Oct. 30, 1934. G. H. GAULT 1,978,626

ONE-PIECE FOLDING BOX

Filed March 2, 1934 4 Sheets-Sheet 1

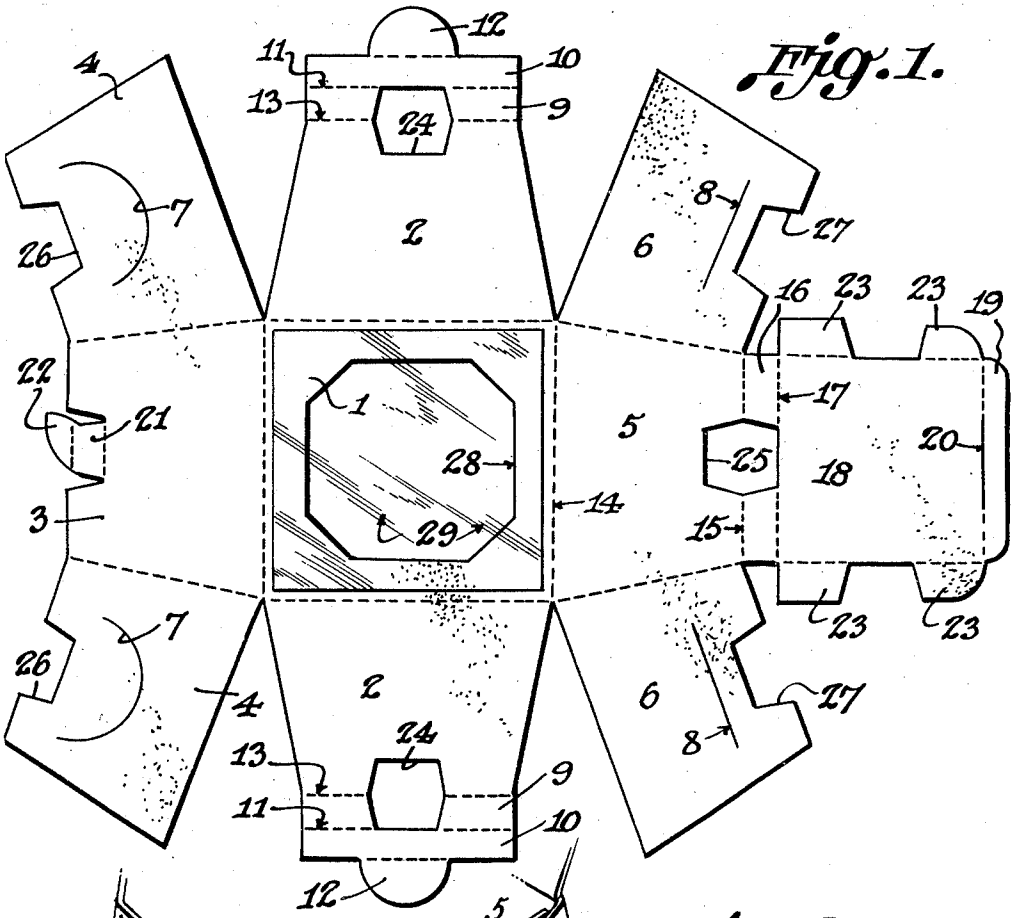

Fig. 1.

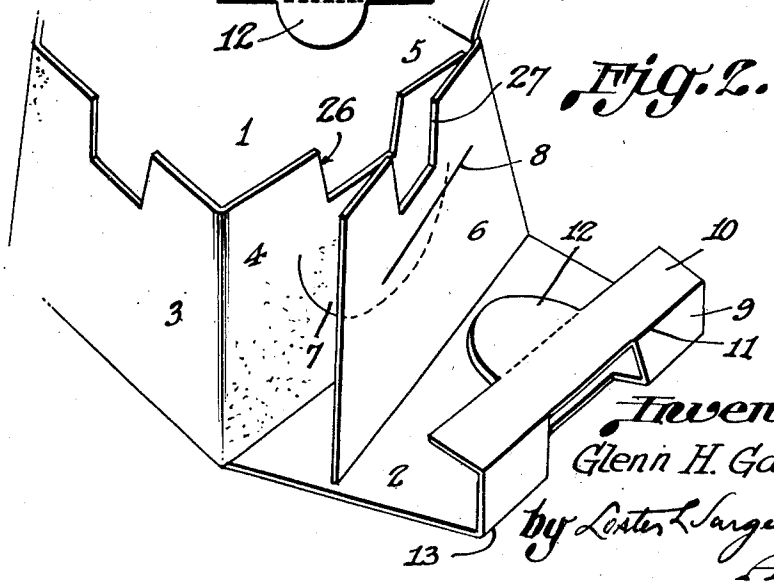

Fig. 2.

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Fig. 3.

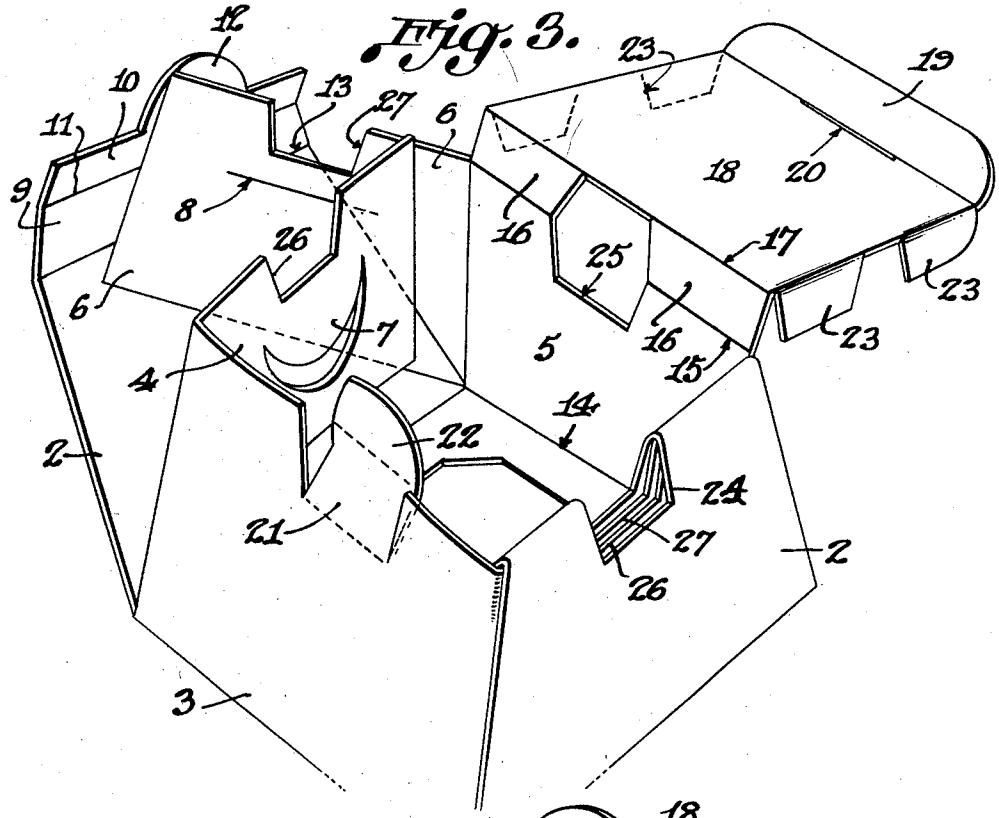

Fig. 5.

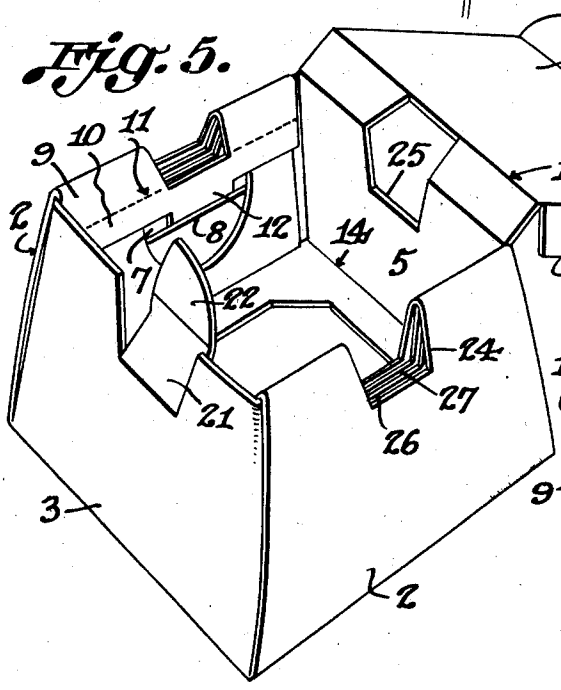

Fig. 4.

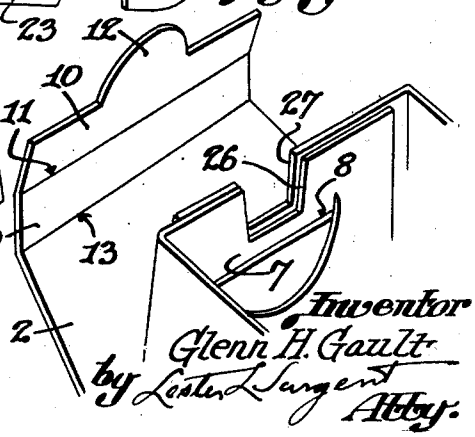

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Fig. 8.

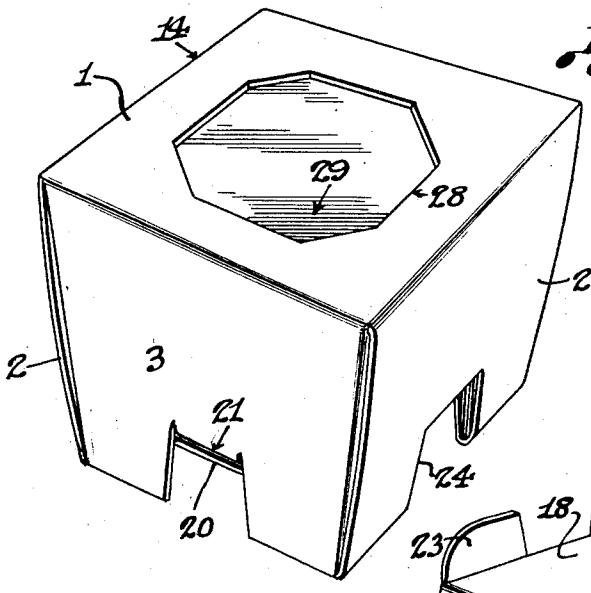


Fig. 6.

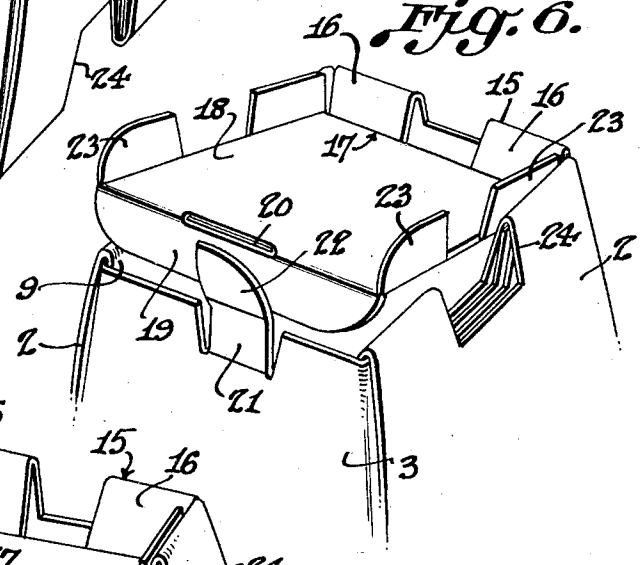
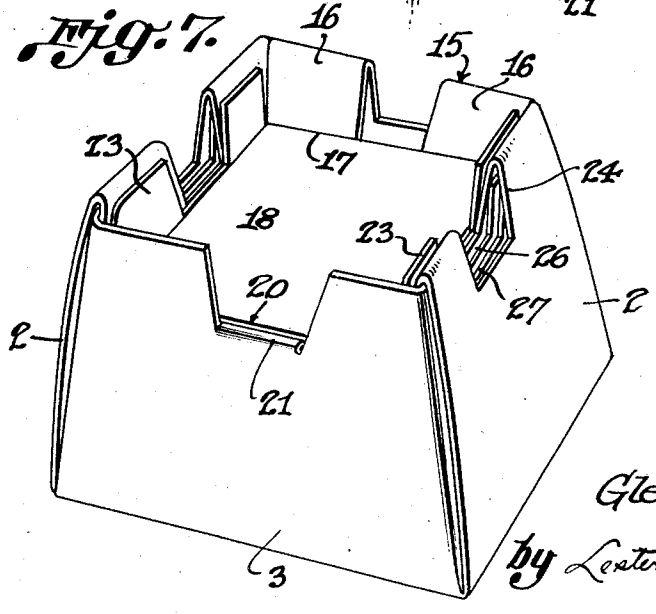


Fig. 7.



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ONE-PIECE FOLDING BOX

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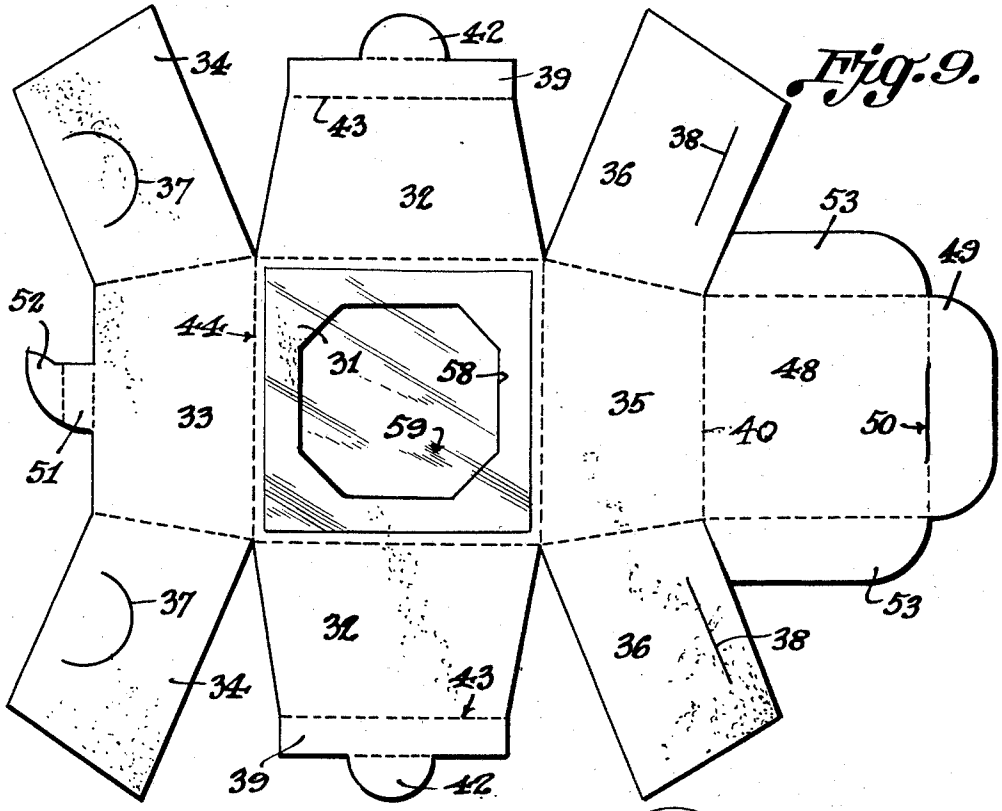

Fig. 9.

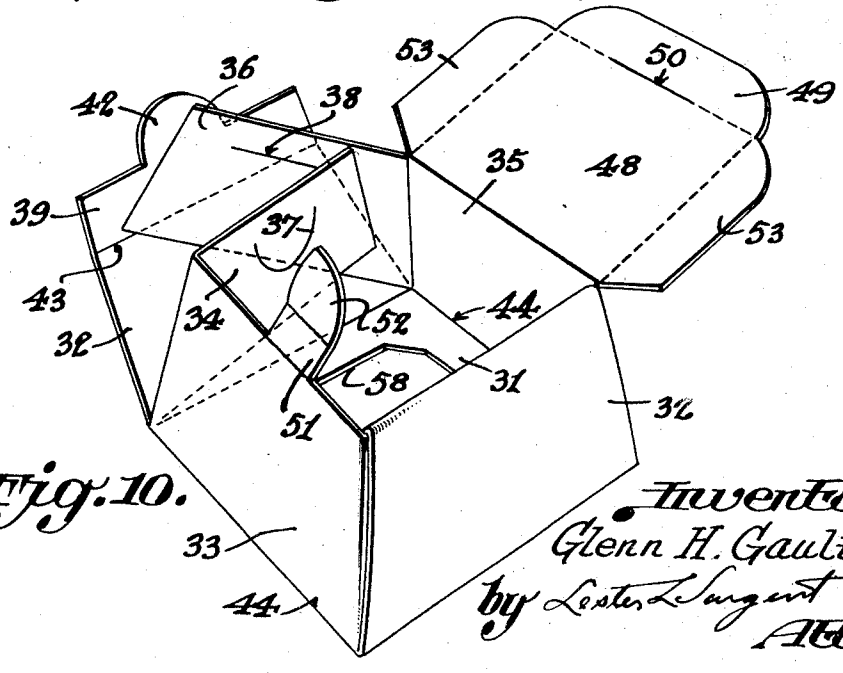

Fig. 10.

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Patented Oct. 30, 1934 1,978,626

UNITED STATES PATENT OFFICE

1,978,626

ONE-PIECE FOLDING BOX

Glenn H. Gault, Ashland, Ohio, assignor to The A. L. Garber Company, Ashland, Ohio

Application March 2, 1934, Serial No. 713,755

9 Claims. (Cl. 229—16)

The object of my invention is to provide a novel folding box made from a single carton and so constructed that it is possible to fill the box from the bottom before it is completely assembled; to provide a box of this type having a window opening in the top and to allow almost 100% visibility of the contents of the box through the "Cellophane" window from the top; or if the "Cellophane" window is not used, allowing the packing to be completed through the opening in the top.

It is also an object of my invention to provide a box folded so as to form legs and thus afford a raised bottom.

It is also an object of my invention to provide a box so constructed that it may be assembled and packed from the top; or may be partially packed and assembled from the bottom if a "Cellophane" window or its equivalent, is used.

It is also an object of my invention to provide a box that can be securely assembled by the engagement of interlocking tongues and tabs.

I attain these and other objects of my invention by the boxes illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of a blank made in accordance with my invention;

Figure 2 is a perspective view of a portion of the box showing the first step in assembling it by the folding of the sides 3 and extensions 4 and 6, the box resting in inverted position;

Fig. 3 is a perspective view of the box showing the next step in assembling the box with one of the sides 2 completely folded in assembled position;

Fig. 4 is a detail perspective view showing tongue 7 in locked engagement in slit 8;

Fig. 5 is a perspective view of the invention with the sides completely folded but with the bottom open;

Fig. 6 is a perspective view of the box with the bottom folded over ready to be engaged by the tongue 22;

Fig. 7 is a perspective view of the completely assembled box with the bottom engaged by the tongue 21 but still in an inverted position;

Fig. 8 is a perspective view of the box assembled and right side up;

Fig. 9 is a plan view of a blank for a box of similar type but with the parts which raise the bottom from the table omitted; and

Fig. 10 is a perspective view of the blank shown in Fig. 9 in partially assembled position with one of the sides 32 completely folded into place and the opposite side 32 only partially folded and the bottom of the box open.

Like numerals designate like parts in Figs. 1 to 8 inclusive and a new set of numerals designate like parts in Figs. 9 and 10 illustrating the modified form of the invention.

Referring to Figs. 1 to 8 of the drawings, I provide a blank having a portion 1 constituting the top of the box and strips 2 forming opposite sides and strips 3 and 5 forming opposite sides disposed at approximately right angles to the sides 2. Side 3 is provided with flaps or extensions 4 of substantially the same size as the side 3. Side 5 is provided with flaps or extensions 6 of substantially the same size as side 5. Extensions 4 are provided with arcuate tongues 7 and extensions 6 are provided with slits 8 to receive the tongues 7. Sides 2 terminate in the extended portions 9 and 10, the portion 10 being scored at 11 and the portion 9 being scored at 13 to facilitate folding. I also provide a scored tongue 12 on extended portion 10 of side 2.

I provide a suitable scoring 14 between top 1, sides 2, 2, 3 and 5. I provide a scoring 15 between side 5 and extended portion 16 which connects side 5 with bottom 18. Bottom 18 is provided with a short flap 19 and a slit 20 extending along a portion of the scoring between members 18 and 19 to receive the tongue 22. On opposite side 3 I provide a tongue 21 having a scored end 22 to facilitate folding. On bottom 18 I provide the spaced opposite tabs 23, two on each of the opposite sides, as shown in Fig. 1. I provide the slot 24 in opposite sides 2 and the slot 25 in side 5. I provide a slot 26 in each of the side extensions 4 and a slot 27 of same size in each of the side extensions 6.

In the top member 1 I provide a suitable window 28 of relatively large size which is covered by a "Cellophane" pane 29 or by other suitable transparent material.

The manner of assembling the box is illustrated in successive figures of the drawings. As shown in Fig. 2 the sides 3 and 5 are first folded into an upright position and the extensions 4 and 6 are folded inwardly to overlap each other. The opposite sides 2 are then folded into an upright position overlapping strips 4 and 6 as shown in Fig. 3. The arcuate tongues 7 of extensions 4 are engaged in the slits 8 of extensions 6 as shown in Fig. 4. The tongues 12 on the extended portions 10 and 9 of sides 2 are inserted in the slits 8 as most clearly shown in Fig. 5, to secure the sides 2 in assembled position as illustrated in that figure. The double scoring at 11 and 13 is

essential to permit of the folding for the engagement of tongue 12 in the slit as shown in Fig. 5 and above described.

When the box is assembled in this position it may be filled with the goods which it is to hold or carry. The bottom member 18 may then be folded over as shown in Fig. 6 and the tongue end 22 inserted through the slot 20 while the end flap 19 is inserted inside the side 3 as indicated in Fig. 6. When this operation is completed the carton will present the appearance shown in Fig. 7 with the box completely assembled but with the bottom side up. The box may then be inverted and it will appear as shown in Fig. 8.

With this construction of the box the manufacturer may assemble and pack from the top if the window 28 is left open or he may partially pack and assemble from the bottom where a "Cellophane" pane 29, or its equivalent, is used.

Referring to Figs. 9 and 10 of the drawings, there is illustrated another form of my invention which does not have a raised bottom. In this form of the invention I provide a top 31, opposite sides 32, a side 33 with flaps or extensions 34, and a side 35 with flaps or extensions 36. The sides 34 are provided with arcuate tongues 37 and the extensions 36 are provided with slits 38 to receive the tongues 37. Sides 32 are provided with extended portions 39 which in turn carry the tongues 42. A scoring 43 is provided between members 32 and 39. I provide a scoring 44 extending around all edges of the top 31 as shown in Fig. 9.

I provide a bottom 48 integral with side 35 and separated from it by a suitable scoring 40. Bottom 48 is provided with an end flap 49 and with side flaps 53. I provide a slit 50 extending along the portion of the scoring between flap 49 and bottom 48, as shown in Fig. 9. On side 33 I provide a tongue 51 and having a scoring end 52 adapted to be inserted in the slit 50 when the bottom is folded into assembled position in a manner similar to that of the other form of my box as illustrated in Fig. 6 of the drawings. The bottom 31 is provided with a large window opening 58 and if desired, this may be covered by a suitable "Cellophane" or other appropriate transparent pane.

In assembling the box, the sides 33 and 35 are folded into an upright position and the extensions 34 and 36 are folded into an overlapping position and the arcuate tongue 37 of extension 34 is engaged in the slit 38 of extension 36. The sides 32 are then folded into an upright position overlapping extensions 36 and 34 and the tongue 42 is in turn inserted in the slit 38. The bottom 48 is then folded into place with the side flaps 53 folded inside the box and the end flap 49 also folded inside the box, the tongue members 52 and 51 being inserted through the slit 50 to fasten the box in its assembled position. The box may then be inverted to a right-side-up position, with the "Cellophane" window at the top.

It is within the contemplation of my invention to omit the "Cellophane" window pane in either form of my box or to substitute a transparent pane of other suitable material. It is also within the contemplation of my invention to modify the shape of the sides of the box, if desired, to form a square box instead of one that is the inverted frustum of a pyramid, as shown in the drawings.

What I claim is:—

1. A one piece folding box consisting of a blank having a top, said top having a window opening, like sides each having a plurality of scored extended portions, a tongue on the outermost of said scored extended portions, and each having slots extending through scored portions to form legs for the box, a third side integral with the top, said side having lateral flaps, the flaps each having tongues and also having slots corresponding in size with one-half of the slots in the first mentioned sides, the side having a central scored tongue, a fourth side having lateral extensions, said extensions having slits to receive the tongues of the flaps which they overlap, the aforesaid side having a scored extension, a bottom member integral with said scored extension, a slot in the side corresponding in size with the slots in the other side members, the bottom member having an end flap, and having a plurality of tabs on each of its sides, the aforesaid bottom also having a slit disposed between the end flap and the bottom along the scored portion to receive the tongue of the opposite side member when the blank is folded into an assembled position to form the box.

2. A one piece folding box consisting of a blank having a top, said top having a window opening, like sides each having a plurality of scored extended portions, a tongue on the outermost of said scored extended portions, and each having slots extending through scored portions to form legs for the box, a third side integral with the top, said side having lateral flaps, the flaps each having tongues and also having slots corresponding in size with one-half of the slots in the first mentioned sides, the side having a central scored tongue, a fourth side having lateral extensions, said extensions having slits to receive the tongues of the flaps which they overlap, the aforesaid side having a scored extension, a bottom member integral with said scored extension, a slot in the side corresponding in size with the slots in the other side members, the bottom member having an end flap, the aforesaid bottom also having a slit disposed between the end flap and the bottom along the scored portion to receive the tongue of the opposite side member when the blank is folded into an assembled position to form the box.

3. A one piece folding box consisting of a blank having a top, said top having a window opening, like sides each having a plurality of scored extended portions, a tongue on the outermost of said scored extended portions, and each having slots extending through scored portions to form legs for the box, a third side integral with the top, said side having lateral flaps, the flaps each having tongues corresponding in size with one-half of the slots in the first mentioned sides, the side having a central scored tongue, a fourth side having lateral extensions, the aforesaid side having a scored extension, a bottom member integral with said scored extension, a slot in the side corresponding in size with the slots in the other side members, the bottom member having an end flap, the aforesaid bottom also having a slit disposed between the end flap and the bottom along the scored portion to receive the tongue of the opposite side member when the blank is folded into an assembled position to form the box.

4. A one piece folding box consisting of a blank having a top, said top having a window opening, like sides each having extended portions, a tongue on the outermost of said extended portions, and each having slots to form legs for the box, a third side integral with the top, said side having lateral flaps, the flaps each having tongues corresponding in size with one-half of the slots in the

first mentioned sides, the side having a central scored tongue, a fourth side having lateral extensions, the aforesaid side having a scored extension, a botom member integral with said scored extension, a slot in the side corresponding in size with the slots in the other side members, and the bottom member having an end flap.

5. A one piece folding box consisting of a blank having a top, like sides each having extended portions, a tongue on the outermost of said extended portions, and each having slots to form legs for the box, a third side integral with the top, said side having lateral flaps, the flaps each having slots corresponding in size with one-half of the slots in the first mentioned sides, the side having a central scored tongue, a fourth side having lateral extensions, the aforesaid side having a scored extension, a bottom member integral with said scored extension, a slot in the side corresponding in size with the slots in the other side members, and the bottom member having an end flap.

6. A one piece folding box consisting of a blank having a top, said top having a window opening, opposite like sides each having an extended portion, a tongue on each of said extended portions, a third side integral with the top, said side having lateral extensions, said extensions having tongues, said side also having a scored tongue, a fourth side having like lateral extensions, said extensions having slits engageable by the tongues of the previously mentioned extensions of the opposite side member when the extensions are folded in overlapped position in assembling the box, a bottom member integral with said fourth side member, end and side flaps on said bottom member, a slit along the edge portion of said bottom member to receive the tongue of the opposite side member when the box is folded in assembled position.

7. A one piece folding box consisting of a blank having a top, opposite like sides each having an extended portion, a tongue on each of said extended portions, a third side integral with the top, said side having lateral extensions, said extensions having tongues, said side also having a scored tongue, a fourth side having like lateral extensions, said extensions having slits engageable by the tongues of the previously mentioned extensions of the opposite side member when the extensions are folded in overlapped position in assembling the box, a bottom member integral with said fourth side member, end and side flaps on said bottom member, a slit along the edge portion of said bottom member to receive the tongue of the opposite side member when the box is folded in assembled position.

8. In combination with the box defined in claim 5, the respective edges of the sides of the box being downwardly slanted whereby the assembled box will form an inverted frustum of a pyramid.

9. In combination with the box defined in claim 6, the edges of the sides of said box tapering downwardly whereby the box will form an inverted frustum of a pyramid.

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