Nov. 30, 1926.

1,608,702

H. A. LINDBLOM

CRATE

Filed April 27, 1925

Fig. 1.

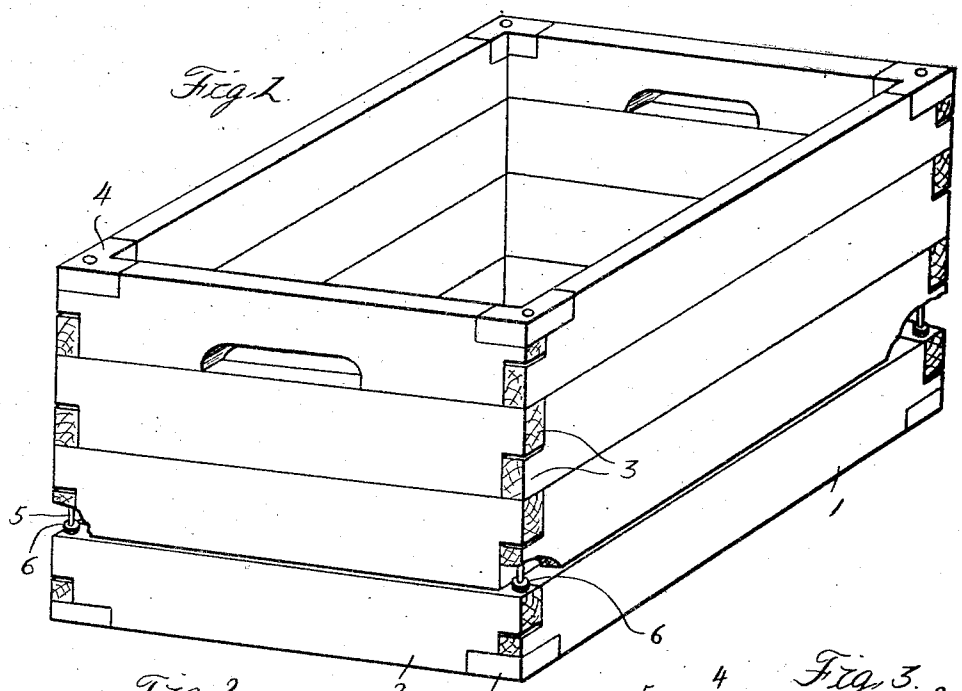


Fig. 2.

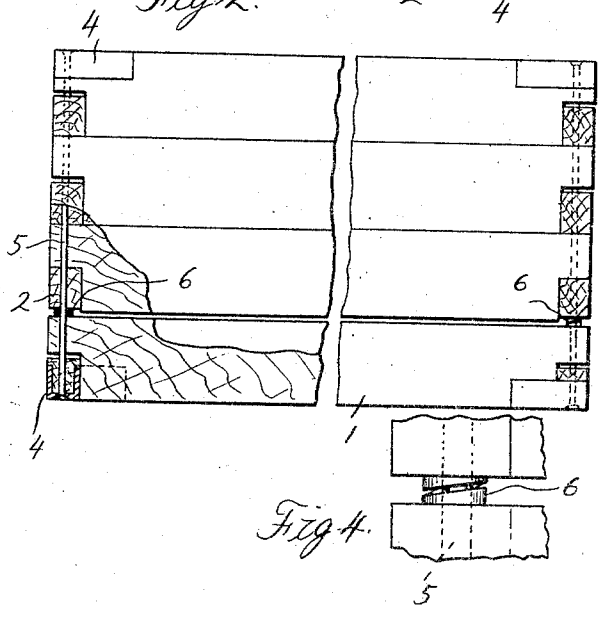


Fig. 3.

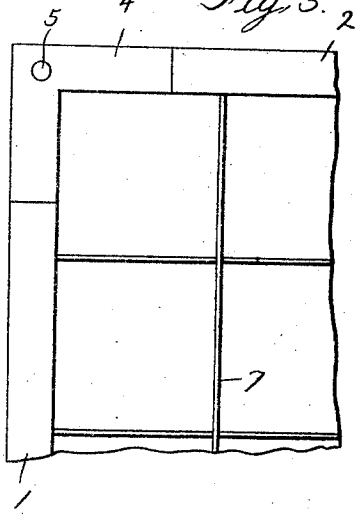


Fig. 4.

Inventor

Hugo A. Lindblom

By Whittemore, Hubbard & Whittemore & Belknap.

Attorneys

Patented Nov. 30, 1926. 1,608,702

UNITED STATES PATENT OFFICE.

HUGO A. LINDBLOM, OF DETROIT, MICHIGAN.

CRATE.

Application filed April 27, 1925. Serial No. 26,220.

This invention relates to crates and has for one of its objects the provision of a crate which will withstand rough usage. Another object is the provision of a crate having boards forming its sides and secured together in such a way that they may expand or contract without damaging the crate. With these as well as other objects in view the invention resides in the novel features of construction and combinations and arrangements of parts as hereinafter set forth;

In the drawings:—

Figure 1 is a perspective view of a crate embodying my invention;

Figure 2 is an enlarged side elevation thereof partly in section;

Figure 3 is an enlarged plan view of a corner portion thereof;

Figure 4 is an enlarged side elevation of a corner portion thereof.

The sides of the crate are formed of the side boards 1 and the end boards 2 which are respectively arranged edge to edge and have at their ends the inter-engaging tongues 3, which form the corner portions of the crate. The combined width of the two adjacent inter-engaging tongues is preferably less than the width of either board having one of these tongues. 4 are corner members for the crate preferably formed of sheet metal having portions above and below the upper and lower boards forming the sides of the crate. These corner members also preferably have portions at the inner and outer sides of these boards, these portions being preferably set into recesses in the boards so that the inner and outer faces of these corner members are substantially flush with the inner and outer faces of the boards. 5 are rods extending transversely of the boards and through the inter-engaging tongues 3, as well as the corner members 4, these rods being preferably peened at their ends into countersunk openings in the corner members. The lengths of the rods are preferably greater than the combined widths of the boards forming the sides of the crate so that the latter may expand in their planes without damaging the crate.

For the purpose of normally retaining the boards in separated relation and at the same time permitting of their expansion, I have provided spring washers 6, there being preferably one spring washer at each corner of the crate which surrounds the rod 5 at that corner and is located between adjacent tongues 3 of the side and end boards 1 and 2 respectively. These spring washers while normally retaining the boards from relative movement, nevertheless will permit movement of the boards toward each other in the event that they become wet and expand or in the event that the crate is roughly used and thrown from one place to another.

The crate as shown in the present instance has a bottom formed of the transversely extending wires 7 which extend through and are secured to the side and end boards.

From the above description it will be seen that I have provided a simple construction of crate in which means is provided for absorbing the shocks to which the crate is submitted while being handled. It will also be seen that I have provided a crate in which the boards forming the sides of the crate may expand or contract without damaging the crate and also in which these boards will normally be retained from relative movement. It will be further seen that the construction of the crate is such that the parts forming the same may be shipped in knocked down condition and subsequently assembled, suitable means being used to properly hold the boards in spaced relation while the ends of the securing rods are being peened over so that the spring washers will not be closed but will be capable of contraction after the crate has been formed.

What I claim as my invention is:

1. A crate, including separate boards forming the sides of the crate, means for loosely securing said boards together at one corner of the crate, and means for normally yieldably holding certain of said boards apart.

2. A crate, including separate boards forming the sides of the crate and provided with inter-engaging tongues at one corner of the crate, means for securing said boards loosely together, and means for normally yieldably retaining said boards from relative movement.

3. A crate, including separate boards forming adjacent sides of the crate and provided with inter-engaging tongues at their ends, and means engaging said tongues for securing said boards together, but permitting of relative movement thereof, and yieldable means for normally retaining said boards from relative movement.

4. A crate, including separate boards

forming adjacent sides of the crate and provided with inter-engaging tongues, means extending through said tongues for securing said boards together but permitting of relative movement thereof in their planes, and means positioned by said securing means and located between adjacent tongues for normally yieldably retaining said boards from relative movement in their planes.

5. A crate, including separate boards forming adjacent sides of the crate and provided with inter-engaging tongues, rods extending through the inter-engaging tongues for securing said boards together but permitting of relative movement thereof in their planes, and yieldable washers surrounding said rods and located between said adjacent tongues for normally retaining said boards from relative movement.

6. A crate, including separate boards forming the sides of the crate, and provided at their ends with inter-engaging tongues forming the corners of the crate, corner members for the crate located above and below the upper and lower boards forming the sides of the crate, rods extending through the inter-engaging tongues and corner members and secured to the latter, and resilient washers surrounding said rods and located between the inter-engaging tongues of certain of said boards for yieldably retaining said boards from relative movement.

7. In a crate the combination of two adjacent sides each including a plurality of members, said members forming a corner construction and means securing the adjacent ends of said members together in such a manner that under ordinary stresses relative movement therebetween is prevented and under unusual stresses relative movement therebetween is permitted.

8. In a crate the combination of two adjacent sides each including a panel member, said members forming a corner construction and means securing the adjacent ends of said members together in such a manner that under ordinary stresses relative movement therebetween is prevented and under unusual stresses relative movement therebetween is permitted.

In testimony whereof I affix my signature.

HUGO A. LINDBLOM.