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BOX LOCK OR LATCH

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Fig. 1

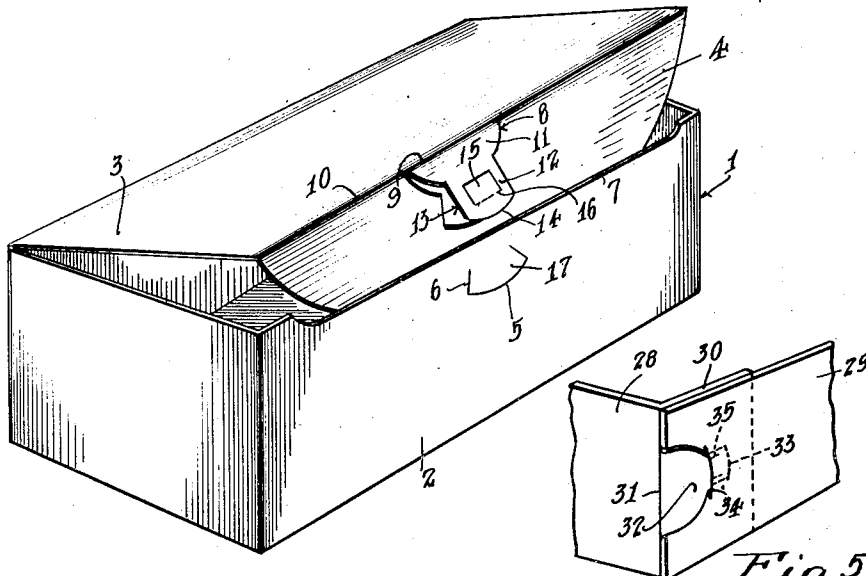


Fig. 2

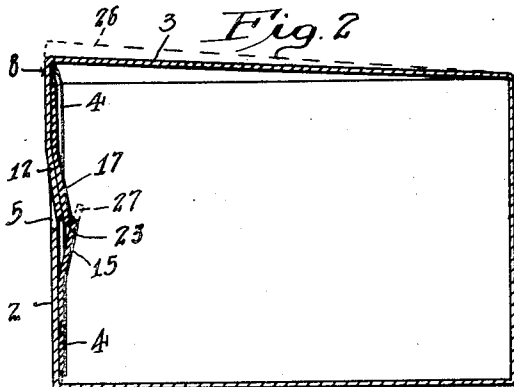


Fig. 3

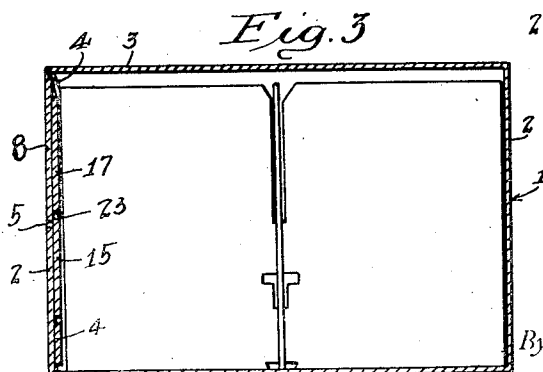


Fig. 5

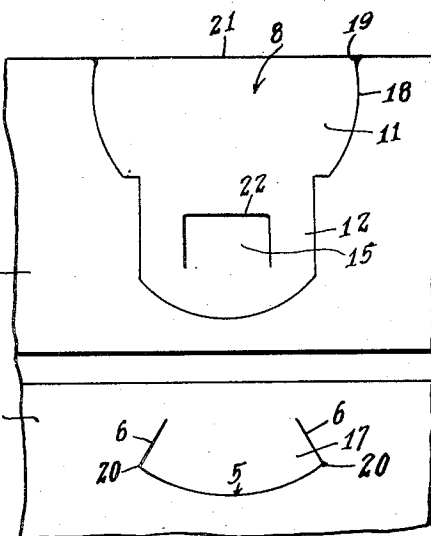


Fig. 4

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BOX LOCK OR LATCH

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3 Claims. (Cl. 229—45)

This invention relates to latches or locks for boxes, and is particularly applicable to boxes made of cardboard, such as is used for eggs or the like.

5 The general object of the invention is to provide a latch or lock of simple construction which can be applied to a box and which can readily be operated to latch or lock the cover in a closed position.

10 A further object of the invention is to provide a latch or connection which can be used at any point in the construction of a box for connecting parts of the box together.

One of the objects of the invention is to provide a lock, which, when applied and secured, can not be opened without indicating thereafter that the lock has been opened. This feature renders the invention particularly useful for egg boxes sold as a sealed package, and prevents unauthorized opening of the box and substitution of eggs other than those originally sold in the package.

Further objects of the invention will appear hereinafter.

25 The invention consists of novel parts and combinations of parts to be described hereinafter, all of which contribute to produce an efficient box lock or latch.

A preferred embodiment of the invention is described in the following specification, while the broad scope of the invention is pointed out in the appended claims.

In the drawing—

35 Figure 1 is a perspective of a box of common form and having a latch or lock embodying my invention;

Figure 2 is a vertical cross section taken through the middle point of the box, and showing the parts in the latched or locked position; this view shows the box without a filler;

40 Figure 3 is a view similar to Figure 2 but showing a box with a filler, and showing the parts of the latch in a slightly different relation which they may have in locking the box when it contains a filler;

45 Figure 4 is a front elevation of a diagrammatic nature, and with the parts broken away and illustrating the relation of the latching parts as they are in the act of being brought together to lock or seal the box in its closed position; and

50 Figure 5 is a fragmentary view and is a perspective broken away and illustrating the invention as applied to form a box corner such as in a laundry box.

55 Referring more particularly to the parts and

especially to Figure 1, 1 represents a box of common form made of cardboard or similar material, and having a front wall 2 and another wall such as a cover 3 which is to be secured to the wall 2.

In applying my invention to such a box, I provide the free edge of the cover 3 with a tuck 4, which, when the box closes, extends down into the box inside of the forward wall 2. The forward wall of the box is provided with a slit 5 which is preferably of convex form with the concave side of the slit uppermost and the slit is preferably formed with substantially radial extensions 6 which extend upwardly toward the upper edge 7 of the forward wall. This slit is a plain slit, that is to say, it presents two immediately juxtaposed edges that extend opposite to each other throughout the entire length of the slit. The middle portion of this upper edge 7 is preferably cut down or depressed as indicated.

The tuck 4 is provided with a main tongue or flap 8 having its root 9 located at the dihedral angle 10 where the tuck 4 unites with the cover 3. This tongue 8 is preferably formed with an enlarged lobe 11 adjacent its root and its lower end is formed into an extension 12, the side edges 13 of which are substantially parallel with each other.

The lower edge 14 of the tongue is preferably somewhat curved with the convex side of the curve downwardly. This tongue is preferably struck from the material of the tuck by means of a die or knife. The tongue 8 constitutes a main tongue. On the extension 12 of the main tongue, I provide a latching tongue 15 preferably of rectangular form produced by an incision through the material of the main tongue which cuts out three sides of a rectangle. On the fourth side, an indent or score line 16 is formed to facilitate bending the locking tongue 15 out of the plane of the main tongue. A similar indenting line or score line 16 may be formed on the front wall of the box connecting the radial cuts 6 so that a substantially fan-shaped flap or tongue 17 is formed in the forward wall of the box.

Referring to Figure 4, the incisions 18 that form the lobe 11 of the tongue preferably terminate in outwardly curved incisions 19 where the tongue joins the cover wall 3 of the box.

The maximum width of the slit 5, that is, the width between the points 20 (see Figure 4), is preferably slightly greater than the width of the straight extension 12 of the main tongue 8.

In latching the cover 3 in place, the tuck 4 is directed down on the inner face of the forward

wall 2 of the box and the tongue 8 is shoved down on the outer side of this wall. As the cover 3 is shoved down, the lower end or straight extension 12 of the main tongue 8 is inserted in the slit 5, thereby forcing the flap 17 inwardly into the box. After the main tongue has been forced down as far as possible, the cover 3 is pressed forcibly at the point 21 (see Figure 4), so as to extend the tongue downwardly sufficiently to have the upper edge 22 of the auxiliary tongue 15 come below the edge 23 of the flap 17 (see Figure 3). When this point is reached, the tongue 15 is shoved inwardly so as to bring it into the plane of the tongue 17. If the box has no filler in it as indicated in Figure 2, the tongue 15 should be shoved inwardly as indicated in Figure 2 so that its upper edge 22 projects beyond and above the lower edge 23 of the tongue 17. This relation can be brought about by pressing in on the tongue 15 until its upper edge passes the lower edge of the flap 17, and then pulling or shoving the cover up slightly to cause an overlap at these edges.

When the box is latched as indicated in Figure 3, the cover can not be raised at all, but when it is latched or locked as indicated in Figure 2, the cover can be raised slightly as indicated by the dotted lines 26 in Figure 2. This will cause the upper end of the latching tongue 15 to project further up and produces a further overlap of these edges as indicated by the dotted lines 27.

After a box having this latch has been latched or locked closed, it is practically impossible to disengage the latch without tearing the parts in some way.

In Figure 5, I illustrate how the invention can be applied to latch together two adjacent walls 28 and 29 which may form the corner of a box such as a laundry box. In this case, one of the walls, for example the wall 28, is provided with a flap or tuck 30 on its end and forms a dihedral angle 31 in setting up the box corner. Part 30 corresponds to the tuck 4 of Figure 1. In Figure 5, 32 indicates the main tongue, and the dotted lines 33 indicate the forward end or extension of this tongue which is shoved through a curved slit 34 formed in the box wall 29. The dotted lines 35 indicate the latching tongue, the end of which engages against one of the edges formed at the slit 34.

Forming the box with the edge 7 depressed facilitates the latching of the box because it facilitates the depressing movement of the main tongue when it is shoved down through the slit 5.

It is understood that the embodiment of the invention described herein is only one of the many embodiments this invention may take, and I do not wish to be limited in the practice of my invention, nor in my claims, to the particular embodiment set forth.

What I claim is:

1. A box having a wall with a slit formed therein, said slit having two adjacent edges juxtaposed continuously to each other throughout the length of the slit, and another wall having a flap with a tongue to project through the said slit, said tongue having a latching tongue struck integrally therefrom and projecting toward the root of the first named tongue, said latching tongue operating to pass completely through the slit, when the first named tongue is inserted, and cooperating with one of said juxtaposed edges to lock the walls together.

2. A box having a wall with a slit formed therein, said slit having two adjacent edges juxtaposed continuously to each other throughout the length of the slit, and a cover for the box having a tuck with a main tongue having its root disposed upwardly so that the tongue projects downwardly, said main tongue having a latch tongue with its root disposed toward the lower end of the main tongue, said parts cooperating to enable the tuck to be received on one side of the box wall and with the latch tongue on the other side of the wall and extending through the said slit, with the latching tongue passed completely through the slit, said latching tongue and one of the said juxtaposed edges of said slit cooperating to lock the cover to the wall.

3. A box having a wall with a single slit formed therein, said slit having two adjacent edges juxtaposed continuously to each other throughout the length of the slit, and a cover for the box having a tuck with a main tongue having its root disposed upwardly, said main tongue having a latch tongue struck therefrom with its root located toward the lower end of the main tongue, said parts cooperating to enable the tuck to be received on the inner side of said wall with the main tongue on the outer side of the wall and projecting down through the said slit, with the latching tongue passed completely through the slit, said latching tongue cooperating with one of the said juxtaposed edges of the slit to lock the cover to the front wall.

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