Aug. 29, 1944. S. J. KLEIN 2,357,009

CARTON

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FIG. 1.

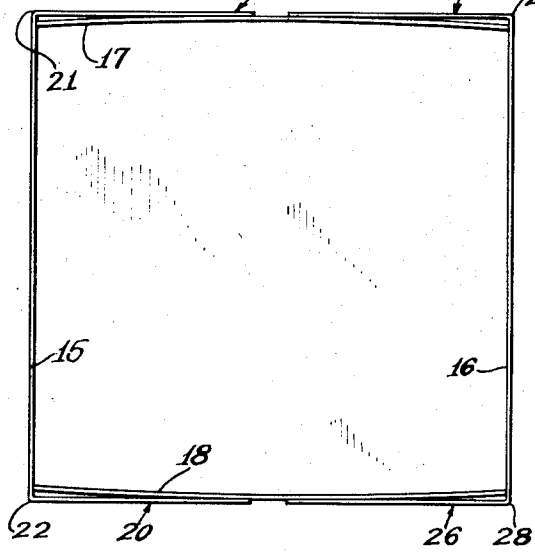


FIG. 5.

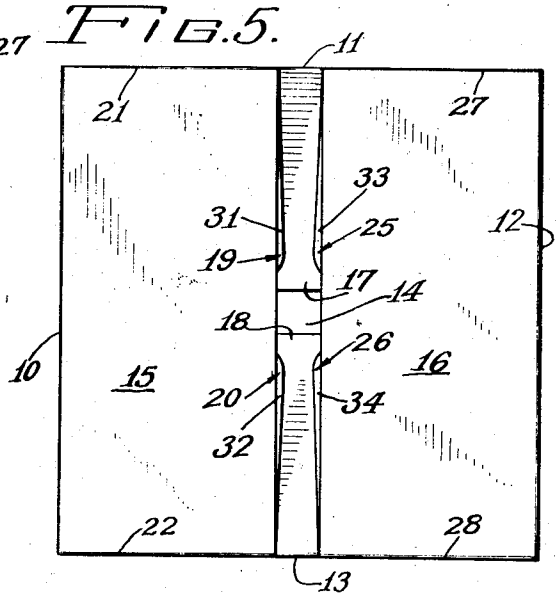


FIG. 2.

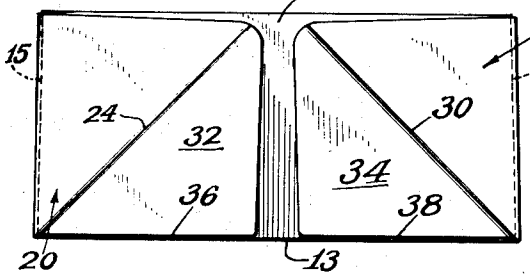


FIG. 3.

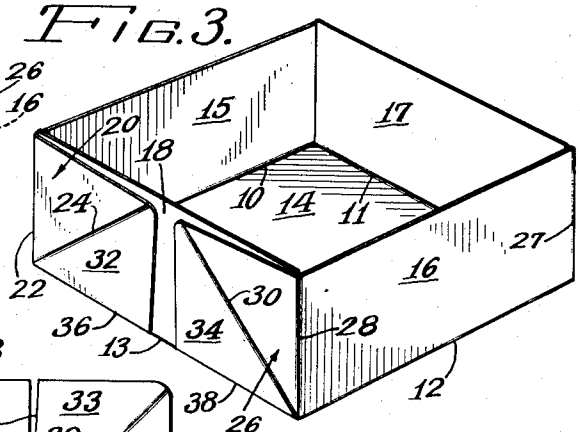
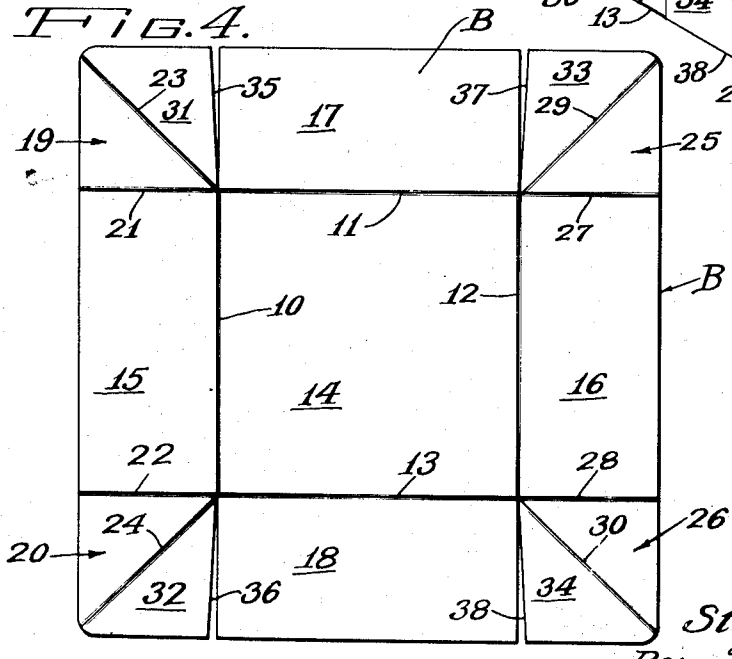


FIG. 4.



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FIG. 6.

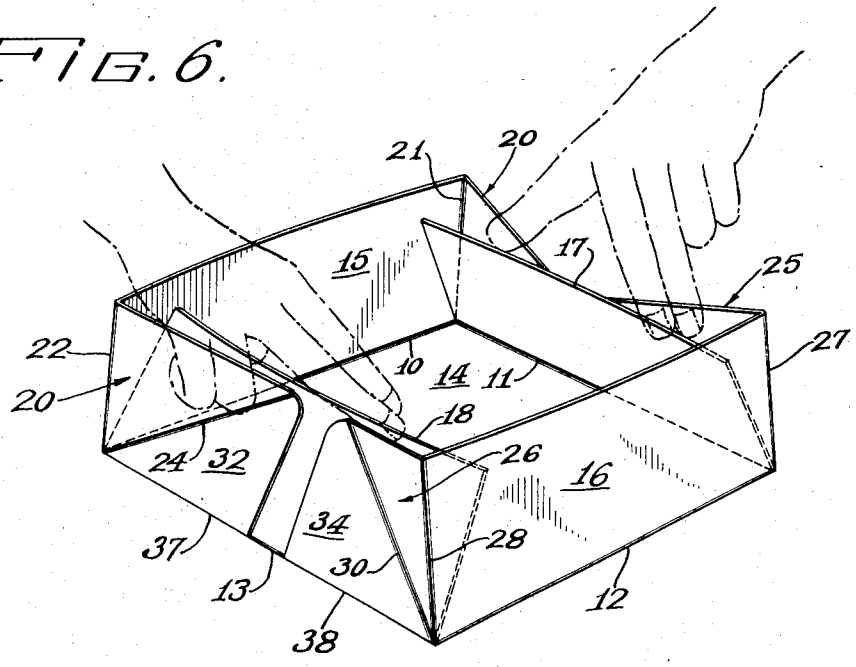
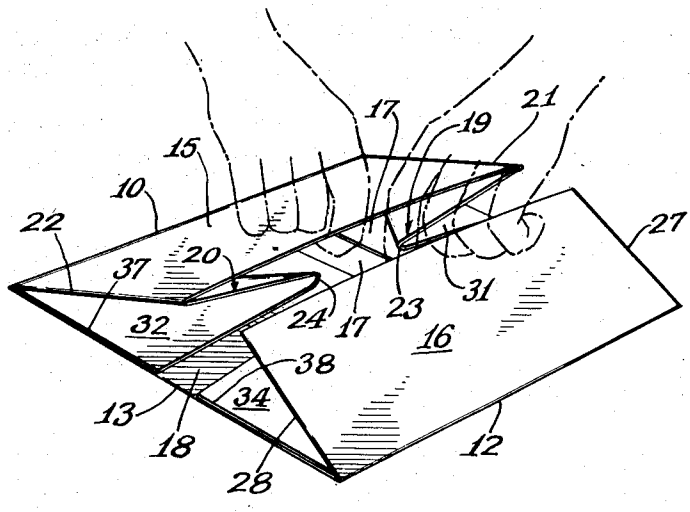


FIG. 7.



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FIG. 8.

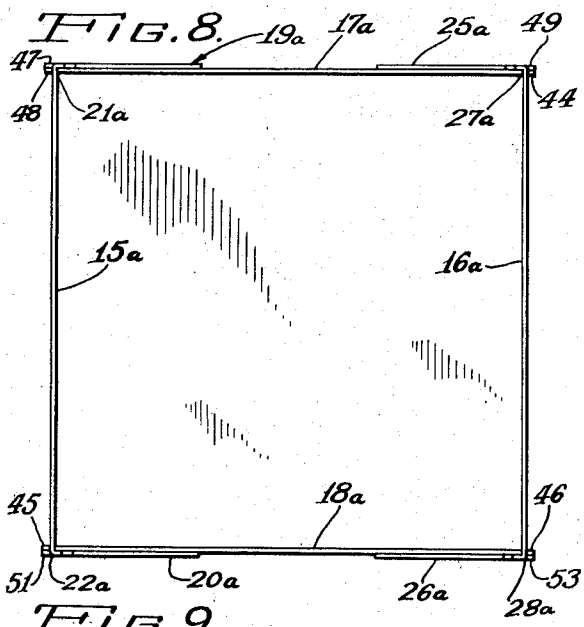


FIG. 10.

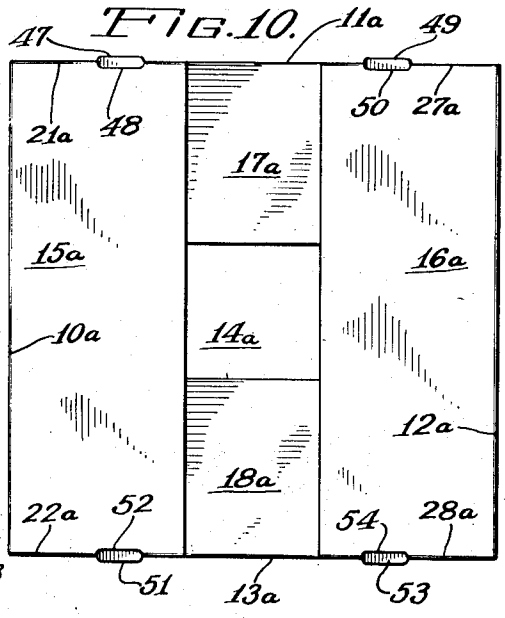


FIG. 9.

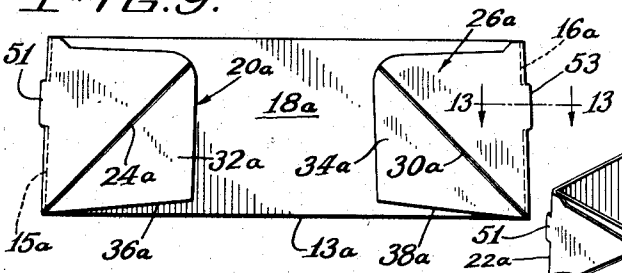


FIG. 11.

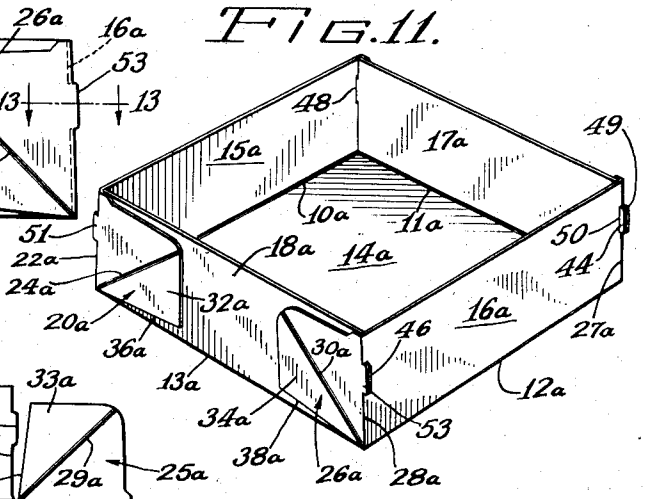


FIG. 12.

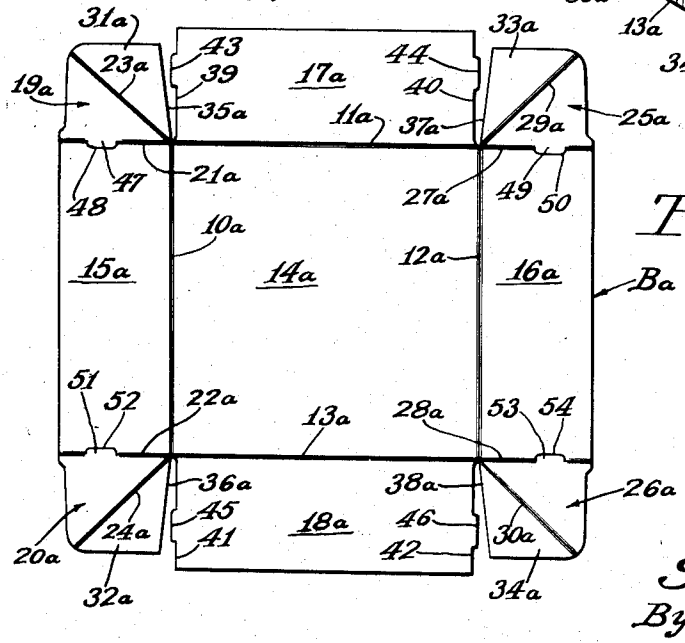
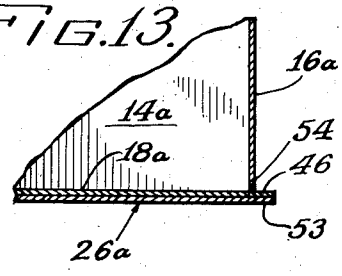


FIG. 13.



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UNITED STATES PATENT OFFICE

2,357,009

CARTON

Stanley J. Klein, Englewood, N. J., assignor to Empire Box Corporation, Garfield, N. J., a corporation of Delaware

Application January 18, 1943, Serial No. 472,694

2 Claims. (Cl. 229—32)

This invention relates to collapsible cartons made of cardboard or like material.

In many instances a collapsible carton is employed to transport an article from the place of production to the place of sale and once the article has reached the place of sale it is removed from the carton and placed in a position where it may be readily viewed so as to promote the sale thereof. In such circumstances it is often advantageous to return the carton from the place of sale to the place of production of the article and since cartons may be much more readily transported when collapsed into a flat condition, it is advantageous to so arrange the carton that collapsing thereof to a flat condition from the erected condition thereof may be expeditiously effected and so to do in a novel manner is one of the important objects of the present invention.

Cartons of the character to which this invention pertains are usually produced in machines which are effective to fold the cartons to flat condition and the cartons are usually kept in this condition during transportation and like handling thereof. It is, however, advantageous to expedite erection of such a carton from such flat condition to article-receiving condition and to enable such erection of a carton to be expeditiously effected in a novel and efficient manner is yet another important object of this invention.

It is of course important to retain a collapsible carton in its erected condition for so to do facilitates disposing an article therein and in many instances as, for example, where a frosted cake or the like is disposed in a collapsible carton, it is advantageous to prevent the carton from collapsing into contact with the article packaged therein and therefore yet another important object of this invention is to effectively retain a collapsible carton in its erected condition once it has been erected.

It is also advantageous in many uses of cartons of the character to which this invention relates to have all of the inwardly disposed faces of the walls thereof free of glue flaps, score lines and the like and a further object of this invention is to so arrange a collapsible carton.

Yet other objects are to join corner members to opposite ends of opposite walls of a carton along fold lines and to respectively secure such corner members to adjacent portions of walls of the carton that respectively extend intermediate the ends of said opposite walls and to so relate the corner members to the intermediate walls to which they are so secured that the opposite walls are inclined inwardly toward each other in the erected carton; to secure but a part of each corner member to the adjacent portion of an intermediate wall and to form a fold line in each corner member intermediate the secured and unsecured portions thereof and to so relate the secured and unsecured portions of the corner members and the fold lines therein as to enable the intermediate walls to be folded over onto the wall of the carton to which these walls are connected along fold lines and to also enable the opposite walls to be folded over onto the intermediate walls so as to thereby permit the carton to be collapsed to a substantially flat condition; to so effect the aforesaid relation among the corner members and the intermediate walls to which they are respectively secured and to so relate the opposite and intermediate walls to each other that at least a part of at least selected of the ends of the intermediate walls will cooperate with adjacent portions of the opposite walls in the erected carton in such manner that the carton will be effectively retained in its erected condition; to relate the corner members and the opposite and intermediate walls in such instances in such manner that the ends of the intermediate walls will so engage adjacent portions of the inwardly inclined opposite walls as to be effective to retain the carton in its erected condition; to relate the corner members and the opposite and intermediate walls in such manner that when the carton is arranged in its collapsed substantially flat condition the intermediate walls may be accommodated between the opposite walls with the end portions of the intermediate walls free of frictional engagement with adjacent portions of the opposite walls; to form in some instances projecting portions on at least selected of the ends of the intermediate walls and to also form portions in the opposite walls into which such projections may be extended when the carton is erected whereby the interrelation among the projections and such portions of the opposite walls will be effective to retain the carton in its erected condition; and more specifically in some instances to afford projecting tabs on the ends of the intermediate walls and to form openings in the opposite walls into which such tabs may project when the carton is erected, whereby the disposition of the tabs into such openings will be effective to retain the carton in its erected condition.

Further objects are to provide corner members unitary with and at opposite ends of opposite walls of a carton and to secure such corner members to other and opposite walls of the carton outwardly thereof whereby the inwardly disposed

faces of the carton are free of glue flaps, score lines and the like; and to so form and attach corners as aforesaid that the walls of the carton may be folded over onto the bottom of the carton or in angular relation therewith without creasing or otherwise interrupting the smooth inner faces of the walls of the carton.

Yet other objects are to enable corner members connected to opposite ends of opposite walls of a carton to be connected to walls of the carton extended intermediate of such opposite walls and outwardly of said intermediate walls and in such manner that the opposite walls of the carton will be inclined inwardly toward each other when the carton is erected; to relieve edge portions of such corner members in such manner as to enable such corner members to be attached to intermediate walls as aforesaid outwardly thereof but within the area of such intermediate walls so as to thereby avoid having portions of the corner members extended outwardly of edges of the intermediate walls; and to relieve edges of corner members of the aforesaid nature in such manner that the relieved edges of the corner members may be related to corners of the carton in such manner as to insure that opposite walls of the carton to which the corner members are connected along fold lines will be inclined inwardly toward each other in the erected carton without having portions of the corner members extended beyond corner edges of the carton.

Other and further objects of the present invention will be apparent from the following description and claims and are illustrated in the accompanying drawings which, by way of illustration, show preferred embodiments and the principle thereof and what I now consider to be the best mode in which I have contemplated applying that principle. Other embodiments of the invention embodying the same or equivalent principle may be used and structural changes may be made as desired by those skilled in the art without departing from the present invention and the purview of the appended claims.

In the drawings,

Fig. 1 is a plan view of an erected carton embodying one form of my invention;

Fig. 2 is an elevational view looking in at the lower edge of the carton shown in Fig. 1;

Fig. 3 is a perspective view of the carton shown in Figs. 1 and 2;

Fig. 4 is a plan view of the blank from which the carton shown in Figs. 1, 2 and 3 is formed;

Fig. 5 is a plan view of the carton shown in Figs. 1, 2 and 3 as the same is arranged upon folding and interconnection of parts of the blank shown in Fig. 4 and prior to the erection of the carton;

Fig. 6 is a perspective view illustrating the manner in which an erected carton such as that shown in Fig. 3 may be expeditiously collapsed;

Fig. 7 is a view illustrating the manner in which the carton shown in Fig. 5 may be grasped to be arranged in erected condition as shown in Fig. 3;

Fig. 8 is a view similar to Fig. 1 but showing a modified form of my invention;

Fig. 9 is a view similar to Fig. 2 of an end of the carton illustrated in Fig. 8;

Figs. 10 and 11 are views respectively similar to Figs. 5 and 3 but showing the carton illustrated in Fig. 8;

Fig. 12 is a plan view of the blank from which the carton shown in Fig. 8 is formed; and

Fig. 13 is a sectional detail view taken substantially on the line 13—13 on Fig. 9.

A blank from which a carton shown in Figs. 1 to 7 may be produced is illustrated in Fig. 4 and while this blank B as there illustrated is substantially square in outline, it will be understood that in many instances resort may be had to a rectangular blank. The particular outline of the blank will be determined by whether it is desired to have the opposite dimensions in the erected carton substantially equal to whether one of such opposite dimensions is to be greater than the other, and it will be understood that resort is had to a blank such as that shown in Fig. 4 when the aforesaid opposite dimensions are to be substantially equal.

In the blank B shown in Fig. 4 score or fold lines 10, 11, 12 and 13 are formed and merged with another to define the outline of the bottom 14 of the carton. What are referred to herein as side walls 15 and 16 are respectively joined to opposite edges of the bottom 14 along the fold lines 10 and 12, while what are referred to herein as end or intermediate walls 17 and 18 are joined to other opposite edges of the bottom 14 along the fold lines 11 and 13. It will be understood, however, that in some instances the walls 15 and 16 will constitute the end walls of the carton while the walls 17 and 18 will constitute the side walls thereof and thus such designation of the walls herein is merely for the purpose of facilitating description of the carton shown in the accompanying drawings.

Corner members 19 and 20 are provided in the blank B as continuations of the side wall 15 and these corner members are joined to the opposite ends of the side wall 15 respectively along fold lines 21 and 22. The corner member 19 is aligned with the end wall 17 and the corner member 20 is aligned with the end wall 18, but the corner members 19 and 20 are respectively separated from the end walls 17 and 18 along lines of severance that will be described in greater detail hereinafter. A fold line 23 extends diagonally across the substantially rectangular corner member 19 and a fold or score line 24 similarly extends across the corner member 20.

Corner members 25 and 26 are provided at opposite ends of the side wall 16 and are respectively joined to this side wall along fold or score lines 27 and 28, and these corner members 25 and 26 are also respectively aligned with the end walls 17 and 18 but are separated therefrom along lines of severance described in greater detail hereinafter. A score or fold line 29 extends diagonally across the substantially square corner member 25 and a score line 30 similarly extends across the corner member 26.

The score lines 23, 24, 29 and 30 respectively define glue flaps 31, 32, 33 and 34 on the corner members 19, 20, 25 and 26 and each such glue flap or tab is arranged in juxtaposition to the adjacent end wall as 17 or 18. Furthermore, the edge 35 of the glue flap or tab 31 that is disposed adjacent to the end wall 17 is cut so as to be inclined outwardly away from the adjacent straight end edge of the wall 17 so that the free end of the edge 35 is substantially spaced from the adjacent free end of the end edge of the wall 17. The edges 36, 37 and 38 of the glue flaps 32, 33 and 34 are similarly inclined outwardly away from the end of the end wall disposed in juxtaposition thereto.

In producting cartons in accordance with my invention resort is desirably had to the cus-

tomary carton manufacturing operations. Thus in those instances where the cartons are to be printed, sheets of suitable material such as cardboard or the like are first printed as by being passed through a conventional printing press. Thereafter the printed sheets or unprinted sheets, in those instances where the printing is not desired on the finished carton, are taken to a machine where the sheets are cut and scored to usually afford a plurality of blanks as B in each such sheet. Thereafter these blanks are separated one from the other and the waste portions are separated from the blanks, and these blanks are then fed in a conventional manner through a folding and gluing machine. It will be appreciated, however, that resort might be had to other practices in order to produce the carton of the present invention but the above explained procedure is desirable because of the economies which result.

One way in which the illustrated carton may be initially arranged in its folded flat condition is to first fold the end walls 17 and 18 along the fold lines 11 and 13 over onto the upper or inner side of the bottom 14. The corner members 19 and 20 may then be respectively folded along the fold lines 21 and 22 over onto the side wall 15 and simultaneously, if desired, the corner members 25 and 26 may be respectively folded along the fold lines 27 and 28 over onto the side wall 16. Thereafter, the glue flap 31 may be folded along the fold line 23 over onto the other portion of the corner member 19 and the glue flap 32 may also at this time be folded along the fold line 24 over onto the other portion of the corner member 20. Likewise, at this time the corner member 33 may be folded along the fold line 29 over onto the other portion of the corner member 25 and the glue flap 34 may also at this time be folded along the fold line 30 over onto the other portion of the glue flap 26. Such arrangement of the glue flaps 31, 32, 33 and 34 disposes the faces of these glue flaps which appear in Fig. 4 upwardly and at this time a suitable adhesive may be applied to these faces of these glue flaps. Then with the various parts arranged in these positions the side walls 15 and 16 with the folded corner members disposed thereabove are folded over onto the end walls 17 and 18 and by reason of the application of adhesive to the faces of the glue flaps as above described this will cause the glue flaps to be adhesively secured to the respectively underlying end wall 17 or 18 adjacent to the fold line along which the particular end wall is joined to the bottom wall and substantially medially of such end wall. The result of the foregoing operation is to arrange the carton in the substantially flat condition thereof shown in Fig. 5 with the end walls 17 and 18 disposed against the upper or inner face of the bottom 14 and with the side walls 15 and 16 disposed thereabout with the corner members 19, 20, 25 and 26 folded upon themselves and disposed between adjacent portions of the end walls 17 and 18 and side walls 15 and 16.

When the carton is arranged in its flat condition, in the manner described above or otherwise, and it is desired to erect the same, it is desirable that it be grasped somewhat in the manner shown in Fig. 7, which is to say, with the fingers of the hands respectively engaged along the free edges of the side walls 15 and 16 desirably near the medial parts of these walls, and by pulling upwardly and outwardly on these edges of the walls 15 and 16 the carton is arranged in the erected condition thereof shown in Figs. 1, 2 and 3.

It has been explained hereinabove that when a carton such as that to which this invention pertains is erected, it is desired that the same be retained in erected condition and this is realized in the present instance by binding the ends of the walls 17 and 18 against the walls 15 and 16 when the carton is erected. It is desirable, however, that the binding of the walls 17 and 18 against the walls 15 and 16 be avoided when the carton is in the collapsed or flat condition shown in Fig. 5, and this is accomplished in the illustrated carton by providing the cut-away or relieved edges as 35 on the glue flaps as 31 and by connecting such glue flaps to the end wall in the manner now to be explained.

Thus by referring to Fig. 2 it will be seen that the glue flaps 32 and 34 are secured to the end wall 18 exteriorly thereof and that the relieved or tapered edges 36 and 38 of these glue flaps are arranged in substantially parallel relation with the fold line 13 along which the end wall 18 is joined to the bottom 14. The glue flaps 31 and 33 are similarly arranged and secured to the end wall 17. Such connection of the glue flaps to the end walls, as best shown in Fig. 2, causes the side walls as 15 and 16 to be inclined inwardly in the erected carton so that the distance between the upper edges of these walls is less than the distance between the lower edges of these walls. While it is desirable that the inclined edges 36 and 38 on the glue flaps 32 and 34 be arranged in substantially parallel relation with the fold line 13, and that the inclined edges 35 and 37 on the glue flaps 31 and 33 be arranged in substantially parallel relation with the fold line 11, such relationship is not essential. Thus, so long as the glue flaps are secured to the end walls in such manner as to cause side walls as 15 and 16 to be inclined inwardly toward each other in the erected carton and portions of the glue flaps do not project outwardly beyond fold lines as 11 and 13, the advantages of this invention may be realized.

In this regard, it will be noted that the end wall sections 17 and 18 are respectively connected to opposite edges of the bottom section 14 along the score lines 11 and 13 and that the length of these score or fold lines determines the dimension of the bottom section 14 in the direction of the extent of these fold lines. Moreover, the opposite end edges of these end wall sections 17 and 18 advantageously extend in right angular relation with the score lines as 11 and 13 and in such circumstances the length of the end wall sections 17 and 18 corresponds to the dimension of the bottom section 14 in the direction of the extent of the end wall sections. Hence, the portion of the bottom section 14 onto which the end wall sections 17 and 18 are folded when the carton is in the flat or collapsed condition shown in Fig. 5 is sized to afford accommodation for the end wall sections 17 and 18 in the collapsed carton so that the ends of the end wall sections 17 and 18 do not, in the collapsed carton, bind against the side wall sections 15 and 16.

However, by reason of the fact that in the erected carton the distance between the side wall sections 15 and 16 at the top edges thereof is less than the distance between these wall sections at the lower edges thereof and since the end wall sections 17 and 18 extend between the side wall sections 15 and 16 when the carton is erected, the ends of these end wall sections bind

against the side wall sections and this is effective to retain the carton in its erected condition. Thus, one of the novel aspects of my invention resides in causing opposite wall sections in an erected carton to be inclined toward each other and in also causing at least portions of at least selected ends of wall sections of the carton intermediate such opposite wall sections to engage the opposite sections in such interengaging relation as to cause the carton to be retained in its erected condition.

A further advantage and novel aspect of this invention is that in an arrangement such as that described hereinabove the end wall sections 17 and 18, as well as the side wall sections as 15 and 16 are free of glue flaps, score lines and the like on the inner faces thereof whereby a smooth interior is afforded in the carton when the same is erected.

As has been explained, it is often desirable that collapsing of the carton from the erected to the collapsed substantially flat condition thereof be expedited and this is especially realized in the carton of the present invention. Thus by referring to Figs. 2 and 3 it will be seen that the glue flaps at 32 and 34 are connected to an end wall section as 18 near the medial part of such end wall section and since it is only these glue flaps on the corner members that are connected to the end wall section, the end portions of a wall section as 18 are free of the corner members. Advantage is taken of this arrangement when it is desired to collapse the carton from its erected condition shown in Fig. 3 to the flat condition thereof shown in Fig. 5. Thus when it is desired to collapse the carton the thumb of one hand is disposed near one free end of the end wall 17 adjacent to the free edge thereof, and the index and adjacent fingers of this hand are placed near the other free end of the wall 17 adjacent to the upper edge thereof. The opposite free ends near the upper edges of the end wall 18 are similarly engaged by the thumb and fingers of the other hand and then by moving the hands toward each other the free ends of the end walls 17 and 18 slide over the inner faces of the side walls 15 and 16 until these end walls are moved back into engagement with the inner face of the bottom 14, whereupon the carton is arranged in the flat condition thereof shown in Fig. 5. Since ample accommodation is afforded for the end walls 17 and 18 between the side walls 15 and 16 when the end walls are moved into engagement with the bottom 14, the end walls 17 and 18 do not bind on the side walls 15 and 16 in the collapsed carton. A carton so collapsed may be readily re-erected by grasping the same as shown in Fig. 7 and as described hereinabove.

In the form of my invention thus far described the carton is effectively retained in the erected condition thereof by reason of frictional interengagement between at least selected of the ends of end wall sections as 17 and 18 with portions of side wall sections as 15 and 16 and, while in most of the uses to which my invention will be put such an arrangement will prove to be entirely satisfactory, there may be instances where it will be desirable to rely upon an interlocking relationship between the ends of end wall sections and the side wall sections, and such an arrangement is included in the form of my invention illustrated in Figs. 8 to 13, inclusive.

Inasmuch as the carton shown in Figs. 8 to 13, inclusive, is much like that shown in Figs. 1 to 7, inclusive, those parts of the carton shown in Figs. 8 to 13 which correspond to parts of the carton shown in Figs. 1 to 7, inclusive, have reference characters applied thereto like those applied to the corresponding parts of the carton shown in Figs. 1 to 7, except that with respect to the carton shown in Figs. 8 to 13, the suffix "*a*" is added to the reference characters. There are, however, certain differences between the carton shown in Figs. 8 to 13 and the carton shown in Figs. 1 to 7. Thus, it will be noted that the ends 39 and 40 of the end wall 17*a* are inset inwardly out of alignment with the fold lines as 10*a* and 12*a* and the ends 41 and 42 of the end wall 18*a* are similarly arranged with respect to the fold lines 10*a* and 12*a*. Furthermore, a tab as 43 is provided on the end 39 of the end wall 17 substantially medially in the extent of this end of this end wall, and the free end of this tab 43 is desirably related to the fold line 10*a* in the same manner as that in which the corresponding end of the end wall 17 is related to the fold line 10 (see Fig. 4), which is to say, the free end of the tab 43 is so related to the fold line 10*a* that when the end wall 17*a* is folded over onto the bottom 14*a* and thereafter the side wall 15*a* is folded over onto the end wall 17*a*, the tab 43 will lie flat against the bottom 14*a* and will not bind upon the fold line 10*a*, it being understood that the left-hand end of the end wall 17, Fig. 4, is similarly related to the fold line 10.

Likewise, a tab 44 is provided on the end 40 of the end wall 17*a* and this tab 44 is arranged on the end 40 and with respect to the fold line 12*a* in the same manner as that in which the tab 43 is arranged on the end wall 39 and related to the fold line 10*a*. Corresponding and similarly arranged tabs 45 and 46 are provided respectively on the ends 41 and 42 of the end wall 18*a*.

Moreover, the fold line 21*a* is interrupted by having an ear 47 defined by a line of severance which outlines an opening 48, the opening 48 being spaced from the merger of the fold lines 10*a* and 11*a* in an amount corresponding to the spacing of the tab 43 from the merger of such fold lines, and additionally the opening 48 is sized to neatly accommodate the tab 43 therein when the carton is erected, as will be explained presently.

An ear 49 and an opening 50 are provided along the fold line 27*a* and the opening 50 is related to the tab 44 in the same manner as that in which the opening 48 is related to the tab 43. Also, an ear 51 and an opening 52 are defined along the fold line 22*a* and an ear 53 and an opening 54 are provided along the fold line 28*a*, and the openings 52 and 54 are respectively related to the tabs 45 and 46 in the same manner as that in which the opening 48 is related to the tab 43.

The carton shown in Figs. 8 to 13, inclusive, is initially assembled in a flat condition in the same manner as that in which the carton shown in Figs. 1 to 7 is assembled into its substantially flat condition, as has been described hereinabove. Moreover, when it is desired to erect the carton shown in Figs. 8 to 13, inclusive the upper marginal portions of opposite walls as 15*a* and 16*a* thereof are grasped medially thereof in, for example, the manner shown in Fig. 7 with respect to the walls 15 and 16, and thereupon the carton shown in Figs. 8 to 13, inclusive, may be arranged in the erected condition thereof illustrated in Figs. 8, 9 and 11.

As an incident to the erection of the carton shown in Figs. 8 to 13, inclusive, in the just de-

scribed manner, the free end portions of the tabs as 43, 44, 45 and 46 will pass over the inner surfaces of the opposite side wall sections 15a and 16a in much the same manner as that in which the ends of the end walls 17 and 18 pass over the side walls 15 and 16 in the course of erection of the carton shown in Figs. 1 to 7, inclusive. However, as the walls 15a, 16a, 17a and 18a attain their erected or vertical positions with respect to the bottom 14, the tabs as 46 move into cooperating relation with the openings as 54 respectively adapted for cooperation therewith, and when the carton is fully erected the tabs as 46 will be extended through the openings as 54 and into parallel and engaging relation with the ears as 53 in the manner shown, for example, in Figs. 11 and 13. Such insertion of the tabs as 46 into the openings as 54 effects a firm interlock between an end wall as 18a and a side wall as 16a, and inasmuch as in the illustrated form of the carton such an interlock is established at each corner of the carton, it is manifest that the carton will be effectively retained in its erected condition.

When it is desired to restore a carton such as that shown in Figs. 8 to 13, inclusive, to its collapsed and substantitally flat condition, the upper marginal portions of the end walls as 17a and 18a are engaged in the manner hereinabove explained and illustrated in Fig. 6 with reference to the end walls 17 and 18. This results in pressure being applied to the upper marginal portions of the end walls as 17a and 18a near the free ends thereof and this is effective to withdraw the tabs as 46 from the openings as 54 (see Fig. 13), and thereafter the free ends of the tabs may be caused to pass over the opposite side wall sections and the end walls as 17a and 18a may be brought into engagement with the bottom 14a with the side walls as 15a and 16a disposed thereover, as shown for example in Fig. 10.

By referring to Fig. 9 it will be seen that the edges 36a and 38a of the glue flaps as 20a and 26a respectively are not disposed in parallel relation with the fold line 13a in the manner in which corresponding edges of the glue flaps shown in Fig. 2 are shown in parallel relation with the fold line 13. However, by referring to Fig. 9 it will be seen that the opposite walls 15a and 16a are nevertheless inclined inwardly toward each other, and in this respect it is such inward inclination of the opposite walls as 15a and 16a that insures that the tabs as 46 will pass into openings as 54 when the carton is erected. It is desirable that the opposite wall sections be inclined inwardly toward each other to bring about the insertion of tabs as 46 into openings as 54 for this enables the tabs as 46 to be so arranged that they may freely pass over an adjacent side wall as 16a in the course of erection or collapsing of the carton without likelihood of these tabs being damaged in the manner which might result if the tabs as 46 were formed to project through openings as 54 in instances where the opposite walls as 15a and 16a were arranged in exact vertical position with respect to the bottom wall as 14, for if resort was had to such an arrangement it would be necessary that the tabs as 46 drag over a side wall as 16a in the course of erection or collapsing of the carton. Moreover, the arrangement of the glue flaps shown in Fig. 9 is illustrative of the preferred arrangement of these glue tabs on the outer portion of an end wall as 18a, which is to say, the arrangement of these glue flaps on such an end wall in such a manner that portions of the glue flaps do not extend beyond a fold line as 13a.

It will be appreciated from the foregoing description that I have provided a carton which may be expeditiously moved from the flat collapsed condition thereof to the erected condition thereof and that likewise the carton may be expeditiously restored to the flat collapsed condition thereof from the erected condition thereof. Furthermore, when the carton is in the erected condition thereof, the interior faces of the various walls thereof are free of glue flaps, score lines and the like whereby a smooth interior is afforded in the carton. Yet further, when the carton is in the erected condition, the ends of opposite walls thereof cooperate with other and opposite walls of the carton whereby the same is effectively retained in its erected condition.

Among the reasons why the hereinabove explained advantages of this invention may be realized is the manner in which glue flaps provided on corner members are connected to what may well be called intermediate walls of the carton. In the illustrated forms of the invention this is accomplished by relieving edge portions of the glue flaps in such manner that when the glue flaps are connected to an intermediate wall exteriorly thereof portions of the glue flaps will not project beyond the edge of the carton toward which they are disposed, notwithstanding the fact that the glue flaps are secured to an intermediate wall in such a manner that opposite walls of the carton to which the corner members, of which the glue flaps are a part, are connected are inclined one inwardly toward each other. In this respect it will be appreciated that it is the inward inclination of oppcsite walls of the carton toward each other that enables certain of the advantageous aspects of this invention to be realized, among which is the effective retention of the carton in its erected condition by reason of the cooperation of at least portions of the ends of an intermediate wall as aforesaid with adjacent portions of opposite walls as aforesaid. Furthermore, the interconnection of the glue flaps to medial parts of intermediate walls, as above described, is also effective to reinforce such intermediate walls medially thereof which enables the carton to better withstand the use to which it will be put.

Moreover, by reason of the fact that the glue flaps are connected to intermediate walls of the carton medially thereof, the end portions of such walls are left free so that the same may be flexed inwardly to thereby facilitate collapsing of the carton from the erected condition thereof. Furthermore, by reason of the fact that the glue flaps are connected to intermediate walls as aforesaid medially and exteriorly of such walls and by reason of the manner in which such glue flaps are connected to such intermediate walls, other and opposite walls of the cartons to which the glue flaps are connected are inclined inwardly so that the distance between the upper marginal edges of these opposite walls is less than the distance between the lower marginal edges of such walls and this, in connection with the fact that the end portions of the intermediate walls are free of the glue flaps, enables at least portions of the ends of the intermediate walls to cooperate with opposite walls in the erected carton in such manner as to be effective to retain the carton in its erected condition. However, the distance between the lower marginal portions of the aforesaid opposite walls is such that the aforesaid intermediate walls may be moved into engagement with the bottom of the carton to

thereby be relieved of the binding effect when the carton is returned to its flat condition so as to facilitate transportation or other handling thereof.

While I have illustrated and described preferred embodiments of my invention, it is to be understood that these are capable of variation and modification and I therefore do not wish to be limited to the precise details set forth, but desire to avail myself of such changes and alterations as fall within the purview of the following claims.

I claim:

1. In a carton, a bottom wall, opposite wall sections respectively joined to opposite marginal edges of said bottom wall along fold lines, other wall sections disposed to extend intermediate said opposite wall sections and respectively joined to the bottom wall along fold lines, and inset inwardly out of alignment with the fold lines of said opposite wall sections and provided with a tab at each end thereof spaced from the bottom fold line, said tabs having their free ends so related to the fold lines of said opposite wall sections that when the intermediate wall sections are folded over onto the bottom wall the tabs will fold flat upon the bottom wall and not extend beyond the fold lines of said opposite wall sections, and corner members respectively joined to opposite ends of the opposite wall sections along fold lines and having tab receiving openings thereat, said tab receiving openings being spaced from said opposite wall bottom fold lines the same distance as said tabs said corner members being respectively secured to the intermediate wall sections in such manner as to incline the opposite wall sections toward each other in the erected carton and simultaneously cause the tabs of the intermediate wall sections to enter the said tab receiving openings.

2. In a carton, a bottom wall, opposite wall sections respectively joined to opposite marginal edges of said bottom wall along fold lines, other wall sections disposed to extend intermediate said opposite wall sections and respectively joined to the bottom wall along fold lines, and inset inwardly out of alignment with the fold lines of said opposite wall sections and provided with a tab at each end thereof spaced from the bottom fold line, said tabs having their free ends so related to the fold lines of said opposite wall sections that when the intermediate wall sections are folded over onto the bottom wall the tabs will fold flat upon the bottom wall and not extend beyond the fold lines of said opposite wall sections, corner members respectively joined to opposite ends of the opposite wall sections along fold lines and having tab receiving openings thereat, said tab receiving openings being spaced from said opposite wall bottom fold lines the same distance as said tabs said corner members being respectively secured to the intermediate wall sections in such manner as to incline the opposite wall sections toward each other in the erected carton and simultaneously cause the tabs of the intermediate wall sections to enter the said tab receiving openings, and ears defined by lines of severance outlining the tab receiving openings, said ears when the carton is erected coinciding with and being located exteriorly of the tabs in abutting relation with the same.

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