

# G. Palmer. Railway Track.

N<sup>o</sup> 86,583.

Patented Feb. 2, 1869.

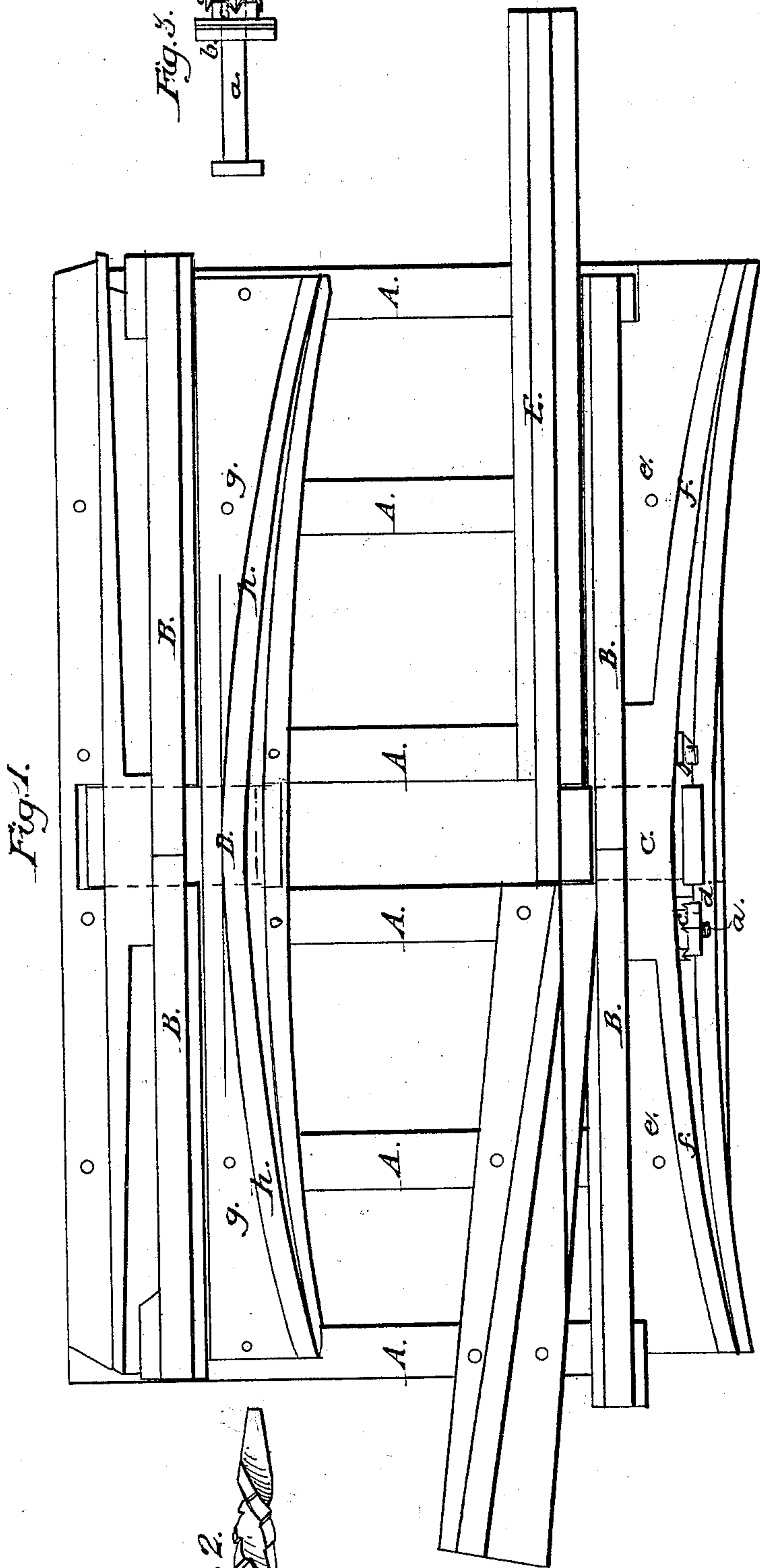


Fig. 3.

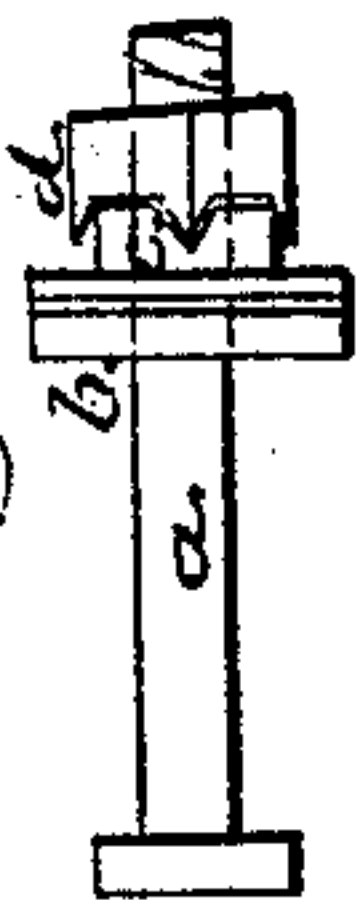


Fig. 2.



Witnesses:  
Harry King.  
deposed.

Inventor:  
George Palmer.  
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# United States Patent Office.

GEORGE PALMER, OF LITTLESTOWN, PENNSYLVANIA.

Letters Patent No. 86,583, dated February 2, 1869.

## IMPROVEMENT IN RAILWAY-TRACKS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, GEORGE PALMER, of Littlestown, in the county of Adams, and in the State of Pennsylvania, have invented certain new and useful Improvements in Railroad-Tracks; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in a device which will enable a train of cars, if accidentally thrown from the track, to regain the same without any injury to the lives of the passengers, and which will also, especially along the curves of the track, in a great measure, if not entirely, prevent the cars from running off the track, all of which will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains, to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, which form a part of this specification, and in which—

Figure 1 is a plan view, and

Figures 2 and 3 show a peculiar kind of bolts and nuts employed by me in the construction of my invention.

A A represent the cross-ties, on which the rails B B are secured in any of the known and usual ways.

At the joints of the rails B B, on the outer side, are secured fish-pieces C C, by the use of which the usual railroad-chairs are dispensed with.

The fish-pieces C C, which may be made of wood or metal, or both combined, are secured to the rails B B by means of bolts *a a* passing through the same. These bolts are fastened by a self-locking nut, of the following construction: It is composed of three pieces, namely, a square, round, or oval piece of rubber, *b*, with a hole through its centre. This piece of rubber is placed on the screw-end of the bolt *a*; then a washer, *c*, is put on top thereof. The washer *c* is notched at the sides, as seen in fig. 3. The nut proper *d* is then placed on top of the washer *c*. The corners of the nut *d* are provided with projections corresponding with the notches in the sides of the washer.

It will be seen that, when the nut *d* is screwed on to the end of the bolt *a*, the rubber, *b*, will yield to the pressure when the projecting corners of the nut pass over the corners of the washer; but, as soon as the corners of the nut come opposite the notches in the sides of the washer, the rubber will press the washer against the nut, completely locking it.

The fish-pieces C C are so constructed that, at the joints of the rails B B, they are exactly level with the upper surface of the rails, but form an inclined plane, *e*, on each side of said joint, which inclined plane is protected on the outer edge by a flange, *f*.

It is evident that, when the fish-pieces C C are used at the joints of the rails, it would only be necessary to provide similar pieces on the inner side of the rails to

bring any train of cars which has accidentally run off the track back again on the same. For this purpose, I place, on the inner side of the joints of the rail B B, a fish-piece, D, which, at the edge nearest to the rails, is cut out deep enough to allow the flange of the wheels to pass, but, on each side of the joint, forms an inclined plane, *g*, corresponding with the inclined plane *e* on the fish-piece C.

The inner edge of the fish-piece D is protected by a flange, *h*, which, at the joint of the rails B B, is so close to said rails that it leaves just room enough for the flange of the wheels to pass.

If the fish-pieces, constructed as above described, are connected by means of old rails, wooden scantlings, or anything of suitable nature, we have at once a safe and effectual means by which a train of cars that has run off the track will be brought back on to the same, and the danger of loss of life and property usually attendant on such disasters will be entirely obviated. For instance, if a rail should break, and the train be thrown from the track, it will continue to run along these connections spoken of, until it arrives at the first joint of the rails, which, of course, is only a short distance. Here the car, or train of cars, will run up the inclined planes *e g*, and the flange *h* will press or force the inside wheel on to the main track on that side. At the same time, the outside wheel will run up on the top, and across the main rail on the other side, and drop down on to the same.

Around the curve of a track, I place a rail, E, which is higher than the rails of the track, on the inner side of the rails, which arrangement will effectually prevent cars from running off the track, as the high rail E will keep the wheels in their proper positions, even if one of the rails of the main track should happen to break.

The bolts I use in fastening my rails, fish-pieces, &c., to the cross-ties are of the peculiar construction shown in fig. 2. A common bolt is twisted at the end, and the flat edges, formed by such twisting, are notched or cut with teeth pointing upward, so that, when the bolt is inserted, these teeth will catch in the wood, and the bolt cannot work out.

Having thus fully described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

In combination with the rails of a railroad-track, the fish-pieces C C and D D and the high rail E, constructed as described, and placed at the joints of the rails, each series of fish-pieces being connected substantially in the manner and for the purposes herein set forth.

In testimony that I claim the foregoing, I have hereunto set my hand, this 10th day of October, 1868.

GEORGE PALMER.

Witnesses:

LEOPOLD EVERT,  
A. N. MARR.