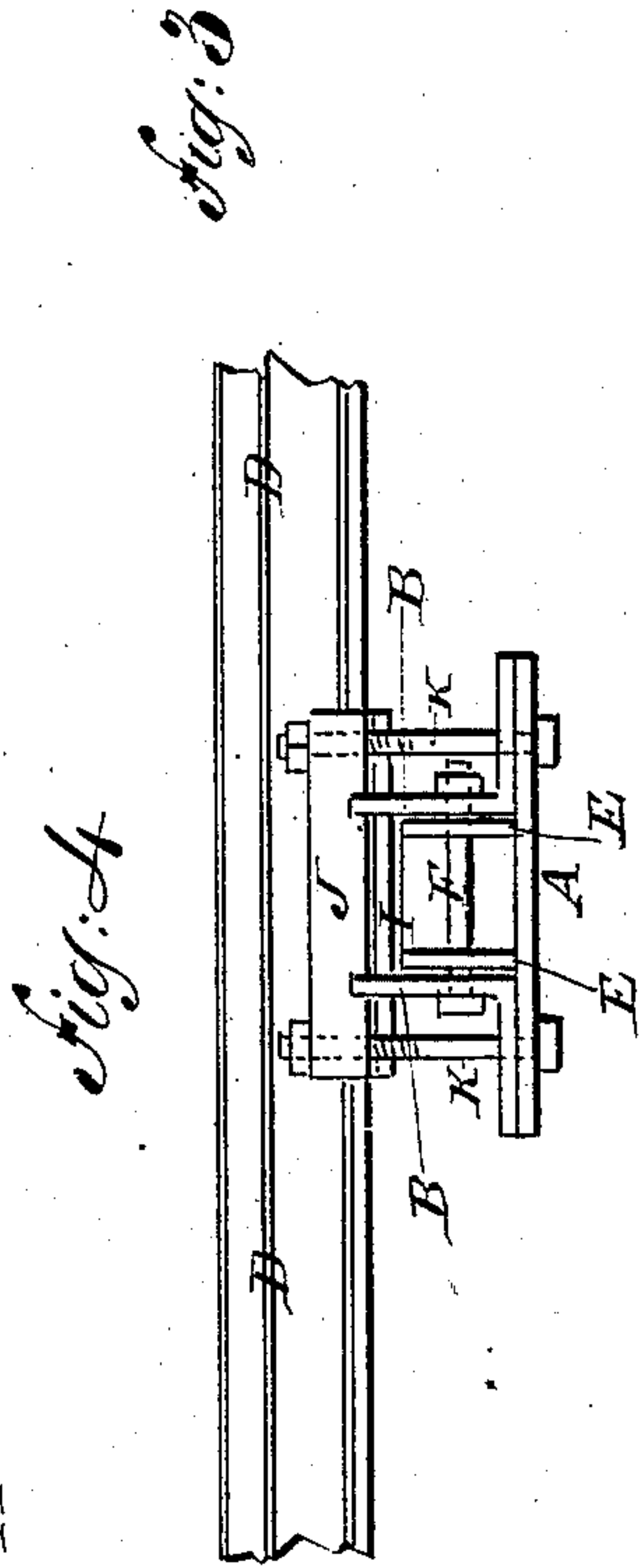
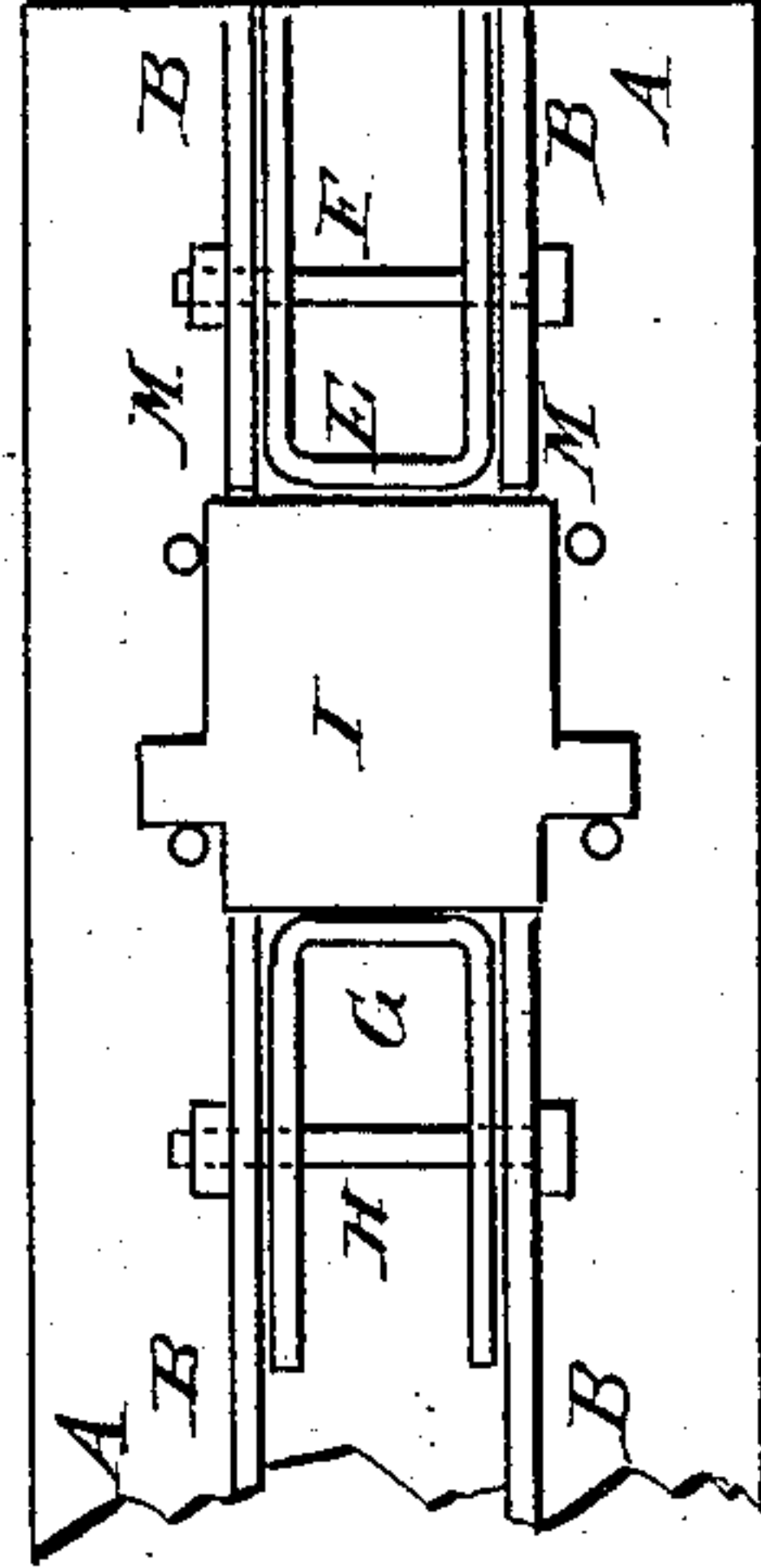
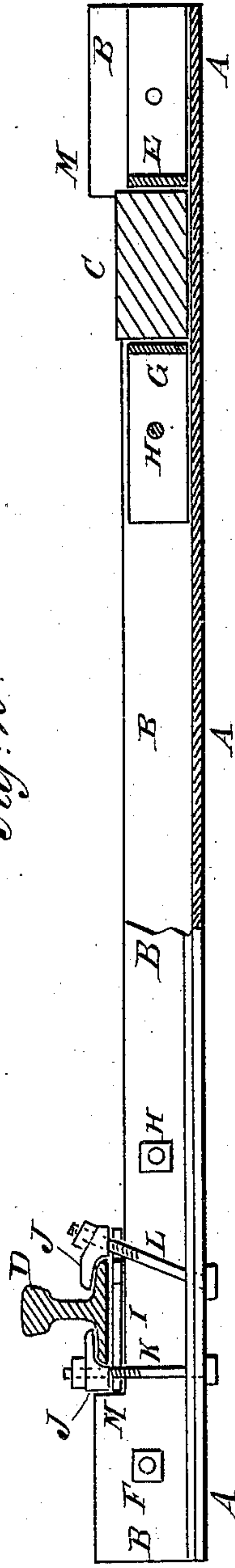
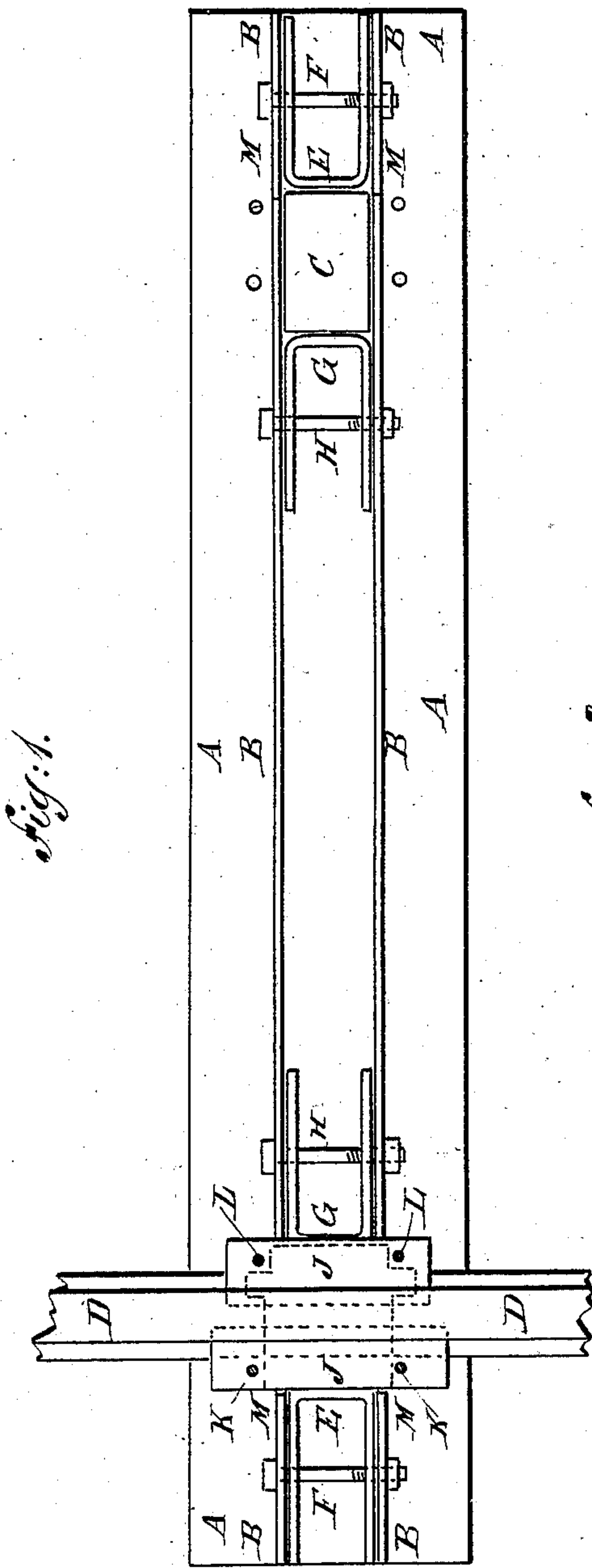


(No Model.)

C. H. VAN ORDEN.
METALLIC RAILROAD TIE.

No. 294,166.

Patented Feb. 26, 1884.



WITNESSES:

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UNITED STATES PATENT OFFICE.

CHARLES H. VAN ORDEN, OF CATSKILL, NEW YORK.

METALLIC RAILROAD-TIE.

SPECIFICATION forming part of Letters Patent No. 294,166, dated February 26, 1884.

Application filed August 23, 1883. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. VAN ORDEN, of Catskill, Greene county, New York, have invented a new and useful Improvement in Metallic Railroad-Ties, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of one of my improved ties, and showing a rail and rail-chair applied to one end. Fig. 2 is a side elevation of the same, partly in section. Fig. 3 is a plan view of one end of the same, and showing the wear-plate. Fig. 4 is an end elevation of the same, and showing a rail and rail-chair in side view.

The object of this invention is to provide metallic ties for railroads constructed in such a manner as to be economical and reliable in use, and which will allow the rails to be taken up and replaced without disturbing the said ties, and the blocks or cushions to be taken out and renewed without disturbing the ties or rails.

The invention consists in a metallic railroad-tie constructed with a base-plate having parallel flanges, and blocks placed between the flanges to support the rails, and kept in place by U-shaped bars secured to the said flanges.

Upon the tops of the rail-supporting blocks are placed plates, to prevent the rails from wearing the said blocks. Upon the end parts of the flanges of the base-plate are formed shoulders for the outer edges of the rail-chairs to rest against, to prevent the rails from spreading, as will be hereinafter fully described.

A represents the base of the tie, which is made wide to prevent it from being pressed into the road-bed. Upon the opposite sides of and equally distant from the central line of the base-plate A are formed, or to it are attached, two parallel flanges, B, between which are placed blocks, C, of paper or other suitable material, and which are made of such a thickness as to rise a little above the upper edges of the flanges B, to serve as cushions to the

rails D and prevent the said rails from resting upon the said flanges. The blocks C are kept from moving outward by U-shaped bars E, placed between the flanges B, with their bends resting against the outer ends of the said blocks C, and the arms of which are secured detachably to the said flanges B by bolts or keys F. The blocks C are kept from moving inwardly by U-shaped bars G, placed between flanges B, with their bends resting against the inner ends of the blocks C, and which are secured in place detachably by bolts or rivets H, passing through them and through the said flanges B. The bases of the rails D rest upon the wear-plates I, placed upon the blocks C, and kept in place by chairs J, which can be made in two pieces, as shown in Figs. 1 and 2, or in any other suitable manner. The chairs J are secured in place by the bolts K L. The bolts K pass up vertically through the base-plate A and the outer parts of the chairs J. The bolts L pass up in inwardly inclined directions through the base-plate A and through the inner parts of the chairs J. The outer edges of the chairs J rest against shoulders M, formed upon the outer parts of the flanges B, to hold the rails D from spreading. The wear-plates I are kept from moving upon the blocks C by the shoulders M and the bolts K L, as indicated in Fig. 3 and in dotted lines in Fig. 1. With this construction, by loosening the nuts of the bolts K L and removing the bars E, the cushions C can be removed through the outer ends of the ties without disturbing the said ties.

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

1. The combination of the metallic tie A, provided with the flanges B, with the block C, held in place by the U-shaped bars E G, placed upon either side of said block, the arms of said U-shaped bars being attached to the flange B by bolts, keys, or other suitable means passing through said arms and flanges, substantially as set forth.

2. The combination of the tie A B, having the rail-supporting block C, provided with the wear-plate I, resting against the shoulder

M of bolts, for securing said wear-plate and the rail in place on the tie, substantially as set forth.

3. The combination of the flanged and shouldered tie A B M with the rail-chairs J J, the outer ones of which are secured by bolts passing vertically through them and the tie, and the inner ones of which are secured by bolts

passing through them and the tie in an inwardly-inclined direction, whereby a firm support against lateral strain is afforded the rails, substantially as described.

CHARLES H. VAN ORDEN.

Witnesses:

WM. H. VAN ORDEN,

WM. VAN ORDEN.