June 21, 1960 C. E. PLEVYAK 2,941,709

SHIPPING CONTAINER

Filed May 6, 1957

Fig. 1.

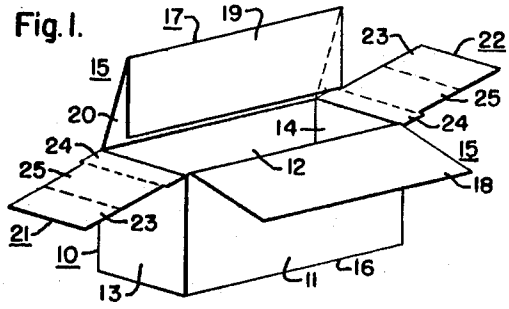


Fig. 3.

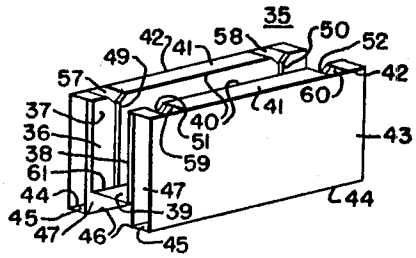


Fig. 2.

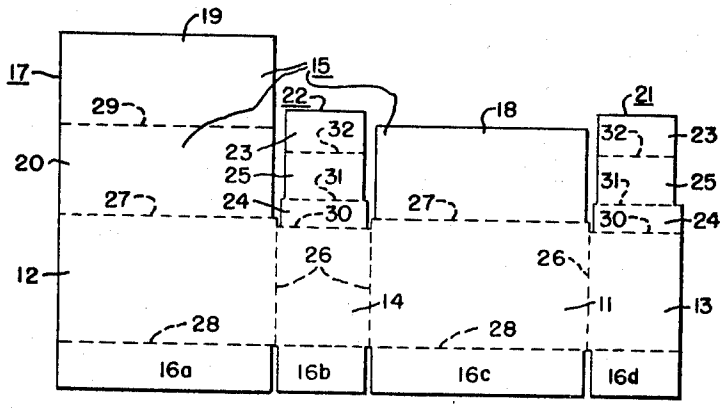


Fig. 4.

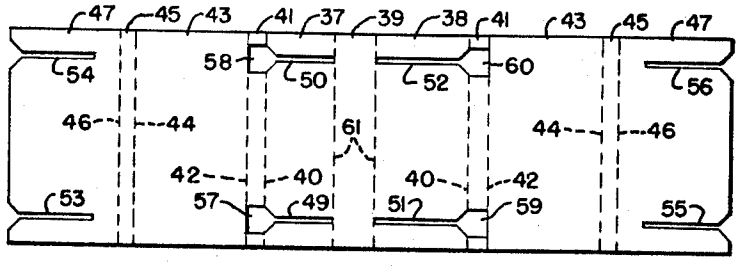
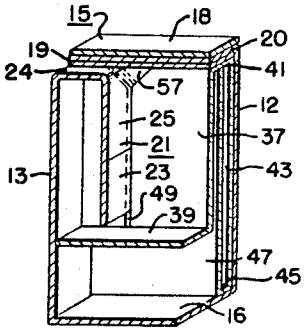


Fig. 5.



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SHIPPING CONTAINER

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4 Claims. (Cl. 229—14)

This invention relates to containers for holding fragile articles, whereby they may be shipped without danger of breakage or other damage thereto.

It is an object of the present invention, generally considered, to provide a shipping container for fragile articles, notable examples of which are radio receivers, which container is light in weight yet strong and capable of preventing the article from being damaged by impact, shock or superimposed load.

It is another object of the invention to simplify the design of shipping containers for fragile articles by providing a carton and insert cushion member therefor, each formed from a unitary piece of material.

It is still another object of the invention to simplify the design of shipping containers for fragile articles by eliminating some of the cardboards previously used, while at the same time ensuring proper clearance for the article to be shipped. This results in a saving of material, savings in space necessary to stock the parts, and an increase in the speed of packaging. Also, the design provides better protection for the article to be shipped.

These and other objects of the invention are effected by my invention, as will be apparent from the following description taken in accordance with the accompanying drawing throughout which like reference characters indicate like parts, and in which:

Figure 1 is a perspective view of my container;

Fig. 2 is a plan view of the blank from which the container of Fig. 1 is made;

Fig. 3 is a perspective view of the insert cushion member for the container of Fig. 1;

Fig. 4 is a plan view of the blank from which the cushion member of Fig. 3 is made; and

Fig. 5 is a fragmentary perspective view of the container and cushion member showing the manner in which they cooperate with each other in assembled form.

Referring to Figs. 1 and 2, the container is shown in the form of a carton 10. The carton is made of conventional single wall corrugated cardboard and is formed by creasing and cutting a single sheet of the cardboard as shown in Fig. 2. The finished carton comprises side walls 11 and 12, end walls 13 and 14, a top wall 15, and a bottom wall 16 comprising flaps 16*a*–16*d*. The top wall 15 includes an inner wall member 17 and an outer wall member 18 folded in reverse directions across the top of the carton.

The inner top wall member 17 is comprised of an inner flap member 19 and an outer flap member 20. One side of the inner wall member 17 is movably secured to the side wall 12. The inner flap member 19 is folded under the flap member 20 so that the other side of the wall member 17 lies closely adjacent to the side wall 12 and the wall section 17 forms a double thickness of the cardboard material.

One side of the outer top wall member 18 is movably secured to the side wall 11. The wall member 18 is folded over the inner wall section 17 so that the top wall 15 comprises three thicknesses of cardboard material.

The end walls 13 and 14 are provided with top flaps 21 and 22, respectviely. One side of the top flap 21 is movably secured to the end wall 13 and one side of the top flap 22 is similarly secured to the end wall 14. The top flaps 21 and 22 are provided with outer, inner and intermediate flap portions 23, 24 and 25, respectively.

The cartion is formed from a single blank of corrugated cardboard material and cut to the blank form shown in Fig. 2. The side walls 11 and 12 and the end walls 13 and 14 are formed by folding the blank on the longitudinal parallel fold lines 26, the top wall by folding the blank on the fold lines 27, and the bottom wall by folding the blank on the fold lines 28. The inner top wall member 17 is bendable on the fold line 29, while top flaps 21 and 22 are bendable on the fold lines 30, 31 and 32.

Referring to Figs. 3 and 4, the insert cushion member 35 is also made of conventional double wall corrugated cardboard and is formed from a single sheet of the cardboard shown in Fig. 4. The central portion of the material is bent to form an open ended channel member 36 having a pair of spaced apart side portions 37 and 38 and a bottom portion 39 which is of a predetertermined depth with relation to the carton 10 and which is bent along its upper edges 40 to form top pieces 41 which extend substantially at right angles to the sides of the channel.

The top pieces 41 extend outwardly a predetermined distance and are bent along their outer edges 42 to extend downwardly to form cushion side faces 43 which are of greater depth than the depth of the channel member 36, and are bent inwardly along their lower edges 44 to form the bottoms 45 of the cushion member. The bottoms 45 extend inwardly substantially the same distance as the width of the top pieces 41 and are bent upwardly along their inner edges 46 to form upwardly extending portions 47 which extend along the outer faces of the side portions 37 and 38 of the channel member 36 into contact with the bottoms of the top pieces 41.

The side portion 37 is provided with a pair of spaced slots 49 and 50 which extend substantially from the edges 40 of the cushion member 35 to the bottom portion 39. The side portion 38 is also provided with a pair of similar slots 51 and 52. The slot 49 is oppositely disposed and in alignment with the slot 51, while the slot 50 is similarly located in relation to the slot 52. The upwardly extending portions 47 are also provided with slots 53, 54, 55 and 56 in alignment with the slots 49, 50, 51 and 52, respectively. The top pieces 41 are provided with openings 57, 58, 59 and 60 in longitudinal alignment with the slots 49, 50, 51 and 52, respectively.

The cushion member 35 is formed from a single block of corrugated cardboard material and cut to the blank form shown in Fig. 4. The channel member 36 is formed by folding the blank on the longitudinal parallel fold lines 61, the top pieces 41 are formed by folding the blank on the fold lines 40 and 42, and the bottoms 45 are formed by folding the blank on the fold lines 44 and 46.

In use, the container is assembled by setting up the carton 10 as shown in Fig. 1, setting up the cushion member 35 as shown in Fig. 3, and then inserting the cushion member into the carton as shown in Fig. 5. The article to be shipped in the container is inserted into the cushion member 35 between the side portions 37 and 38 and contacting the bottom portion 39. The top flap 21 of the carton is then folded inwardly and downwardly through the openings 57 and 59 in the top piece 41 of the cushion member and into the spaces provided by the slots 49, 51, 53 and 55. The other top flap 22 of the carton is also folded inwardly and downwardly through the openings 58 and 60 in the top piece 41 and

into the spaces provided by the slots **50, 52, 54** and **56**. The top flaps **21** and **22** in their assembled position will have their portion **24** superposed on the top pieces **41** of the cushion member **35**, while their portions **23** and **25** will extend at substantially right angles thereto toward the bottom portion **39** of the cushion member and serve as partitioning means within the container. The distance between the slots **49** and **50** and between the slots **51** and **52** is equal to substantially the length of the article to be shipped in the container. The inner flap member **19** of the inner top wall member **17** is then folded under the outer flap member **20** and the outer top wall member **18** is superposed on the inner top wall member and secured to the carton.

While I have shown my invention in a preferred form it will be obvious to those skilled in the art that it is not so limited but is susceptible of various modifications without departing from the spirit and scope thereof.

I claim as my invention:

1. In combination, a carton having top, bottom, side and end walls, said end walls each having a top flap, and an insert cushion member formed from a single piece of material, said member comprising a central channel element of substantially U-shaped cross section having side portions and a bottom portion, with each of said side portions being provided with a pair of spaced slots extending from an upper edge of said side portion toward the bottom portion, with the slots of one side portion being oppositely disposed with the slots of the other side portion, a pair of top portions extending at substantially right angles from the top edges of said side portions toward the side walls of the carton, further portions of greater depth than the depth of said channel member extending downwardly from said top portions and forming with said top portions a pair of hollow members of rectangular cross section positioned respectively between said side portions and the adjacent side walls of the carton, with each of the portions of said hollow members which are adjacent to the sides of said channel element being provided with a pair of spaced slots in alignment with the slots provided in the side portions of said channel element, with the top flaps of said end walls being provided with portions for insertion into the oppositely disposed slots.

2. In combination, a carton having top, bottom, side and end walls, said end walls each having a top flap, and an insert cushion member formed from a single piece of material, said member comprising a central channel member of substantially U-shaped cross section having side portions and a bottom portion, with each of said side portions being provided with a pair of spaced slots extending from an upper edge of said side portion toward the bottom portion, with the slots of one side portion being oppositely disposed relative to the slots of the other side portion, a pair of portions extending from the edges of said channel member and forming a pair of hollow members of rectangular cross section positioned respectively between each of said side portions and the respectively adjacent side walls of the carton, and of greater depth than the depth of the channel member, with the portions of said hollow members which are adjacent to the sides of the channel member being provided with a pair of spaced slots in alignment with the slots provided in the side portions of said channel member, with the top flaps of the end walls being provided with portions for insertion into the oppositely disposed slots.

3. In combination, a carton having top, bottom, side and end walls, said end walls having a top flap, and an insert cushion member formed from a single piece of material, said member comprising a central channel member of substantially U-shaped cross section having side portions and a bottom portion, with each of said side portions being provided with a pair of spaced slots extending from an upper edge of said side portion toward the bottom portion, with the slots of one side portion being oppositely disposed relative to the slots of the other side portion, said insert member further including a pair of leg portions of substantially rectangular cross section integral with said channel member and extending from the respective top edges of said side portions to the bottom of said carton, said leg portions each being located between one of said carton side walls and the adjacent channel member side portions and having a vertical dimension substantially exceeding that of said channel member whereby said channel member is supported with said bottom portion thereof spaced from the bottom of the carton, with each of said leg portions being provided with a pair of spaced slots in alignment with the slots provided in the side portions of said channel member, and with the top flap of one of said end walls being provided with a portion for insertion into one group of said oppositely disposed slots and with the top flap of the other of said end walls being provided with a portion for insertion into the other group of said oppositely disposed slots.

4. In combination, a carton having top, bottom, side and end walls, said top wall including an inner wall portion movably secured to the top of one side wall, and an outer wall portion in superposed contact with said inner wall portion movably secured to the top of the other side wall, with each of said end walls having a top flap movably secured to its top edge, and an insert cushion member formed from a single piece of material, said member comprising a central channel member of substantially U-shaped cross section having side portions and a bottom portion, with each of said side portions being provided with a pair of spaced slots extending from an upper edge of said side portion toward said bottom portion, with the slots of one side portion being oppositely disposed and in alignment with the slots of the other side portion, insert member top portions extending at substantially right angles from the edges of said channel member toward the side walls of the carton and being provided with a pair of spaced openings in alignment with the slots provided in the side portions of said channel member, a pair of leg portions of substantially U-shaped cross section extending from the respective outer edges of said top portions to the bottom of said carton, said leg portions each being located between one of said carton side walls and the adjacent channel member side portion and having a vertical dimension substantially exceeding that of said channel member whereby said channel member is supported with said bottom portion thereof spaced from the bottom of the carton, with each of said leg portions being provided with a pair of spaced slots in alignment with the slots provided in the side portions of said channel member, with the top flap of one of said end walls being provided with a portion adapted to be turned inwardly and downwardly through one group of said openings and into one group of said oppositely disposed slots, and with the top flap of the other of said end walls being provided with a portion adapted to be turned inwardly and downwardly through the other group of said openings and into the other group of said oppositely disposed slots.

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