

(No Model.)

J. E. B. ARMYTAGE.

CHAIR USED FOR FIXING LINES OF RAILWAYS.

No. 333,437.

Patented Dec. 29, 1885.

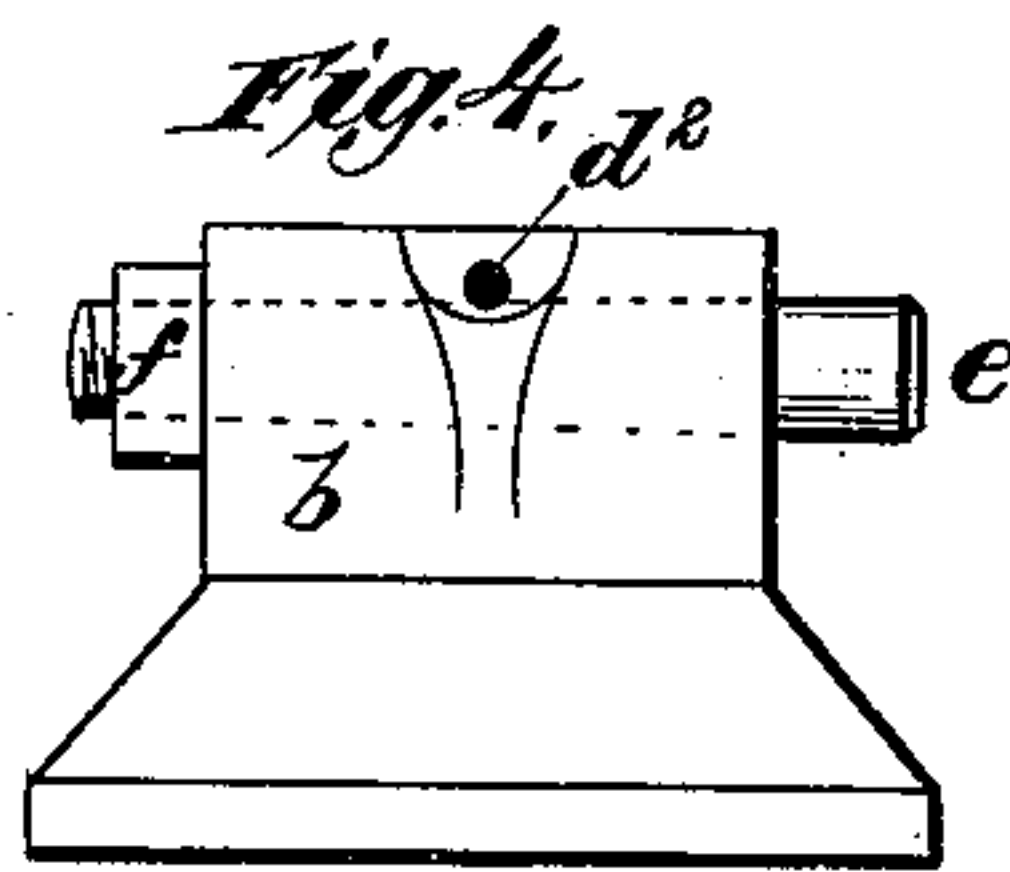
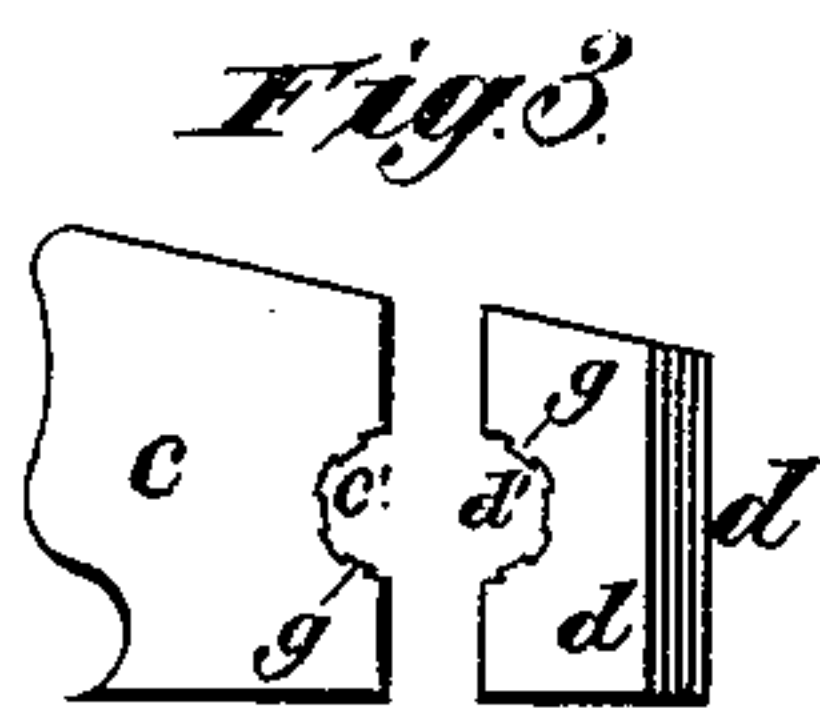
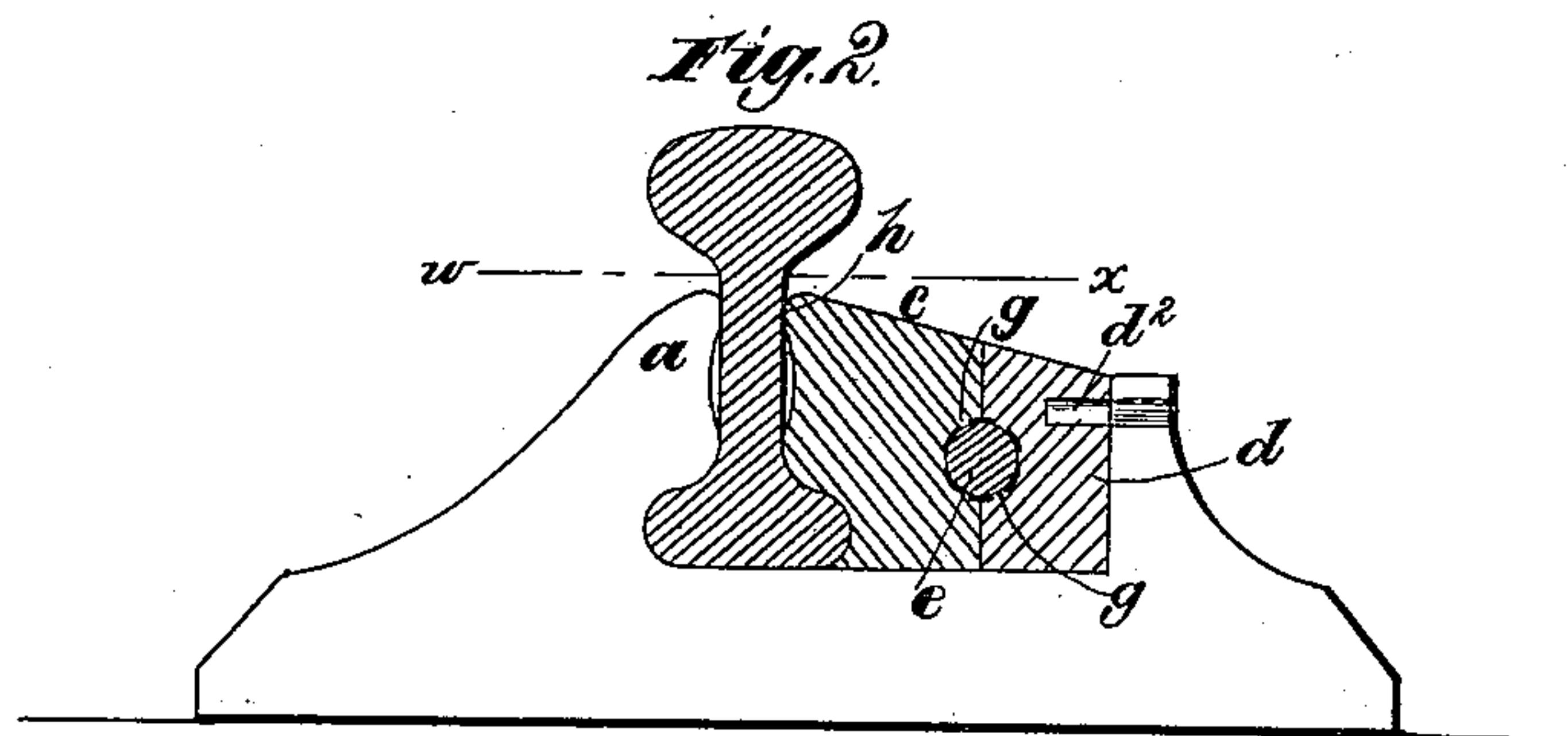
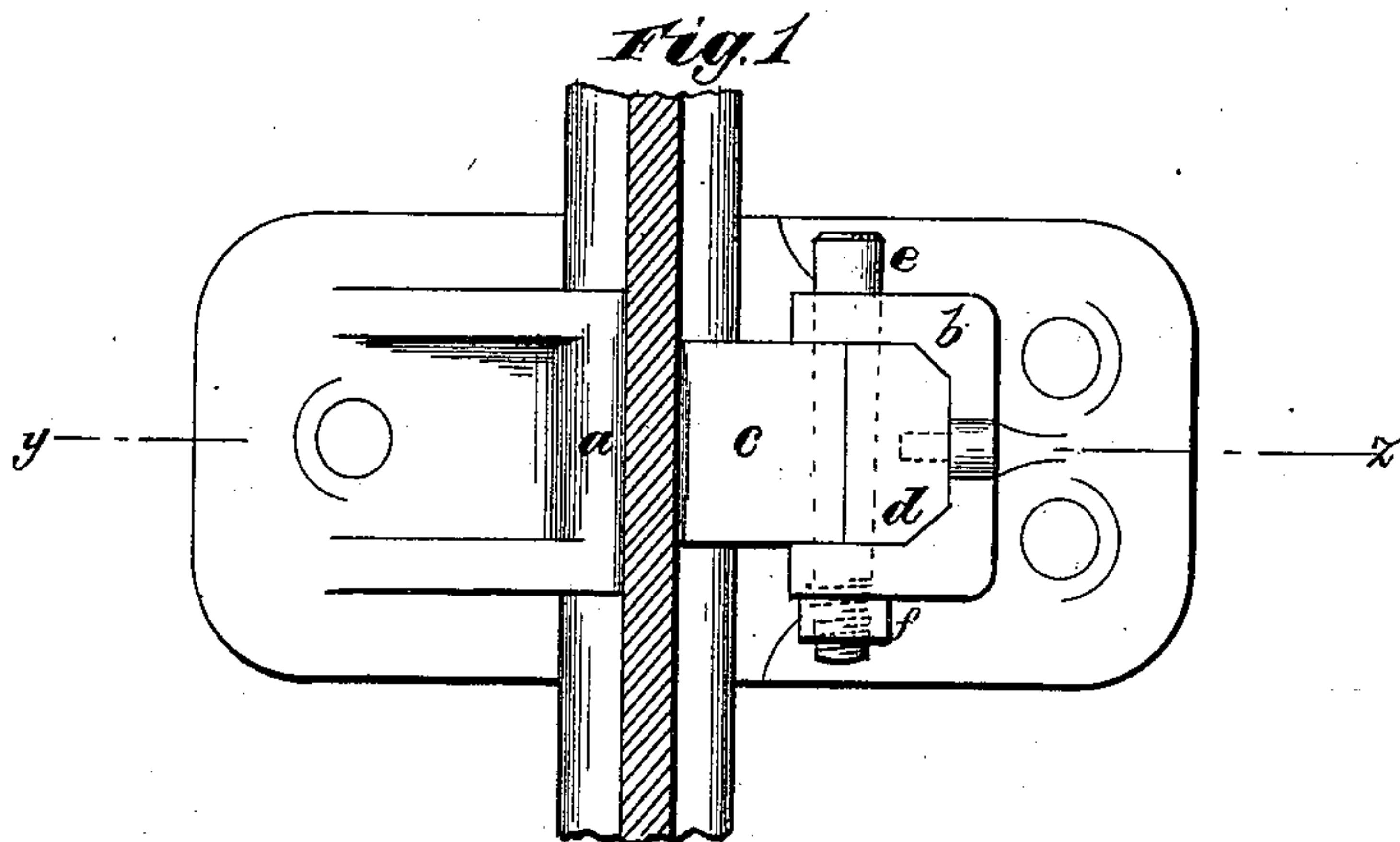
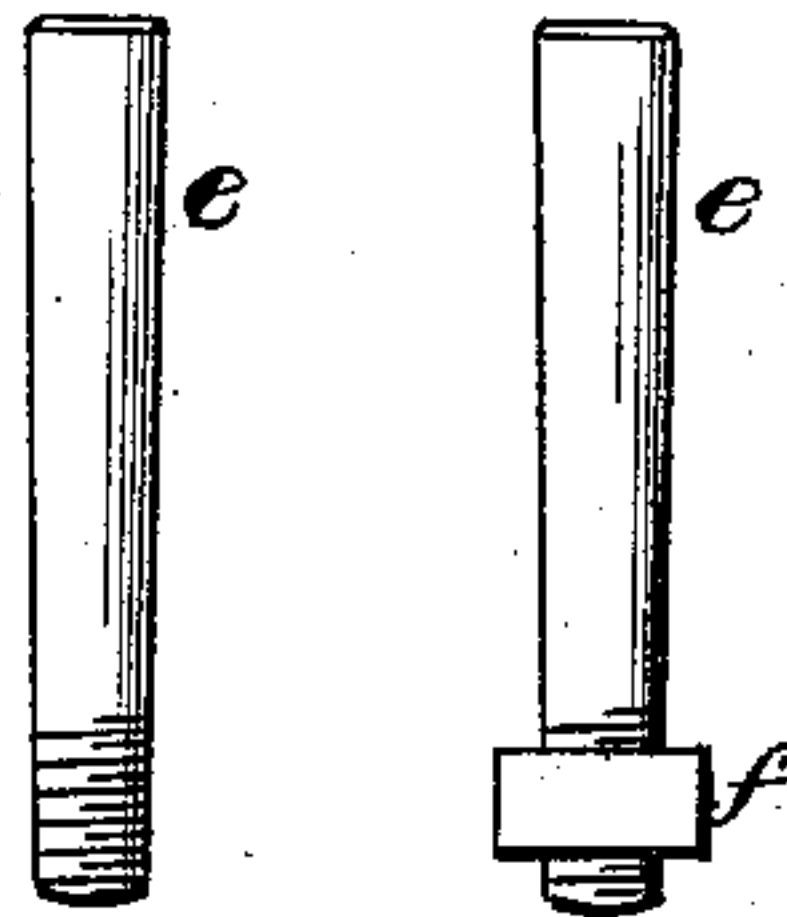


Fig. 5. Fig. 6.



Witnesses.
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UNITED STATES PATENT OFFICE.

JOHN EDWARD BARRACLOUGH ARMYTAGE, OF VICTORIA FOUNDRY, STANNINGLEY, COUNTY OF YORK, ENGLAND.

CHAIR USED FOR FIXING LINES OF RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 333,437, dated December 29, 1885.

Application filed June 11, 1885. Serial No. 168,366. (No model.) Patented in England March 9, 1885, No. 3,068; in France May 30, 1885, No. 169,201; in Belgium June 2, 1885, No. 69,106, and in Germany October 29, 1885, No. 34,057.

To all whom it may concern:

Be it known that I, JOHN EDWARD BARRACLOUGH ARMYTAGE, a subject of the Queen of Great Britain, residing at Victoria Foundry, Stanningley, in the township of Pudsey, in the West Riding of the county of York, England, engineer and iron-founder, have invented certain new and useful Improvements in Chairs Used for Fixing Lines of Railway, (for which I have obtained a patent in Great Britain No. 3,068, bearing date March 9, 1885, and have made applications for patents in France, No. 169,201, dated May 30, 1885; Belgium, No. 69,106, dated June 2, 1885, and Germany, No. 34,057, dated October 29, 1885,) of which the following is a specification.

In the chairs hitherto used for the purpose of fixing rails there are two upright pieces of iron, called "jaws," placed about four and a half inches apart, between which the rail is placed and is fixed by means of wooden wedges or blocks.

My improvement consists in the construction and combination of parts hereinafter particularly described and claimed, and in which is used a box-like piece of iron forming three walls of a rectangle, and having circular holes in two walls of such rectangle. Between the open end of this rectangle and the jaw there is a space sufficiently large to admit of the rail dropping through and resting on the base of the chair. The rail is then fixed (without the use of any wooden appliances, wedges, or blocks) by means of two small iron blocks fitting into the rectangular box, one of which also fits the side of the rail. Each of these blocks has a semicircular groove of one inch diameter and half an inch in depth, or thereabout, corresponding in position to those in the walls of the box. I find it advantageous to provide spiral races or broad rifle-grooves in these semicircular grooves to grip the pin and prevent its accidental rotation or backward movement. When these blocks are placed together in the box the holes in the walls of the box are in line with the grooves in the two blocks. An iron circular drift or pin, about one inch in diameter at one end and from seven-eighths to fifteen-sixteenths of an

inch in diameter at the other end, and about six inches long, is then driven in through the holes in the walls of the box, and also between the grooves in the two blocks, thereby forcing the inner block firmly against the rail. A wooden pin may sometimes be used, if preferred.

My invention has therefore great superiority over other forms of chairs in use by reason of its extreme simplicity, its perfect firmness and security, and the dispatch and ease with which it can be fixed and unfixed.

In order that my said invention may be more particularly described and ascertained, reference is hereby made to the accompanying drawings, in which similar letters of reference indicate corresponding parts.

Figure 1 is a plan view of my improved chair with the two blocks in position, the rail being shown in section on the line *w x* of Fig. 2. Fig. 2 is a sectional elevation on the line *y z* of Fig. 1, showing the rail (in section) fixed on the chair. Fig. 3 is a side view of the two blocks. Fig. 3^a is a side view of the part *d* in Fig. 3, looking at the grooved face thereof. Fig. 4 is an end view of the chair. Fig. 5 shows the form of the drift or pin; and Fig. 6 shows the drift or pin as sometimes fitted at one end with a screw-thread and safety-nut, to prevent it from shifting.

a is the ordinary jaw, against which the rail is forced by the blocks. *b* is the rectangular box. *c* is the inner block, and *d* is the outer block.

The two semicircular grooves *c'* and *d'* have their internal faces formed with spiral races or raised lines of surface, with a very slight twist. These races or raised portions grip the pin very powerfully and prevent it from turning round on its axis and from moving backward in the groove except by a direct blow.

The block *d* is provided with a hole at *d'*, into which a rod or pin may be inserted to lift the same out, when required, for repairs or otherwise.

The rectangular box and the blocks are carefully made, and the fit is almost perfect before the insertion of the drift-pin, the insertion of which with a few blows from a hammer rend-

ers the fixture of the rail perfectly firm and secure.

The drift-pin may be depended upon as a secure appliance without any additional security to prevent its becoming loose; but in case additional security should be preferred I fit the end of such pin with a screw-nut fitting a corresponding thread on the end of the pin.

10 The pin *e*, with the screw-thread and safety-nut, is shown in position at *f* in Fig. 1, and separately in Figs. 5 and 6.

In Figs. 2, 3, and 3^a the spiral races *g g* are shown, Fig. 3^a being an internal view of one of the semicircular grooves, the twist or spiral form of the races being clearly seen.

The form of the blocks *c* and *d* will be clearly seen on reference to Fig. 3.

20 The hole *d*², Figs. 2, 3, and 4, is provided for removing the block *d* by means of a pin inserted therein for that purpose, thus loosening the rail and rendering it easily removable.

On reference to Fig. 2 it will be seen that the block *c* grips the rail not only at the base of the rail, but also round and on the top of such base with a very close fit, and the top of the block *c* also grips the rail at *h*, whereby the rail is fixed and held in position in a manner superior to that of any other system.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. The combination, with a railway-chair having a jaw, *a*, and rectangular box *b*, formed with openings in two of its sides, of the separable blocks *c* and *d* to fit in said box between it and a rail, and having semicircular grooves on their meeting faces to receive a pin passed through the openings in the sides of the box, substantially as described.

2. The combination, with a railway-chair having a jaw, *a*, and rectangular box *b*, formed with a hole in one of its sides, of the separable blocks *c* and *d*, fastened together and fitted in said box between it and a rail, one of said blocks being formed with a hole, *d*², corresponding to the hole in the box to receive a pin passed through the latter, substantially as and for the purposes described.

In testimony whereof I have hereto set my hand this 21st day of May, 1885.

JOHN EDWARD BARRACLOUGH ARMYTAGE.

Witnesses:

J. W. BEAUMONT,
Solicitor, Leeds.

WM. R. PICKERING,
His Clerk.