

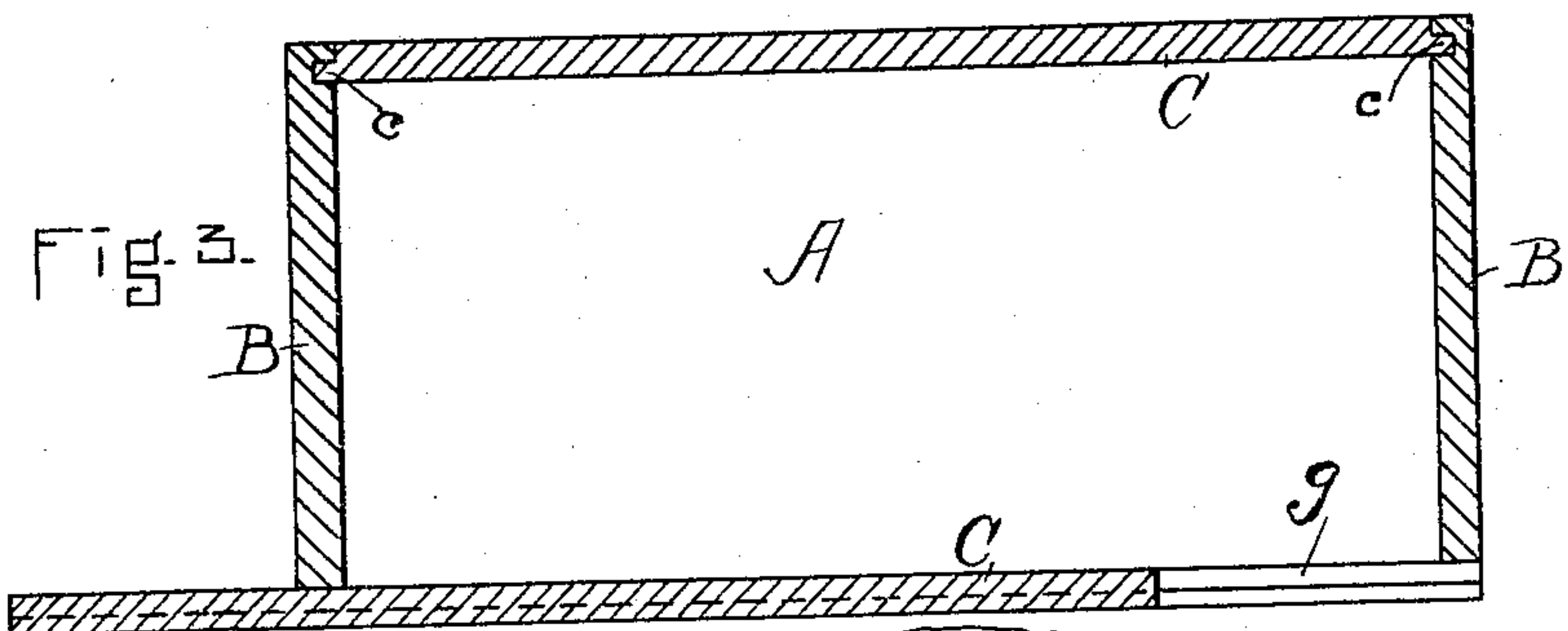
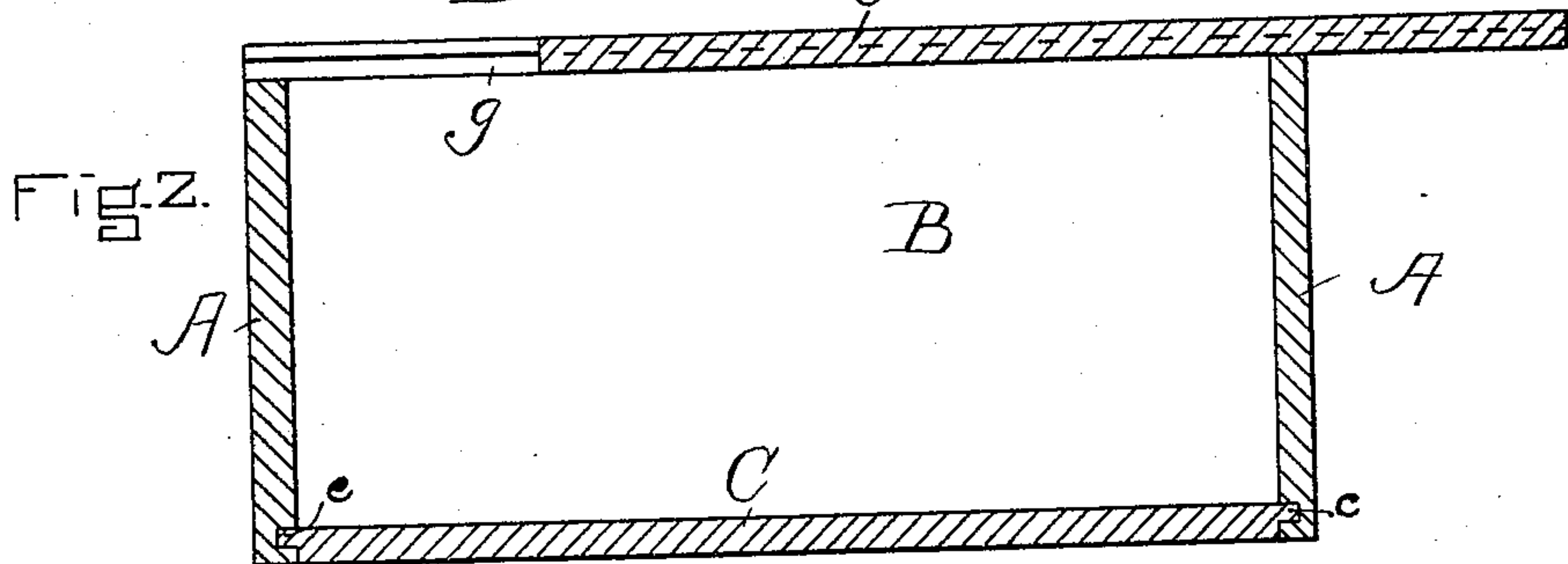
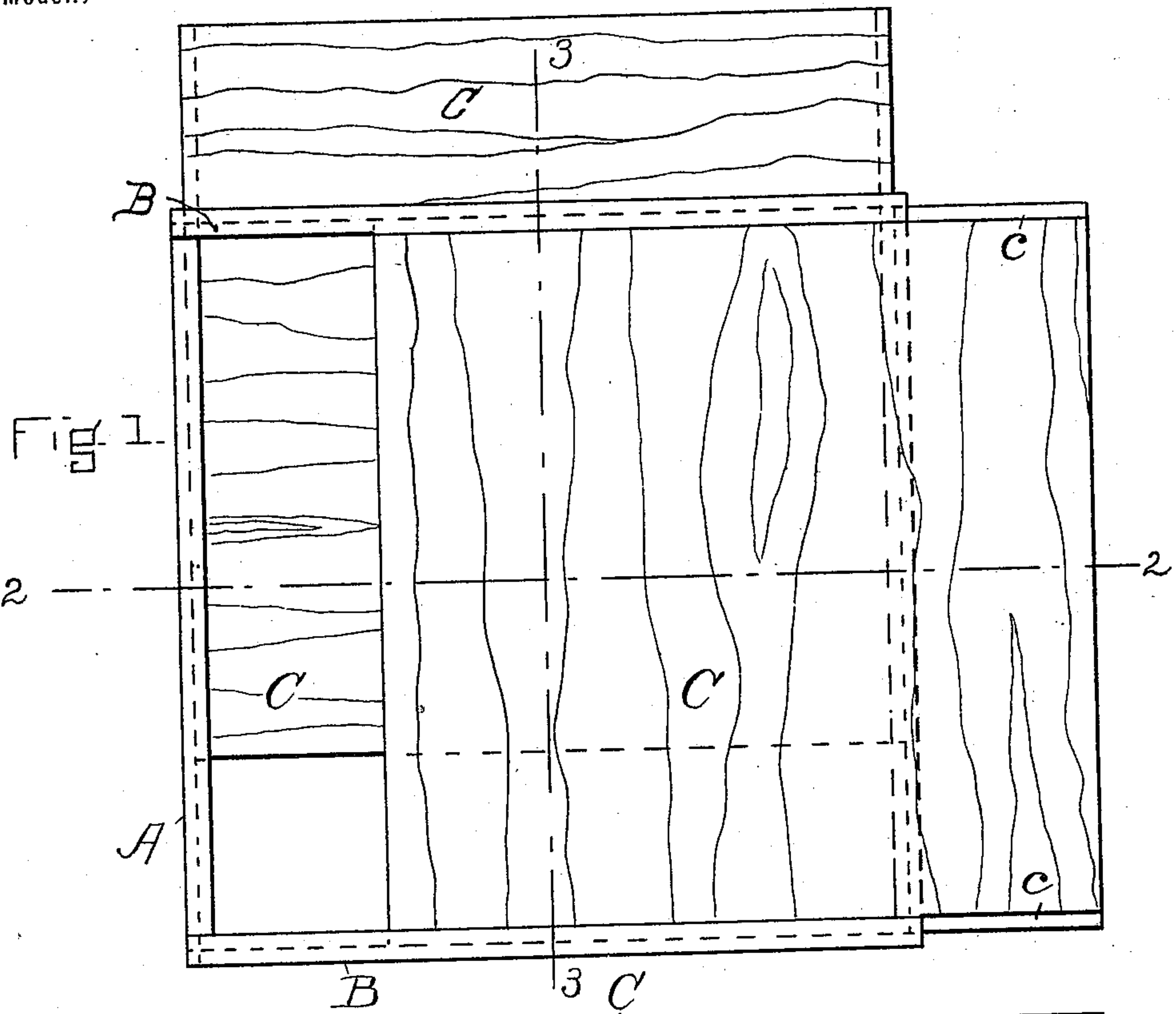
No. 617,999.

Patented Jan. 17, 1899.

W. L. ARCHER.
RECTANGULAR WOODEN BOX.

(Application filed Nov. 6, 1897.)

(No Model.)



WITNESSES.
Matthew M. Blunt.
F. J. Carpenter

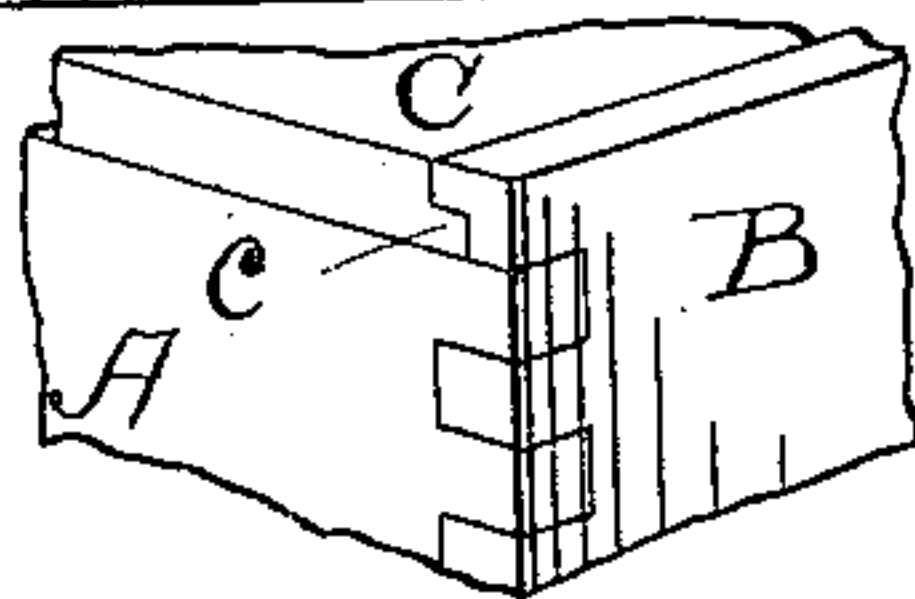


Fig 4. INVENTOR.
Wesley L. Archer
by A. H. French.
ATT'Y.

UNITED STATES PATENT OFFICE.

WESLEY L. ARCHER, OF CAVENDISH, VERMONT.

RECTANGULAR WOODEN BOX.

SPECIFICATION forming part of Letters Patent No. 617,999, dated January 17, 1899.

Application filed November 6, 1897. Serial No. 657,625. (No model.)

To all whom it may concern:

Be it known that I, WESLEY L. ARCHER, of Cavendish, in the county of Windsor and State of Vermont, have invented certain new and useful Improvements in Rectangular Wooden Boxes, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention is an improvement in wooden boxes especially adapted for holding butter or other substances of a damp nature or ordinarily kept in a damp place. The peculiarity which especially fits my box for such uses and at the same time makes it the cheapest to manufacture in large quantities is that the sides and ends are of the same width, but are offset, so that when firmly united at the corners the sides extend below the ends and the ends extend above the sides to a distance just equal to the thickness of the top and bottom covers, which parts are rabbeted on the ends of the grain of the wood and slide in grooves formed in the inner faces of the sides and ends, where they extend, as stated, below and above each other. Thus in the completed box there is no side wall or end wall to prevent the free sliding movement of the top and bottom either way in said grooves nor to interfere with their expansion laterally. The walls are rigidly united cornerwise, the joints being preferably mortise and tenon.

It is well known that wood expands sideways, but not endwise, when exposed to dampness. I utilize this fact by forming the rabbet on the ends of the grain of the top and bottom covers instead of on the sides and by offsetting the other parts, as stated, so that the covers can expand without bursting off the sides or ends. For butter-boxes and the like I make these covers of scant width to allow for the swelling incident to use.

The two covers in square boxes are exactly alike and interchangeable by simply inverting them, and the sides and ends are also identical in such boxes and may be assembled at random and permanently united for use by allowing the grooved edge of each to project to the extent of one mortise or tenon or the thickness of a cover beyond the edge of the adjacent part, the two sides projecting in one direction and the two ends in the other.

For various uses the rabbets and grooves may be omitted and other fastenings substituted, the covers fitting laterally between the raised offset edges and overlapping at their ends the interposed sides or ends of the box.

In the drawings, Figure 1 is a top plan showing the two covers partly drawn out. Figs. 2 and 3 are vertical sections, respectively, taken on lines 2 2 and 3 3 of Fig. 1. Fig. 4 is a perspective detail showing a corner of the closed box, the mortise-and-tenon joint denoting the firm union of the offset vertical walls.

A A are the two sides, and B B the two ends, of the box, united cornerwise in any permanent manner, preferably by mortise-and-tenon joints, sometimes termed a "square dovetail." The two sides extend below the edges of the ends, and the two ends extend above the edges of the sides a distance equal to the thickness of the covers, and an internal groove *g* is formed at the base of such extensions parallel with the edges of the parts. These grooves form ways to receive the sliding covers, and they are just flush with the upper and lower edges of the interposed parts, so that when the covers slide in from either direction they lie between two of the vertical walls and their inner faces bear, respectively, on the top and bottom edges of the other two walls.

C C are the top and bottom covers, having rabbeted extensions *c* formed on the edges which come between the offset extensions of sides or ends A B. For special strength of these rabbets and to prevent splitting the vertical walls by swelling of the wood I form the rabbets on the end of the grain of the wood and flush with the inner face of the covers, so as to have the grooves *g* as far from the edges of A and B as possible. When the wood swells, it expands only laterally in the direction where there is no wall to resist its yielding. The grain of the wood under this plan runs in one cover at right angles to that in the other, and their respective directions of sliding movement differ in the same manner.

By providing the mortise-and-tenon joints at the corners of the boxes, as illustrated, the projecting edges in which the grooves are formed extend the entire length or width of the box from outside to outside. The effect

of this is to impart to each and every corner of the finished box when the lids are in place the appearance of the corners of a perfect cube, or, in other words, no objectionable or unsightly spaces or recesses are present. This enables the covers or lids to extend entirely across the box from outside to outside, and at the same time the rabbeted edges of the cover are completely hidden in the grooved offset edges of the sides or ends, as the case may be.

It is common to make boxes with a sliding top or bottom having lateral tongues working in grooves in the inner faces of the side walls and to reduce the height of one end to permit the cover to slide over it; but I am not aware of any construction prior to my invention where the sides and ends were permanently offset and both the covers were free to slide either way between the projecting edges of sides and ends and in a direction at right angles to each other, as herein set forth.

The patent to Nelson, No. 106,393, dated August 16, 1870, shows a box having side and end walls united cornerwise by grooved joints giving a sliding vertical movement of the sides with relation to the ends. Such boxes would lack the firm union and the permanent offset character of the sides and ends peculiar to my invention, and also the freedom of lateral expansion of the covers without bursting off the sides. The covers of Nelson's box slide in directions at right angles to each other; but they could not be moved either way when the box was closed without first sliding the sides or ends vertically, carrying the top or bottom with said sliding parts. This would render the box worthless for all practical purposes, the loose joints making the whole structure insecure and involving wide crevices at the other corners.

I claim as my invention—

1. A rectangular box having sides and ends of equal width united firmly by mortise-and-tenon joints and respectively offset below and above each other as stated, in combination with bottom and top covers fitting between said offset extensions and having their lower and upper surfaces respectively flush with the edges of said sides and ends, so offset, substantially as set forth.

2. A rectangular box having sides and ends firmly united, by mortise-and-tenon joints respectively offset below and above each other,

and grooved along the inner faces of such offset extensions, in combination with top and bottom covers fitting between said offset extensions, rabbeted on opposite edges to enter said grooves, and having their lower and upper surfaces respectively flush with the edges of said sides and ends, so offset, substantially as set forth.

3. A rectangular wooden box having sides and ends of equal width firmly united cornerwise by interlocking mortise-and-tenon joints, and respectively offset below and above each other a distance equal to the thickness of the cover, each side and end having a groove along the inner face of such offset extension, in combination with top and bottom covers having rabbets formed on the end of the grain of the wood, flush with the inner faces of said covers and adapted to fit and slide either way in said grooves, substantially as set forth.

4. A rectangular box having sides and ends of equal width firmly united cornerwise by mortise-and-tenon joints, the lower and upper edges of the two sides being permanently placed below the corresponding edges of the two ends, and the projecting portions of such sides and ends being grooved along their inner faces, in combination with bottom and top covers located between and externally flush with such projecting portions, and rabbeted endwise to fit in the grooves thereof but free to expand laterally and to slide either way over the edges not so projecting, the movement of the top cover being in a direction at right angles to that of the bottom; substantially as set forth.

5. A rectangular box having sides and ends of equal width firmly united at the corners by solid joints, and respectively offset above and below each other, in combination with top and bottom covers fitting between the offset portions and having their upper and lower sides respectively flush with the edges of said sides and ends, so offset, the inner surfaces of the offset portions extending to the outside of the box, substantially as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 29th day of October, A. D. 1897.

WESLEY L. ARCHER.

Witnesses:

F. W. MARSH,
A. D. L. HERRICK.