April 19, 1955 W. G. SHEARD 2,706,591

CARTON

Filed May 4, 1950 3 Sheets-Sheet 1

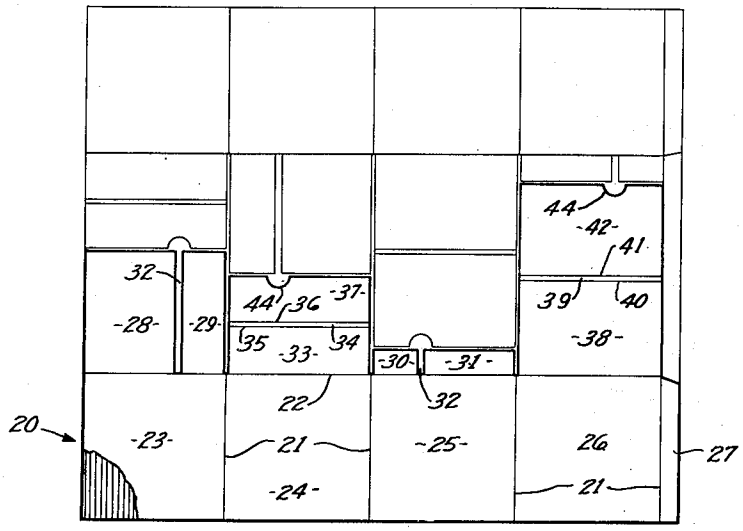


Fig. 1.

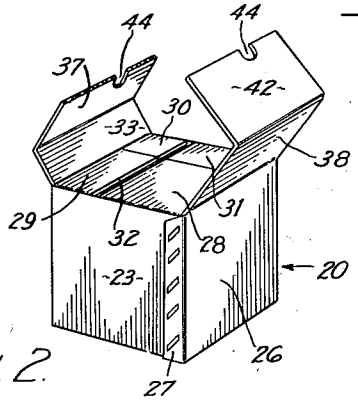


Fig. 2.

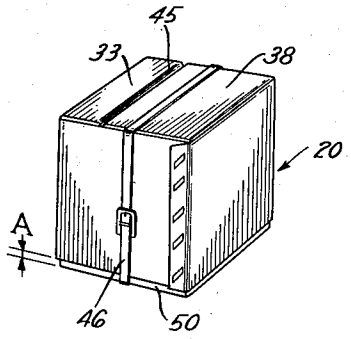


Fig. 5.

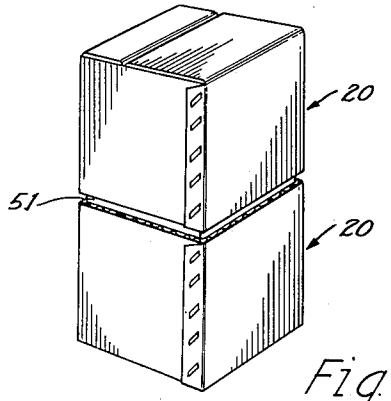


Fig. 6.

INVENTOR.
WILLIAM G. SHEARD
BY Bonnerto & Simons
ATTORNEYS.

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CARTON

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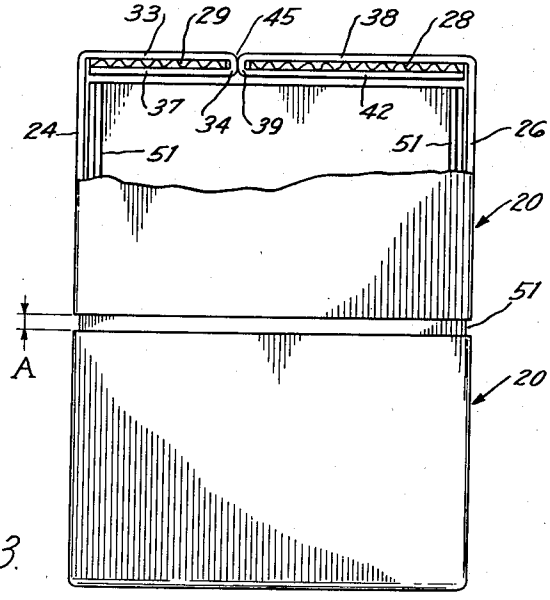


Fig. 3.

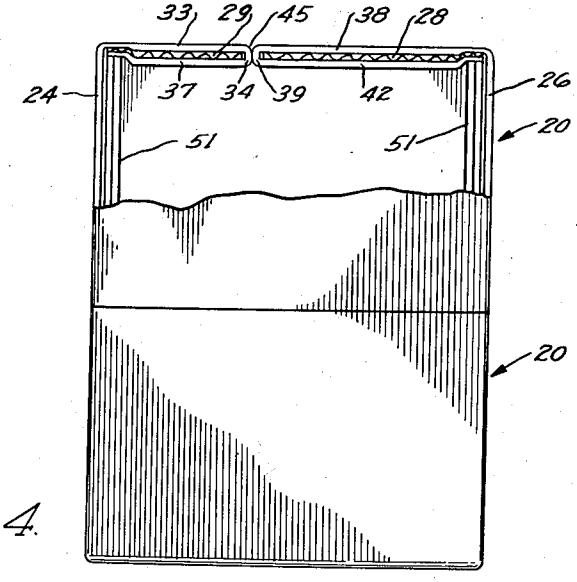


Fig. 4.

INVENTOR.
WILLIAM G. SHEARD
BY Bowman & Seniors

ATTORNEYS.

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CARTON

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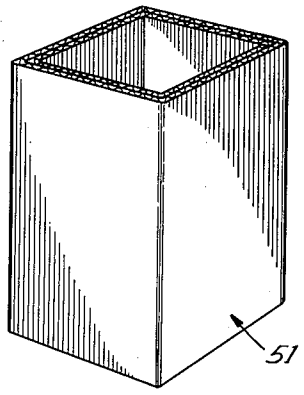


Fig. 7

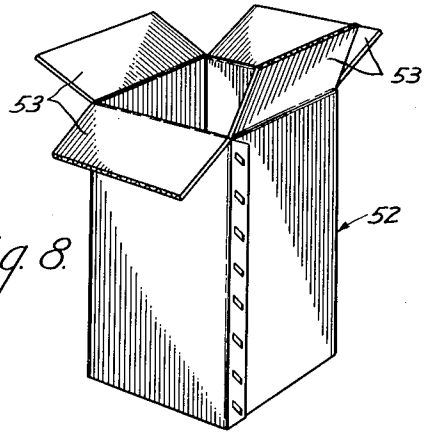


Fig. 8

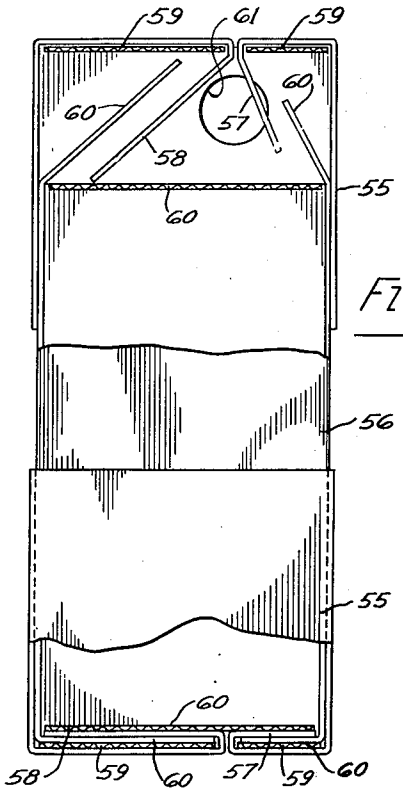


Fig. 9

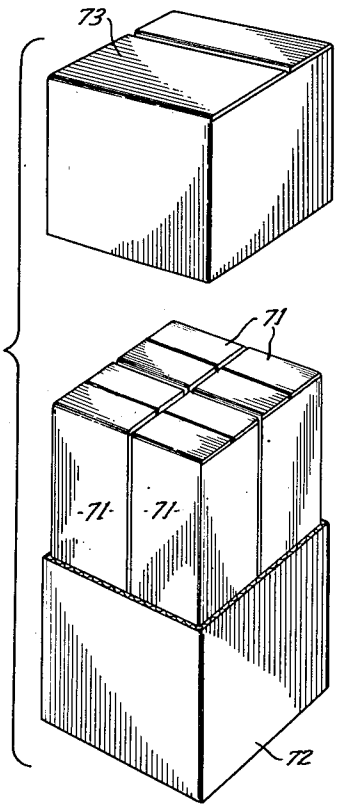


Fig. 10

INVENTOR.
WILLIAM G. SHEARD
BY Burnett & Seaman

ATTORNEYS.

United States Patent Office 2,706,591 Patented Apr. 19, 1955

2,706,591

CARTON

William G. Sheard, Westlake, Ohio, assignor to General Container Corporation, Cleveland, Ohio, a corporation of Ohio

Application May 4, 1950, Serial No. 159,989

8 Claims. (Cl. 229—23)

This invention relates to corrugated board containers and more particularly to cartons of high strength, suitable for holding and shipping heavy material such as nuts and bolts.

Such containers have in the past for the most part taken the form of wooden kegs, although in some instances unsuccessful attempts have been made to substitute corrugated board containers. Where corrugated board containers were used they were strengthened either by external reinforcing elements or by internal reinforcing elements, but in either case the containers were permanent in shape and form, i. e. they could not be folded to flat form when they were not in use. Both types of containers, whether wooden or reinforced corrugated board, have the same disadvantage and that is that the empty containers take up an inordinate and excessive amount of space. The excessive space occupied by the empty containers both in shipping to the user and in disposing of them after use, makes them uneconomical and inconvenient to use.

Moreover, corrugated board containers which were capable of being flattened or knocked down for shipment have, heretofore, lacked the structural strength to carry the loads which their intended service demanded. This structural weakness results, not from an inherent limitation in corrugated board as a material, but is due to an insufficient understanding of the design factors which, I have found, are controlling if the required structural strength is to be obtained.

Thus, the problem which has existed for many years was that containers which were strong enough to carry heavy loads lacked the knock down feature, and containers which had the knock down feature lacked the strength to carry heavy loads.

My invention provides the solution to this problem by providing a corrugated board carton of high structural strength which can be knocked down to flat folded form before and after use. The carton comprises a plurality of mutually supporting separable parts which, when assembled, have the requisite strength and rigidity to hold and handle contents of substantial weight. The parts are so related as to be mutually supporting in order to sustain and carry the loads to which they are subjected. Moreover, convenient assembly is provided; the parts can be readily separated and folded flat before and after use, and can with equal ease be folded into operative form and assembled.

An object of my invention, therefore, is to provide a corrugated paper board carton having the foregoing characteristics. Specifically it is an object to provide a corrugated paper board container of high strength to enable it to hold heavy articles, and of high columnar strength and rigidity to enable it to be shipped and handled in stacked tiers without crushing under the external loads imposed by such service. Another object is to provide a corrugated paper board carton or container comprising a plurality of mutually supporting elements each of which can be folded flat before and after use, providing economy and convenience in shipping and handling and providing ease of disposal of the container. Another object is to provide a corrugated board carton comprising an assembly of parts so related to each other that when subjected to external crushing loads, the parts are simultaneously stressed, with no one part being required to sustain external loads independently of the other parts, thus minimizing the danger of one part being subjected to loads beyond its strength. Another object

is to provide a container comprising a plurality of coacting elements which can be assembled merely by manual folding without requiring additional reinforcement, stapling, or the like and which when assembled tend to remain in operative form. Yet another object is to provide a corrugated board carton, the parts of which can be formed from blanks which can be cut with a minimum of waste board. Yet another object is to provide a container that is convenient and cheap to manufacture and use.

Further objects and advantages will become apparent from the following description of several forms of my invention, reference being made to the accompanying drawings, in which:

Figure 1 is a plan view of the blank from which a cap element common to all forms of the invention is folded; Figure 2 is a perspective view showing an intermediate stage in the folding of the cap element; Figure 3 is a longitudinal sectional view, in part, of one form of my invention, showing on an enlarged scale the folded form of the cap member; Figure 4 is a view similar to Figure 3 showing on an enlarged scale the coaction of the parts in sustaining external crushing loads; Figure 5 is a perspective view of one form of my container comprising a pair of telescoping cap members; Figure 6 is a perspective view showing another form of my invention comprising a pair of cap members telescopically fitting over a liner element; Figure 7 is a perspective view showing one form of liner to be used in the container of Figure 6; Figure 8 is a perspective view illustrating a modified form of liner to be used in the container of Figure 6; Figure 9 is a longitudinal sectional view on a somewhat enlarged scale illustrating the construction of yet another form of container; and Figure 10 is a perspective view illustrating a multi-compartment container embodying my invention.

Briefly, my invention contemplates the provision of a corrugated board carton assembled from a plurality of separable parts or elements which mutually support each other to impart high strength and rigidity to the container. Each of these parts can be folded flat, being easily folded from such condition into usable form and being unfolded readily for disposal after use. A carton embodying my invention may take a number of forms, several of which are illustrated by way of example herein. In addition to the above characteristics, each of these forms has coacting parts which have a mutually supporting function, the parts cooperating in a manner which insures that all of them will be loaded and stressed simultaneously. Thus in all forms of my invention, the parts support each other and share the load, with no one part being unduly stressed so as to result in failure.

Referring to the drawings, it will be seen that the various embodiments of my invention have in common a strong rigid element which comprises an open-ended box designed to have telescoping engagement with the other parts of the container and which has a coaction with the other parts to produce a mutual locking and securing of the parts in operative position.

The open-ended box **20**, or cap member as it will be referred to hereafter, is folded from a blank, see Figure 1, which is cut from a rectangular piece of corrugated board in such a manner that the remaining portion of the corrugated board comprises an equivalent blank. This is made possible as will be described later by the design of the blank which permits an interfitting of the blanks so that a minimum of corrugated board is wasted.

The blank **20** has transverse score lines **21** and a longitudinal score line **22** which define the sides **23**, **24**, **25** and **26** and the end flange **27**, the score lines **21** preferably being aligned with the corrugations as shown. The sides are preferably of equal width and are adapted to be folded along the score lines **21** to form a square tubular body portion, which is secured by stapling the flange **27** to the side **23**.

The tubular body portion of the box is closed at one end by flaps hinged to the sides, the flaps interfolding to provide a strong end closure. Thus, the alternate sides **23** and **25** have pairs of end flaps **28**, **29**, **30** and **31** hinged thereto, the flaps **28** and **31** being of equal width and being appreciably wider than the flaps **29** and **30** which are also

of equal width. The flaps **28** and **29** are separated by a slot **32** which has a width equal to or slightly less than twice the thickness of the corrugated board and the flaps **30** and **31** are separated by a similar slot, also indicated at **32**. The flaps are of such length that, when they are folded across the end of the tubular portion to extend toward each other, their end edges will abut, see Figure 2, and in this position the slots **32** will be aligned to form a single slot extending across the full width of the cap member.

Extending from the ends of the sides **24** and **26** are flaps which are adapted to be interfolded with the flaps just described, in a manner which enables the flaps to be locked in position by coaction with the other elements of the container. Thus, hinged to the side **24** is a flap construction comprising the flap **33**, a narrow strip **34** defined by closely spaced score lines **35** and **36**, and a terminal flap **37**. A similar flap construction extending from the side **26** consists of the flap **38**, a narrow strip **39** defined by the score lines **40** and **41**, and a terminal flap **42**. The flaps **33** and **37** have lengths which are substantially equal to the widths of flaps **29** and **30**, while the flaps **38** and **42** have lengths which are substantially equal to the width of flaps **28** and **31**. The strips **34** and **39** are approximately equal in width to the thickness of the corrugated board.

The cap member **20** is formed from the blank merely by interfolding the flaps, without requiring stapling or other means, except for the initial securing of the flange **27** to side **23**. The first step is to fold the flaps **28**, **29**, **30** and **31** so that they lie across the end of the body portions; see Figure 2 which illustrates this preliminary stage in the folding of the cap member. The flaps **37** and **42** are then inserted through the slots **32** to extend into the body portion and are folded back to the position shown in Figure 3, which shows the flaps **33** and **38** overlying and the flaps **37** and **42** underlying the flaps **29** and **30**, and **28** and **31** respectively.

The relative dimensions of the flaps are such that, in their folded position, the edges of the flaps **37** and **42** have snug engagement with the side walls of the body portion, see Figure 3, this engagement tending to hold the flaps in position. In addition the narrow strips **34** and **39** are held snugly within the slots **32**, being compressed slightly so as to resist withdrawal from the slots. In this manner, a tight, snug interfolding of the flaps results which tends to hold the cap member in its operative form.

The interfitting of the blanks, referred to above, from which the cap members are folded is made possible by two provisions. Referring to Figure 1 it will be noted that the remainder of the rectangular piece of corrugated board from which the blank is cut, is not identical with blank **20**, but rather is an equivalent blank which can be folded in a similar fashion to produce the same cap member. It will be apparent that the interfitting results first from the interchanging of the flaps extending from adjacent sides as shown; and, second, such interchange is made possible by the equal width of the sides, which, in turn, means that the caps must be square in section. While the flaps **28**, **29**, **30** and **31** have been shown and described as having their end edges abutting when they are in folded position, it may be desirable at times, in order to save stock, to shorten these flaps so that their edges will be spaced apart. This spacing does not appreciably interfere with the function of the flaps nor with the interfitting of the blanks and does permit a saving of corrugated board.

It will be observed that the cap **20** can be shipped and handled in a folded flat position by opening the flaps and folding the sides together along any pair of alternate vertical score lines **21**. To unfold the flaps more readily, notches **44** are provided at the edges of the flaps **37** and **42** so that the flaps can be engaged by the fingers and pulled into a position which enables them to be withdrawn from the slots.

In the cap member just described, a seam indicated at **45** is produced at the juncture of the flaps **33** and **38**, see Figures 3 and 5. The position of this seam is determined by the relative width of the pair of flaps **28** and **31** as compared with the width of the pair of flaps **29** and **30**. If the pairs of flaps are equal in width the seam will be located in the center plane of the cap member. To have the seam so located is usually not desirable for if a carton is secured by a metal strap passed around the keg, such as the strap **46** shown in Figure 5, there is danger of the strap cutting into the seam. It is desirable therefore to

adjust the lengths and widths of the flaps to displace the seam **45** from the center plane by an amount which will enable a metal strap passed centrally around the carton to avoid the seam. Such a displacement of the seam **45** from the center has further advantages which will be referred to later.

A preferred form of container in which the cap **20** comprises the basic unit is shown in Figure 5 as comprising two cap members similar in form and construction but differing slightly in dimension so that the cap members have telescoping engagement with each other, with an upper cap **20** fitting snugly over a lower cap member **50**. In use, the lower cap **50** is filled with the articles to be shipped, the weight of the articles bearing upon the interior folded flaps and maintaining them in position. The upper cap member **20** is then telescopically fitted over the lower cap and the assembly is secured by any suitable means such as the metal tie strap **46** which passes centrally around the caps to secure the members together. With the cap members so secured the interior flaps **37** and **42** of the upper member **20** are engaged by the end edges of the side walls of member **50** and are thus effectively held against opening outwardly. This coaction between the parts results in a securely locked container having double wall thicknesses along the sides and triple wall thicknesses at the ends, thus providing great strength and rigidity.

It will be noted in Figure 5, that member **20** fails to have full telescoping engagement with the member **50** by a slight amount indicated at A. The reason for this clearance will be explained later in connection with the other forms of the invention.

Another form of container embodying my invention is illustrated in Figure 6, as comprising a pair of identical cap members **20**, identical with the upper cap of Figure 5, having telescoping engagement with a tubular liner member **51**, shown in Figure 7. When the parts are assembled, the edges of the liner **51** engage the flaps **37** and **42** of the caps and hold them securely in place, see Figure 3.

The liner member **51** comprises a square tubular body part having corrugated board walls comprising three liner sheets sandwiching two corrugated sheets, see Figure 3. With such a construction a container is formed having end walls of triple thickness and side walls of double thickness, one of the thicknesses of the side walls being the extra heavy corrugated board of the liner. The extra corrugated thickness of the liner member provides increased columnar strength and rigidity and is especially useful when the container of Figure 6 is handled by means of pallets which are normally moved in stacked tiers.

A modified form of container of Figure 6 is provided by substituting a liner **52**, shown in Figure 8, for the liner **51**. The liner **52** has a square tubular body portion essentially identical in size and shape to the liner **51** but is provided with the end flaps **53** at each end which can be folded across the ends of the liner to close the ends thereof. The liner **52** is most satisfactorily formed from the usual corrugated board, rather than the extra heavy board of liner **51**, for if the end flaps **53** are folded from the extra heavy board they tend to have too much spring back. This form of container has the advantage of having end walls of five thicknesses of corrugated board to provide added strength, as well as side walls of double thickness.

It will be noted that the end flaps of liner **52** meet along the central longitudinal planes of the container. With such a liner it is usually desirable to have the seams **45** of the cap members displaced from the center plane. The seams would correspondingly be displaced from the line of juncture of the end flaps of the liner. This tends to prevent the contents from escaping from the carton and also tends to exclude dirt from entering the carton.

Another form of my invention, as shown in longitudinal section in Figure 9, is similar to that of Figures 6 and 8, having cap members **55** telescoping over the ends of a liner **56** similar to the liner **52**, but differs in that the flaps of the liner and the cap members have interlocking, rather than abutting, engagement with each other, to hold each other in folded operative position. Thus, in this form of container, the flaps **57** and **58** of the cap members corresponding to flaps **37** and **42** of the preferred form are adapted to extend within the liner **56** and to underlie one pair of liner flaps **60** as well as the cap flaps **59** as shown in Figure 9. By the interfolding

of the caps in this manner, the liner is locked to the cap members.

The manner of obtaining this interfolding of the flaps is illustrated for the upper cap member in Figure 9. It will be observed that one pair of liner flaps **60** is folded across the end of the liner and the other pair is folded to take a position of about 45° as shown. The cap member is then prepared by folding the flaps **57** and **58** to form an included angle of about 30° so that when the cap is telescoped over the liner the flaps **57** and **58** will pass between the liner flaps **60**.

As the cap is pushed onto the liner, the flaps **60** will be forced inwardly towards each other by reason of the angle with which they contact the flaps **59** of the caps. In a similar manner the flaps **57** and **58** will be forced outwardly to lie between the pairs of flaps **60**, until finally, when the cap is fully telescoped onto the liner, the flaps will have assumed the position shown at the bottom of Figure 9.

The interfolding of the flaps is facilitated when the lower cap is assembled with the liner by the freedom of the user to reach within and through the liner to manipulate the flaps manually. However, the top cap member cannot be manipulated in the same manner, for when the lower cap member is in place, it is not possible to reach within the liner to assist in the interfolding of the flaps. Instead, the top cap member is provided with apertures **61** to provide access to the interior of the cap. The aperture permits the flaps **57** and **58** to be guided into the desired position by means of the fingers or with a suitable tool inserted through the aperture. Provision of the apertures does not appreciably affect the strength of the container.

The advantages of strength and rigidity of the single compartment containers of the forms heretofore described with reference to Figures 5–9 can be multiplied by assembling a plurality of liners with corresponding cap members to provide a multi-compartment container such as that shown in Figure 10. The container is shown as consisting of four liners **71**, each preferably similar to the liner of Figure 8, which, as assembled, have a snug telescoping fit with cap members **73**. When the parts are so assembled, each of the liner compartments has sides of double thickness, each side comprising either a cap wall and a liner wall, or two liner walls; and the ends of the container are of five-ply thickness comprising the double thickness of the liner end flaps and the three-ply thickness of the cap end flaps. By such multiple compartment construction, the liners and the caps mutually reinforce each other, providing a container of high strength and rigidity, while enabling an appreciable saving in material, for as will be apparent, the multi-compartment container of Figure 10 enables a saving of corrugated board equal to twice the side wall area of a cap **72**, as compared with four single compartment containers of corresponding design and of equal capacity.

In some instances, the seam **45** may be open enough to permit the contents of the carton to escape, if for example, the contents should consist of washers, cotter pins, or the like. In such cases a square corrugated board end plate may be inserted into cap members to fit snugly against the back-folded end flaps thereof to close off and to seal the seam **45**. Such end plates also act as reinforcements for the ends of the carton and may be used for that purpose alone when desired. In other cases, the seam might be sealed by tying the carton with a broad flat strap or tape **46** which would be of sufficient width to cover the seam without cutting into it. It should be noted, however, that the seam may in some uses, serve a useful purpose in permitting surplus oil to drain from the carton when the carton is initially loaded with oiled parts.

Another modification of structure which is possible, especially with regard to the cartons of Figures 6–10, is to vary the relative lengths of the cap members which fit telescopically over the liner. While normally the caps are equal in length so that they are interchangeable, it may at times be of advantage to have the bottom cap member substantially longer than the top; so that the bottom cap will be able to support the sides of the liner for almost its full length. This will be of advantage while the liner is being loaded and before the top cap is added to support the top portion of the liner.

It is desirable in all forms of the invention to adjust the relative lengths of the telescoping cap members and

the particular inner elements, such as a liner, with which they are assembled so that when external crushing loads are applied the cap member or members will be stressed at the same time the inner element is stressed.

For purposes of illustration the carton of Figure 6 is shown in Figures 3 and 4 on an enlarged scale to show the manner in which the lengths are adjusted so that the caps are initially spaced apart. As will be evident later, the edges of the cap members should abut and the caps should assume their share of the load at the same time the liner becomes stressed. If the liner should be required to sustain the whole load in advance of the cap members there would be a tendency for the liner edges to fail by crumpling or by rolling under the excessive load and once the edges have rolled they will tend to continue to do so, even after the caps subsequently assume part of the load. As a result once the edges have failed, the liner will no longer be capable of sustaining the service loads impressed upon the cartons. A similar result will obtain if conversely the cap members should be loaded before the liner can assume its proper share of the stresses. To prevent these contingencies and to insure the mutual support of the members the caps are of such length that when they initially fit over the liner, the end edges of the caps do not abut but are spaced apart an appreciable amount, as indicated at A, see Figure 3. Without this initial separation of the cap members, the cap members will take the loads at once and the liner will be relatively unstressed, with the result that the caps will tend to fail. With this initial separation it is insured that the elements will simultaneously assume the loads in the manner now described below.

When the carton is subjected to external loads the layers of corrugated board forming the top and bottom of the carton tend first to crush flat as shown in Figure 4. This crushing takes place with the initial imposition of the loads and permits the cap members to move closer together. So long as the crushing progresses the layers of board will not transmit appreciable loads to the liner. As the crushing progresses the caps telescope more and more on the liner. When the crushing of the layers of board is complete, the member will be fully telescoped, the end edges of the cap members will be in abutment, as shown in Figure 4, and at this time the cap members are able to take their share of the load. At this time also the crushed layers of board will transmit the load to the liner and it, too, assumes its share of the load. In this manner the liner and the caps mutually and simultaneously assume their proper shares of the service loads.

The initial spacing of the caps indicated at A is approximately equal to the diminution in thickness which takes place in the crushing and flattening of the corrugated layers and will vary depending upon the types of board used and upon the number of layers of corrugated board which are subjected to crushing. In the form of carton illustrated in Figures 3 and 4 a spacing of about 0.2 to 0.3 of an inch, gives satisfactory results, the three layers of corrugated board in the caps undergoing about this reduction in thickness upon being crushed.

Similar considerations determine the relative dimensions of the parts making up the other forms of my invention. For example, in the form of Figure 5, the top cap member does not quite fully overlap the other member by a distance of about two-tenths of an inch. With this provision the end edges of the top cap will rest on the floor and assume the load only when the layers of board making up the ends of the caps are completely crushed and flattened. At this time the load will be transmitted to the liner cap member and the top cap simultaneously. In the modifications of Figures 6, 7 and 8, the amount of crushing which will take place can readily be determined and the cap members accordingly spaced apart, in the manner just described.

The advantages of the containers embodying my invention are attested by the several successful commercial forms thereof. One form corresponding to the cartons of Figures 6 and 8 has been successfully used for shipping nuts and bolts. The assembled carton has outside dimensions of 11½ inches on the side and an overall length of 18½ inches. The carton will hold in excess of 300 pounds. It is capable of being stacked in tiers five to six containers deep, with the cartons at the bottom of such stacks successfully sustaining loads of 1,000 to 1,500 pounds each. In like manner, cartons corresponding to Figure 5, will hold contents up to 150 pounds in weight

nd will sustain columnar loads of 1,000–1,500 or more ounds.

The containers just described all have the advantages f superior strength and rigidity, such as enables their se for shipping hardware and other heavy articles, without the need for reinforcement. The containers moreover are assembled from elements which preliminarily re in foldable flat form and which can be readily folded ack to such form after use. Such assembly is achieved nerely by folding and assembling the elements without equiring stapling, stitching or the like. Moreover in an ssembled condition, the elements have a coaction which ends to keep the elements in operative form. This coaction may consist of the abutting of the liner with the laps of the cap members or may consist of the interlocking of cap and liner flaps in the modified form of Figure 9. In any case the coaction between the interior member and the flaps tends to prevent unfolding of the flaps. In all forms of the container there is thus a mutual supporting function and coaction between the elements which contribute to the desired and novel results.

It will be apparent that various modifications and changes will occur to those skilled in the art without departing from the spirit and scope of my invention, and it is to be understood that the above description is given by way of example rather than by limitation. The essential characteristics of the invention are summarized in the claims.

I claim:

1. A container of keg-like load bearing strength, made of corrugated board or the like, comprising three mutually supporting elements, each of said elements having a square tubular body portion comprising four sides folded along vertically extending score lines, each of said elements having flaps extending from the sides of the body portion thereof to close at least one end of said elements, two of said elements comprising cap members in the form of open-ended boxes having telescoping engagement with the third element, the closed ends of said cap members comprising multi-ply walls, the edges of said cap members being spaced apart when fully telescoped over said third element a distance substantially equal to the diminution in dimension which results when the corrugations of said multi-ply walls are crushed substantially flat.

2. A container of corrugated board or the like comprising a plurality of mutually supporting elements, each of said elements having a tubular body portion with four sides folded at right angles to each other along vertically extending score lines, certain of said elements comprising a liner, a pair of caps each having an open end and a closed end comprising at least one part disposed transversely of the side walls of said liner and adapted to engage the adjacent end of said liner when each cap is pressed on said liner by manual pressure and to crush substantially flat against the ends of the side walls of the liner under pressure of a heavier load applied externally of said closed end to press the cap and liner together, said caps telescopically extending over opposite ends of said liner with said parts abutting the ends of said liner and with the open end edges of said caps initially separated from each other by a distance corresponding approximately to the loss in thickness of said parts resulting when the corrugations in said part are crushed substantially flat, the proximate end edges of said cap being in load bearing contact when said part is crushed flat whereby the side walls of the cap and the side walls of the liner mutually support and share the load.

3. A container of keg-like load bearing strength, made of corrugated board or the like crushable transversely of the corrugations, comprising a plurality of elements each having four side walls separately foldable to flat folded form and manually folded to operative mutually coacting forms, at least one of said elements comprising in operative form an open-ended cap rectangular in cross-section telescopically receiving at least one other element and having a multi-ply bottom wall and an opposite end edge, said other element being telescopically disposed within said cap element with the side walls thereof engaging said bottom wall of the cap element, support means engaging the end of said other element remote from said bottom wall of the cap element and being spaced from said end edge of said cap element, the width of said space being substantially equal to the loss in thickness resulting when the corrugations in the end walls of said container are crushed substantially flat.

4. A corrugated keg of high strength comprising a plurality of mutually supporting elements, each of said elements having a square tubular body portion comprising four sides folded at right angles to each other along vertically extending score lines and each having flaps extending from the sides of the body portion thereof and foldable toward each other and interfolding in pairs to close at least one end of each body portion, certain of said elements comprising a pair of cap elements and a liner element, said cap elements telescopically extending over said liner element with the ends of said liner element engaging the flaps of said cap elements to hold same in folded position, said cap elements having ends of triple thickness whereby the keg has ends of at least triple thickness and sides of double thickness, the free end edges of said cap elements when said caps are fully assembled on said liner element being initially separated by a distance approximately equal to the diminution in thickness of the ends of the cap elements when the corrugations thereof are crushed substantially flat.

5. A container of keg-like load bearing strength having double side walls and made of corrugated board or the like, comprising a plurality of elements each separably foldable to flat folded form and manually foldable to operative mutually coacting forms, at least one of said elements comprising in operative form an open-ended cap rectangular in cross section telescopically receiving at least one other element and having means for substantially closing the other end, said means comprising pairs of flaps hinged on opposite sides of said cap, the opposite flaps constituting each pair being separated by a slot and being unequal in width, said pairs of flaps being adapted to be folded toward each other to lie across the end of said cap with flaps of unequal width in alignment and with said slots aligned in a plane displaced from the center plane of the container, a second pair of flaps hinged on the other pair of opposite sides adapted to overlie said aligned flaps and having terminal flap portions adapted to extend through said slots and to be folded back toward the sides from which said second pair of flaps are hinged to underlie said aligned flaps, said other element comprising a liner having four side walls and pairs of flaps of substantially equal width hinged from the ends of opposite liner side walls, the liner flaps constituting each of said pairs of flaps being foldable toward each other to form one wall of a double walled end closure for said liner, the adjacent edges of one of said pairs of liner flaps lying substantially in the center plane of the container and extending parallel to and being laterally offset from said end cap slots whereby the contents of the container are substantially sealed within the container, said liner element engaging said terminal flap portions of the cap element to hold same in right angled relation to said sides of the cap element.

6. A container of high strength and made of corrugated board or the like crushable transversely of the corrugations, comprising a pair of box members, each of said members having a rectangular tubular body portion comprising four sides foldable at right angles to each other along vertically extending score lines, each of said members being manually foldable from flat-folded form to operative mutually coacting forms along alternate score lines and each having flaps extending from the sides of the body portion thereof and foldable toward each other and interfolding in pairs to close one end of the body portion, said members telescopically engaging each other with one member engaging the flaps of the other member and securing the flaps in folded position, said members providing a carton with sides of double wall thickness and end walls of triple thickness, said other member extending over said one member for the full depth of said one member less a distance substantially equal to the diminution in dimension which results when the corrugations of the container ends are crushed substantially flat.

7. A container of high strength and made of corrugated board or the like crushable transversely of the corrugations, comprising a pair of caps and a liner, said caps and liner each having a rectangular tubular body portion comprising four sides foldable at right angles to each other along vertically extending score lines, and each being manually foldable from flat-folded form to operative mutual coacting forms along alternate score lines, said caps each having flaps extending from the

sides of the body portion thereof and foldable toward each other and interfolding in pairs to close one end of each cap body portion, said caps telescopically extending over said liner element whereby the ends of said liner engage the flaps of said caps to hold the same in folded position, said caps having ends of triple thickness whereby the carton has ends of at least triple thickness and sides of double thickness, said liner being open at both ends, the spacing between the fully telescoped caps being substantially equal to the diminution in dimension which results when the corrugations of the container ends are crushed substantially flat.

8. A container of high strength and made of corrugated board or the like crushable transversely of the corrugations, comprising a pair of caps and a plurality of liners, said caps and liners each having a tubular body portion comprising four sides foldable at right angles to each other along vertically extending score lines and each being manually foldable from flat-folded form to operative mutually coacting forms along alternate score lines and each having flaps extending from the sides of the body portion thereof and foldable toward each other and interfolding in pairs to close one end of each of said body portions, said liners being nested

together in abutting relationship, said caps extending over said liners with a snug telescoping fit, the liners forming separate compartments enclosed by side walls of double thickness and end walls of at least triple thickness, the ends of said caps opposite the closed ends thereof being open, the spacing between the fully telescoped caps being substantially equal to the diminution in dimension which results when the corrugations in the container ends are crushed substantially flat.

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