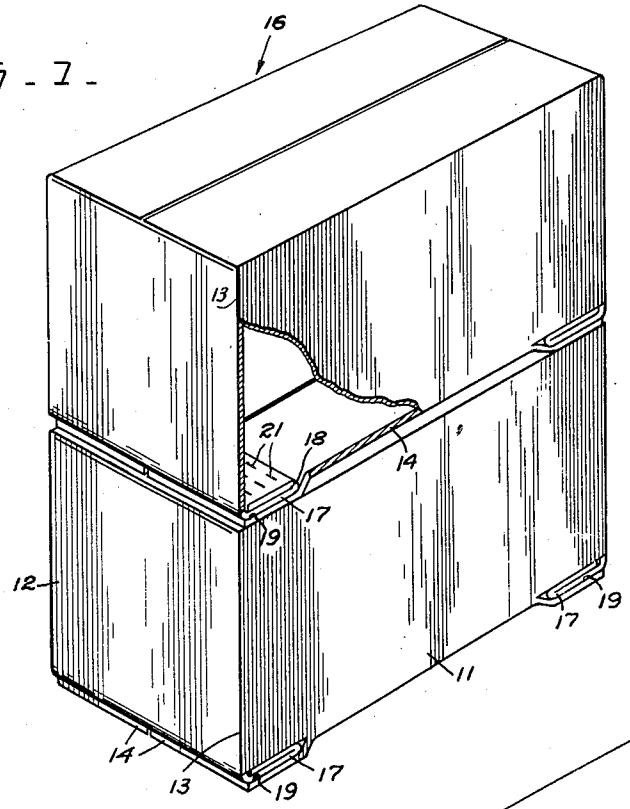
Jan. 3, 1939. K. K. NEWSOM 2,142,142

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Fig. 1.



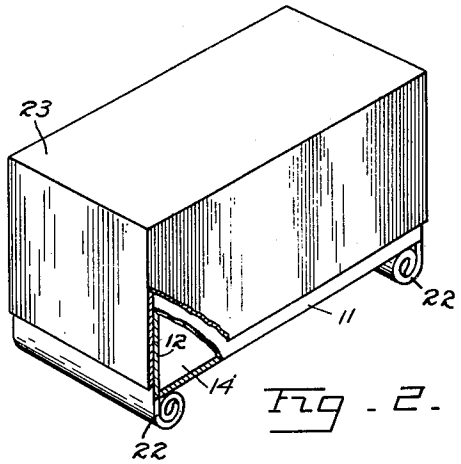


Fig. 2.

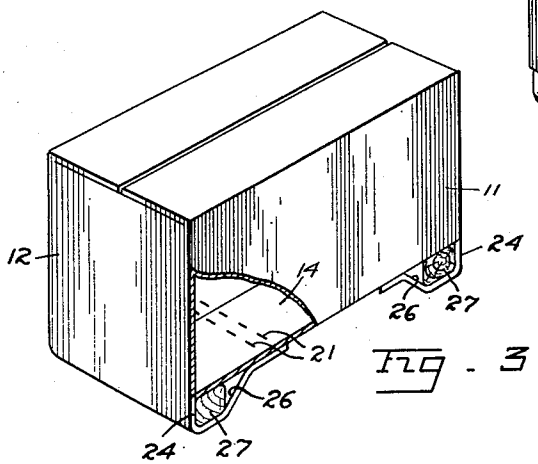


Fig. 3.

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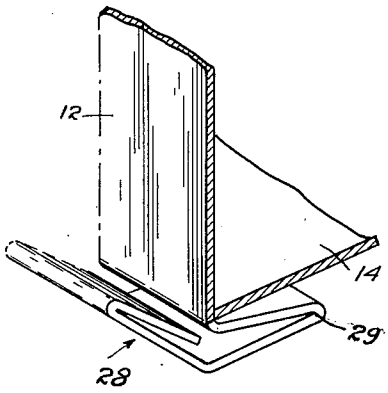


Fig. 4.

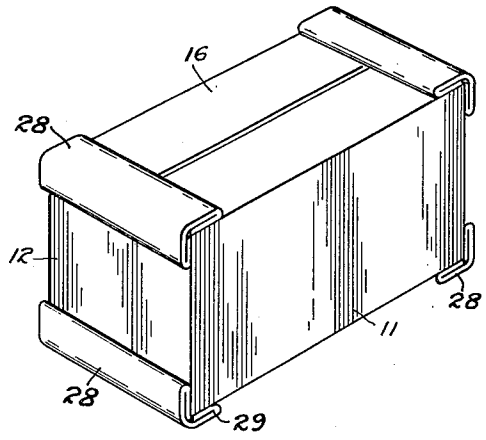


Fig. 5.

Fig. 6.

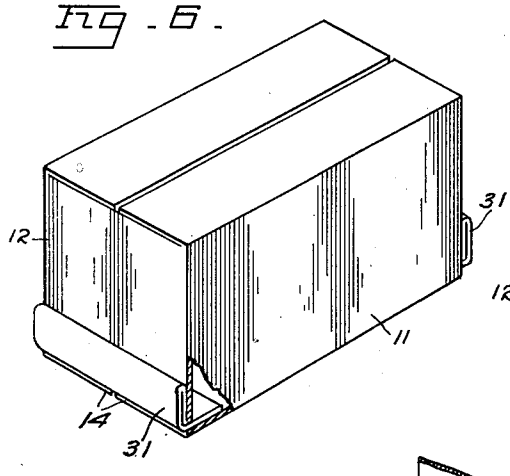
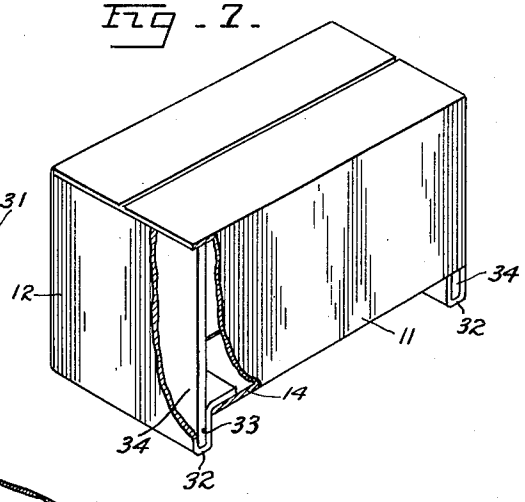


Fig. 7.



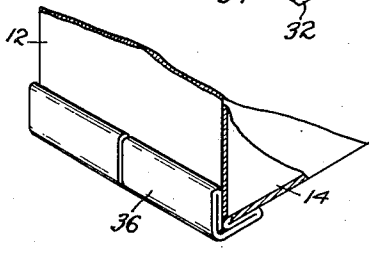


Fig. 8.

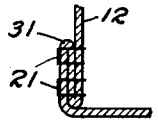


Fig. 9.

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Application August 3, 1936, Serial No. 93,994

3 Claims. (Cl. 229—37)

This invention relates to boxes.

It is an object of this invention to provide a box construction whereby boxes can be readily made of comparatively light construction yet of such strength that fragile articles can be safely packed therein and the contents are fully protected even when the boxes are stacked.

Another object of the invention is to provide a box with cushions so as to space the bottoms and tops, and also the sides of stacked boxes from adjacent boxes or supporting surfaces, and allow free circulation of air through the space between the spaced cushions, and also to transmit the stresses through the sides of the box to said cushions without bending or buckling of the bottom or top, and to obviate direct pressure on the contents of the box.

Another object of the invention is to provide a shipping box and particularly an egg carrier which is highly useful and simple in construction, convenience of arrangement, lightness and comparative inexpense of manufacture are further objects which have been borne in mind in the production and development of the invention.

I am aware that some changes may be made in the general arrangements and combinations of the several devices and parts, as well as in the details of the construction thereof without departing from the scope of the present invention as set forth in the following specification, and as defined in the following claims; hence I do not limit my invention to the exact arrangements and combinations of the said device and parts as described in the said specification, nor do I confine myself to the exact details of the construction of the said parts as illustrated in the accompanying drawings.

The invention is clearly illustrated in the accompanying drawings, wherein—

Figure 1 is a perspective view of boxes made in accordance with my invention, shown in stacked position.

Figure 2 is a perspective view of a box with rolled flap cushions.

Figure 3 is a perspective view of a box with another modified form of cushions.

Figure 4 is a fragmental, perspective view of a box with corner or angle cushions protecting both a side and the bottom.

Figure 5 is a perspective view of a box with corner cushions both at top and bottom.

Figure 6 is a perspective view of another form of corner cushions.

Figure 7 is a perspective view partly in section showing a cushion on the box with a side compression member.

Figure 8 is another modified embodiment of my invention, and

Figure 9 is a fragmental sectional view of the securing means for the flap cushions.

In carrying out my invention, I make use of a box which has sides all around and closure walls at the bottom and top. In the box shown in the drawings the proportions are approximately those of a usual egg carrier, namely there are two opposed longer sides 11, and two opposed shorter sides, or ends 12, which are formed of a single strip of material bent at right angles around foldable flexible joints or creases 13 at the vertical corners of the box. As herein shown the bottom of the box is formed by complemental bottom flaps 14. A flap is extended from the lower edge of each side 11 so as to be foldable toward the other side 11. Each flap 14 covers one half of the bottom of the box and the two flaps 14 form a complete bottom closure.

A top 16 may be similarly formed by longitudinal flaps as shown or a telescoping top cover of the type shown in Figure 2 may be provided.

Spaced cushions are provided on the box preferably at the horizontal corners of the ends 12 so as to space the respective walls of the box from supporting surfaces, or other adjacent boxes when stacked for shipping or storing. These cushions are so located relatively to the ends of the boxes as to transmit the load and stress through the ends or sides of the box from the top to the bottom cushions without any direct pressure on or bending of the sides or top or bottom of the box. The space between the cushions is also left free for air circulation or the like.

The cushions on the boxes herein described are preferably formed of elements extended from the box material, such as folded flaps.

In the form shown in Figure 1 an end flap 17 is extended downwardly from the lower horizontal edge of each end 12. Each flap 17 is folded upon itself around a line 18 substantially parallel with said horizontal edge of the end 12 and then the folded flap 17 is bent around said horizontal edge inwardly so as to be positioned inside of the bottom flaps 14. The bottom flaps 14 are pressed out adjacent the ends thereof so as to form pockets 19 into which the folded flaps 17 are suitably secured, such as by means of staples 21. The pockets 19 project exteriorly below the bottom to equal distances and form the bottoms of spaced cushions on which the load rests leaving the por-

tion of the bottom between said cushions in a suitably elevated position spaced from any supporting surface therebelow.

In the embodiment of my invention shown in Figure 2, end flaps 22 are extended downwardly from the lower edges of the ends 12. Each flap 22 is rolled inwardly toward the bottom so as to become a comparatively tight roll bearing against the outer surface of the bottom. Each roll is held in rolled position by any suitable securing means, such as adhesive, or staples, or the like. In this embodiment the top of the box is shown in the form of a telescoping cover 23.

In the embodiment illustrated in Figure 3, a flap 24 is extended downwardly from the lower horizontal edge of each end 12. The flap 24 is then bent horizontally in parallel and spaced relation below the bottom of the box and then upwardly toward the bottom. The free end of each flap 24 is suitably secured to the bottom. The flap 24 incloses a pocket 26 below the bottom adjacent the ends 12 of the box. A stiffener element, such as a strip of wood 27 is inserted and secured into each pocket 26, to render the cushion more rigid.

In the embodiment shown in Figures 4 and 5 a flap 28 extended from a horizontal edge of each end 12 of the box is folded upon itself on a longitudinal crease line 29. The folded flap 28 is then bent at right angles so as to fit over the corner at the adjacent horizontal edge of the end 12. The bent, angle cushion thus formed is suitably secured to the bottom and to the end respectively and provides cushioning and spacing by the same element both at the bottom and at the ends. As illustrated in Figure 5, the same spaced cushions can be formed also at the top by similarly folded flaps 28 extended from the upper horizontal edges of the ends 12.

In the embodiment illustrated in Figure 6 a flap 31 is folded similarly to the angle flap 28 of the embodiment in Figure 4, but the horizontal flange of the cushion is positioned over the inside face of the bottom of the box.

In the embodiment illustrated in Figure 7, a flap 32 is extended from a horizontal edge of each end 12 and is turned upon itself upwardly in such spaced relation as to form a hollow cushion, or a pocket 33 projecting below the bottom of the box. The free end of the flap 32 is turned over the inside of the bottom and is suitably secured thereto. It is to be noted that the pocket 33 is aligned with the inside face of the end 12. A stiffening element, such as a frame or a wooden slot or board 34 is positioned in said pocket 33 so as to extend alongside the respective end 12 to the top of the box. Weight on the box bears on the tops of the slats 34 and is transmitted through the cushion flaps 32 to the slats 34 of a similar box below it in a stack.

In the embodiment illustrated in Figure 8 a flap 36 is extended from each end of the bottom flaps 14 outwardly. Each flap 36 is folded back below the bottom to a limited distance and then it is folded upon itself outwardly and bent around the lower edge of the adjacent end 12. The end of the flap 36 is folded in as shown and it is secured to the outside of the adjacent end 12. Thus the flaps 36 form corner cushions at the meeting edges of the bottom and the ends.

It is preferable that the cushions herein illustrated be formed primarily of integral elements extended from the material of the box itself. For instance if the box is made of a single strip of material such as fiberboard or the like, the cushioning flaps can be cut out and creased in one operation with the cutting out of the box blank. Thereafter by folding the flaps as heretofore described and suitably securing them in place as the box is assembled firm cushions and spacers are provided in a simple and efficient manner. The same construction can be applied to both the bottom and cover portions of a box even in case of telescoping boxes. On telescoping boxes the angle cushions of the type shown in Figures 4 and 6 may also operate as abutment spacers for the lower edges of the cover so as to leave a strip of the box uncovered by the telescoping cover. When boxes with the same type of cushions are stacked, the cushions are aligned and take up the load so as to materially reduce the strain on the sides of the stacked boxes.

Having thus described my invention what I claim and desire to secure by Letters Patent is:

1. In a box, sides, flaps extended from the free edges of the sides, certain of said flaps being folded toward each other so to supplement each other into a wall of the box, and the remaining flaps being folded and secured to the first flaps and to said sides so as to form spaced cushions on the sides and closure wall of said box for spacing said sides and wall from the adjacent boxes when the boxes are packed and stacked, and reinforcing means extended from said cushions to the responsive opposite sides and closure wall of said box.

2. The combination with a box having sides and a bottom, of pockets projecting downwardly from spaced portions of the bottom, adjacent opposed sides, and a reinforcing element in each pocket extended along the adjacent side to the top of the box.

3. The combination with a box having sides and a bottom, of pockets projecting downwardly from spaced portions of the bottom adjacent opposed sides, and a reinforcing element in each pocket extended along the adjacent side to the top of the box, each of said reinforcing elements being arranged to extend over the entire area of the overlying side.

KITCHENER K. NEWSOM.