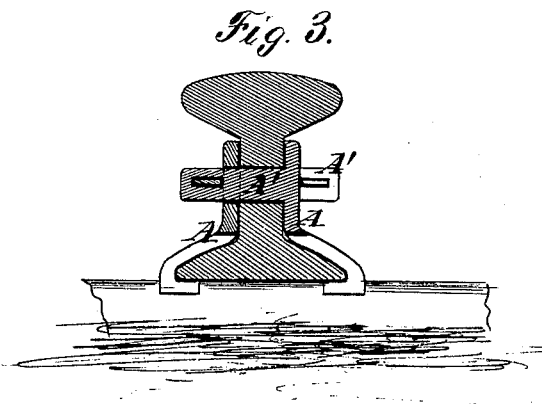
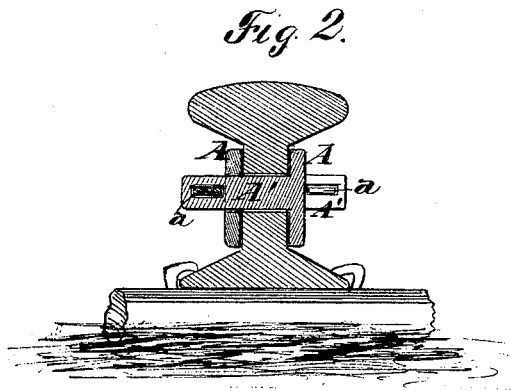
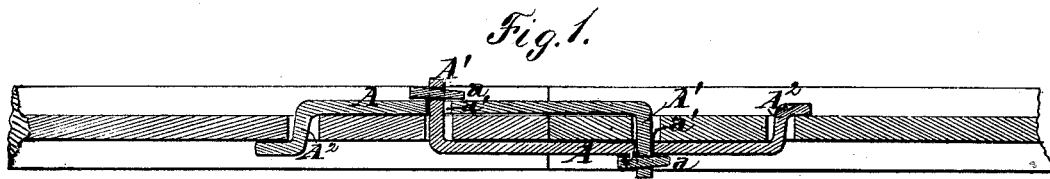


WILLIAM F. GRASSLER.
Improvement in Rail-Joints.

No. 114,433.

Patented May 2, 1871.



Witnesses:
A. Rupprecht
C. F. Clausen.

W. F. Grassler
Inventor.
D. C. Holloway & Co
Attys

United States Patent Office.

WILLIAM F. GRASSLER, OF MUNCY, PENNSYLVANIA.

Letters Patent No. 114,433, dated May 2, 1871.

IMPROVEMENT IN RAIL-JOINTS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, WILLIAM F. GRASSLER, of Muncy, in the county of Lycoming and State of Pennsylvania, have invented a certain Improvement in Rail-Couplings for Railroads; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the annexed drawing making part of this specification, in which—

Figure 1 is a horizontal section of my improved coupling or joint.

Figure 2 is a vertical transverse section.

Figure 3 is also a vertical transverse section, showing a modification in the construction of the plates of the splice.

The same letters are used in all the figures in the designation of identical parts.

This invention relates to couplings or joints for joining or splicing together rails of railroads; and

My improvement consists in the construction of the plates of the joint, and in their combination with the rails, as will be more specifically pointed out in the following detailed description and claim.

To enable those skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

The plates A of the joint, which should be shaped to nicely fit to the rails to which they are applied, are reduced in width at each end so as to make these parts about square in cross-section.

The end A¹ is bent inward at right angles to the plate, and must be of sufficient length to extend through the rail and the plate on the opposite side far enough to receive a key, *a*, for clamping the plates firmly to the rails.

The end A² is also bent inward at right angles to the plate for a distance, to pass through the web of the rail; it is then bent again to extend parallel with the rail, as clearly shown in fig. 1 of the drawing.

In each plate a hole, *a'*, is formed at such point as to admit the end A¹ of the opposite plate on joining or splicing two rails together.

Where the ends of the plates pass through the respective rails, holes are formed in the latter which should be somewhat elongated, to permit the movement of the rails endwise under changes of temperature.

Where the ends of the rails do not rest on a cross-tie, the plates of the joint may be constructed with a short flange or shoe, to embrace the foot of the rail, as shown in fig. 3.

In splicing rails with this coupling the end A² of one of the plates is passed through the holes of one of the rails furthest from the end, and is then swung around to pass the other end through the hole of the adjacent rail nearest the end.

In applying the other plate upon the opposite side of the rails in a similar manner, the ends A¹, passing through the rails and opposite plate, are secured by the keys, which will clamp the plates firmly to the rails.

The portions of the ends A² parallel to the rail should be somewhat longer than the holes through which they are passed, so that they cannot become disengaged without swinging the plates around at right angles to the rail.

In a coupling or joint constructed as hereinbefore described the use of bolts and nuts is entirely dispensed with, which feature is of great importance, not only because a considerable saving in the first outlay for the construction of a road will result from it, but also in that it will save a great deal of labor and expense in keeping the road in repair afterward.

What I claim as my invention, and desire to secure by Letters Patent, is—

The plates A, constructed with a hole, *a*, in each, and reduced ends A¹ and A², bent substantially as shown and described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

Witnesses: WILLIAM F. GRASSLER.
WM. BRINDLE,
T. H. NEWTON.