SYSTEM TO FACILITATE RECONFIGURATION OF CONTAINERS

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims priority to U.S. Provisional Application Number 63/078,596, filed September 15, 2020, which is hereby fully incorporated by reference as if fully set forth herein.

FIELD

[0002] This application relates to a system to facilitate reconfiguration of shipping containers.

BACKGROUND

[0003] Reusable, stackable containers such as those disclosed in U.S. Patent No. RE 47,210, PCT/IB2020/000183 filed April 17, 2020, and PCT/IB2020/000378 filed May 14, 2020, which are incorporated by reference herein, can be useful for transporting various types of cargo, e.g., by ship, by rail, by truck, in domestic or overseas commerce, and in other contexts. Certain containers include collapsible walls for facilitating storage and/or transportation of containers without payloads. Each side wall may be pivotable on the base of the container. Each side wall may be locked in an upright position during use of the container. After the container has been emptied, each of the side walls may be pivoted inward through an angle of about 90° so that the side walls are stacked on the base. When the container is to be reused, a collapsed container may be reconfigured to an erect position, i.e., the walls may be pivoted upward away from the base, then locked in upright positions, to restore the container to a working configuration. In some instances, reconfiguration of collapsed containers may be labor-intensive, difficult and/or time consuming.

SUMMARY

[0003a] According to a first aspect of the present invention, there is provided a method of reconfiguring a container, the method comprising:

transporting a container having sidewalls in a collapsed arrangement to a rotatable holder;

securing the container in the collapsed arrangement to the rotatable holder such that the container is rotatable; and

rotating the container from a first angular orientation to a second angular orientation such that the sidewalls pivot from the collapsed arrangement to an erected arrangement due to the rotation.

[0003b] According to a second aspect of the present invention, there is provided a system for reconfiguring a container from a collapsed configuration to an erected configuration, the system comprising:

a conveyor for transporting a container having sidewalls in a collapsed arrangement to a rotation station;

at least one securement member for releasably securing the container at the rotation station such that the container is rotatable; and

a drive for rotating the container from a first angular orientation to a second angular orientation such that the sidewalls fall from the collapsed arrangement to an erected arrangement.

[0003c] According to a third aspect of the present invention, there is provided a system for reconfiguring a container from a collapsed configuration to an erected configuration, the system comprising a holder for temporarily supporting the container, and a drive mechanism for rotating the container to cause sidewalls of the container to pivot from collapsed positions to erected positions.

[0004] Disclosed herein is a system to facilitate container reconfiguration. In some embodiments, the system includes a mechanism to pivot the container walls from generally collapsed or horizontal positions to generally upright or erect positions. In some embodiments, the system comprises a holder for temporarily supporting the container, and a drive mechanism