# F. A. Brown

## Railroad Chair,

No. 35,076, Patented Apr. 29, 1862.

Fig. 2

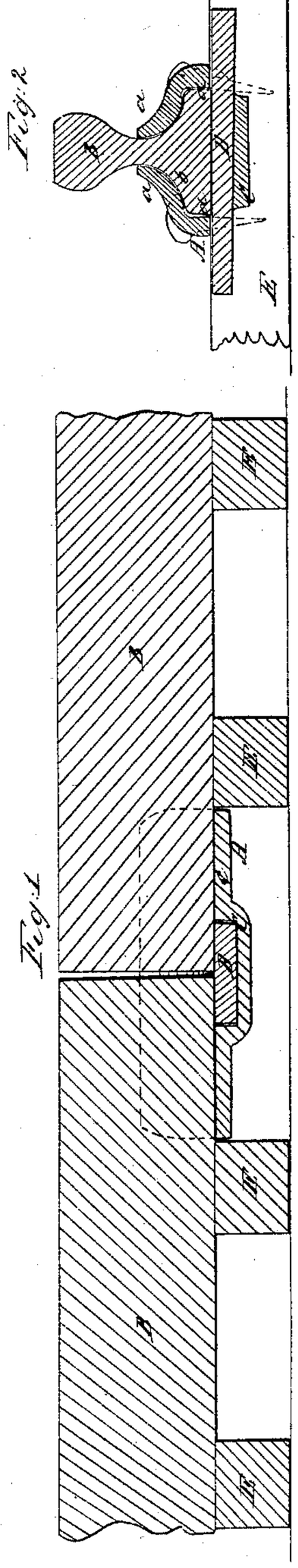
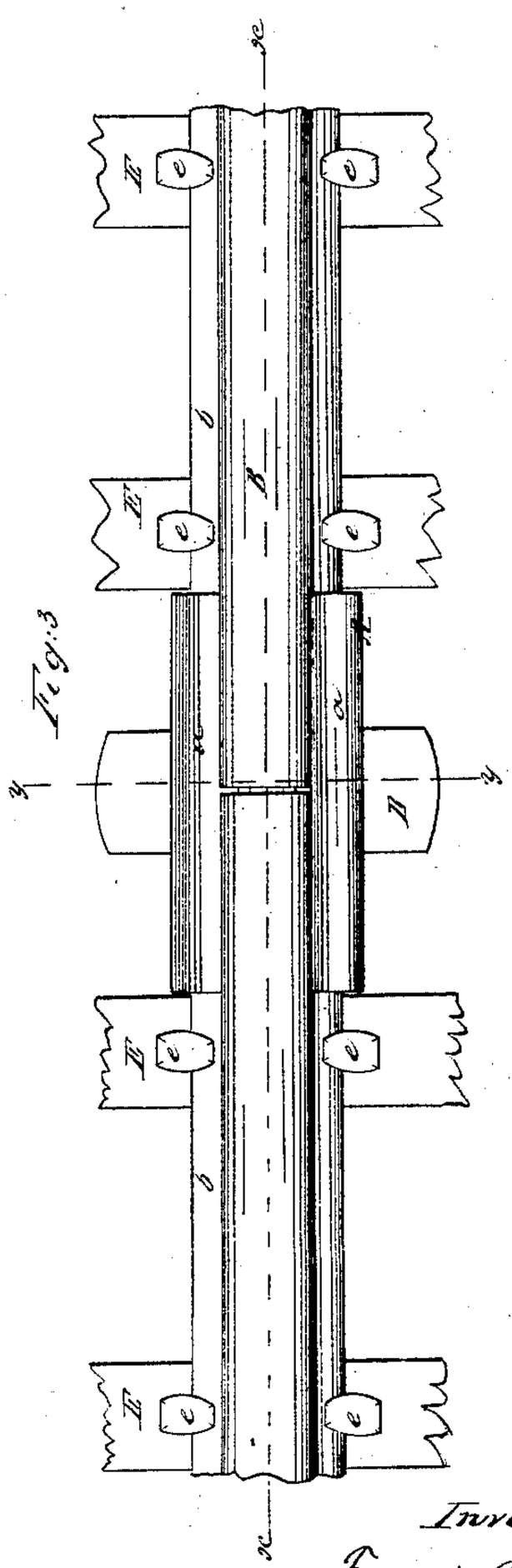



Fig. 1




Fig. 3

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# UNITED STATES PATENT OFFICE.

FRANCIS A. BROWN, OF ITHACA, NEW YORK.

## IMPROVEMENT IN RAILROAD-CHAIRS.

Specification forming part of Letters Patent No. **35,076,** dated April 29, 1862.

*To all whom it may concern:*

Be it known that I, FRANCIS A. BROWN, of Ithaca, in the county of Tompkins and State of New York, have invented a new and Improved Railroad-Chair for Securing the Ends of Rails Together; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a longitudinal section of my invention, taken in the line *x x* of Fig. 3; Fig. 2, a transverse vertical section of the same, taken in the line *y y* of Fig. 3; and Fig. 3 a plan or top view of the same.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to an improvement in that class of railroad-chairs which are attached to the ends of the rails between the sleepers.

The object of the invention is to obtain a chair of simple and economical construction, which will not only serve as a secure connection for the rails, but also have a tendency to firmly support the same under the weight to which they may be subjected, the downward pressure having a tendency to bind the ends of the rails and the chair firmly together.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents the chair, which is designed to be of wrought-iron and swaged from a plate of requisite thickness, so as to form a lip or flange, *a*, at each side, of a form corresponding to the bases *b b* of the rails B B, as shown clearly in Fig. 2. The bottom *c* of the chair is of sufficient width to receive the bottoms of the rails B B, and said bottom is slotted longitudinally at each side a certain portion of its length, as shown at *d d*, and the metal between said slots is forced or pressed down to form a box, C. The swaging of the lips *a a* and the joining of the box C may be done at a single operation by means of suitable dies and a press.

D represents a key or wedge, which is of wrought-iron, and is inserted in the box C, said key or wedge having a transverse position with the rails B B.

The rails B B are secured to the sleepers E by means of spikes *e*, as usual, and the ends of the rails are inserted in the chair A, which is between two sleepers and not connected therewith. The key or wedge D is then driven in or through the box C and the flanges *a a* are thereby drawn snugly down on the bases *b b* of the rails. The key or wedge D in being driven into the box C, has a tendency to force apart the upper ends of the rails at the same time that it draws the lips or flanges *a a* snugly to the bases *b b*. The chair therefore supports the ends of the rails as firmly as an arch, the pressure downward when cars are passing over the ends of the rails serving to bind the lips or flanges *a a* more firmly to the bases *b b*, and, as the key or wedge D is in contact with the bottoms of the rails B B and receives a direct downward pressure through them, the key will not be liable to be casually forced out from its box C.

The invention is extremely simple and may be constructed at a moderate cost, and, although more especially designed f r a wrought-iron chair, may be advantageously used if constructed of cast-iron. In either case the form and principle of action are precisely the same.

I do not claim, broadly, the use of wedges to support the rail ends.

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

The employment of the central box, C, in combination with the chair A, and supporting-wedge D, as and for the purpose herein shown and described.

FRANCIS A. BROWN.

Witnesses:
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