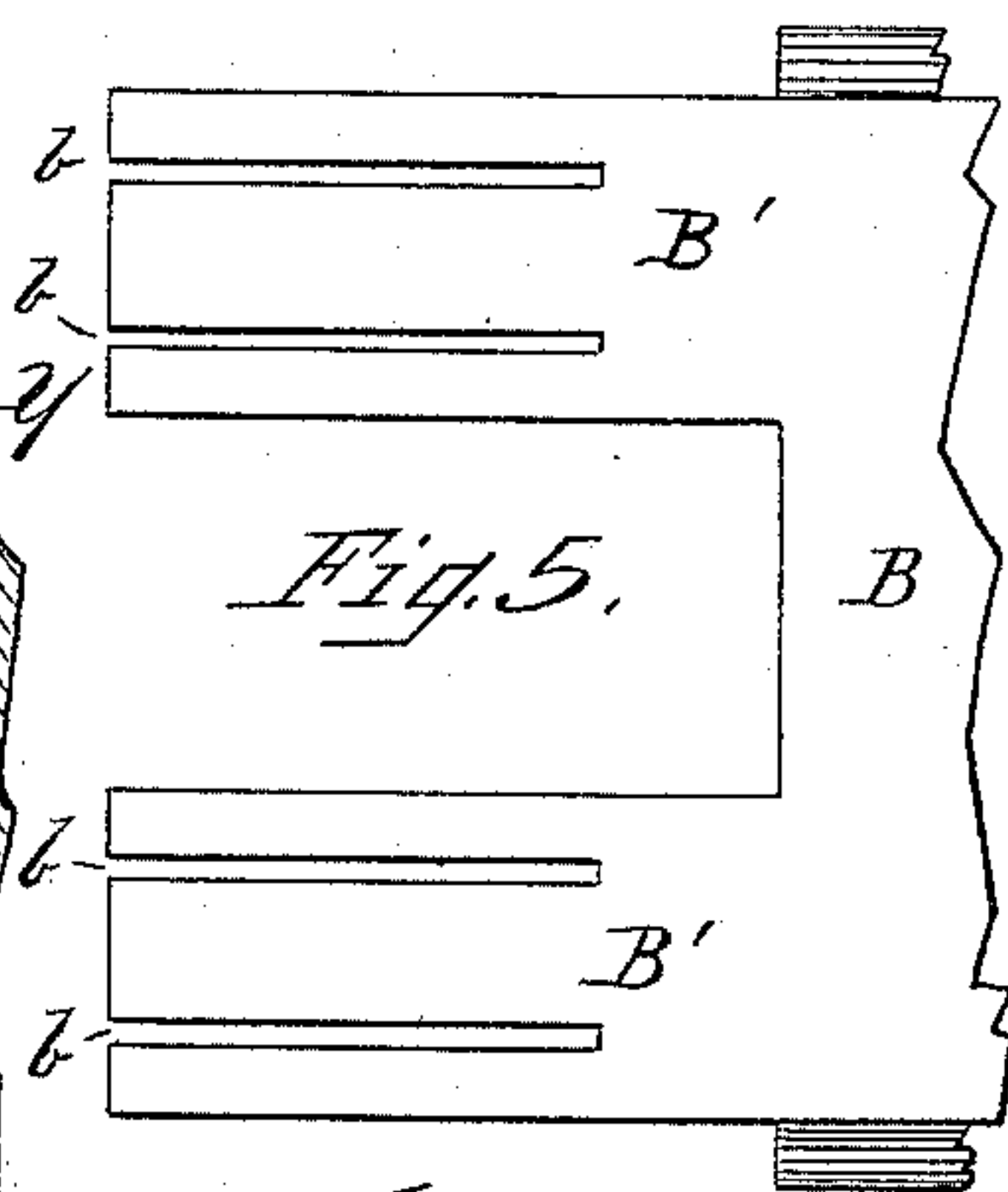
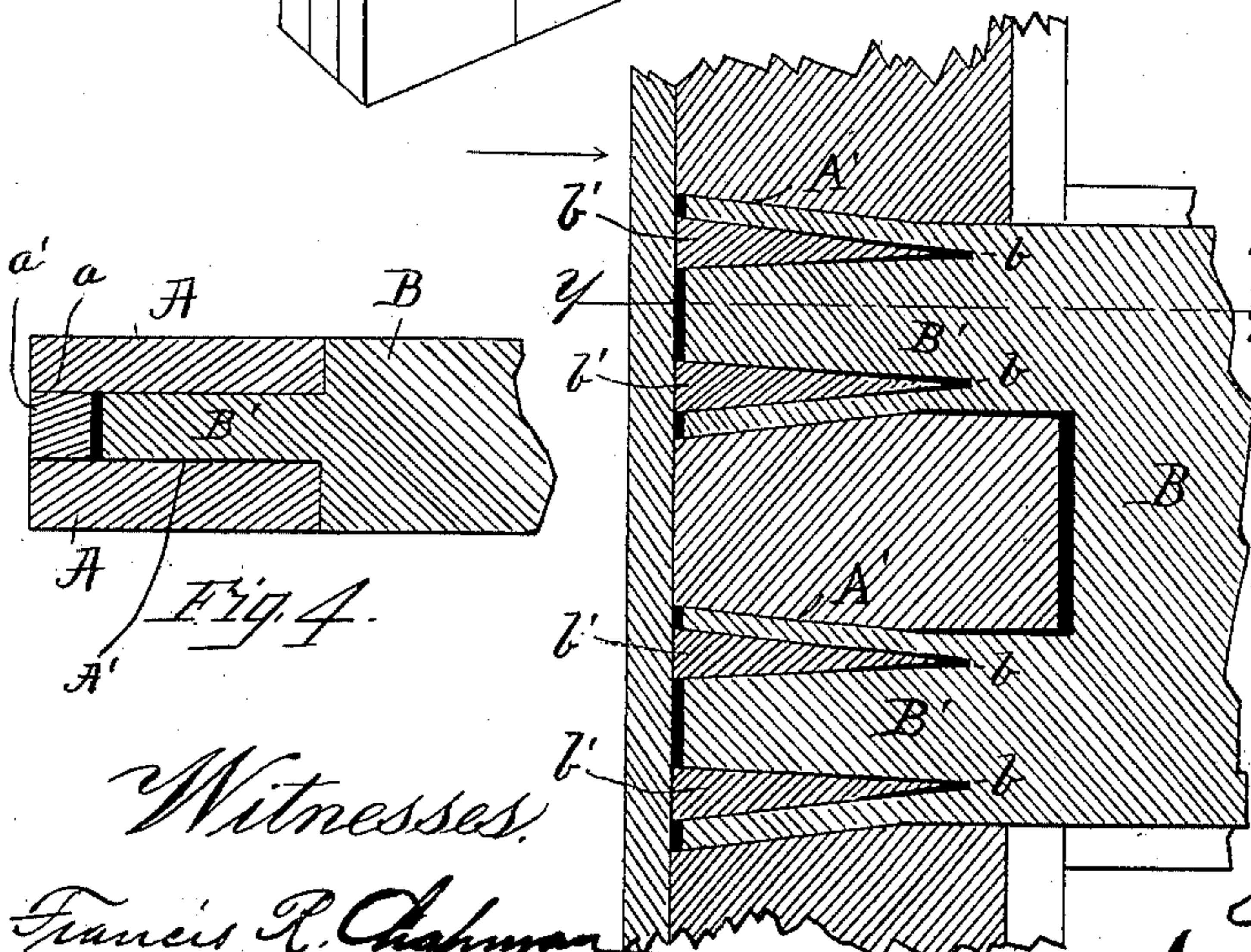
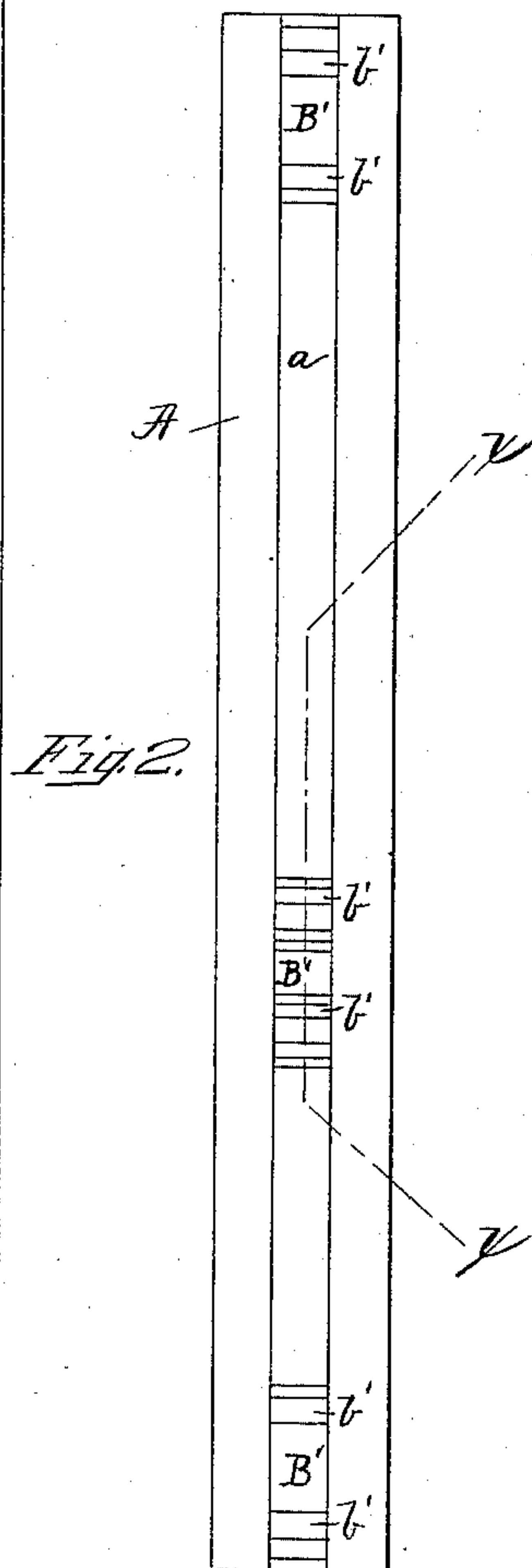
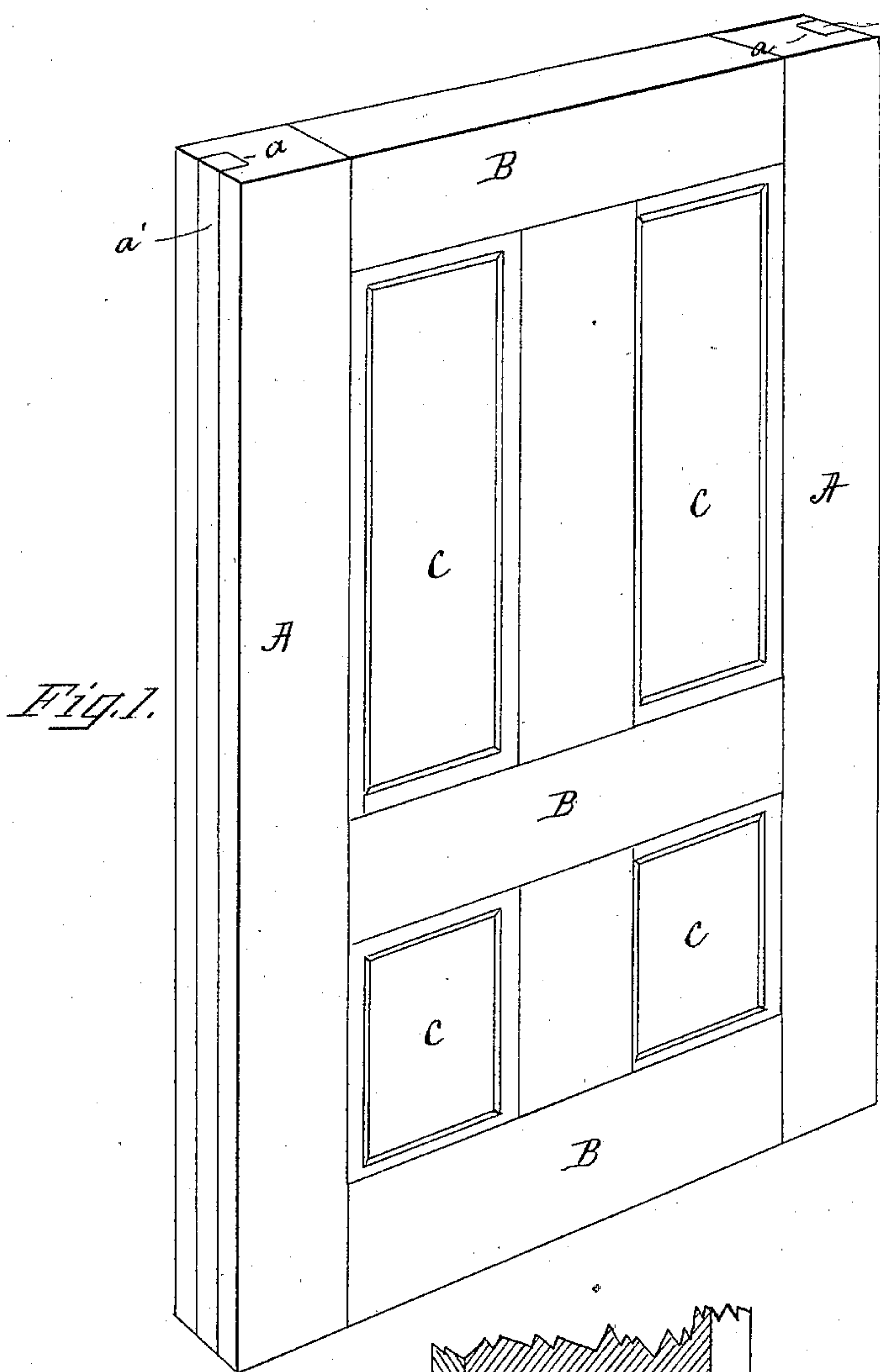


(No Model.)

J. H. MURRAY.
DOOR.

No. 427,599.

Patented May 13, 1890.



Witnesses.
Francis R. Chapman
M. J. Jackson

Inventor.
James H. Murray
by Alban C. Greiner, his atty.

UNITED STATES PATENT OFFICE.

JAMES H. MURRAY, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO ALBERT T. STEARNS, OF SAME PLACE.

DOOR.

SPECIFICATION forming part of Letters Patent No. 427,599, dated May 13, 1890.

Application filed February 6, 1890. Serial No. 339,479. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. MURRAY, a citizen of the United States, and a resident of Boston, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Doors, of which the following, taken in connection with the accompanying drawings, is a specification.

This invention relates to improvements in doors, and it is carried out as follows, reference being had to the accompanying drawings, where—

Figure 1 represents a perspective view of my improved door. Fig. 2 represents an edge view thereof before the tongue is glued in the stile-groove. Fig. 3 represents a detail vertical section on the line X X, showing the tongue inserted and glued in the stile-groove. Fig. 4 represents a cross-section on the line Y Y, shown in Fig. 3; and Fig. 5 represents a detail side view of the middle rail before its tenons are inserted in the stile-mortises and expanded by the wedges.

Similar letters refer to similar parts wherever they occur on the different parts of the drawings.

In making doors it has been the custom heretofore to make horizontal mortises in the stiles for receiving tenons on the rails, which tenons, when projecting entirely through the stiles, have been expanded by means of wedges driven in horizontal slits in the tenons. In such case the ends of the tenons have projected through the outer edges of the stiles, making an unsightly appearance, besides offering difficulty in the planing off of the stile-edges on account of the planing off of the cross-grain fibers of such projecting ends of the tenons. The wedges by which the tenons were expanded were liable to work out endwise, and thus loosening the connection between the rails and stiles, and to obviate such difficulties I construct my improved door as follows:

In the drawings, A A represent the stiles, and B B B the upper, middle, and lower rails. Each rail B is provided in each of its ends with one or more tenons B', slitted longitudinally, as shown at b b b b in Figs. 3 and 5, in the usual manner.

A' A' are mortises made through the stiles A A for the reception of the tenons B' B', said mortises being made preferably dovetailed—that is, wider in their outer ends as compared with their inner ends, as shown in Fig. 3.

b' b' are wooden wedges glued and driven into the slits b b of the tenons B' B' after the latter have been glued and introduced in the mortises A' A', by which said tenons are expanded and firmly secured to the stiles A A, as shown.

In the vertical edges of the stiles A A, I make grooves a a, preferably of a width equal to the width of the tenons B' B', into which are glued and driven the tongues a' a', as shown in Figs. 1, 3, and 4, said tongues having the grain of the wood arranged parallel and in the same direction with the wood in the stiles, as shown in Fig. 1. By this arrangement several advantages are obtained, among which may be mentioned: The outer edges of the tenons and their wedges are concealed. The vertical edges of the stiles may be planed and finished so as to give the appearance of blind tenons, with the same strength and holding-power as is obtained with face and through tenons, and the wedges by which the tenons are expanded are prevented from working outward by the said tongues a' a', which when glued in the grooves a a serve as stops for the said wedges b' b', as fully shown in Fig. 3.

C C represent panels in the door, as usual. In practice I prefer to expand the tenons B' B' by means of the wedges b' b'; but such wedges may be dispensed with, if so desired, without departing from the essence of my invention.

What I wish to secure by Letters Patent, and claim, is—

1. The herein-described door, consisting of the stiles A A, having longitudinal grooves a a in their outer edges and having lateral mortises A' A', in combination with the rails B B, having each one or more tenons B' B', adapted to be inserted in the said stile-mortises, and the tongues a' a', secured in the stile-grooves a a, substantially as and for the purpose set forth.

2. The herein-described door, consisting of

the stiles A A, having longitudinal grooves *a*
a in their outer edges and having the lateral
tapering mortises A' A', in combination with
the rails B B B, having each one or more slit-
5 ted tenons B' B', adapted to be inserted in
the said tapering stile-mortises and having
tapering wedges *b' b'* for expanding the same,
and the tongues *a' a'*, secured to the stile-
grooves *a a*, substantially as and for the pur-
10 pose set forth.

In testimony whereof I have signed my
name to this specification, in the presence of
two subscribing witnesses, on this 1st day of
February, A. D. 1890.

JAMES H. MURRAY.

Witnesses:

ALBAN ANDRÉN,
MARTHA J. JACKSON.