Dec. 10, 1935. A. J. TANNER 2,023,450

CONTAINER

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FIG. 1.

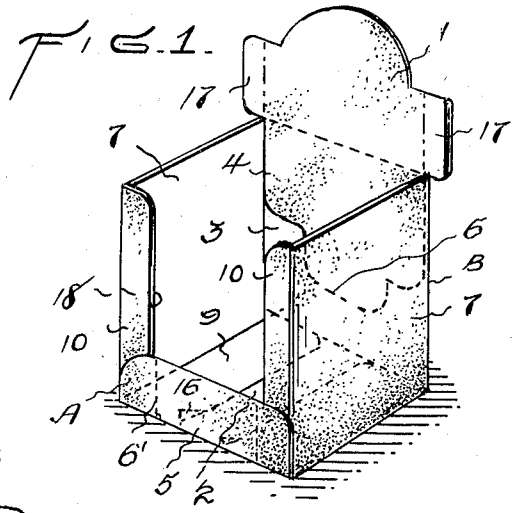


FIG. 2.

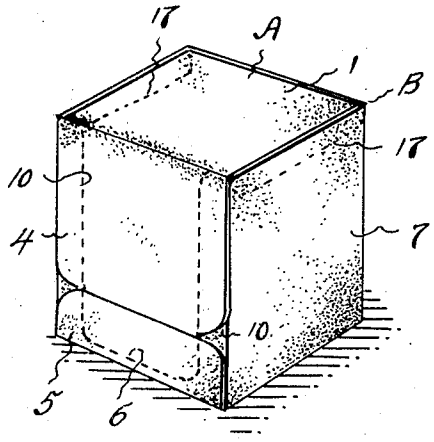


FIG. 3.

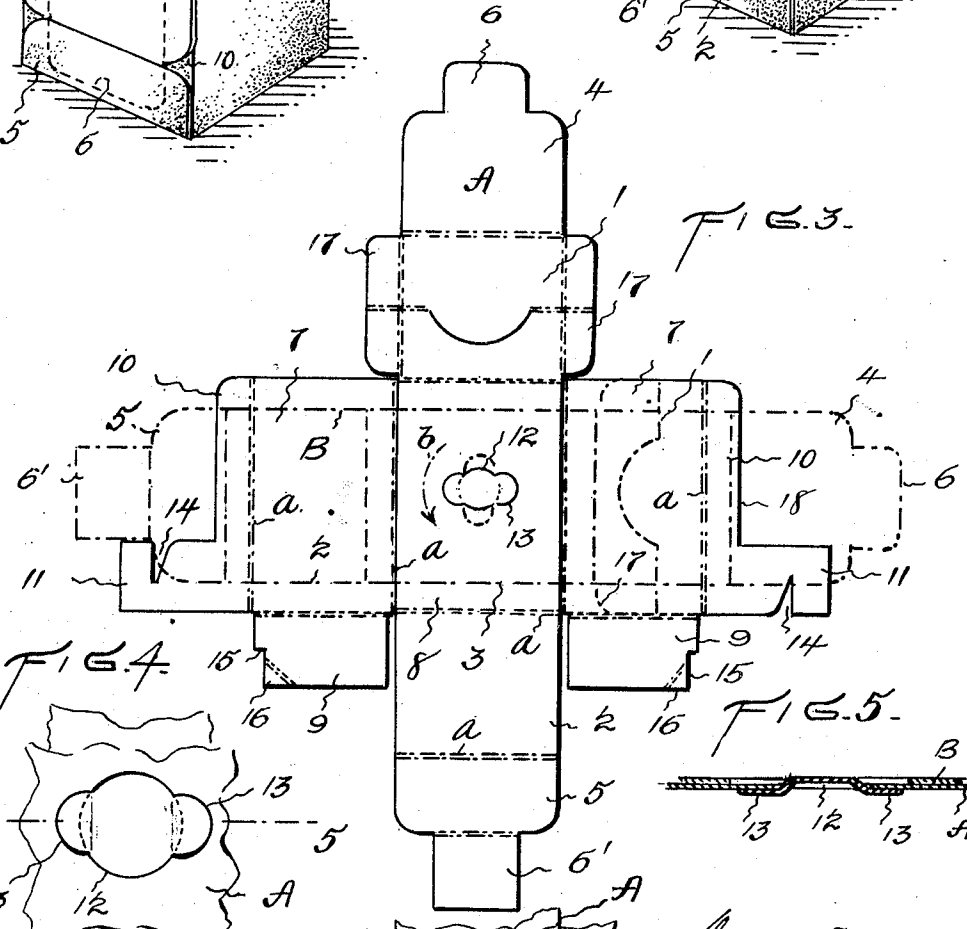
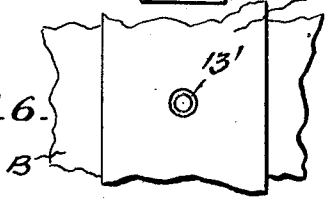


FIG. 4.

FIG. 5.

FIG. 6.



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FIG. 7.

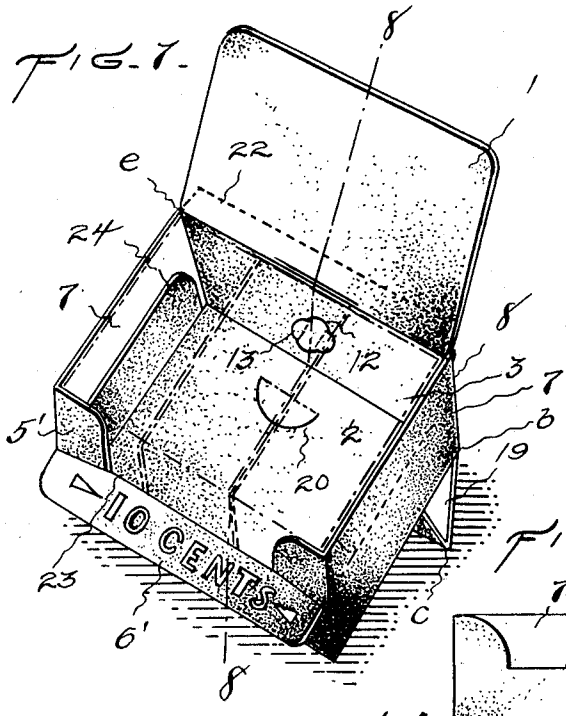


FIG. 11.

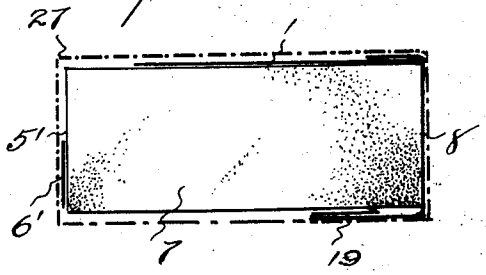


FIG. 9.

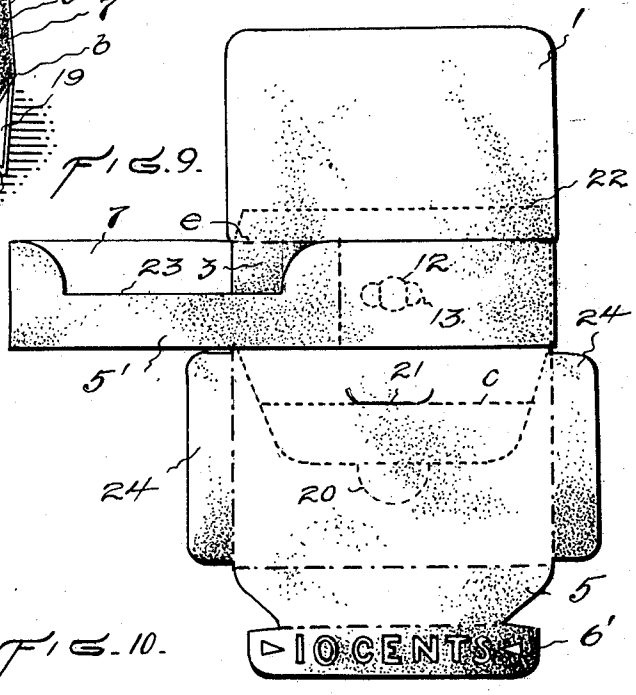


FIG. 8.

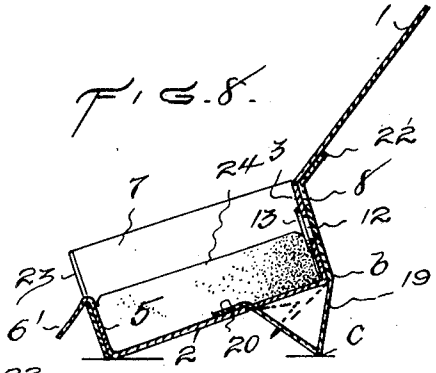
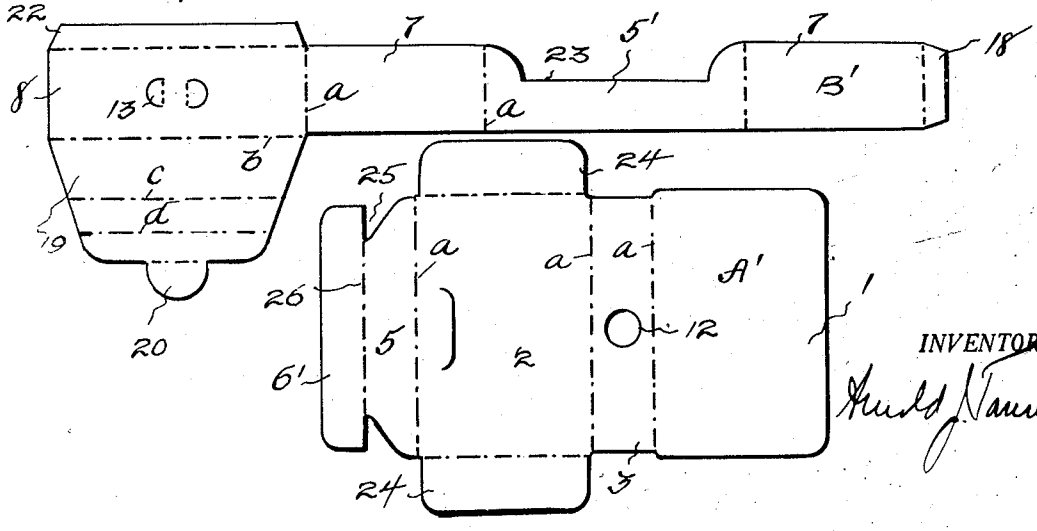


FIG. 10.



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FIG. 12.

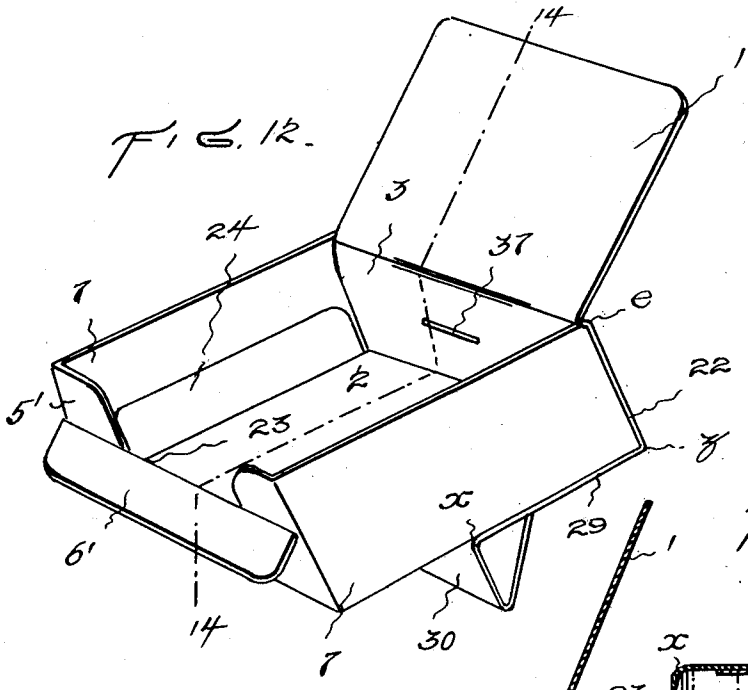


FIG. 13.

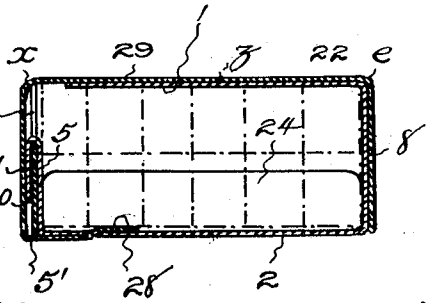


FIG. 14

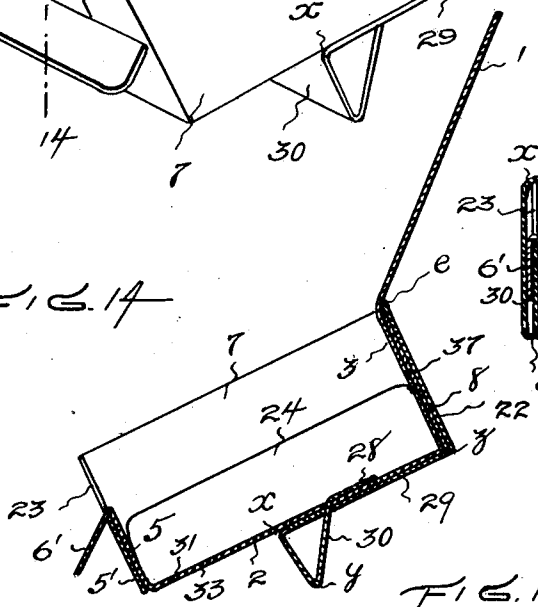
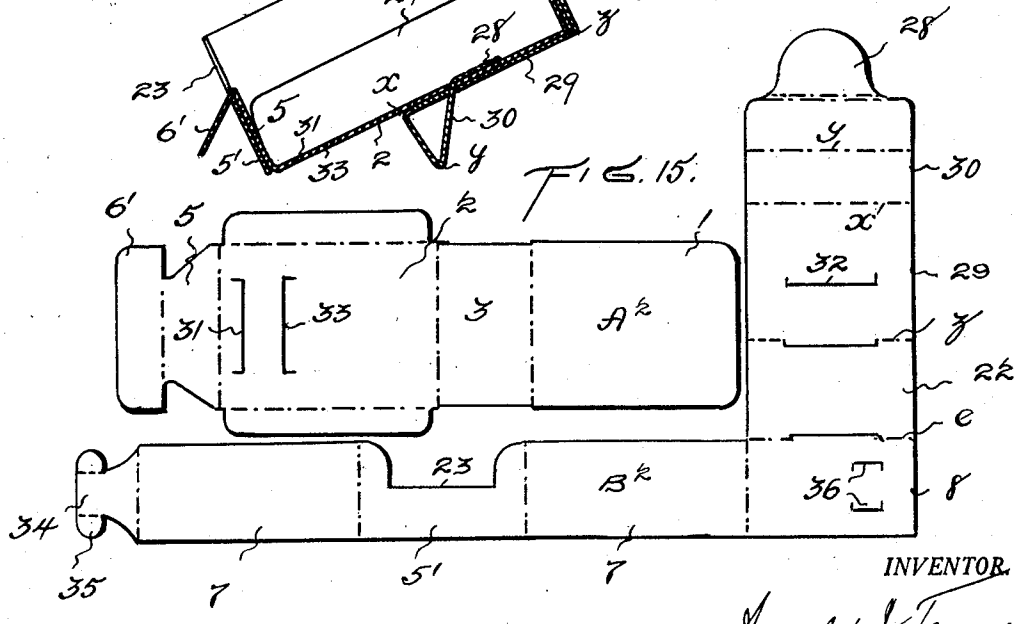


FIG. 15.



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FIG. 16.

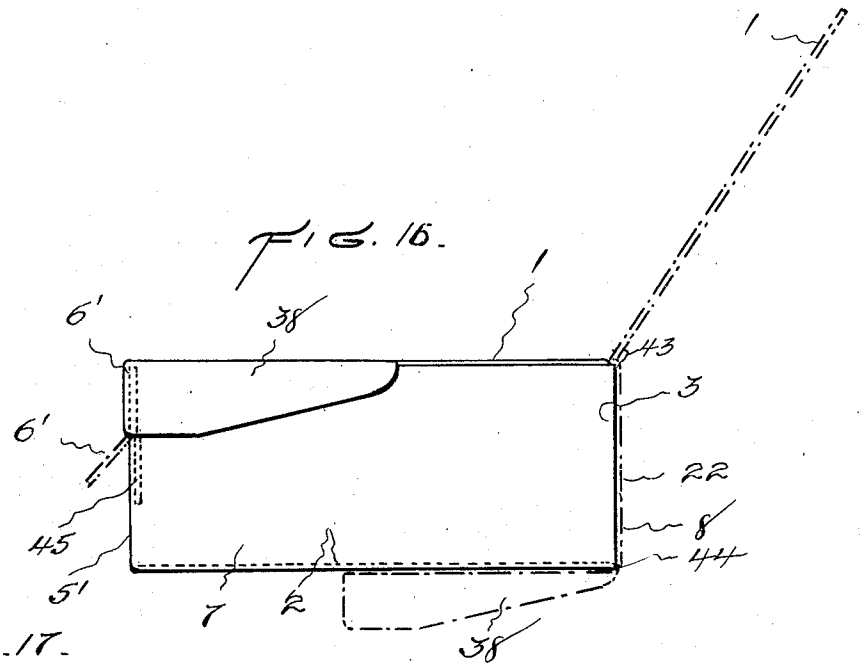
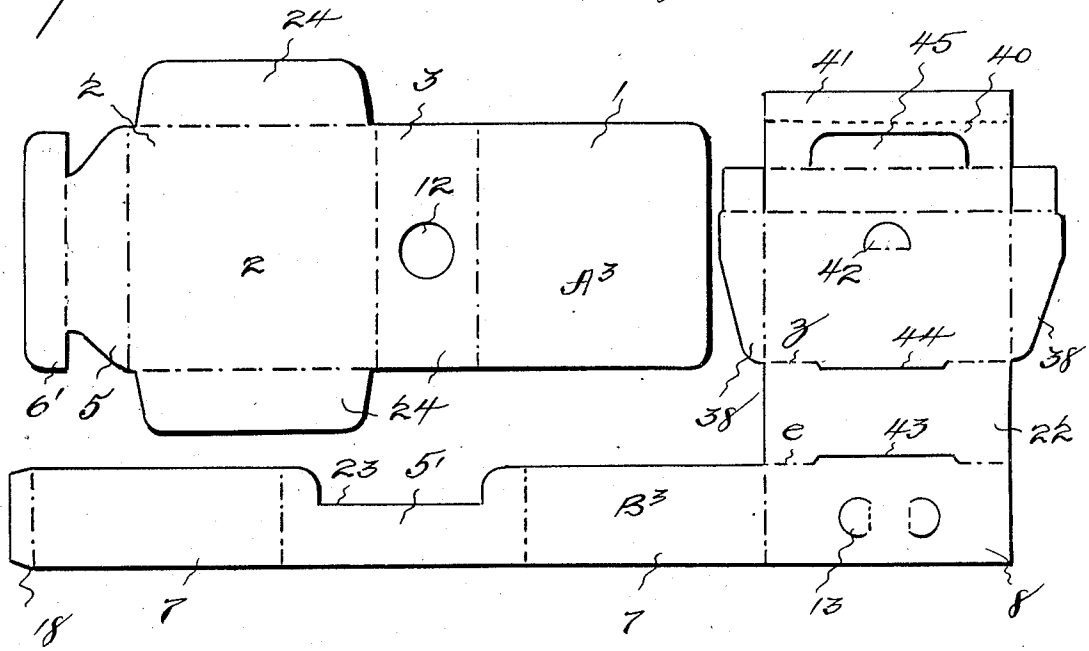


FIG. 17.



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Patented Dec. 10, 1935 2,023,450

UNITED STATES PATENT OFFICE

2,023,450

CONTAINER

Arnold J. Tanner, North Haven, Conn.

Application July 12, 1932, Serial No. 622,117

6 Claims. (Cl. 206—44)

The present invention has relation to folding boxes useful for packing, displaying and dispensing merchandise and one object of the invention is to provide improvements in the construction and manner of manufacturing boxes of a kind such, for example, as those forming the subject matter of U. S. Letters Patent No. 1,738,127, dated December 3, 1929, and No. 1,746,721, dated February 11, 1930. The improvements hereinafter described may, however, be applied with advantage to other types of boxes, particularly in instances where the constructive blank is of such a shape that there is apt to be an excessive waste of material in the blanking out operation. Another object of the invention is to design a pair of blanks of which the improved box is composed and unite said blanks in such a manner that the additional assembling or setting up the box with these blanks is greatly simplified.

According to the present invention the improved box or container as above stated, is composed of a pair of blanks and in this connection it will be noted that the container covered by Patent No. 1,738,127, above referred to, is likewise composed of two blanks arranged and held together when the box is in the set up condition.

One part of the present improvement consists mainly in providing means whereby said blanks are first partly assembled by uniting them together in the unfolded or flat position. The connecting means between the two blank members is such that a swiveling or pivotal movement is obtained whereby the two blank members may be placed in several relative positions so as to permit in one position, convenient packing, shipping and storage of the blanks. In another position the blanks can be conveniently folded so as to erect the box in its set up condition. Said connection of the two blanks has a further advantage that when assembled, the two members formed by said blanks are securely held together both at the back and front of the container, thereby eliminating possibility of accidental displacement of said members so as to cause the defect of the container falling apart to allow the contents to drop out.

The improvements hereinafter described are also applicable to a type of box such as covered or described in the other patent aforesaid, No. 1,746,721 which employs a blank of substantially cruciform, that is, having extending portions which tend to create a great deal of waste in the cutting out of the blank. For the purpose of comparison only, mention is made that a square box four inches in diameter all around utilizes approximately 112 square inches of paper-board. The blank, however, when made singly must be cut out of a sheet 16" x 16" having an area of 256 square inches; therefore, cut out in one piece there is a waste of approximately 144 square inches of board. In the case where the two blanks for a box of the same size are cut out separately in a position parallel to each other, the two blanks for the box together use 128 square inches of board and can be cut from a sheet 8" x 16".

In carrying out the invention the blanks are cut out in pairs which are joined together at a central point and the connection employed permits of a swiveling or pivotal movement whereby the two sections or blanks may be brought into the desired position either for packing the blanks or for assembling the box.

The invention will be more fully described hereinafter with reference to the accompanying drawings; wherein—

Figure 1 is a perspective view of a box employing the improvements referred to and said box being shown in its open or display position;

Figure 2 is a perspective view of the same box in its closed position;

Figure 3 is a plan view of a pair of blanks forming the box and said blanks are shown by full and broken lines in the different positions they can be placed;

Figures 4 and 5 are detail views showing a swiveling connection device, Figure 5 being a section on the line 5—5 of Figure 4;

Figure 6 is a detail view showing a swivel fastening device employed when the two blank members are permanently united together;

Figure 7 is a perspective view illustrating a modification of the improved box;

Figure 8 is a sectional view taken on line 8—8 of Figure 7;

Figure 9 illustrates the modified box in a flat position;

Figure 10 is a plan view on a reduced scale showing the pair of blanks used for said modified container;

Figure 11 shows the modified box set up and closed in a state for shipment and shown slightly enlarged;

Figure 12 is a perspective view showing another form of the improved box in position for display;

Figure 13 is a cross sectional view of the same box in its closed position;

Figure 14 is a sectional view taken on line 14—14 of Figure 12;

Figure 15 is a plan view of a pair of blanks used to construct the form of box shown in Figure 12;

Figure 16 illustrates another modification of the improved container; and

Figure 17 is a plan view showing the pair of blanks employed with the last mentioned modification.

In carrying out the embodiment of the invention as illustrated in Figures 1 to 6 inclusive of said drawings, the improved container is com-

posed of two blanks A and B. The blank A constitutes what may be termed an "inner member" which provides the cover 1, bottom 2, and inner back wall 3. This blank carries at each end folding flaps 4 and 5 and said flaps have extensions or tongues 6 and 6' extending therefrom. The blank or section B constitutes an "outer member" and provides the side wall forming portions 7, and outer back forming portion 8. The portions 7 have depending therefrom folding extensions 9 and laterally extending pieces 10. The latter pieces have the further extensions 11. In both blanks the sections forming different parts are defined by and fold on crease lines *a* represented by double broken lines.

The blanks A and B are separately cut out of a sheet of paper board of which the blanks are preferably composed and in the blanking operation the dies for cutting the blanks can be located parallel and close to each other; therefore there is practically no waste in the blanking operation as there would be when the blank is made in one piece, as hereinbefore explained. These blanks may be furnished separated to the customer, if desired, and in the first operation of assembling, the operator would unite the blanks A and B together by means of a connection device which is provided for that purpose. A preferable form of this device is one that can be made integral with the blank such as illustrated, which consists in cutting a circular hole 12 in the back wall member of the inner section or blank A. Tabs 13 are cut in the back wall 8 of outer section or blank B. The tabs 13 and hole 12 are preferably centrally located so that the blanks A and B will swivel one on the other when the tabs are engaged in said opening. It is, of course, understood that various shapes of blanks may have to be designed and in some cases the blanks A and B may have to be pivoted so as to turn at different angles to each other.

The integral connecting device for the two blanks A and B as shown is of particular advantage when the consumer has to assemble the blanks but in such cases where the blanks are assembled at the box factory, a machine for riveting the blanks together may be a part of the equipment and in this case the manufacturer would unite the blanks by means of a rivet or eyelet 13' so that the blank A will permanently be on top of the blank B, as shown in the broken line position in Figure 3. When the blanks are so united the operator in setting up the box need only turn blank A in an anti-clock-wise direction as indicated by the broken arrow *b* so that the blanks will assume the full line position shown in Figure 3. When in this position the several portions of the blanks may be folded with convenience.

In the operation of folding the blanks to set up the box, the extensions 11 of blank B are brought together and engaged by means of the oppositely disposed notches 14. The outer member or shell is so formed and the next operation is to fold the portion 2 of blank A forming the bottom of the container and in the same operation the flap 5 and extension 6' would be folded over the joined extensions 11. The extension 6' lies at the back of the extensions 11 and may be retained in place by any suitable means; preferably self-engaging means are used and which means consists in notching the extensions 9 at 15 and turning up the corners 16. In the folding, the end of the extensions 7 will pass over the bent corners 16 and fit within the space created by the notches 15. In this position the extension or tongue 6' will bear against the side edge of the extensions 9 and the raised edge provided by the bent corners 15. In this position the box is ready for packing and when the box is filled the cover 1 is closed and the flanges 17 at the sides thereof are inserted in the sides of the box. The pieces 10 form flanges at each side of the open front 18 of the box and when the box is closed the flap 4 covers said open front and the tongue 6 carried by flap 4 is inserted at the back of the folded over portions 5—6' thereby effectually and completely closing the box and retaining the covering means in the closing position.

It will be noted in the set up position of the box in Figures 1 and 2, the stipple shading represents printing. This printing is on one side of the board only for the outside surfaces of the box exposed are on one side of the board only with the exception of the back of the cover portions 1–4. To bring the printed side of these sections into view the section 1 is cut out and scored so as to fold on itself to form a raised display and when so folded the extension 4 lies at the back of the carton so as to present a printed surface at the back of the box when the contents of the box are partly taken out.

One distinguishing characteristic of the improved box is the formation of the same of two separate blanks as hereinbefore described. One of these blanks constitutes a shell or outer member providing the side, front and back walls and the other blank provides the bottom, part of the front wall, an inner lining for the back wall and a cover which is adapted to be set up to form a display medium. The bottom of the container is suspended from the front and back walls in such a manner that when secured by the means provided there is no possible displacement of said bottom.

In Figures 7 to 11 a modified form of the improved box is shown and this modification is substantially the same as the structure previously described with the exception that a supporting easel is provided so as to retain the container in a set up inclined position and other changes in connection with the cover or show card and means for supporting the bottom at the front end are introduced. These additional improvements will be described with reference to the figures of the drawing last referred to and the same or parts equivalent to these in the first example described will be designated in the modified form by the same reference characters.

The modified form of the container is made up of two blanks A' and B', blank B providing the outer shell or member of the container which is divided into portions by crease lines *a* to form respectively the cut out front wall 5', back wall 8 and side or end walls 7—7. In this example the outer end wall portion 7 carries a lap 18 and when this blank is folded, preferably by automatic machine operation, said lap 18 is brought against the outer end of the back wall portion 8 and adhesively or otherwise secured, thereby the shell is made in the form of an endless band. The blank A' is divided into two main portions 1—2, portion 2 forming the bottom of the container and portion 1 forms the cover or display card. These two portions are connected by the intermediate portion 3 forming a lining or inner back wall. Folding flaps or extensions 5 and 6' are a part of this blank and as in the previous instance extend from the bottom forming portion 2. A hole 12 is also provided centrally in

the connecting or back wall portion 3; also tabs 13 are cut out from the back wall portion 8 of blank B' so as to register with said hole 12.

An additional feature is the easel or supporting device which consists of a double folding extension 19. Said extension is hingedly connected to the back wall portion 8 on crease line *b*. This extension 19 folds on crease line *c* to divide the same into two portions of which the lower portion may be foldable on crease line *d* and which lower portion carries the tongue 20 engageable in slit 21 cut in the bottom forming portion 2. This extension provides an easel or elevating device to retain the container in an angular or tilted set up position. The back wall portion has extending from the upper edge thereof a strip 22 which is hinged to said edge on crease line *e*.

An additional difference in this modified container is that the cover or show card 1 does not fold on itself as in the previous instance; instead said card is a single hinged sheet braced in its upright position by the strip 22 projecting from the top edge of the back wall.

Another change is in connection with the means for suspending the forward end of the bottom from the front wall of the outer or shell member of the container. With this example the double folding extension 5—6' folds over the front edge of the cut out portion 23 but in this instance the fold 5 lies behind the front wall and the fold 6' hangs in front and besides providing efficient supporting means it also provides an additional show card. The bottom member 2 has folding lateral extensions 24 which stiffen or re-enforce the said bottom and also these extensions when folded inside the shell member tend to close the bottom side corners of the container.

In the assembling of the modified form of the improved container the first operation, effected preferably by automatic machine, is to unite the ends of the strip blank B' to form the shell. The blank A' is then placed and united in a position as shown in Figure 9. It will be noted in the previous example a turning movement of the blanks was of particular advantage and the uniting means 12—13 was designed accordingly. In the present instance the swiveling movement is not required but being preferable, the same means are employed with the modified form of the container. It will however be understood that any other means such as gluing or a single staple would serve the purpose in many instances. The partly assembled or collapsed container is delivered to the customer in this partly assembled or flat condition. In order to set up the container for packing it is only required for the operator to fold the extensions 23 into an upright position. The double folding portion or free end piece 5—6' and the bottom are then placed within the shell member so that the notches 25 are substantially in line with the top edge of the front wall. The bottom is then forced down with the fold 6' lying or hanging outside. The fold line 26 in alignment with said notches rests on the top edge of the cut out portion 23. This means of support will firmly hang the forward end of the bottom against any danger of displacement.

A noticeable feature with the modified form is that the blank A' in the first assembling of the blanks is reversed so that the printed side stands upwardly. In the other example the printed surface is on the bottom thus exposing the printed surface of the fold 5 and the show card is doubled over in the conventional manner for the same purpose. By reversing blank A' as in the modification, the advantage is obtained that the printed surface of fold 6' is exposed and also there is no necessity of doubling over the show card.

The easel support is also so designed that only the printed surface is exposed. This easel may be doubled or fold on itself when used with a box containing comparatively little weight and in this instance the lock 21 may be fixed when the box is assembled for packing and when the box is set up for display the easel would automatically position itself. In such cases however where an extra strong easel is required, the folding line *a'* is eliminated and the box would be packed for shipping with the easel lying flat along its full length against the bottom of the container and the easel would then be set up by manipulation thereof.

Figure 11 shows the box in its closed position wherein an outer shell 27 is placed around the box and this shell serves to completely close the box so as to provide a rigid and protected package.

Referring to Figures 12, 13 and 14 illustrating another form of the improved box, it will be noted in this form the main differentiating feature is the provision of an outer cover for the container when in its closed position. Furthermore this cover is adapted to be folded so as to be utilized as an easel or support for the container in the set up or display position thereof.

The box shown in Figure 12 is substantially the same as that shown in Figure 7 and as in the previous instance the box is composed of blanks A^2 and B^2 with slight changes. One change is that the extension 22 hinged on crease line *e* is extended a sufficient length to cover the top and front of the container. A tongue 28 is carried at the free end of the extension 22 and which latter extension is divided into two portions 29—30 by crease line *x*. The portion 29 provides a top cover and portion 30 provides a cover for the front of the container. The portion or flap 30 carries the tongue 28 which folds under and is engaged in slot 31 in the bottom of the container to hold the same in place. The flap or cover 30 is sub-divided by crease line *y* so that this portion will fold on itself and the top cover portion 29 is sub-divided on the crease line *z* also to fold on itself. The purpose of sub-dividing said portions is to permit the folding end of the extension 22 to form an easel or support for the container to hold the container in an angular display position. When folded the portion of the extension 22 between the hinged line *e* and the crease line *z* lies against the back wall of the container and the portion between the crease lines *x*—*z* folds under the container against the bottom thereof. The portion 30 is then folded on itself and the tongue 28 is inserted into the slot 32 to form a rigid triangular support. When the extension 22 is folded to form the support, the slot 32 therein registers with slot 33 in the bottom of the container so that the tongue 28 passing through slot 32 can be inserted into said slot 33 and by means of this connection the easel or supporting means is held in position against accidental displacement.

It will be noted the blank A^2 employed in the construction of the modified box shown in Figure 12 is the same as the blank A' used for constructing the form of box shown in Figure 7 with the exception that the slots 31—33 are added. The blank B^2 is also substantially the same with the

exception that the portion 22 is extended to form the wrap-around and retained cover described. The purpose of the extension 22 in the form of box shown in Figure 7 is to give stability to the show card 1 when in the erect position. In the present modified form of the box substantially the same effect is obtained by slightly raising the fold on line z above the top edge of the container.

Previous mention was made that various means could be employed in the assembling of the blanks A and B and in the blank shown in Figure 15 the blank B^2 has locking means comprising a tongue 34 having side projections 35 which latter are engaged in slots 36 in the back wall forming portion 8. This form of lock is employed when it is not desirable to utilize an adhesive means and for the same reason the two blanks A^2 and B^2 are shown in Figure 12 as being united by a staple 37.

Referring to Figures 16—17 showing the improvements applied to a box of a popular type employing a cover which is folded back to provide an easel or support. To obtain the advantage of the salient feature of this well-known box, slightly modified blanks A^3 and B^3 are employed and the only change over the other blanks A and B previously described, is that the extension 22 is provided with side pieces 38 which are folded in a perpendicular position to form sides. Said pieces 38 carry tongues 39 which fold inwardly under the double folding flap 40 which provides the front wall of the cover. Any suitable frictional means may be employed to retain the flap 40 in position or as shown the usual strip 41 engaged under the tab 42 is employed to provide a positive securing means. In the closed position of the cover, as shown in full lines in Figure 16, said cover lies over the folded display card 1 and also covers the over-hanging suspension panel or strip 6'. The cover is hinged and creased to fold on lines e and z the same as with the blank shown in Figure 15. To facilitate folding of the cover close up against the back wall and bottom of the box so as to operate best as a support, the said crease or folding lines are partly cut through as shown. This partial cutting of the folding lines also facilitates tearing off of the cover if an easel or support is not required. Figure 16 shows in broken lines the position of the support, display card and front over-hanging panel in the position they are in when the box is set up for display.

It will be seen the cut portion of the crease lines e and z provide lips 43—44 of which 44 operates as a stop for the hinged display card 1 in the erect position thereof. The lip 43 operates to engage the bottom edge of the back wall 8 thereby retaining the easel or support for the box in its operative position. This support when operating as a box cover is additionally held in the closed position by tongue 45 cut from the flap 40 inserted between the front wall 5' and the fold 5.

It will be understood by those familiar with the art that variable conditions arise in the designing of boxes for merchandise and it is known that a design for one style of box cannot be applied to a box of another style. In the present instance, however, the salient features of the invention hereinbefore described may be applied to practically any size or shape of box with only the exercise of ordinary knowledge possessed by persons skilled in the particular art and accordingly various modifications may be made in carrying out the invention hereinbefore described; therefore it is to be understood that any modification coming fairly within the terms of the appended claims shall be covered thereby.

I claim:

1. A two piece container composed of a pair of blanks, one blank forming a shell or outer member being divided into portions providing the back, front and side walls of the container; the other blank constituting an inner member being divided into portions providing a lining back wall and a bottom for the container; said lining back wall having an upper extension operative as a display card; and a double folding extension from the bottom forming portion folded over said front wall providing means for loosely suspending the front end of said bottom; means for suspending the rear end of said bottom and said latter means comprising a device integral with said blanks whereby the latter are detachably united together.

2. A container according to claim 1 comprising the outer shell; the inner member being mounted within said shell; said members being composed of separate blanks united together, and said shell having an extension therefrom hinged to the top edge of the back wall of said shell operating as an easel or support for the container.

3. A container according to claim 1 comprising the outer shell; the inner member being mounted within said shell; said shell member being composed of separate blanks united together, and said shell having an extension therefrom hinged to the top edge of said shell operating in one position as an easel or support and in another position as a cover for the container.

4. A two piece container as described comprising a shell member forming the front, side and back walls of the container; a separate sheet having a prepared surface selectively placed and detachably secured to said back wall within the shell; said sheet providing the bottom and a display card for the container; and said sheet having a double folding free end adapted to be folded inwardly or outwardly over said front wall according to the position of said sheet whereby the forward end of said bottom is suspended from said front wall.

5. A two piece container as described comprising a shell member forming the front, side and back walls of the container, a sheet prepared and decorated on one side only selectively placed and secured within the shell; said sheet providing the bottom and a display card for the container; said sheet having a double folding end which to give conformity with the selected placing of said sheet is adapted to be folded outwardly or inwardly over said front wall whereby the forward end of said bottom is loosely suspended from said front wall.

6. A container comprising outer and inner members composed of separate blanks, the outer member providing the front and side walls and an outer back wall of the container; the inner member providing the bottom and an inner back wall of the container; said inner back wall being immovably secured to said outer back wall and said inner member having a double folding end portion folded over and supported by said front wall in a manner whereby the forward end of said inner member is loosely suspended from said front wall.

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