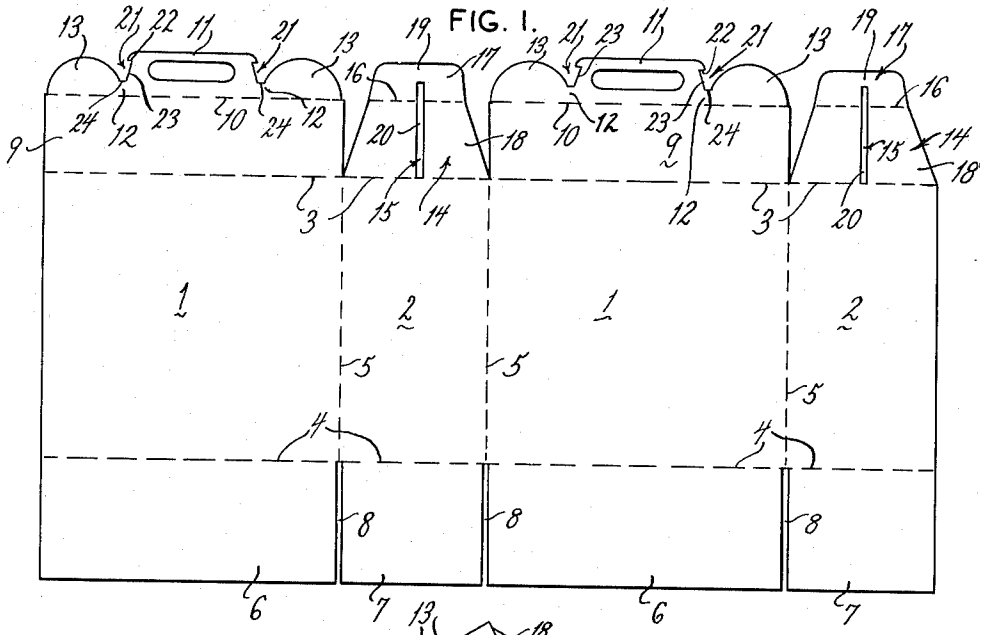
Aug. 9, 1955 H. H. STRAUSS 2,714,982

CONTAINER HANDLE AND CLOSURE

Filed Oct. 6, 1951

FIG. 1.



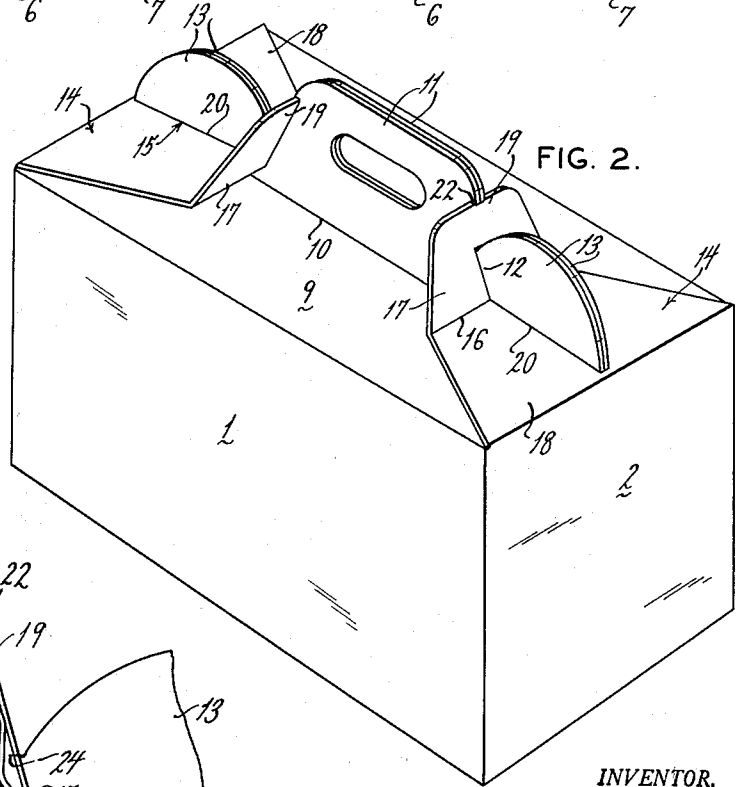
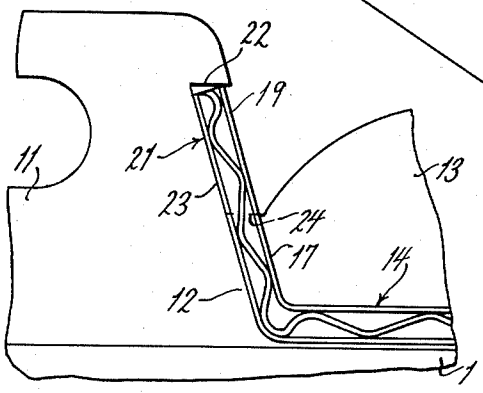


FIG. 2.

FIG. 3.



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CONTAINER HANDLE AND CLOSURE

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6 Claims. (Cl. 229—39)

This invention appertains to a container and more particularly to a novel handle and closure therefor. This invention may be constructed of solid fibreboard, corrugated fibreboard or any other suitable material.

One of the primary objects of this invention is to provide in a container, a combination closure with an automatic, secure locking means, and a braced, rigid handle carrying means.

Another object of this invention is to provide a container closure flap having a closure locking means secure in all directions and means for rigidly bracing a carrying handle.

A further object is to provide a combination closure lock which is easily, automatically and readily secured and disengaged, but not subject to accidental or unintentional unlocking.

A still further object of this invention is to provide a combination rigid carrying means and closure lock whereby any lifting force on the handle is transmitted directly to the container body independently of the closure lock, thus relieving the closure lock of stress.

Another object of this invention is to provide a combination container closing and rigid carrying means which is neat in appearance, sturdy and entirely constructed of one piece of material.

A further object is to provide a container which may be shipped in a knocked-down condition in which a combination carrying and closure means may be set up to an operable state without the use of stitches, glue or other fastening means.

A still further object is to provide a braced carrying handle and secure closure lock which may be engaged and disengaged without the need of depressing the closure members into the container.

Another object is to provide a combination carrying means and closure for a container which is readily adapted for re-use.

Other objects and advantages of this invention will be apparent to those skilled in the art upon a full and complete understanding of the construction and operation of this device.

The invention comprises a combination container closure lock and carrying handle brace, the lock being in a partially slotted tongue foldably and angularly connected to a container end closure flap, the unslotted portion of the locking tongue being received in right angular gripping relation into a locking recess in the carrying handle portion, the carrying handle portion being foldably connected in an upright position to the inner margins of a pair of side closure flaps, the locking tongue rigidly bracing the carrying handle portion against movement in all directions and rigidly retaining the end closure flaps connected thereto into flatwise relation with the upper surfaces of the side closure flaps.

In the figures following, which form a part of the specification, like numerals refer to like parts wherever they are shown.

Fig. 1 is a plan view of a blank embodying a preferred form of this invention,

Fig. 2 is a perspective view of a fabricated container embodying a preferred form of this invention, and

Fig. 3 is a fragmentary side view of a portion of a handle assembly embodying this invention.

In the embodiment of this invention illustrated by the blank shown in Fig. 1, side panels 1 and end panels 2 are defined at their upper margins by top scores 3 and at their bottom margins by bottom scores 4. End scores 5 define the side margins of the end panels 1 and the side panels 2. The bottom scores 4 also define the inner margins of the side panel bottom flaps 6 and the end panel bottom flaps 7. Bottom slots 8 define the inside side edges of the bottom flaps 6 and 7. The portions of the top scores 3 adjacent the upper margin of the side walls 1, also define the lower margin of side panel top flaps 9. The side panel top flaps 9 are defined on their upper edge by handle scores 10 which also define the lower margin of the handle assembly consisting of a handle portion 11, handle web 12 and a handle flange 13. The portions of the top scores 3 adjacent to the upper margin of the end panels 2 also define the lower margins of end panel top flaps 14. The top panel end flaps 14 are provided with central longitudinal slots 15. The upper end edge of the top panel end flaps is defined by a locking score 16 which in turn defines the inner edge of a locking tongue 17. The locking tongue 17 is conveniently divided into a lower slotted portion 18 and an upper unslotted portion 19. The lower portion 18 is provided with a bracing slot 20 which is coextensive with the central longitudinal slots 15. In the embodiment of the invention illustrated, the bracing slot 20 extends substantially midway the length of the locking tongue 17, although any suitable length slot may be used. The end edges of the handle portions 11 are cut to define a locking recess 21 defined by an upper edge 22, a side edge 23 and a lower edge 24.

The container embodying this invention may be assembled in any suitable manner, however, a preferred method is to fold the side panels 1 and end panels 2 to form a right angular enclosure. The abutting free vertical edges of the side panel 1 and the end panel 2 are then sealed together with tape or any other suitable means. The end panel bottom flaps 7 are folded inwardly along the bottom scores 4 to a position at substantially right angles to the end panels 2. The side panel bottom flaps 6 are folded inwardly along the bottom scores 4 and sealed by glue or other means in a position flatwise against the outer faces of the previously positioned end panel bottom flaps 7. The handle portion 11, the handle web 12, and the handle flange 13 are folded upwardly along the handle scores 10 at substantially right angles to the side panel top flaps 9. The side panel top flaps 9 are folded inwardly along the top scores 3 to a position at substantially right angles to the side panels 1. The width of each side panel top flap 9 is such that the inner margins defined by the handle scores 10 meet substantially in edgewise abutting relation. It is therefore evident that the handle assemblies 11, 12 and 13 are in flatwise substantially registering relation to each other.

The locking tongue 17 is folded along the locking score 16 to a position in substantially right angular relation to the end panel top flaps 14. The end panel top flaps 14 are bent inwardly along the top scores 3 to a position flatwise against the upper face of the previously positioned side panel top flaps 9. In this position, the side edges of the central longitudinal slot 15 embrace the lower margin of the handle flange 13. The locking tongue 17 is pivoted inwardly along the locking score 16 until the upper unslotted portion 19 is received by the locking recess 21. In this position, the upper unslotted portion 19 is in sub-

stantially right angular contact with the side edge **23** of the locking recess. The outer free edge of the locking tongue **17** is snugly engaged by the upper edge **22** while the outer edge of the bracing slot **20** is snugly engaged by the lower edge **24** of the locking recess. The container is now ready for use.

The locking tongue **17** is so dimensioned that the distance from the outer free edge to the locking score **16** is substantially equal to the distance from the upper edge **22** of the locking recess to the handle score **10**. With the above predetermined critical dimensions so made, the upper edge **22** of the locking recess forces the locking tongue **17** downward snugly against the upper face of the side panel top flaps **9**. The handle assembly is thus rigidly maintained in position in all directions and the end panel top flaps **14** and the side panel top flaps **9** are snugly maintained in right angular relation to the side and end panels **1** and **2** of the container, thereby providing a tight and effective closure. Any upward lifting force which is transmitted through the handle portion **11** must be transmitted to the body portion of the container outwardly along the handle assembly, underneath the end panel top flaps **14**, and to the upper margin of the end panel **2** and downwardly into the body portion. There is no lifting strain on the locking recess **20** when the container is lifted by the handle. It is apparent that the more snugly the end panel top flaps **14** are held against the side panel top flaps **9**, the more secure will be the lifting handle and the container closure.

The handle assembly and the container closure may be unsecured simply by swinging the locking tongue **17** outwardly along the locking score **16** until the outer free edge thereof is clear of the upper edge **22** of the locking recess **21**. The locking tongue **17** is lifted upwardly and outwardly. This also swings the end panel top flap **14** upwardly and outwardly along the top score **3**. When the end panel top flap **14** has been swung to a position outwardly with respect to the end panel **2**, the side panel top flaps **9** may be readily swung upwardly and outwardly to completely expose the contents of the container. By reversing the above procedure, the container may be reused again.

What I claim as my invention is:

1. In a container having a pair of opposing side walls each having a foldably connected upper marginal side wall flap and a pair of opposing end walls each having a foldably connected upper marginal end wall flap; a combination closure lock and carrying handle comprising a two-ply upright handle assembly, each ply thereof being foldably connected to one of said upper marginal side wall flaps, each ply of said handle assembly being provided with a centrally positioned handle portion and handle reinforcing flanges on the end portions thereof, there being connecting handle webs between said central handle portion and said handle reinforcing flanges, said central handle portion being provided with handholes therethrough and a locking recess in the end edgs thereof, and a locking tongue foldably connected to each of said upper marginal end wall flaps along a locking tongue score line spaced in parallel relation to the said foldable connection to the upper margin of said end walls, said upper marginal end wall flap being provided with a slot therethrough extending right angularly from the center of said locking tongue score to the said foldable connection with the upper margin of said end wall, said end wall flap slot being spaced to receive said handle reinforcing flange, said

locking tongue being provided with a bracing slot colinearly disposed to and continuing from said end wall flap slot to a point short of the free edge of said locking flap, the side edges of said bracing slot being spaced and positioned to grip said handle webs when said end wall flaps are disposed flatwise against the end margins of said side wall flaps and said locking tongues are disposed angularly upward and the unslotted portion of said locking flap is received by said locking recess, said locking recess having upper and lower marginal edges spaced and positioned to snugly grip the outer free edge of said locking tongue and the outer end edge of said bracing slot.

2. The combination set forth in claim 1 wherein the inner edges of the folded upper marginal side wall flaps meet in edgewise abutting relation and the handle assemblies connected thereto are positioned in upstanding flatwise relation.

3. The combination set forth in claim 2, wherein, when the container is in erected condition, the upper edge of the locking recess is spaced from the said locking score, a distance substantially equal to the distance between the outer free edge of said locking tongue to the locking score at the base thereof.

4. The combination set forth and claimed in claim 3 wherein the upper end edge of said locking recess firmly grips and locks the outer free edge of said locking tongue and the portion of the locking flap adjacent to the outer margin of the bracing slot firmly engages the portion of the handle member adjacent the lower edge of the locking recess.

5. The combination set forth and claimed in claim 4 wherein the height of said handle flange is greater than the length of said bracing slot.

6. A container having a combination closure and carrying means, said container comprising a bottom, opposing side walls and end walls, said side walls and said end walls being provided with foldably connected, inwardly disposed, upper marginal flaps, the free edges of said upper marginal side wall flaps being in substantially abutting relationship midway the width of said container and provided with upstanding handle forming portions, said handle forming portions having locking recesses in their end edges, said upper marginal end wall flaps being disposed inwardly in flatwise contacting relation with the end margins of the adjacent upper marginal side wall flaps, said end wall flaps being provided with a locking score disposed in right angular relation with the adjacent end of the upstanding handle forming portions, the outer free edge of said upper marginal end wall flaps being disposed angularly upward about said locking score to provide a locking flap which is snugly and immovably received in said locking recess in said handle forming portions, said locking flap having a centrally disposed slot terminating in spaced relation to the free end edge thereof, said slot firmly receiving projecting end portions of said handle forming parts.

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