

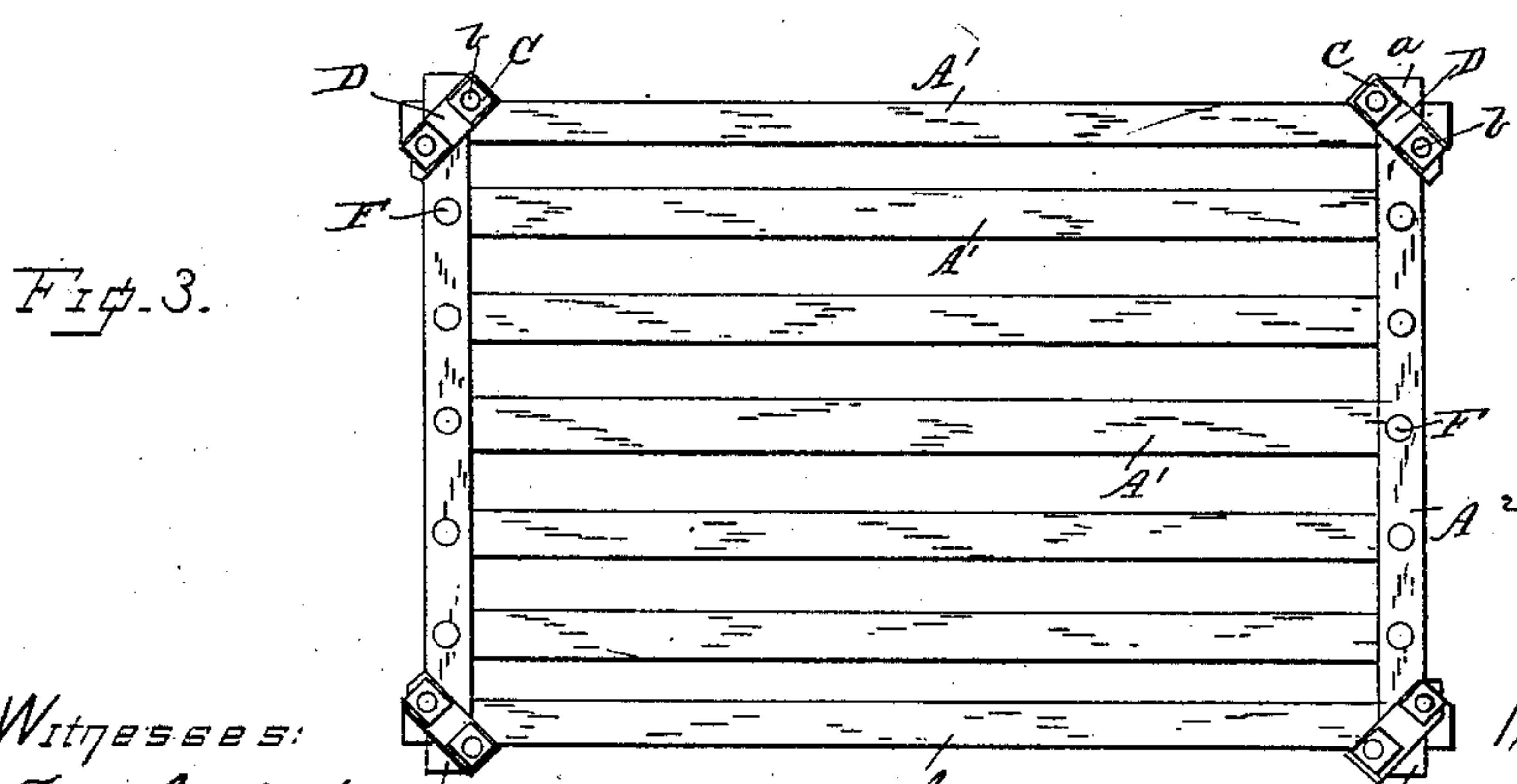
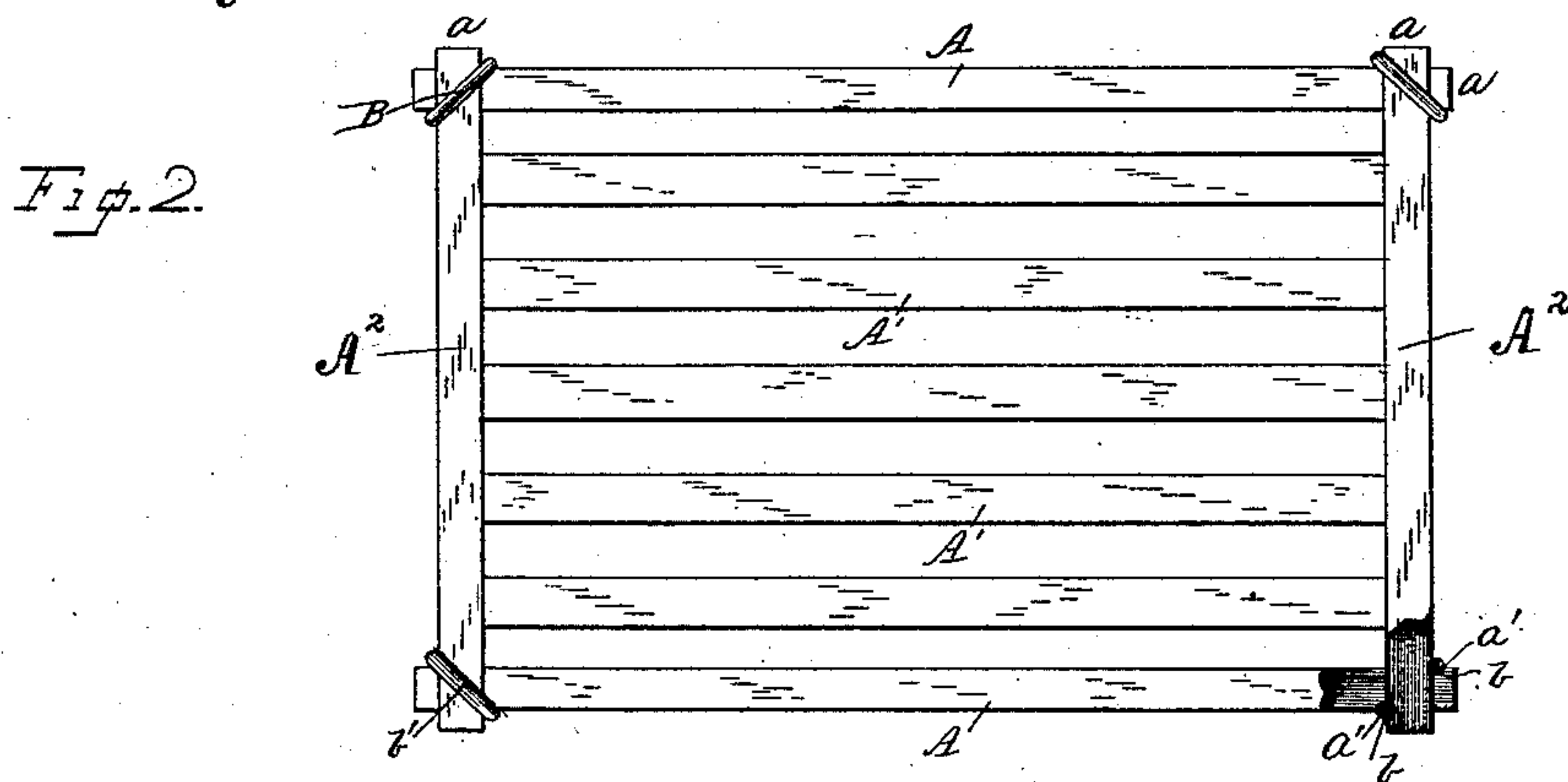
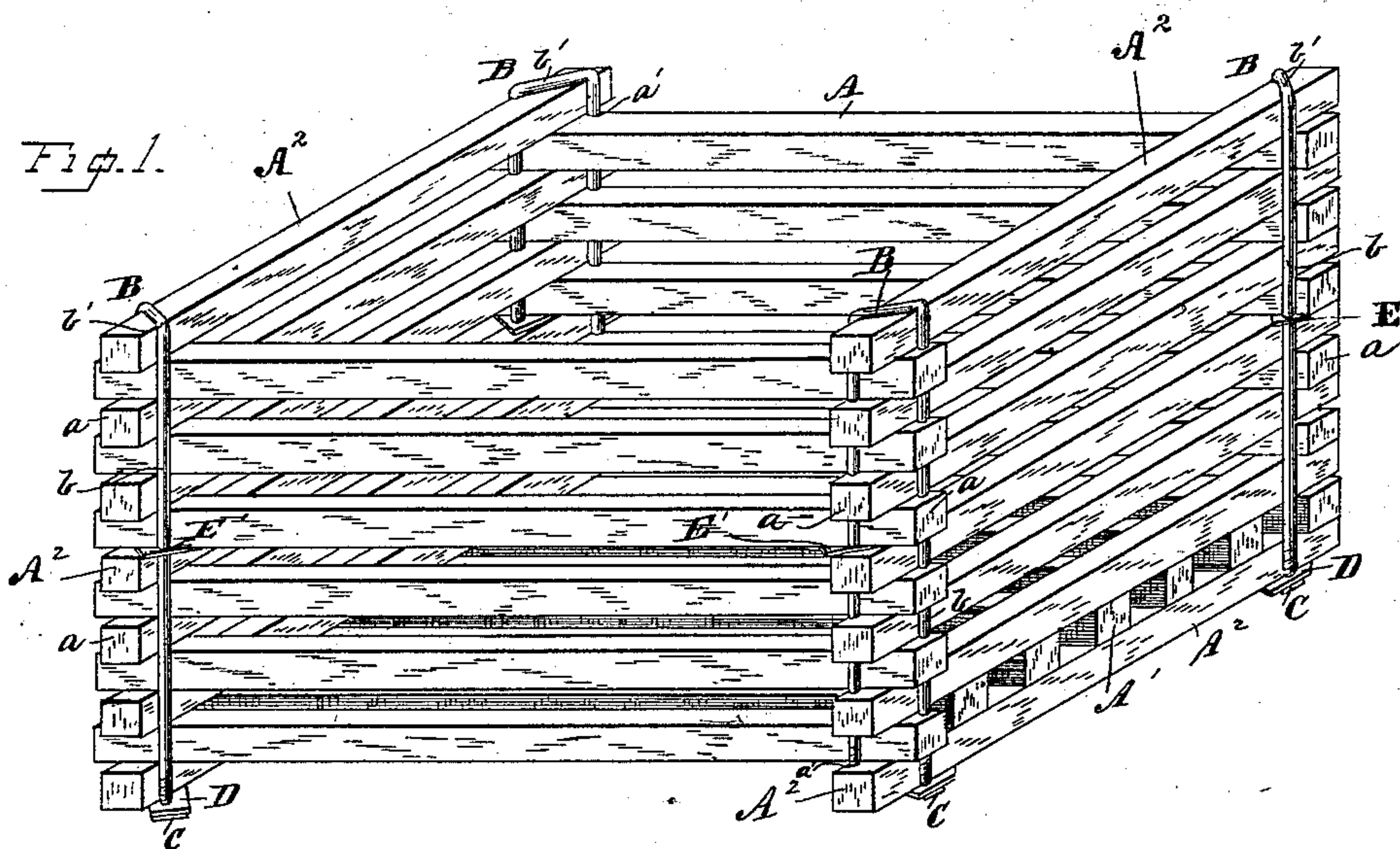
(No Model.)

H. W. REAM.

CRATE.

No. 347,198.

Patented Aug. 10, 1886.



Witnesses:

F. D. Smith

J. S. Barker.

Inventor

Hiram <sup>to</sup> Ream  
of Dumbleton & Bliss  
attys



# UNITED STATES PATENT OFFICE.

HIRAM W. REAM, OF CANTON, OHIO.

## CRATE.

SPECIFICATION forming part of Letters Patent No. 347,198, dated August 10, 1886.

Application filed April 2, 1886. Serial No. 197,559. (No model.)

*To all whom it may concern:*

Be it known that I, HIRAM W. REAM, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have  
5 invented certain new and useful Improvements in Crates, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to improvements upon  
10 crates, particularly to that class of crates adapted for use in the transportation of fruits and vegetables in which it is desirable that there should be free access of air to the contents; and it consists in certain improvements  
15 whereby a substantial crate may be made at a comparatively small cost, and without the use of nails or other devices which permanently hold the various pieces together, whereby it may be easily "knocked down" for reship-  
20 ping.

Figure 1 is a perspective view of a crate embodying my invention. Fig. 2 is a top view. Fig. 3 is a bottom view.

In the drawings, A represents the slats from  
25 which the sides are made, A' the slats of which the bottom is made, and A<sup>2</sup> those forming the ends of the crate. The slats which are used to form the sides and those which form the ends cross each other at right angles, their  
30 ends projecting slightly beyond the planes of the sides and ends, as at *a*, for a purpose to be described.

B B are elongated U-shaped wires or staples employed to unite and to hold firmly together  
35 the slats A, one of these binding-staples being employed at each corner of the crate. The two legs *b b* of each staple lie in the opposite exterior angles formed by the projecting ends *a* of the slats, the lower ends of the legs *b* being  
40 screw-threaded and adapted to receive nuts C.

D is a perforated plate, through which the ends of the wires *b* pass and against which the nuts C bear, these plates being arranged between the nuts and the lower bar or strip of  
45 the end of the crate. The upper end or loop, *b'*, of the staple passes over the upper slat, and it will thus be seen that when the nuts are screwed upon the lower ends of the legs *b* the whole series of slats at their points of inter-  
50 section will be tightly clamped and bound together.

In order to insure against the slats becoming loose or slipping out after the nuts have been tightened upon the binding wires or staple, I notch each bar upon the outside, as at  
55 *a' a'*, in which notches the legs of the staple lie. This renders it impossible for the slats to become detached, even though the nuts C should loosen to a considerable extent. It will of course be understood that the notches upon  
60 the slats A and those upon the slats A<sup>2</sup> are so related to each other that they lie one above the other in vertical lines.

E is a perforated plate through which the wires *b* pass. It is arranged between two other  
65 slats, A A', preferably the two about midway between the bottom and the top of the crate, and serves to prevent the wires or legs *b* from spreading, which might occur were the crate of considerable depth and the wires small and  
70 flexible. It will of course be understood that any number of these plates E may be employed, as found necessary.

The slats A', forming the bottom, are arranged between the two lowest slats of the  
75 side series, to which they are attached by nails or screws F.

I do not wish to be confined to making the binding-wires in U-shaped or in staple form, as shown, as I may employ a plate similar to  
80 that at D and nuts similar to those at C in place of the loop or transverse portion *b'* of the wire.

A crate of this character may be made of any desired size and at very small cost. It  
85 may be put together by any person, and is found to be both strong and rigid. It may be easily knocked down by removing the nuts C and plates D and withdrawing the wires or legs *b* from their seats in the slats, after which  
90 they may be placed upon the bottom, which serves as a convenient support therefor during reshipment.

What I claim is—

1. The herein-described crate, consisting of  
95 the slats crossed and having their ends projecting, as at *a*, beyond the planes of the sides and ends of the crate, binding-wires lying in the opposite exterior angles formed by said projecting ends *a*, and means for tightening  
100 said wires to bind together the slats, substantially as set forth.



2. In a crate, the combination of a series of slats which form the sides and ends of the crate, the slats being notched upon their outer sides, as at *a'*, binding-wires lying in said notches, and means for tightening said wires to bind together said slats, substantially as set forth.

3. In a crate, the combination of a series of slats which form the sides and ends of the crate, the staple-shaped binding-wire B, the legs *b* of which lie in the exterior angles formed by the projecting ends *a* of the slats, the plates D, and the nuts C, substantially as set forth.

4. In a crate, the combination of a series of slats which form the sides and ends of the crate, the slats being notched upon their outer sides, as at *a'*, the staple or U shaped binding-wire B, the legs *b* of which lie in said notches, and are screw-threaded at their lower ends,

and the nuts C, engaging with said legs and adapted to tighten said wire in order to unite the slats, substantially as set forth.

5. In a crate, the combination of a series of slats which form the sides and ends of the crate, the slats being notched, as at *a'*, the binding-wires *b*, lying in said notches, and the perforated plates E, through which pass the wires *b*, arranged intermediately between the top and the bottom of the crate and adapted to prevent the wires from escaping from said notches, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

HIRAM W. REAM.

Witnesses:

HENRY FISHER,

JACOB P. FAWCETT.