Feb. 26, 1963 H. PORIS 3,079,039

DISPLAY BOX

Filed Aug. 12, 1960 2 Sheets-Sheet 1

Fig. 1.

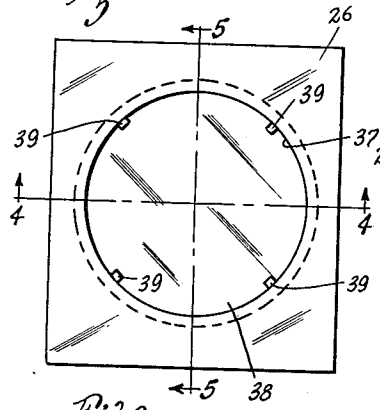


Fig. 4.

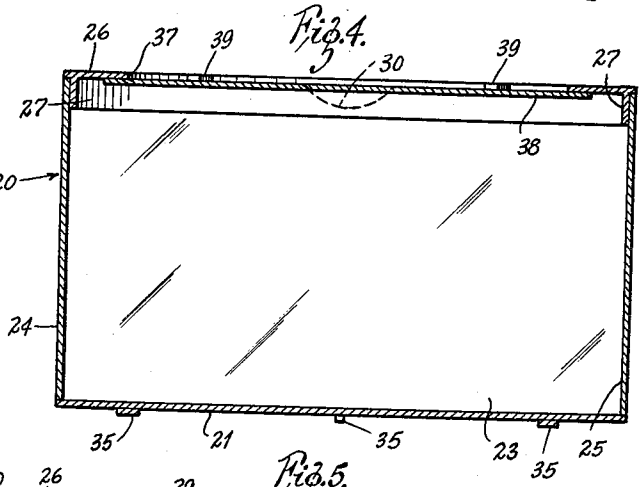


Fig. 2.

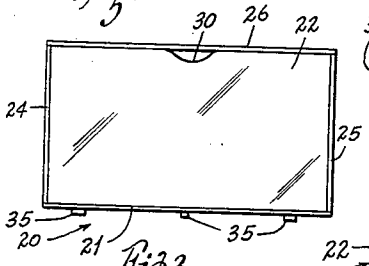


Fig. 5.

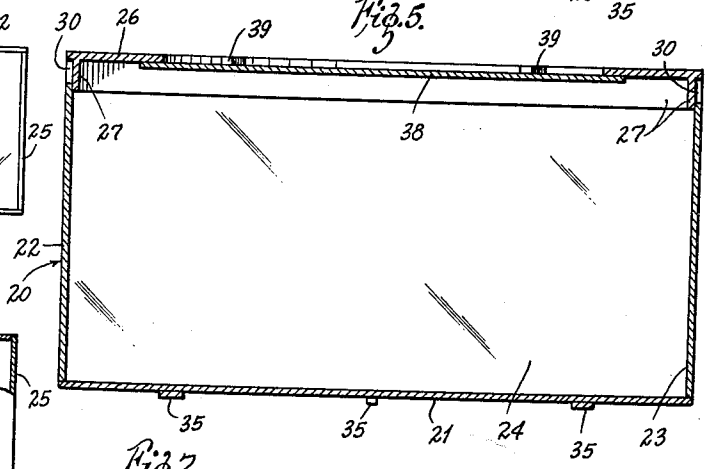


Fig. 3.

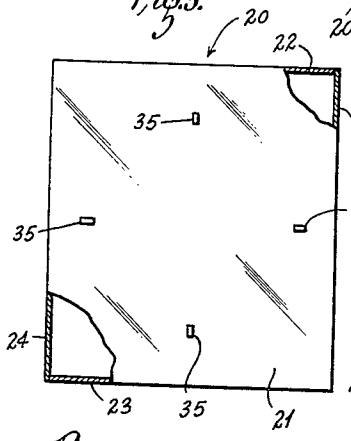


Fig. 7.

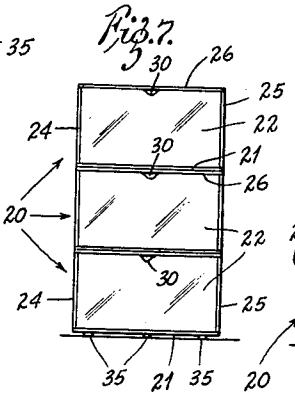


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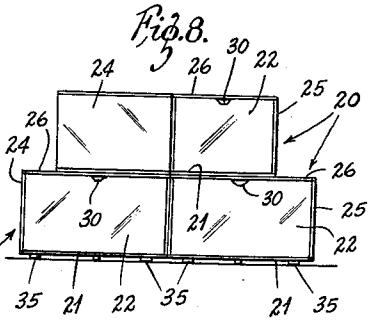
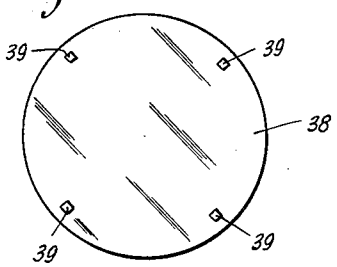


Fig. 6.



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Fig. 9.

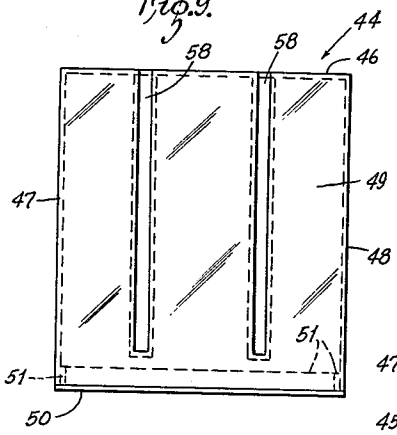


Fig. 10.

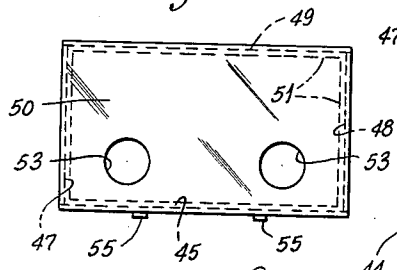


Fig. 11.

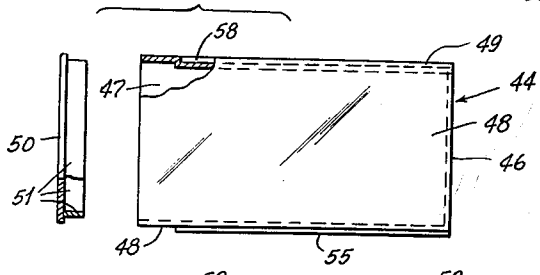
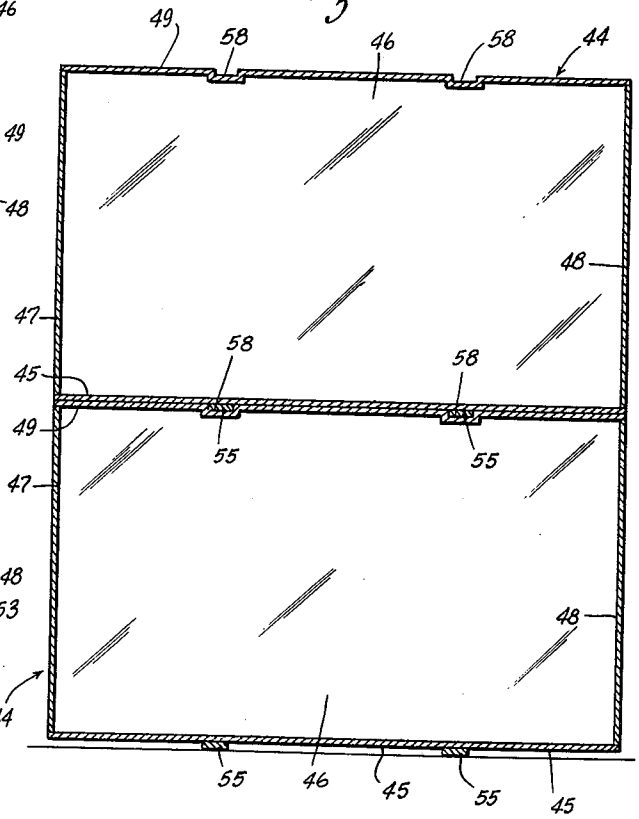


Fig. 13.



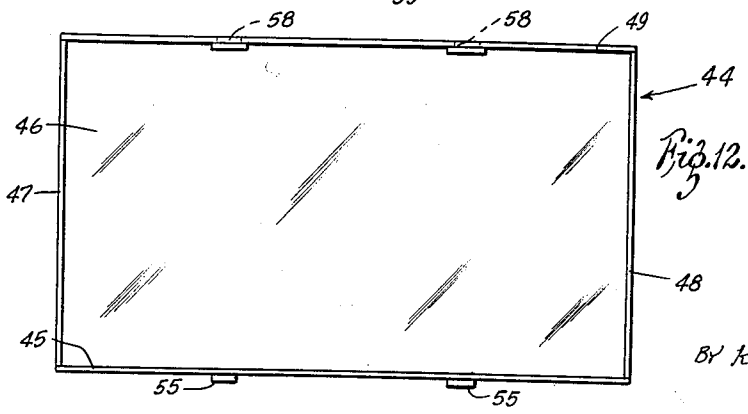


Fig. 12.

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DISPLAY BOX

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8 Claims. (Cl. 220—97)

The present invention relates to a display box. It is particularly adapted for use with shoes such as infants' shoes. Preferably, it is made of clear plastic so that the articles inside are visible at all times.

The principal characteristics of this box relate to the manner in which it can be stacked with other boxes of the same description. The tops and bottoms of the boxes have complementary elements that inter-engage to permit limited relative movement of one box stacked upon another. This limited movement permits the boxes to be stacked, one on top of the other, but prevents inadvertent withdrawal of a box from the stack without lifting the boxes above it, and raising it from the boxes below it.

In one form of the invention, the interlocking elements may comprise two runners or tracks and complementary grooves in the respective top and bottom panels, the lengths of the ridges and grooves being such that the one box cannot be pulled forwardly or moved laterally with respect to the boxes on which it is stacked. In another form of the invention, the boxes can be turned, one with respect to the other, on a vertical axis that cannot be pulled forwardly with respect to the boxes below.

The objects of the invention are to provide display boxes of the type described having the foregoing advantages. Other objects include the design of boxes that can be made out of ordinary sheet material and conventional plastic sheet stock.

Other objects will appear from the description to follow in which

FIGURE 1 is a top plan view of a box of the preferred type;

FIGURE 2 is an end view of the box of FIGURE 1 taken from the bottom end;

FIGURE 3 is a bottom view of the box of FIGURE 1 with a corner broken away;

FIGURE 4 is a transverse vertical section on the line 4—4 of FIGURE 1;

FIGURE 5 is a longitudinal vertical section taken on the line 5—5 of FIGURE 1;

FIGURE 6 is a view of a top circular panel of the box;

FIGURE 7 is a view showing three boxes stacked on top of the other taken from the front;

FIGURE 8 is a view of three boxes, two being at the bottom and one in a partially twisted relationship on top of the two.

FIGURE 9 is a plan view of a second embodiment of the invention;

FIGURE 10 is a front elevation or end view of the box of FIGURE 9;

FIGURE 11 is a side elevation of the box with the end closure in a withdrawn position;

FIGURE 12 is an enlarged end view of the box looking in from the open end, the closure being removed; and

FIGURE 13 is an enlarged view in medial transverse section of two of the boxes stacked one on the other.

Referring first to the embodiment of FIGURES 1–8, the box consists of a body 20 having a bottom wall 21, and side walls comprising a front wall 22, a rear wall 23, a left wall 24, and a right wall 25. There is a closure in the form of a flanged cover 26. It has flanges 27 around it, designed to enable it to telescope into the open top end of the main box 20. The flanges 27 are inset from the outer edge of the top 26 so that when the cover is fitted into place, it will engage the top edges of the side walls, and produce a closed box without any overhanging elements. To assist in the removal of the lid, the front and

rear walls of the box are provided with finger notches 30.

The bottom panel 21 of this embodiment is provided with several short lugs. Four lugs 35 are here illustrated. They project downwardly a very short distance from the bottom of the wall 21. They may act as legs or feet for the box when it is resting upon a plane surface, and the fact that there are four of them spaced apart makes the box stable.

The cover 26 has a circular cutout 37 in it. The cutout 37 is closed by a slightly larger disk 38 which is illustrated in FIGURE 6. The disk 38 is provided with a plurality of lugs 39, here four in number. These lugs are spaced to fit just within the circular cutout 37 when the disk 38 is in place.

With this embodiment of the invention, the several panels can be made of sheet material cemented together in the corners where necessary to make the box out of conventional sheet elements. Thus, the side walls, end walls and bottom walls may be made of sheets. The top wall 26 can be made of a sheet from which the center opening is stamped or cut out, and to which the flanges 27 are cemented, they being made also of sheet or strip material. The disk 38 can be made of conventional sheet material. The lugs 35 and 39 can be made of small pieces of the sheet or strip material cut off and cemented into place.

While it is an advantage to be able to make the box entirely out of conventional sheet and strip material, it will be understood that it can be completely molded if desired, or can be otherwise fabricated.

When the box is thus made out of the clear plastic, the shoes or other objects can be placed within it, and be clearly visible through all of its walls. This makes an extremely attractive package and also one that has definite functional advantages.

When several of the boxes are stacked one on the other as shown in FIGURE 7, the lugs 35 on the bottom 21 of one box can fit within the cutout 37 on the top of the next lower box. The distance between the outside edges of the lugs 35 equals the diameter of the cutout 37. Therefore, the lugs 35 provide a base upon which twisting movement of one box relative to the other may be guided. The lugs 39 are preferably spaced 45° from the main and transverse axes of the box, whereas the lugs 35 are on these axes. By this arrangement, one box may be twisted a total distance of 90° with respect to a box above or below it, or, in other words, 45° in either direction from parallelism with such other box. When the lugs engage, they provide a positive stop against further twisting movement.

It will be seen that the lugs 35 are widely spaced so that when the box is resting upon a plane surface, it is stably supported and will not rock. On the other hand, these lugs still can guide the box in twisting movement with respect to another box because of their engagement within the circular cutout 37.

The depth of the lugs 35 is preferably not substantially greater than the thickness of the sheet of the top 26. This enables the boxes to fit together without lost space between them.

When boxes are thus stacked as shown in FIGURE 7, one box cannot be displaced from the stack. This makes a stable stack of boxes so that a column of them can be stacked up without requiring independent lateral support which would be the case where there were no such lateral stability provided by the inter-engagement of the lugs and the cutout. On the other hand, where the lugs, being thus relatively shallow, one box may be removed from a stack readily, when it is intended to do so.

When a box is removed, its lid can be withdrawn with no difficulty and the contents extracted.

When the boxes are stacked up, intermediate boxes can

be twisted by degrees one way or another which enhances the display possibilities. It also permits the customer to see the sides of the shoes if desired.

In the other embodiment of the invention, shown in FIGURES 10–13, the box 44 is somewhat different. It is illustrated as having a bottom wall 45 and side walls comprising a rear wall 46, lateral walls 47 and 48, and a top wall 49. In this case, the walls 45–49 are all permanently secured together, leaving the front of the box open. It will be understood that as an alternative, one of the other walls may be removable in place of the front wall. Also, the same is true of the previous embodiment that any of the other walls may be removable in place of the top wall.

In this second embodiment, the front wall 50 is made of the regular plastic sheet material provided with flanges 51 around it to enable it to telescope within the main box 44. It has two finger holes 53 to enable it to be removed from the box.

In this embodiment, the bottom wall 45 of each box is provided with lugs preferably in the form of strips 55. These strips are spaced from each other and preferably are in parallelism, projecting from the bottom of the box. These lugs 55 terminate short of the front wall as illustrated in FIGURE 11. Preferably, they extend to the back wall, although it will be understood that they will be discontinuous.

The top wall 49 of each box is provided with grooves 58 that are complementary to the ribs 55 in the bottom wall, thus permitting the boxes to be stacked up similarly to the manner of stacking of the boxes of the first embodiment. However, in this case, the boxes may not be twisted, one with respect to the other. The fact that the ribs 55 and the grooves terminate short of the front of the boxes provides stability of the boxes against being slid out of a stack laterally or forwardly. As illustrated, the ribs and the grooves extend all the way to the back wall so that a box may be slid backwardly if it is to be removed from a stack. However, normally it will be removed from a stack by lifting those above it away from it. Also, frequently, when the boxes are stacked, they are stacked against a wall but may not have any lateral or forward support.

When it is desired to withdraw the contents of any individual box in a stack, its front wall 50 may be removed and the contents taken out of the box without removing the box. This has some advantages over providing the closure in the top of the box. However, it has certain disadvantages in that the cover is not held in place by gravity.

In both embodiments of the invention, stable columns of boxes are provided. In both, any individual box can rest stably upon a plane surface. In both embodiments, the boxes are neat and attractive in appearance. Both carry the advantage that a product sold in one of the boxes invites the sale of an additional product, because the boxes can be stacked up in the closet or other places of storage by the customer. Furthermore, they are relatively inexpensive to make because they can be fabricated from conventional sheet or strip material in both cases.

What is claimed is:

1. A container adapted to be stacked with other like containers in a stable column of containers, such container comprising bottom, sides and top walls, the bottom wall and the top wall having complementary lug means and recess means with the lug means of one box projecting into the recess means of another box, the recess means being substantially larger than the lug means, the lug means and recess means being arranged with abutting side walls to prevent lateral sliding movement in some directions, but the recess means extending beyond the lug means in one lateral direction to provide a free and unrestricted path in at least one lateral direction of movement of the lug means to permit limited movement of one such container relatively to another container on which it is stacked.

2. The container of claim 1 in which the recess means is in the top wall and comprises a circular recess, while the lug means project from the bottom wall and have their outer edges spaced apart a distance equal to the diameter of the circular recess in the top wall, whereby the lug means on the bottom of one container may be fitted into the circular recess of the top wall of another container to provide guided twisting movement between the two containers and stops within the circular recess projecting upwardly therefrom against which the lugs abut to provide limits to the twisting movement between the containers.

3. A container as in claim 1 in which there is a removable wall telescoped within the main container and removable to give access to the contents.

4. The container of claim 1 in which the recess means consists of two parallel grooves in one wall of the container and two parallel ridges complementary to the grooves in the other wall, the ridges fitting within the grooves to prevent the aforesaid sliding movement in some directions while providing the aforesaid unrestricted path in at least one lateral direction.

5. The container of claim 4 in which the ridges are of such depth as to provide stability when the container is rested upon a plane surface.

6. The container of claim 1 in which the lugs are in the bottom wall and comprise a pair of ridges in parallel relationship extending therefrom and terminating short of one transverse wall toward which they extend, and the recess comprises grooves of the top wall that likewise terminate short of said transverse wall, the result being that when two such containers are stacked one on the other the grooves and the ridges will interengage and will prevent one container from being slid with respect to another in at least three directions.

7. A box as in claim 1 formed of clear plastic material to enable the contents to be viewed when boxes of like nature are stacked up.

8. The container of claim 1, wherein the depth of the recess means is sufficiently large to permit contact between the bottom of one container and the top of the container below it.

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