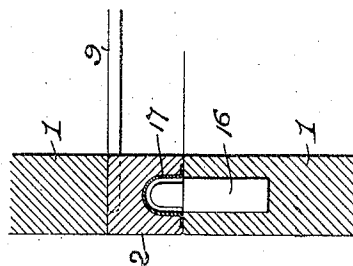
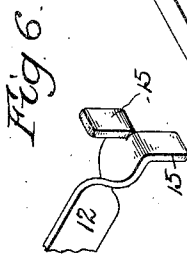
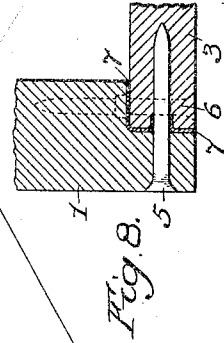
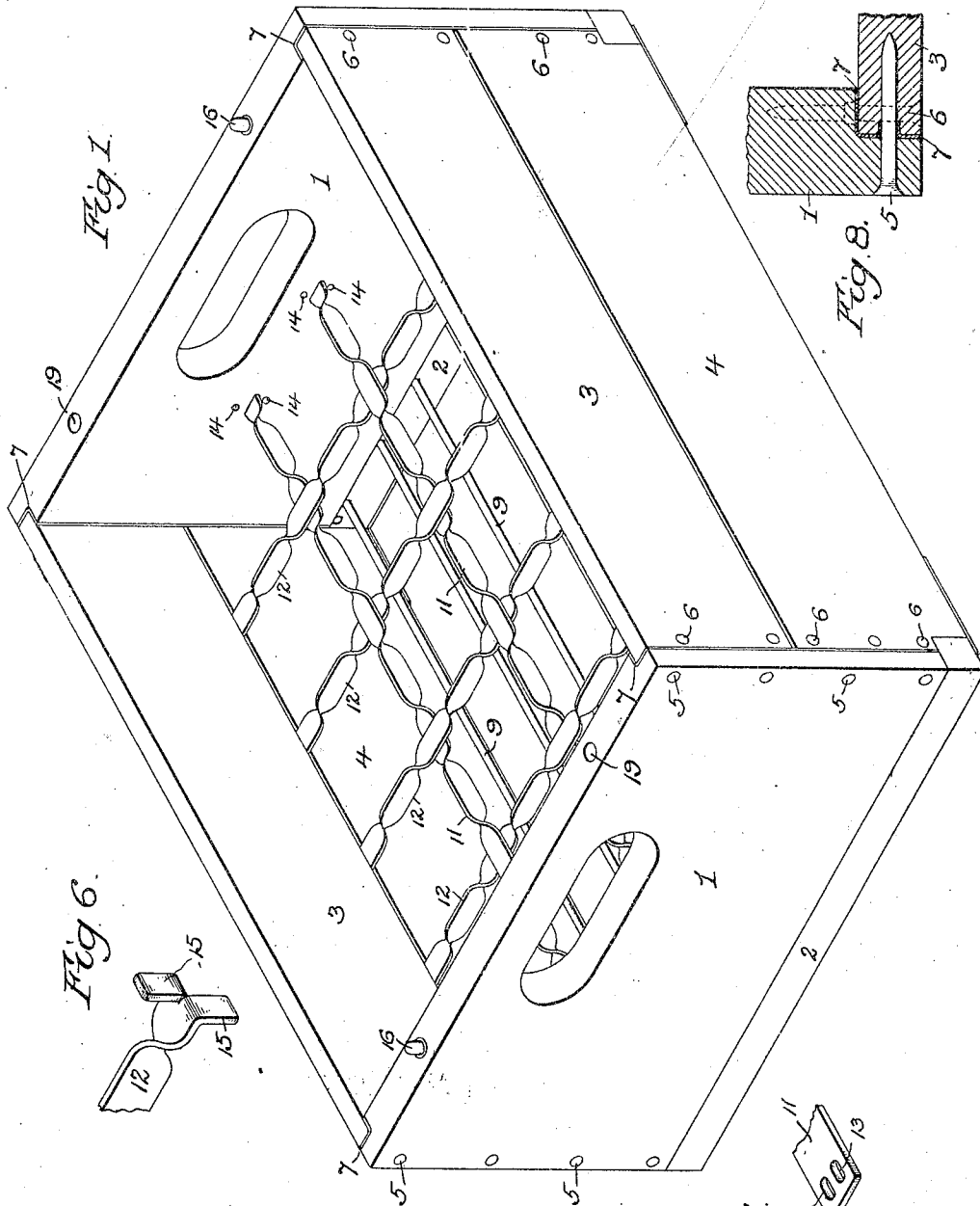


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A. L. FOREMAN.
BOTTLE CRATE.
APPLICATION FILED MAY 18, 1909.

Patented Jan. 21, 1913.

2 SHEETS—SHEET 1.



Witnesses
Hamilton D. Turner
Harry L. Smith

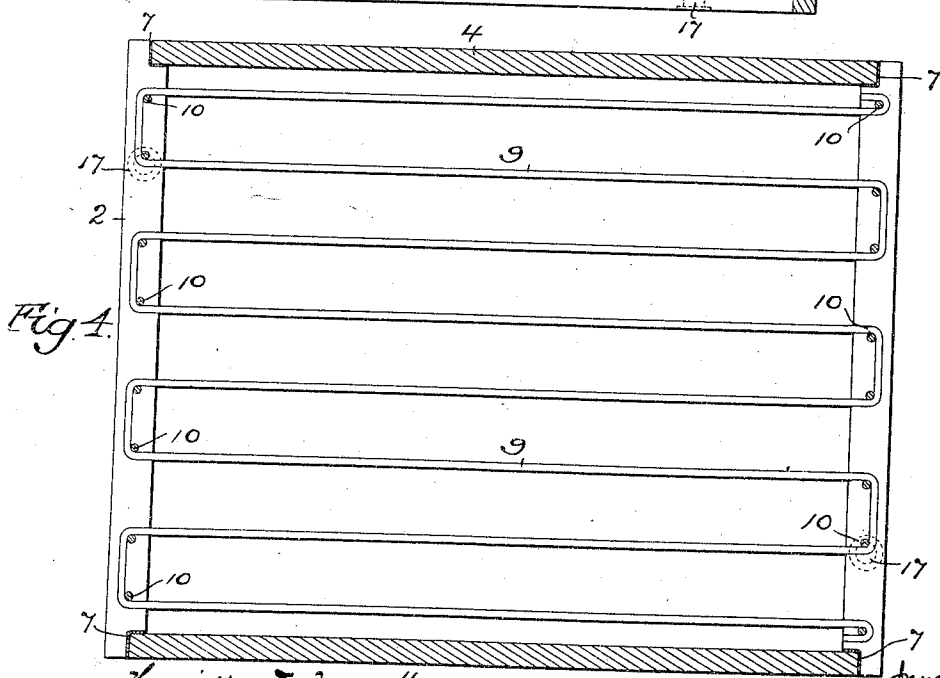
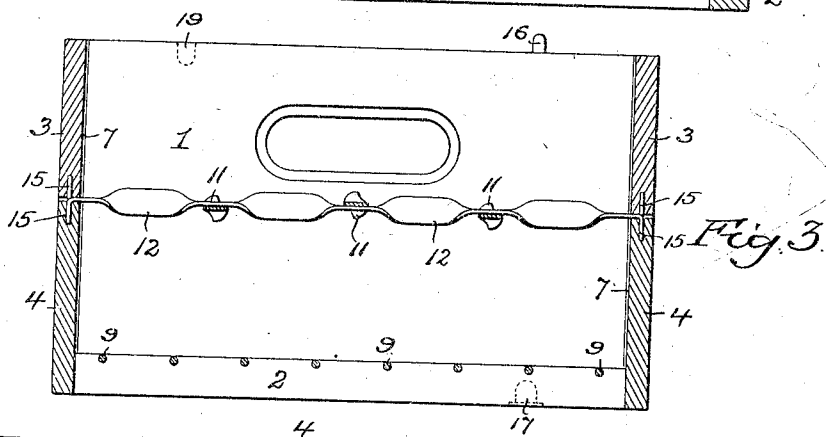
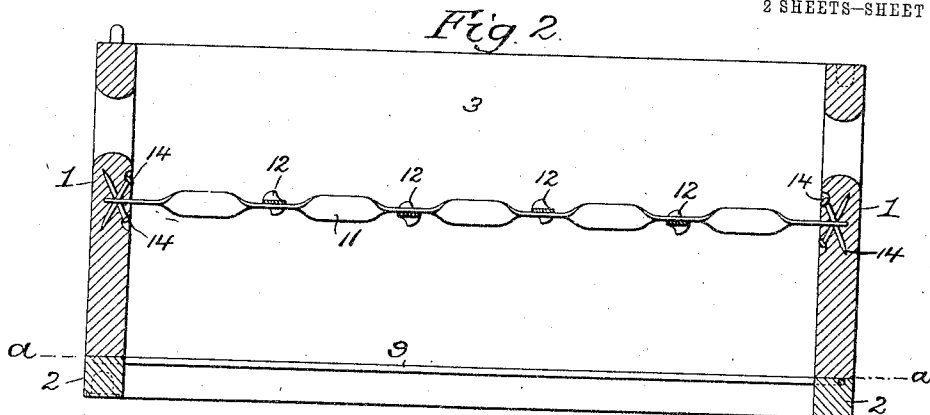
Inventor
Amos L. Foreman
by his Attorneys
Smith & Taylor

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Witnesses
Hamilton J. Turner
Harry L. Smith

Inventor
Almos L. Foreman
By his Attorneys
Smith & Dwyer

UNITED STATES PATENT OFFICE.

AMOS L. FOREMAN, OF PHILADELPHIA, PENNSYLVANIA.

BOTTLE-CRATE.

1,050,823.

Specification of Letters Patent.

Patented Jan. 21, 1913.

Application filed May 18, 1909. Serial No. 483,764.

To all whom it may concern:

Be it known that I, AMOS L. FOREMAN, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain improvements in Bottle-Crates, of which the following is a specification.

My invention consists of certain improvements in the bottle crate for which I obtained Letters Patent of the United States No. 915,581, on the sixteenth day of March, 1909, one object of my present invention being to protect from rusting or other injury the end portions of the laced wire constituting the bottom of the crate, another object being to provide the crate with a partition structure which will permit of a compact disposal of the bottles in the crate, will reduce to a minimum the dimensions of the crate, and will insure the proper support of the bottles by a single partition structure, a further object being to provide simple and secure means for attaching the ends of the partition members to the sides and ends of the crate, a still further object being to stiffen the corner joints of the crate, and a final object being to provide simple means for longitudinally and laterally locking the crates together when they are stacked one above another. These objects I attain in the manner herein set forth, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a bottle crate constructed in accordance with my invention; Fig. 2 is a longitudinal vertical section of the same; Fig. 3 is a transverse vertical section; Fig. 4 is a sectional plan view on the line *a-a*, Fig. 2; Fig. 5 is an enlarged longitudinal section of the end portions of two crates stacked one upon the other; Fig. 6 is an enlarged perspective view of the end portion of one of the partition members of the crate; Fig. 7 is an enlarged perspective view of the end portion of one of the other partition members of the crate, and Fig. 8 is an enlarged sectional view of one of the corner joints of the crate.

The opposite ends of the crate are each composed of pieces 1 and 2, and the opposite sides of the crate are each composed of pieces 3 and 4, although the sides may be composed of more than two pieces if desired and will be thus constructed if more than one partition structure is used in the crate.

Each of the end pieces 1 is rabbeted at

each end for the reception of the ends of the side pieces 3 and 4, and these members of the box crate secured together by means of longitudinal nails 5 driven through the end pieces and into the side pieces and also by means of transverse nails 6 driven through the side pieces and into the end pieces so as to insure an exceptionally strong and rigid corner joint, which joint is still further strengthened by means of angular sheet metal strips 7 interposed between the rabbeted portions of the end piece 1 and the end portions of the side pieces 3 and 4, the metal of which these strengthening strips is composed being preferably of a non-corrosive character and so soft that the nails can be driven through the same and will cause the formation of burrs on the strips, which burrs will be driven into the adjoining portions of the wooden end or side pieces, and will thus give the strip a positive hold upon the latter, as shown in Fig. 8.

The lower piece 2 at each end of the crate is of the full thickness of the end piece 1 and is let into a rabbet at each end of the lower side pieces 4 of the crate, as shown in Fig. 1, and in the meeting faces, or one of the meeting faces, of the top and bottom end pieces, preferably in the upper face, of the bottom piece, are formed sockets for the reception of the end portions of the laced wire 9 which constitutes the bottom of the crate, said wire being in contact with the nails 10 whereby the top and bottom pieces of each end of the crate are secured together. (See Fig. 4.)

The end portions of the wire lacing constituting the bottom of the crate are thus completely inclosed and protected and are not liable to injury from rust or other cause.

The wire of which the bottom of the crate is composed is applied to the sockets before the bottom end pieces 2 are secured to the top end pieces 1, and said laced wire is tightly stretched when the sides of the crate are inserted into place, consequently the laced wire provides an elastic bottom for the support of the bottles and offers no obstacle to the convenient washing out of the crate by means of a hose or by immersion of the crate in water, the crate being thus readily kept in a sanitary condition and being available for the reception and retention of the bottles during the washing, rinsing and

sterilizing operations to which, in modern sanitary dairies, they are always subjected before being filled or refilled.

The box shown in the drawings has a single partition structure comprising longitudinal members 11 and transverse members 12, of which as many may be employed as the desired capacity of the box may suggest, the box shown in the present instance having three longitudinal partition members and four transverse members, whereby it provides compartments for twenty bottles.

Each of the partition members consists of a flat strip of sheet metal twisted so as to occupy a horizontal position at the crossing points and a vertical position between said crossing points, thereby permitting the partition members to lie closely together at the crossings and yet providing relatively broad, flat bearings for the sides of the bottles and rendering unnecessary more than one partition structure in the crate, although my invention is not limited in this respect.

The ends of the longitudinal partition members 11 are inserted into kerfs formed in the inner faces of the end pieces 1 of the crate, and above and below each of these kerfs is a recess for the reception of the head of a nail 14 one nail being driven diagonally downward from above the partition member and another being driven diagonally upward from below the same, as shown in Fig. 2, and the end of said partition member has openings 13, side by side, for the passage of these nails, as shown in Fig. 7. By this means the secure attachment of the end portions of the longitudinal partition members to the end portions of the crate is insured.

The ends of each of the transverse partition members 12 are slitted and bent so as to form upwardly and downwardly projecting fingers 15, and the end portions of the partition members are disposed between the upper and lower side pieces 3 and 4 of the crate, preferably in such manner that the fingers 15 one located midway between the inner and outer faces of said side pieces, whereby, when the latter are driven together, some of the fingers 15 penetrate the upper side piece and others penetrate the lower side piece, as shown in Fig. 3, thereby securely locking the ends of the partition members 12 to the side pieces of the crate and causing them to form braces or ties which hold the side pieces of the crate in their proper lateral relation to one another and prevent any lateral spreading of the crate.

Instead of providing each end of each of the transverse partition members with fingers projecting in opposite directions some of said ends may be bent upwardly and others downwardly to engage the side pieces of the crate, but the construction shown is preferred.

Driven into the top of each of the end

pieces 1 of the crate is a dowel pin 16, which projects above the top of said end piece, the dowel pin at one end of the crate being disposed to the right of the longitudinal center of the same and that at the opposite end of the crate being disposed a like distance to the left of said longitudinal center, and in corresponding positions on the underside of the bottom pieces 2 at the ends of the crate are sockets 17 for the reception of these dowel pins, whereby, in stacking the crates one upon another, the entrance of the dowel pins of one crate into the sockets of the superposed crate will not only insure the stacking of the crates in line vertically with one another but will also provide for the locking of the crates together both longitudinally and laterally, and therefore insure the stability of the stack by preventing displacement of the crates composing the same.

In order to insure similar locking alignment when one crate is inverted and stacked upon another, each end piece 1 of the crate has in its top a recess 19, bearing the same relation to the longitudinal center of the crate as the dowel pin on the opposite end.

I claim:—

1. A bottle crate having upper and lower end pieces and a wire laced back and forth under tension between the opposite ends of the crate and embedded in sockets formed in the end pieces whereby the loops of the laced wire engage the end pieces and the latter resist longitudinal strain upon the wire.

2. A bottle crate having upper and lower end pieces, and a wire laced back and forth under tension between the opposite ends of the crate and embedded in sockets formed in the upper faces of the lower end pieces, whereby the loops of the wire are engaged by said lower end pieces and longitudinal strain upon the wire is resisted thereby.

3. A bottle crate having a partition structure comprising longitudinal and transverse partition members composed of twisted flat metal strips disposed to present contacting horizontal portions at the intersections and vertical portions between said intersections.

4. A bottle crate having end pieces with recesses therein, longitudinal partition members composed of flat metal strips having their ends let into said recesses and having perforations in said entering portions, and securing nails driven into the end pieces, passing through the perforations in the metal strips and engaging the end pieces above and below the strips.

5. A bottle crate having end pieces with recesses therein, longitudinal partition members composed of flat metal strips having their ends let into said recesses and having perforations in said entering portions, and crossed securing nails driven into the end pieces above and below the metal strips and

passing through the perforations in the latter.

6. A bottle crate having side pieces and transverse partition members whose end portions project between said side pieces and have bent ends driven into the latter and closely filling the recesses thus formed.

7. A bottle crate having side pieces and transverse partition members whose end portions project between said side pieces and

have reversely bent ends which are driven into the side pieces and closely filling the recesses thus formed.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

AMOS L. FOREMAN.

Witnesses:

HAMILTON D. TURNER,
KATE A. BEADLE.