

S. A. Beers,

Constructing Railroad Tracks,

Patented Oct. 27, 1857

N^o 18,494.

Fig. 2.

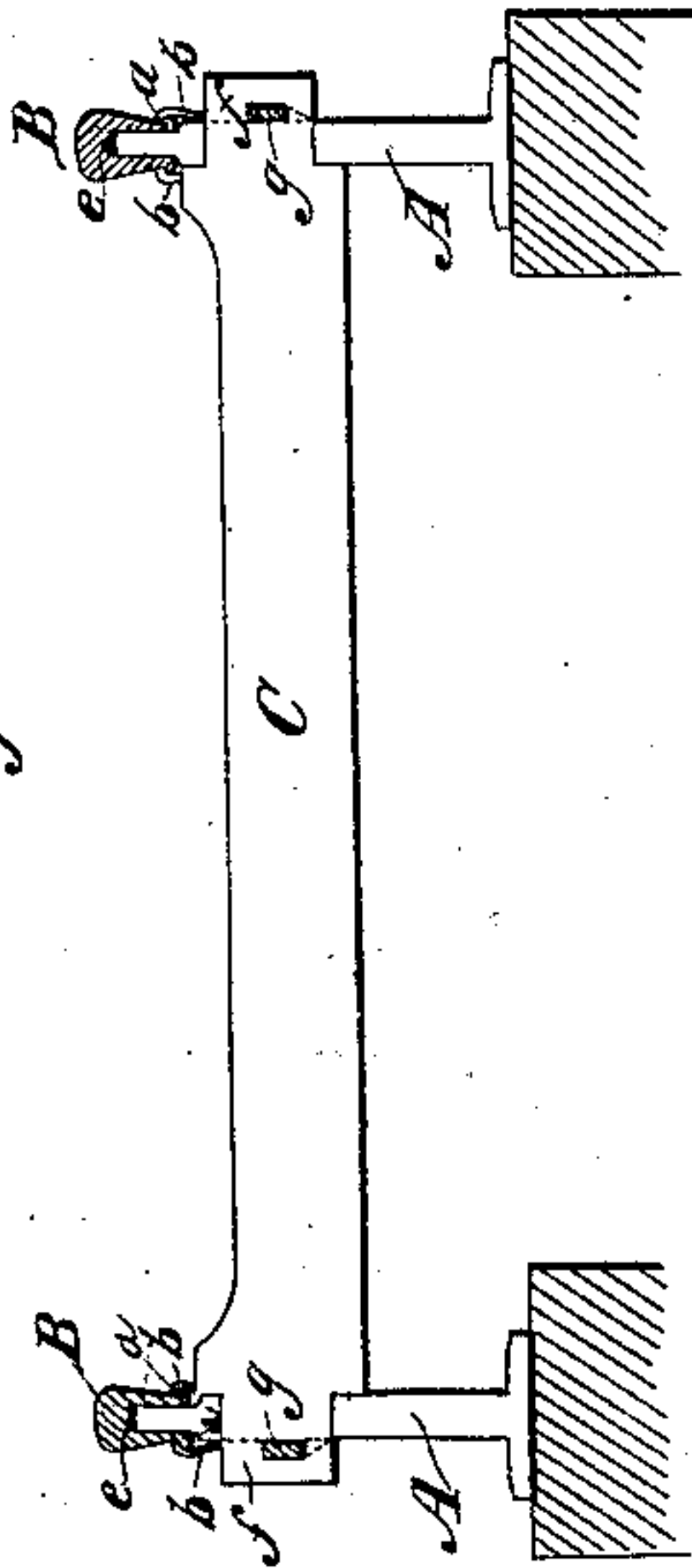


Fig. 5.

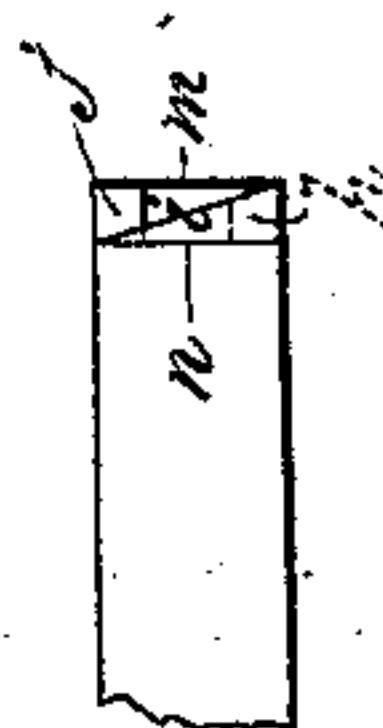


Fig. 4.

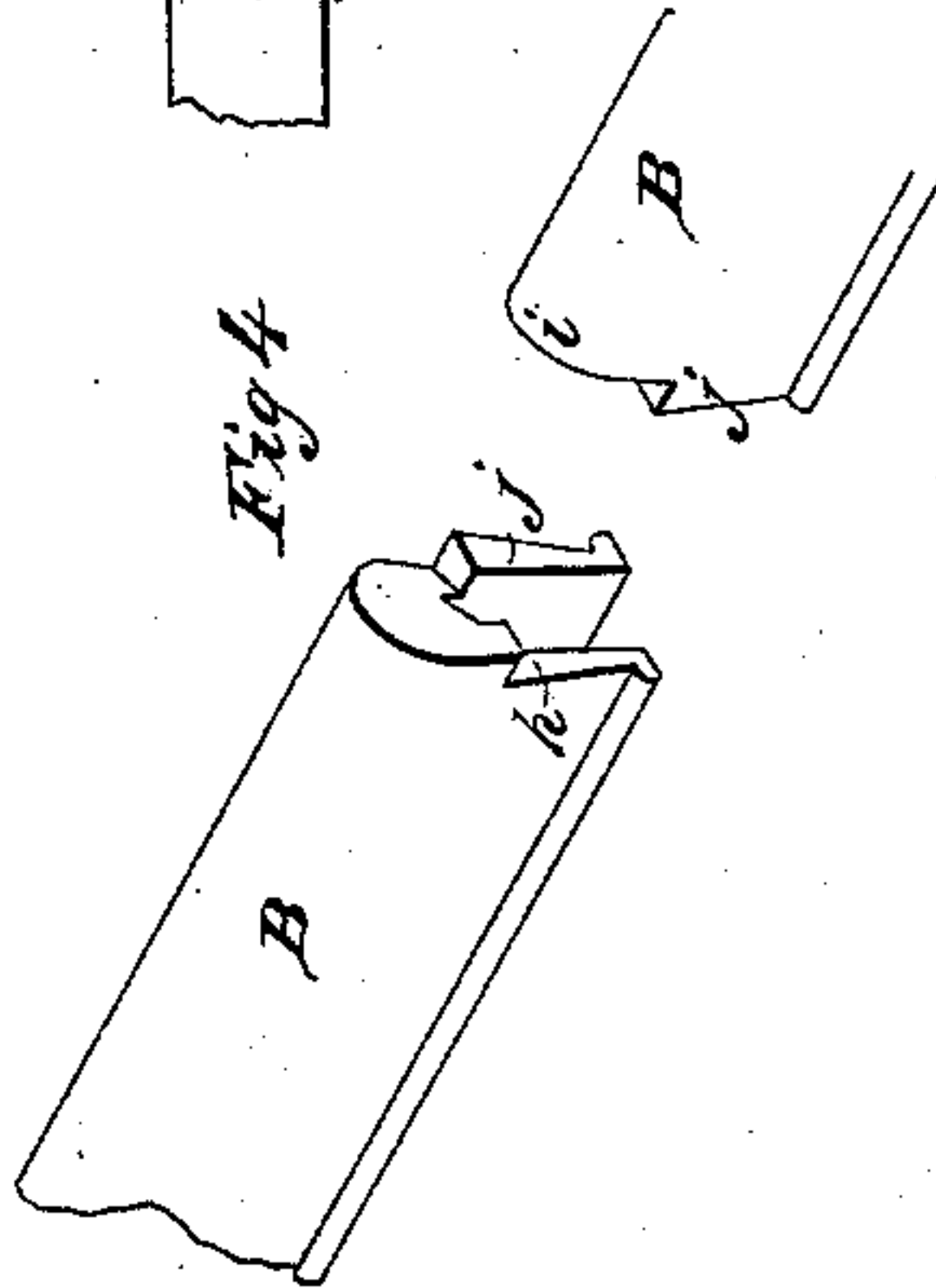


Fig. 1.

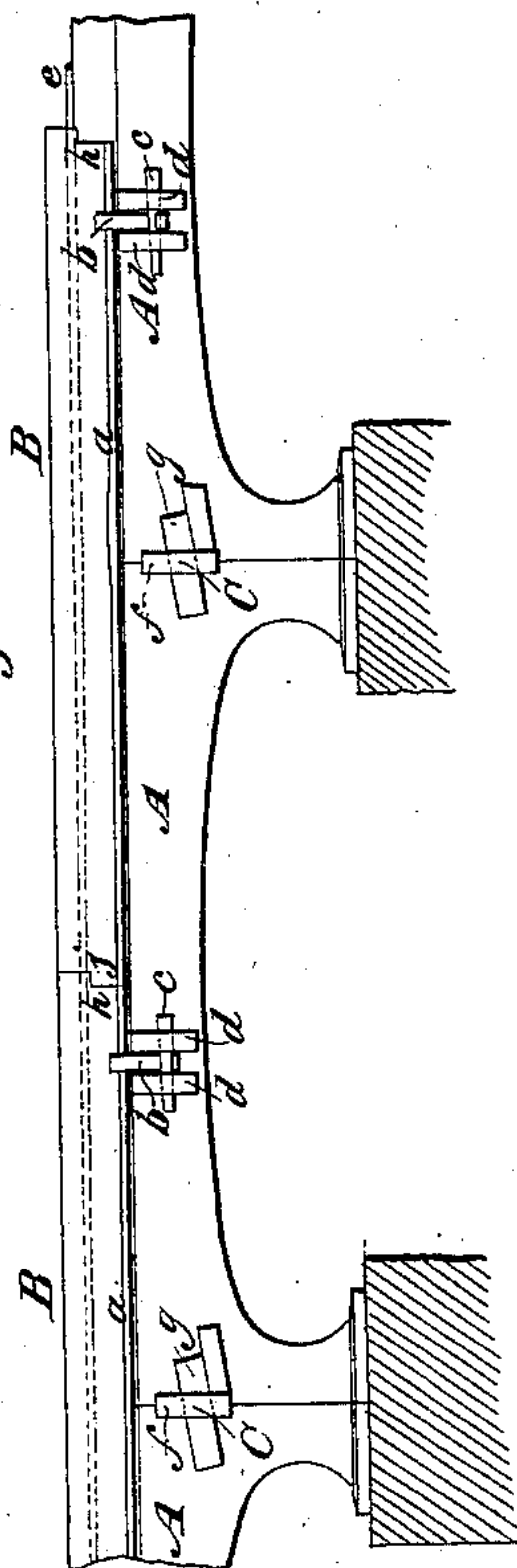
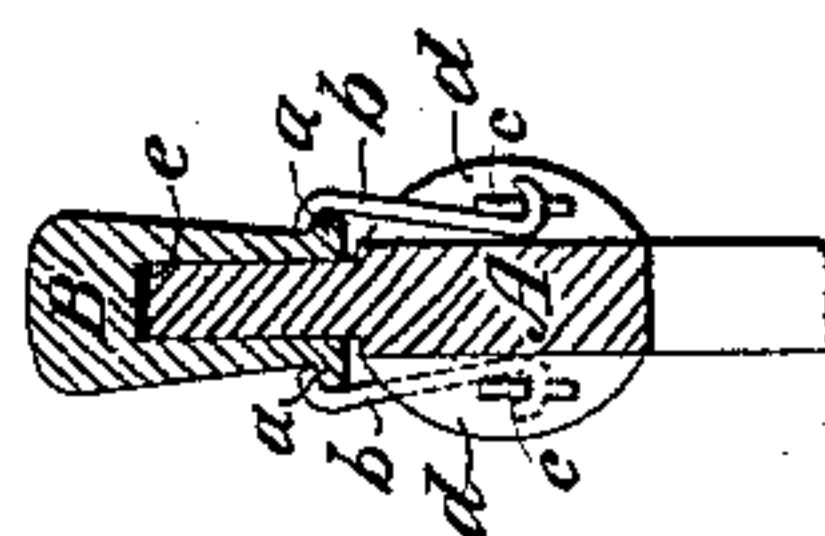


Fig. 3.



UNITED STATES PATENT OFFICE.

SIDNEY A. BEERS, OF BROOKLYN, NEW YORK.

CONSTRUCTION OF RAILWAYS.

Specification of Letters Patent No. 18,494, dated October 27, 1857.

To all whom it may concern:

Be it known that I, SIDNEY A. BEERS, of the city of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in the Construction of Railways; 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 part of this specification.

This invention relates to the construction of railways with a cast iron foundation rail of the form of a series of upright arches, resting on stone foundations and tied together laterally by upright iron ties, and with a wrought iron coping rail fitting onto the top of the said foundation rail, and extending downward on each side thereof, terminating at the bottom in flanges to receive clamps which are held and tightened upon the said flanges and caused to confine the said coping rail to the foundation rail by means of keys or their equivalents; the said coping rail breaking joint with the foundation rail so as to form a continuously connected track, and having lock joints of such form and construction that the adjacent ends of two lengths of rail cannot rise independently of each other, and that the breaks in the face of the track at the junction of the several lengths of rail are oblique and not directly across the face of the rail.

Figure 1, in the drawing, is a side or longitudinal elevation of the track. Fig. 2 is a transverse vertical section of the same. Fig. 3 is a transverse section of the coping rail and part of the foundation rail, on a larger scale than Figs. 1 and 2; showing also the clamps and keys by which the coping rail is secured down to the foundation rail. Fig. 4 is a perspective view of the adjacent ends of two lengths of the coping rail, showing them parted to exhibit the form of the joint. Fig. 5, is a plan view of one of the ends of the coping rail.

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

A, A, are the sections of the foundation rail, each having its bottom part in the form of an arch, but its top part straight and parallel sided, to receive the coping rail B.

C, C, are the transverse ties, of cast or wrought iron made with tenons *f, f*, at their ends passing through the foundation rail at

each joint thereof and provided with a mortise and wedge *g*, on the outside of the foundation rail by which the latter is firmly secured against a shoulder above and below the tenon. The coping rail B, is made in sections equal in length to three, or four sections of the foundation rail, so that each may break joints with the other, as shown in Fig. 1. The coping rail overhangs to a considerable depth and rests upon the top of the foundation rail.

a, a, (Figs. 2 and 3) are the flanges on the bottom of the coping rail.

b, b, are the clamps by which the coping rail is confined to the foundation rail, each made with a hook at the top to lap over the flange *a*, on one side of the rail, and with another hook at the bottom to lap under a wedge or key *c*, which is driven through lugs *d, d*, cast on the side of the foundation rail, said wedge or key serving to draw down the coping rail on the foundation rail. As many clamps and keys may be applied on each side of the rail as may be considered desirable.

e, is a strip of lead or other soft metal, india-rubber, felt, or other comparatively soft or elastic substance, placed between the top of the foundation rail and the coping rail, where it is confined, as it were, in a box formed in the interior of the coping rail, as shown in Fig. 3, for the purpose of destroying the too great solidity which would exist in a track composed entirely of iron with stone supports, and would be very destructive to the tread of the rail and to the rolling stock. The joints in the coping rail are produced by cutting the rail transversely in an oblique direction, as shown at *i*, in Fig. 5, from the face or tread downward through the head, then cutting horizontally into the end of the rail on a level with the bottom of the transverse oblique cut, as far as an imaginary plane intersecting the rail perpendicularly to its length through the obtuse angle formed by the oblique cut, such plane being indicated by the red line *n*, in Fig. 5, thus removing a portion of the head of the rail, beyond the line *i*; afterward squaring off that side of the rail where the oblique cut *i*, forms an obtuse angle in a plane passing the acute angle formed by the said cut *i*, as shown in Fig. 5 by the red line *m*, and finally cutting the other side of the rail from the

bottom perpendicularly in the plane indicated by the line *n*, before mentioned, to meet the horizontal cut, thus forming on one side of the rail a recess *h*, and in the other side a projection *j*, as shown in Fig. 4. The adjacent ends of two pieces of rail being cut as above described so that they match in their oblique faces *i*, the projection *j*, on one will enter the recess *h*, in the other, and vice versa, when they are placed end to end together, and by that means each of the two pieces of rail is caused to support and also to hold down the other.

These improvements combine to make an extremely perfect and durable track.

I do not claim all the several parts or devices separately as set forth in the specification and drawings but in combination; but

What I do claim as my invention and desire to secure by Letters Patent is—

The construction of a continuous iron rail of successive sections of upright arches the upper surface of which shall form a plane, and held in position by upright iron ties with tenon and wedge or keys on the outside, and surmounted and bound together by a wrought iron rail which last mentioned rail is held in place by hooks, and key wedges, or their equivalents as set forth more particularly in the foregoing specification and drawings hereto annexed or referred to.

SIDNEY A. BEERS.

Witnesses:

WILLIAM TUSCH,
J. F. BUCKLEY.