

Dec. 21, 1943.

M. E. HOLY

2,337,199

CARTON

Filed June 6, 1942

Fig. 4

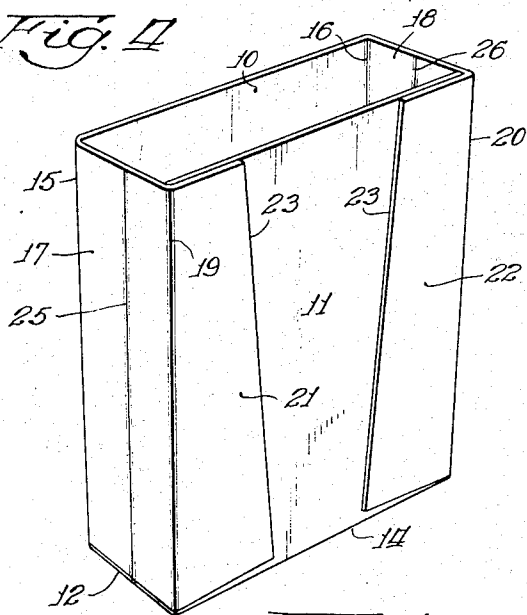


Fig. 3

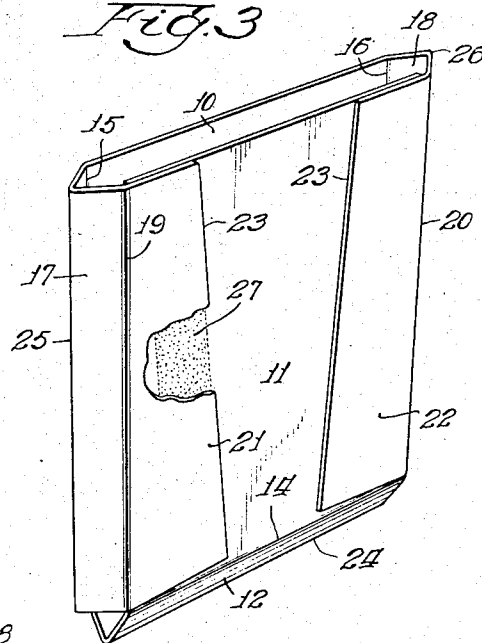


Fig. 1

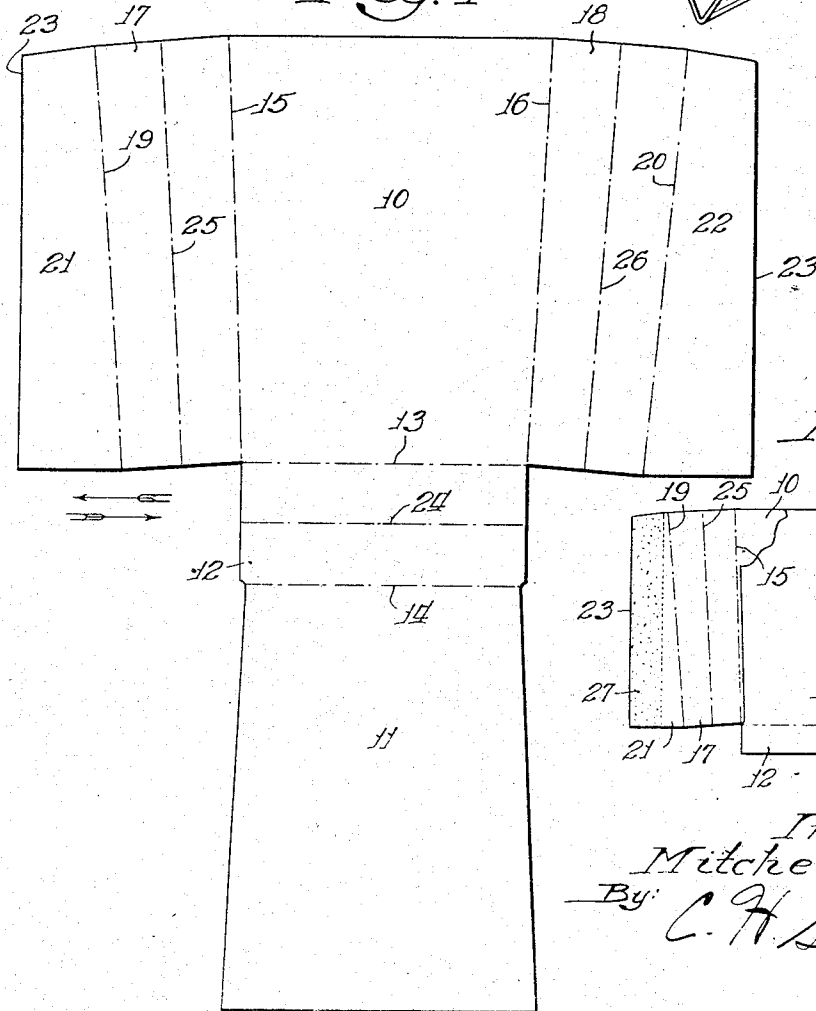
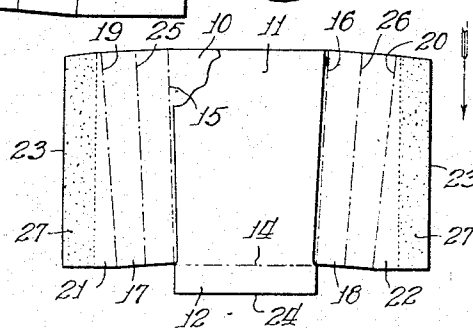


Fig. 2



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UNITED STATES PATENT OFFICE

2,337,199

CARTON

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Application June 6, 1942, Serial No. 446,030

2 Claims. (Cl. 229—41)

This invention relates to cartons, and more specifically to folding cartons of the type including scored fold lines on the end and bottom wall panels so that they may be expanded readily from flat to set-up position.

There are many products requiring the protection against injury afforded by a paperboard carton which have heretofore been packed in cartons involving either the use of an excessive amount of the material from which they are made, or difficulties in manufacturing or setting-up operations, so that their use is unduly expensive. In many instances, these products are of such a character that the cartons protecting them need not be tightly closed, and the carton of the present invention is especially suitable for products of this type. In addition, it is characterized by extreme simplicity and ease of manufacture and it can be set up for use with the greatest facility. One product in the packaging of which the carton of my invention has been found particularly useful is ammunition for various types of rifles and other small arms. In the case of ammunition in the form of clips, it is desirable that the carton be slightly tapered so that one or more such clips will fit snugly into the carton, and my invention is especially advantageous when embodied in such a tapered carton.

It is an object of my invention to provide a carton or tubular wrapper which is simple, inexpensive and easy to handle from the standpoint of both the manufacturer and the user. Another object is to provide a carton of this type having a tapered form so arranged that the inclination of the side walls does not in any way hinder the use of conventional automatic gluing equipment of the simplest type for its manufacture. Other objects, advantages and uses of my invention will become apparent from the following detailed description which should be read in conjunction with the drawing forming a part thereof. In the drawing:

Fig. 1 illustrates the blank of a carton according to my invention, this particular embodiment thereof being of tapered form adapted to receive two clips of ammunition;

Fig. 2 illustrates the carton of Fig. 1 after the first folding operation and after the glue has been applied preparatory to the second folding operation;

Fig. 3 shows the carton of Fig. 1 after the second folding operation and after it has been partially expanded; and

Fig. 4 is a perspective view of the carton of

Fig. 3 in set-up condition ready for the insertion of the product to be packed therein.

In one of its broad aspects my invention comprises a carton formed from a single blank of foldable paperboard, having its panels arranged as shown in Fig. 1 so that the glue strip on each end wall panel attached to one of the side wall panels overlaps and is secured by an adhesive to the other of the side wall panels, and including score lines dividing the bottom and end wall panels into substantially equal portions, although the invention is not limited to the form shown, which has slightly tapered or inclined side and end walls, it will be described in connection therewith, since it will be obvious to those skilled in the art that a similar arrangement of panels and a similar method of production can be used advantageously in a carton having a uniform rectangular cross-section and rectangular side and end wall panels.

Referring first to Fig. 1, the carton blank there illustrated includes a pair of substantially similar side wall panels 10 and 11, which are in the shape of isosceles trapezoids, having their shorter parallel edges attached to opposite edges of a substantially rectangular bottom panel 12 along score lines 13 and 14, respectively. Extending laterally from the side wall panel 10 along score lines 15 and 16 are two end wall panels 17 and 18 which are also substantially isosceles trapezoids in configuration, and these side wall panels are in turn joined along their other lateral edges 19 and 20 to glue flaps 21 and 22, respectively. The outer free edges 23 of glue flaps 21 and 22 are preferably substantially parallel in order to facilitate the application of glue as will be brought out below. Bottom wall panel 12 is provided with a score line 24 substantially parallel to score lines 13 and 14 which divides it into two equal parts and end wall panels 17 and 18 are likewise bisected by score lines 25 and 26, respectively, which extend between and bisect the top and bottom edges of their respective end wall panels. The production of a blank having this configuration and including these score lines is a very easy matter using the technique and equipment customarily used in the folding carton industry.

The next step involves the folding of panel 11 over upon side wall 10 along score line 24, and this operation can also be carried out very easily on a conventional folding machine by feeding the blanks in either of the directions indicated by the arrows in Fig. 1, although it can be done by hand or by the use of more involved equip-

ment. When this folding operation has been completed, the carton appears as shown in Fig. 2, and it is then ready for the application of adhesive to the glue flaps. It is only necessary to introduce the carton into a conventional glue machine in the direction indicated by the arrow in Fig. 2, and such a machine when properly set up will apply a strip of adhesive to the glue flaps 21 and 22, adjacent the edges 23 thereof as it passes through the machine. The resulting strips of adhesive are indicated at 27 on Fig. 2. It will be apparent that the provision of edges 23 in parallel relation facilitates the application of adhesive, although glue flaps of substantially different shape can be used and the adhesive applied by a conventional timed gluing machine.

Finally, the glue flaps 21 and 22 are folded along score lines 25 and 26 so that they overlap the side wall panel 11, and the carton is maintained in this position until the adhesive had set. Ordinarily, this folding is done on the gluing machine and presents no difficulty in practice. The cartons are then ready for storage and shipment, and when it is desired to use them it is only necessary to exert pressure along score lines 24, 25 and 26 and the carton will expand to the position shown in Fig. 3. Continued pressure will further expand the carton and cause it to assume the set-up position illustrated in Fig. 4, in which it is adapted to receive the product to be packed.

It will be apparent that many modifications in accordance with my invention can be made by those skilled in the art, without departing from the spirit thereof, and it is equally apparent that other methods can be used in assembling the same. For instance, the glue flaps 21 and 22 can be folded over the side wall panel 10 and the side

wall panel 11 folded upon them subsequently to give a carton of substantially the same configuration, but presenting a somewhat more finished external appearance. Also, it is obvious that the so-called right angle gluing machine is particularly adapted to manufacture cartons according to my invention. I do not, therefore, wish to be limited to the specific embodiment of my invention hereinbefore described, but only by the scope of the appended claims.

I claim:

1. A carton or protector formed from a single blank of foldable paperboard comprising a substantially rectangular bottom panel, two side wall panels of substantially isosceles trapezoidal shape having their relatively short parallel edges hingedly attached to opposite edges of said bottom panel, a pair of end wall panels hingedly attached to the non-parallel edges of one of said side wall panels, and a glue strip attached to the edge of each of said end wall panels opposite to one of said non-parallel edges, said bottom panel and said end wall panels having fold lines therein whereby each of said glue strips can be folded into overlapping relationship with the other of said side wall panels and secured thereto by means of an adhesive, and said glue strips being widest at their lower ends and having their free side edges substantially parallel to each other when said carton is in blank form, whereby the application of adhesive thereto in an untimed automatic operation is facilitated.

2. A carton according to claim 1 wherein each of said end wall panels is of substantially isosceles trapezoidal shape and has its relatively narrow portion adjacent the relatively narrow portion of the side wall panel attached thereto.

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