Aug. 14, 1928.

1,681,032

J. C. FULLER

HINGED CONNECTION

Filed June 7, 1927

Fig. 1.

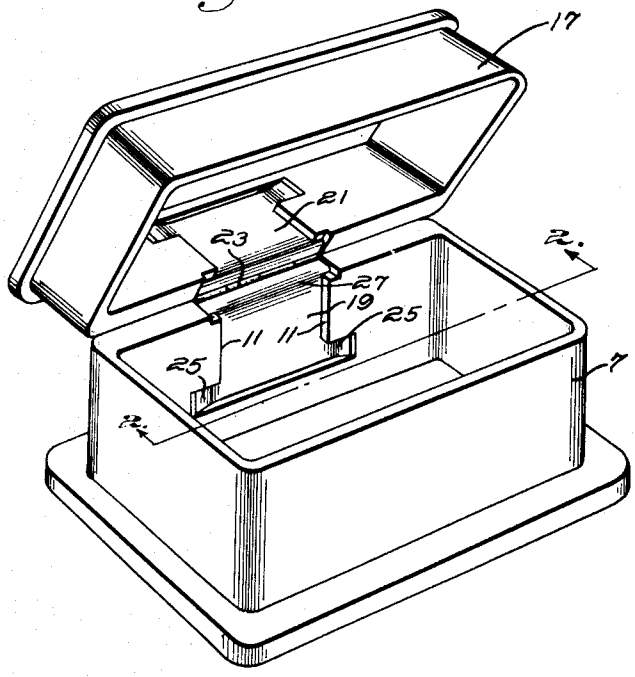


Fig. 2.

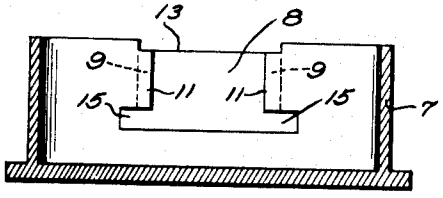


Fig. 3.

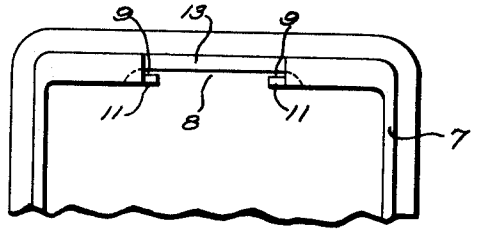


Fig. 4.

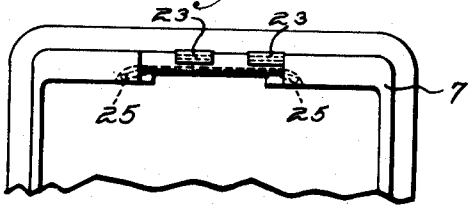


Fig. 5.

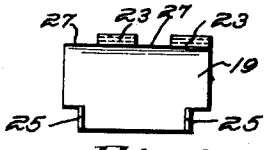


Fig. 6.



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UNITED STATES PATENT OFFICE.

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HINGED CONNECTION.

Application filed June 7, 1927. Serial No. 197,067.

This invention relates to hinged connections and has for its object the provision of a hinge particularly adapted for the hinged attachment of one part to another, such as a box body and its cover, formed of molded material, or in other situations where it is desirable to avoid the use or the visible external evidence of pins, screw or other similar fastenings for securing the hinge to the hinged parts.

The invention will be best understood by reference to the following description when taken in connection with the accompanying illustration of one specific embodiment thereof, while its scope will be more particularly pointed out in the appended claims.

In the drawings:

Fig. 1 is a perspective view of a box with its cover attached thereto by a hinged connection embodying one form of the invention;

Fig. 2 is a sectional elevation of the box body taken on the line 2—2 in Fig. 1, with the hinge removed, showing the slots formed to receive the hinge;

Fig. 3 is a plan view of the box body as shown in Fig. 2;

Fig. 4 is a plan view similar to Fig 3, showing one leaf of the hinge installed in position;

Fig. 5 is an elevation of one leaf of the hinge before insertion; and

Fig. 6 is a plan view of the same.

In the case of molded articles the usual type of hinge connection is not well adapted for use in hinging a cover to its box body. Because a thick wall takes longer to cure than a thin wall, molded articles of this nature are customarily made with walls so thin that it is impracticable to use screws or other fastenings without breaking through the outside walls and rendering the external appearance of the box unsightly.

In the hinged connection illustrated in the drawings, a hinged attachment between the box and its cover may be provided without the use of externally visible fasteners or the external appearance of parts of the hinge itself other than the knuckle.

In preparing the box body 7 for installing the hinge, the body is molded in the usual manner but is provided with a molded recess 8 formed on the inside of the side wall of the box to which the hinge is to be applied. Such recess extends from the top edge of the side wall downwardly for a substantial distance, preferably terminating short of the bottom of the side wall. Formed in the opposite side walls of the recess 8 there are also provided longitudinal slots 9 which as initially molded may extend from the top edge to the bottom of the recess 8, leaving the overlapping edges 11. The top edge of the box body is also slightly recessed at 13, forming a depression extending from the outer edge of one slot 9 to the outer edge of the opposite slot 9 to accommodate the hinge knuckle. The formation of the vertical recess 8, horizontal recess 13 and vertical slots 9 may be effected in the molding operation.

After the box body has been initially formed by the molding operation as described, the lower ends of the overhanging side walls or edges 11 at the bottom of the vertical recess 8 and a small amount of the adjacent molded material in the box body wall are removed to form lateral slots 15 to serve as transverse locking recesses for the hinge. The box cover 17 may be prepared for the reception of its hinge leaf in the same manner described in connection with the box body.

The hinge itself is formed of two cooperating leaves 19 and 21 which may be similar in construction except for the interlocking position of their knuckles 23. They may be installed in the box either assembled and fastened by the hinge pin or installed separately and there afterwards connected by the hinge pin.

Each leaf is of a width greater than the width of the recess 8, but somewhat less than the space formed by the vertical slots 9 so as to fit and be entered into that space. At the bottom of the leaf there are provided two tangs 25 which, when bent inwardly at substantially right angles, will pass between the overhanging side walls 11 of the recess 8 and allow the leaf to be pushed down into position in the slots, but when bent flatwise into the plane of the leaf project somewhat beyond the opposite edges thereof. This construction and these proportions permit the leaf with its inwardly projecting tangs, as shown in Fig.

6, to be inserted into the space provided by the slots 9 and pushed down into the position shown in Figs. 2 and 4. The inwardly projecting tangs are then bent back and forced into the transverse locking recesses, as shown in Figs. 1 and 4. This brings the upper shouldered part 27 of the leaf into interfitting relation with the recess 13, with the knuckles suitably located and the hinge leaf held in the molded box so that it cannot move in any direction.

This provides a hinged connection inexpensive in construction and simple in its application, but requiring neither the use of pins, screws or the like, nor any other visible, external evidence of the hinge except the knuckle itself.

While I have herein shown and described for the purpose of illustration one specific embodiment of the invention, it is to be understood that the same is submitted for illustrative purposes only and that extensive deviations and modifications may be made in the form and relative arrangement of parts and in the adaptation or use to which the invention is applied, all without departing from the spirit thereof.

Claims:

1. A hinged connection for a box comprising a leaf hinge, the leaf thereof being provided with a pair of oppositely arranged tangs, the hinged connected wall of the box having formed in its face a recess of lesser width than the leaf, the opposite side walls of the recess having slots opening to the edge of the wall whereby the leaf with the tangs bent may be inserted in said slotted recess from the edge of the wall inwardly, and transverse locking recesses in the side wall of the box into which each tang may be bent back to hold the leaf in place after insertion in the recess.

2. A hinged connection for a box comprising a leaf hinge, a leaf thereof being provided with a tang, said box having a slot through which the leaf of the hinge may be inserted with said tang, and a locking recess into which said tang may be bent to hold the leaf after insertion in the recess.

3. A box comprising a box body and a cover, both of molded plastic material, and a leaf hinge, the leaves of which are provided with tangs, an open-ended slotted recess in both a wall of the box and a wall of the cover in which the leaves of the hinge with their tangs are adapted to be entered, and locking recesses formed in the wall of the cover and the wall of the box into which the tangs may be bent to hold the leaves in place.

4. A hinged connection for a body of molded material comprising a leaf hinge having tangs, said material having an open-ended slot molded therein adapted to receive the leaf with said tangs, and an under-cut recess formed transverse to said slot into which said tang may be bent to hold the leaf in position.

5. A hinged connection for a box comprising a leaf hinge, a recess in the side wall of the box adapted to receive the leaf of the hinge, and an under-cut locking recess formed transversely with relation to the leaf receiving recess, said leaf having a portion adapted to be bent into said under-cut locking recess to hold the leaf in position.

In testimony whereof, I have signed my name to this specification.

JOSEPH C. FULLER.