A knock-down container has its walls, cover and base readily detachable from each other. The walls fit into the base and are locked in an upright position by a latch which pivots near one of its ends about a point in a recessed portion of the upper edge of a wall. The other end of the latch projects beyond the vertical edge of the wall on which it is pivoted and fits into a recessed portion in the top edge of an adjacent wall to lock the adjacent walls together at the corner.

7 Claims, 4 Drawing Figures
CONTAINER POST LOCKING MEMBER

This invention relates to a container post locking member and has been developed for use in knock-down containers in which there is a base usually incorporating a pallet structure, a cover and four sides which are detachably secured to the base and to which the cover, after the sides have been erected, is also detachably secured.

The present invention has been developed so as to provide simple means for erecting the container structure and to provide for self locking of the components on erection.

According to the invention there is provided a self-locking assembly for a knock-down container which comprises a latch member having an inner end pivotally mounted within a recessed portion of the upper edge of a wall of the container adjacent at least one corner thereof, an arm portion extending across the top edge towards the corner and an outer free end portion projecting beyond the vertical edge of the wall and being adapted for vertical movement over and into a recessed portion in the top edge of an adjacent wall for releasably self-locking the corners of adjacent walls of the container.

The invention will now be described in greater detail with reference to the accompanying drawings which illustrate one embodiment of the invention by way of example and in which:

FIG. 1 is an elevation of the upper and lower portions of container side walls in locking position showing action of a post locking assembly according to the invention;

FIG. 2 is a top plan view of the side walls;

FIG. 3 is a partly cross-sectional view taken on line 3–3 of FIG. 1;

FIG. 4 is a sectional view through the mid-portion of the wall of FIG. 1 parallel to the top edge.

According to this embodiment the container walls 5 are formed with channelled vertical end post members 6 and the container base 7 is provided with elongated sockets 8 to accommodate a fixed hinge member 9 which is inserted through the sockets 8 and is provided with an offset bottom portion 10 so that when the walls 5 are vertically positioned on the base 7 the offset portion 10 locks behind a reinforced recessed portion 10a of the container base 7. A similar socket structure 8a is provided in the top of the walls 5 to accommodate a corresponding hinge member 9a on the bottom of a further wall section 11 placed thereon to increase the effective height of the container.

The top corner of the walls is provided with a locking assembly in the form of a pivotally mounted latch member 12 which latches in a recess 12a provided in the top corner or post member of an adjacent wall member, in this way the walls may be assembled to form a square container structure enabling the use of the same wall design for each side thereby simplifying the inventory required to assemble the containers.

The latching member 12 includes downwardly directed portions which enter the top of the vertical post on the adjacent wall member 5 in the one instance for latching, and enters in another instance the post to which it is mounted for bearing strength. At its other end the latching member 12 is provided with a forked construction 13 which fits on each side of a bracket 14 and is journaled on a pin 15 extending through the bracket 14 and through the arms of the fork 13. The bracket 14 includes a downwardly extending portion 14a on which one end of a spring 16 is mounted, the other end the spring is mounted on a transverse pin member on a downwardly directed portion of the underside of the latching member. This arrangement is such that the latching member 12 when it lifts (shown broken outline), returns to the locked position under the influence of the tension spring.

The latching structure may be a casting, forging or fabricated member and may include the hinge socket mounting part and reinforcing member.

The invention also envisages a modification of the foregoing embodiment having a latching member provided on one top corner only of a wall and a recess for the latch at the opposite corner. Thus in an alternative arrangement, one opposite pair of walls is provided with a latch assembly on both top corners thereof and an adjacent wall (opposite pair of walls) is provided with latch receiving recesses at both top corners in the top edge or vertical corner posts of the wall.

I claim:

1. A self-locking assembly for a knock-down container, which comprises a latch member having an inner end pivotally mounted within a recessed portion of an upper edge of a wall of the container adjacent one corner of the container, an arm portion extending across said edge towards said corner and an outer free end portion projecting beyond the vertical edge of the wall, said latch moving in a vertical plane over said edge into a recessed portion in the top edge of the adjacent wall and releasably locking the corners of adjacent walls of the container, said latch member being mounted on a pin fixed within a hollow vertical post at the end of the container wall and the top edge of the latch member lying flush with the top edge of the wall.

2. An assembly according to claim 1, wherein a spring is mounted on the underside of the latch member for holding the latch member closed.

3. An assembly according to claim 1, wherein a further latch member is provided at the other end of the upper edge of said wall and each adjacent wall is provided with a recessed portion receiving one of said latch members.

4. An assembly according to claim 1, wherein said wall is provided with at least one tab or fixed hinge depending from the bottom edge thereof, said tab fitting within a longitudinal slot provided in the upper surface of the container base adjacent the base edge.

5. An assembly according to claim 4, wherein the upper edge of each wall is provided with longitudinal slots or the like for receiving the tabs or fixed hinge members of a wall to increase the effective height of the wall, or to enable a cover member to be fitted in a similar manner.

6. An assembly according to claim 1, wherein each wall is provided with a latch member at one top corner and a latch receiving recess at the other top corner and tabs or hinges on the bottom edges of the walls or underside of the cover member and the longitudinal slots or recesses on the top edges of the walls and in the base member are adapted for interchangeability of wall members on the base.
7. A self-locking assembly for a knock-down container having two walls intersecting at a corner line, each of said walls having an edge surface lying in a plane perpendicular to said corner line, and each of said walls having a recess extending thereinto from said edge surface thereof, and a latch member having a first end pivotally mounted inside the recess in one of said walls, an arm portion, and a hooked end remote from said first end, said latch being mounted to swing in an arc which brings said hooked end into the recess in the other of said walls at one end of its path of travel, each of said recesses being completely contained within its respective wall.
UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION


Inventor(s) JOHN PATRICK SCALLAN

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

[73] Assignee: GEETAINERS (EUROPE) LIMITED,
St. Aubin, Jersey, Channel Isles

Signed and sealed this 3rd day of April 1973.

(Seal)
Attest:

EDWARD M. FLETCHER, JR.
Attesting Officer

ROBERT GOTTSCHALK
Commissioner of Patents