H. J. GILMAN.

RAILROAD RAIL COUPLING.

No. 48,926. Patented July 25, 1865.

Fig. 1.

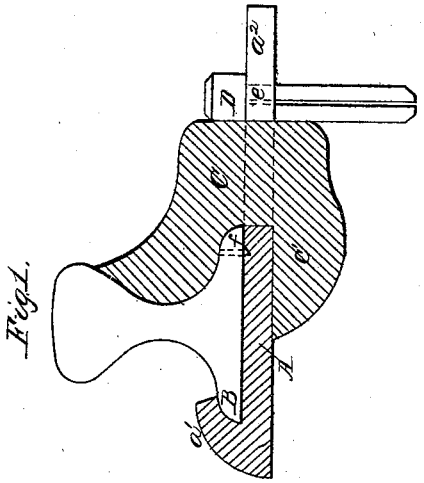
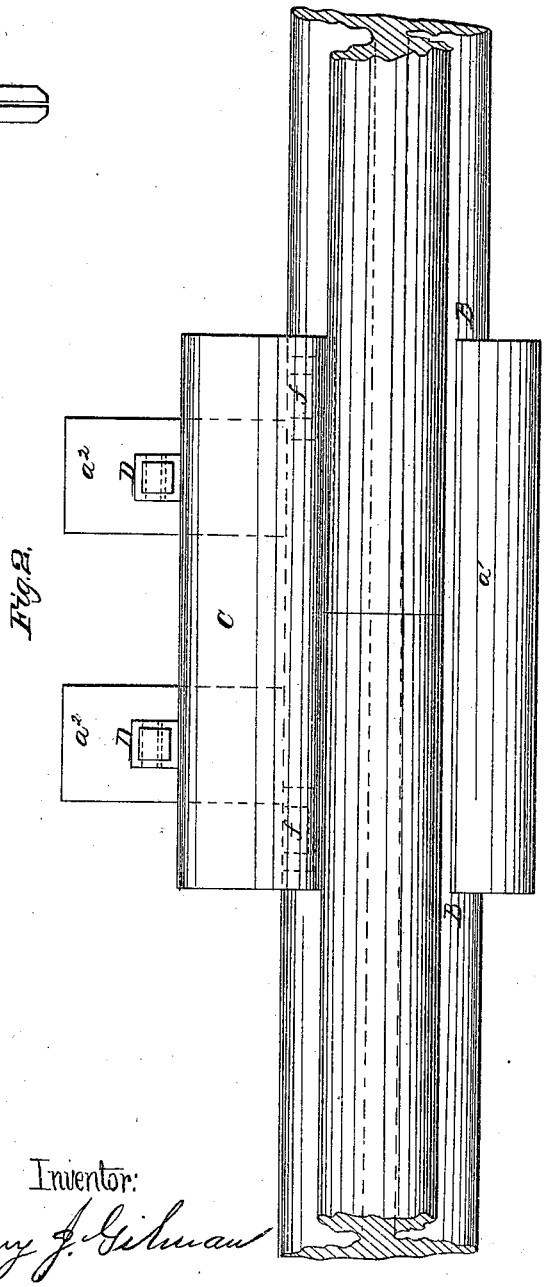


Fig. 2.



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IMPROVEMENT IN RAILROAD-RAIL COUPLINGS.

Specification forming part of Letters Patent No. **48,926**, dated July 25, 1865

To all whom it may concern:

Be it known that I, HENRY J. GILMAN, of the city of Buffalo, county of Erie, and State of New York, have invented a certain new and Improved Railroad-Rail Coupling; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure I is a cross-section, and Fig. II is a plan, of my improved rail-coupling.

The nature of this invention consists in the combination of a base-plate with a clamping-bar and tightening-wedges, by which the contiguous ends of two rails may be coupled together in a manner to give them both a vertical and lateral support and prevent the possibility of the end of one rail getting out of line with the other in any direction, so that in effect a continuous rail is formed.

Letters of like name and kind refer to like parts in each of the figures.

A represents the base-plate, which, when in position, underlies and laps equally onto each of the contiguous ends of the two rails to be coupled together. It has a hooked flange or lip, a', at one edge, taking hold of one edge of the base-flange of the rails, as shown at B, its opposite edge projecting beyond the base of the rail and cut into tenons a^2. This base-plate should be made of wrought-iron to secure lightness with the required strength.

C represents the clamping-bar, the contour of which, in its cross-section, is the reverse of one side of the web and base-flange of the rail, so that it may fit closely against the web and base flange. It also has a flange, C′, which laps under the base-plate and gives additional support thereto. It has mortises cut through it, through which the tenons a^2 of the base-plate pass, projecting through far enough to receive the tightening-wedges D, slots or holes e being made in the tenons for that purpose. This clamping-bar, from its peculiar form and the duty it has to perform, may be made most economically of cast-iron, but may be made of wrought-iron, if preferred. The wedges D, being held by the base-plate and bearing against the clamping-bar, will, upon being driven through the base-plate, force the clamping-bar against the web of the rails, and the base-plate being held by its flange a' bearing against the opposite flange of the rails, the ends of the rails will be firmly clamped or coupled together. The base-plate will prevent the end of one rail settling below that of the other, and the clamping-bar, by its interlocking with the web of the rail, its flange C′ lapping under the base-plate, will prevent any lateral or rising movement of the rails, except as they may move together, thus making, in effect, a continuous rail. The wedges D are split, as shown at e, so that after being driven they will expand and prevent the jar of passing trains from working them out of place.

To prevent the contraction of the rails by cold from drawing them out of the coupling, (as sometimes happens in long inclines,) lugs are cast on the clamping-bar, as shown at f, which fit into notches cut into the flange of the rails near the ends thereof. These notches are enough longer than the lugs to allow the rails to expand and contract without straining the coupling, while at the same time they cause the expansion and contraction of a long line of rails to be taken up equally at each coupling, and not all at one coupling, as might be the case where the rails were laid on an incline were not some such provision made.

This coupling does not partake of the nature of a chair, being used between the ties; but it firmly couples the rails together and acts as a protector to the ends of the rails, preventing them from getting out of line and springing up one above the other. By its use one of the largest items of expense of keeping the permanent way of a railroad in order is saved, for it is well known that the ends of rails become battered and worn out long before the body of the rail is injured, and this battering of the ends of the rails is occasioned by their springing up one above the other.

This coupling is cheap and durable and easily and quickly applied, and produces the effect of a continuous rail in causing the cars to run smoothly and quietly thereon without the jar and noise and damage to the rails attending the use of the common chairs. It is a suspended coupling, receiving no support from the ties or from a bridge-piece reaching from tie to tie. It couples the rails between the ties

without an under support. It may be also used for mending broken rails, and in replacing them by new ones it will be found particularly convenient.

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

The combination of the base-plate A and clamping-bar C and tightening-wedges D, or equivalents thereof, for the purposes and substantially as described.

HENRY J. GILMAN.

Witnesses:
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