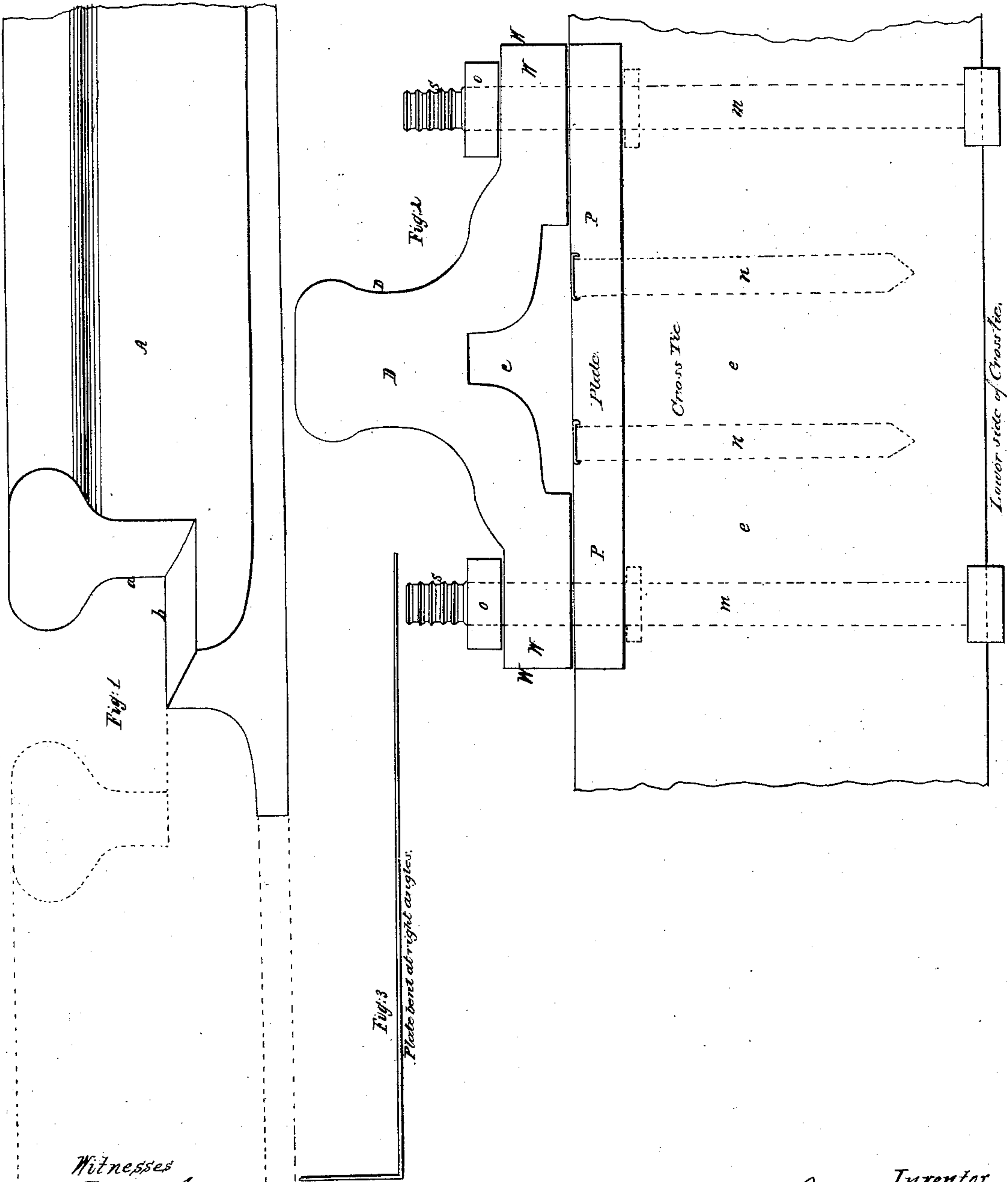


E. B. Graff.

Railroad Rail Joint.

N^o 57,498.

Patented Aug. 28, 1866.



Witnesses
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E. B. GRAFF, OF BALTIMORE, MARYLAND.

IMPROVED FASTENING FOR RAILROAD-RAILS.

Specification forming part of Letters Patent No. 57,498, dated August 28, 1866.

To all whom it may concern:

Be it known that I, E. BEATTY GRAFF, of Baltimore, in the county of Baltimore and State of Maryland, have invented a new and Improved Fastening for Railroad-Rails; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the annexed drawings, making part of this specification, in which—

Figure 1 is a view of one end of a rail cut away so as to be inserted into the saddle or fastening. Fig. 2 is a cross-section of the saddle or fastener-plate and cross-tie, and Fig. 3 is a view of a modified form of the plate which may be employed.

Similar letters indicate like parts in all the figures.

My invention consists in the employment of a saddle or fastener bolted to the cross-tie, and into which are inserted the ends of the rails, which are cut away to secure an accurate fit, as hereinafter more fully described.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

In the drawings, A, Fig. 1, is an end of a railroad-rail, cut away, as shown at *a b*, so that it may be readily inserted into the aperture *c* in the saddle or fastener D, which is cut away, as shown, to receive the end *b*, the part *a* of the rail abutting against the end of the saddle, and the upper surfaces of the rail and saddle being flush with each other, so that the cars pass from the rail to the saddle without jolting. Another rail, similarly formed or cut away at its end, is inserted into the opposite end of the saddle, so that the extreme ends of the rails abut against each other under the middle of the saddle.

e is a cross-tie, into which a mortise is made for the reception of the plate P, as fully shown in Fig. 1. The plate P is fastened to the cross-tie by the bolts *n n*, or in any other convenient manner.

m m are screw-bolts, the heads of which may be countersunk in the lower surface of the cross-tie. These bolts pass through the cross-tie and plate, and also through the ends or projecting pieces W W of the saddle.

o o are nuts on the screws *s s*, for firmly fast-

ening the saddle in position. In lieu of the bolts *m m* passing through the cross-tie, short bolts having their heads countersunk in the under surface of the plate P may be employed, the latter being afterward firmly secured to the cross-tie, and nuts being employed, as in the case of the long bolts above described, to secure the saddle to the plate.

By means of my invention I divide into two parts the space between the ends of the rails usually allowed for expansion, and thus obviate the jolting of the car which arises when the space is wide.

I am aware that a fastening somewhat similar to mine in appearance has been heretofore employed; but it differs materially from mine.

In the invention referred to, the projecting ends W W of the saddle are made to curve under the rail. By this arrangement, when a rail becomes defective, it is impossible to remove it excepting by tearing up the track, as, from the construction of the fastening, it cannot be moved vertically either upward or downward; nor can it be moved laterally, as the ends of the rails abut against each other, and would thus prevent a lateral movement of the rails, even were the fastening of the saddle to the cross-tie removed. The only method, therefore, in the invention alluded to, to supply the place of a defective rail would be to break the rail or tear up the track.

My invention obviates easily and entirely this difficulty, as by unscrewing the nuts the saddle may be readily removed and the defective rail replaced by a good one; nor is there any plate employed under the saddle in the invention to which I have referred.

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

A railroad-rail, A, having its ends constructed as set forth, in combination with the saddle D, plate P, and bolt-fastenings, as described, the whole being constructed, arranged, and operated substantially in the manner and for the purpose described.

E. BEATTY GRAFF.

Witnesses:

ROBERT GRAFF,
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