

May 9, 1961

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2,983,429

TWO-PIECE SELF-LOCKING CARRYING BOX

Filed Dec. 27, 1957

2 Sheets-Sheet 1

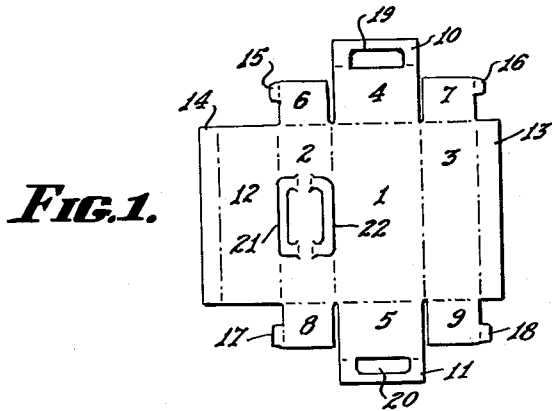


FIG. 1.

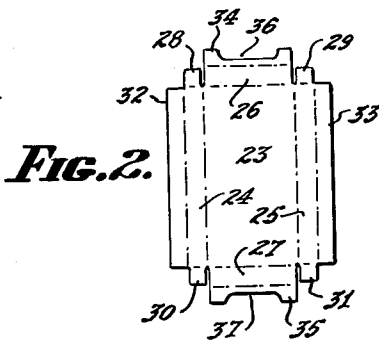


FIG. 2.

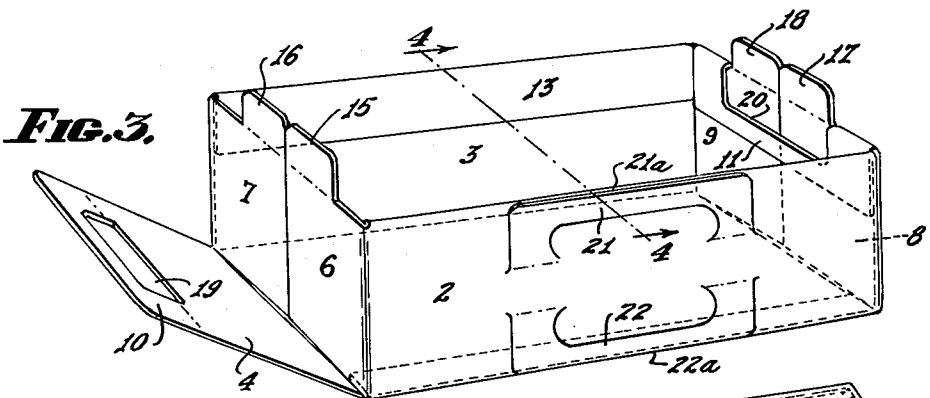


FIG. 3.

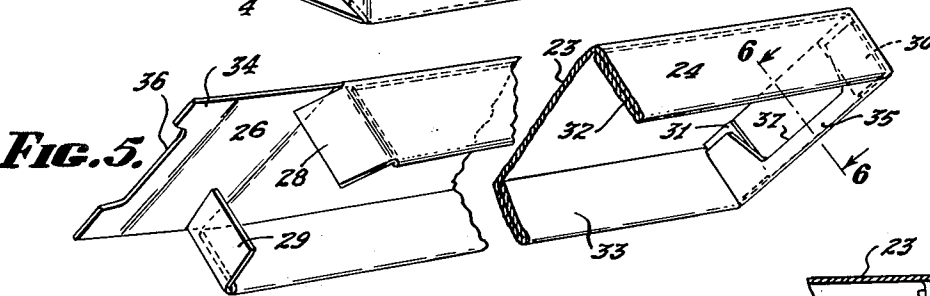


FIG. 4.

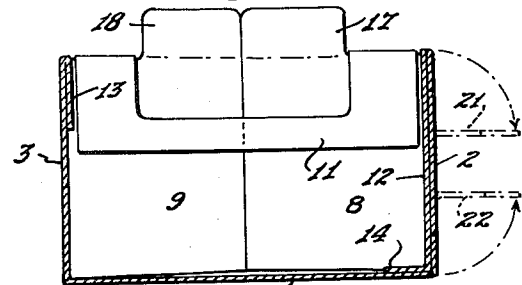


FIG. 5.

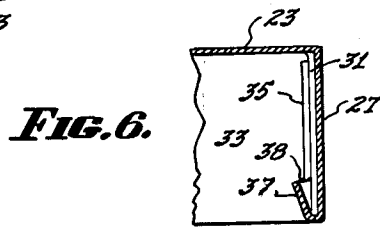


FIG. 6.

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TWO-PIECE SELF-LOCKING CARRYING BOX

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2 Sheets-Sheet 2

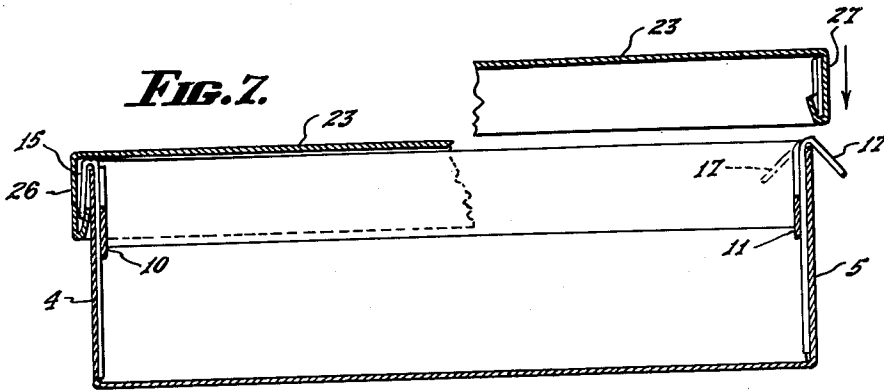


FIG. 8.

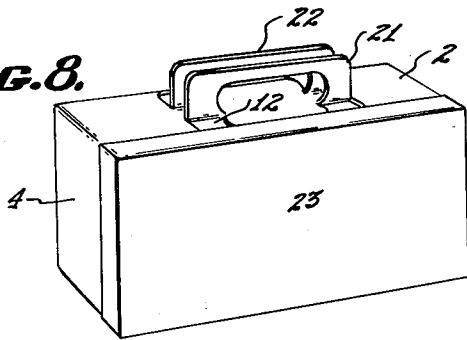


FIG. 9.

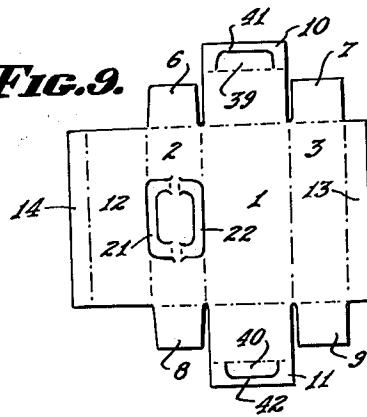


FIG. 10.

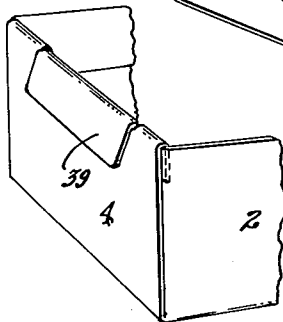
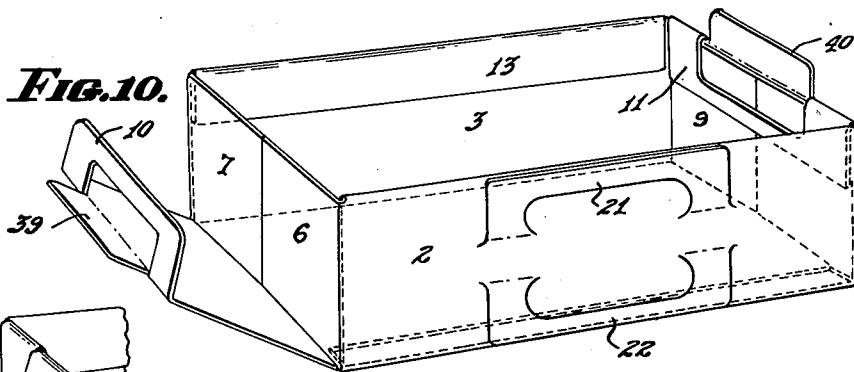


FIG. 11.

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TWO-PIECE SELF-LOCKING CARRYING BOX

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2 Claims. (Cl. 229-45)

This invention relates to boxes and more particularly to a two-piece box comprising bottom and cover parts adapted to fit together in telescoping relationship.

Specifically, the invention relates to shoe boxes although it will be evident that the utility of the boxes is not so limited and the structures disclosed may be used for many purposes.

In the shoe box field there has been an increasing demand for a box which would serve the dual function of being a good factory-to-store box and at the same time could be converted in the store to a carry-home box for use by the customer. The conventional factory-to-store box is either a two-piece setup type box or a glued overlap type of folding box. In both types the cover telescopes over the body or bottom part and is readily removable. Since the boxes are intended to be stacked one upon the other in rows, they are free from external projections and the like, such as carrying handles and cover fastening means. To be used for carry-home purposes, the boxes require supplementary wrapping or tying, or both. Rather than wrapping or otherwise tying the factory box for carry-home purposes, some stores follow the practice of removing the shoes from the factory box when they are sold and putting them in a special carry-home carton. This, of course, requires additional handling of the shoes and the added expense of the carry-home carton.

With this background in mind, it is a principal object of the instant invention to provide a box structure which can be used by the shoe manufacturer as a factory-to-store box and by the retailer as a carry-home package.

A principal object of my invention is the provision of a two-piece box structure in which the box bottom is provided at each end with one or more locking tongues capable of being engaged with the cover part to secure it in closed position, the arrangement of parts being such that the locking tongues lie wholly inside the closed box and do not disrupt the smooth exterior surfaces of the box to obstruct stacking.

A further object of my invention is the provision of a box of the character described wherein the locking tongues may be used or not used as desired, the tongues when in use serving to automatically engage and retain the cover part in closed position until positive force is applied to release them, and the tongues when not in use permitting the cover to be readily removed as if the tongues were not present.

Still a further object of my invention is the provision of a two-piece box of the end overlap type wherein the locking parts for securing the cover in place are formed as integral parts of the structure utilizing a minimum amount of board and requiring no special handling, the erection of the end overlap structure in the conventional fashion serving to erect and position the locking parts.

Yet another object of my invention is the provision of a carry-home box of the character described which, in addition to having a self locking cover, is provided with

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integral carrying handles which may be used or not used as desired.

The foregoing together with other objects of my invention which will appear hereinafter or which will be apparent to the skilled worker in the art upon reading these specifications, I accomplish by those constructions and arrangements of parts of which I shall now describe certain exemplary embodiments.

Reference is now made to the accompanying drawings wherein:

Figure 1 is a plan view of a box blank in accordance with my invention.

Figure 2 is a plan view of a cover blank for the box of Figure 1.

Figure 3 is a perspective view showing the blank of Figure 1 in substantially assembled condition.

Figure 4 is a vertical sectional view taken along the line 4-4 of Figure 3.

Figure 5 is a perspective view with parts broken away showing the cover blank of Figure 2 in assembled condition.

Figure 6 is a fragmentary sectional view taken along the line 6-6 in Figure 5.

Figure 7 is a vertical sectional view, parts broken away, illustrating the manner in which the cover and bottom parts lock together.

Figure 8 is a perspective view of the assembled box in carrying position.

Figure 9 is a plan view of a blank for an alternative form of box.

Figure 10 is a perspective view illustrating the blank of Figure 9 in partially assembled condition.

Figure 11 is a fragmentary perspective view illustrating one end of the box of Figure 10 with the locking tongue folded to locking position.

Referring first to Figure 1 of the drawings the blank therein illustrated is formed from boxboard or paperboard suitably cut and scored to provide a bottom panel 1 having side wall panels 2 and 3 articulated to the opposite side edges thereof, and end wall panels 4 and 5 articulated to the remaining edges of bottom panel. Attachment flaps 6, 7, 8 and 9 are hingedly connected to the ends of the side wall panels 2 and 3, and end overlap flaps 10 and 11 are hingedly connected to the ends of the end wall panels 4 and 5. Similarly, inner side wall panels 12 and 13 are connected to the outermost side edges of side wall panels 2 and 3. Preferably, the inner side wall panel 12 will be of a width substantially equal to side wall panel 2 and will have an extension 14 hingedly connected to its outermost side edge. In order to effect a savings in board, the inner side wall panel 13 may be of reduced width equal to, say approximately one-half the width of the side wall panel.

In accordance with my invention, the attachment flaps 6, 7, 8 and 9 are provided with tongues 15, 16, 17 and 18, respectively, and the end overlap flaps 10 and 11 are provided with elongated openings 19 and 20 having a width substantially equal to the combined width of a pair of said tongues. Thus, the width of the opening 19 is substantially equal to the combined width of the tongues 15 and 16 so that, as will become apparent hereinafter, the tongues may be projected upwardly through the opening.

The side wall panel 2 is also cut and scored to provide a pair of oppositely directed handle elements 21 and 22 formed therein, the base edges of the handle elements being spaced apart so that, upon the outward displacement of the handle elements from the plane of the side wall panel, the two handle elements will extend in generally parallel and spaced apart relation. Preferably the outer edges of the handles indicated at 21a and 22a, will be along the top and bottom edges, respectively of side

wall 2, thereby facilitating their engagement by the user when it is desired to displace them to carrying position.

Referring now to Figure 2, the blank for the cover part comprises a cover panel 23 having side panels 24 and 25, and end panels 26 and 27. Attachment tabs 28, 29, 30, and 31 are connected to the end edges of the side wall panels 24 and 25, and inner side panels 32 and 33 are hingedly connected to the outer edges of the panels. Similarly, inner end panels 34 and 35 are hingedly connected to the outer edges of end panels 26 and 27; and the inner end panels have recesses 36 and 37 therein which have a length corresponding to the combined length of a pair of the tongues, such as the tongues 15 and 16 of the bottom part.

The erection and assembly of both the bottom and cover parts may be carried out in conventional manner, the bottom being folded and secured in the manner illustrated in Figure 3, wherein it will be seen that the side wall panels 2 and 3 are erected relative to the bottom panel 1, with the attachment flaps folded inwardly in the manner illustrated, thereby bringing the tongues 15, 16 and 17, 18 into side by side relationship. The end wall panels 4 and 5 are then folded upwardly so as to contact the outer surfaces of the attachment flaps, and the end overlapped flaps 10 and 11 folded inwardly and downwardly over the upper edges of the attachment flaps. In this connection, the openings 19 and 20 will be in alignment with the pairs of tongues 15, 16 and 17, 18 and the tongues will project upwardly through the openings. In accordance with customary practice, the end overlap flaps may be secured to the inner surfaces of the attachment flaps, either by adhesive, staples or the like, or, if desired, the end wall panels may be secured directly to the attachment flaps. The extensions 12 and 13 will be infolded to lie along the inner surfaces of the walls to which they are connected. Preferably, the relatively narrow extension 13 will be secured to side wall 3, whereas the full depth extension 12 need not be secured, being held in place by means of extension 14. Of course, it too may be secured if desired.

Figure 5 shows the assembly of the cover part, which involves the infolding and securing of the inner side panels 32 and 33 to the side panels to which they are secured, the erection of the side panels relative to the cover panel, the infolding of the attachment tabs, and the erection of the end panels and the infolding of the inner end panels 34 and 35. As will be clear from Figures 5 and 6, the attachment tabs, such as the tabs 30 and 31, space the inner side panel 35 inwardly with respect to the end panel 27, and this space together with the recess 37 in the inner side panel define a tongue receiving pocket 38 (Figure 6).

Figure 7 illustrates the manner in which the cover is fitted onto the box bottom. Where the locking tongues are to be engaged with the cover, the tongues are folded outwardly, as illustrated in the right hand portion of Figure 7, whereupon the cover is caused to telescope over the upper edges of the bottom part, thereby causing the outwardly folded tongues to be folded against the end walls of the box. The height of the tongues is such that, when the cover is in fully closed position, the tongues 15, 16 and 17, 18 will just clear the edges of the recesses 36 and 37 and hence will enter into the pockets 38. When so engaged, it will be apparent that the tongues will hold the cover in closed position. Of course, the cover may be removed by applying positive force which will cause the tongues to be reversely folded and hence removed from the pockets. Where it is desired to place the cover part on the box bottom without engaging the cover locking tongues, the tongues may be folded to the inside, as indicated in dotted lines in the right hand portion of Figure 7, whereupon the cover part may be placed on the bottom without the locking action taking place. For example, when the shoe manufacturer initially fills the box for shipment to the retail shoe store,

the locking tongues may be folded inwardly so that the box may be readily opened by the salesman when the shoes are being fitted. Once the purchase has been made, the shoes may be replaced in the box and the tongues turned outwardly, thereby locking the cover in closed position. The clerk may also erect the handles 21 and 22, as illustrated in Figure 8. In connection with the handles, it will be noted that when they are erected, the openings in the side wall 2 will be closed by the inner side wall panel 12 which, if desired, may be printed or otherwise colored in conformity with the surfaces of the box.

Figure 9 illustrates an alternative form of the invention wherein the tongues 15, 16, 17 and 18 are eliminated in favor of tongue members 39 and 40 which are formed in the end overlap flaps 10 and 11. Essentially, instead of dieing out the openings 19 and 20, the openings are defined by lines of cut 41 and 42 which terminate at the lines of articulation connecting the end overlap flaps 10 and 11 to the end walls of the box, thereby defining the elongated tongue members.

The embodiment just described effects a savings in both time and material in that the elimination of the tongues 15-18 permits more effective nesting of the blanks, and at the same time the board in the openings 19 and 20 need not be scrapped-out.

The erection of the blank of Figure 9 is similar to the erection of the blank Figure 1 excepting that the infolding of the end overlap flaps 10 and 11 automatically causes the tongue members 39 and 40 to project upwardly in the manner best seen in Figure 10. The tongue members may then be folded outwardly, as illustrated in Figure 11, for locking engagement with the cover part, or they may be folded inwardly where the cover is to be placed on the box bottom in non-locking condition. Where the tongue members are outfolded, they will engage within the pockets 38 in the cover to hold the cover part against accidental displacement.

With either of the forms of the invention herein before described, the flat blanks may be shipped to their point of assembly with the inner side wall panels 13 and 14 of the bottom part and inner side panels 32 and 33 of the cover part pre-glued. In the hands of the assembler, i.e. the shoe manufacturer, the blanks may be conveniently set up and assembled by erecting the wall panels, infolding the attachment flaps or tabs, and folding or securing the end overlap parts. When the shoe manufacturer packs the boxes with shoes, the tongues will be infolded, i.e. folded to non-locking position so that the cover part may be readily removed by the retailer when displaying the shoes; and yet by folding the tongues outwardly, they may be readily positioned to secure the cover in place for carry-home.

Modifications may be made in my invention without departing from the spirit of it. It will be evident that the size and shape of the tongue members may be varied as desired; and similarly, the size and shape of the recesses 36 and 37 in the cover will be varied accordingly so as to accommodate the tongues in the pockets 38.

Having, however, described my invention in certain exemplary embodiments, what I desire to secure and protect by Letters Patent is:

1. In a two-piece self-locking box, a bottom part and a cover part, said bottom part comprising a bottom wall, side and end walls hingedly connected to said bottom wall, attachment flap connected to the ends of said side walls, said side and end walls being erected with respect to said bottom wall with said attachment flaps juxtaposed to the inner surfaces of said end walls, end overlap flaps hingedly connected to the upper ends of said end walls and folded inwardly and secured to said attachment flaps, an elongated opening in each of said end overlap flaps extending lengthwise thereof with a side edge of each such slot coinciding with the uppermost edge of the adjoining end wall, a pair of locking tongues projecting upwardly

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through each of said openings, said pairs of locking tongues being formed as integral extensions of said attachment flaps, said tongues being hingedly connected to said attachment flaps along lines coinciding with the upper edges of said end walls so as to be selectively foldable inwardly and outwardly; said cover part comprising a cover panel, side and end wall panels hingedly connected to said cover panel, attachment tabs hingedly connected to the ends of said side panels, said side and end panels being erected with respect to said cover panel with said end panels juxtaposed to outer surfaces of said attachment tabs, inner end panels hingedly connected to said end panels and folded inwardly to overlie said attachment tabs, said inner end panels being secured to said attachment tabs, said attachment tabs at each end of said cover part terminating short of each other so as to define an opening therebetween, said last named openings and the intermediate portions of said inner side panels defining pockets of a size to receive said pairs of tongues when said tongues are folded outwardly relative to said box bottom part and said cover is fitted over said bottom part.

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2. The box structure claimed in claim 1 including a pair of handle elements struck from one of the side walls of said bottom part, said handles being oppositely directed and having their base edges lying in spaced apart relationship, an inner side wall panel connected to the side wall from which said handle elements are struck, said inner side wall panel being of full depth so as to underlie and cover the openings formed in the said side wall when said handle elements are displaced relative thereto.

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