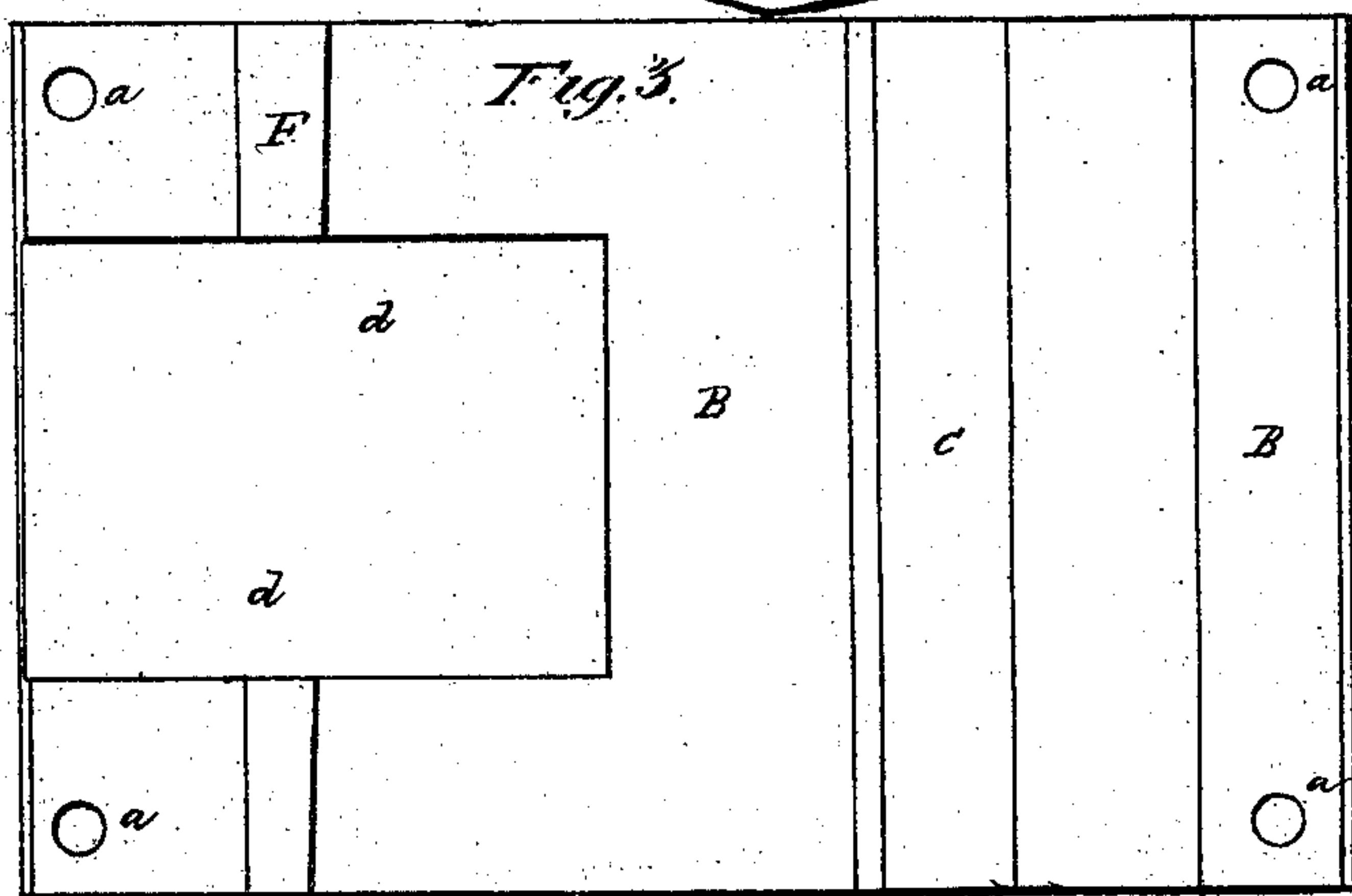
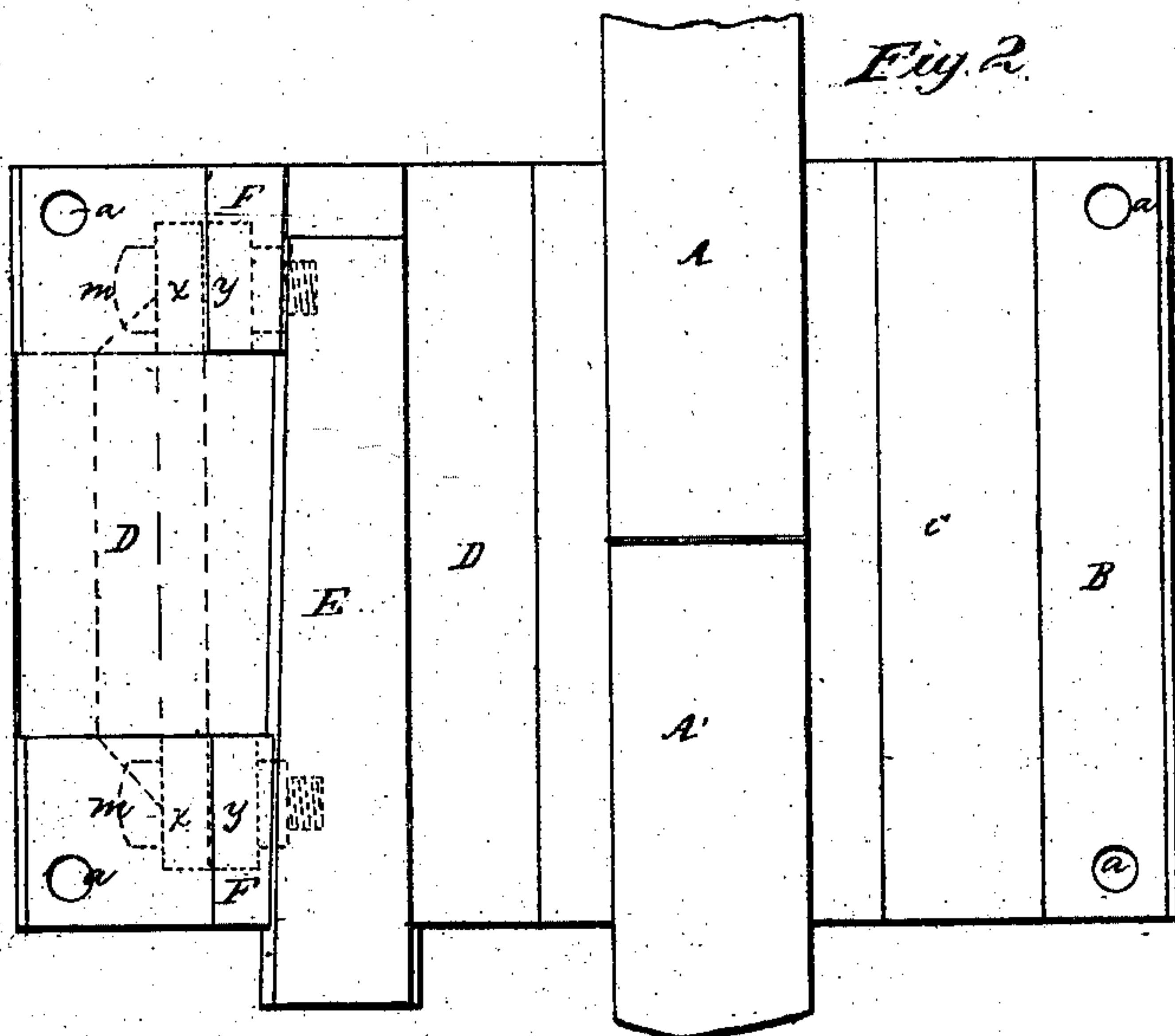
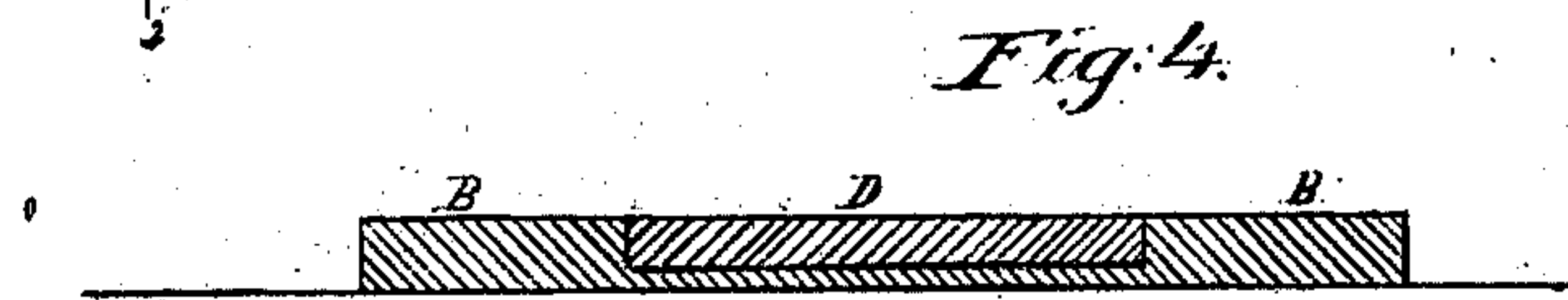
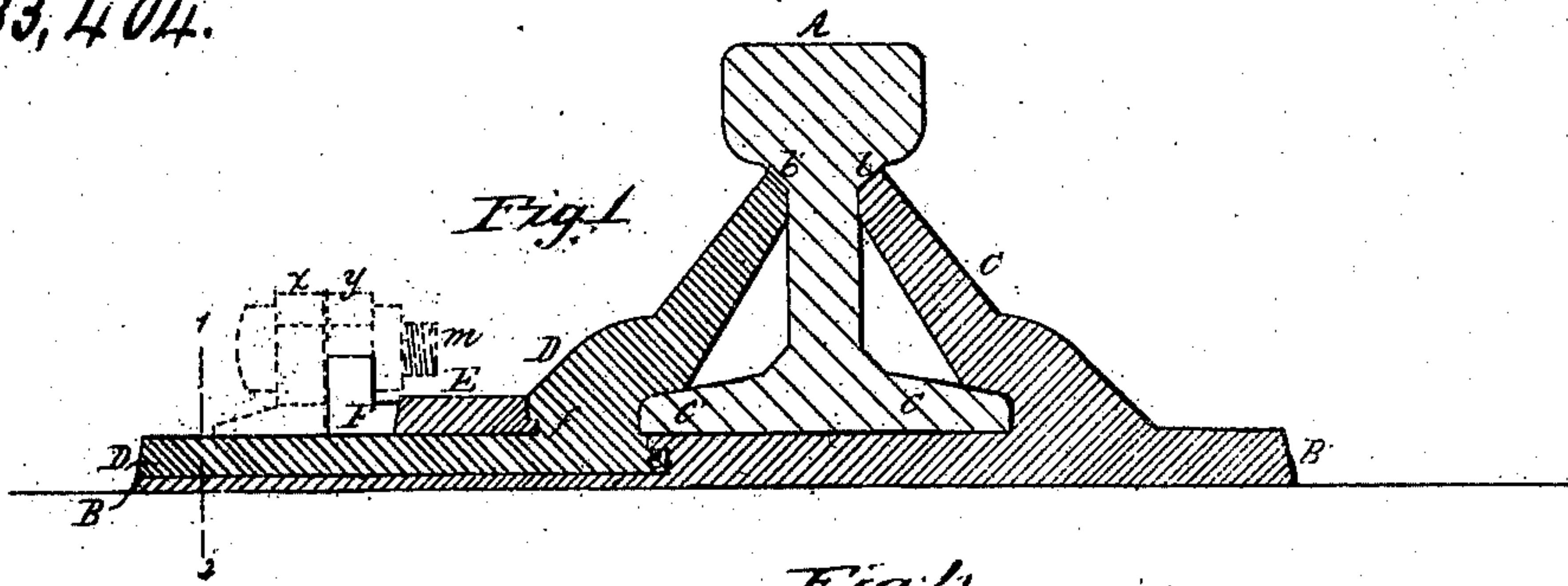


*B. C. Smith.*

*Railroad Chair.*

*Patented Oct. 1, 1861.*

*No 33,404.*



Witnesses: *Chas. E. Foster*  
*Chas. Howson*

*Henry Howson*  
*Atty for B. C. Smith*



# UNITED STATES PATENT OFFICE.

BARZILLAI C. SMITH, OF BURLINGTON, NEW JERSEY.

## IMPROVEMENT IN RAILROAD COUPLING-CHAIRS.

Specification forming part of Letters Patent No. 33,404, dated October 1, 1861.

*To all whom it may concern:*

Be it known that I, BARZILLAI C. SMITH, of Burlington, Burlington county, New Jersey, have invented a new and useful Improvement in Rail-Coupling Chairs; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My improved rail-coupling chair consists of two cast-iron plates, each being furnished with a projecting rib, one plate being arranged to slide on the other at right angles to the rails and the two plates being constructed, arranged, secured together, and adapted to each other and to the rails, substantially as described hereinafter, so as to form a coupling-chair for securely confining and affording a firm foundation for the ends of the rails, and at the same time affording greater facilities for laying, removing, and replacing the rails than cast-iron chairs of ordinary construction.

In order to enable others skilled in the art to make and use my invention, I will now proceed to describe the manner in which it is constructed and applied.

On reference to the accompanying drawings, which form a part of this specification, Figure 1 is a sectional view of my improved rail-coupling chair; Fig. 2, a ground plan; Fig. 3, the same with the rails and part of the chair removed; and Fig. 4, a sectional view on the line 1 2, Fig. 1.

Similar letters refer to similar parts throughout the several views.

A and A' represent the ends of two adjoining rails which rest on and are secured in their proper position by my improved chair, the main body of which consists of the plate B, the latter having at each corner a suitable hole for receiving the spikes by which the chair is secured to the sills or sleepers.

From the plate B projects the inclined rib C, the upper edge of which is arranged to bear against the portion *b* of the rails, the lower flange *c* of the latter fitting snugly into a recess formed in the inside of the inclined rib C at the point where the said rib meets the plate B. An oblong recess *d* is formed in this plate B for the reception of the horizontal portion of the plate D, which has an inclined rib similar to that on the plate B, the

upper edge of the said rib bearing against the portion *b'* of the rail and the inside of the rib being so formed as to fit on the top and against the edge of the flanges *c'* of the rails.

It will be observed that the inner edge of the horizontal portion of the plate D has a projecting flange or rib *e* fitting snugly into a recess formed in the plate B, so that when the two plates are fitted together, as seen in Fig. 1, the plate D can have no lateral or vertical movement independently of the plate B. The former plate, however, can be slid in its recess *d* from and toward the rails after removal of the key E, which is of the wedge form represented in Fig. 2, the bottom of the key resting partly on the plate B and partly on the plate D, one edge of the key bearing against the lower portion of the inclined rib of the plate D and the opposite edge bearing against the lugs E, one of which is cast to the plate B on each side of the recess *d*.

In order that the key may be maintained in its proper vertical position, it is furnished on one end with a rib or flange *f*, fitting snugly into a recess formed in the plate D at the point where the horizontal portion and the inclined rib of the said plate meet each other, the opposite edge of the key being beveled, so as to fit the beveled edge of the lugs F F.

Although I prefer the key E as a means of securing the plates together, it may be dispensed with and the plates connected to each other by means of bolts *m m*, (shown in dotted lines, Figs. 1 and 2,) each bolt passing through a lug *x*, cast on the plate D, and through another lug *y* on the plate B, or, should greater security be required, both the key and the bolts may be used.

It will be seen that in securing the two plates together the rails are so firmly gripped at the points *b* and *b'*, as well as at the lower flanges *c* and *c'*, that the ends of the rails become, as it were, a part of the chair.

On removing the fastenings the plate D may be slid out free from the rails, which may then by a lateral movement be drawn away clear of the chair.

It will be evident, therefore, that my improved chair affords greater facilities for readily laying, removing, and replacing the rails on the track than the ordinary chairs, which are cast in one piece and to which the

ends of the rails have to be fitted by sliding them endwise into the chamber formed for their reception.

I claim as my invention and desire to secure by Letters Patent—

The cast-iron chair composed of the plate B, with its rib C, and the sliding plate D, with a corresponding rib, when the two plates are constructed, arranged, and secured together and adapted to each other and to the

rails, substantially as and for the purpose herein set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

B. C. SMITH.

Witnesses:

HENRY HOWSON,  
JOHN WHITE.