No. 644,549. Patented Feb. 27, 1900.

S. FERRIS.

RAILWAY RAIL JOINT.

(Application filed Aug. 3, 1899.)

(No Model.)

Fig. 1.

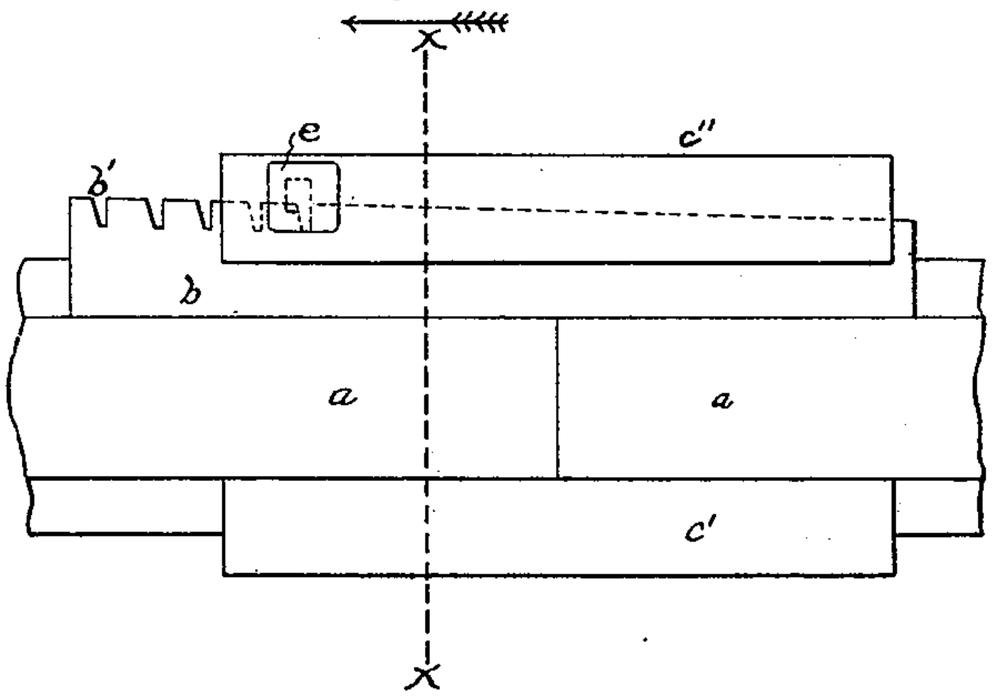


Fig. 2.

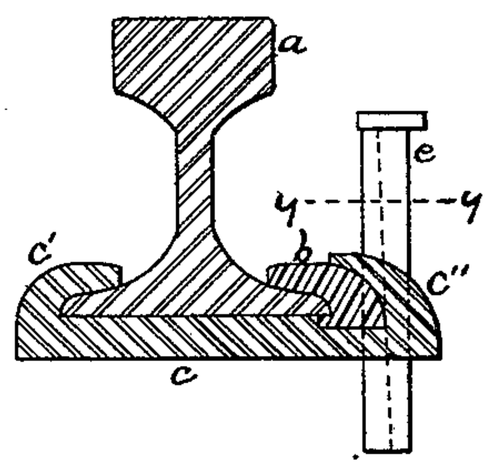


Fig. 3.

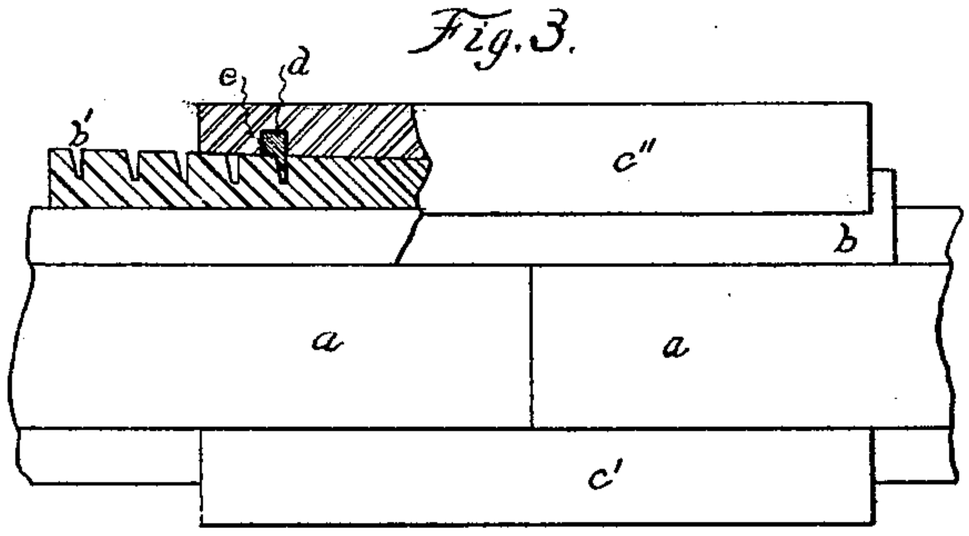
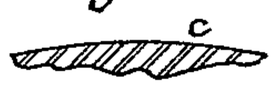


Fig. 4.



Witnesses
Lutgard Mosba.
E. M. Yeomans

Inventor
Smith Ferris
By W. E. Sommerville
Attorney

UNITED STATES PATENT OFFICE.

SMITH FERRIS, OF NEW YORK, N. Y.

RAILWAY-RAIL JOINT.

SPECIFICATION forming part of Letters Patent No. 644,549, dated February 27, 1900.

Application filed August 3, 1899. Serial No. 725,983. (No model.)

To all whom it may concern:

Be it known that I, SMITH FERRIS, a citizen of the United States of America, residing in the city of New York, borough of Manhattan, in the county and State of New York, (post-office address No. 408 West Nineteenth street,) have invented a certain new and useful Improvement in Railway-Rail Joints, of which the following is a description, reference being had to the accompanying drawings, wherein—

Figure 1 is a top view of a device embodying said improvement. Fig. 2 is a view of the same device in vertical cross-section on the plane denoted by the dotted line *x x* looking in the direction denoted by the arrow overlying that dotted line. Fig. 3 is a top view of that portion of the device which includes the tapering angular key, hereinafter described, the key itself being shown in horizontal cross-section on the plane denoted by the dotted line *y y*. Fig. 4 is a line illustrating in an exaggerated fashion the curved top of the body of the shoe, as hereinafter specified.

The object of the improvement is the production of a railway-rail joint having features of novelty and advantage.

In the accompanying drawings the letter *a* denotes two railway-rails placed end to end. They are of the ordinary double-foot construction.

The letter *b* denotes a wedge adapted to make contact interiorly with the top and, in a lesser degree, with the bottom of one foot of both rails.

The letter *c* denotes the main body of a shoe, which is adapted to make contact along its upper face with nearly the whole surface of that portion of both rails which it underlies. It makes similar contact with the lowermost surface of the wedge *b*. It is provided on one side with an incurved flange *c'*, adapted to make contact interiorly with one foot of both rails, and it is provided on the other side with an incurved flange *c''*, adapted to make contact interiorly with a part of the upper and outer surface of said wedge. The top or upper surface of the shoe-body *c* is curved or raised slightly at the center. This curve is so slight that it is not practicable to indicate it accurately in the drawings; but in Fig. 4 there is shown something of what is meant, although the curve is exaggerated.

The edge of the wedge has the mortises *b'*. The shoe has the angular mortise *d*.

The letter *e* denotes a key angular after the shape corresponding with the shape of the angular mortise *d*, and it tapers or is wedge-shaped toward the lower end.

In use the feet of the rails, with the shoe and the wedge, are all clamped tightly together by driving the wedge home suitably. In such driving one of the mortises in the edge of the wedge is, by preference, to be brought into proper alinement with the angular mortise in the shoe, and then the key is driven down through both. It will be readily understood that the key is an additional safeguard in holding the parts tightly clamped together. The object of making the top of the body of the shoe slightly curved, as already specified, is that in clamping the parts together by driving home the wedge, as already described, the shoe is very slightly sprung, and the frictional contact between the shoe and the rails is thereby correspondingly increased.

I claim as my improvement—

1. In combination; the two double-foot rails; the wedge adapted to make contact interiorly with the top and—in lesser degree—with the bottom of one foot of both rails; and the shoe adapted to make contact with nearly the whole surface of that portion of both rails which it underlies and with the bottom of said wedge, provided on one side with an incurved flange adapted to make contact interiorly with one foot of both rails, and provided on the other side with an incurved flange adapted to make contact interiorly with the top of said wedge; all substantially as described and for the purposes set forth.

2. In combination; the two double-foot rails; the wedge adapted to make contact interiorly with the top and—in lesser degree—with the bottom of one foot of both rails; and the top-curved shoe adapted to make contact with nearly the whole surface of that portion of both rails which it underlies and with the bottom of said wedge, provided on one side with an incurved flange adapted to make contact interiorly with one foot of both rails, and

provided on the other side with an incurved flange adapted to make contact interiorly with the top of said wedge; all substantially as described and for the purposes set forth.

3. In combination; the two double-foot rails; the edge-mortised wedge adapted to make contact interiorly with the top and—in lesser degree—with the bottom of one foot of both rails; the shoe provided with the angular mortise; and the tapering angular key; all substantially as described and for the purposes set forth.

SMITH FERRIS.

Witnesses:
W. E. SIMONDS,
LUITGARD MORLA.