Jan. 17, 1950 E. M. HIRSCH 2,494,942

HIDDEN CONTAINER LOCK

Filed July 13, 1946

Fig. 1.

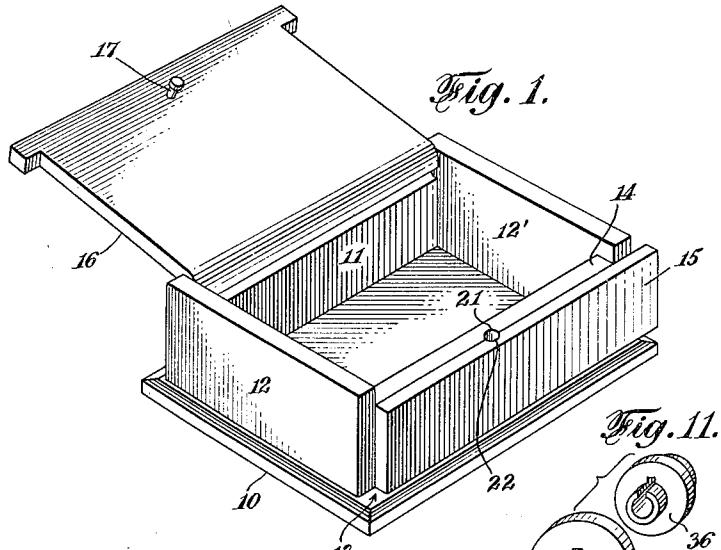


Fig. 3.

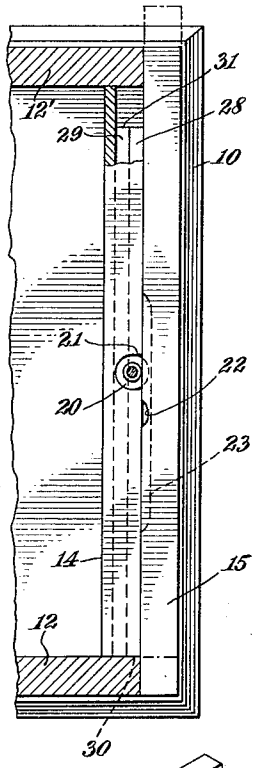


Fig. 11.

Fig. 2.

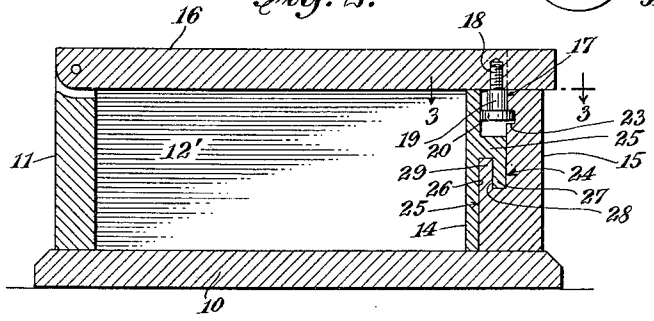


Fig. 6.

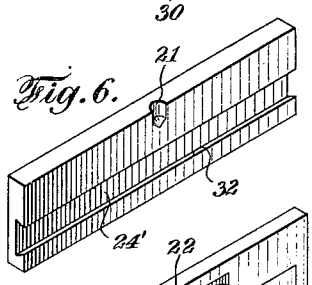


Fig. 10.

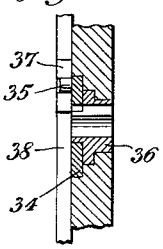


Fig. 4.

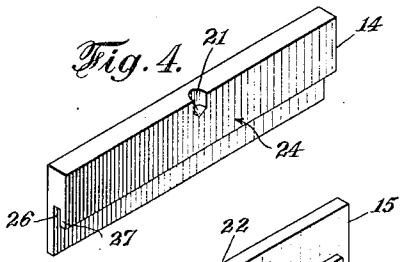


Fig. 7.

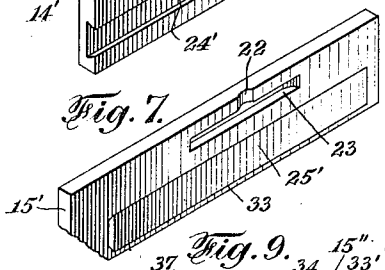


Fig. 5.

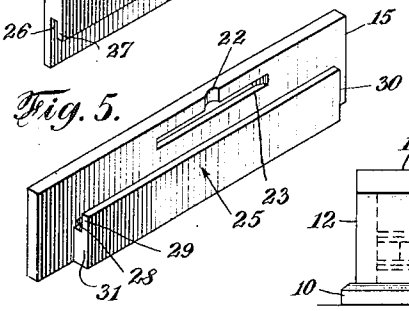


Fig. 9.

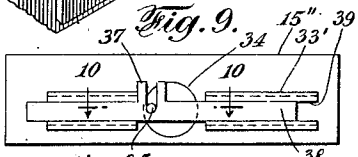
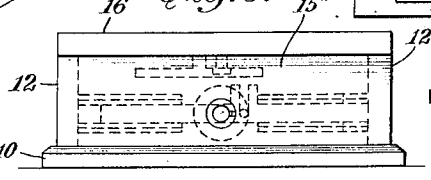


Fig. 8.



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HIDDEN CONTAINER LOCK

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7 Claims. (Cl. 206—1.5)

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This invention relates generally to closable containers or boxes, and more particularly to what may be considered secretly lockable containers, and to hidden locking means employed in such containers.

The prime object of the present invention is to provide a very simple, effective and relatively inexpensive locking structure for containers, wherein the actual locking instrumentalities are invisible from without, and wherein no means indicate the actual purpose of the locking structure or its operation.

Another object of this invention is to provide a container or box-like structure equipped with the above indicated externally invisible locking means, which latter are so constructed that they may be operated only by persons familiar with the working principle of the lock.

Another object of this invention is to provide in combination with such secret locking means for a box or the like, a visible locking device which may be operated either by hand or by a key, and which visible locking device, when in locking position, is designed to prevent the operation of the secret locking means.

The foregoing and numerous other objects and important advantages of the present invention will become more fully understood from the ensuing description in conjunction with the accompanying drawings, wherein:

Fig. 1 is a perspective view of a box provided with secret locking means in accordance with the present invention;

Fig. 2 is a vertical cross section through the device with its lid or cover in its closing and locked position;

Fig. 3 is a partial top view and section taken on line 3—3 through Fig. 2;

Fig. 4 is a perspective view of an interior, fixed front wall member constituting a part of the secret locking means;

Fig. 5 is a perspective view of the exterior, operable front wall member forming another part of the secret locking means;

Figs. 6 and 7 illustrate, respectively, modified forms of the fixed and operable front wall members comprising component parts of a secret locking arrangement;

Fig. 8 is a front elevation of a modified form of a box provided with secret locking means and visible locking means;

Fig. 9 is a plan view of the operative locking member equipped with a visible locking device as employed in Fig. 8;

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Fig. 10 is a fragmental section taken on line 10—10 through Fig. 9; and

Fig. 11 illustrates operating portions of the visible locking mechanism.

Referring now specifically to the figures, numeral 10 denotes the base of a box comprising a rear wall 11, side walls 12 and 12' and a front wall structure 13 consisting of a fixed wall member 14 in engagement with the interior faces of side walls 12 and 12', and an operative member 15 movable in respect to fixed member 14 and to the side walls. Adjacent to rear wall 11 and hinged between side walls 12 is a lid or cover 16, from the interior face and near the free end of which extends a lockable projection 17, which latter preferably consists of a pin having a threaded reduction 18, a cylindrical body 19 and a locking head 20 (Fig. 2). Members 14 and 15 are provided, respectively, with larger and smaller recess portions 21 and 22, as may be clearly observed in Figs. 3, 4 and 5, which recess portions, when in registry with one another, as seen in Fig. 1, are adapted for the reception of projection 17. Operative wall member 15 has beneath its recess portion 22 a longitudinal recess or groove 23 which is adapted to engage locking head 20 when member 15 is in the position indicated in Fig. 3. At that relative position of the two wall members recess portions 21 and 22 are out of registry or offset relative to one another.

The two wall members 14 and 15 are provided with inter-engaging guide means 24 and 25, shown, in Figs. 2, 3, 4 and 5, in the shape of a lap joint. Fixed member 14 is reduced in thickness at its lower portion and is provided with a longitudinal slot 26 at its middle portion, whereby an engaging depending lip 27 is formed in the upper portion of member 14. Operative member 15 is reduced at its upper end and has a corresponding slot 28 which forms an engaging lip 29. This lip 29 registers with and is movable within slot 26, while lip 27 of the fixed member extends into slot 28 of the operative member.

It is to be noted that guide means 24 of the fixed member, composed of slot 26 and lip 27, extend over the entire length of that member, whereas guide means 25 of operative member 15, comprising slot 28 and lip 29, are shorter in length than member 14 and its guide means. It is also to be noted that ends 30 and 31 of guide means 25 are distanced from the end edges of member 15 (see Fig. 5), and that guide means 25 of the operative member move between side walls 12 and 12' of the box (see Figs. 2 and 3), so that ends 30 and 31 serve as stops which are designed

to limit the movement of member 15 when these guide ends come in contact with side walls 12 and 12'. When end 31 abuts with the right-hand wall 12' of the box, as shown in Fig. 1, recess portions 21 and 22 automatically register with one another. When end 30 of the guide means abuts with the left-hand wall 12 of the box, as seen in Fig. 3, recess portions 21 and 22 are out of registry, and groove 23 engages head 20 of projection 17 and locks the latter against movement, whereby lid 16 is kept in closed position.

As seen in Figs. 3 and 5, the distance between end 30 of guide means 25 and left-hand edge of member 15 is less than the distance between end 31 and the right-hand edge of that member. The spacing of end 30 from the left-hand edge of member 15 corresponds to the thickness of side wall 12, whereas the spacing of end 31 from the right-hand edge of member 15 is equal to the double thicknesses of the side walls. Therefore, when member 15 is in its position shown in Fig. 3, its ends are in alignment with the outer faces of the side walls, and there is no visible indication that member 15 is movable.

Referring now to Figs. 6 and 7, the interengaging guide means between the two wall members 14' and 15' are indicated, respectively, at 24' and 25'. They are in the shape of complemental dovetail structures, wherein the female slot 32 is preferably provided in fixed wall member 14', whereas the corresponding male portion 33 forms an extension of operative member 15'. It will be again observed that dovetail member 33 is adapted to operate within the body of fixed member 14', and that its ends are again designed for abutment with the side walls of the box.

In Fig. 8 the operable front wall member 15'', shown in rear view in Fig. 9, is of a construction similar to that illustrated in Fig. 7, with the exception that the middle portion of male dovetail 33' is removed to provide space for the operation of locking disc 34 of visible locking means associated with wall member 15''. From disc 34 extends a pin 35, which latter may be moved to either the position shown in Fig.9, or to an opposite position by turning disc 34 through an arc of 180 degrees. The disc is rotated by means of a hand- or key-operated member 36 (see Figs. 10 and 11), accessible and visible from without the secret lock. Pin 35 engages a fork 37 of locking bar 38, which latter is adapted to move within a recess 39 provided in male dovetail 33'. One end of bar 38 is designed to engage one of the side walls of the box to prevent the movement of member 15'' in respect to its corresponding fixed member disposed between the side walls of the box.

Operation

In order to permit the closing of the box, that is to place lid or cover 16 into closing position as shown in Fig. 2, it is necessary to operate the secret lock in the manner indicated in Fig. 1, wherein outer, operable wall member 15 is moved to its right-hand position so that end 31 of its guide means abuts with the right-hand side walls of the box, whereby recess portions 21 and 22 are brought into registry with one another. Now the lid may be closed, and immediately thereafter operative member 15 is brought into the position shown in Fig. 3, at which position the two recess portions 21 and 22 are brought to an offset relation to each other and groove 23 engages head 20 of projection 17, thus locking the lid. As will be noted neither projection 17 nor recess portions

20 and 21 nor groove 23 are visible from without the box while the lid is closed. Furthermore, due to the close fit between the interior surface of member 15 and the front edges of side walls 12 and 12' no visible indication is present to suggest that member 15 is movable, and only a person knowing the function of member 15 is therefore able to open the box.

When in addition to this secret locking arrangement a visible locking instrumentality is provided, such as indicated in Figs. 8 to 11, the intricacy of opening the box is even heightened. Locking element 36, usually equipped for operation by a key, is plainly visible. Any one given a key to operate the visible lock will find himself stopped in opening the box unless he knows the secret lock combination.

While in the foregoing a secret locking arrangement for a rectangular box is indicated, as shown in Figs. 1 and 2, such secret locking means may be employed in connection with other boxes or containers having different configurations to serve various purposes. Aside from the requirement that the secret locking arrangement be made of opaque material to prevent visibility of the locking instrumentalities thereof, the construction of the secret locking means may be altered, improved and modified for various applications in conjunction with containers of different constructions, such improvements, changes and modifications being within the broad scope of the present invention, as defined in the annexed claims. What is claimed as new is:

1. In a box, a box body, a lid for the latter, a projection extending from the inner face of the lid, a two-piece wall forming a part of the box body and comprising fixed and operative members, coacting recess portions in said members for the reception of said lid projection when said recess portions are in registry, and means in the operative member for lockingly engaging said projection when the recess portions are in offset position to one another.

2. In a box as per claim 1, the two-piece wall members having longitudinal interengaging portions facilitating the movement of the operative member relative to the fixed member, and means for restricting such movement.

3. In a box, a box body, a hinged lid for the latter, a projection near the free edge of the lid, said projection having a head spaced from the inner lid surface, a double wall formation adapted for engagement by the free lid edge, said double wall formation comprising fixed and operative members both provided with complemental recess portions adapted for the reception of the projection when the portions register with one another, said operative member having a longitudinal groove adjacent and at right angles to its recess portion for engaging the projection head when its recess portion is in offset position relative to the recess portion of the fixed member, coacting interlocking means provided with both members to facilitate longitudinal movement of the operative member relative to the fixed member, the interlocking means of the operative member terminating short of the extreme ends of that member and serving, in conjunction with other wall portions of the box, as movement limiting means for the operating member.

4. In a device of the class indicated, a box body having a rear wall, two side walls and a front wall, a lid hinged adjacent to the rear wall, a projection carried by the lid at its free end, said front wall comprising a fixed member dis-

posed between the side walls and an operative member normally covering the front ends of the side walls, longitudinal, interengaged guide means provided in said front wall members, the guide means of the fixed member extending over its entire length, the guide means of the operative member terminating at different distances from the ends of that member and being shorter than the guide means of the fixed member and extending into the body of the latter, the ends of the guide means of the operative member being adapted to abut with either one or the other side wall when that member is moved relative to the fixed member in one or the opposite direction, recess portions provided in both members for the reception of said lid projection when they are in registry, said movable member having means for lockingly engaging said projection when its ends are aligned with the exterior faces of the side walls.

5. In a device of the class indicated as per claim 4, said interengaged guide means comprising a lap joint.

6. In a device of the class indicated as per claim 4, said interengaged guide means comprising a dovetail joint.

7. In a device of the class indicated as per claim 4, and locking means provided in said operative member for preventing its movement when its ends are aligned with the exterior faces of the side walls.

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