Dec. 31, 1935. L. H. O'DELL 2,025,769

CRATE

Filed July 13, 1933 3 Sheets-Sheet 1

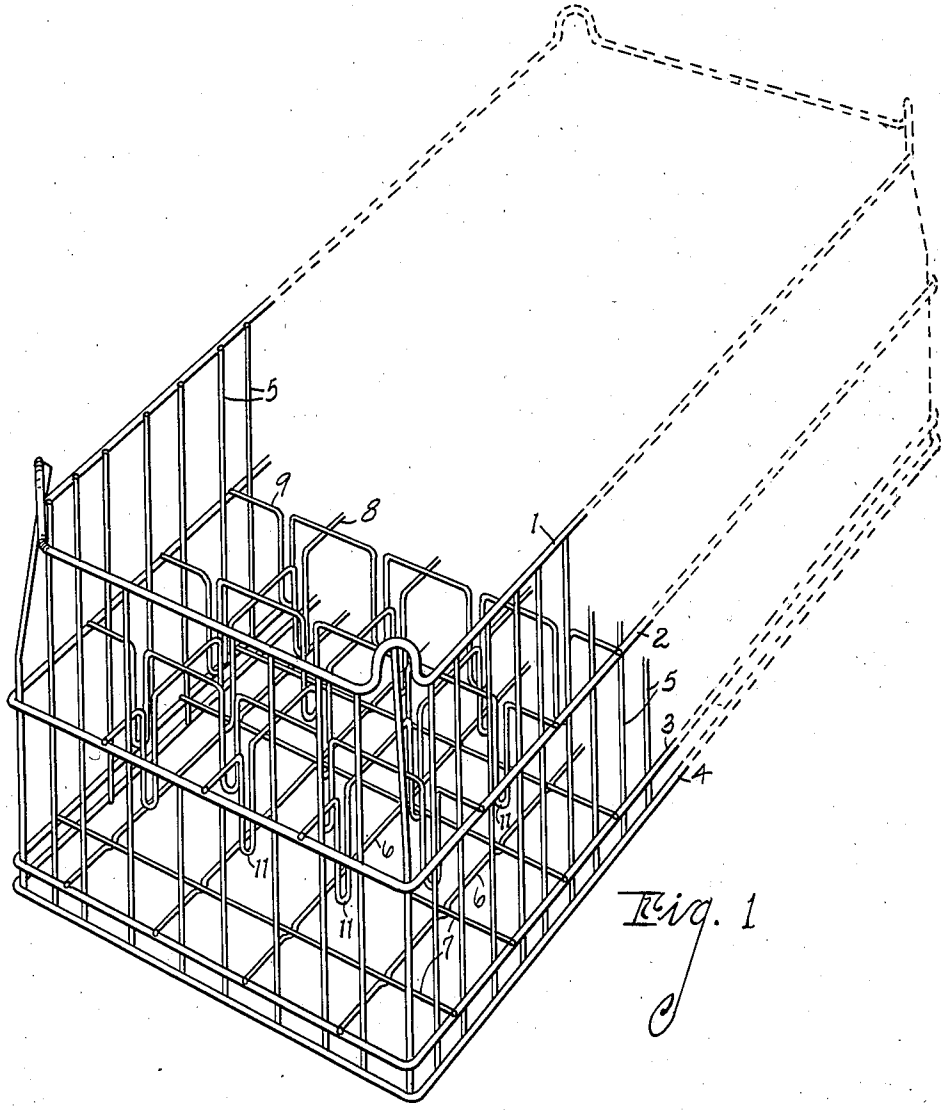


Fig. 1

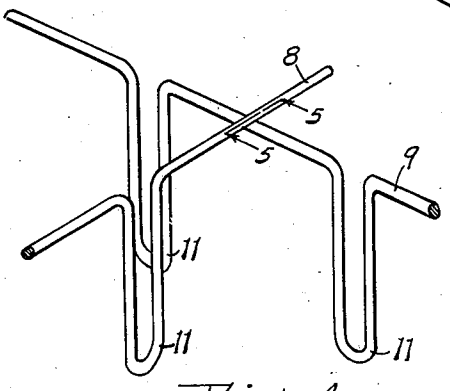


Fig. 4

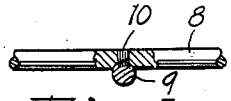


Fig. 5

INVENTOR
Leon H. O'Dell
BY
Chappell & Earl
ATTORNEYS

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CRATE

Filed July 13, 1933 3 Sheets-Sheet 2

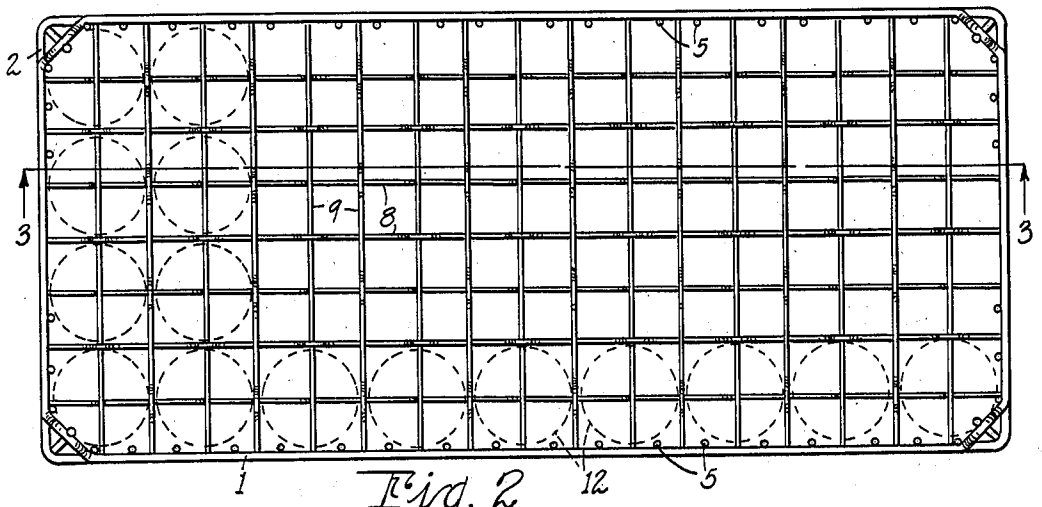


Fig. 2

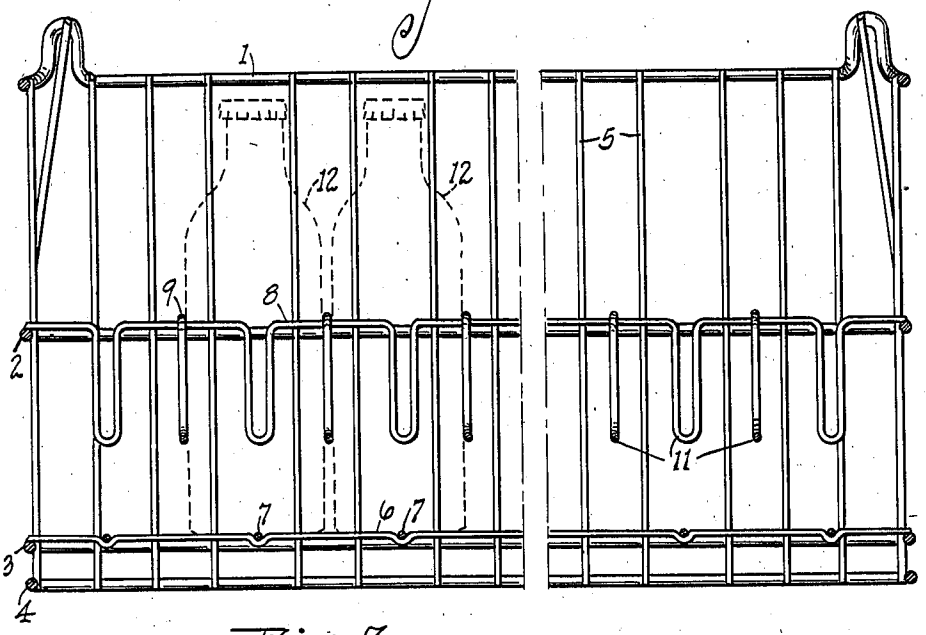


Fig. 3

INVENTOR
Leon H. O'Dell
BY
Chappell & Earl
ATTORNEYS

Dec. 31, 1935. L. H. O'DELL 2,025,769

CRATE

Filed July 13, 1933 3 Sheets-Sheet 3

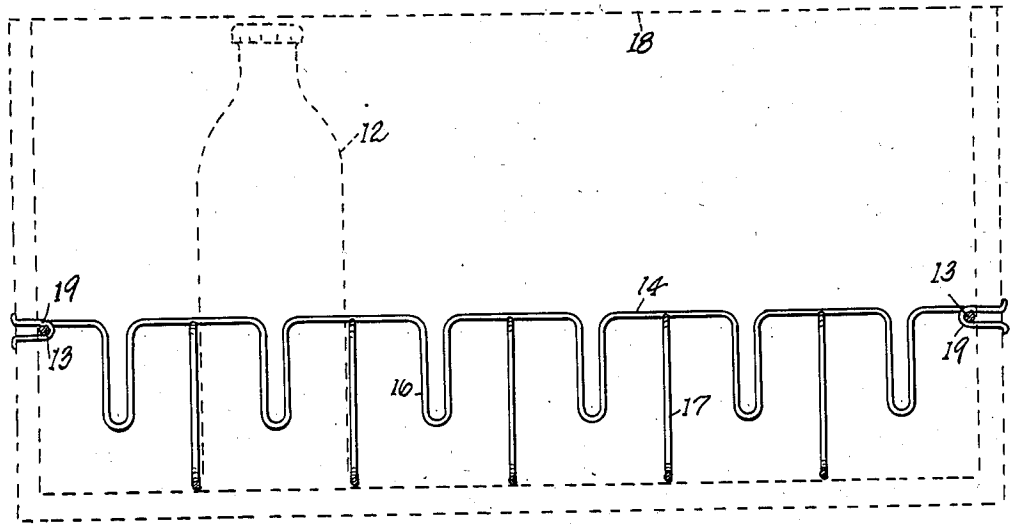


Fig. 6

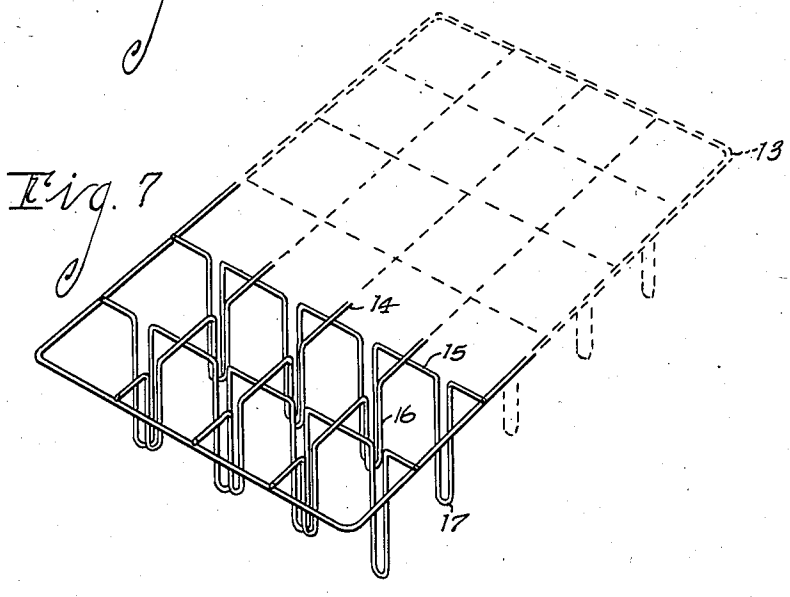


Fig. 7

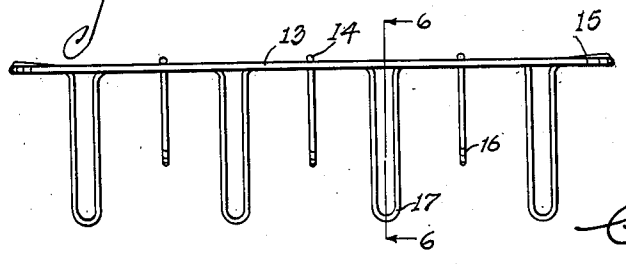


Fig. 8

INVENTOR
Leon H. O'Dell
BY
Chappell & Earl
ATTORNEYS

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2,025,769

UNITED STATES PATENT OFFICE

2,025,769

CRATE

Leon H. O'Dell, Albion, Mich., assignor to Union Steel Products Company, Albion, Mich.

Application July 13, 1933, Serial No. 680,210

11 Claims. (Cl. 220—19)

The main objects of this invention are:

First, to provide a crate or container for bottles and the like of improved construction and formed entirely of wire or light rod.

Second, to provide a partition or cell forming unit for bottle crates or containers and consisting of crossed longitudinal and transverse cell forming members of wire or light rod connected to each other at their points of contact and having integral depending open loops of U-shape at the sides of the cells for separating the bottles and for facilitating their insertion in and removal from the cells.

Third, to provide a partition or cell forming unit of this character, which is light in weight, strong and rugged, economical to manufacture and quite efficient and effective in operation.

Objects relating to details and economies of my invention will appear from the description to follow. The invention is defined and pointed out in the claims.

A structure which is a preferred embodiment of my invention is illustrated in the accompanying drawings, in which:

Fig. 1 is a fragmentary perspective view of a bottle crate or container embodying my invention.

Fig. 2 is a plan view.

Fig. 3 is an enlarged fragmentary longitudinal vertical section on a line corresponding to line 3—3 of Fig. 2.

Fig. 4 is an enlarged fragmentary perspective view of the partition or cell unit.

Fig. 5 is a detail section on a line corresponding to line 5—5 of Fig. 4.

Fig. 6 is a sectional view on a line corresponding to line 6—6 of Fig. 8 of a modified form of my partition or cell forming unit associated with a bottle crate or container having solid walls.

Fig. 7 is a fragmentary perspective view of the partition or cell forming unit of the modification.

Fig. 8 is a view in end elevation of the partition or cell forming unit of the modification.

Referring to the bottle crate or container of my invention illustrated by Figs. 1 to 5, inclusive, of the drawings, numerals 1, 2, 3, and 4 indicate vertically spaced border frames of wire or light rod. These frames are held in assembled relation by means of the upright slats 5 which are disposed on the inner sides of and are spot welded to the frames at their points of contact. Crossed longitudinal and transverse bottom members 6 and 7 are connected at their points of contact to each other and at their ends to the lower intermediate frame 3.

Crossed longitudinal and transverse partitions or cell forming members 8 and 9 are spot welded to each other at their points of contact and to the upper intermediate frame 2 at their ends. The spot welding of the cell forming members is best illustrated at 10 by Fig. 5. The cell forming members have integral depending open hairpin loops 11 of substantially U-shape centrally disposed at the sides of each cell. The bottle crate or container thus formed is admirably adapted for the transportation of bottled beverages, such as beer, and is economical to manufacture, strong and durable, and relatively light in weight. Figs. 2 and 3 illustrate bottles 12 in dotted lines in the cells.

Referring to Figs. 6 to 8, inclusive, of the drawings, there is illustrated a separate or individual partition or cell unit for bottle crates or containers consisting of the border frame 13 and crossed longitudinal and transverse cell forming members 14 and 15 connected to each other at their points of contact and to the frame at their ends. The cell forming members have integral depending open hairpin loops 16 and 17, respectively, of U-shape centrally disposed at the sides of the cells, the loops of the transverse members 15 being longer than the loops of the longitudinal members 14 and constituting supports for the unit.

As illustrated by Fig. 6, the partition or cell forming unit may be disposed in a conventional crate or box 18 shown in dotted lines with the loops 17 resting on the bottom thereof. In the illustrated embodiment, staples 19 are used to secure the partition unit in place within the crate.

The vertical portions of the loops provide guides for guiding the bottles in the cells and the crate may be quickly and readily filled without the necessity of centering each bottle in its cell. The loops in the longitudinal and transverse cell forming members render the partition unit resilient so that shocks to which the crate is subjected are absorbed thereby, saving the bottles from breakage.

I have illustrated and described my improvements in embodiments which I have found very practical. I have not attempted to illustrate or describe other embodiments or adaptations, as it is believed this disclosure will enable those skilled in the art to embody or adapt my improvements as may be desired.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A crate formed entirely of wire or light rod,

comprising in combination vertically spaced border frames, upright slats connected to said frames, crossed longitudinal and transverse bottom members connected to one of said frames, and crossed longitudinal and transverse cell forming members connected to each other at their points of contact and to another of said frames above the frame to which the bottom members are connected and having integral depending open hairpin loops of U-shape centrally disposed at the sides of each cell and constituting wall members therefor, the loops being of sufficient length and positioned to provide side supports for bottles disposed in the cells.

2. A crate comprising in combination vertically spaced border frames, upright slats connected to said frames, bottom members connected to one of said frames, and crossed longitudinal and transverse cell forming members connected to each other at their points of contact and to another of said frames above the frame to which the bottom members are connected and having integral depending open hairpin loops centrally disposed at the sides of each cell and constituting wall members therefor, the loops being of sufficient length and positioned to provide side supports for bottles disposed in the cells.

3. A crate comprising in combination a frame, and crossed longitudinal and transverse cell forming members connected to each other at their points of contact and at their ends to said frame and having integral depending open hairpin loops of U-shape centrally disposed at the sides of each cell and constituting side wall members therefor, the length and location of said loops being such that they supportingly engage the sides of a bottle in the cell.

4. A crate comprising in combination a frame, and crossed cell forming members connected at their ends to said frame and having integral depending open hairpin loops disposed at the sides of each cell and constituting side wall members therefor, the length and location of said loops being such that they supportingly engage the sides of a bottle in the cell.

5. A crate formed comprising in combination crossed longitudinal and transverse cell forming members connected to each other at their points of contact and having integral depending open hairpin loops centrally disposed at the sides of each cell and constituting cell wall members, the loops being of sufficient length and positioned to provide side supports for bottles disposed in the cells.

6. A partition or cell unit for bottle crates or containers, comprising in combination a frame, and crossed longitudinal and transverse cell forming members of wire or light rod connected to each other at their points of contact and to said frame at their ends and having integral depending open loops of U-shape centrally disposed at the sides of the cells, the loops of the transverse members being longer than the loops of the longitudinal members and constituting supports for the unit, the loops being of sufficient length and positioned to provide side supports for bottles disposed in the cells.

7. A partition or cell unit for bottle crates or containers, comprising in combination a frame, and crossed longitudinal and transverse cell forming members connected to each other at their points of contact and to said frame at their ends and having integral depending open hairpin loops centrally disposed at the sides of the cells, the loops being of sufficient length and positioned to provide side supports for bottles disposed in the cells.

8. A partition or cell unit for bottle crates or containers, comprising in combination a frame, and crossed longitudinal and transverse cell forming members connected to said frame at their ends and having integral depending open hairpin loops centrally disposed at the sides of the cells, the loops being of sufficient length and positioned to provide side supports for bottles disposed in the cells.

9. A partition or cell unit for bottle crates or containers, comprising in combination a frame, and crossed cell forming members connected to said frame at their ends and having integral depending open hairpin loops disposed at the sides of the cells, the length and location of said loops being such that they supportingly engage the sides of a bottle in the cell.

10. A partition or cell unit for bottle crates or containers, comprising in combination crossed cell forming members of light rod or heavy wire spot welded to each other at their points of contact and having integral depending open hairpin loops at the sides of the cells, the length and location of said loops being such that they supportingly engage the sides of a bottle in the cell.

11. A partition or cell unit for bottle crates or containers, comprising in combination crossed cell forming members having integral depending open hairpin loops at the sides of the cells, the length and location of said loops being such that they supportingly engage the sides of a bottle in the cell.

LEON H. O'DELL.