April 30, 1946. K. G. MILLER 2,399,499

CARBOY CRATE

Filed May 22, 1943

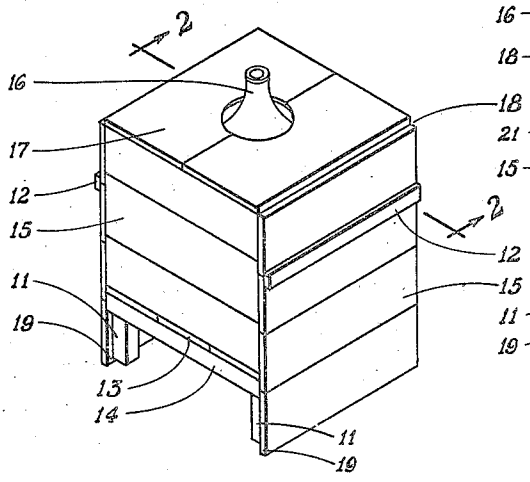


Fig. 1

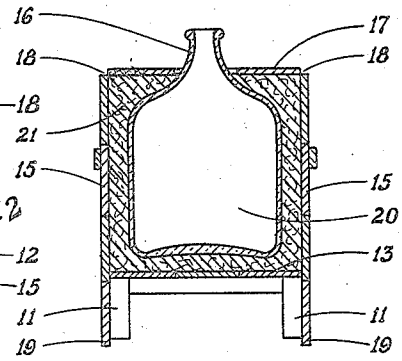


Fig. 2

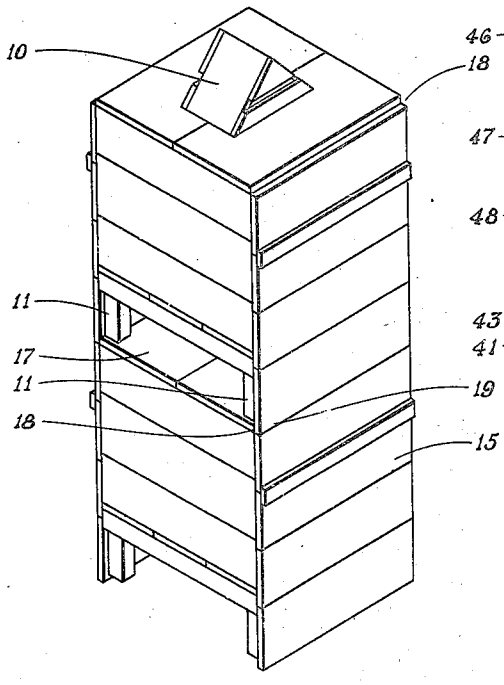


Fig. 3

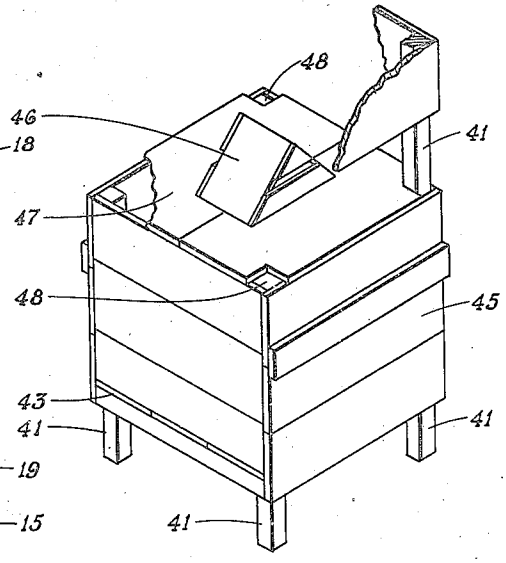


Fig. 4

INVENTOR.
Kenneth G. Miller

BY

Dean Lawrence
ATTORNEY

Patented Apr. 30, 1946 2,399,499

UNITED STATES PATENT OFFICE

2,399,499

CARBOY CRATE

Kenneth G. Miller, Lansing, Mich.

Application May 22, 1943, Serial No. 488,005

1 Claim. (Cl. 217—52)

This invention relates to carboy crates and more particularly to a carboy crate adapted to be stacked without danger of breaking a carboy contained therein.

The conventional carboy crate consists of a wooden box-like structure in which a carboy may be packed with a shock absorbing packing material, such as straw, excelsior or shaped cork liners, and with a cover through which the neck of the carboy protrudes sufficiently so that liquid may be poured from the carboy without unpacking it. A protective cap or hood which may be fastened to the cover and which fits over the protruding carboy neck is usually provided. Carboys when packed in such crates are unhandy to store or transport because, due to the protruding carboy neck and protective cap, they may not be stacked one upon the other, but must be set side by side. An undesirably large amount of floor space is thus required and, unless care is taken to see that the cap is firmly secured to the cover, there is considerable danger of the carboy neck being broken by moving objects.

It is, therefore, an object of the present invention to provide a carboy crate which may be stacked without danger of breaking a carboy contained therein.

An additional object is to provide a carboy crate which may be stacked upon a similar crate without danger of slipping off.

An additional object is to provide a carboy crate which is economical of floor space in storage.

These and related objects are accomplished readily by extending vertical members of a carboy crate below the carboy supporting member or bottom of the crate to a distance exceeding that by which the carboy neck and protective cap protrudes above the cover of the crate and providing means at the top of the crate to receive and cooperate with the extended vertical members of a similar crate stacked thereon so as to prevent lateral movement of the upper crate along at least one axis perpendicular to a side of the lower crate. In certain instances, lateral movement of the upper crate in any direction is prevented.

The carboy crate of the present invention has a number of advantages not heretofore known in the art. It is very economical of storage space because several crates may be stacked one upon the other and the floor space required thus reduced accordingly. Due to the protection afforded the neck of a carboy contained in the lower crate by the crate stacked on it, the protective cap may be left off during storage with little or no danger of the neck being broken by moving objects.

The invention will be clearly understood by reference to the drawing wherein:

Figure 1 is an isometric view of a wooden carboy crate containing a carboy and embodying one form of the invention;

Figure 2 is a cross-sectional view taken along the line 2—2 of Figure 1;

Figure 3 is an isometric view of two carboy crates similar to that shown in Figure 1 stacked one upon the other; and

Figure 4 is an isometric view of a carboy crate and a part section of another similar crate stacked thereon embodying a modification of the invention.

Referring now to Figure 1, the wooden carboy crate shown consists of four vertical corner members or posts 11, vertical side walls 15, carrying strips 12, a carboy-supporting member or bottom 13, bottom-supporting members 14, and a cover 17. The neck of a carboy 16 protrudes from a circular opening in the cover and may be protected by a cap as shown at 10 of Figure 3. The corner posts 11 extend below the bottom 13 of the crate to a distance greater than the distance which the protective cap rises above the cover. On two opposite sides of the crate, the cover extends laterally only as far as the inner edge of the vertical side wall and the side wall extends upward only as far as the under side of the cover. The cover and side walls thus form grooves 18 along the two opposite upper edges of the crate. The side walls on these same two opposite sides of the crate extend below the lower ends of the corner posts 11 for a distance approximately equal to the thickness of the cover. When the crate stands on the floor, it rests on the extensions 19 of the two side walls just mentioned. When one crate is stacked on top of a second crate as in Figure 3, the extensions 19 of the side walls of the upper crate fit snugly into the grooves 18 of the lower crate and the corner posts 11 of the upper crate rest upon the cover 17 of the lower crate. When stacked in this manner, the upper crate protects the neck of the carboy in the lower crate from breakage and is, at the same time, held in place and prevented by the cooperation of its side wall extensions 19 and the grooves 18 of the lower crate from moving laterally along an axis perpendicular to opposed sidewalls 15 of the lower crate.

A carboy may be packed in the crate in conventional manner as shown clearly in Figure 2.

The carboy 20 is kept firmly pressed down against the packing material 21, which may be straw, excelsior, marsh grass, shaped cork liners or any other shock absorbent material, by the cover 17. The neck 16 of the carboy protrudes through a round hole in the cover and thus liquid may be poured readily from the carboy without disturbing the packing material. The vertical corner posts 11 extend below the carboy-supporting member 13 by a distance greater than the distance which the protective cap for the carboy neck rises above the cover 17. Opposite side walls 15 of the crate form, with the cover 17, grooves 18 along two opposite upper edges of the crate. The same opposite side walls extend below the lower ends of the corner members 11, as shown at 19, by a distance approximately equal to the thickness of the cover 17.

In Figure 4 there is shown a modification of the invention. The vertical corner members 41 of the crate are extended below the bottom 43 of the crate for a distance greater than that by which the protective cap 46 for the carboy neck projects above the cover 47. In this modification of the invention, the side walls 45 of the crate do not extend substantially below the carboy-supporting bottom member 43 and notches 48 are provided in the corners of the cover to receive the extensions of the corner members 41 of a second crate which may be stacked thereon. It is apparent that in this instance the upper crate will be prevented from moving laterally in any direction.

I claim:

In a carboy crate having two parallel sides, means supporting a carboy within said crate against movement with respect thereto, and an opening in the top permitting the neck of said carboy to extend above said top a distance sufficient for easy pouring from said carboy without removing same from said crate, the improvement comprising: relatively thick and rigid members comprising said sides; a pair of slab-like members comprising said top, each extending only to the inner edge of said side members, providing a pair of parallel recesses one at each upper corner of said parallel sides; a pair of relatively heavy support members adjacent each of said parallel sides extending downwardly from the bottom of said crate a distance slightly greater than the distance that the neck of the carboy extends above said top; and a side member affixed to each pair of support members constituting a bottomward extension of each of said sides and extending below said support members a distance equal to the thickness of said slab-like members; whereby said support members will support said crate sufficiently above a similar carboy-containing crate below it to clear the neck of the carboy in said lower crate and said extending side members will engage the parallel recesses in said lower crate to prevent relative motion between said two crates in a direction perpendicular said parallel sides.

KENNETH G. MILLER.