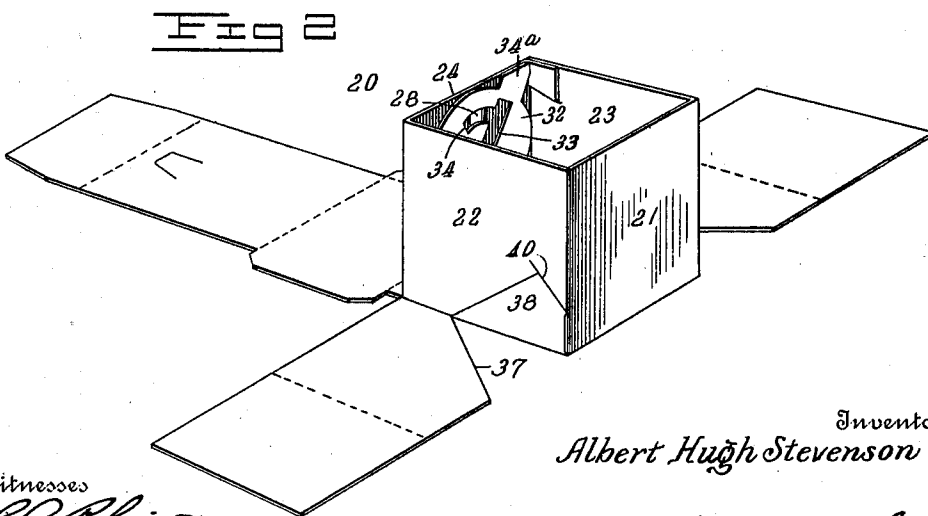
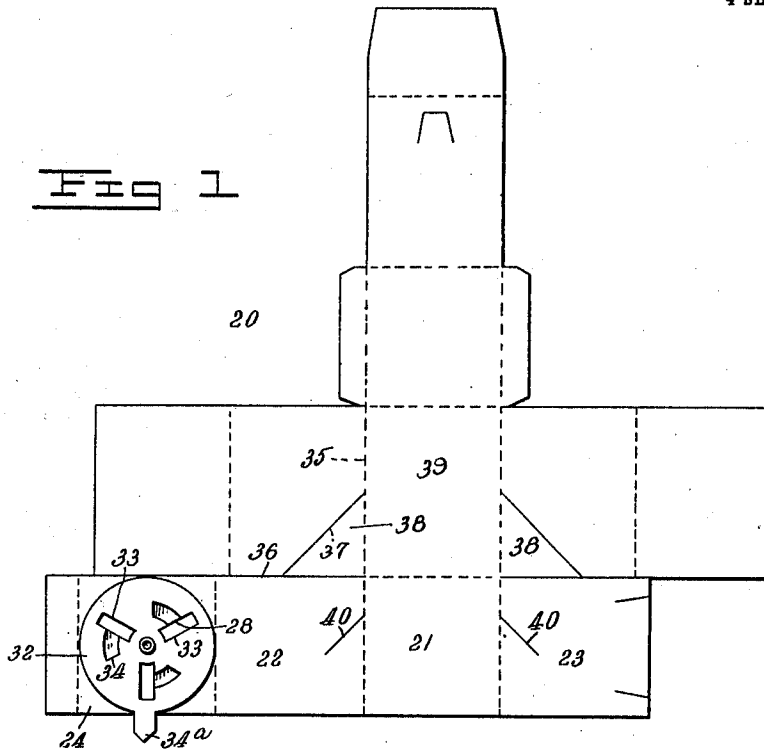


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CONTAINER FOR FRAGILE ARTICLES.
APPLICATION FILED MAR. 12, 1910.

992,997.

Patented May 23, 1911.

4 SHEETS—SHEET 1.



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4 SHEETS-SHEET 2.

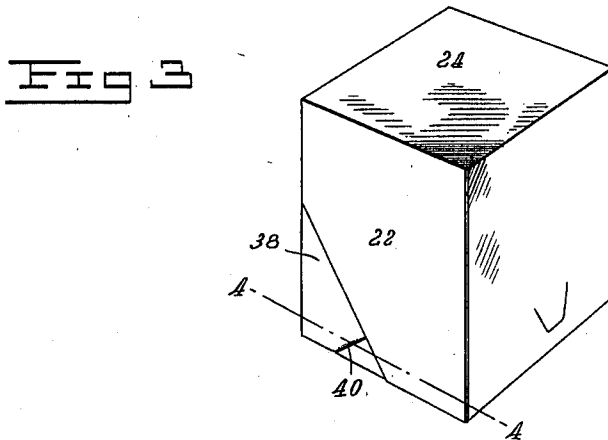


Fig 4

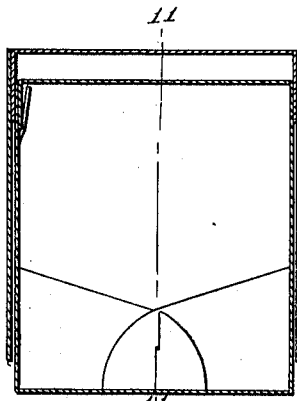
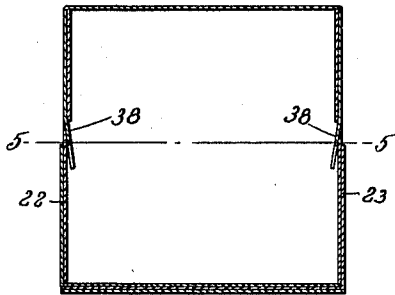


Fig 10

Fig 5

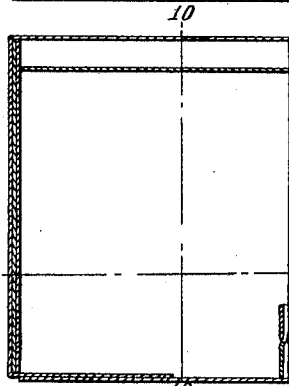
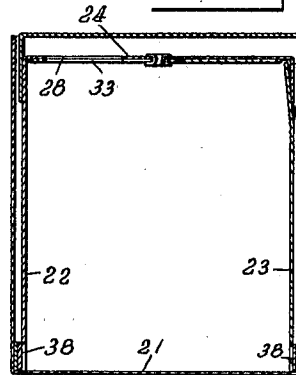


Fig 11

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4 SHEETS-SHEET 3.

Fig 6

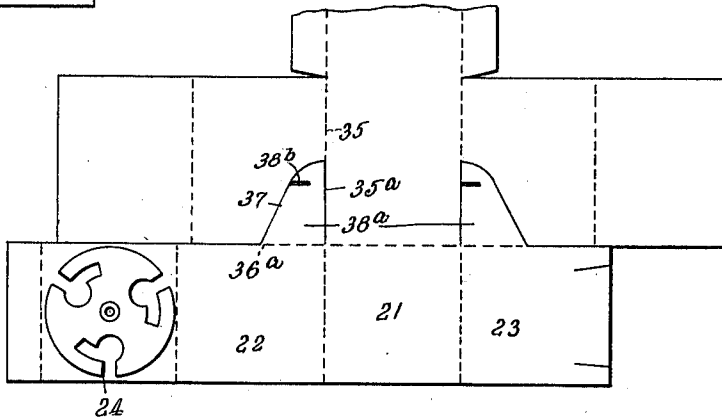


Fig 12

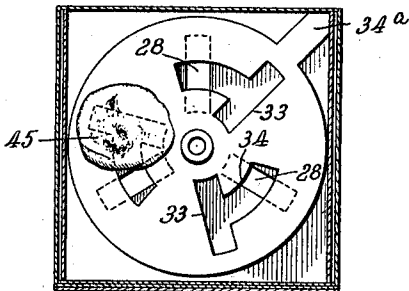


Fig 13

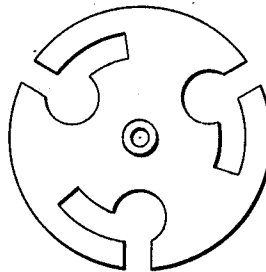
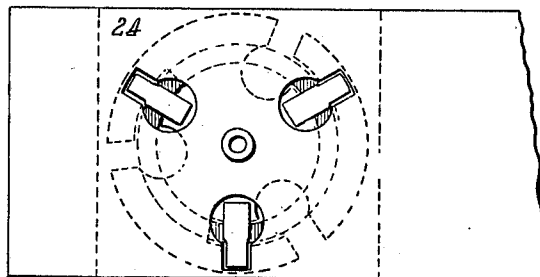


Fig 14



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4 SHEETS-SHEET 4.

Fig 7

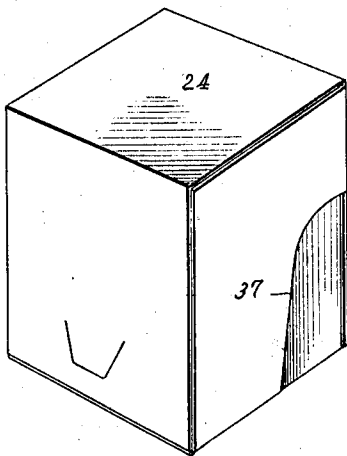
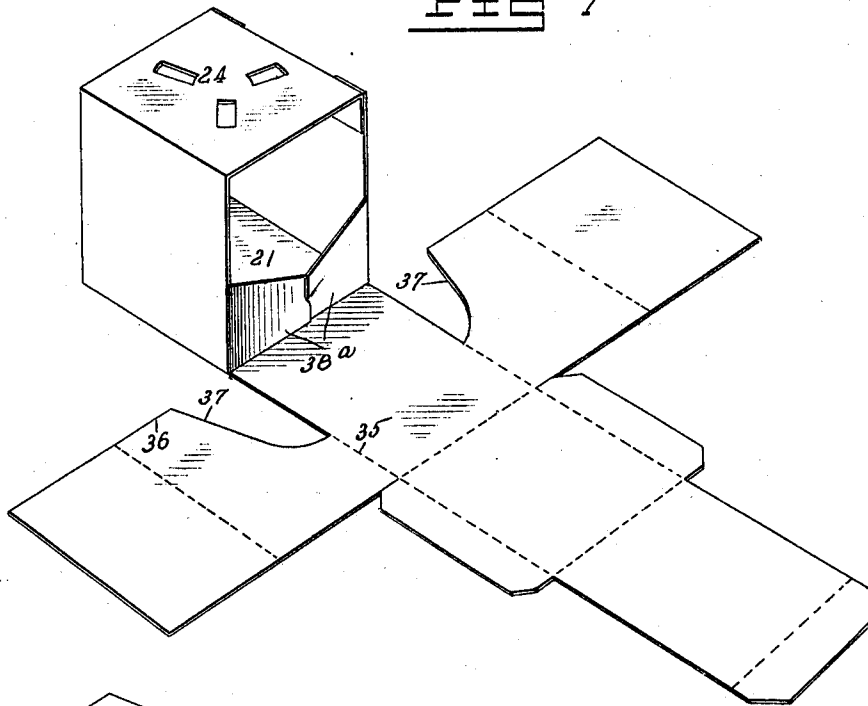
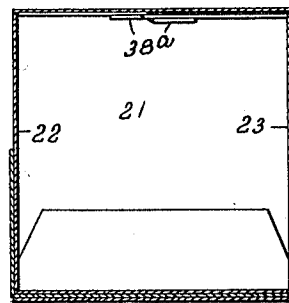


Fig 8

Fig 9



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UNITED STATES PATENT OFFICE.

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CONTAINER FOR FRAGILE ARTICLES.

992,997.

Specification of Letters Patent.

Patented May 23, 1911.

Application filed March 12, 1910. Serial No. 548,971.

To all whom it may concern:

Be it known that I, ALBERT HUGH STEVENSON, a subject of the King of England, residing at Manchester, in the county of Lancaster, England, have invented new and useful Improvements in Containers for Fragile Articles, (Case B,) of which the following is a specification.

My invention relates to improvements in containers for fragile articles, and has particular relation to structures of this character adapted for use as a receptacle for lighting elements such as incandescent gas mantles and other fragile articles.

Among the objects of my invention are to be found the following: (1) The provision of a container formed from a blank and foldable to provide the inclosing walls of a receptacle or article carrier also formed from a blank and which may be formed integral with the container, the carrier being of a form to permit the article to be permanently secured in position therein and opened to inspection without destroying the normal condition of the carrier, the carrier being so positioned within the container that the latter may be opened to permit of inspection of the article without necessitating the removal or distortion of the carrier. (2) The provision of an article carrier formed from a blank and foldable to provide a supporting flap having means for the positioning thereon of the article, such as an incandescent gas mantle (particularly the type having base-ring projections), the flap having openings to permit of the passage therethrough of the base-ring projections and also having means for securing said projections against disengagement, the means being carried by the flap, and forming a permanent portion of the latter. (3) The provision of a container formed from a foldable blank and comprising a container and an article carrier, one of the parts (either the container or the article carrier) having integral tabs adapted to either interengage or be engaged with parts of the article carrier for supporting the article carrier against collapsing after the outer covering or container therefor has been opened as well as while the entire container is in closed position. (4) The provision of a container of the character indicated and which includes a rotatable member movable to lock the article against withdrawal, and sealing means positioned to prevent withdrawal of the arti-

cle without detection by mutilation of the seal.

Other and further objects of the invention are to provide a container which may be readily formed from a blank, which will securely position the fragile article within a casing permitting of a visual inspection thereof, which is of a minimum weight, and which is so formed as to provide for a maximum strength of the container walls to protect the article while positioned therein and which can be manufactured at a relatively low cost.

To these and other ends, the nature of which will be readily understood as the invention is hereinafter disclosed, said invention consists in the improved construction and combination of parts hereinafter fully disclosed, illustrated in the accompanying drawings, and particularly pointed out in the appended claims.

In the accompanying drawings, in which similar reference characters indicate similar parts in each of the views,—Figure 1 is a plan view of a blank used in forming one embodiment of the invention, the blank having secured thereto one form of rotatable locking device. Fig. 2 is a perspective view showing the article carrier portion of the container folded up and the strengthening tabs in position thereon, the structure employed being that disclosed in Fig. 1. Fig. 3 is a perspective view of the folded container disclosed in Fig. 1. Fig. 4 is a sectional view taken on line 4—4 of Fig. 3. Fig. 5 is a sectional view taken on the line 5—5 of Fig. 4. Fig. 6 is a plan view of a portion of a blank used in forming a modified form of container. Fig. 7 is a perspective view of the blank shown in Fig. 6 with the article carrier folded, the supporting tabs being shown interlocked. Fig. 8 is a perspective view of the container completely folded, the blank employed being that disclosed in Fig. 6. Fig. 9 is a sectional view taken on the line 9—9 of Fig. 11. Fig. 10 is a sectional view taken on the line 10—10 of Fig. 11. Fig. 11 is a sectional view taken on the line 11—11 of Fig. 10. Fig. 12 is a sectional view of the container and showing the rotatable member disclosed in Fig. 1 in position therein. Fig. 13 is a plan view of a modified form of rotatable member. Fig. 14 is a plan view of a portion of the blank formed to cooperate with the rotatable member shown in Fig. 13, the latter

being shown in locking position in dotted lines.

The various embodiments of my invention disclosed herein contain the general ideas disclosed in my companion application filed February 26, 1910, Serial No. 546,111, the present application being drawn more particularly to providing a structural support against collapsing of the article carrier in use, and also to provide a specific disclosure of one type of locking device for retaining the article positioned on the carrier. But in each of these forms, the general idea of providing a container and article carrier which will permit of the article being secured in position in the carrier while the latter is in unfolded position, is present, the additional supporting means being so arranged as to become operative without affecting this locked position of the article on the carrier.

The blank employed in producing the container is substantially similar to that disclosed in said companion application, and is shown in particular in Figs. 1 and 6, in which the dotted lines represent folding or scoring lines, the full lines representing actual cutting lines. In said figures the article carrier indicated by the character 20 comprises a bottom 21, sides 22 and 23, and top 24, the carrier being formed to provide engageable means at the opposite ends of the carrier blank whereby the carrier when folded, will have a shape somewhat as indicated in Fig. 2, the front and back of the carrier being open.

The article is suspended from the top 24, and is secured in position by any one of several types of securing devices, one of which is disclosed in Figs. 1, 2 and 12 of the drawings, while a slightly modified type or form is indicated in Figs. 13 and 14. In the type or form shown in Figs. 1, 2 and 12, the top 24 is provided with radial slots 28, preferably spaced equidistant and of a length and width sufficient to permit of the passage of the base-ring projections of the mantle, leaving the base-ring below the top 24; these slots 28 will permit of the passage of the projections through the top 24. To cooperate with this slot structure, I provide a rotative element 32 which is secured to the underside of the top 24, said element or member 32 being pivotally connected to the top. Said member 32 is also provided with radial slots 33 corresponding to the radial slots 28 of the top, but in addition, is also provided with lateral slots 34 having concentric walls, said lateral slots leading into the slots 33, the lateral slots 34 providing for relative movements of the member 32 and the base-ring projections. When the mantle is to be inserted, the radial slots 28 and 33 are placed in alinement, thereby permitting the base-ring projections to pass through to a point above the top 24. If the

member 32 be rotated, the radial slots 33 will be carried out of alinement thereby preventing a withdrawal of the base-ring projections excepting by disrupting or breaking the box or container, until the member 32 has again been rotated in the opposite direction to place the radial slots in alinement. For the purpose of allowing the member 32 to be readily rotated, I preferably employ a projecting member 34^a which, when the slotted member is in locked position, lies within the corner of the container, as indicated in Fig. 12, but when the member is rotated to place the slots in alinement, will project laterally in the manner indicated in Fig. 1. This particular structure not only forms an efficient rotating element, but at the same time serves to prevent accidental rotation of the member 32 when the container is closed, and also prevents the complete folding of the container while the member is in unlocked position.

The form of locking member disclosed in Figs. 13 and 14, differs mainly in the shape of the radial slots, the latter having their inner ends enlarged as indicated in said figures. As shown in Fig. 13, said radial slots extend outwardly to the edge of the member, but it will be obvious that this portion of the closure may be varied to that disclosed in the heretofore described form, and that the member shown in Fig. 13 may also be provided with the projecting member 34^a. The operation of the devices is identical and need not be further described.

With either form of locking means, it will be readily understood that the mantle may be positioned within the top 24 while the carrier blank remains unfolded, the projections in each case being locked against withdrawal. This permits of the manipulation of the mantle in an unrestricted space without liability of damage thereto, such as would be caused by attempting to manipulate the mantle within a restricted space.

If desired, the mantle may be sealed in position and not be removed except by destroying the seal, by simply placing the seal over the radially slotted portion of the member 32 after the latter has been rotated to locking position, as indicated in Fig. 12, the seal being indicated at 45. Obviously, the member 32 cannot be rotated to an unlocking position without carrying the edge of the seal into contact with the base-ring projections of the mantle, so that the radial slots 33 cannot be brought into alinement with the slots 28 until the seal has been broken. The advantage of this construction lies in the fact that it prevents removal of the mantle from the box or container without affecting or restricting the ability of the purchaser to inspect the contents of the container by unfolding the box or container, since the latter may be entirely un-

folded and still retain the mantle or other article locked; this feature prevents the lodging of spurious claims of damaged mantles since the purchaser is not required to break the seal until he is entirely satisfied of the condition of the mantle.

As will be seen by reference to Figs. 2 and 7, the article carrying portion of the blank when folded has its front and rear open, this folding forming a tube-like carrier in that it provides a complete inclosure on the line of a cross section in one direction and opposing open sides or ends on the line of a cross section taken at right angles thereto, so that unless, additional means be provided, the carrier will be held against collapsing merely by the stiffness of the material at the line of bend. To provide the necessary stiffness or support for the carrier in this position I may employ either one of several types of supporting structures, two of which are disclosed in the drawings, both being formed in such manner as to not affect the general form of the blank itself. The means for providing this support is supplied by the blank itself, being in the form of supporting tabs formed either as a part of the container portion of the blank or as a part of the carrier portion. These tabs will now be described, reference being made first to the form shown in Figs. 1 to 5 inclusive.

In the form of device shown in Fig. 1, the blank is initially of the form shown in said companion application, and the supporting tabs are provided by connecting the folding line 35 of the container with the free edge 36 by a cut line 37 which may be of any suitable configuration, that disclosed in the drawings, being a straight line and thereby forming a triangular-shaped portion bounded by the lines 35, 36 and 37, which portion is severed from the blank on the lines 36 and 37, but which is connected with the container along the line 35, this triangular-shaped portion being designated as 38, and duplicated on opposite sides of the central portion of the blank indicated as 39. As will be obvious, these supporting tabs may be bent up independent of the remaining portion of the container, and this fact is made use of by forming the sides 22 and 23 with a slit 40 through which the free ends of the tabs 39 may pass, as indicated in Fig. 2, the connection being made when the carrier is folded upon the container as indicated in said figure. By this construction, it will be readily understood that the tabs 38 provide a supporting structure which prevents the upper part of the carrier from moving in its own folding direction, with the result that the parts are prevented from collapsing without preventing inspection of the contents of the carrier when the latter is in the position shown in Fig. 2. As will be

seen by said figure, the formation of the supporting tabs 38 leaves a cut out portion in the container blank, but since the wall from which the tab is cut away folds in the same direction as the tabs, the thickness of the completely folded box on a line taken through these walls, is not affected by reason of this tab formation, the only effect being to place a portion of the tab on the inside of the carrier side instead of wholly on the outside; this will be readily apparent by reference to Figs. 3 and 4. In the construction just described, the tab is formed and carried by the container portion of the blank, but having an interengagement with the carrier blank.

The other form of supporting tab structure is indicated in Figs. 6 to 11, and in its formation causes the blank to be changed in some respects from the blank indicated in the companion application referred to, in that the severing line between the container portion and the article carrier portion of the blank does not extend inwardly to the folding line between the bottom and the sides of the carrier, said line of severance terminating short of this point, said severing line being then continued onward as a folding line indicated as 36^a in the drawings. In this form the severing line 37 is indicated as other than a straight line extends throughout its length, being curved adjacent the point where said line 37 intersects the line 35. The second severing line from the point of intersection of line 37 with line 35 to the point of intersection of line 36^a with the line 35, this severing line being indicated as 35^a. By this method of forming the severing line the tab is formed as an integral part of the side walls of the carrier, the tabs being indicated as 38^a. Each tab 38^a is provided with an inwardly extending slot or slit 38^b, the slot or slit of one tab extending inward from the line 37, while the slot for the other tab extends inward from the line 35^a. In use, the folding of the carrier to the position shown in Fig. 7, causes the tabs 38^a to overlap each other at the rear of the carrier, the slits 38^b being so arranged as to permit interengagement. This interengagement of the tabs 38^a connects the two side walls 22 and 23 in such manner as to provide a brace against a collapsing movement, this brace remaining effective when the contained portion has been entirely unfolded and thereby permitting one more unfolding of the complete container than is provided by the form shown in Fig. 1. As will be seen, however, the formation of tabs in this manner removes a portion of the material of the wall which overlaps the side walls, as indicated in Fig. 8.

As will be seen, the locking tabs forming the support against collapsing of the car-

rier are cut from the material of the container portion of the blank, the tabs being carried either by one or the other portion of the blank, as indicated. The configuration of the line 37 may vary, so long as the tabs may properly perform their functions when the container is folded.

As will be readily understood the material for the tab, in either case, is furnished by the portion of the blank forming the container for the carrier portion, while the tabs themselves operate entirely on the carrier, whether carried by the carrier or by the container portion of the blank.

As will be apparent, should the carrier portion shown folded in Fig. 7 be severed on the line of connection between it and the remaining portion of the blank, the supporting effect of the tab will not be lost, the carrier being self-sustaining against collapsing.

The advantages of the construction herein disclosed are believed to be obvious from the disclosures made herein when taken in connection with the drawings, and a further statement thereof is believed to be unnecessary.

While I have herein shown and described several forms in which the invention may be embodied, it will be obvious that other modifications may be made therein, and I reserve the right to make any and all such further modifications as may fall within the spirit and scope of my invention as expressed in the accompanying claims.

Having thus described my invention what I claim as new is:—

1. In a container formed from a foldable blank, an article carrier foldable in advance of its inclosure within the container to form a tube-like carrier, and independent means

formed from portions of the container blank for supporting the carrier while in such folded condition.

2. In a container formed from a foldable blank, an article carrier foldable in advance of its inclosure within the container to form a tube-like carrier, and independent means formed from portions of the container blank for supporting the carrier while in such folded condition, said means cooperating with the side walls of the carrier.

3. In a container formed from a foldable blank, an article carrier portion foldable in advance of its inclosure within the container to form a tube-like carrier, and supporting tabs coacting with the side walls of the carrier for supporting the carrier against collapsing while in such folded condition, said tabs being formed from portions of the container blank.

4. A container for fragile articles comprising a foldable blank slitted to form two adjacent parallel strips connected together on the line of the slits, the portion of the blank on one side of said line being foldable to form an open sided tube-like casing to support the article, the portion of the other side of said line forming, when folded, inclosing walls for said casing, said walls extending over the open sides of the casing, and means carried by one of said strips and adapted to cooperate with the side walls of the casing for supporting the casing against collapsing when in folded condition.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ALBERT HUGH STEVENSON.

Witnesses:

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