A. P. WHITING.

Rail-Tie.

No. 218,603. Patented Aug. 12, 1879.

Fig. 1.

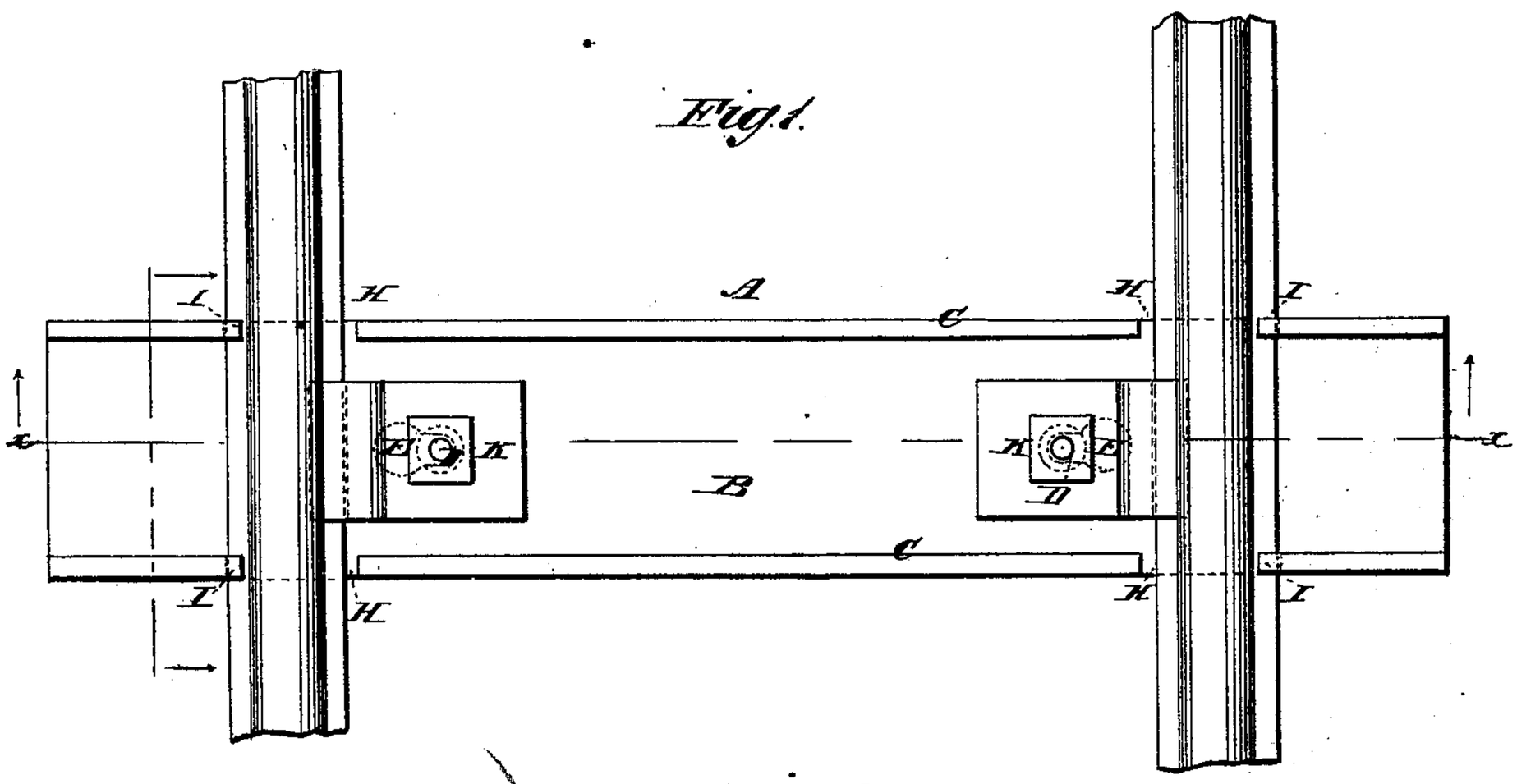


Fig. 2.

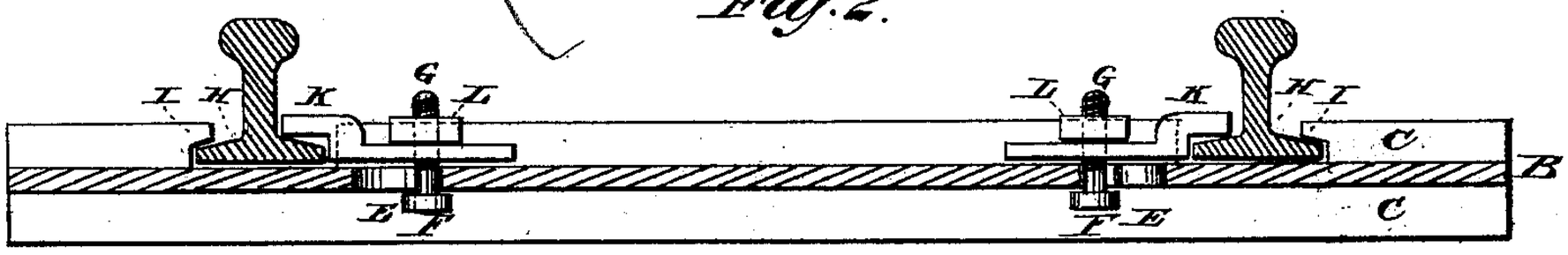
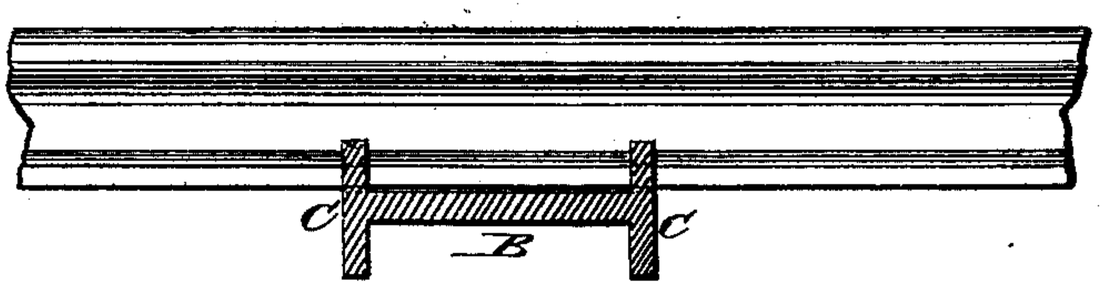


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

ALMON P. WHITING, OF ASTORIA, NEW YORK.

IMPROVEMENT IN RAIL-TIES.

Specification forming part of Letters Patent No. **218,603,** dated August 12, 1879; application filed December 27, 1878.

To all whom it may concern:

Be it known that I, ALMON PORTER WHITING, of Astoria, in the county of Queens and State of New York, have invented a new and useful Improvement in Rail-Ties, of which the following is a specification.

Figure 1 is a plan view, showing connection with rails. Fig. 2 is a side sectional elevation on line *x x*. Fig. 3 is an end elevation.

Similar letters of reference indicate corresponding parts.

The object of this invention is a cheap and simple rail-tie, to which rails may be secured in a novel and especially secure manner.

In the drawings, A is the rail-tie, composed of broad flat web, B, with the side flanges, C C, in effect what is called "double T-iron." The web-portion has near each end a slot, D, and a round hole, E, through which the head F of the screw-bolt G is entered, and then moved in the direction of the slot.

In the flanges C C, at each end of the tie, are notches H H, into which the rails are set. These notches have on one side lips or projections, I I, which serve to hold the rail in place, and it will be seen that they are somewhat wider than the foot of the rail, for the advantage of easy placing and removal of the rail.

When the rails are set in place the bolts G G are dropped, head first, into the holes E E, and moved into the contiguous slots D D. The plates K K are then placed in position, their bolt-holes fitting over the bolts G G, and are secured by nuts L L, so as to retain the rails in the notches.

When the ties are properly laid, with the web resting evenly upon the earth, the lower projections of the flanges serve to hold them securely in place.

Another advantage of this design is, that should the nuts L L jar from the bolts, the bolts, held up by the earth under them, will remain in place and prevent displacement of the plates K K. It possesses also an advantage over all other designs in having fewer parts to become by chance displaced by the concussion and jar upon the rails.

I am aware that there have been many designs of greater or less merit for rail-ties, and that on a cursory examination it might be thought that mine closely resembled if it were not almost identical with some one of them. In this respect my attention has been especially directed to the patent of E. E. Lewis of October 31, 1876, which my design most resembles.

It will be seen, however, on reference thereto that Lewis puts his braces on the ends of the tie outside of the rail, where the lateral pressure of the moving trains, tending to spread the rails apart, exerts its greatest force, and where, consequently, the greatest power of resistance, instead of an inferior power, as obtained by this system, should be opposed.

By placing the rail in the notches, so that it may oppose the support of the tie itself against the lateral pressure, I secure much greater immunity from danger and accident, while by the addition of the simple holding-plates K K, so easily and firmly held upon the rail-foot, I assure greater general durability and efficiency throughout the whole structure.

I am aware that the slot having enlargement for the passage of the bolt-head is not new, and that it is not broadly new to make a double flange or a rail-tie with lips and notches, or to secure an angle-plate over one side of base while the other side rests under a lip of the tie; but

What I claim is—

The combination of the double-flanged rail-tie A, having notches H H, holes E E, and slots D D with the plates K K, bolts G G, and nuts L L, substantially as herein shown and described.

ALMON P. WHITING.

Witnesses:

I. I. STOVER,

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