Nov. 7, 1944. E. L. ARNESON 2,361,923

BOX

Filed July 5, 1941

Fig. 1

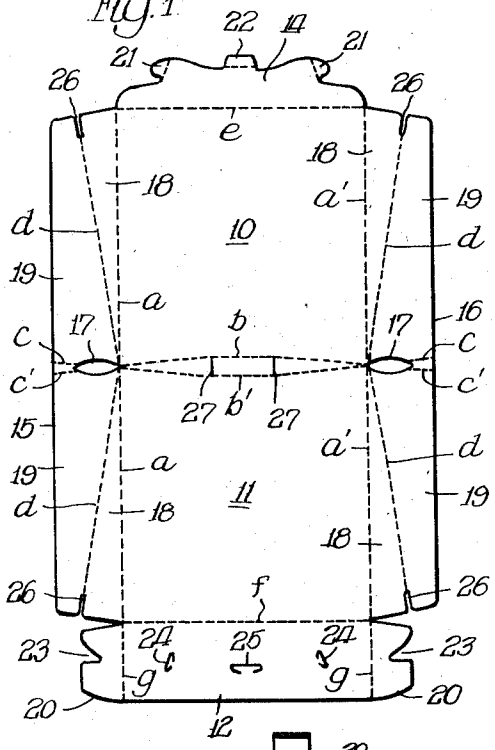


Fig. 2

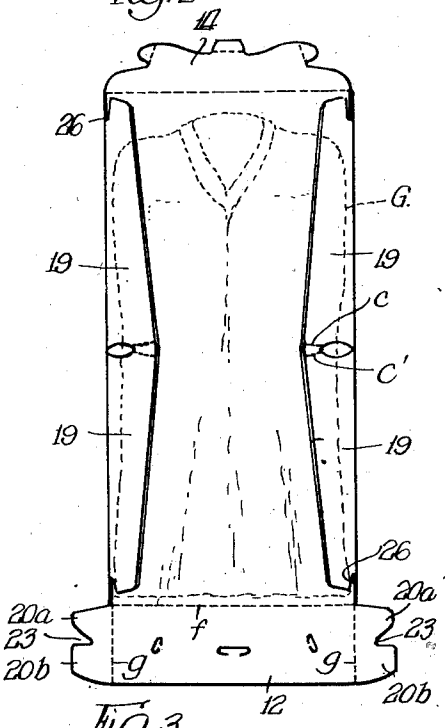


Fig. 3

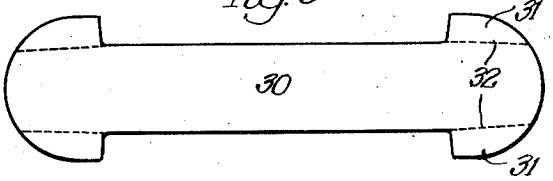


Fig. 4

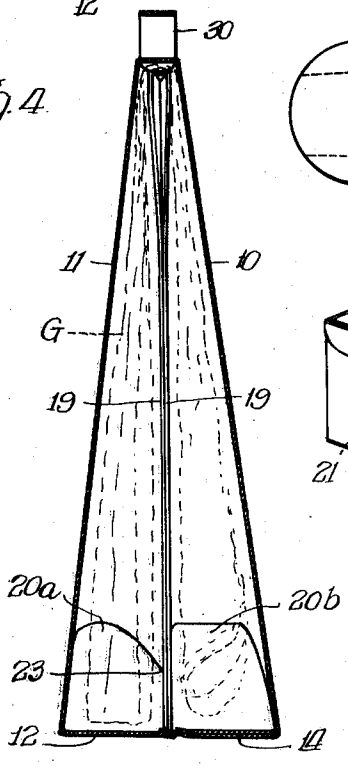
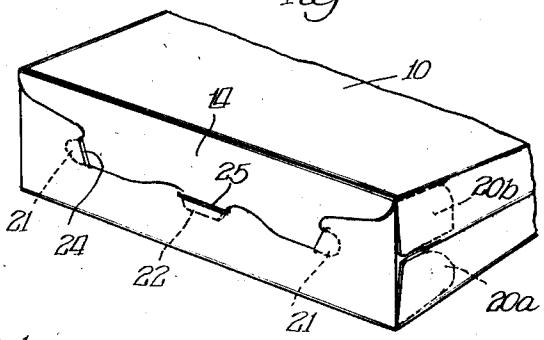


Fig. 5



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Patented Nov. 7, 1944

2,361,923

UNITED STATES PATENT OFFICE

2,361,923

BOX

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Application July 5, 1941, Serial No. 401,076

12 Claims. (Cl. 206—7)

This invention relates to boxes of the sort designed for the packaging of garments or similar articles of merchandise in retail stores for delivery to or transportation by a purchaser.

A general object of the invention is the provision of such a box which may be fabricated in knocked-down condition in the form of an integral flat sheet or blank and which may be set up from said knocked-down condition quickly and with facility at the retail establishment incident to the packaging of an article in it and which, when set up, will afford effective protection for its contents, will sustain a contained garment or the like in a suspended or partially suspended condition to avoid crushing or creasing of it, and which will form a neat and substantial package which may be carried by the purchaser with convenience.

Other and further objects of the invention will be pointed out or indicated hereinafter or will become apparent upon use of it.

For the purpose of aiding in an explanation of the invention, I show in the accompanying drawing, and hereinafter describe, one form in which it may be embodied. It is to be understood, however, that this is presented merely for purpose of illustration and is not to be construed in any fashion for the purpose of limiting the appended claims short of the true and most comprehensive scope of the invention in the art.

In said drawing,

Fig. 1 is a plan view of a shaped and creased blank which represents the box in its knocked-down condition;

Fig. 2 is a view, partly in perspective, showing the blank partly folded in association with a garment, and serving to illustrate the procedure of setting up the box;

Fig. 3 is a plan view of one type of handle which may be applied to the box;

Fig. 4 is an elevational section through the set-up box and illustrating an article of merchandise suspended and enclosed within it; and

Fig. 5 is a perspective view of the lower portion of the box in its set-up condition.

In the embodiment of the invention illustrated in the drawing the box is formed of a unitary sheet of paper board or the like which is die cut into the form shown in Fig. 1 and marked by crease or score lines so as to provide a pair of similar side walls 10 and 11, bottom wall portions 12 and 14, and lateral flaps 15 and 16. The lateral limits of the side walls 10 and 11 are defined by crease lines *a* and *a'*, and the upper limits of said walls are defined by top crease lines *b* and *b'*. Midway between the crease lines *a* and *a'* the top crease lines *b* and *b'* are spaced an appreciable distance from each other and they converge toward each other as they approach the lateral crease lines *a* and *a'*. The lateral flaps 15 and 16 are formed with apertures 17 adjacent the lateral crease lines *a* and *a'* and the ends of the top crease lines *b* and *b'* and each of said lateral flaps is provided with creases *c* and *c'* extending in divergent relationship to each other from its aperture 17 to its outer margin. Each lateral flap is also provided with oblique creases *d* extending diagonally from the ends of the top creases *b*—*b'* to the ends of the lateral flap, said creases *d*, in conjunction with the apertures 17 and creases *c*—*c'*, serving to subdivide each of the lateral flaps into a pair of end wall sections 18 and a pair of fold sections 19.

The side wall 10 is marked off from the bottom flap 14 by a crease line *e*, and side wall 11 is similarly marked off from the bottom section 12 by a crease line *f*. At its opposite ends the bottom section 12 carries lock flaps 20 having notches 23. The bottom flap 14 is formed with locking tongues 21 and 22 and the bottom section 12 is provided with slots 24 and 25 adapted to receive said locking tongues. The lateral flaps are formed with slots 26 extending inwardly from their respective ends for a short distance along the oblique lines *d*. In the area between the lines *b*—*b'* are formed apertures 27 for insertion of the handle.

The handle may be of any of various kinds, and in Fig. 3 I have shown one form which is cut from a sheet of tough pliable paper board so as to afford a strap portion 30 with laterally projecting wings 31 at its ends which may be folded inwardly against the strap portion along crease lines 32. When so folded, the end portions of the handle may be inserted through the apertures 27, and then the projections 31 folded outwardly to hold the ends of the handle against withdrawal from the apertures.

The boxes are supplied to the user in the knocked-down condition illustrated in Fig. 1. When the user wishes to use one for the packaging of an appropriate article, such as a garment, he first attaches the handle to one of the blanks as above described, and with the blank laid out flat as illustrated in Fig. 1, he lays out the garment upon the side walls 10 and 11, substantially as illustrated by the dotted outline in Fig. 2. Then, as illustrated in Fig. 2, he swings the lateral flaps 15 and 16 upwardly along the crease

lines *a* and *a'* and flexes the fold sections **19** inwardly along the crease lines *d* to positions where they overlie lateral portions of the garment. When the lateral flaps are thus swung inwardly, the side wall **10** is caused to start swinging toward the side wall **11**, and it is then grasped and swung fully over until the inner sides of the fold sections **19** at respective sides of the box are brought into contact with each other. In this folding of the side walls, the flection takes place on crease lines *b* and *b'* and at the same time flection of the conjoined fold sections takes place on the crease lines *c* and *c'*. As a consequence of the relationship of the crease lines and the presence of the apertures **17**, the upper ends of the fold sections **19** are spaced a slight distance away from the crown area which is between the crease lines *b*—*b'*. After the side walls and fold flaps have thus been folded, the lock flaps **20** are folded upwardly along crease lines *g* and bottom section **12** is swung upwardly along crease line *f* so as to slide the lock flaps **20** into the lower end of the box along the inner surfaces of end wall sections **18**. In this movement, the portions **20***a* of the lock flaps **20** pass through the notches **26** to positions at one side of the fold sections **19**, while the portions **20***b* move to positions at the opposite sides of the fold sections **19**, and the bottom section **12** reaches its final or limit position when the bottoms of the notches **23** reach the bottoms of the notches **26**. Thereupon the bottom flap **14** is folded over against the outer side of bottom section **12** and is interlocked thereto by insertion of the tongues **21** and **22** into the slots **24** and **25**. This completes the setting up of the box and the packaging of the contents.

As thus assembled, the package is of wedge shape with the thinner edge of the wedge at the top and having the strap portion of the handle projecting above it and affording a convenient means whereby the package may be carried in a pendulous position. The end wall sections at respective ends of the box align with each other and their fold sections rest in face-to-face contact with each other and are held in that position by locking or latching engagement of the lock flap portions **20***b* with the fold sections and by the engagement of the fold sections in the notches **23**. The engagement of the locking flaps **20** in the notches **26** holds the lower ends of the end wall sections against moving outwardly away from the bottom section.

When a garment or similar article has been packaged in the box as above described, it will find support upon the upper end portions of the fold sections when the box is in upright position, and as a consequence, the garment will be suspended or partly suspended within the package, in somewhat the fashion illustrated at G in Fig. 4. In many instances this is desirable to avoid creasing or crushing of the article of merchandise within the box.

The package is held securely in its assembled and closed condition by the interlocking engagement afforded by the tongues **21** and **22** and slots **24** and **25**. However, it may be opened very easily, and in a manner which is quite obvious to the purchaser, and without involving any mutilation of it, by laying it on a table with one of its side walls downward and then drawing the bottom section **14** away from the bottom section **12**, whereby to withdraw the tongues from the slots, then swinging the bottom section **12** outwardly, and then swinging the side walls apart from each other.

What I claim is:

1. A knock-down box comprising a unitary sheet of paper board shaped and creased to provide a pair of similar oppositely disposed side walls which are flexibly connected to each other at their top ends and foldable into acute-angular relationship to each other, lateral flaps flexibly connected to the side walls along opposite lateral margins thereof and foldable into angular relationship thereto to form end wall sections, portions of said lateral flaps of opposite side walls meeting each other between the side walls, a bottom section flexibly connected to the bottom end of one of the side walls and foldable to position to form a bottom portion between the lower ends of the side walls, and lock flaps formed on the bottom section for interlocking with lower end portions of the meeting lateral flaps to retain them against swinging apart.

2. A knock-down box as specified in claim 1 and wherein the lock flaps are flexibly connected to opposite ends of the bottom section, said lock flaps being movable to positions along the inner surfaces of the end wall sections when the side walls and lateral flaps are in their folded relationship.

3. A knock-down box as specified in claim 1 and wherein said lateral flaps comprise fold sections foldable inwardly to angular relationship to the end wall sections and the lock flaps are flexibly connected to opposite ends of the bottom section, said lock flaps being movable to positions along the inner surfaces of the end wall sections when the side walls and lateral flaps are in their folded relationship and having portions engageable with the fold sections adjacent their lower ends to retain them in their folded positions.

4. A box as specified in claim 1 and including a handle connected to the sheet at the top ends of the side walls and extending above the same.

5. A knock-down box as specified in claim 1 and including engaging means for retentively engaging the bottom section with the opposite side wall, said engaging means comprising a bottom flap flexibly connected to the bottom end of said opposite side wall and interfitting tongues and slots provided in said bottom flap and bottom section.

6. A knock-down box as specified in claim 1 and wherein said lateral flaps comprise fold sections foldable inwardly from the end wall sections, said lock flaps being movable to positions along the inner surfaces of the end wall sections when the side walls and lateral flaps are in their folded relationship, said lock flaps and said lateral flaps being notched to afford interengageable portions whereby the fold sections of opposite side walls are held against swinging apart.

7. A knock-down box as specified in claim 1 and wherein the lateral flaps are marked off by oblique fold lines to form end wall sections which taper toward their upper ends and fold sections which taper toward the lower ends of the lateral flaps.

8. A knock-down box as specified in claim 1 and including means for retentively engaging the bottom section with the lower end portion of the other side wall to form a bottom closure for the box.

9. A knock-down box as specified in claim 1 and wherein the lateral flaps at respective sides of the sheet are flexibly connected to each other at their upper ends.

10. A knock-down box as specified in claim 1

and wherein the lateral flaps of opposite side walls meet one another approximately midway between the side walls when the box is in set-up condition.

11. A knock-down box as specified in claim 1 and wherein the lateral flaps have folded sections foldable inwardly to angular relationship with the end wall sections, the inwardly folded fold sections of opposite side walls meeting one another between the latter when the box is in set-up condition.

12. A knock-down box comprising a unitary sheet of paper board shaped and creased to provide a pair of similar side walls which are flexibly connected to each other at their top ends and foldable into acute-angular relationship to each other, a bottom section flexibly connected to the bottom end of one of said side walls, lateral flaps flexibly connected to both side walls along opposite lateral margins thereof and having portions foldable into angular relationship thereto to form end walls between the side walls and fold sections foldable inwardly from the end walls to abutting relationship with each other, and locking flaps on the bottom section engageable with said fold sections to retain the end wall sections against swinging inwardly and outwardly when the box is in set-up condition.

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