Aug. 9, 1938. J. SHIFFMAN ET AL 2,126,049

DISPLAY BOX

Filed Sept. 26, 1936

Fig. 1.

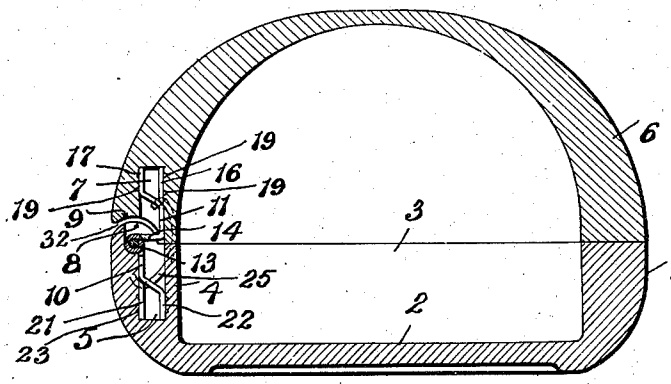
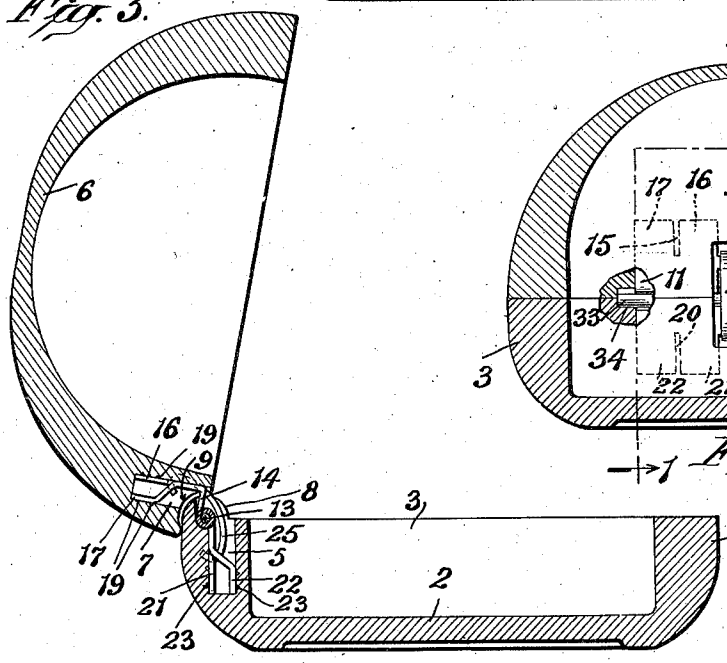


Fig. 3.



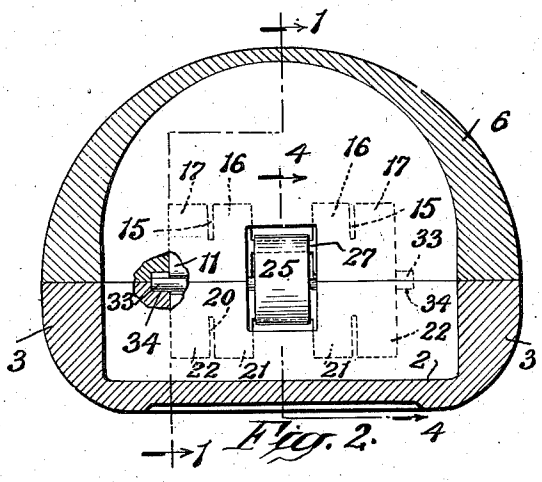


Fig. 2.

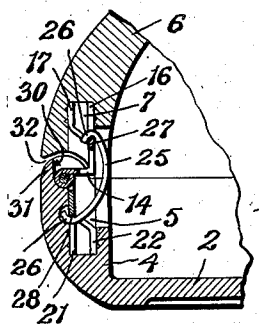


Fig. 4.

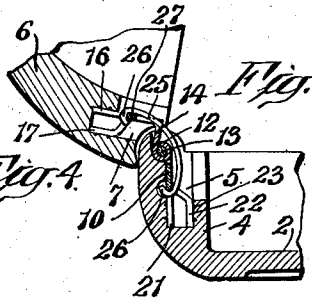


Fig. 5.

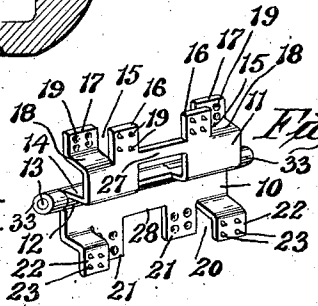


Fig. 6.

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DISPLAY BOX

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New York, N. Y.

Application September 26, 1936, Serial No. 102,686

5 Claims. (Cl. 16—128)

This invention relates to an improvement in boxes, jewelry cases or other receptacles, and more particularly to the hinge structure thereof.

At the present time, boxes of this character are often made of hard plastic materials, such as the phenolic substance commonly referred to as "Bakelite", and of other similar materials. Due to the lack of resiliency in these materials, the conventional methods of attaching a hinge to connect the cover to the body of the box, are often impracticable because of the possibility of cracking or breaking the box when rivets or the like are employed. Additionally, it is highly desirable, in boxes of this kind, to present a smooth, attractive exterior on the box, and the appearance thereof is often detracted from by the exposed heads of rivets or other similar hinge-attaching means.

The primary object therefore, of this invention is to provide a hinge structure which can be easily attached to the box body and cover without the possibility of damaging or breaking the box or cover, and dispensing with the use of rivets or other means which penetrate the box and are exposed on the exterior thereof.

A further object of the invention is to provide a hinge structure so positioned at the junction of the box body and cover that it is relatively indiscernible whether the box is open or closed thereby greatly improving the exterior appearance of the box and providing a more satisfactory fit between the box body and its cover.

In the accompanying drawing, wherein an embodiment of the invention is shown, Fig. 1 is a vertical sectional view through a box provided with the improved hinge structure, the view being taken on the line 1—1 of Fig. 2, looking in the direction of the arrows; Fig. 2 is a vertical sectional view through the same at right angles to the view of Fig. 1; Fig. 3 is a sectional view taken as in Fig. 1, with the cover of the box in open position; Fig. 4 is a sectional view on the line 4—4 of Fig. 2, looking in the direction of the arrows; Fig. 5 is a sectional view similar to that of Fig. 4, with the cover of the box in open position; and Fig. 6 is a perspective view of the hinge.

In the drawing 1 indicates the body or containing chamber of the box. The same may be of any particular ornamental form or shape and has a bottom 2 from which extends the upstanding circumferential wall 3. The portion of the wall at the rear of the box, designated at 4, is provided with a downwardly extending recess or slot 5 for the reception of the leaf 10 of the hinge as will be hereinafter pointed out. The cover member 6 of the box is provided with a similar recess or slot 7 which receives the leaf 11 of the hinge. The rear wall 4 of the box has its upper end provided with a rounded or curved rib or bead as shown at 8 and the edge portion of the cover 6 normally overlying this rounded portion 8 on the body of the box is complementarily curved as shown at 9 to closely fit over and conform to said bead.

The hinge is shown in detail in Fig. 6 and is composed of the two leaves 10 and 11 rolled or curled as indicated at 12 in the conventional manner to receive the hinge pin 13. The leaf 11, which is that entering into the slot 7 in cover 6 is offset at 14. Said leaf is also split at the several points indicated at 15 to provide spring tongues 16 and 17, the tongues 17 being offset as shown at 18, or spread away from the tongues 16, so that they cooperate with the tongues 16 in fitting into the slot 7 and frictionally gripping the side walls thereof. In order to retain the leaf 11 in place within the slot 7, the tongues 16 and 17 thereon are roughened or provided with barbs or sharp projections 19 acting as prongs. These sharp projections impinge against the side walls of the slot 7 by pressure of the spring tongues 16 and 17 and grip the same so that the leaf 11 will be firmly held within the slot 7 after it has been thrust therein. The other leaf, that shown at 10, is similarly split at 20 and has the split portions constituting spring tongues 21 and 22 which are spread apart and provided with sharp points or barbs 23 for engagement with the side walls of the slot 5.

With the arrangement shown, the hinge is very easily fitted in place by inserting the leaf 10 in slot 5 and forcing the same therein. The springiness in the tongues 21 and 22 aided by the contact of prongs or barbs 23 with the walls of the slot securely holds the leaf 10 within the slot. Similarly leaf 11 projects into slot 7 in the cover and its tongues 16 and 17, having their barbed surfaces 19 engaging the walls of said slot securely holds the leaf within the slot. A curved spring 25, formed with hooked ends 26, has one of said ends engaging over a bar 27 formed on the leaf 11, the other hooked end engaging over the edge 28 on the leaf 10. This spring serves to hold the cover of the box in either of the closed or open positions as shown in Fig. 3.

The bead 8 formed on the top edge of the wall portion 4 is cut away along its inner edge above slot 5 to form a shoulder 30 which acts as a stop against which the offset portion 14 of the hinge leaf 11 impinges when the cover of the box is

in its raised position to thereby restrict the opening movement of the cover. This offset portion 14 of the hinge leaf 11 enables the use of the part 31 of the bead 8 directly behind the hinge, said part 31 co-operating with the complementary recess 8 to practically close the space between the cover and the body of the box at the hinge, leaving only the relatively small clearance space 32 through which little, if any part of the hinge, is visible from the outside of the box when the cover is in both its open and closed positions.

As will be seen in Figs. 2 and 6, the hinge is formed with projecting ends 33 surrounding the hinge pin 13, said ends seating in the pockets 34 formed at the opposite ends of slot 5 at the top thereof. The retention of these ends 33 in said pockets prevents any forward shifting movement of the cover with respect to the box body and thereby holds the cover in alignment therewith.

Through the arrangement disclosed, a satisfactory hinge structure is provided which may be easily attached to the body of the box and its cover, by forcing the two leaves of the spring into the slots in the cover and body respectively. The spring tongues on said leaves, formed by splitting the leaves and spreading the tongues, or offsetting one tongue from that adjacent to it as shown in Fig. 6, resiliently engage the walls of the slot with their roughened or pronged surfaces in impingement therewith. The tongues are thereby firmly held in the slots of the cover and box body and the hinge attached in position without piercing the body of the box or cover. Accordingly, the exterior appearance of the box is smooth and unbroken by any projections such as rivet heads or the like. Also, the manner in which the cover is fitted and co-operates with the offset portion of the hinge, produces a cover fitment wherein the hinge is rendered substantially invisible from the exterior of the box. Since such boxes are lined or internally padded, which lining extends over and conceals the hinge on the interior of the box, the entire hinge is completely concealed in the finished box and the appearance of the box is greatly enhanced.

What we claim is:

1. A box or similar receptacle having a body portion and a cover, a hinge connecting the body portion and the cover, the body portion and cover each having a slot in its back wall extending inwardly from the edge thereof, the hinge having pivotally connected leaves, one of each of said leaves extending into each of the slots, each leaf being formed with resilient tongues disposed in spaced, opposed relation within the slot and having their faces frictionally engaging the faces of the walls only thereof to thereby hold the leaf within the slot.

2. A box or similar receptacle having a body portion and a cover, a hinge connecting the body portion and the cover, a slot formed in meeting edges of the body portion and cover, the hinge having a pair of pivotally connected leaves, one of said leaves extending into the slot in the body portion and the other leaf extending into the slot in the cover, each leaf being split inwardly from one of its edges to divide it into several spring tongues, the splits in the leaves extending from one end of the leaves toward the point of pivotal connection of the leaves said tongues being spaced apart to cause their faces to frictionally engage against the interior wall surfaces only of the slot in which they are disposed to thereby hold the leaf within the slot.

3. A box or similar article having a body portion and a cover, a hinge connecting the body portion with the cover, the body portion and cover each having a slot in its back wall extending inwardly from the edge thereof, the hinge having pivotally connected leaves, each of said leaves extending into each of the slots, each leaf being formed with resilient tongues spaced from one another and disposed within the slot and having their faces only frictionally engaging the opposed faces of the walls thereof to thereby anchor the leaf within the slot, said wall-engaging faces on said tongues being provided with gripping projections.

4. A hinge structure for attachment to boxes or like receptacles composed of plastic or similar hard materials, consisting of a box provided with an upstanding rear wall formed with a slot extending downwardly from its upper edge, said hinge having a pivot and having a leaf disposed within said slot, said leaf being slit inwardly from one of its edges in the direction of the pivot to divide it into several resilient tongues, at least one of said tongues being offset from the plane of the leaf whereby its face only resiliently and frictionally engages against a wall surface of the slot to thereby hold the leaf within said slot and attach the hinge to the box, said face of said tongue being provided with a roughened gripping surface for impingement against a wall surface within the slot.

5. A box or similar receptacle having a body portion and cover hinged thereto, the body portion and cover being provided with overlying slots in their rear walls, the hinge having pivotally connected leaves extending into the slots, the leaf extending into the slot in the cover having an offset portion entering said slot, tongues on the leaves for frictionally engaging the wall surfaces of the slots to thereby hold the leaves within the slots, a rounded bead extending along the top of the rear wall of the body of the box, said bead having a shoulder facing the inside of the box and against which a part of the offset leaf of the hinge may impinge when the cover of the box is in open position.

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