COLLAPSIBLE CRATE

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims benefit of United States Provisional Application Number 63/109,098, filed November 3, 2020, which is hereby incorporated herein by reference in its entirety.

FIELD

[0002] The present disclosure generally relates to storage and transportation crates and, in particular, to collapsible crates.

BACKGROUND

[0003] Crates are used to transport and store goods and merchandise. When a crate is not being used, the crate typically takes up the same amount of space as when it is filled. Thus, when transporting or storing empty crates, the crates take up a lot of space on a transport vehicle or in a warehouse. Some crates have walls that are removeable from the base. The walls may then be removed and placed on top of the base of the crate or elsewhere for transportation or storage. In another approach, the walls of the crate may be folded inward and positioned on top of the base of the crate.

[0004] However, in the prior art approaches, the walls remain vulnerable to impact and damage. Further, the walls may still take up additional space beyond the general dimensions of the base. Moreover, many crates are transported using forklifts and similar tools. To accommodate such tools, crates must be configured with bases that accept the lifting and transporting structure. When bases are configured in this manner, it can be especially difficult to configure a crate that permits one or more walls to collapse onto the base.

[0005] A need exists for a crate that can be collapsed to reduce its size while still preventing the walls from becoming bent, dented, or disassociated from the rest of the crate.

SUMMARY OF INVENTION

[0005a] According to a first aspect of the present invention, there is provided a collapsible crate comprising:

a base including a top surface and defining a cavity below the top surface; and

a plurality of walls removably attachable to one another and movable between a first configuration where the plurality of walls extend substantially vertically above the top surface of the base and a second configuration where the plurality of walls are within the cavity of the base.

[0005b] According to a second aspect of the present invention, there is provided a collapsible crate comprising:

a base including a top surface and defining a cavity below the top surface, the base including a first track within the cavity for receiving a first wall; and

the first wall comprising an upper portion extending from the top surface of the base in an assembled configuration, the first wall comprising an attachment arm extending from the upper portion to engage the first track of the base in the assembled configuration, the first wall being rotatable relative to the base about the attachment arm to align the first wall with the first track to slidingly insert the first wall into the cavity of the base along the first track to move the first wall to a collapsed configuration.

[0005c] According to a third aspect of the present invention, there is provided a method of collapsing a crate comprising:

detaching a first wall of a crate from adjacent walls of the crate, the crate including a base having a top surface and defining a cavity below the top surface;

rotating an upper end of the first wall outward from the crate to a position substantially parallel with the top surface of the base;

sliding the first wall inward and into the cavity of the base;

rotating an upper end of a second wall outward from the crate to a position substantially parallel with the top surface of the base; and

sliding the first wall of the crate inward and into the cavity of the base.

[0005d] According to a fourth aspect of the present invention, there is provided a method of assembling a collapsible crate comprising:

withdrawing a first wall of a crate from a cavity, the crate including a base having a top surface and defining the cavity below the top surface;

rotating an upper end of the first wall upward to an upright position;

locking the first wall in the upright position;

withdrawing a second wall of the craft from the cavity;

rotating an upper end of the second wall to an upright position; and

locking the first wall in the upright position.

BRIEF DESCRIPTION OF THE DRAWINGS

[0006] FIG. 1A is a top perspective view of a collapsible crate in an assembled configuration.