Feb. 23, 1943. J. D. VAN GEEM 2,312,202

CONTAINER

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Fig. 1.

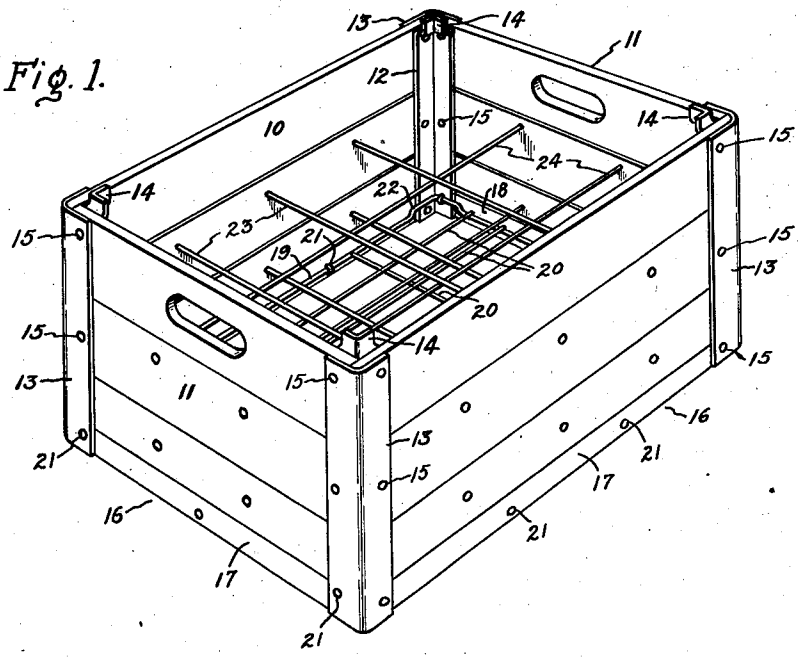


Fig. 2.

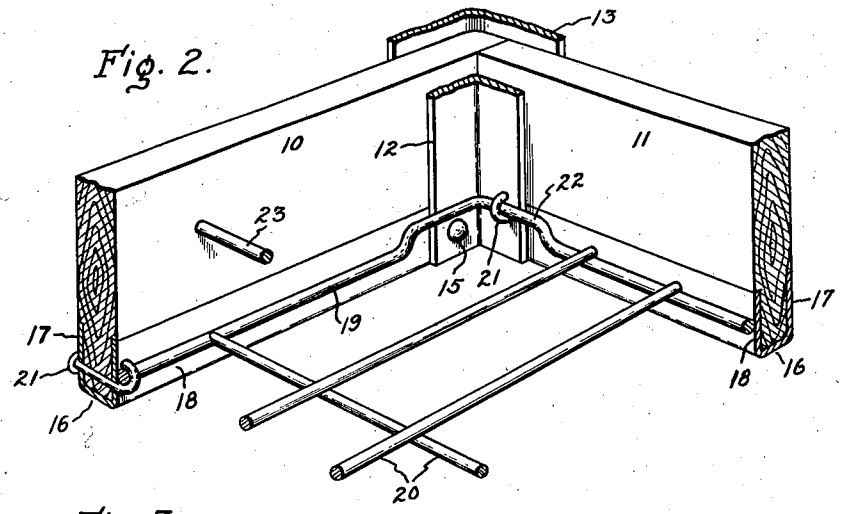
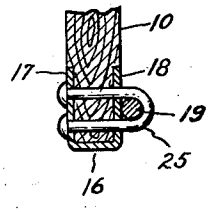


Fig. 3.



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CONTAINER

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4 Claims. (Cl. 217—19)

The present invention relates to crates or containers and more particularly to crates of the type employed for transporting a plurality of individual containers, such as milk bottles.

It is an object of this invention to provide an improved construction and arrangement in crates of the above type which is characterized by its durability in use, ease of manufacture and assembly, and the resulting economies of production.

In carrying out the above objects I provide a crate in which the load support is made up of a unitary grid having a frame wire, the latter being secured in position in the lower end of the crate in a novel manner which uses to best advantage the strength of the corner irons and runner which are usually employed in crates of this character.

Further objects and advantages of the present invention will become apparent as the following description proceeds, reference being had to the accompanying drawing in which Fig. 1 is a perspective view of a crate employing the present invention; Fig. 2 is an enlarged perspective view showing the lower inside corner of the crate of Fig. 1, and Fig. 3 is a sectional view showing a detail of a modification.

Referring to the drawing, I have illustrated my invention embodied in a crate comprising side walls 10 and end walls 11. The walls are preferably each formed of a plurality of vertically spaced wooden boards or slats which are secured together to form a rectangular frame by inside and outside corner irons 12 and 13, respectively. Extending above the level of the upper edge of the frame in each inner corner thereof is a stacking iron 14 which may as illustrated, be formed as an integral part of the inner corner iron 12. When crates are stacked one above the other the stacking irons of one crate engage the inner walls of the one above to prevent movement of one crate relative to the other.

The corner irons and the side and end walls are secured together by suitable fastening means such as the rivets 15, which extend through the inner and outer corner irons as well as the end portions of the wooden side and end walls. In order to facilitate movement of the crate and protect the lower edges thereof from destruction, a U-shaped metal runner having opposed walls 17 and 18 engaging opposite sides of the lower edges of the wooden frame is provided. In the embodiment illustrated the lower edges of the frame are cut away to receive the side walls 17 and 18 of the runner so that the outer faces thereof are flush with the outer walls of the remainder of the crate. The corner irons preferably extend in overlapping relation with the side walls of the runner 16. It is apparent that the lower ends of the corner irons may extend inside of the upstanding walls of the U-shaped runner if desired, instead of outside as illustrated in the drawing.

In accordance with the present invention the bottom or load supporting grid of the crate is secured in fixed relation to the frame in a novel manner. The supporting grid comprises a rectangular frame wire 19 and a plurality of grid wires 20 which extend at right angles to each other and are welded together and to the frame wire to form a strong support.

Supporting grids of this character have been utilized in previous crate constructions, and while in some respects these constructions were very desirable the means for securing the frame wire to the crate proved rather expensive and inadequate to secure the supporting grid in position when the crate was loaded. In accordance with the present invention the supporting grid is secured in the lower end of the crate by fastening means which extend through the side walls of the runner 16 or the corner irons 12 and 13 or both. Since the runner in the conventional crate is formed of the heaviest metal used in the entire crate, the present construction takes advantage of the inherent strength of the metal parts of the crate to provide a rugged construction. Referring to the drawing, a plurality of fastening means 21 in the form of headed rivets are passed through the side and end walls of the crate including the upstanding walls 17 and 18 of the U-shaped runner. The inner ends of the fastening means are bent around the frame wire to form a hooked or U-shaped end portion to hold it securely in place. As illustrated in the drawing, the fastening means 21 which are located at the corners of the crate, pass through both side walls of the runner and the inside and outside corner irons. In order to provide plenty of space at the corner of the crate for the stacking iron of another crate the frame wire is offset upwardly a small amount as indicated at 22. In the illustrated embodiment the crate is provided with a plurality of partition wires 23 and 24 which extend at right angles to each other to define a plurality of container receiving openings in accordance with the usual practice. It is to be understood that separating grids having a frame wire secured in position by fastening means ex-

tending through the corner irons in accordance with the present invention could be used if desired.

With the construction described above the supporting grid is formed as a unit and is simply slipped into position in the lower end of the crate and secured there by the fastening means 21 which extend through the metal runners and corner irons. These fastening means also serve to secure the corner irons and runners in assembled position on the crate. It is apparent that the construction of the present invention makes it possible to secure the supporting grid to the crate in as many places as desired without greatly increasing the expense of manufacture. At the same time the crate is very easily repaired in the event that the lower edge of the crate is damaged in use. It often happens that the lower end wall of the crate is smashed inwardly by the conveyors by which the crates are handled by many crate users. When the crate is constructed in accordance with the present invention the bottom end or side board may be replaced by simply removing the fastening means from the frame wire and replacing the damaged board and runner. In previous constructions the repair of damaged crates was difficult and required a practical rebuilding of the crate.

In Fig. 3 I have shown a modification of the construction shown in Fig. 2. In the arrangement shown in Fig. 3 the fastening means for securing the frame wire in the crate are in the form of a U-shaped member 25 which is slipped over the frame wire and has its opposed arm portions extending through the upstanding wall portions 17 and 18 of the runner and the lower edge of the crate frame. The outer ends of these arms are riveted over against the outer surface of the runner. This construction may be desirable where the crate is subjected to very severe use.

While I have shown and described particular embodiments of my invention, I do not wish to be limited thereto as it will be apparent to those skilled in the art that many features thereof are of general application and I intend in the appended claims to cover all constructions falling within the true scope and spirit of my invention.

What I claim as new and desire to secure by Letters Patent of the United States is:

1. A container comprising wooden side and end walls, interior and exterior corner braces for strengthening the connection between said side and end walls, a metal runner positioned on the bottom edges of said wall and having upstanding opposed wall portions engaging the opposite faces of said side and end walls and lying in overlapped relation with the lower ends of said corner braces, a supporting grid including a plurality of supporting wires and a frame wire to which said supporting wires are secured, said frame wire having a portion of each corner thereof offset upwardly, and fastening means extending through said corner braces and the upstanding walls of said runner, each of said fastening means having a hooked end portion engaging said frame wire to secure said supporting grid in said container.

2. A container comprising a rectangular frame, a metal runner of U-shaped cross section enclosing the bottom edge of said frame and presenting inner and outer metal walls against said edge, a supporting grid including a substantially rectangular frame wire positioned in the lower end of said frame, and a plurality of fastening means extending through the inner and outer walls of said runner at spaced points around the periphery of said frame and each having a curved end portion engaging said frame wire to clamp said frame wire against the inner wall of said runner and to secure said supporting grid in position, said fastening means having a substantial bearing surface on the outer wall of said runner.

3. A container comprising a rectangular frame, a metal runner U shaped in cross section enclosing the bottom edge of said frame and presenting inner and outer metal walls adjacent said edge, a supporting grid including a substantially rectangular frame wire positioned in the lower end of said frame, and a plurality of fastening means extending through the inner and outer walls of said runner at spaced points around the periphery of said frame and each having a curved portion extending substantially about the frame wire to hold said frame wire against the inner wall of said runner and secure said supporting grid in position, said fastening means having an end portion opposite said curved portion secured in force-transmitting relation with the outer wall of said runner.

4. A container comprising a rectangular frame, a metal runner U shaped in cross section enclosing the bottom edge of said frame and presenting inner and outer metal walls against said edge, a supporting grid including a substantially rectangular frame wire positioned in the lower end of said frame, and a plurality of U-shaped fastening means extending through the inner and outer walls of said runner at spaced points around the periphery of said frame and each having its end portion in engagement with said wire frame to secure said supporting grid in position in force contacting relation with the inner wall of said runner, said U-shaped fastening means each having a pair of bearing surfaces on the outer wall of said runner.

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