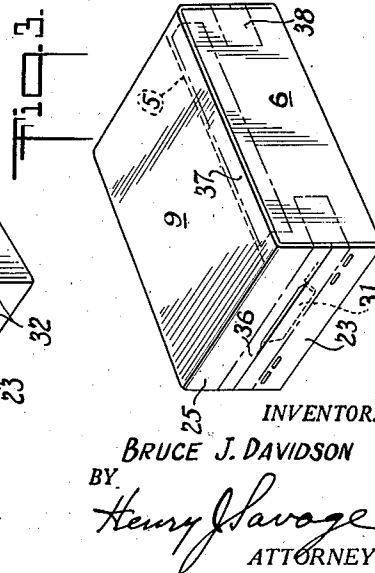
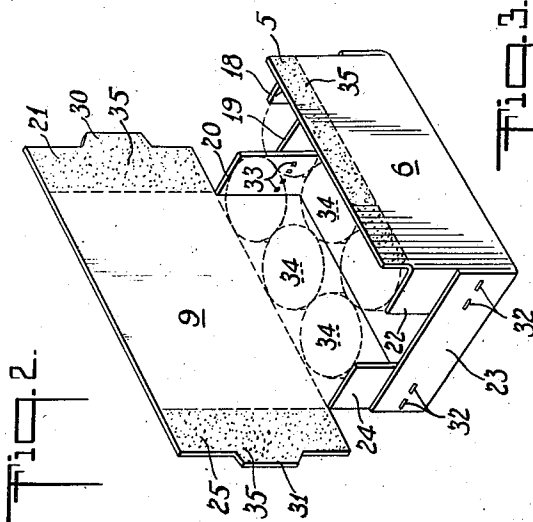
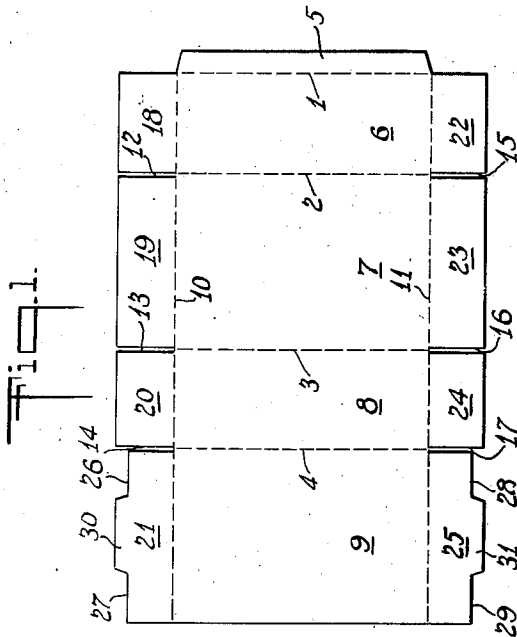


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SHIPPING CONTAINER
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SHIPPING CONTAINER

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3 Claims. (Cl. 229—33)

My invention pertains to shipping containers and particularly to containers wherein the height is the least dimension and the containers are made to be sealed and opened at the top. Such containers or cases are generally used for packaging cans of materials, as fruits, vegetables, soups, paint and the like. The case usually is made to hold six or twelve cans arranged 2 x 3 or 3 x 4, so that its height equals the height of the cans. These cases, as heretofore made, are closed at the top and bottom by side and end flaps, and commonly are left with the top closing flaps unsealed so that the cans can be inspected during storage or readily removed for labeling or other marking prior to shipment. Because of the relatively short height of the cases, it requires a large amount of material to make them when they open on top, but when made to open on the end or side, and use less material, they are inconvenient to fill and store.

The present invention has for its principal object to provide a top-closing relatively shallow case that will not require any more material than the usual end or side closed carton, yet will have all the advantages of the usual top filled and closed carton.

In the accompanying drawing, I have shown my invention embodied in a carton or shipping case adapted to hold six cans.

Fig. 1 shows a single piece blank from which the carton is formed.

Fig. 2 shows the carton formed from the blank of Fig. 1 and filled ready to have the top and ends closed.

Fig. 3 shows the carton sealed, ready for shipment.

Referring to Fig. 1, the blank is scored along the lines 1, 2, 3, 4 to define a top sealing tab 5, front wall 6, bottom 7, rear wall 8 and top or cover 9. Longitudinal score lines 10, 11, together with cuts or narrow slots 12, 13, 14, 15, 16, 17, define flaps 18, 19, 20, 21, 22, 23, 24, 25. These flaps are all of the same width, except the two top end closing flaps 21, 25 which are cut away at 26, 27, 28, 29 to form tongues or tucks 30, 31. The width or height of the front, bottom and rear flaps is greater than one-half the width of the front and rear panels 6, 8, by an amount equal to one-half the length of the tongues 30, 31. Or, stated another way, the width of the bottom flap 19 plus the width of flap 21, minus its tongue, equals the width of panel 6 or 8, and similarly with flaps 23, 25, so that when the case is closed, the edges of the flaps 21, 25 will abut the edges of the flaps 19, 23, or substantially so.

When the container or case is formed from the blank of Fig. 1, the panel 7 forms the bottom and the panels 6 and 8 are turned up along the score lines 2, 3 to form the front and rear walls. The flaps 18, 20 are turned in at one end and the flaps 22, 24 at the other. Then the bottom end flaps 19, 23 are turned up and secured to the front and rear flaps by gluing or stapling, as shown at 32, 33, in Fig. 2. The height or width of the flaps 18, 20, 22, 24 is less than one half the width of the bottom panel 7, so that their inner ends are spaced apart to receive the tongues 30, 31. The case is now ready for filling.

I have shown the case filled with six cans 34. If the filled case is to be put in storage without sealing, the sealing tab 5 will be turned down over the cans, then the flaps 21, 25 will be turned in and the lid 9 closed, with the tongues 30, 31 entering between the respective end flaps 18, 20 and 22, 24. The sides of the tongues 30, 31 may be tapered as shown and their width is such that they fit snugly between the end flaps so as to hold the case closed. This permits the case to be opened readily for inspection or for labeling the tins at any time.

When the case is to be sealed for shipment, adhesive 35 will be applied to the tab 5 and flaps 21, 25, as shown in Fig. 2. The case is then reclosed, the top 9 adhering to the sealing tab 5 and the flaps 21, 25 adhering to the top parts of the end flaps 18, 20, and 22, 24. The case, closed and sealed, is shown in Fig. 3. If desired, tape or sealing strips 36, 37, 38 may be placed over the joints instead of gluing, or to reinforce the gluing, but ordinarily these strips are not used.

In top closing shipping cases as known and used heretofore, the top is closed by two end flaps and two side flaps. The width of each end flap equals one half the width of the case and its length equals the full width of the case. The width of each side flap equals one half the width of the case and its length equals the full length of the case. The bottom is closed by four flaps the same as the top. The two side flaps (top or bottom) overlie and are secured to the underlying end flaps when the cases are closed. The combined areas of the two side flaps (top or bottom) equals the top area of the carton, or is equal to applicant's top panel or cover 9, for a case of the same dimensions. The combined areas of the two end or under flaps (top or bottom) is equal to a square whose sides equal the full width of the case. This results in double thickness of the material over a large part of the area of the top and bottom and requires much more material per

case of the same dimensions than does the present invention.

Now, for comparison of my invention with the top closing shipping case as used heretofore, assume that the cans, 34, require a case 12x18x8 inches, which is a usual size. Also assume that the tongues 30, 31 are one inch long and that the tab 5 is two inches wide. Then the overall length of the blank of Fig. 1 is $12+8+12+8+2=42$ inches. The width of the blank is $4\frac{1}{2}+18+4\frac{1}{2}=27$ inches. This makes the blank 42 x 27 inches and it contains 1134 square inches of material.

For a top closing carton as used universally heretofore of the same dimensions, but without a securing tab corresponding to tab 5, the overall length of the blank is $18+12+18+12=60$ inches. The width is $6+8+6=20$ inches. The number of square inches is $60 \times 20=1200$. My invention thus effects a saving of 66 square inches per case, or $5\frac{1}{2}\%$. When a securing tab corresponding to tab 5 is used, its minimum width is $1\frac{1}{2}$ inches. Then the overall length of the blank is $61\frac{1}{2}$ inches and its area is 1230 square inches. The saving then is 96 square inches or 7.8%.

The less the height or depth of the case, the greater is the saving. Thus if the case be 6 inches high instead of 8, the areas of the two blanks are 850 square inches and 1080 square inches, respectively, a saving of 230 square inches or 22.2%.

The shipping case or carton industry is highly competitive and this saving of even $5\frac{1}{2}\%$ makes a great increase in net profit.

As the height of the carton approaches the width, the saving diminishes, and conversely, as the height diminishes, the saving increases. My invention therefore finds its greatest utility in packaging cans, glass jars and the like that are usually packed in a single layer or tier.

When the case is to be sealed as soon as filled, the tongues 30, 31 may be omitted, and all of the end flaps will be of uniform width equal to one-half the height of the case, so that the edges of the flaps 19, 20 and 23, 25 will abut at the center of the ends. This effects an even greater saving.

While I have shown the tab 5 secured to the front panel 6, it may be attached to the free edge of the cover 9, in which case it may be secured inside or outside of the front panel, when the case is sealed. Likewise, this tab 5 may overlie, instead of underlie, the cover 9.

Having thus described my invention, what I claim is:

1. A shipping case formed from a single piece blank cut and scored to form front, bottom, and rear panels with flaps at each end turned at right angles to the respective panels, the bottom flaps being of less width than the front and rear panels and secured outside the front and rear flaps, the width of the front and rear flaps being less than one half the width of the bottom panel so that their inner ends are spaced apart, a sealing tab secured along a score line to the top

edge of the front panel, a cover hinged at one edge to the top edge of the rear panel, an end closing flap secured to each end of the cover, each end closing flap having a tapered tongue fitting between the spaced inner ends of the front and rear flaps and extending inside of the adjacent bottom flap, the maximum width of said tongues being substantially equal to the space between said front and rear flaps, said sealing tab being secured to the front edge of the cover.

2. A shipping case formed from a single piece blank cut and scored to form front, bottom and rear panels with flaps at each end turned at right angles to the respective panels, the lengths of the flaps being equal to the widths of the respective panels to which they are attached, the bottom flaps being of less width than the width of the front and rear panels and secured outside the front and rear flaps, the width of the front and rear flaps being less than one half the width of the bottom panel so that their inner ends are spaced apart, a cover hinged at one edge to the top edge of the rear panel, an end closing flap secured to each end of the cover, each end closing flap having a rectangular part and a tongue extending therebeyond, each tongue fitting between the spaced inner ends of the front and rear flaps and extending inside of the adjacent bottom flap, the rectangular part of each end closing flap abutting the top edge of the adjacent bottom flap, and means for securing the front edge of the cover to the top edge of the front panel.

3. A shipping case formed from a single piece blank cut and scored to form front, bottom and rear panels with flaps at each end turned at right angles to the respective panels, the lengths of the flaps being equal to the widths of the respective panels to which they are attached, the width of the bottom flaps being greater than one half the width of the front and rear panels and secured outside the front and rear flaps, the width of the front and rear flaps being less than one half the width of the bottom panel whereby their inner ends are spaced apart, a sealing tab secured along a score line to the top edge of the front panel, a cover hinged at one edge to the top edge of the rear panel, an end closing flap secured to each end of the cover, the end closing flaps overlying and being secured to the front and rear flaps, the width of the end closing flaps being less than one half the width of the front and rear panels so that they abut the bottom flaps, said sealing tab being secured to the front edge of the cover, each end closing flap having a tongue fitting between the spaced ends of the front and rear flaps, the combined length of the tongue and width of the end closing flap being equal to the width of a bottom flap, the maximum width of said tongues being not greater than the space between said front and rear flaps.

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