converting vertical movement of lifting of the actuating handle into a horizontal movement unlatching the side walls in that unlatching arms acting on spring-tongue latches of the side walls snapped into the end walls press them out of their engaged seat surrounding the end walls.

Collapsible containers with closeable removable openings on the end side are known generally for example EP1970315 and EP1935792. Nevertheless, through the generic-device known from an earlier application, the disadvantages of the containers known from, for example DE 91 13 549.4 or DE 101 37 328 [7, 011, 225] can be avoided, in that a system separation is rendered possible because the latching is always ensured by the latching means provided in the side walls adjacent the end walls and not dependent on a resilient biasing of the arcuate actuating handle. Due to the upstream motion redirection, the actuating handle only unlatches, but does not latch.

In any case the functionality of the container with foldable or collapsible walls can thus be ensured because even in the case of breakage or damage to the one-hand unlatching

mechanism, the latching of the raised walls is maintained unchanged. The unrestricted functionality applies likewise to the unlatching for collapsing the container walls, since the unlatching can be individually cancelled by hand even without the one-hand
5 latch. For this it is necessary merely to strike the end walls from outside, so that the latching means of the side walls slide out of the engagement seat.

Such foldable or collapsible containers are used for order picking of various goods in storage racks and external
10 logistics. The storage racks have several rack levels in which the order picking containers are stored. The containers of the lower to middle rack levels that are at eye level can be viewed easily by an operator. On the one hand it can thereby be recognized in good time how much content is still available in the container. On the
15 other hand, it is easy to reach into the containers to remove goods or to fill the containers with goods. The containers that are located in the upper levels, however, are usually difficult to view by the operator. Due to the high container wall, furthermore reaching into the container is additionally impeded. These
20 conditions have resulted in that in many rack systems the uppermost rack levels are often not stocked with containers. Instead, there is a distribution over the width of the middle to lower rack levels, which automatically lengthens the distances for an operator, productivity declines and in addition more rack width is
25 needed.

In practice, foldable or collapsible containers are known with which these disadvantages can be avoided by providing an order

picking opening. For this purpose virtually an entire end wall, apart from a surrounding frame, can be pivoted open about its hinges as a flap in the direction away from the container. However, as a result, other disadvantages then occur. The end wall pivoted away or folded up can cover or obscure a light fixture of the rack system and, moreover, it cannot be ruled out that the end wall or flap will open during transport, so that there is a risk that the container will jam during conveyance on an automatic transport system.

The object of the invention is therefore to create a container which, while utilizing and retaining the advantages of the subject matter of the main application, at the same time provides a unloading opening that meets all requirements without the described disadvantages of the containers known from the art.

This object is attained according to the invention in that the actuating handle is mounted on a sliding wall panel that can be displaced in an upwardly open cutout of the end wall in lateral guides of the wall cutout that extend vertically on the end wall into positions closing or exposing the wall cutout), and wherein the motion-redirecting means interacting with the handle ends of the actuating handle during displacement of the sliding wall panel in their assembly position in the end wall remain laterally adjacent the wall cutout. The sliding wall panel can thus adopt at least two different positions, namely the upper end position filling the wall cutout and thus closing the end wall or the container. On the other hand, in a lower end position, the wall cutout is exposed and thus there is unimpeded access to the

interior of the container, so that even with a container placed in an upper rack level, a free view is ensured and easy access to the contents is made possible.

When the sliding wall panel is in the lower end position, that is with free access to the interior of the container, according to the invention undesirable collapsing of the container is prevented in any case. The actuating handle namely has no contact to the unlatching elements remaining adjacent to the wall cutout in the end wall, which means the function as safety closure is unrestrictedly fulfilled. If, however, the container is to be collapsed for empty transport, the side wall panel needs only be pushed into the upper end position filling the wall cutout. In the sequence of motions of pushing upward, the one-hand actuating handle with its handle ends automatically comes into contact with the end wall-side unlatching elements, so that the latching or engagement seat thereof with the end walls is cancelled by raising just the actuating handle and as a result all of the container walls can be folded inward about their hinges.

According to a preferred embodiment of the invention, the handle ends are each formed with an actuating formation running at an angle to the vertical and engageable with complementarily angled U-shaped guides of unlatching elements mounted on the left and right in the end wall. When the actuating handle is actuated by hand, after the sliding wall panel is in the upper end position, the actuating formations of the handle ends automatically slide upward in the U-shaped profiles as a result of this lifting motion, and these parts are displaced relative to one another, by which

action the unlatching element is moved horizontally outward parallel to the side walls overlapping the end walls in one section in a skirt-like fashion. The conversion of motion from the vertical actuating-handle movement into horizontal movement of the unlatching element directed to the side wall is carried out via the angled surfaces of the actuating formations and the U-shaped guides being displaced toward one another, this engagement corresponding to a tongue and groove connection, so that as a result the end walls are unlatched from the side walls.

To accomplish this according to one proposal of the invention, the unlatching elements, starting from their U-shaped guides engageable with actuating formations, are each provided with an unlatching arm or unlatching tongue projecting from it horizontally and acting on spring tongues that are formed in the respective corners of the adjoining side walls, projecting against the end walls and locked therein. To unlatch the end walls, the spring tongues are pressed horizontally outward during vertical lifting of the actuating handle and the thus initiated motion redirection of the unlatching elements by the unlatching arms or unlatching tongues. The end walls thus unlatched can then be folded inward onto the base via their hinges connected to the base of the box or container and the side walls can then be folded thereover.

According to a further embodiment of the invention, each horizontal unlatching arm is formed with spring arms on its upper and its lower faces, the spring arms bearing in the horizontal and in the vertical direction on reinforcement ribs inside the end

wall. When the Arcuate actuating handle is released, the spring arms that are molded on in the transition region between the U-shaped guide of the unlatching element and the unlatching arm automatically return the unlatching element with the unlatching arm
5 to the starting position before unlatching due to the resetting forces created by the deformation of the spring arms during the prior vertical actuation of the actuating handle.

An advantageous proposal of the invention provides that the sliding wall panel has a flexible handle recess molded on its
10 lower end, which handle recess is formed with an overhang projecting inward into the container, which overhang, in the position closing the wall cutout, lies on the horizontal end edge of the wall cutout. As long as the overhang that is angled upward and outward in a wedge-shaped manner according to one embodiment of
15 the invention, bears against the end edge with its lower, wide wedge face, the position closing the wall cutout is secured.

If an operator then pulls on the handle recess advantageously mounted between two vertical slots in the sliding wall panel, the overhang clears the horizontal end edge, so that
20 the sliding wall panel can be displaced parallel to the end wall into a desired position.

The invention provides a stop mounted above the handle recess approximately in the center between the vertical slots, establishing the maximum freedom of movement of the handle recess
25 with tensile impingement. The handle recess thus cannot be overstretched, since the stop, which then bears against the sliding

wall panel with its upper end edge, blocks a further pulling away of the handle recess.

If preferably a recess in the end wall can receive the overhang in the lower end position of the sliding wall panel, not only is the overhang being permanently under stress avoided, that is, being permanently pushed forward, the sliding wall panel cannot be displaced unintentionally into another position either, for example when the container is held upside down or while shaken during transport on automatic conveyor paths.

According to one proposal of the invention, straight ridges orthogonal to the vertical slots on the inside of the sliding wall panel are provided at the height of the surface of the overhang bearing on the end edge of the wall cutout. These prevent the sliding wall panel, released by pulling on the handle recess from the horizontal end edge of the wall cutout, from sliding downward in a freely moveable manner. For displacement, the small ridge providing minimal resistance is overcome.

A further embodiment of the invention provides that the sliding wall panel has full-height guide grooves open inward and spaced apart from one another and aligned with respective vertical ribs formed on the outside of the end wall extending up to the lower edge thereof and engaging into the guide grooves. The lateral guides delimiting the wall cutout are hereby supported and tilting which can be caused, for example, by shaking during automatic conveyor path transport is avoided.

A preferred embodiment of the invention provides that the lateral guides of the end wall at the upper end of the wall cutout

are formed with respectively offset support shoulders facing toward one another and formed with downwardly open cavities into which can engage sliding wall lugs molded on the upper corners of the sliding wall panel in the raised end position. During the transport of loaded containers, which for this purpose are grasped by the handles in the side wall panels of the end walls, an optimal introduction of force and distribution of force can thus be achieved therewith.

According to one embodiment of the invention, one lateral guide is formed over part of its height below the wall cutout with an inset. The sliding wall panel can be preassembled with the actuating handle by being inserted in a one-sided manner into this inset providing a pocket-like free space and thereafter also inserted into the opposite lateral guide in the opposite direction.

It is proposed that the lateral guides and the sliding wall panel are provided with holes that in the raised end position of the side wall panel run flush for attachment of an antitamper seal. This sealing makes theft protection possible.

According to another proposal of the invention, the sliding wall panel is provided with throughgoing slots to accommodate mounting heads of the actuating handle. The opening widths which thus differ permit the insertion of the hook-shaped mounting heads, but subsequently prevent them from being able to exit from the recesses by themselves. If the container is collapsed and is then to be automatically assembled by a robot, the throughgoing slots can simultaneously serve as an engagement possibility for the robot in order to erect the end wall.

Further features and details of the invention are given by the claims and the following description of an embodiment of the invention shown in the drawings. Therein:

FIG. 1 is an overall perspective view of a container
5 according to the invention with erected and latched side walls viewed from an end wall, where each end wall has a sliding wall panel that is provided with an actuating handle of a one-hand latch;

FIG. 2 is a perspective front-view detail of FIG. 1 of a
10 container end wall, at the head end in longitudinal section;

FIG. 3 shows the end wall as in FIG. 2 with the sliding wall panel pushed down and exposing the container unloading opening;

FIG. 4 is a perspective end wall view of the complete
15 container with free unloading opening in the front end wall and sliding wall panel pushed into the lower end position;

FIG. 5 is a detail front view from outside of the sliding wall panel not equipped with the actuating handle of the one-hand latch, viewed;

FIG. 6 is a perspective view from inside of the sliding
20 wall panel equipped with the one-hand latch;

FIG. 7 is a perspective partial view of the container with the end wall in longitudinal section in the region of a lateral guide of the sliding wall panel; and

FIG. 8 is an inside detail view of the end wall with the
25 sliding wall panel in the upper end position.

FIG. 1 shows a container 1 having four side walls 2 through 5. The two side walls 2 and 3 as well as the two end walls 4 and 5 are mounted so they can be folded inward onto the container base 6. To this end, hinges 7 or hinge elements are molded onto the lower edges of the end walls 4 and 5 (see FIG. 8), via which the end walls 4 and 5 can be fitted to the container base 6 that has complementary hinge fittings. The side walls 2 and 3 are also provided on their lower edges with respective hinges 7 that fit with complementary hinge halves of the container base 6. The hinges of the side walls 2 and 3 are above the hinges 7 of the end walls 4 and 5 so that the side walls 2 and 3 can be folded down atop the end walls 4 and 5 that have been previously folded down onto the container base 6.

The corners of the side walls 2 and 3 are each formed with skirt-like offsets or flanges 8 slightly overlapping the side edges of the end walls 4 and 5. In the upright position, the end walls 4 and 5 bear outwardly against the flanges 8, fitting with locking ribs 23 projecting inward from the flanges 8, which locking ribs clamp around opposite rib-like counter-locking means of the end walls 4 and 5 (see also FIG. 4).

Where the side walls 2 and 3 meet the flanges 8, spring tongues 10 project from the flanges 8 of the side walls 2 and 3 toward the end walls 4 and 5 (see FIG. 4). When the end walls 4 and 5 are folded up or folded open, they are automatically latched as the spring tongues 10 snap into the side walls 2 and 3 or their flanges 8.

The end walls 4 and 5 are each formed with a cutout 24 (see FIGS. 3, 4 and 8) open at the top of the container and extending part-way down. Respective sliding wall panels 26 are held in lateral guides 25a and 25b delimiting the wall cutouts 24 and continuing to lower edges of the respective end walls 4 and 5 such that each wall panel can be displaced parallel to the respective end wall 4 and 5 between an upper position closing the respective wall cutout 24 and a lower position (FIGS. 3, 4) exposing the respective unloading opening for access to the interior of the container.

To this end, an actuating element 13 is mounted on the outer surface of each of the sliding wall panels 26 that is provided with horizontal reinforcement ribs 11 and with vertical reinforcement ribs 12, each actuating element being formed as an arcuate handle. This actuating handle 13, extending essentially over the full width of the wall cutout 24 between the lateral guides 25a and 25b, has handle ends 15 projecting vertically upward (see FIG. 5 and FIG. 6) and engaging in free spaces between the reinforcement ribs 11 and held thereby with engagement in the lateral guides 25a and 25b as well as guided therein also in the direction 14, that is the lift or movement direction.

The actuating handle 13 is formed at each of its two ends 15 with an actuating formation 16 projecting at an acute angle to the vertical. The actuating formations 16 in turn can engage complementarily angled U-shaped guides 17 of respective unlatching elements 18 on the right and left side of the wall cutout 24 in the end walls 4 and 5. The unlatching elements 18, starting from their

U-shaped guides 17 accommodating the actuating formations 16, are each provided with a horizontally extending unlatching arm 19. The unlatching arms 19 extend horizontally through the vertical reinforcement ribs 12 of the end walls 4 and 5 and, during an unlatching operation described in more detail below, act on the spring tongues 10 projecting toward the end walls 4 and 5.

The actuating handle 13, guided and held along the lower edge of a conventional grip 20 of the sliding wall panel 26, is resiliently biased downward by spring tabs 21 directed toward one another on the left and on the right on the actuating handle 13. These spring tabs 21 are braced at their free ends against a horizontal reinforcement rib 11 of the sliding wall panel 26 or are hooked therein.

The sliding wall panel 26 shown in detail in FIGS. 5 and 6 has a handle recess 28 made flexible by cutouts in the form of vertical slots 27, which handle recess is formed on its inner face (FIG. 6) with a wedge-shaped overhang 29 angled outward going upward. In the raised end position of the sliding wall panel 26 closing the wall cutout 24, this overhang bears with its lower edge 30 against an edge 31 of the wall cutout 24. By gripping under or engaging into the handle recess 28, it can be pulled forward and the overhang 29 can thus be pulled away from the end edge 31 so that the sliding wall panel 26 thereafter can be displaced into its lower end position exposing the wall cutout 24. On the outside of the sliding wall panel 26, a stop 44 in the center between the vertical slots 27 extends from an upper edge of the handle recess 28 upward with approximately the length of the vertical slots.

This forms a stop restricting the flexibility of the handle recess 28 and limits the movement thereof forward. The handle recess thus cannot be overextended.

To assist the lateral guides 25a and 25b during
5 displacement movements, inwardly open guide grooves 32 provided on the sliding wall panel 26 are engaged by respective vertical ribs 33 formed on the outside of the end walls 4 and 5 extending to lower edges thereof. A recess 34 in the end wall receives the overhang 29 in the lower end position of the sliding wall panel 26.
10 The overhang 29 or the handle recess 28 is thus not permanently stressed, which means material fatigue effects can be avoided. Furthermore, the recess 34 prevents the sliding wall panel 26, located in the lower end position, from automatically moving into the upper end position when the container 1 is inverted.
15 Furthermore, this makes it possible to prevent the sliding wall panel 26 from being pushed up or tilted by shaking on automatic conveyors such as are conventionally used in automatic small-parts stores. The guide grooves 32 also counteract tilting with the vertical ribs 33 engaged therein.

20 The sliding wall panel 26 has sliding wall lugs 35 formed as pins projecting upward from its upper corners and fitting lugs in the raised end position of the sliding wall panel 26 into cavities or openings of the respective lateral guides 25a and 25b of the end walls 4 and 5 adjacent the wall cutout 24 (see FIG. 2).
25 To this end, the end walls 4 and 5 are provided on sides of the upper portion of the wall cutout 24 with respective offset support shoulders 36 facing toward one another projecting somewhat into the

wall cutout 24 (see also FIG. 8) that at the same time are also part of the lateral guides 25a and 25b. The offset support shoulders 36 distribute forces during handling of the container 1 under load from the sliding wall panel 26 into the end wall 4 and 5 that is thus stabilized. Not only are tensile forces absorbed that occur during carrying of the container, but also the pressure occurring on the upper edge of the container when several containers are stacked on top of or above one another.

The sliding wall panel 26 furthermore has parallel spaced and throughgoing slots 37 into which hook-shaped mounting heads 38 of the Arcuate actuating handle 13 are engaged during preassembly of the sliding wall panel 26 (see FIG. 6). When the actuating handle 13 is inserted with the mounting heads 38 into the throughgoing slots 37 it cannot fall out.

The sliding wall panel 26 is furthermore provided in the guides 25a and 25b of the end walls 4 and 5 with holes 39 in which antitamper seals 40 (see FIG. 7) can engage that also fit in the raised end position of the sliding wall panel 26 in holes 41 (see 4). When several filled containers are stacked one above the other in a rack, the antitamper seals provides theft protection. Unauthorized persons cannot in fact easily displace the sliding wall panel 26 into the opened end position with free access to the interior of the container. This would require removal of the seal 40, which cannot be carried out without leaving proof of tampering.

For installation of the sliding wall panel 26 into the respective end wall 4 and 5, one of the lateral guides 25a and 25b is formed with an inset 42 shown in FIG. 7 on the lateral guide

25a. This inset 42 provides in the lateral guide 25a a pocket-like free space into which one vertical edge of the sliding wall panel 26 can be inserted with its guide profile facing toward the lateral guide 25a. The sliding wall panel 26 can thereafter be snapped by means of an opposite movement with the other guide profile of its other vertical edge into the other lateral guide 25b, whereby the sliding wall panel 26 is accommodated on both sides by the lateral guides 25a and 25b. The inset 42 extends only over a limited length of the lateral guide 25a, which ensures that the sliding wall panel 26 in the two end positions or also in intermediate positions is held in the lateral guides 25a and 25b without play. During sliding of the sliding wall panel 26, furthermore, the vertical ribs 33 of the end wall 4 and 5 accommodated in the guide grooves 32 of the sliding wall panel 26 reduce tolerances and tilting.

The wedge-shaped overhang 29 bears on the horizontal end edge 31 of the end walls 4 and 5 in the upper end position of the sliding wall panel 26 closing the wall cutouts 24 of the container 1. To expose a wall cutout 24, the handle recess 28 is pulled forward until the overhang 29 is spaced from the end edge 31. To prevent the sliding wall panel 26 from automatically sliding into the lower end position, there are slightly projecting ribs 43 (see FIG. 6) extending on both sides of the handle recess 28 at the level of the underside of the wedge 30 orthogonally to the vertical slots 27. They provide minimal resistance preventing automatic slipping. This resistance can be overcome by a small application of force, so that the sliding wall panel 26 subsequently can be

displaced into the lower end position or into an intermediate position in a manually controlled manner. The actuating formations 16 of the handle ends 15 of the actuating handle 13 thereby slide out of the U-shaped guides 17 of the unlatching arm or the unlatching tongue 19 of the other parts of the motion-redirecting means remaining in the end wall.

To close the wall cutout 24 again, the sliding wall panel 26 needs only to be pulled upward, and as soon as the overhang 29 has moved above the horizontal end edge 31 of the wall cutout 24, while at the same time the handle ends 15 of the actuating handle 13 with their angled actuating formations 16 engage again into the U-shaped guide 17 of the motion-redirecting means, the overhang 29 automatically adopts its position projecting over the end edge 31 and holding the sliding wall panel 26 in position.

If the container walls are to be collapsed, however, in the closed end position of the sliding wall panels 26 in order to fold down the end walls 4 and 5 onto the container base 6 it is necessary to unlatch of the snap connection with the side walls 2 and 3 by lifting the actuating handle 13 by hand (in the upward direction 14 of FIG. 1). The actuating formations 16 accommodated fitting in the U-shaped guides 17 then slide upward, whereby associated therewith the unlatching element 18 with the unlatching arm 19 is deflected horizontally in the direction of the spring tongues 10. As a result, the spring tongues 10 are pressed outward and the end walls 4 and 5 are unlatched. When the actuating handle 13 is released, it is automatically pressed downward into the starting position by the resetting force of the prestressed spring

tabs 21. At the same time an automatic return of the unlatching arms 19 takes place via spring arms 22 molded above and below the unlatching element 18 and supported on vertical reinforcement ribs 12, interacting with the spring tabs 21 of the actuating handle 13, so that the end walls [Translator's note: from DE 10 2009 033 108] snap in and automatically latch with the spring tongues 10 when the end walls are again swung up.

List of reference numbers

1	Container/box	23	Locking rib
2	Side wall	24	Wall cutout
3	Side wall	25a and 25b	Lateral guide
4	End wall	26	Sliding wall element
5	End wall	27	Vertical slot
6	Container base	28	Handle recess
7	Hinge	29	Overhang
8	Flange (chamfer)	30	Wedge lower edge
9		31	End edge
10	Spring-tongue-like latching means/spring tongues	32	Guide groove
11	Horizontal reinforcement rib	33	Vertical rib
12	Vertical reinforcement rib	34	Recess
13	Actuating handle	35	Sliding wall lug
14	Lifting direction	36	Offset support shoulder
15	Actuating handle end/handle end	37	Throughgoing slots
16	Actuating formation (part of a motion-redirecting means)	38	Mounting heads
17	U-shaped guide (another part of a motion-redirecting means)	39	Hole (of the sliding wall opening)
18	Unlatching element	40	Seal
19	Unlatching arm/tongue	41	Hole (of the end wall)
20	Handle	42	Inset
21	Spring tab	43	Ridge
22	Spring arm	44	Stop

Claims

1. A device for unlatching foldable side walls (2 through 5) of boxes or containers (1), wherein the side walls are hinged to the base (6) whose two opposite end walls (4, 5) can be latched to the adjacent side walls (2, 3) and the unlatching is carried out by lifting arcuate actuating handles (13) mounted and guided, resiliently prestressed, on outer faces of the end walls (4, 5), motion-redirecting means (16, 17) on two outer ends of the actuating handle (13) having handle ends (15) projecting upward in the lifting direction (14), characterised in that the motion-redirecting means converting vertical movement of lifting of the actuating handle (13) into a horizontal movement unlatching the side walls in that unlatching arms (19) acting on spring-tongue latches (10) of the side walls (4, 5) snapped into the end walls (2, 3) press them out of their engaged seat surrounding the end walls (2, 3), the actuating handle (13) is mounted on a sliding wall panel (26) that can be displaced in an upwardly open cutout (24) of the end wall (4, 5) in lateral guides (25a, 25b) of the wall cutout (24) that extend vertically on the end wall (4, 5) into positions closing or exposing the wall cutout (24), and wherein the motion-redirecting means (17, 18, 19) interacting with the handle ends (15) of the actuating handle (13) during displacement of the sliding wall panel (26) in their assembly position in the end wall (4, 5) remain laterally adjacent the wall cutout (24).
2. The device according to claim 1, characterized in that the handle ends (15) are formed with respective actuating formations (16) extending at an angle to the vertical and engageable with complementarily angled U-shaped guides (17) of unlatching elements (18) mounted on the left and right next to the wall cutout (24).
3. The device according to claim 2, characterized in that the unlatching elements (18), starting from their U-shaped guides (17) accommodating the actuating formations (16), are provided with unlatching arms (19) projecting horizontally and acting on spring tongues (10) that are formed in respective corners of the adjoining side walls (2, 3) and lock into the end walls (4, 5).
4. The device according to claim 3, characterized in that the horizontal unlatching arm (19) is formed with spring arms (22) on its upper and lower faces, the spring arms (22) bearing on reinforcement ribs (11, 12) inside the end wall (4, 5).

5. The device according to one of claims 1 through 4, characterized in that the sliding wall panel (26) are unitarily formed at their lower edges with respective flexible handle recesses (28) each formed with an overhang (29) directed inwardly into the container and, in a position closing the wall cutout (24), sitting on a horizontal end edge (31) of the wall cutout (24).
6. The device according to claim 5, characterized in that the overhang (29) is angled upward and outward in a wedge-shaped manner.
7. The device according to claim 5 or 6, characterized in that the handle recess (28) is above outer horizontally spaced vertical slots (27) formed in the sliding wall panel (26).
8. The device according to one of claims 5 through 7, characterized by a stop (44) mounted above the handle recess (28) approximately in the center between the vertical slots (27), establishing the maximum freedom of movement of the handle recess (28) with tensile impingement.
9. The device according to one of claims 5 through 8, characterized in that a recess (34) in the end wall (4, 5) can receive the overhang (29) in the lower end position of the sliding wall panel (26).
10. The device according to one of claims 5 through 9, characterized by straight ridges (43) on the inside of the sliding wall panel (26) orthogonally to the vertical slots (27) provided at the height of the surface of the overhang (29) bearing on the end edge (31) of the wall cutout (24).
11. The device according to one of claims 1 through 10, characterized in that the sliding wall panel (26) over its entire height has guide grooves (32) opening inward and spaced apart from one another aligned with vertical ribs (33) formed on the outside of the end wall (4, 5) extending up to the lower edge thereof and engaging into the guide grooves (32).
12. The device according to one of claims 1 through 11, characterized in that the lateral guides (25a, 25b) of the end wall (4, 5) at the upper end of the wall cutout (24) are formed

with respective offset support shoulders (36) facing toward one another and have downwardly open cavities into which sliding wall lugs (35) molded projecting upward from the upper corners of the sliding wall panel (26) can engage in the raised end position.

13. The device according to one of claims 1 through 12, characterized in that one lateral guide (25a) is formed over part of its height below the wall cutout (24) with an inset (42).

14. The device according to one of claims 1 through 13, characterized in that the lateral guides (25a, 25b) and the sliding wall panel (26) are provided with holes (39, 41) that in the raised end position of the side wall panel (26) are aligned for attachment of an antitamper seal (40).

15. The device according to one of claims 1 through 14, characterized by throughgoing slots (37) of the sliding wall panel (26) that accommodate mounting heads (38) of the actuating handle (13).