July 6, 1954 J. D. CRARY 2,682,990

HANDLED CARTON

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Fig. 1

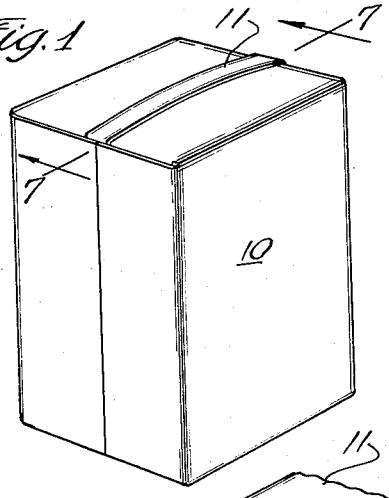
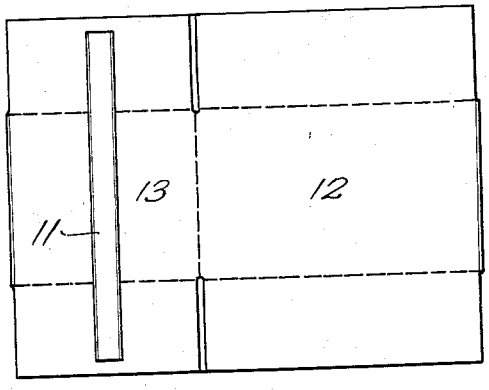


Fig. 4



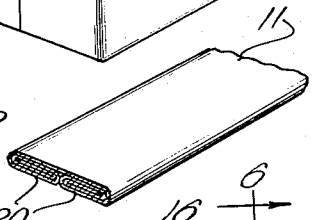


Fig. 2

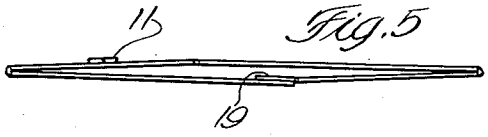


Fig. 5

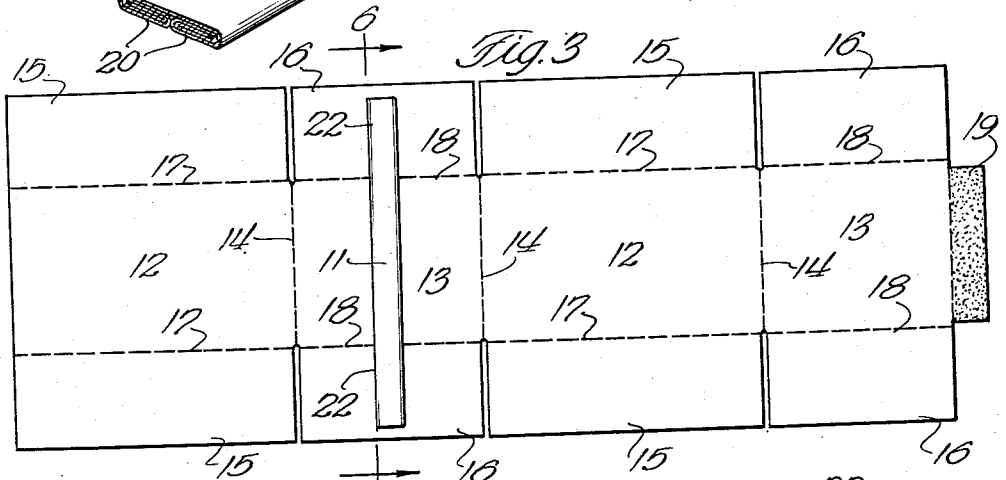


Fig. 3

Fig. 6

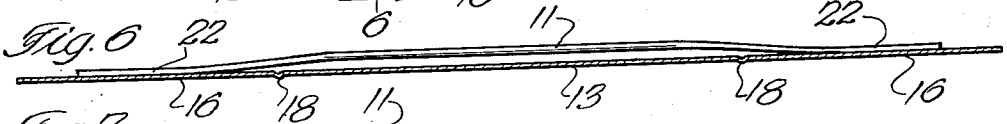
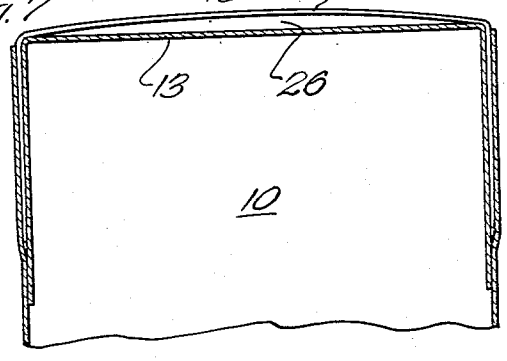


Fig. 7



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Fig. 8

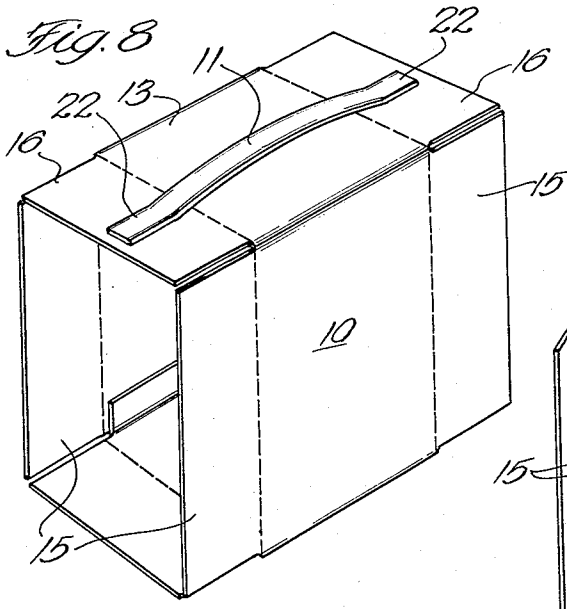


Fig. 9

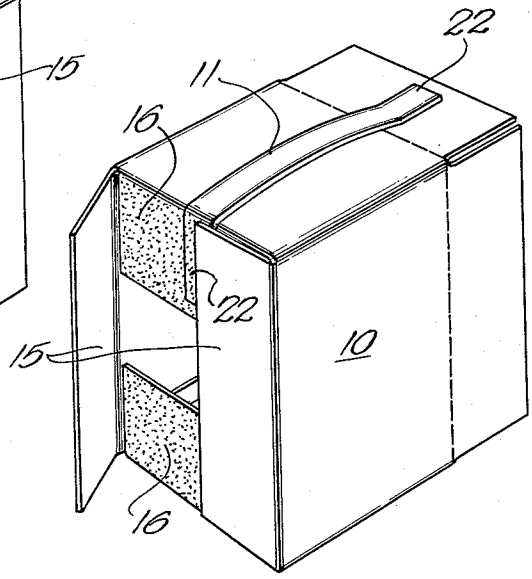


Fig. 10

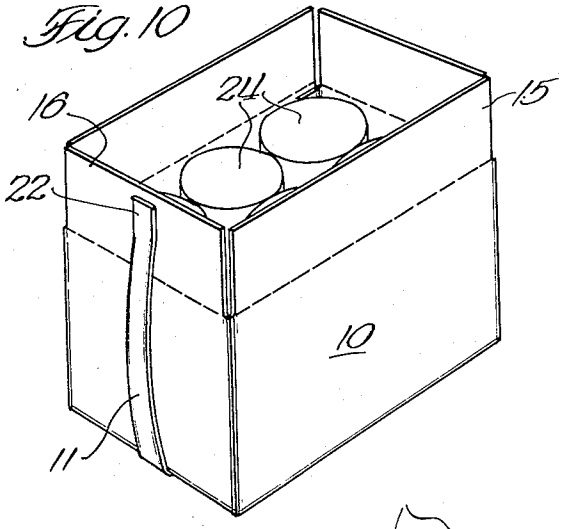


Fig. 11

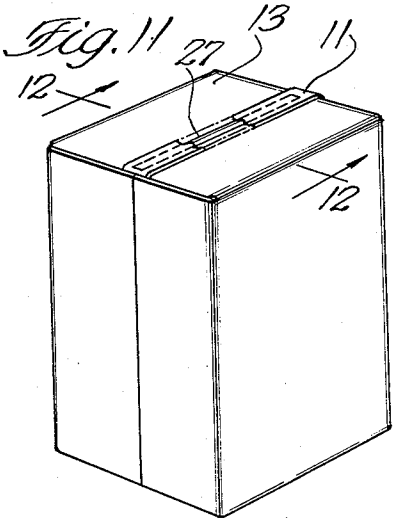
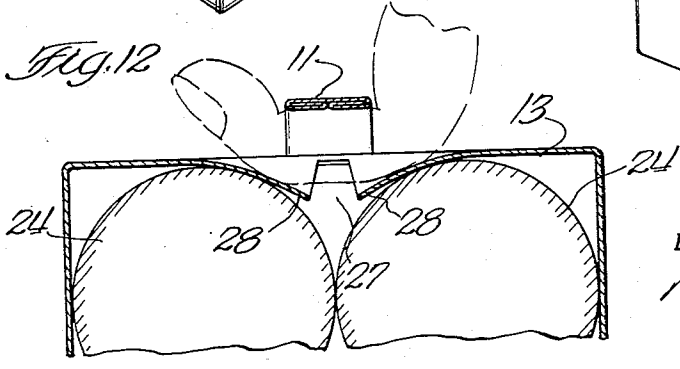


Fig. 12



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UNITED STATES PATENT OFFICE

2,682,990

HANDLED CARTON

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Application January 3, 1950, Serial No. 136,455

2 Claims. (Cl. 229—37)

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The present invention relates to handled cartons and, while not necessarily limited thereto, to cartons which are adapted to be manufactured and shipped to the user in a flat folded condition, it being left to the user to set up the carton immediately prior to the filling and closing thereof.

The principal object of the present invention is to provide a simple and inexpensive handle arrangement which may readily be applied to carton blanks by the manufacturer thereof without requiring any alteration in the design of the carton itself, the handle means being so arranged on the blank that it does not interfere with the setting up operation of the carton nor with the filling and closure thereof, the handle means being firmly and permanently anchored in place by the normal sealing operation required for forming the top and bottom closures of the carton.

A further object of the present invention is to provide a new and improved method of attaching a handle means onto a carton.

In accordance with an illustrated embodiment, a handle member in the form of a length of paper strap is attached to a carton blank by securing the opposite end portions of the strap length onto the outer surfaces of a pair of opposite flaps integral with one of the end walls of the carton blank with the intermediate portion of the strap extending across such end wall. When the carton is set up and the upper and lower flaps folded and secured together in a superposed relation, the opposite end portions of the strap length are firmly anchored in place. A slight amount of slack is provided in the intermediate portion of the strap length whereby such intermediate portion forms a convenient carrying handle.

For a consideration of what is believed novel and inventive, attention is directed to the following description taken in connection with the accompanying drawings while the features of novelty will be pointed out with greater particularity in the appended claims.

Referring now to the drawings,

Fig. 1 shows a handled carton constructed in accordance with one form of the present invention;

Fig. 2 is a fragmentary view illustrating a short piece of strap such as may be used for forming the handle member incorporated in the carton shown in Fig. 1;

Fig. 3 is a plan view of the carton blank prior to folding thereof;

Fig. 4 is a view of the carton blank partially assembled and folded in condition for shipping;

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Fig. 5 is an edge view of the carton blank as shown in Fig. 4;

Fig. 6 is an enlarged cross-sectional view taken along the line 6—6 of Fig. 3;

Fig. 7 is an enlarged sectional view taken along the line 7—7 of Fig. 1;

Figs. 8 and 9 are perspective views showing successive operations in the setting up of the carton from the blank shown in Fig. 4;

Fig. 10 is a view showing the carton of Fig. 9 after it has been filled and prior to the closure of the top thereof;

Fig. 11 is a view in perspective similar to that of Fig. 1 but illustrating a further modification of the invention; and

Fig. 12 is an enlarged fragmentary cross-sectional view taken along the line 12—12 of Fig. 11.

In Fig. 1, a carton is indicated generally at 10 and which is provided with a handle also indicated generally at 11. Referring to Fig. 3, the carton 10 is adapted to be made of paper board, corrugated fiber board, or the like and consists of alternate side walls 12 and end walls 13 hingedly and integrally connected together along the parallel fold lines 14. Foldable flaps 15 and 16 are provided integral with the opposite edges of the side walls and end walls respectively, the latter flaps being foldable along the fold lines 17 and 18 extending at right angles with respect to the fold lines 14. A further flap 19 is provided at one end of the blank and which is adapted to be secured to the opposite end of the blank as shown in Fig. 5. The carton blank, as viewed in Figs. 4 and 5, consists of a collapsed tubular unit in which opposite edges of the side and end walls are hingedly connected together. Cartons of the type described are normally shipped by the manufacturer in the partially assembled and flat folded condition as shown in Figs. 4 and 5 to the user who completes the setting up of the carton immediately prior to the filling and closing of the same.

In accordance with the present invention an elongated handle member 11 is arranged extending transversely of one of the end walls 13 centrally thereof and extending in a direction parallel with the fold lines 14. I prefer to form the handle member 11 from a length of paper strap, a short section of which is further illustrated in the perspective view of Fig. 2. This strap consists of a strip of relatively thin and tough kraft paper, the opposite longitudinal edge portions of which are folded over upon themselves a plurality of times as indicated at 20. The particular form of paper strap shown is more fully described

and claimed in my copending patent application Serial No. 647,168, now Patent No. 2,499,463, entitled Paper Strap. The opposite end portions 22 of a suitable length of such paper strap are adhesively secured in a superposed relation onto the outer surface of the opposite flaps 16 on the end wall 13 with the folded side of the strap next adjacent the carton blank and which may readily be done while the blank is in the flat condition as illustrated either in Fig. 3 or 4. In securing the strap end portions onto the carton blank a slight amount of slack should be provided in the intermediate strap portion as illustrated by Fig. 6, the purpose for doing which will be more fully described hereinafter.

For setting up the carton, the blank shown in Figs. 4 and 5 is first unfolded as shown in Fig. 8 and the bottom wall is then sealed up. The outer surface of the end wall flaps 16 and the outer surface of the strap end portion secured thereto are first covered with adhesive as indicated in Fig. 9, the end wall flaps folded inwardly toward each other and the side wall flaps 15 then folded over the flaps 16 and secured thereto in a superposed relation. By reason of the fact that the adjacent edges of the side wall flaps 15 substantially abut each other along the longitudinal center line of the bottom of the carton, the end portion 22 of the handle strap is covered by the flaps 15. The carton when placed on its bottom as indicated in Fig. 10 may be filled. In Fig. 10 the carton is shown filled with a plurality of cylindrical containers 24 though it will be obvious that the carton may be filled with anything. After the carton is filled the outer surface of the upper end wall flaps 16 including the end portion 22 of the handle strap attached thereto are coated with adhesive, folded inwardly toward each other and the upper side wall flaps 15 are then folded over and secured to the end wall flaps to form the top closure in a manner similar to that shown in Fig. 9.

The carton with its enclosed contents is then ready for shipping. The merchant in arranging the cartons upon the display counter may set them on end as shown in Fig. 1 with the end having the handle attached thereto facing upwardly. Labels or other printed matter may be so arranged upon the carton that the top thereof will be adjacent the handled end of the carton and whereby the printing may be readily read with the carton setting on end. This is relatively unimportant, however, for even though the carton is rested on its bottom the customer can still readily pick up the carton by the handle extending across the end wall. Referring to the view of Fig. 7 it will be observed that because of the slack provided in the intermediate handle portion at the time of attachment thereof onto the carton blank a relatively small space 26 exists between the handle strap and the adjacent end wall 13 of the carton to facilitate the insertion of the fingers therebetween. It has been observed that the amount of slack required need not be great for the reason that in picking up the carton the contents will normally settle downwardly therewithin and permit a certain amount of inward flexing of the end wall under a slight amount of pressure exerted thereagainst upon the initial insertion of the finger tips between the handle strap and the wall 13. Because of the fact that the handle strap lies closely adjacent the end wall 13 it does not interfere with the flat folding and packaging of the blanks as shown in Fig. 4, nor does the handle interfere with the

setting up of the carton, the formation of the top and bottom closure walls nor with the filling of the carton. Machines have heretofore been developed for automatically performing these latter operations and it has been discovered that the presence of the handle 11 upon the carton blank does not in any way interfere with the successful operation of such machines.

Because of the fact that the strap is flat and relatively wide, with rounded opposite edges, it forms a grip comfortable to the hand so that even relatively heavy loads contained within the carton may be carried with ease. Because of the further fact that the opposite end portions 22 of the handle strap are secured between the adjacent superposed flaps forming the top and bottom closure walls, the strap is permanently anchored in place and cannot be peeled off. The strap end portions 22 are also fully protected against the possibility of being scraped off by rubbing action between adjacent loaded cartons during shipment.

While I prefer to attach the handle straps onto the carton blank at the point of original manufacture thereof, it will be obvious that the handles may be attached to the carton by the user during the setting up, filling and closure operations illustrated in Figs. 8 to 10, inclusive, in the drawings.

In Figs 11 and 12 is illustrated a further modification of the invention and which is particularly suitable in the case of cartons which are intended to be filled with snugly fitting rigid containers. In such instances, when the carton is upended downward flexing of the upper end wall might not be permissible to such an extent enabling free insertion of the fingers beneath the strap handle. According to this modification the end wall 13 to which the handle strap 11 is attached is slit longitudinally as shown at 27 beneath the strap. This slit 27 is covered by the strap and is not noticeable except when the strap is lifted. With a slight amount of slack provided in the intermediate handle portion the finger tips may be inserted therebeneath and because of the longitudinal slit 27 the adjacent edge portions 28 of the end wall 13 will bend downwardly as shown in Fig. 12 into the space between adjacent containers 24 to facilitate the insertion of the fingers freely beneath the handle 11.

Having described the invention in what I consider to be preferred embodiments thereof, it is desired that it be understood that the specific details are merely illustrative and that the invention may be carried out by other means.

What I claim is:

1. A flat folded carton blank comprising a pair of side walls and a pair of end walls, one pair of opposite edge portions of each of said side walls being hingedly connected to corresponding adjacent edge portions of both of said end walls defining a collapsed tubular unit, flaps integral with opposite edges of each of said walls foldable along fold lines extending at right angles to the hinge lines connecting said side and end walls, a length of flat strap extending transversely and centrally across the outer surface of one of said end walls in the direction parallel with the hinge lines between said side and end walls, the opposite ends of said length of strap being secured in superposed relation to the outer surface of the flaps integral with the opposite edges of said one end wall, the flaps of said end walls being adapted to be folded toward each other and the

flaps integral with said side walls being adapted to be glued in superposed relation onto the outer surface of the corresponding end wall flaps and to the outer surface of said strap end portions whereby when said carton is set up and sealed closed both of the opposite surfaces of said strap end portions are adhesively secured to adjacent surfaces of said end wall and side wall flaps, the intermediate portion of said strap extending loosely across said one end wall throughout the entire transverse length thereof defining a carrying handle for said carton.

2. A carton comprising a pair of side walls and a pair of end walls, one pair of opposite edge portions of each of said side walls being hingedly connected to corresponding adjacent edge portions of both of said end walls, flaps integral with opposite edges of each of said walls folded along fold lines extending at right angles to the hinge lines connecting said side and end walls, a length of flat strap extending transversely and centrally across the outer surface of one of said end walls in the direction parallel with the hinge lines between said side and end walls, the opposite ends of said length of strap being secured in superposed relation to the outer surface of the flaps integral with the opposite edges of said one end wall, the flaps of said end walls being folded toward each other and the flaps integral

with said side walls being glued in a superposed relation onto the outer surface of corresponding end wall flaps and to the outer surface of said strap end portions whereby said side wall flaps completely cover said end wall flaps and said strap end portions, and whereby the opposite surfaces of said strap end portions are adhesively secured to adjacent surfaces of said end wall and side wall flaps, the intermediate portion of said strap extending loosely across said one end wall throughout the entire transverse length thereof defining a carrying handle for said carton.

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