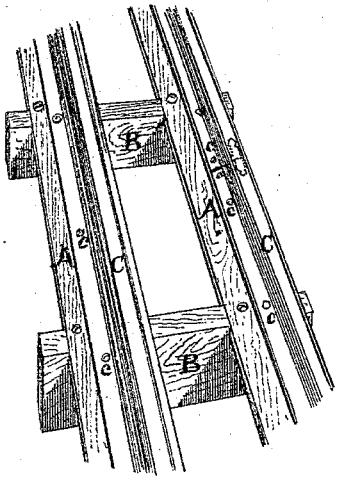
GEORGE C. MORGAN.

Improvement in Railway Rails.

No. 115,765. Patented June 6, 1871.

Fig 1



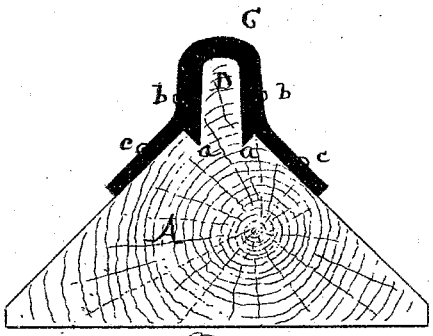


Fig 2.

Witnesses

L. L. Bond

W. W. Bond

George C. Morgan

Inventor

UNITED STATES PATENT OFFICE.

GEORGE C. MORGAN, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN RAILWAY RAILS.

Specification forming part of Letters Patent No. 115,765, dated June 6, 1871.

I, GEORGE C. MORGAN, of the city of Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Railway Rails, of which the following is a full description, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a perspective view, and Fig. 2 a cross-section, of one of the rails.

The nature of my invention consists in forming a railway rail partly of iron or steel and partly of wood, so as to make an elastic rail, and in a novel mode of applying the metal to the wood.

In the drawing, A represents the bed-plate or stringer, made of any suitable wood, and formed triangular, with its upper angle fitted to receive an iron or steel casing or tread. The sides of this timber are broad in width, and, as it rests with its base upon the cross-ties B, the strongest form of the timber is obtained in proportion to its weight. The head or tread C is made of iron or steel, and may taper slightly from head to the lower edges, or from the projections *a* to the lower edges. The iron portion of the rail is made in the form shown as it is rolled, and on the inside it is provided with shoulders or projections, *a*, which prevent spreading when, by reason of shrinkage or from other cause, the wood recedes, for by means of these shoulders the head is of the inverted U-form, while the flanges take the form of the sides of the stringer or wood portion of the rail. The wood is formed, by the use of suitable machinery, so as to fit accurately the inside of the iron, so that I am able to make the iron much lighter than any rail now or heretofore in use for general railway purposes, and the iron protects the wood from water and atmospheric influences to a very great extent. The iron and the wood are secured together by means of log-bolts or spikes *b c*, or by either, as desired; but if either are omitted it would be preferable to leave out those marked *b*. The sections of the wood are joined on the cross-ties and the sections of iron whenever convenient, and when joined I place under the ends, on the top of D, iron plates, to prevent the indentation of the wood, as indicated by the dotted lines in Fig. 1. The part A is secured to the cross-ties by spikes or in any other suitable manner. It will be evident that the metal portion can be made partly of iron and partly of steel, as well as wholly of either.

By this combination of metal and wood I produce a light elastic rail of great strength, and sufficiently durable to make its use more economical than rails now in use.

What I claim as new is—

The combination of wood A provided with the rib D, with the metal portion C provided with the shoulder *a*, substantially as and for the purposes specified.

GEORGE C. MORGAN.

Witnesses:

L. L. BOND,

O. W. BOND.