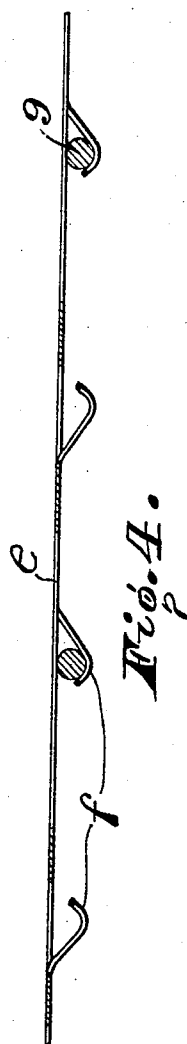
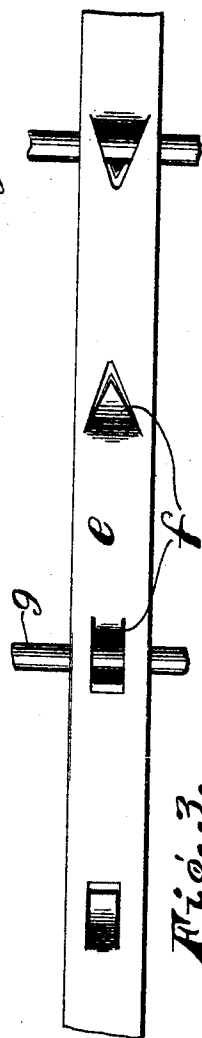
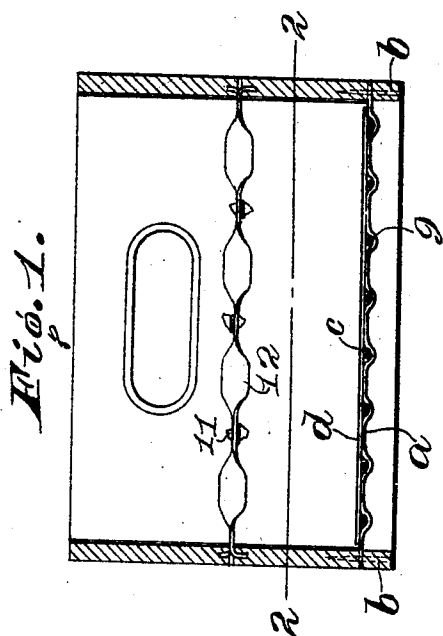
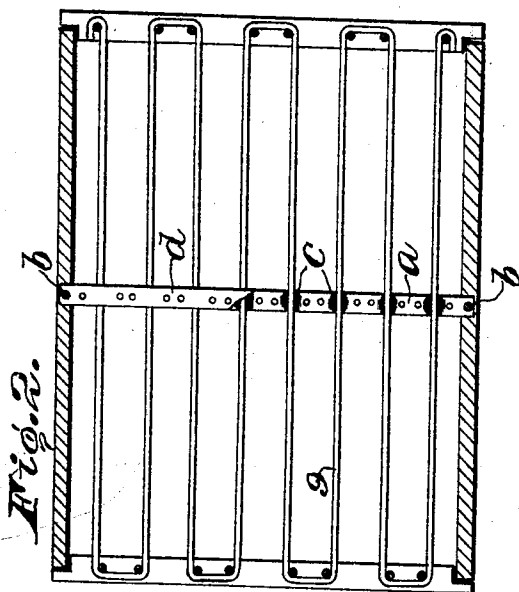


W. W. BIRNSTOCK,
BOTTLE CRATE.
APPLICATION FILED SEPT. 22, 1919.

1,324,580.

Patented Dec. 9, 1919.



Inventor
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BOTTLE-CRATE.

1,324,580.

Specification of Letters Patent.

Patented Dec. 9, 1919.

Application filed September 22, 1919. Serial No. 325,302.

To all whom it may concern:

Be it known that I, WILLIAM W. BIRNSTOCK, of York, in the county of York and State of Pennsylvania, have invented a new and useful Improvement in Bottle-Crates, of which the following is a specification.

My invention is an improvement on that kind of bottle-crate which is the subject of Letters Patent to A. L. Foreman No. 1,050,823 of January 21, 1913, having a partition structure composed of longitudinal and transverse twisted flat metal strips disposed to prevent contacting horizontal portions at the intersections and vertical portions between said intersections, together with a bottle supporting grid below the partition structure composed of longitudinal wires extending between and attached to the ends of the crate in position to support the bottles, the bottoms of which rest on them.

In a crate of this character the longitudinal bottom grid wires which extend between the ends of the crate are of considerable length; and even if stretched taut when first put in place, are liable sooner or later to stretch, so that under the weight of the bottles which they sustain, they will sag and spread apart, at times so widely apart as to permit the bottles which they are supposed to sustain to slip between them and drop from open bottomed crates.

My improvement is designed to remedy this defect, and it consists of a simple, inexpensive, readily applied and effective device for the purpose, which will first be described in connection with the accompanying drawings, forming part of this specification and will then be more particularly pointed out in the claim.

In the drawings—

Figure 1 is a transverse vertical section of a bottle crate embodying my invention;

Fig. 2 is a sectional plan on line 2—2 of Fig. 1.

Fig. 3 is a plan and

Fig. 4 is a section illustrating a modification of the cross bar member for preventing the spreading of the grid wires.

The bottle-crate structure in connection with which my improvement is illustrated in the drawing, and which is supposed to be adapted to contain a dozen bottles, is similar to that shown and described in the Foreman Patent #1,050,823, hereinbefore mentioned,

the partition member consisting of longitu-

dinal and transverse twisted flat metal intersecting strips being indicated by the reference characters 11 and 12 respectively and the bottom bottle supporting grid consisting of a wire 9 laced back and forth between and secured to opposite ends of the crate—all as shown and described in said Foreman patent. Of course the wires forming the grid may be applied and secured to the ends of the crate between which they extend in any other suitable or preferred way. Thus far there is nothing new in the crate.

About midway of the length of the wire grid is placed a distance and wire-retaining piece, consisting of a stiff metallic strip *a*, which extends crosswise of the grid from side to side of the crate being secured tightly to said sides in any suitable or preferred way—in this instance by having its ends inserted in recesses formed for its reception in said sides, and there held in place by means of nails driven from the bottom edge of the sides up through perforations in the ends of the strip *a*, as indicated in dotted lines at *b*. The distance piece *a* is stretched below and crosswise of the grid wires, and is formed with transverse grooves *c* at intervals apart corresponding to the intervals between the grid wires, and so located as to be in alinement with the grid wires and to serve as bearings in which the grid wires are received, and by which they are both upheld, and prevented from spreading apart or lateral displacement. To prevent the grid wires from rising out of their seats in the distance piece, I can conveniently use a cover strip *d* applied from above the grid wires on to the face of the distance piece *a*, and serving to prevent vertical displacement of the grid wires as well as to increase the stiffness of the distance piece. The cover strip *d* can be soldered or otherwise suitably secured to the distance piece at intervals in its length between the grid wires.

In lieu of the construction shown in Figs. 1 and 2, I can employ as a wire-retaining and distance piece a single metal strip *e*, from which is punched out, at intervals apart throughout its length, corresponding to the intervals which separate the grooves *c* in the strip *a* Figs. 1 and 2, tongues *f* which are bent down through the holes thus formed to extend below the under face of the strip. The strip *e* is applied to and

crosswise of the grid wires from above the same, and the downwardly extending tongues are bent upward and around the wires which adjoin them as indicated in Figs. 3 and 4, so as to receive and hold them quite as firmly as they are held in the construction shown in Figs. 1 and 2. The tongues *f* take the place and do the work of the grooves *c* in Figs. 1, 2, and the strip *e* serves the same purpose as the two strips *a*, *d*, in the last named figures.

It will be understood that instead of using only one wire-retaining and distance piece, two or more may be employed as preferred or as called for by circumstances.

Having described my improvement what I claim herein as new and desire to secure by Letters Patent is as follows:

In a bottle crate, the combination with the wooden body of the crate and the parti-

tion structure therein for receiving individual bottles, of a bottle supporting wire grid beneath said partition structure, the wire members of which extend between and are attached to the ends of the crate in position to form a support upon which the bottoms of the bottles contained in the individual cells of the partition structure will rest, and a combined wire-retaining and distance piece consisting of a stiff metal strip extending crosswise of the grid, and secured at its ends to the sides of the crate, and individual means on said strips to receive and engage their respective grid wires, and retain them from vertical or lateral displacement, substantially as and for the purposes hereinbefore set forth.

In testimony whereof I affix my signature.

WILLIAM W. BIRNSTOCK.