No. 667,755. Patented Feb. 12, 1901.

W. H. WRIGHT.

CRATE.

(Application filed May 2, 1900.)

(No Model.)

Fig. 1.

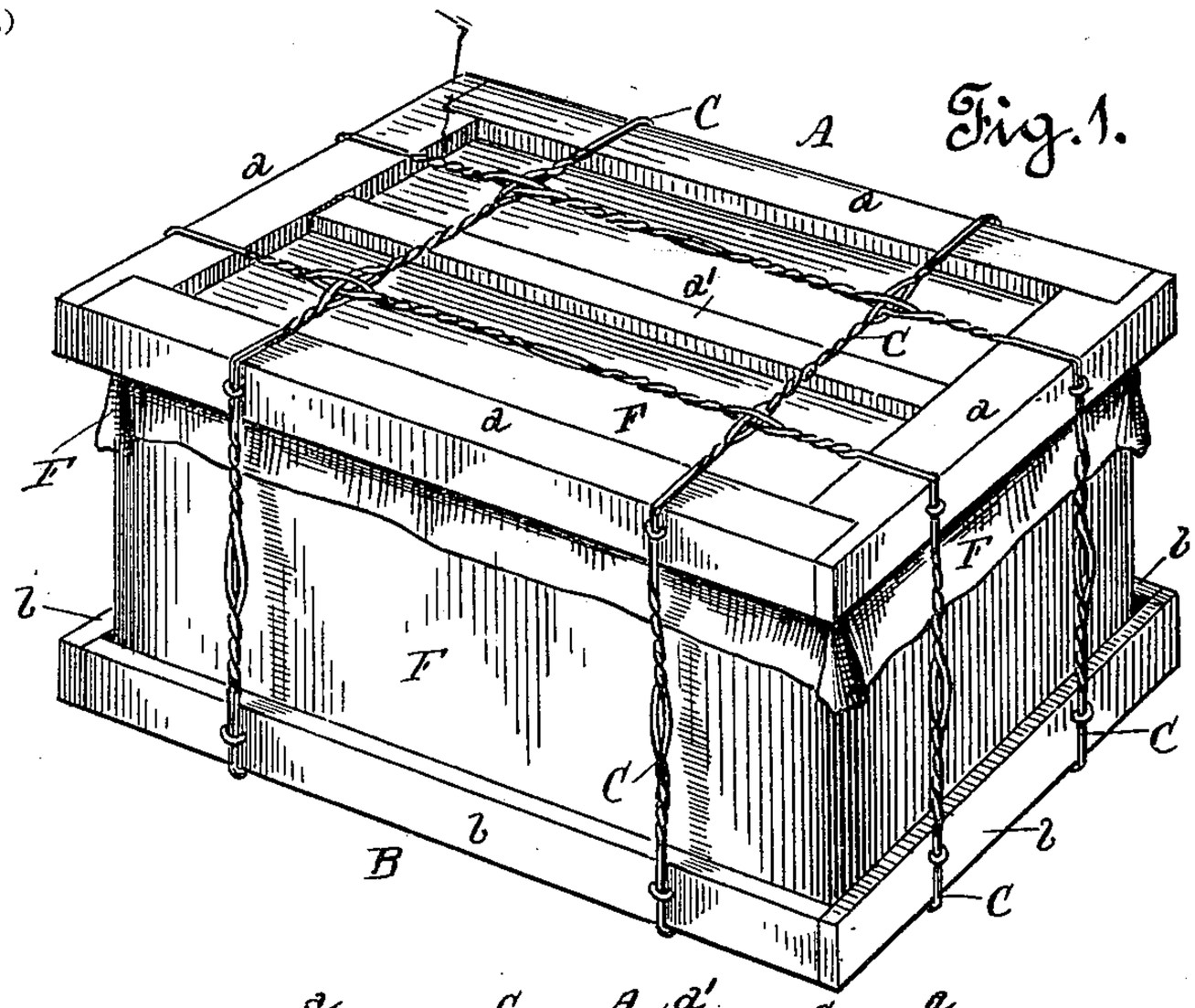


Fig. 2.

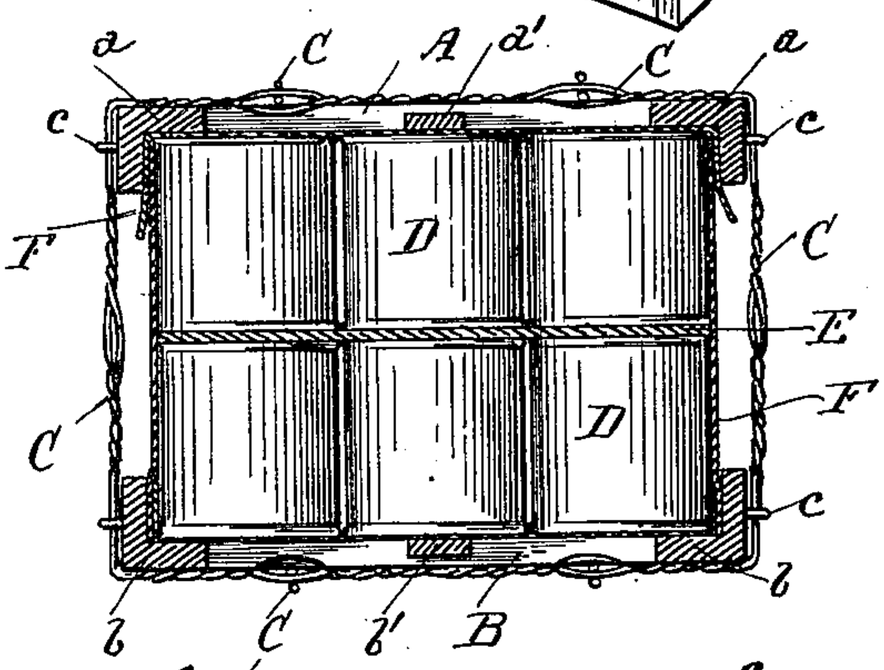
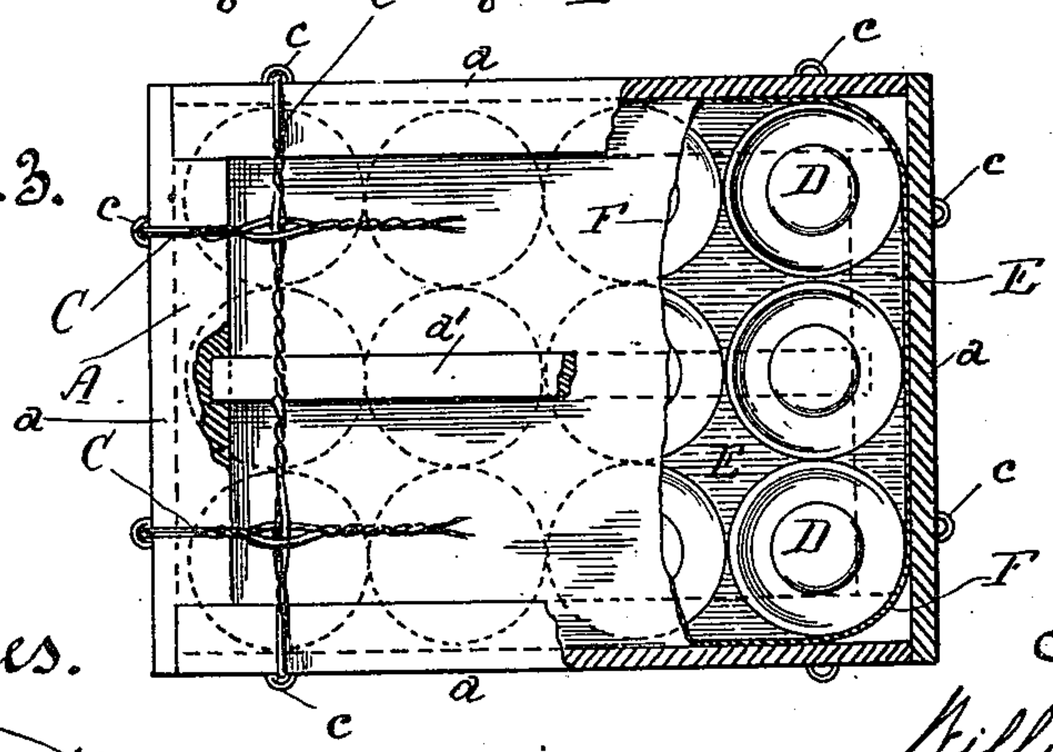


Fig. 3.



Witnesses.

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Walter F. Vane.

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UNITED STATES PATENT OFFICE.

WILLIAM H. WRIGHT, OF SAN JOSÉ, CALIFORNIA.

CRATE.

SPECIFICATION forming part of Letters Patent No. 667,755, dated February 12, 1901.

Application filed May 2, 1900. Serial No. 15,215. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. WRIGHT, a citizen of the United States, residing at San José, county of Santa Clara, and State of California, have invented certain new and useful Improvements in Crates; and I do hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to crates; and it consists in a crate composed of independent top and bottom frames adapted to be fitted to the top and bottom peripheral edges of the crate contents and wires or other tension-ties connecting said frames and binding them to said contents.

The object of my invention is to secure economy in manufacture and transportation by providing a simple and cheap crate of small amount of material and light in weight and at the same time of sufficient strength and rigidity, these results being secured by depending upon the strength and rigidity of the crate contents and not upon these qualities in the crate itself.

Referring to the accompanying drawings, Figure 1 is a perspective view of my crate. Fig. 2 is a vertical cross-section of same. Fig. 3 is a top view, partly broken.

The crate consists in general of a skeleton top frame A, a skeleton bottom frame B, and binding-wires or other tension-ties C. The top and bottom frames are alike, each consisting of border strips or pieces *a* and *b* and intervening strips or pieces *a'* and *b'*, respectively. The border strips or pieces are constructed with angle cross-sections, as shown, and those of each frame are fitted together with any suitable joints—miter-joints, shoulders, halving-in joints, or otherwise—and though they may be fastened at the joints they are preferably left unfastened, being merely fitted together in such manner that their inner angles are continuous. The intervening pieces *a'* and *b'* are single strips extending between the border strips or pieces and fitted thereto by any suitable joint. The wires or other tension-ties C binding the top and bottom frames together pass entirely around the crate or package and are tightened thereon in suitable manner and may be secured by staples *c* at convenient points.

The particular use or application of this crate is for contents having a degree of rigidity sufficient to be self-sustaining—for example, canned goods. I have therefore illustrated the invention in this connection and have shown the contents as consisting of a number of cans or tins D. Where canned fruit is packed, it is customary to form the package of two dozen two-and-one-half-pound tins. In a package of this kind the arrangement is two tiers, each tier containing a dozen tins in three rows, each row having four tins. In my crate the tins of the outer or side rows of the bottom tier rest their outer edges within the angle border strips or pieces *b* of the bottom frame B, while the tins of the middle row are supported upon the intervening strip or piece *b'*, the end tins of said row being further supported by fitting within the end border strips or pieces. In like manner the tins of the upper tier are fitted to the top frame A. Then as all the tins are contiguous and find support from each other the wires or ties C connect the frames, hold the tins to each other, and bind the frames to the tins, thereby forming a package which depends for its strength and rigidity not upon the crate itself, but upon the strength and rigidity of the contents. It is possible, therefore, to make the crate exceedingly light by using as little material as possible and that of a strength so small that it would be absolutely insufficient if it had to depend upon itself for its rigidity. The strength of the crate may be said to depend upon tension and not upon compression, thereby giving maximum strength with minimum weight. Great economy results from this both in construction and in transportation.

In order to prevent the rigidity of the package from being endangered by a tendency of the tiers of tins to slip upon each other, it is best to insert between said tiers a plate E, of cardboard or other material, which is adapted to form what may be termed a "washer-like" division between the tins capable by its soft or yielding character of allowing the tins to be impressed therein sufficiently to insure them against slipping, a tendency to which they are liable when the package is turned upon one of its corners or angles, thereby giving an unusual or kind of torsional strain.

When the contents of the crate consist of

a less or of a greater number of tins than that which I have heretofore indicated, the crate will be modified by the omission of the intervening pieces a' and b' or an increase in their number. Thus where there are but two rows in a tier or layer the intervening pieces of the frames will be omitted, for in this case the tins of the rows will abut and form their own intervening support, and where the tiers or layers consist of more than three rows the number of intervening pieces will be increased—as, for example, in packing salmon-tins, where it is usual to include four dozen one-pound cans.

The contents of the crate may be left exposed or where desirable may be covered with suitably-wrapped waterproof material, as I have indicated by F. This will also afford opportunity for affixing a proper label.

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

1. A crate, consisting of a skeleton top frame, and a separate skeleton bottom frame, each frame being composed of angle border strips or pieces, adapted to embrace the top and bottom peripheral edges of the crate contents, and wires encircling the crate and forming the connection between, and adapted to bind said frames upon said contents.

2. A crate, consisting of a skeleton top frame, and a separate skeleton bottom frame, each frame being composed of angle border strips or pieces, adapted to embrace the top and bottom peripheral edges of the crate contents, and intervening strips or pieces adapted to bear upon said contents in planes between their edges, and wires, forming the connection between, and adapted to bind said frames upon said contents.

3. A crate, consisting of separate skeleton top and bottom frames adapted to fit the top and skeleton bottom of contents composed of a plurality of bodies, wires forming the connection between and adapted to bind said frames upon said contents and to hold the latter together, and suitable washers interposed between the bodies of said contents to prevent said bodies from slipping upon each other.

In witness whereof I have hereunto set my hand.

WILLIAM H. WRIGHT.

Witnesses:

WALTER F. VANE,

D. B. RICHARDS.