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LATCH MECHANISM FOR DOUBLE-COVERED CONTAINERS

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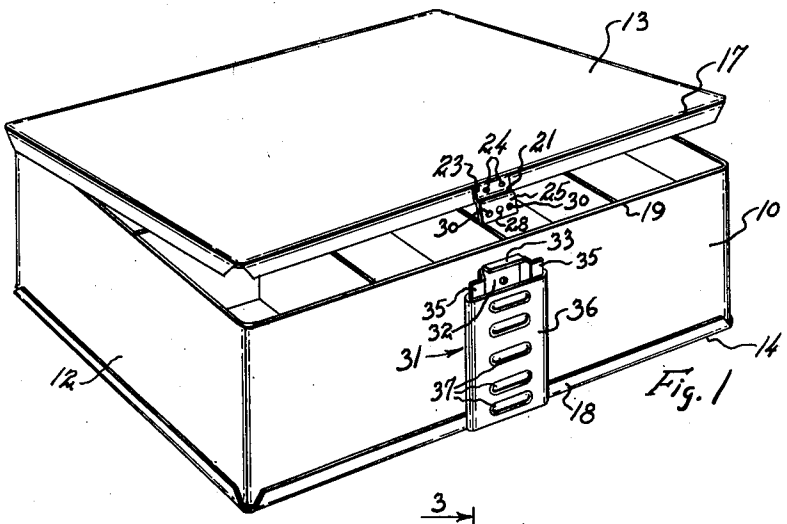


Fig. 1

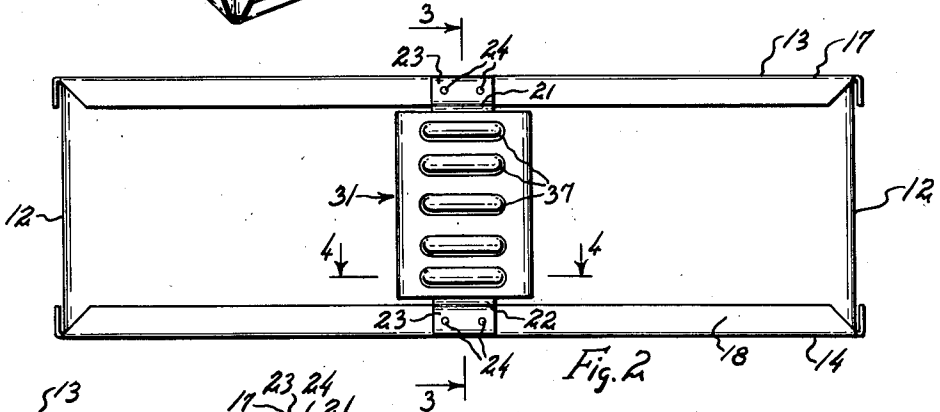


Fig. 2

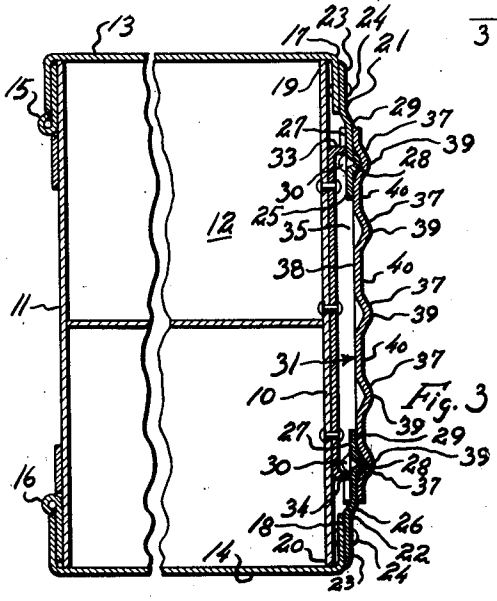


Fig. 3

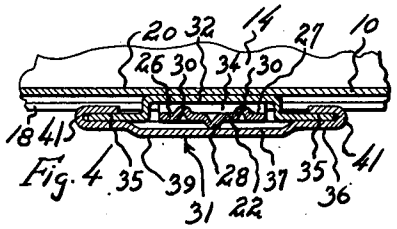


Fig. 4

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LATCH MECHANISM FOR DOUBLE-COVERED CONTAINERS

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5 Claims. (Cl. 220—32)

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This invention relates to a double-covered container and more particularly to a latch mechanism therefor.

It is an important object of the invention to provide a novel and simple latch mechanism for a container or box having open and opposed ends and a hingedly mounted cover for each of said open ends.

Another object of the invention is to provide means to prevent the contents of a double-covered box from becoming accidently spilled when one of said covers is used as the bottom of the box.

More specifically, it is on object of the invention to provide a latch device having efficient triple function in maintaining both covers of a double-covered box in locked condition, maintaining one cover as the bottom of the container in locked condition with the other in releasably contained condition, and finally maintaining the other cover as the bottom thereof in locked condition and the first mentioned cover in releasably retained condition.

It is still another object to provide a latch device of the class described in which a single manually engageable element will perform the above noted multiple functions.

These and other objects and advantages of my invention will more fully appear from the following description made in connection with the accompanying drawings wherein like reference characters refer to similar parts throughout the several views and in which:

Fig. 1 is a perspective view of a container bearing my double latching device, the device being set for releasably opening the top cover thereof;

Fig. 2 is a front elevation of a container with the double latch device in medial or completely locked position;

Fig. 3 is a segmented view in vertical enlarged section of the box and latching device taken on the line 3—3 of Fig. 2; and

Fig. 4 is a fragmentary enlarged horizontal section of the latch mechanism taken on the line 4—4 of Fig. 2.

Referring now more particularly to the drawing, the container or box which is adapted for use with my invention is an open-ended structure having a front wall 10, a rear wall 11, side walls 12, a first cover 13 and a second cover 14. The covers 13 and 14 are hingedly mounted at 15 and 16 respectively to the rear wall 11 as shown in Fig. 3. The front edges or margins 17 and 18 on the covers 13 and 14 respectively therefore come

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into abutment with edges 19 and 20 as shown in Figs. 1 and 3. The covers 13 and 14 thus simulate to some extent the covers of a book, the forward edges being movable in converging direction to close the ends of the container. The container may be horizontally disposed as shown in Fig. 1 or may take the form of a vertical container such as a filing box (not shown). Furthermore, the internal structure of the box or container may have special structure such as the double compartmented box described in my copending application Serial Number 243,535 filed August 24, 1951.

More particularly, my invention constitutes a double latching device for open-ended containers of the class described, the latching device being mountable upon the box between the forward converging edges of the covers to effect a simultaneous locking or a selective locking of one cover and releasable retention of the other.

A retaining and locking member such as resilient latch 21 is secured to the cover 13 at the marginal edge 17 as shown in Fig. 1. Similarly, another retaining and locking member 22 is secured in complementary relation to the marginal edge 18 of the cover 14. Each of the resilient latches has an attaching area 23 which may be secured by suitable means such as rivets 24 to their respective covers. The latch 21 has an outwardly and downwardly extending portion 25 while the resilient latch 22 has an upstanding and outwardly offset portion 26 as shown in Fig. 3. Each of the depending and upstanding portions 25 and 26 in turn has an outer surface 29 with a raised offset or boss 28, and each has an inner surface 27 with a raised offset or boss 30 extending inwardly therefrom.

Adapted to cooperate with the foregoing retaining and locking members 21 and 22 is a manually operable member 31 as shown in Fig. 1. Manually operable member 31 may comprise a base 32 mounted transversely of the covers 13 and 14 on the front of the box or container 10 and equipped with outstanding flanges or detents 33 for cooperation with the latch 21 and 34 for cooperation with latch 22 as shown in detail in Fig. 3. The base 32 further may be equipped with outwardly spaced flange members 35 which form a track or guideway for a reciprocable shield 36. The shield 36 in turn may have bent over side edges 41 which are adapted to encase the tracks or guideways 35 and render the shield slidable in an upward and downward direction as shown in Figs. 1, 2, and 3. The reciprocable shield 36 has indented areas 37 which are concavely formed

in the surface 38 which is adapted to face towards the outer surface of front wall 10. The indentations are so formed as to cooperate resiliently with the raised offsets or bosses 28 formed at the outer surface of the resilient latch members 21 and 22. While the inner raised offsets 30 of the latch members 21 and 22 are adapted to resiliently engage the outstanding detent portions 33 and 34.

In the use and operation of my double latching device, the resilient latch members 21 and 22 are secured to the marginal edges 17 and 18 of the covers 13 and 14 in a box or container of the class described. The manual cooperating element 31 is similarly secured to the front face 19 of the box or container with the detent portions 33 and 34 in position to be engaged by the inner raised offsets or bosses 30 on their respective latch members 21 and 22. When thus engaged, both of the covers 13 and 14 are closed as shown in Figs. 2 and 3. The reciprocable shield is then slidably adjusted on the track or guideway 35 so that outer indentations 37 will engage the raised offsets or bosses 28 formed at the outer surface 29 of latch members 21 and 22. This is the medial or fully locked position of the box as shown in Fig. 3. Neither of the covers 13 or 14 may be opened when the shield 36 is in such medial position.

Now, however, when it is desired to open one side of the box, as for example with cover 13 constituting the top of the box, the reciprocable shield 36 is manually lowered to the position shown in Fig. 1. It is to be noted that where the indentations 37 are formed by stamping in sheet material, a corresponding raised portion 39 is formed at the outer surface 40 of the shield 36 and conveniently creates a ribbing effect which maintains good contact between the thumb of a user and the shield during reciprocation.

With the shield 36 in the lowermost position as shown in Fig. 1, the raised offset portion 28 of latch 21 becomes disengaged while the raised offset 28 of latch 22 is maintained in engagement with another indentation 37 at the inner surface of the shield 36. Thus, the resilient latch 22 remains locked together with its cover 14 while cover 13 becomes releasably engaged through its inwardly facing offset or boss means 30. Since the latches 21 and 22 are resilient in nature, the offset portions will slide over the detent 33 when slight pressure is applied to the marginal edge 17 of cover 13.

Where it is desired to gain access to the opposite side of the box through cover 14, the cover 13 is again closed, the reciprocable shield 36 slid through its medial full locking position to engagement with the upper latch 21 of Fig. 1 and to expose the lower resilient latch 22 for similar releasable opening. The box is then inverted and pressure applied to the marginal edge 18 of cover 14 to effect opening of the other end of the box. With the reciprocable shield 36 in one of its three operative positions it will be observed that it is impossible to open both covers at one time. Since one of the indentations 37 will be so engaged with the offset 28 of at least one of the latches as to render the resilient latch incapable of springing outwardly over the respective detent 33 fixed to the face 19 of the box.

It may thus be seen that I have devised an extremely simple and useful latch mechanism for double compartmented boxes which will prevent the simultaneous opening of both sides of a box thus preventing the accidental spilling of the contents of one side while the other is being used.

It will, of course, be understood that various changes may be made in the form, details, arrangement and proportions of the parts without departing from the scope of my invention.

What I claim is:

1. Latch mechanism for a box having opposed covers swingable convergently to closed position in contact with the edges of a front wall of said box, said mechanism comprising a resilient latch member securable to each of said covers and adapted to closely overlie a portion of said front wall, detent means securable to said front wall for releasably retaining both of said resilient latch members and their respective covers in closed position, and a unitary locking means overlying said detent means whereby to cooperatively lock both of said latch members and their respective covers and slidable to uncover one of said latch members and condition its associated cover for opening while maintaining the other latch member and its associated cover in locked condition.

2. A double latching device for an open-ended container of the type having a front wall, a rear wall, and opposed covers hinged at the rear of the container and swingable convergently toward each other at the front of the container to close said open ends, said device comprising a pair of retaining and locking members for resiliently securing respectively to the forward edges of said covers and for extending laterally therefrom to overlie the front of said box when in closed position, the resilient members each having an offset surface, a pair of detents for securing at the front of the box and adapted to be respectively engaged in sliding contact by the resilient members and to releasably hold each cover in closed position with said offset in engagement with the detent, and means reciprocably mountable at a medial position in locking engagement with both of said resilient members and movable laterally with respect to said covers to a position closer to one of said covers to maintain the resilient member of said one cover in locked condition while simultaneously conditioning the other member for releasably opening said other cover.

3. A double latching device for an open-ended container of the type having a front wall, a rear wall, and opposed covers hinged at the rear of the container and swingable convergently toward each other at the front of the container to close said open ends, said device comprising a pair of retaining and locking members for resiliently securing respectively to the forward edges of said covers and for extending laterally therefrom to overlie the front of said box when in closed position, said resilient members each having an offset surface, a pair of detents securable at the front of the box and adapted to be respectively engaged in sliding contact by the resilient members and to releasably hold each cover in closed position with said offset in engagement with the detent and a shield reciprocably mountable at the front of the box and movable laterally from a medial position in overlying locking engagement with both of said resilient members to a position closer to one of said covers to maintain the resilient member of said one cover in locked condition while simultaneously conditioning said other member for releasably opening the other cover.

4. The combination with an open-ended box having a front wall, a rear wall, and opposed covers hinged at the rear of the container and

swingable convergently toward each other at the front of the box to close said open ends, of a pair of resilient latch members secured respectively to the forward edges of said covers substantially normal thereto and in close clearance with the front of said box when in closed position, said resilient latch members each having an offset, a pair of detents secured in outstanding relation with the front of the box and adapted to be respectively engaged in sliding contact by the resilient latch members and to releasably hold each cover in closed position with said offset in engagement with the detent, and locking means reciprocably mounted at the front of the box in a medial position in overlying locking engagement with both of said resilient latch members to a position closer to one of said covers to maintain the resilient latch member of said one cover in locked condition while simultaneously conditioning said other member for releasably opening the other cover.

5. A latching mechanism for an open-ended box having opposed covers swingably mounted at a rear wall of the box and convergently swingable at a forward wall of the box to close said

ends, said mechanism comprising a pair of flat retaining and locking members resiliently securable respectively to the forward margins of said covers for overlying closely a portion of the front of said box when in closed position, said flat resilient members each having a boss formed inwardly towards the front of the box and another boss, a pair of detents securable to the front of the box and adapted to be respectively engaged in sliding contact by the resilient members and to releasably hold each cover in closed position with said inward boss in engagement with a detent, and means reciprocably mountable at the front of the box and movable laterally from a medial position in overlying retention with said outwardly extending bosses to lock both of said resilient members to a position closer to one of said covers and in releasably retained relation with the resilient member of said one cover to maintain it in locked condition while simultaneously disengaging the outwardly extending boss of said other member to condition the other cover for releasable opening.

No references cited.