Aug. 9, 1938. J. SHIFFMAN ET AL 2,126,050

DISPLAY BOX

Filed April 20, 1937

Fig. 2.

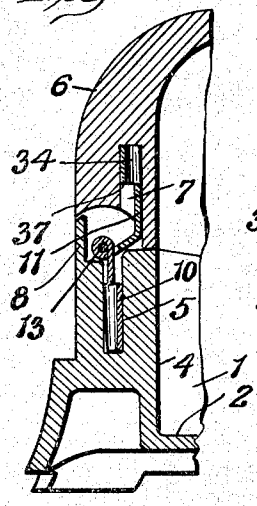
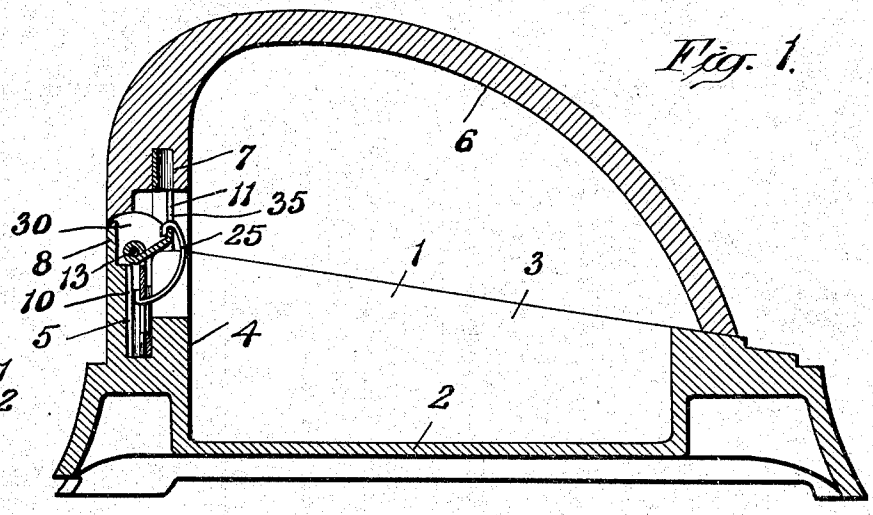


Fig. 1.



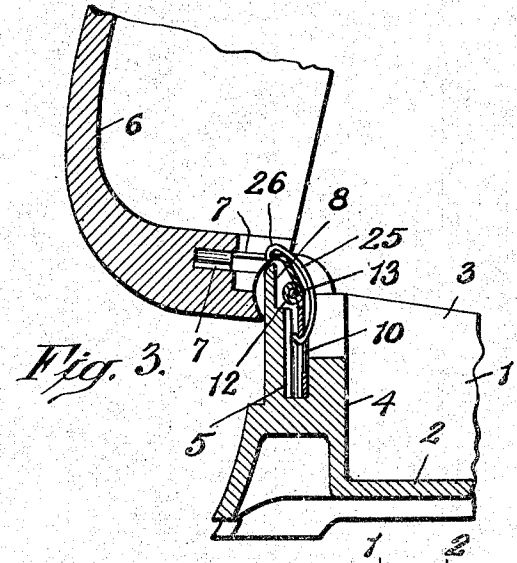


Fig. 3.

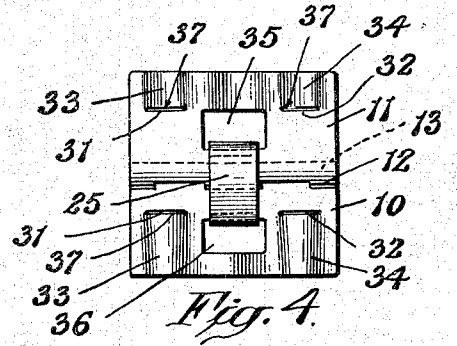


Fig. 4.

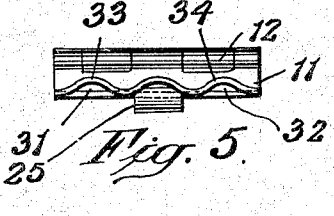


Fig. 5.

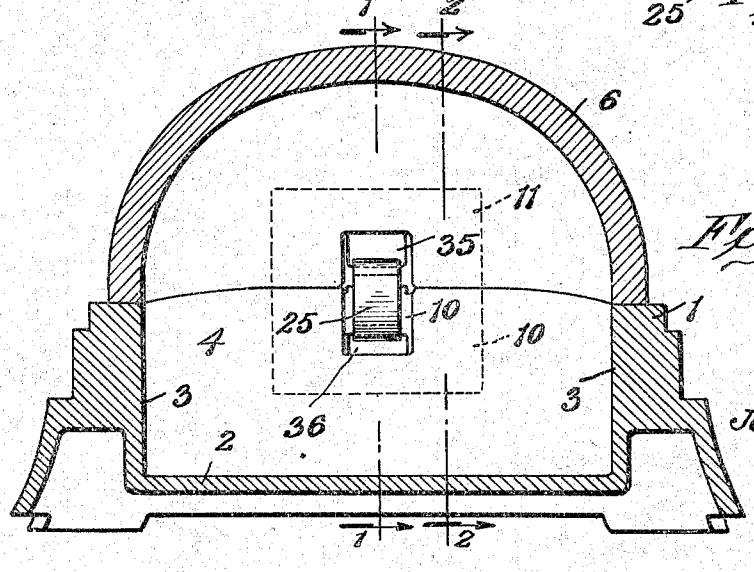


Fig. 6.

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DISPLAY BOX

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Application April 20, 1937, Serial No. 137,946

5 Claims. (Cl. 16—128)

This invention relates to improvements in boxes, jewelry cases or other receptacles and more particularly to the hinge structure thereof. At the present time boxes or receptables of this character are often made of hard, plastic materials such as the phenolic substance commonly referred to as "bakelite" and other similar materials. Due to the lack of resiliency of these materials, the conventional methods of attaching the 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 other like fastening means are employed. Additionally, in using a hinge for a box of this kind, it is important that the hinge be more or less concealed so that the exterior of the box will present a smooth and attractive appearance which is often detracted from by the exposed heads of rivets or other known hinge-attaching means.

The primary object therefore of this invention is to provide a hinge structure which can easily be 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 often exposed on the exterior thereof.

A further object of the invention is to provide a hinge of the character mentioned which will be substantially invisible in the completed structure.

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 substantially on the line 1—1 of Fig. 6, looking in the direction of the arrows; Fig. 2 is a vertical sectional view through the hinge structure of the box on the line 2—2 of Fig. 6, looking in the direction of the arrows; Fig. 3 is a sectional view similar to Fig. 1 showing the cover of the box in open position; Fig. 4 is a front view of the hinge separated from the box and its cover; Fig. 5 is an edge view of the hinge of Fig. 4; and Fig. 6 is a sectional view through the box, said section being taken at right angles to that of Fig. 1.

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 is provided with a bottom 2 from which extends the upstanding circumferential wall 3. The portion of this 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. When the cover is in proper position as shown in Fig. 1, it will be noted that the slot 7 is not in direct vertical alignment with the slot 5 in the body portion 1, but is placed forwardly of said slot 5 in order that it may receive the offset leaf 11 of the hinge. The rear wall 4 of the box has its upper end provided with a rib or bead 8 extending between and connecting a pair of rounded upstanding lugs 30.

The hinge is shown in detail in Figs. 4 and 5 and it will be seen there that the same 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 the cover 6, is offset as clearly shown; said leaf is also split transversely as indicated at the two points 31 and 32, and is distorted or corrugated to provide the resilient portions 33 and 34 adjacent the slits 32, said portions constituting resilient tongues, which when the leaf is inserted in the slot 7, are slightly compressed and their resiliency will tend to hold the leaf 11 tightly in slot 7 without the use of additional fastening means. By the formation of the rounded pressed-out elements 33, 34 the leaf near its free end is undulated or corrugated. At the slits 31 and 32 shoulders 37 are formed which act to bite into the walls of the slot and resist a withdrawal movement of the leaf from the slot.

The leaf 10 is similar in construction to that shown at 11, except that it is not offset. It is provided with the slots 31 and 32 and the rounded resilient corrugations 33 and 34 which when tongue 10 is inserted in slot 5, resiliently and frictionally engage the walls of said slot to thereby hold the tongue securely in position therein. A curved spring 25, formed with hooked ends 26, has said ends engaging over the edges of apertures 35 and 36 formed in the leaves 10 and 11 of the hinge. This spring serves to hold the cover of the box in either the closed position of the same shown in Fig. 1, or the open position shown in Fig. 3.

With the arrangement shown, the hinge is very easily fitted in place by inserting the leaf 10 in slot 5 and forcing the same down into said slot. The springiness in the curved or rounded projections or corrugations 33 and 34 enables these portions to flatten slightly when the leaf is inserted in the slot and their tendency to spring back to normal rounded or curved form causes them to grip the walls or surfaces of the slot firmly to thereby securely hold the leaf 10 with-

in slot 5. Additionally the portions of said projections adjacent to the slits 31 and 32 form shoulders which resist any tendency of the leaves to move out of the respective slots. Leaf 11 is similarly fitted into slot 7 in cover 6. The upstanding rib or bead 8 located between projections 30 serves to close the rear portion of the joint between the cover member and body portion and thereby conceals practically all portions of the hinge. The offset leaf 11 of the hinge enables the cover to be swung back to a wide open position as said leaf being offset avoids contact with the rib 8 when the cover is swung wide open.

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 of the body and cover respectively. The nature of the spring members 33 and 34 on the leaves of the hinge is such as to cause these portions to firmly grip the walls of the slots and they are thereby firmly held in the slots 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 rivet heads and the like. Also, the manner in which the cover is fitted and co-operates with the off-set 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 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, one of each of said leaves extending into each of the slots, each leaf being split and formed with undulations terminating at the split portions of the leaves, said undulated portions of the leaves having shoulders located at the splits in the leaves, said shoulders being in faced relation to the hinge axis and frictionally engaging the walls of the slots to thereby hold the leaves within said slots.

2. A box or similar receptacle 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, one of each of said leaves extending into each of the slots, each leaf being provided with several outwardly distorted portions arched transversely of the direction of pivotal movement of the leaves with respect to one another, the leaves being split adjacent to said portions and at the end of said portions located nearest to the pivotal connection of the leaves to form shoulder portions on said undulations.

3. A box or similar receptacle having a body portion and 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, one of each of said leaves extending into each of the slots, each leaf being provided with spaced slits and outwardly distorted rounded arched portions terminating in shoulders at the slits, the shoulders being in faced relation to the hinge axis for frictionally engaging the walls of the slots to thereby anchor the leaves within the slots.

4. 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, the slot in the body portion extending downwardly from the top edge of said back wall and the slot in the cover extending upwardly from the bottom edge of the cover, the slot in said cover being disposed out of vertical alignment with the slot in the body portion, the hinge having pivotally connected leaves each of which fits into one of the slots, one of said leaves being off-set with respect to the other to thereby fit the disaligned slots, each leaf being undulated and having edge portions of the undulations forming shoulders for frictionally engaging the interior wall surfaces of the slots.

5. A box or similar receptacle 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, one of each of said leaves fitting into each of the slots, each leaf being undulated and having at least some of the undulations provided at their ends nearest to the point of pivotal connection of the leaves with edge portions forming shoulders said shoulder edges being in faced relation to the hinge axis for frictionally engaging the interior wall surfaces of the slots.

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