

Nov. 19, 1968

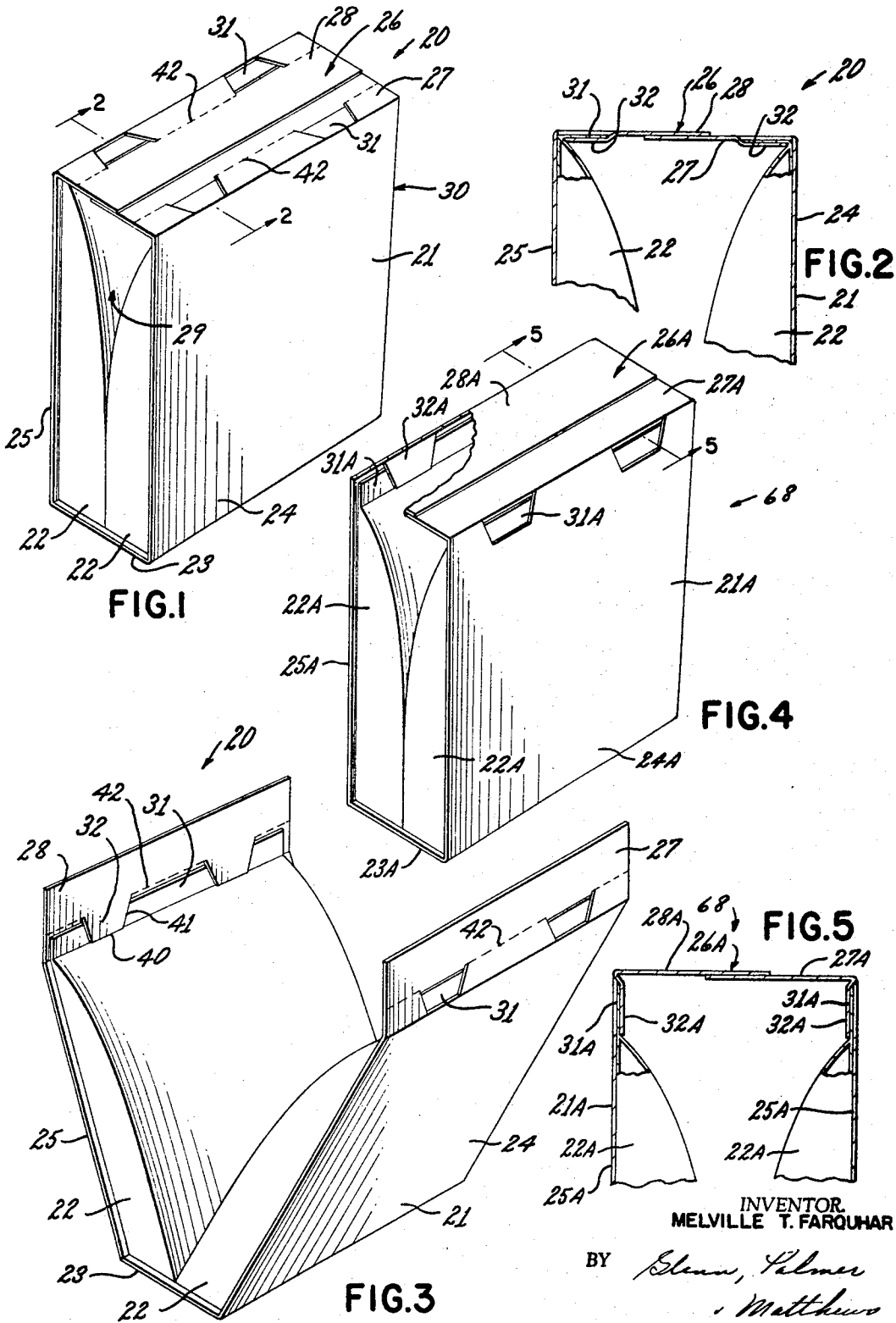
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3,411,264

METHOD FOR MAKING A CONTAINER CONSTRUCTION THAT HOLDS
PRODUCT CONTAINING POUCH MEANS THEREIN

Filed Aug. 7, 1963

4 Sheets-Sheet 1



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4 Sheets-Sheet 2

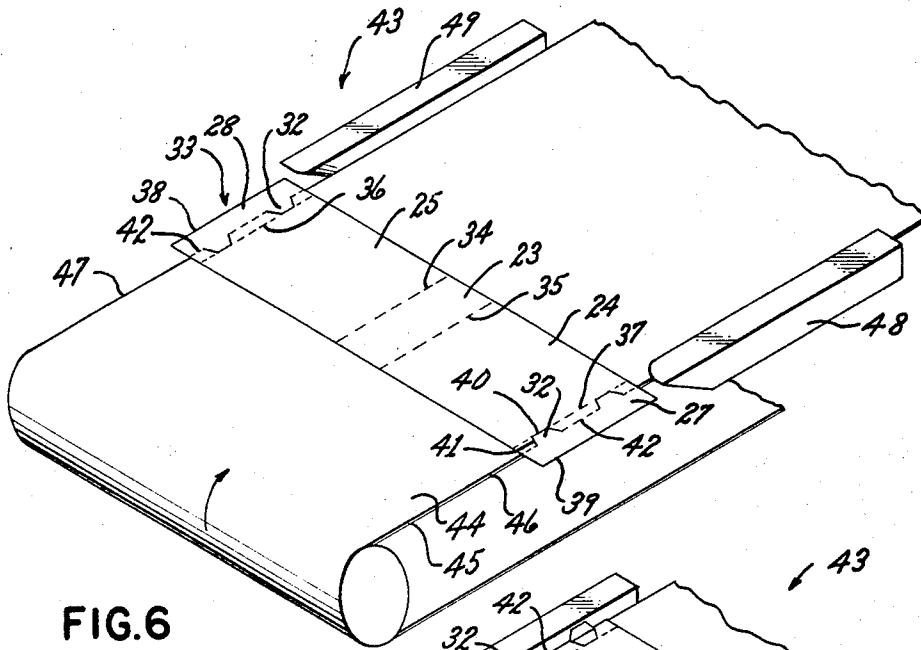


FIG. 6

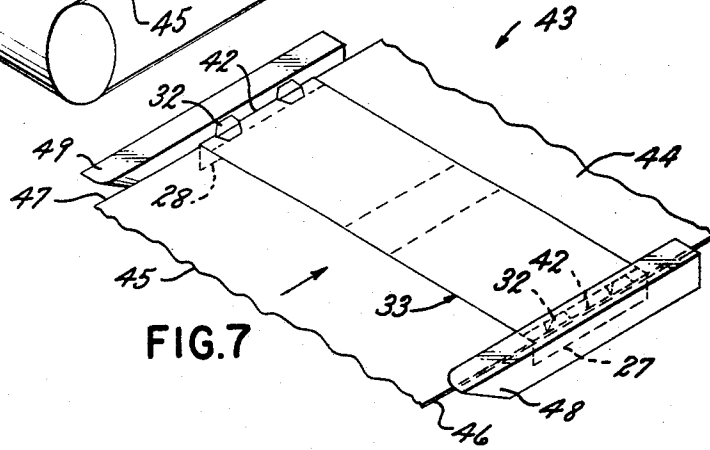


FIG. 7

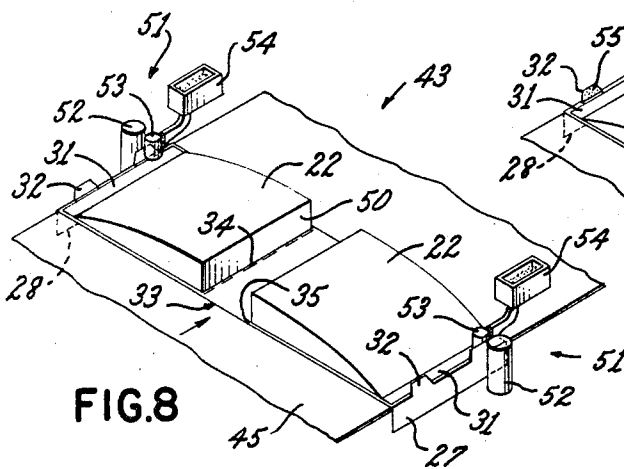


FIG. 8

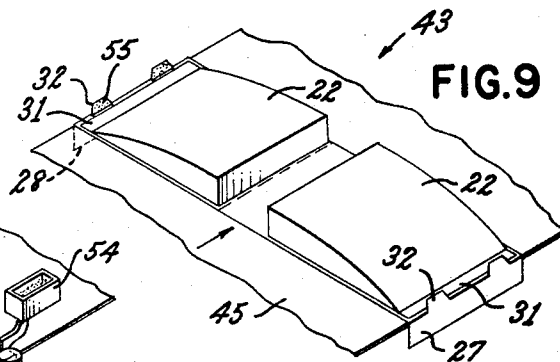


FIG. 9

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4 Sheets-Sheet 3

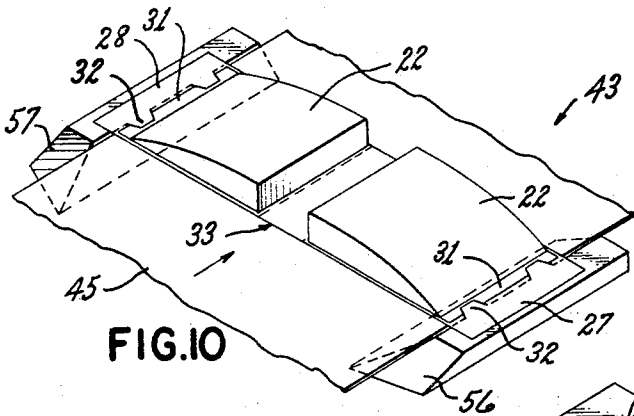


FIG. 10

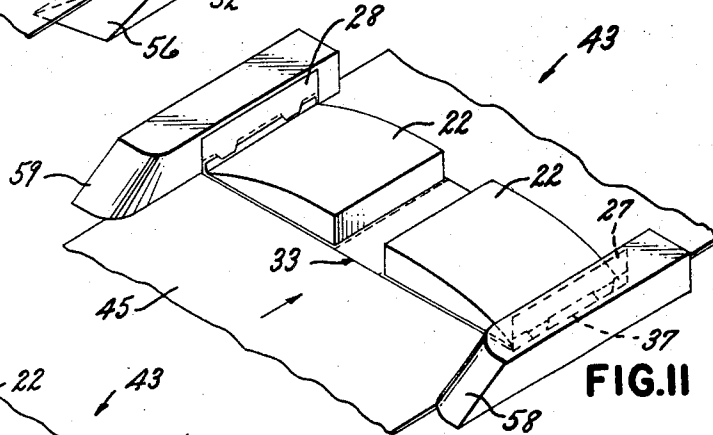


FIG. 11

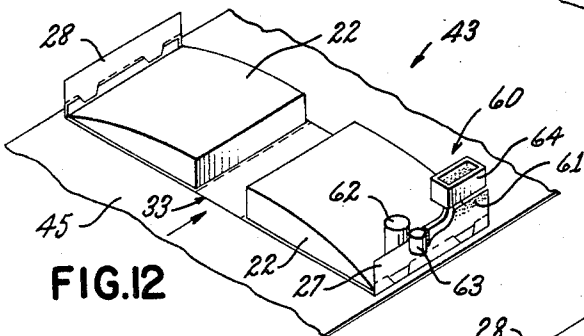


FIG. 12

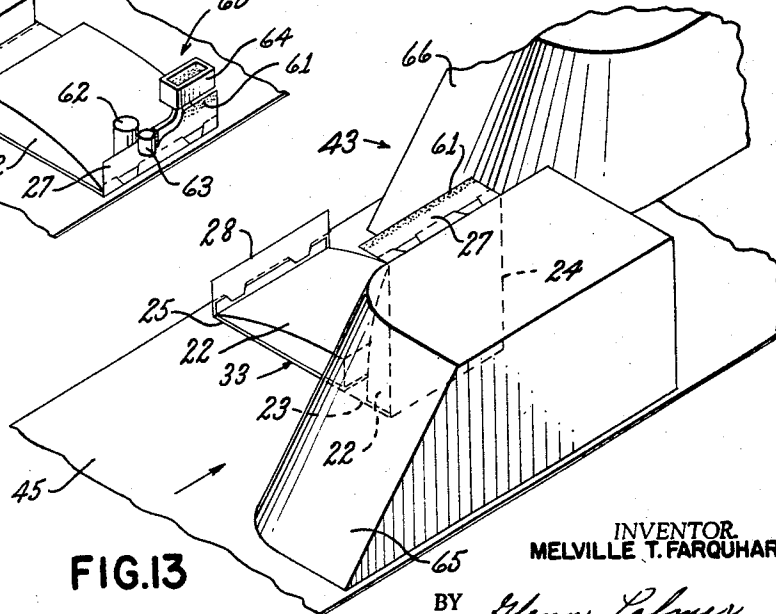


FIG. 13

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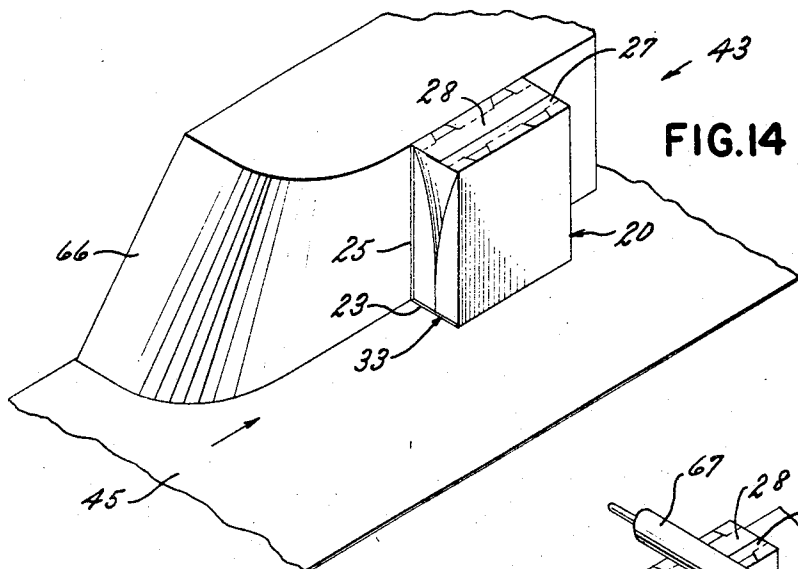


FIG. 14

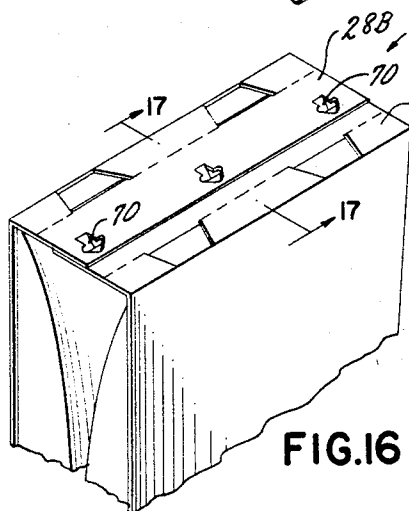


FIG. 16

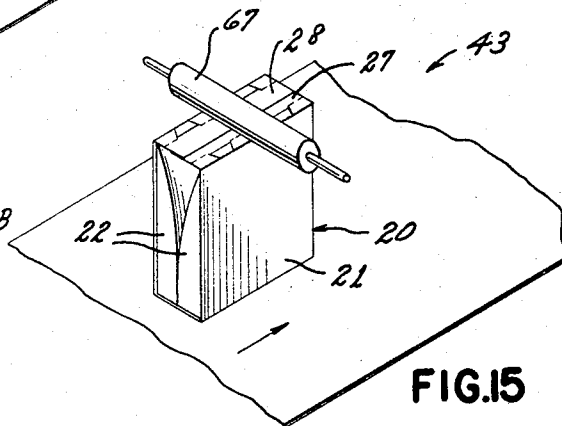


FIG. 15

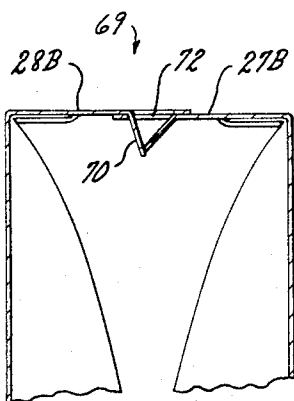


FIG. 17

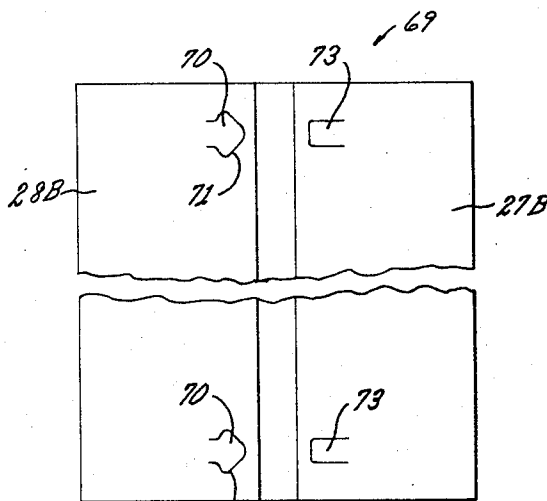


FIG. 18

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METHOD FOR MAKING A CONTAINER CONSTRUCTION THAT HOLDS PRODUCT CONTAINING POUCH MEANS THEREIN

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Filed Aug. 7, 1963, Ser. No. 300,446
1 Claim. (Cl. 53—29)

ABSTRACT OF THE DISCLOSURE

This disclosure relates to a container means having opposed open end walls and integral tab means carved from certain of the walls of the container means to hold flexible product containing pouch constructions within the container, the tab means each being substantially rigidly hinged to the wall from which it is carved whereby the tab means has a natural resiliency to remain coplanar with its respective wall so that when a substantially flat edge means of a pouch construction is disposed between the tab means and its associated wall, the natural tendency of the tab means holds the edge means of the pouch construction against its associated wall of the container.

This invention relates to an improved container construction or the like as well as to improved methods and apparatus for making such a container or the like.

It is well known from the copending patent application, Serial No. 278,827, filed May 8, 1963, now Patent No. 3,223,233, and entitled, "Container Constructions and Blanks for Making the Same or the Like," that a protective container construction can be provided for one or more product-containing pouch means formed of flexible material, such as metallic foil or metallic foil laminations, the container comprising cardboard or the like suitably cut and scored so that the same forms a substantially rectangular configuration to house the pouch means therein while the container has opposed open ends.

In this manner, the pouch means can be temporarily secured to the cardboard container or the like so that the resulting package construction is relatively sturdy in order to stand rough handling and abuse during shipment, storage and merchandising of the same as well as providing a substantially pilfer-proof container construction.

One of the features of this invention is to provide an improved means for temporarily securing such pouch means in such a container construction.

Other features of this invention are to provide improved methods and apparatus for making such a container construction or the like.

Accordingly, it is an object of this invention to provide an improved container construction or the like having one or more of the novel features set forth above or hereinafter shown or described.

Another object of this invention is to provide an improved method for making such a container construction or the like.

A further object of this invention is to provide an improved apparatus for making such a container construction or the like.

Other objects, uses and advantages of this invention are apparent from a reading of this description which proceeds with reference to the accompanying drawings forming a part thereof and wherein:

FIGURE 1 is a perspective view illustrating one embodiment of the improved container construction of this invention.

FIGURE 2 is a fragmentary, cross-sectional view taken along lines 2—2 of FIGURE 1.

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FIGURE 3 is a perspective view illustrating one method for initially opening the container construction of FIGURE 1.

FIGURE 4 is a view similar to FIGURE 1 and illustrates another embodiment of the container construction of this invention.

FIGURE 5 is a fragmentary, cross-sectional view taken on line 5—5 of FIGURE 4.

FIGURE 6 is a schematic perspective view illustrating part of the apparatus and method of this invention for forming the container construction of FIGURE 1.

FIGURE 7 is a view similar to FIGURE 6 illustrating another step in the method and apparatus of this invention.

FIGURES 8—15 are views similar to FIGURE 6 and respectively illustrate other steps in the method and apparatus of this invention for forming the completed container of FIGURE 1.

FIGURE 16 is a fragmentary perspective view illustrating still another container construction of this invention.

FIGURE 17 is an enlarged, fragmentary, cross-sectional view taken on line 17—17 of FIGURE 16.

FIGURE 18 is a top view of the container construction illustrated in FIGURE 16 when the top flaps thereof are partially opened.

While the various features of this invention are hereinafter illustrated and described as being particularly adaptable for forming a container construction having product-containing pouch means therein, it is to be understood that the various features of this invention can be utilized singly or in any combination thereof to provide other container constructions or the like.

Therefore, this invention is not to be limited to only the embodiments illustrated in the drawings, because the drawings are merely utilized to illustrate one of the wide variety of uses of this invention.

Referring now to FIGURES 1, 2 and 3, an improved container construction of this invention is generally indicated by the reference numeral 20 and comprises an outer substantially rectangular and rigid container 21 housing therein a pair of product-containing pouch means 22 in a manner hereinafter described.

While the container 21 can comprise any suitable material, the embodiment thereof illustrated in the drawing comprises cardboard or the like having the exterior surface thereof either remaining plain or being provided with a decorative covering of metallic foil or the like, such as aluminum-containing metallic foil or the like carrying decorative means, informational or advertising media or remaining plain, as desired.

The container 21 comprises a bottom wall means 23, a pair of opposed side wall means 24 and 25 and a top wall means 26, the top wall means 26 comprising a pair of top flaps 27 and 28 respectively interconnected to the side wall means 24 and 25 and temporarily secured in overlapping relation in the manner illustrated in FIGURE 1 to close the top of the container construction 20.

Therefore, it can be seen that the container construction 20 is substantially rectangular while having opposed open ends 29 and 30.

The product-containing pouch means 22 illustrated in FIGURES 1—3 can be formed of any suitable material in any suitable manner.

For example, the product-containing pouch means 22 can be formed in any of the manners set forth in the aforementioned copending patent application whereby the product-containing pouch means 22 are formed from substantially flexible material secured together to retain the desired product therein, each product-containing pouch means 22 having an upper seam 31 as illustrated in FIGURES 2 and 3.

Each top flap 27 and 28 of the container 21 of this

invention is provided with a plurality of tab means 32 carved therefrom as illustrated in FIGURE 1 whereby the top seam or edge 31 of each pouch means 22 is adapted to be disposed between the tab means 32 and the under surface of the respective top flap 27 or 28 in the manner illustrated in FIGURES 2 and 3. In this manner, the pouch means 22 are adapted to be temporarily held in the container 21.

If desired, the top edges or seams 31 of the pouch means 22 can be temporarily secured to the tab means 32 of the container 21 or can merely be held in the container 21 by the natural resiliency of the tab means 32 tending to return to the normal plane of the respective closure flaps 27 and 28.

Therefore, it can be seen that an improved container construction is provided by this invention which has all of the advantages of the container constructions set forth in the aforementioned copending patent application while still having improved means for temporarily trapping the product-containing pouch means 22 therein.

When the ultimate consumer desires to open the container construction 20 of this invention, the ultimate consumer merely breaks the securement between the overlapping top flaps 27 and 28 in the manner illustrated in FIGURE 3 to move the side walls 24 and 25 of the container 21 away from each other so that the product-containing pouch means 22 can be removed from the container 21.

For example, when the tab means 32 are merely holding the pouch means 22 in the container 21 by the natural resiliency of the tab means 32 tending to return to the normal plane of the flaps 27 and 28, the product-containing pouch means 22 can have the top edges 31 thereof readily removed from under the tab means 32.

Similarly, should the tab means 32 be temporarily secured to the top edges 31 of the product-containing pouch means 22 by a suitable adhesive in a manner hereinafter described, the tab means 32 can be readily peeled from the top edges 31 of the product-containing pouch means 22 when the container 21 is disposed in its fully opened position in the manner illustrated in FIGURE 3 to readily release the product-containing pouch means 22.

However, it may be found that when the tab means 32 are merely utilized to hold the product-containing pouch means 22 in the container 21 by the natural resiliency of the tab means 32 tending to return to the normal plane of the top flaps 27 and 28, the product-containing pouch means 22 can be removed from the container 22 without opening the flap means 27 and 28 thereof by merely grasping the desired pouch means 22 at an open end 29 or 30 of the container 21 and pulling endwise on the same so that the same will readily slip out of the container 21. In this manner, only one product-containing pouch means 22 need be removed from the container 21 while the other pouch means 22 can remain therein so that the container construction 20 can remain in the configuration illustrated in FIGURE 1 for storage of the remaining product-containing pouch means 22.

While the container 21 of the invention can be formed in any suitable manner, the embodiment thereof illustrated in the drawings is formed from a substantially rectangular blank 33 illustrated in FIGURE 6 and suitably cut and scored to define the bottom wall means 23 between parallel and spaced score or fold lines 34 and 35, the side wall means 25 between a score or fold line 36 and the score or fold line 34, the side wall 24 between a score or fold line 37 and the score or fold line 35, the top flap 28 between the score or fold line 36 and the free edge 38 of the blank 33 and the top flap 27 between the score or fold line 37 and the opposed free edge 39 of the blank 33.

The tab means 32 of the container 21 previously described are respectively carved from the top flaps 27 and 28 of the blank 33 and can have any suitable configuration. For example, each tab means 32 of the blank 33 illustrated in FIGURE 6 are substantially trapezoidal and have the bases thereof integrally hinged to the respective

flap 27 or 28 while its smaller end 40 extends to the respective score line 37 or 36 in the manner illustrated in FIGURE 6, the tapering sides 41 of each flap 32 also being die cut from the blank 33.

Each top flap 27 and 28 of the blank 33 is provided with a score or fold line 42 which extends parallel to the score or fold lines 36 and 37 at the bases of the tab means 32. However, the score lines 42 do not extend across the tab means 32 for a reason which will be apparent hereinafter.

Therefore, it can be seen that the blanks 33 of this invention are relatively simple and economical to form while the same are still adapted to provide the unique container construction 20 of this invention in a manner now to be described.

While the container construction 20 of this invention can be formed by any suitable method and apparatus, one embodiment of the method and apparatus of this invention is generally indicated by the reference numeral 43 throughout FIGURES 6-15.

As illustrated in FIGURE 6, each blank 33 is adapted to be positioned on an upper run 44 of a continuous belt 45 traveling in the direction indicated by the arrows throughout FIGURES 6-15, the blank 33 being so positioned on the belt 45 that the opposed edges 46 and 47 of the upper run 44 of the belt 45 corresponds to the score lines 42 of the blank 33.

The blank 33 is adapted to be held on the belt 45 in any suitable manner. For example, the blank 33 can be held on the belt 45 in such a manner that the same will travel in unison therewith by suction means, adhesive means or hold-down means moving in unison with the belt 45 as desired.

After the blank 33 has been positioned on the upper run 44 of the belt 45 in the manner illustrated in FIGURE 6, the same travels to the right in unison with the belt 45 and has the flaps 27 and 28 thereof respectively contact folding plows or means 48 and 49 which fold the extreme outer ends of the flaps 27 and 28 downwardly over the edges 46 and 47 of the belt 45 in the manner illustrated in FIGURE 7 whereby the tab means 32 extend substantially vertically upwardly from the blank 33 in the manner illustrated in FIGURE 7, the outer edges of the flap means 27 and 28 being so folded on the score or fold lines 42 thereof. Since the scores 42 do not extend across the tab means 32, the same are moved vertically upwardly out of the plane of the blank 33 by the plows 48 and 49 in the manner illustrated in FIGURE 7.

After the blank 33 has passed through the folding plows 48 and 49 in the manner illustrated in FIGURE 7, the outer ends of the flap means 27 and 28 remain folded downwardly in the manner illustrated in FIGURE 8 whereby the product-containing pouch means 22 can be placed on the blank 33 in the manner illustrated in FIGURE 8 with the bottom edges 50 of the pouch means 22 respectively coinciding with the score or fold lines 34 and 35 while the upper edges 31 thereof are disposed closely adjacent the vertically disposed tab means 32.

After the pouch means 22 have been placed in the manner illustrated in FIGURE 8, the traveling belt 45 carries the blank 33 and pouch means 22 to suitable gluing apparatus 51 which apply a suitable adhesive to the under surface of the tab means 32 if the tab means 32 are to be utilized to temporarily secure the pouch means 22 in the container construction 20 by means other than the natural resiliency of the tab means 32.

However, if the tab means 32 are merely to be utilized to hold the pouch means 22 in the container construction 20 by only the natural resiliency of the tab means 32 tending to return to the normal plane of the flap means 27 and 28, the gluing apparatus 51 illustrated in FIGURE 8 can be eliminated from the apparatus 43 of this invention.

As illustrated in FIGURE 8, each gluing apparatus is generally indicated by the reference numeral 51 and

comprises a backup roller 52 and an applicator roller 53 receiving suitable adhesive from a reservoir 54, each tab means 32 passing between the nip of the rollers 53 and 52 and receiving adhesive 55 on the side thereof which is subsequently to contact the seam 31 of the respective pouch means 22 in the manner illustrated in FIGURE 9.

After the adhesive 55 has been applied to the tab means 32 in the manner previously described, the traveling belt 45 brings the blank 33 and pouch means 22 into contact with folding means or plows 56 and 57 which respectively bend or fold the bent portions of the flap means 27 and 28 back into the plane of the blank 33 in the manner illustrated in FIGURE 10 whereby the tab means 32 are pressed against the upper edges 31 of the pouch means 22 to be secured thereto by the adhesive 55.

After the previously bent portion of the flap means 27 and 28 have been rebent into the plane of the blank 33, the traveling belt 45 brings the blank 33 and assembled pouch means 22 into contact with a pair of folding means or plows 58 and 59 in the manner illustrated in FIGURE 11 to fold the top flaps 27 and 28 upwardly relative to the remainder of the blank 33 in the manner illustrated in FIGURE 11 along the scores 37 and 37.

Thereafter, the belt 45 brings the blank 33 and assembled pouches 22 to a gluing apparatus 60 which applies a suitable adhesive 61 to the outer surface of the top flap 27 in the region thereof to secure the top flaps 27 and 28 in the overlapping relation when the flap 27 is to be overlapped by the flap 28 in the manner illustrated in FIGURE 1. For example, the gluing apparatus 60 can comprise a backup roller 62 and an adhesive applicator roller 63 receiving adhesive from a suitable reservoir 64, the top flap 27 passing between the nip of the rollers 62 and 63 in the manner illustrated in FIGURE 12.

After the adhesive 61 has been applied to the exterior surface of the flap 27, the belt 45 brings the blank 33 and assembled pouches 22 to a folding plow 65 which folds the side wall 24 at a right angle relative to the bottom wall means 23 in the manner illustrated in FIGURE 13.

Thereafter, the other side wall 25 of the blank 33 is folded at a right angle relative to the bottom wall means 23 by a similar plow means 66 in the manner illustrated in FIGURE 14 whereby the top flap 28 is disposed over the top flap 27 to substantially complete the container construction 20.

If desired, the top flaps 27 and 28 can be compressed together to enhance the securing effect of the adhesive 61 by passing the container construction 20 beneath a compressing roll 67 in the manner illustrated in FIGURE 15 whereby the apparatus 43 has completed the container construction 20 of this invention.

Therefore, it can be seen that the method and apparatus 43 of this invention are adapted to continuously and rapidly form the container constructions 20 from the flat blanks 33 of this invention whereby the pouch means 22 are readily trapped in the containers 21 by the tab means 32 in the manner previously described.

While the tab means 32 have been previously described as being formed in the top flaps 27 and 28 of the containers 21, it is to be understood that the tab means 32 could be formed in other parts of the container 21 to perform the securing effect previously described for the pouch means 22.

For example, another container construction of this invention is generally indicated by the reference numeral 68 in FIGURES 4 and 5. Since the container construction 68 of this invention is substantially similar to the container construction 20 previously described, like parts between the container constructions 68 and 20 will be indicated by like reference numerals followed by the reference letter A.

As illustrated in FIGURES 4 and 5, the container con-

struction 68 comprises the container 21A having a bottom wall means 23A, opposed side wall means 24A and 25A and top wall means 26A provided by a pair of overlapping top flaps 27A and 28A respectively secured to the side wall means 24A and 25A.

However, the top flaps 27A and 28A of the container 21A are not provided with the tab means 32 previously described whereby the same do not have the score or fold lines 42 previously described.

Instead, the opposed side wall means 24A and 25A respectively have the tab means 32A carved therefrom whereby the bases of the tab means 32A are respectively hinged to the carton 21A at the top edges of the side wall means 24A and 25A thereof.

In this manner, the upper edges 31A of the product-containing pouch means 22A are adapted to be disposed between the tab means 32A and the interior surfaces of the side wall means 24A and 25A in the manner illustrated in FIGURES 4 and 5 whereby the product-containing pouch means 22A are secured within the carton 21A, the tab means 32A either being adhesively secured to the upper edges 31A of the product-containing pouch means 22A in the manner previously described or merely holding the product-containing pouch means 22A in the container 21A by the natural resiliency of the tab means 32A tending to return to the normal plane of the side wall means 24A and 25A in the manner previously described.

The apparatus 43 previously described can also be utilized to form the container construction 68 of this invention except that the belt 45 and the plows 48 and 49 are so constructed and arranged that the same bend down the top flaps 27A and 28A at their juncture with the side walls 24A and 25A as the blank of the container construction 68 passes between the plows 48 and 49 previously described.

Therefore, it can be seen that another container construction is provided by this invention wherein tab means of the container are utilized to retain the product-containing pouch means therein.

While the various container constructions of this invention have been previously described with the overlapping top flap means thereof being adhesively secured together, it is to be understood that the overlapping flap means of the container constructions of this invention could be mechanically interlocked together whereby the container construction could be formed without any gluing operations because the product-containing pouch means could be retained therein by the natural resiliency of the tab means previously described.

For example, another container construction of this invention is generally indicated by the reference numeral 69 in FIGURES 16-18 and parts thereof similar to the container construction 20 previously described are indicated by like reference numerals followed by the reference letter B.

As illustrated in FIGURES 16 and 17, the container construction 69 of this invention is substantially identical to the container construction 20 previously described except that the overlapping flap means 27B and 28B thereof are mechanically interlocked together in overlapping relation rather than adhesively secured together in the manner provided by the container construction 20.

In particular, the top flap 28B is provided with a plurality of die cut tabs 70 respectively having enlarged free ends 71 adapted to register with and project into slots 72 formed in the underlying flap means 27B and respectively defined by die cut tab means 73 formed therein in the manner illustrated in FIGURE 18.

Thus, by merely disposing the flaps 27B and 28B in overlapping relation in the manner illustrated in FIGURE 16 and pushing the tabs 70 of the flap means 28B downwardly, the same would force the tabs 73 of the flap 27B downwardly so that the enlarged ends of the tabs 70 project through the slots 72 in the flap means

27B and interlock therewith in the manner illustrated in FIGURE 17.

Thus, it can be seen that the container constructions of this invention can be provided with mechanical locking means to interlock the top flaps thereof in the closed position to complete the container constructions of this invention without any gluing operations if desired.

Similarly, it can be seen that not only does this invention provide improved container constructions of the types set forth in the aforementioned copending patent application, but also this invention provides improved methods and apparatus for making such container constructions or the like.

While the form of the invention now preferred has been disclosed as required by the statutes, other forms may be used, all coming within the scope of the claims which follow.

What is claimed is:

1. A method for making a package construction comprising the steps of providing a flat container blank having a pair of flat top panels, carving at least one tab means from each top panel so that said tab means are each substantially rigidly hinged to its respective top panel and thereby has a natural tendency to remain coplanar with its said respective top panel, folding said top panels of said blank so that said tab means thereof extend at right angles to wall means of said blank, disposing product containing pouch means on said wall means with edge means of said pouch means disposed adjacent said tab means, folding back said top flaps of said blank so that said natural tendency of said tab means forces said edge means of said pouch means

against said top panels and holds said pouch means to said blank, folding said blank so that opposed side wall means thereof are brought at substantially right angles to bottom wall means of said blank, and, thereafter, closing the top of said container by overlapping said top panels of said blank.

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