

Aug. 23, 1960

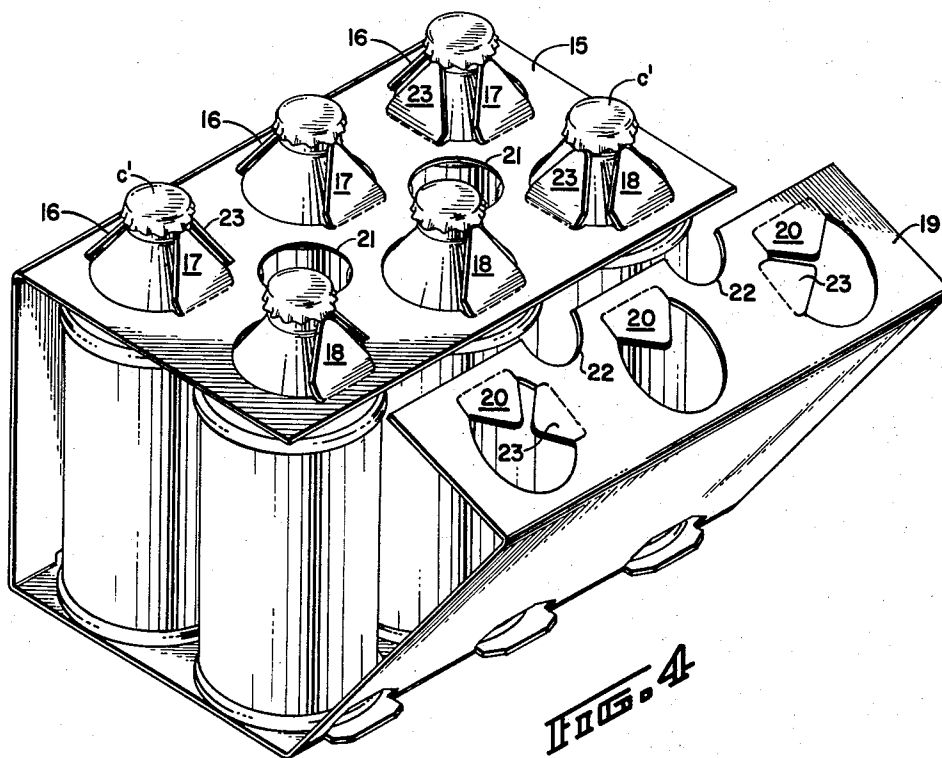
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2,950,041

WRAP-AROUND PAPERBOARD CARRIER

Filed Nov. 29, 1957

2 Sheets-Sheet 2



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2,950,041

WRAP-AROUND PAPERBOARD CARRIER

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Filed Nov. 29, 1957, Ser. No. 699,602

7 Claims. (Cl. 229—40)

The invention relates to improvements in wrap-around paperboard carriers or cartons for containers having caps as typified by what is known as the crown cap. My improvements relate particularly to the construction of the overlapping ends or top flaps of such carriers and the special arrangement of the lock tabs of such flaps, these being the tabs which engage the undersides of the crown caps of the wrapped containers.

In wrap-around containers of the general type to which my invention relates, it is known to provide openings to receive the upper ends or breasts of crown top cans, so that the flaps will fit over and around them. It is also known to utilize locking tabs which engage the underside of the crown caps. For example, in one such prior construction as applied to a 2 x 3 crown type can package, i.e. a package for six cans arranged in two rows of three, overlapping top flaps are provided, each flap having six openings to go around the tops of the cans. One row of openings in each flap is provided with lock tabs so that one of the flaps locks under the caps of one row of cans and the other flap locks under the caps of the other row. I have discovered an improved locking construction of extreme simplicity in which the arrangement of the lock tabs in the two flaps is such that the flaps act conjointly as partners to produce a vise-like lock, the lock tabs of one flap gripping one side of the cans and those of the other flap gripping the other. With such a construction any tendency of the sides of the carrier to spread apart can only serve to grip the cans more tightly, and the construction is also particularly effective in locking down the flaps, that is, in fastening the ends of the wrap-around carrier itself. What happens is that each flap is individually and directly locked through engagement with the caps of the same containers.

Referring first to the embodiment of Figs. 1-3 inclusive, ferred mode of carrying out my invention as applied, for example, to a three can pack and a 2 x 3 six can pack.

Fig. 1 is a perspective view of the three can pack, showing the first closing flap locked in place, and the second one about to be locked.

Fig. 2 is a top plan view of a portion of the completed package.

Fig. 3 is a vertical cross sectional view of the same package, taken as indicated at line 3—3 in Fig. 2.

Fig. 4 is a perspective view of the 2 x 3 six can pack, again with the first closing flap locked and the second one about to be locked.

Referring first to the embodiment of Figs. 1-3 inclusive, my invention comprises a wrap-around paperboard carton 5 for containers C having caps c', the container comprising a bottom panel 6, side wall panels 7 and 8, and top closing and locking flaps 9 and 10 extending from the tops of the respective side wall panels. The top closing and locking flaps 9 and 10 each has a series of openings, 11 and 12 respectively, to receive the upper ends of the containers, with the flaps overlapping one another and both surrounding the upper ends of the containers in one row. Lock tabs 13 are provided at one side of

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the openings 11 in flap 9 and lock tabs 14 are provided at the opposite side of the openings 12 in the other flap 10. Speaking with reference to the paperboard blank from which the carton is formed, it will be observed that the lock tabs extend from that side of the openings which is toward the ends of the blank, and the openings are free of lock tabs at the opposite sides of the openings. The tabs are foldable upwardly about fold lines f which may be formed by scoring the paperboard. The paperboard blank itself comprises an elongated structure scored transversely to provide the aforesaid bottom and side wall panels and top closing and locking flaps. Suitable means may be provided at the score lines which define the edges of the bottom panel 6 for locking or restraining the lower ends of the cans. Such means are shown in the drawings but as they form no part of the present invention further description will be unnecessary.

It will be noticed that each of the flaps 9 and 10 is individually and directly locked through engagement with the caps c' of the same containers, and that the lock tabs of the respective flaps grip the caps from opposite sides like a vise. Moreover, because in this construction it is unnecessary to have lock tabs at more than one side of each opening, it is very easy to fold the flaps down over the cans, there being a minimum of interference to performing this step in the packaging operation.

In the 2 x 3 six can pack of Fig. 4, the construction is much the same. Here, however, the first locking flap 15 has two rows of openings for the cans. The first row of openings is provided with lock tabs 16 and 17 at opposite sides of the same openings, so that the containers in this row are locked by the tabs of a single flap 15. The openings in the second row, however, are provided with lock tabs 18 at one side only, while the openings in flap 19 have lock tabs 20 at the opposite side thereof. Thus, as to the corresponding row of cans, each of the flaps 15 and 19 is individually and directly locked through engagement with the caps c' of the same containers and the lock tabs of the respective flaps grip the caps from opposite sides in the vise-like action which has been described with reference to the embodiment of Figs. 1-3. If desired, finger openings 21 and 22 may be provided for carrying purposes. It is also possible to make flap 19 extend for the full width of the carrier, in which case it will have two rows of openings, each with lock tabs 20. With this construction lock tabs 16 can be omitted and both rows of cans will be gripped by the lock tabs of the respective flaps.

In the carton of Fig. 4, supplementary lock tabs 23 are provided also at the openings for at least the outer containers in each row, these supplementary lock tabs being located at the sides of the openings which are toward the inside of the carton, i.e. away from the open ends of the carton. These supplementary lock tabs engage the caps of the containers to restrain the containers from swinging bottom outwardly through the open ends of the carton. The supplementary lock tabs may, if desired, be used in the embodiment of Figs. 1-3.

The terms and expressions which I have employed are used in a descriptive and not a limiting sense, and I have no intention of excluding such equivalents of the invention described, or of portions thereof, as fall within the scope of the claims.

I claim:

1. A wrap-around paperboard carton for containers having caps, comprising a bottom panel, two side wall panels and a top closing and locking flap extending from the top of each side wall panel in planes substantially at right angles to the axes of the containers which extend through the caps, said top closing and locking flaps each having openings to receive the upper ends of at least one row of containers with the flaps overlapping one an-

other and both surrounding the upper ends of the containers in at least said one row, lock tabs at one side of openings in one of said flaps and lock tabs at the opposite side of openings in the other of said flaps for engaging the caps of containers in said one row said lock tabs being attached to said flaps at fold lines substantially tangent to said openings, said lock tabs folding outwardly at an angle to the planes of said top closing and locking flaps when said lock tabs are engaged with the caps, whereby each flap is individually and directly locked through engagement with the caps of the same containers and the lock tabs of the respective flaps grip the caps from opposite sides.

2. A wrap-around paperboard carton according to claim 1, in which supplementary lock tabs are provided also at the openings for at least the outer containers in the row, said supplementary lock tabs being located at the sides of said openings which are toward the inside of the carton, i.e., away from the open ends of the carton, said supplementary locking tabs engaging the caps of the containers to restrain the containers from swinging bottom outwardly through the open ends of the carton said supplementary lock tabs being attached to said flaps at fold lines substantially tangent to said openings, and said supplementary lock tabs folding outwardly at an angle to the planes of said top closing and locking flaps when said lock tabs are engaged with the caps.

3. A wrap-around paperboard carton according to claim 1, in which one of said closing and locking flaps has openings to receive the upper ends of two rows of containers and the other of said flaps has openings to receive the upper ends of one row of containers, said flaps overlapping and both surrounding the upper ends of the containers of said one row, and in which additional lock tabs are provided at both sides of the openings for the containers in the other row, said additional lock tabs being attached to said flaps at fold lines substantially tangent to said openings, said additional lock tabs folding outwardly at an angle to the planes of said top closing and locking flaps when said additional lock tabs are engaged with the tops whereby the overlapping portions of the flaps jointly provide lock tabs gripping the caps of the containers of said one row from opposite sides while the remaining portion of said one flap individually provides lock tabs gripping the caps of the containers of said other row from both sides.

4. A paperboard blank for a wrap-around carton for containers having caps, comprising an elongated structure scored transversely to provide a bottom panel, side wall panels extending from opposed sides of the bottom panel and a top closing and locking flap extending from the top of each side wall panel, said top closing and locking flaps each having openings to receive the upper ends of at least one row of containers with the flaps overlapping one another, lock tabs at only one side of open-

ings in one of said flaps and lock tabs at only the opposite side of openings in the other of said flaps said lock tabs being attached to said flaps at fold lines substantially tangent to said openings, said lock tabs being adapted to be folded outwardly at an angle to the planes of said top closing and locking flaps to engage the caps of containers in said one row.

5. A paperboard blank according to claim 1, in which supplementary lock tabs are provided also at the openings for at least the outer containers in the row, said supplementary lock tabs being located at the sides of said openings which are toward the inside of the blank, i.e., away from the longitudinal edges thereof said flaps at fold lines substantially tangent to said openings, said supplementary lock tabs being adapted to be folded outwardly at an angle to the planes of said top closing and locking flaps to engage the caps of the outer containers in the row.

6. A paperboard blank for a wrap-around carton for containers having caps, comprising an elongated structure scored transversely to provide a bottom panel, side wall panels extending from opposed sides of the bottom panel and a top closing and locking flap extending from the top of each side wall panel, one of said flaps having at least one row of openings to receive the upper ends of containers and the other of said flaps having two rows of openings to receive the upper ends of containers, lock tabs at only one side of said one row of openings of the one flap, lock tabs at only the opposite side of the corresponding row of openings in the other flap (i.e. the row in said other flap which is at the end of the blank), and lock tabs at both sides of the remaining row of openings in said other flap said lock tabs being attached to said flaps at fold lines substantially tangent to said openings, said lock tabs being adapted to be folded outwardly at an angle to the planes of said top closing and locking flaps to engage the caps.

7. A paperboard blank for a wrap-around carton for containers having caps, comprising an elongated structure scored transversely to provide a bottom panel, side wall panels extending from opposed sides of the bottom panel and a top closing and locking flap extending from the top of each side wall panel, said top closing and locking flaps having complementary openings to receive the upper ends of the same containers, said complementary openings having lock tabs at the sides of the openings which are toward the end of the blank and being free of lock tabs at the opposite sides of the openings said lock tabs being attached to said flaps at fold lines substantially tangent to said complementary openings, said lock tabs being adapted to be folded outwardly at an angle to the planes of said top closing and locking flaps to engage the caps.

References Cited in the file of this patent

UNITED STATES PATENTS

2,654,474 Ringler ----- Oct. 6, 1953

UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 2,950,041

August 23, 1960

Orison W. Stone

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction and that the said Letters Patent should read as corrected below.

Column 1, line 49, strike out "Referring first to the embodiment of Figs. 1-3 inclusive," and insert instead -- Referring to the drawings I shall now describe the pre- --; column 2, line 45, for "chase" read -- case --.

Signed and sealed this 4th day of April 1961.

(SEAL)

Attest: ERNEST W. SWIDER

~~XXXXXXXXXXXX~~

Attesting Officer

ARTHUR W. CROCKER
Acting Commissioner of Patents