

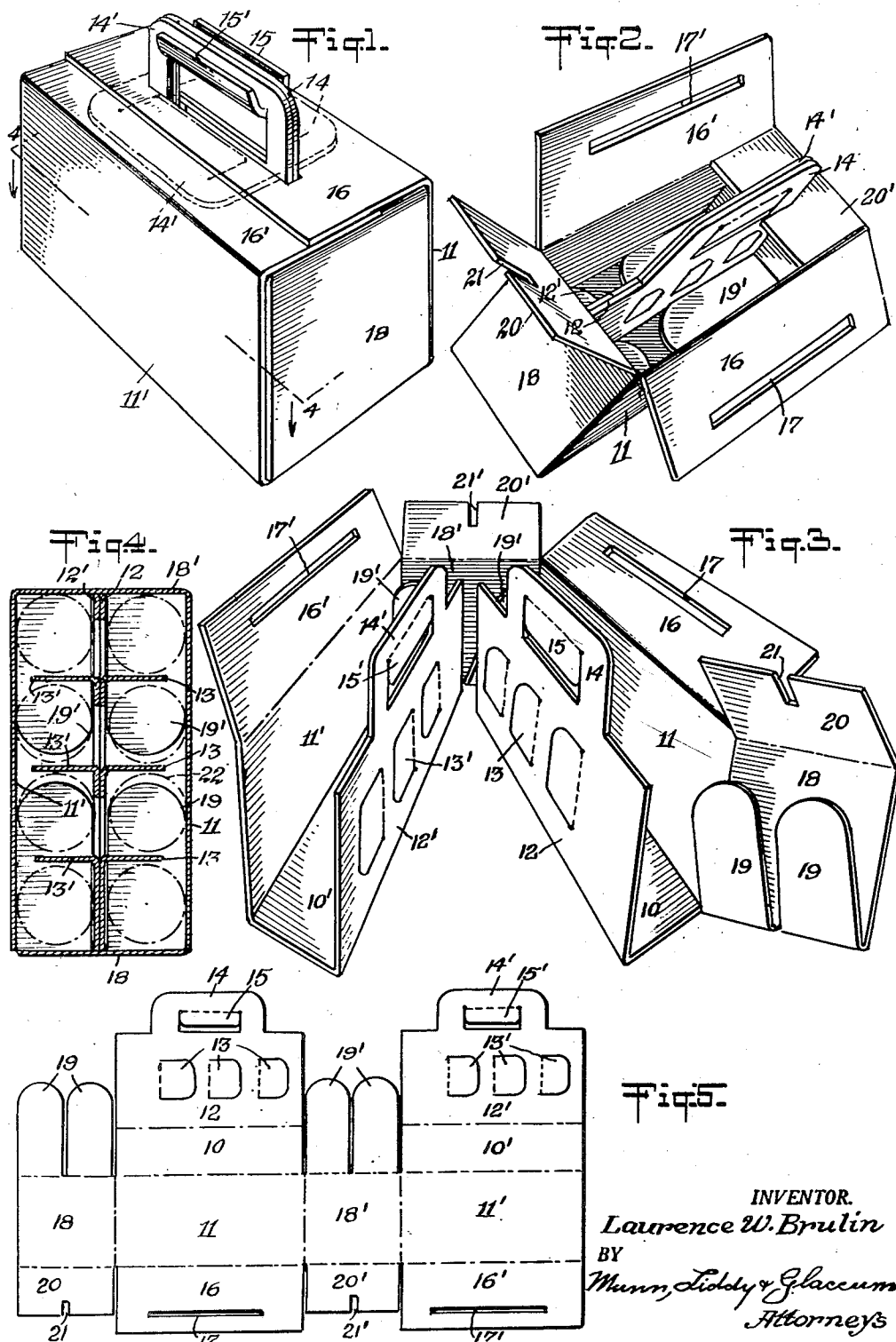
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CONSTRUCTION OF CARTONS

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CONSTRUCTION OF CARTONS

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This invention relates to new and useful improvements in cartons and has particular reference to an improvement in the type of carton which is made of heavy paper or cardboard by stamping it in one piece out of a sheet of that material and then folding it into shape.

The main object of the invention is to provide a simple, efficient, durable, and economical carton which has unusual strength when assembled and is maintained in assembled condition without the use of nails, staples, or other fastening means.

A further object is to provide a form of carton the parts of which are so related that the blank may be cut from sheets with a minimum of waste.

A further object is to provide a construction and relation of parts so that load bearing areas are reduced in size whereby compressional and torsional loads may be reduced to a minimum and great strength in the structure is possible with relatively light cardboard or similar material.

Yet another object is to provide a construction of carton which can be formed from a cut blank in a minimum of time and with a minimum of effort, and which results in an exceedingly strong and self-bracing structure capable of carrying much heavier loads than is usually expected.

Further and more specific objects, features, and advantages will more clearly appear from a consideration of the detailed specification hereinafter set forth especially when taken in connection with the accompanying drawings which illustrate a present preferred form which the invention may assume and which form part of the specification.

In brief and general terms, the invention preferably includes a stamped blank having fold lines and adapted to be folded to form a carton which is held together without the use of staples or other fastening means. Generally speaking, it comprises side walls with an integrally connected intermediate end wall and with integrally connected bottom sections adapted to be folded towards each other in an abutting planar relation with vertical integrally connected intermediate walls standing upwardly from the inner adjacent of said bottom sections. Preferably, the intermediate wall sections have handles projecting from their top edges and there are provided integral slotted cover sections to be folded over the top of the carton to close the same and receive the handle portions in the slots.

In another particular, the invention includes

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foot portions adapted to extend into the carton from the bottom of the end sections and above the bottom sections and spaced apart to receive snugly therebetween the intermediate wall sections.

Further the invention includes end flaps to be bent over inwardly from the top edges of the end wall sections and having notches to receive adjacent portions of the handles.

In further particular, the intermediate walls may be provided with cut out ears which may, when desired, be bent at right angles to their respective walls to divide up the interior of the carton into sections especially when the carton is to contain a series of separate containers.

A present preferred form which the invention may assume is illustrated in the drawings in which—

Fig. 1 is a perspective of the carton in assembled condition;

Fig. 2 is a perspective view with the carton partly assembled;

Fig. 3 is another perspective view showing the parts in the initial stage of assembly;

Fig. 4 is a horizontal cross section taken on the line 4—4 of Fig. 1; and

Fig. 5 is a plan view of the flat blank from which the carton is formed by folding.

Referring to the blank shown in Fig. 5, it will be seen that we have two bottom portions 10 and 10', which are adapted to be folded into abutting planar relation to form a complete bottom. To respective side edges of the bottom sections 10 and 10' are connected intermediate wall members 12 and 12'. To the respective opposite side edges of the bottom sections 10 and 10' are connected opposite side wall sections or members 11 and 11'. The respective intermediate wall members 12 and 12' are provided with ears 13 and 13' cut therefrom which ears may be, if desired, bent at right angles to the wall members 12 and 12', but in respective opposite directions as shown in Fig. 4. Along the top edge of the wall members 12 and 12' are formed handle portions 14 and 14' respectively having respective lips 15 and 15' struck therefrom, and adapted to be bent up into the position shown in Fig. 1 to facilitate the carriage of the loaded carton.

To the top of the side wall members 11 and 11' are connected cover portions 16 and 16' respectively having respective slits 17 and 17' formed therein. These slits as shown in Fig. 1 are adapted to receive the handle portions 14 and 14' with the parts in assembled relation and the

cover members 16 and 16' are disposed over the top of the carton.

Intermediate the wall sections 11 and 11' is disposed an end wall section 18' and at the opposite lateral edge of the side wall section 11 is connected another end section 18. To the bottom edges of the end sections 18 and 18' are connected respectively pairs of feet 19 and 19' disposed with a slight space between their adjacent edges. This space is sufficient, as shown in Fig. 2, to receive the abutting walls 12 and 12' between the pairs of feet 19 and 19' when they are disposed flat along the bottom sections 10 and 10' as shown.

To the top edges of the end sections 18 and 18' are connected end cover flaps 20 and 20' provided with notches 21 and 21' respectively. These notches are adapted to receive the upper portions of the wall sections 12 and 12' when in assembled condition as shown clearly in Fig. 2.

In Fig. 4, the carton is represented as containing a series of bottles or containers 22 as indicated by the dot and dash lines therein. Although of course, it is understood, that many other articles may be received in the carton and the nature of the articles to be received determines whether or not the ears 13 and 13' are to be operatively disposed as shown in Fig. 4. They are to be so disposed if you are going to use a series of separate containers, but if you wish to take advantage of merely two longitudinal chambers in the carton, then you will not use the ears. The assembly of the carton from the blank form shown in Fig. 5, is a very simple matter of folding in successive steps and takes place as follows:

The initial step is shown particularly in Fig. 3 where the walls 12 and 12', 11 and 11', have been bent up at right angles to the bottom walls or sections 10 and 10' to which they are integrally related. It is seen also that adjacent ends of the walls 11 and 11' are integrally connected to the sides of end section 18'. The walls 12 and 12' are then swung into abutting relation shown in Fig. 2, whereupon the legs 19' are moved down from the bottom of section 18' to lie over the adjacent ends of the bottom sections 10 and 10'. The other end wall 18 is then swung around at right angles to walls 11 and 11' and its feet 19 are moved down into a horizontal position over the adjacent ends with the bottom sections 10 and 10'. The end flaps 20 and 20' are then bent inwardly into a horizontal plane and the notches 21 and 21' will receive the respective ends of the handles 14 and 14'. After this, the cover portions 16 and 16' may be folded over into a horizontal plane overlapping each other with the handles 14 and 14' projecting through the slits 17 and 17' in said cover portions. At this moment, the carton is in the assembled condition shown in Fig. 1.

If the carton is to be carried, the lips 15 and 15' are bent up out of the plane of the handles as shown in Fig. 1 to present a curved, smooth, wider surface to the palm of the person carrying the carton. If the carton is to be stowed away or shipped, the lips are not pulled out of the plane of the handles and the handle portions are respectively bent flat against the top of the carton in opposite directions as indicated by the dot and dash lines in Fig. 1, whereby in shipment the handle portions may not be damaged.

It will therefore, be seen that the device is compact, rugged, strong, and capable of carrying much greater loads than before, largely by reason of the vertical abutting 12 and 12' which split up the bottom in two sections and form an intermediate stiffening wall between the side walls 11

and 11'. The strength is also accentuated by the fact that the feet 19 and 19' related to the end walls 18 and 18' embrace the bottoms of these intermediate walls and the end flaps 20 and 20' interlock with the handle portions 14 and 14', in addition to the interlocking with said handle portions of the main cover portions 16 and 16'. The weight of the material in the carton whether separate containers or otherwise, will bear down upon these pairs of feet 19 and 19' so as to maintain them in their interlocking position with the other parts.

It will be noted that in the sections 18, 18' and 11 and 11' are intimately connected along lines of fold. It will be noted that sections 16', 11', 10', and 12' are integrally connected along indicated lines of fold. It will be noted that sections 20', 18' and feet 19' are integrally connected along indicated lines of fold. It will be noted that sections 20, 18 and feet 19 are integrally connected along indicated lines of fold. It is also noted that sections 16, 11, 10 and 12 are connected integrally along indicated fold lines.

While the invention has been described in detail and with respect to a preferred form shown in the drawings, it is not to be limited to such details and forms since many changes and modifications may be made in the invention without departing from the spirit and scope of the invention in its broadest aspect. Hence it is intended to cover any and all forms and modifications of the invention which may come within the language or scope of any one or more of the appended claims.

What I claim as my invention, is:

1. A carton structure which includes vertical spaced side wall members, a vertical integrally connected end wall disposed between said side walls, bottom walls integrally connected to the bottoms of said side walls and adapted to be disposed in abutting planar relation, vertical intermediate walls integrally connected to the inner edges of the bottom walls and adapted to be disposed in abutting lateral relation, a second end wall integrally connected to the side edge of one of the side walls and adapted to be swung into position at right angles to the adjacent ends of said side walls, spaced foot plates on the bottoms of the end walls and adapted to be horizontally disposed projecting into the carton along and above the bottom walls and embracing between them the abutting intermediate walls, handle sections extending upward from the tops of the intermediate walls, slitted cover sections connected to the top edges of the side walls and adapted to be swung over toward each other and to receive the handle sections in said slits.

2. A carton structure which includes vertical spaced side wall members, a vertical integrally connected end wall disposed between said side walls, bottom walls integrally connected to the bottoms of said side walls and adapted to be disposed in abutting planar relation, vertical intermediate walls integrally connected to the inner edges of the bottom walls and adapted to be disposed in abutting lateral relation, a second end wall integrally connected to the side edge of one of the side walls and adapted to be swung into position at right angles to the adjacent ends of said side wall, spaced foot plates on the bottoms of the end walls and adapted to be horizontally disposed projecting into the carton along and above the bottom walls and embracing between them the abutting intermediate walls, handle sections extending upward from the tops of the in-

intermediate walls, slitted cover sections connected to the top edges of the side walls and adapted to be swung over toward each other and to receive the handle sections in said slits, end cover flaps projecting horizontally inward from the tops of the end walls and having notches therein to receive and latch the abutting handle portions at the top of the intermediate walls.

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