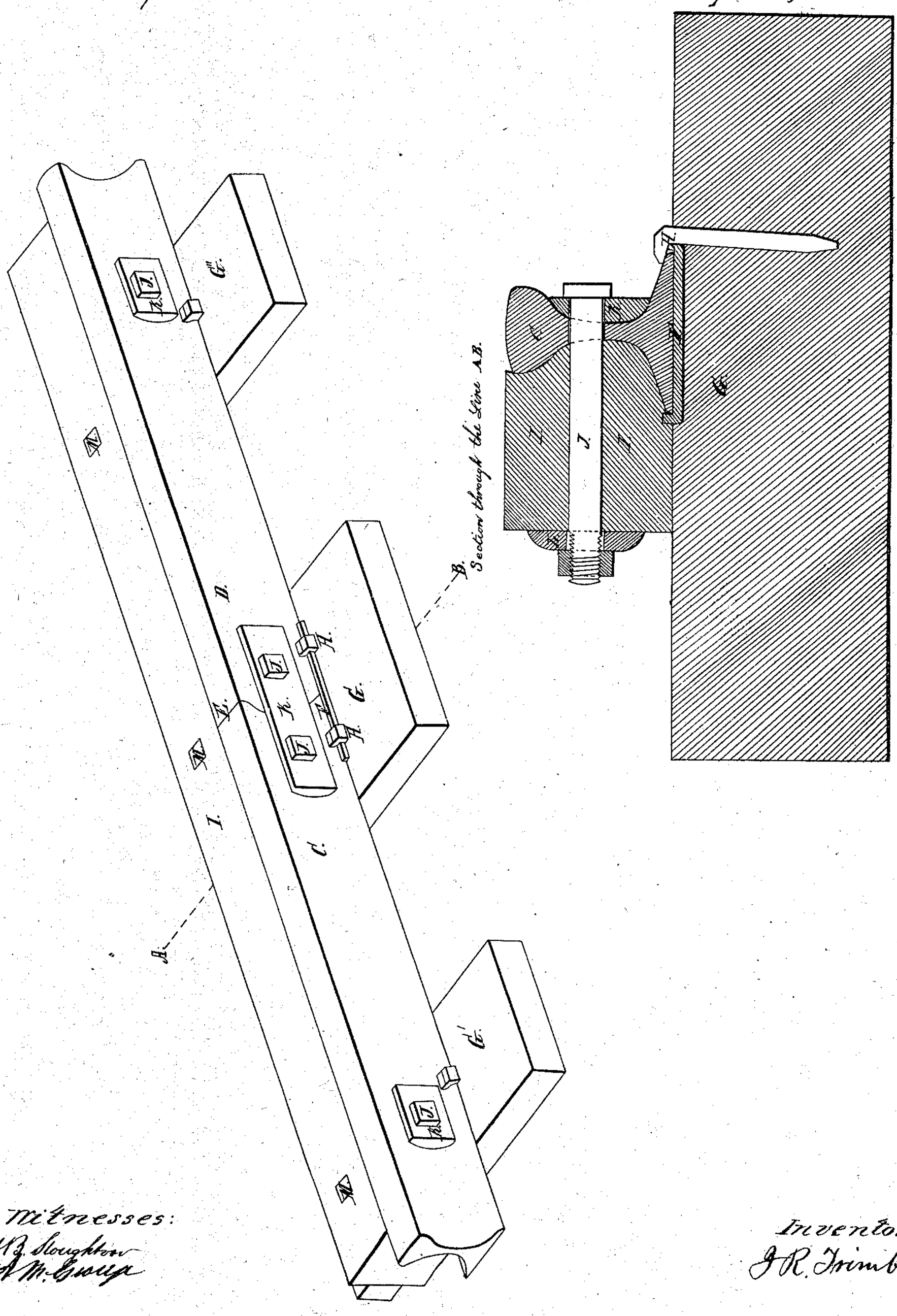
I. R. Trimble.

Railroad Rail Joint.

No. 12,704. Patented Apr. 10, 1855.



Witnesses:
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UNITED STATES PATENT OFFICE.

I. R. TRIMBLE, OF BALTIMORE, MARYLAND.

WOODEN SPLICE-PIECE FOR RAILWAYS.

Specification of Letters Patent No. 12,704, dated April 10, 1855; Antedated October 10, 1854.

To all whom it may concern:

Be it known that I, ISAAC R. TRIMBLE, of the city of Baltimore, in the State of Maryland, have invented a new and useful Improvement in the Mode of Splicing the Adjacent Rails of Railroad-Tracks, and that the following is a full and exact description of my said invention.

Iron chairs of various forms have been used for the purpose, and splices of iron have also been employed uniting the rails and being riveted or otherwise fastened thereto. The object to be accomplished by all these contrivances being to overcome the tendency of the rails under heavy and rapid pressure and motion to lose their level and become deranged laterally at the junctions. But experience has shown the inefficiency of the greater number of the modes resorted to, and as yet no plan has been discovered to command the general confidence of professional men and get into general use. This fact is mentioned to show that a perfect mode of splicing was still a desideratum.

My own experience as an engineer was directed for sometime to the iron splice, consisting of bars of iron of greater or less length fitting the neck of the rail, say in the H rail, between the upper table, or bearing surface and the base, which bars were fastened by rivets, or bolts passing through the neck, and securing in proper relations to each other the ends of the adjacent rail. But use proved the defects of this. The rivets wore loose, the level was lost and lateral distance took place, when the trouble and expense of reriveting the track proved greater than to adjust fastenings of other descriptions.

The defects of the iron splice thus made apparent, by present invention was the result of attempts to obviate them, when it occurred to me, that by substituting a heavy bar or block of wood on the outside of the rails, I would obtain what I wanted, not merely by sustituting one material for another, but by the production of results to which wood was competent and iron, within any reasonable limit of expense, incompetent, Thus the rigidity of iron, its compressibility and yet want of elasticity, allowed the constant jarring of passing loads to loosen the rivets, while there was an elasticity in wood that yielded to the jarring without loosening the rivets or bolts. Thus while the costliness and weight, and difficuly of working iron limited the employment of it to splice plates just fitting the neck of the rail above the base, the cheapness and facility of working wood, permitted the use of pieces large enough to extend lengthwise so as to cover three (3) sleepers, or cross ties and wide enough to take a firm bearing upon them, while its height was only limited by the whole height of the rail, so as to keep out of the way of the tread of passing wheels,—all that was necessary being to fit one of its edges to the neck of the rail, bolting it thereto, as though an outer iron splice and spiking it down to the sleepers or crossties. In practice the bolts fastening the splice to the rails remaining firm, the stiffness of the splice piece vertically and laterally preserved the rail to which it was attached from vertical or lateral disturbance,—accomplishing the great result aimed at by all chairs and splices.

Having thus explained the principles of my invention, the following is the form of construction that I have found to answer the purpose. I take a piece of strong hard wood I of about five inches wide and of the height of the rail, and dress this on the side which is to be next the rail, so that a section of it would correspond with a section of the rail. An easy mode of doing this is by a molding machine with a cutter of the outline of the section of the rail. The length of this splice piece is such as to extend over three of the crossties G, G′, G″—the center tie G being that which the ends of the rails C rest upon. The rails having been previously punched with two holes at each end, one, about three inches from the end and the other about twenty inches from that again. I make corresponding holes through the splice piece, through which I pass bolts J with washers K under the heads on the inside of the rails, the under surface of the washers corresponding with the curve of the neck of the rail, and the outer surface next the head of the bolt, being flat, a single washer K with two holes at the adjacent extremities of the rails operates as a sort of iron splice there, so as to make three washers for the inside of the rail for each wooden splice piece. The bolts pass through the splice piece I which is of course on the outside of the rail and are held by common nuts, and washers L. Strong spikes M being driven

vertically through each splice piece into each of the crossties G below it, complete the construction.

In practice and as an additional fastening, I have used the common wrought iron chair, or clamp F for the base of the rails,—but this is not a necessary part of my invention.

The accompanying isometrical view and section of my invention will illustrate the foregoing description, and will show its application to one of the common forms of rail in use in the country.

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

1. The combination of a wooden splice piece, strong enough to resist the lateral and vertical disturbances to which the adjacent ends of rails are liable, in combination with any form of rail competent to its purpose without other support throughout than its own stiffness—the said splice piece and rail, in the combination now claimed, being fastened together and fastened down in the manner heretofore described.

2. I am aware of a patent granted to B. H. Latrobe for a combined rail of wood and iron where the two are bolted together throughout, the wood and iron breaking joints; but the rail in this case is a rail which is incapable of being used by itself, its form being peculiar and relating to its combination, while the combination made by me is with the rail in common use, and is capable of being substituted on such rail, without other preparation than drilling or punching the bolt holes, in place of any of the chairs or fastenings now in use.

ISAAC R. TRIMBLE.

Witnesses:
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