

April 5, 1966

C. T. SHAW

3,244,348

CONTAINER

Filed Nov. 29, 1963

4 Sheets-Sheet 1

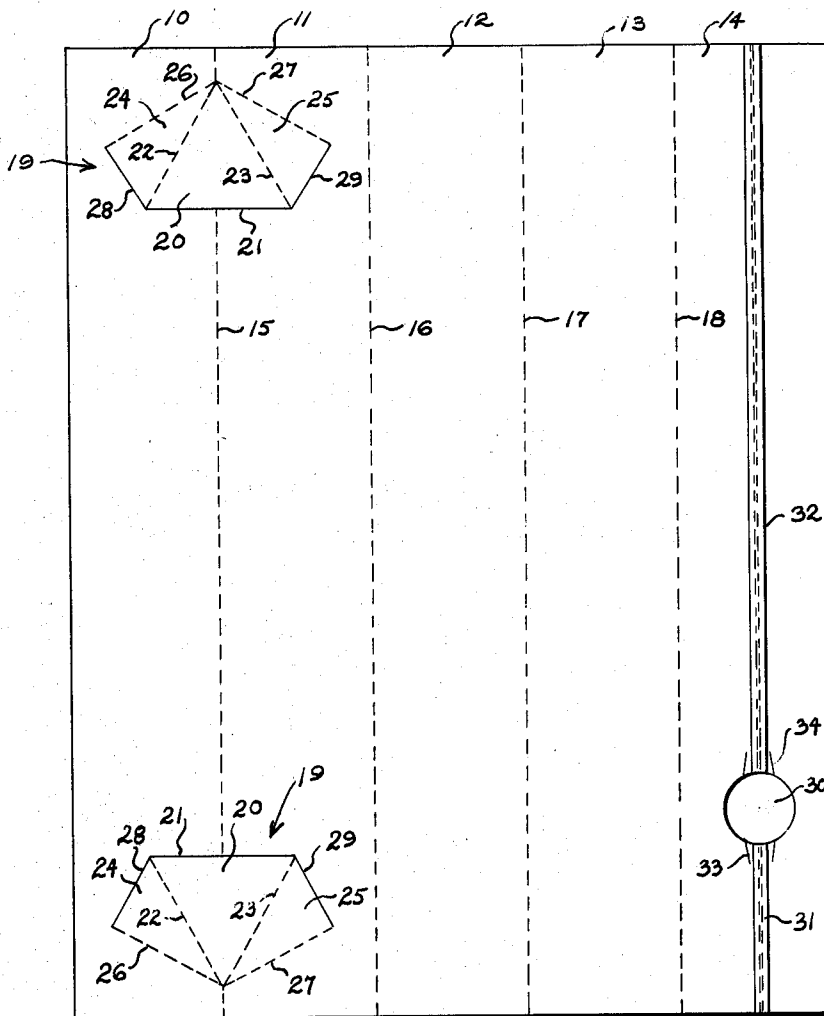


Fig. 1

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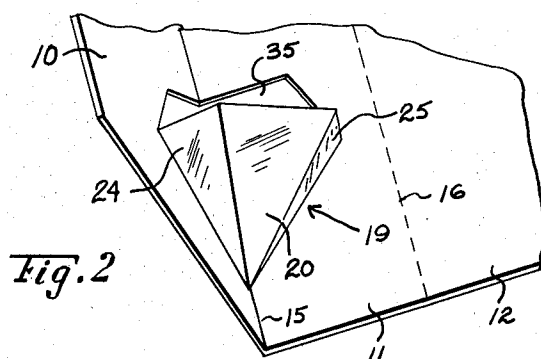
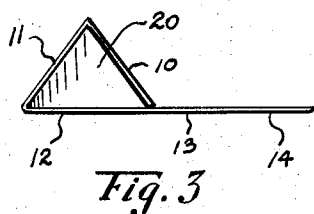
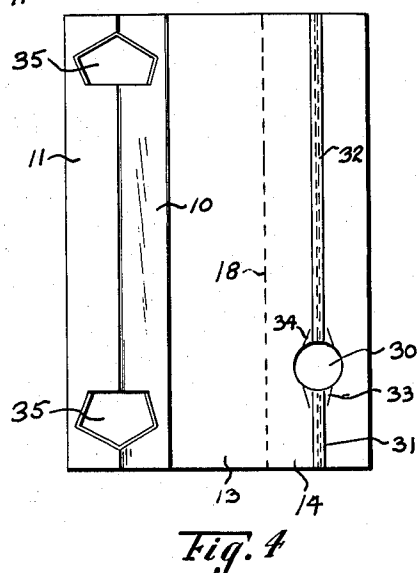
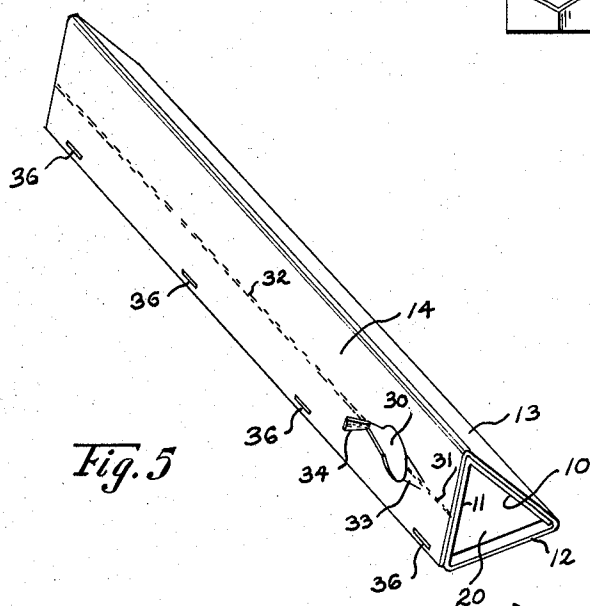
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4 Sheets-Sheet 2



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4 Sheets-Sheet 3

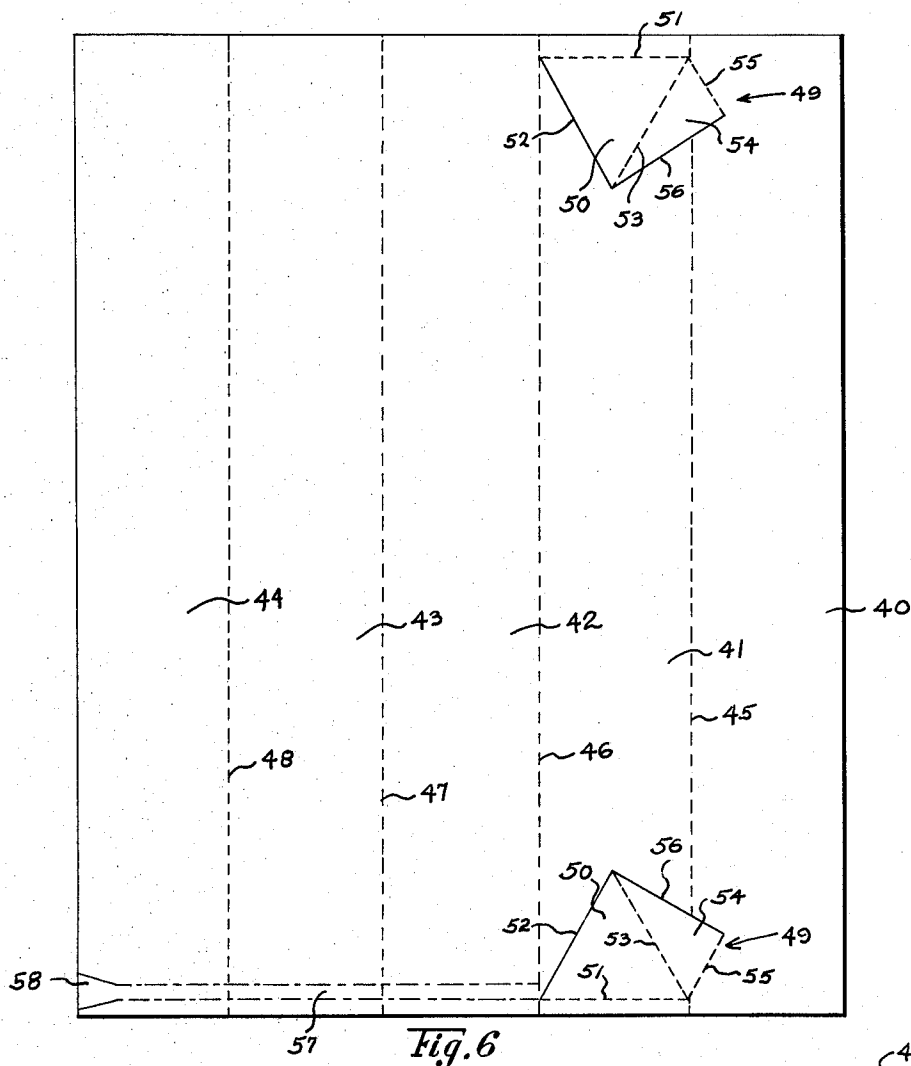
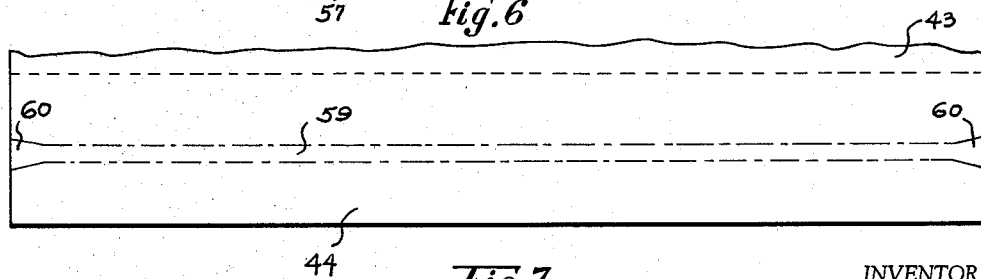


Fig. 7

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4 Sheets-Sheet 4

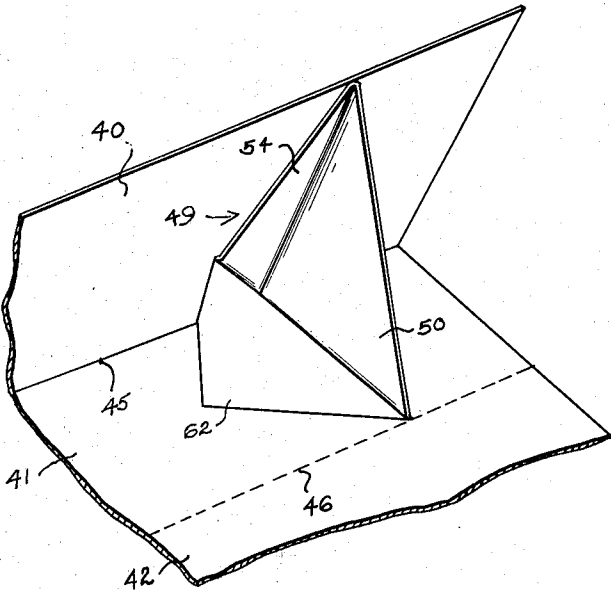


Fig. 8

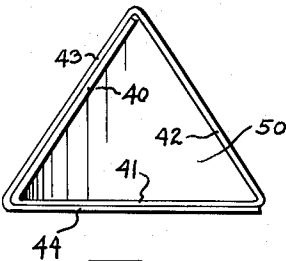


Fig. 9

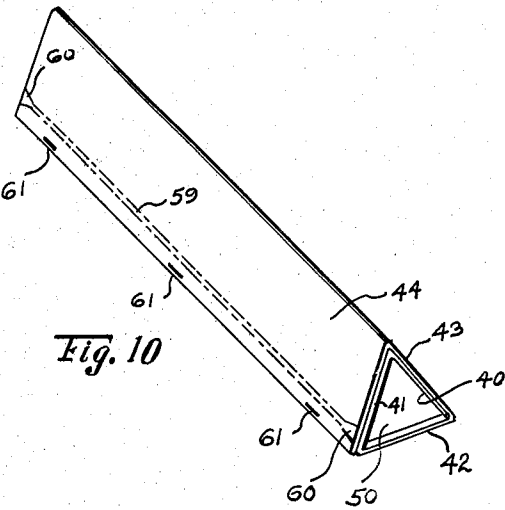


Fig. 10

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3,244,348
CONTAINER

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9 Claims. (Cl. 229-22)

The present invention relates to a novel container.

Generally, there is provided a container for elongated articles such as rolled calendars, paintings and the like, which container is generally triangular in cross sectional area, the triangle being preferably, but not necessarily, equilateral. One of the features of the invention is an end wall structure in each end portion of the blank from which the device is constituted and which end wall structure consists of a triangular end wall disconnected along one of its edges by slit lines and connected by a side panel or side panels to the body of the blank. The end wall structure is such that as the flat blank is folded, the triangular end walls automatically assume positions transverse of the longitudinal axis of the assembled device. The blank preferably consists of a plurality of longitudinally extending panels interconnected by fold lines so that, when in assembled condition, at least two of the longitudinal panels are enwrapped over the three previous panels which have assumed a triangular cross sectional shape. Novel tear strips and means for actuating the same form parts of the invention. One of the features of the invention is the provision of automatically positionable end walls which, with the aforesaid longitudinal panels, completely enclose the container and which end walls are recessed from the end edges of the device thus affording protection for the end walls. The triangular cross sectional shape of the device provides a novel and sturdy protective enclosure for the cylindrical articles designed to be carried therein.

It is, accordingly, an object of the invention to provide a container of the character set forth which is simple in construction, inexpensive to manufacture and yet effective and efficient in use.

Another object of the invention is to provide, in a device of the character set forth, novel automatically operable end structures for a container, such end structures forming a part of the invention.

Still another object of the invention is to provide, in a device of the character set forth, novel tear strips forming a part of the invention.

A still further object of the invention is to provide a container for cylindrical objects having novel triangular cross sectional area.

Still another object of the invention is to provide, in a device of the character set forth, novel recessed end wall structures forming parts of the invention.

A still further object of the invention is to provide, in a device of the character set forth, novel web panels for an end wall structure, such panels and structure both forming parts of the invention.

Other and further objects of the invention will become apparent from a reading of the specification, taken in conjunction with the drawings, in which:

FIGURE 1 is a plan view of a blank illustrating the preferred form of the invention;

FIGURE 2 is a fragmentary perspective view illustrating an end wall structure forming part of the invention, showing the same in partly assembled condition;

FIGURE 3 is an end elevational view of the blank of FIGURE 1, illustrating the same in partly assembled condition;

FIGURE 4 is a plan view of FIGURE 3;

FIGURE 5 is a perspective view of the device illustrated in FIGURES 1 to 4, inclusive, showing the same in fully assembled condition;

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FIGURE 6 is a view similar to FIGURE 1 but illustrating a modified form the invention may assume;

FIGURE 7 is a fragmentary plan view illustrating a further modification of a tear strip forming a part of the invention,

FIGURE 8 is an enlarged fragmentary perspective view showing an end wall structure as illustrated in the blank of FIGURE 6 but showing the same in partly folded condition;

FIGURE 9 is an end elevational view of the device shown in FIGURES 6 to 8, inclusive, showing the same in completely assembled condition; and,

FIGURE 10 is a perspective view of the device as shown in FIGURE 9.

Referring to the drawings, there is shown therein, in FIGURES 1-5, inclusive, a rectangular blank longitudinally divided into five panels 10, 11, 12, 13 and 14 interconnected along fold lines 15, 16, 17 and 18.

Substantially centrally located in each of the end portions of panels 10 and 11 are end wall structures generally designated at 19. Each end wall structure consists of a triangular end wall 20 having its apex portion directed toward the adjacent edges of panels 10 and 11 and having its base severed along a slit line 21 from the body of the blank, the slit line extending perpendicularly to fold line 15. To each side of each end wall 20 there is connected along fold lines 22 and 23 triangular panels 24 and 25 which are, in turn, connected along their outer edges by fold lines 26 and 28 to the bodies of panels 10 and 11, respectively, their bases 28 and 29 being severed from the adjoining bodies of panels 10 and 11 by slit lines which interconnect with the ends of slit lines 21.

Panel 14 is centrally provided adjacent one end thereof with a circular opening 30 from either side of which longitudinally extend tear strips 31 and 32 which extend in each case to the end edges of panel 14. Each of the tear strips 31 and 32 is provided, respectively, with a starter tab 33 and 34.

In the operation of this form of the invention, panels 10 and 11 are first folded toward each other along fold line 15 which action automatically acts to force end walls 20 to positions perpendicular to the longitudinal axis of these panels. As this action occurs, the web panels 24 and 25 are bent along their respective fold lines 22 and 26 and 23 and 37 in the manner illustrated in FIGURE 2 to come to lie against the inner faces of panels 10 and 11 and thus thereafter maintaining the adjacent perpendicular positions of end walls 20 with respect to the remaining structure. At this time, a cylindrical or other elongated may be placed in the thus partially folded container with its ends in abutting relation to the inner faces of end walls 20. Thereafter, panel 12 is bent along fold line 16 to thus completely enclose the article so positioned in the container. At this time openings 35 left in panels 10 and 11 by the aforesaid folding of the end wall structures 19 are covered by folding panels 13 and 14 along fold lines 17 and 18 whereby to completely cover the openings 35 and to fully enclose the contents of the container. Panel 14 may now be glued or fastened with staples 36 to panel 11, as shown in FIGURE 5.

It will be seen that a device so enclosed in the container thus described is protected by the corner portions of the elongated triangular cross sectional shape of the assembled container and that end walls 20, being raised from the adjacent end edges of the blank, are themselves protected by the thus projecting end portions.

In order to open the container for removal of the contents thereof, it is only necessary to manipulate tear strips 31 and 32 by means of the tabs or starter members 33 and 34 thus longitudinally splitting panel 14 whereby the blank of the container may be easily unfolded.

Referring now to that form of the invention illustrated in FIGURES 6 and 8, for example, there is shown therein a blank of rectangular shape having five longitudinally extending panels 40, 41, 42, 43 and 44 interconnected along fold lines 45, 46, 47 and 48.

In this case, there is provided an end structure generally designated at 49, such end structures being located in the end portions of panels 40 and 41.

End structures 49 each consist of a triangular end wall 50 whose base lies immediately inwardly of the adjacent end edge of panel 40 and is connected thereto along a fold line 51. One side of end wall 50 is severed from the body of panel 41 along a slit line 52 while the remaining side of end wall 50 is, in each case, connected along a fold line 53 to a triangular web panel 54 whose base is connected by a fold line 55 to the body of panel 40 and whose remaining side is severed from panels 40 and 41 along a slit line 56 which connects with slit line 52.

In the form of the invention illustrated in FIGURE 6, a tear strip 57 extends from slit line 52 transversely and entirely across panels 42, 43 and 44 terminating in a starter tab 58.

In a modification illustrated in FIGURE 7, tear strip 57 and its starter tab 58 are eliminated and instead thereof a tear strip 59 extends longitudinally through panel 44 and terminates at each end thereof in a starter tab 60.

In the operation of this form of the invention, it will be seen that panel 40 is folded toward panel 41 along fold line 45. When this occurs, end walls 50 will be forced to positions perpendicular to the longitudinal axis of the container while at the same time, web panels 54 will come into contact with the inner face of panel 40. At this time, an article to be encased in the container may be placed with its ends in abutting relation to the inner faces of end walls 50 whereupon panels 42, 43 and 44 may then be folded over the previously folded panels to complete a container having generally triangular cross sectional area as shown in FIGURES 9 and 10, whereupon panel 44 may be glued or affixed as by staples 61 to panel 41 to complete the closing of the container. It will be seen that opening 62 left by the movement of end walls 50 and their web panels 54 will be covered by panels 43 and 44 when the device is completely assembled as in FIGURES 9 and 10.

Again, it will be seen that the triangular configuration will afford excellent protection for cylindrical or other elongated articles placed within the container as aforesaid and that the recessed end walls 50 will be fully protected by the projecting end portions of panels 40, 41 and 42.

When it is desired to open the container, as constructed in accordance with the showing in FIGURE 6, it is only necessary to remove tear strip 57 by means of tab 58 which will act to sever one end portion of the container, as will be obvious.

With reference to that form of the invention shown, for example, in FIGURES 7 and 10, to open the same, it is only necessary to remove tear strip 59 by either one of starter tabs 60, thus freeing panel 44 from its attachment to panel 41, thus allowing free access to the interior of the container.

While but certain forms of the invention have been shown and described herein, it will be obvious that other modifications and/or equivalents may be employed without departing from the scope of the invention which is defined in the appended claims.

What is claimed is:

1. A container comprising a rectangular blank having a plurality of fold lines defining a plurality of longitudinally extending body panels, and an end wall structure including a triangular end wall and at least one triangu-

lar web panel connected thereto along a fold line at one side thereof and folded against the inner face of the adjacent body panel, said end wall structure being formed from portions struck out from certain of said body panels and foldably connected to adjacent body panels along fold lines diagonally disposed relative to said plurality of fold lines.

2. A device as defined in claim 1 wherein said end wall automatically moves to a position perpendicular to the longitudinal axis of the body panels when said body panels are folded toward one another.

3. A blank for forming a container comprising a rectangular sheet comprising a plurality of fold lines defining a plurality of longitudinally extending body panels, and an end wall structure including a triangular end wall and a triangular web panel connected thereto along a fold line at each side thereof and foldable along said line to bear against the inner face of the adjacent body panel, said end wall structure being formed from portions struck out from certain of said panels and foldably connected to adjacent body panels along fold lines diagonally disposed relative to said plurality of fold lines.

4. A blank as defined in claim 3 wherein said end walls have their apices extending in the direction of the adjacent end edges of their associated body panels, and wherein the bases of said end walls are severed along slit lines from the body of said device.

5. A container formed from a blank as defined in claim 3 wherein the outermost panel in the assembled device is affixed at its free edge portion to an underlying body panel, and wherein said outermost panel is provided with an opening and a pair of tear strips each extending longitudinally from said opening to an adjacent end edge of said outermost panel.

6. A blank for forming a container comprising a rectangular sheet having a plurality of fold lines defining a plurality of longitudinally extending body panels, and an end wall structure including a triangular end wall and a triangular web panel connected thereto along a fold line at one side thereof and foldable along said line to bear against the inner face of the adjacent body panel, said end wall structure being formed from portions struck out from certain of said panels and foldably connected to adjacent body panels along fold lines diagonally disposed relative to said plurality of fold lines.

7. A blank as defined in claim 6 wherein said end walls are attached along their bases to the body panels from which they are formed, and wherein the apices of said end walls extend inwardly of their associated body panels.

8. A container formed from a blank as defined in claim 6 wherein the outermost panel in the assembled device is affixed at its free edge portion to an underlying body panel, and wherein said outermost panel is provided with a longitudinally extending tear strip.

9. A container formed from a blank as defined in claim 6 wherein the outermost panel in the assembled device is affixed at its free edge portion to an underlying body panel, and wherein a tear strip extends from one of said slit lines transversely across the three outer body panels.

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