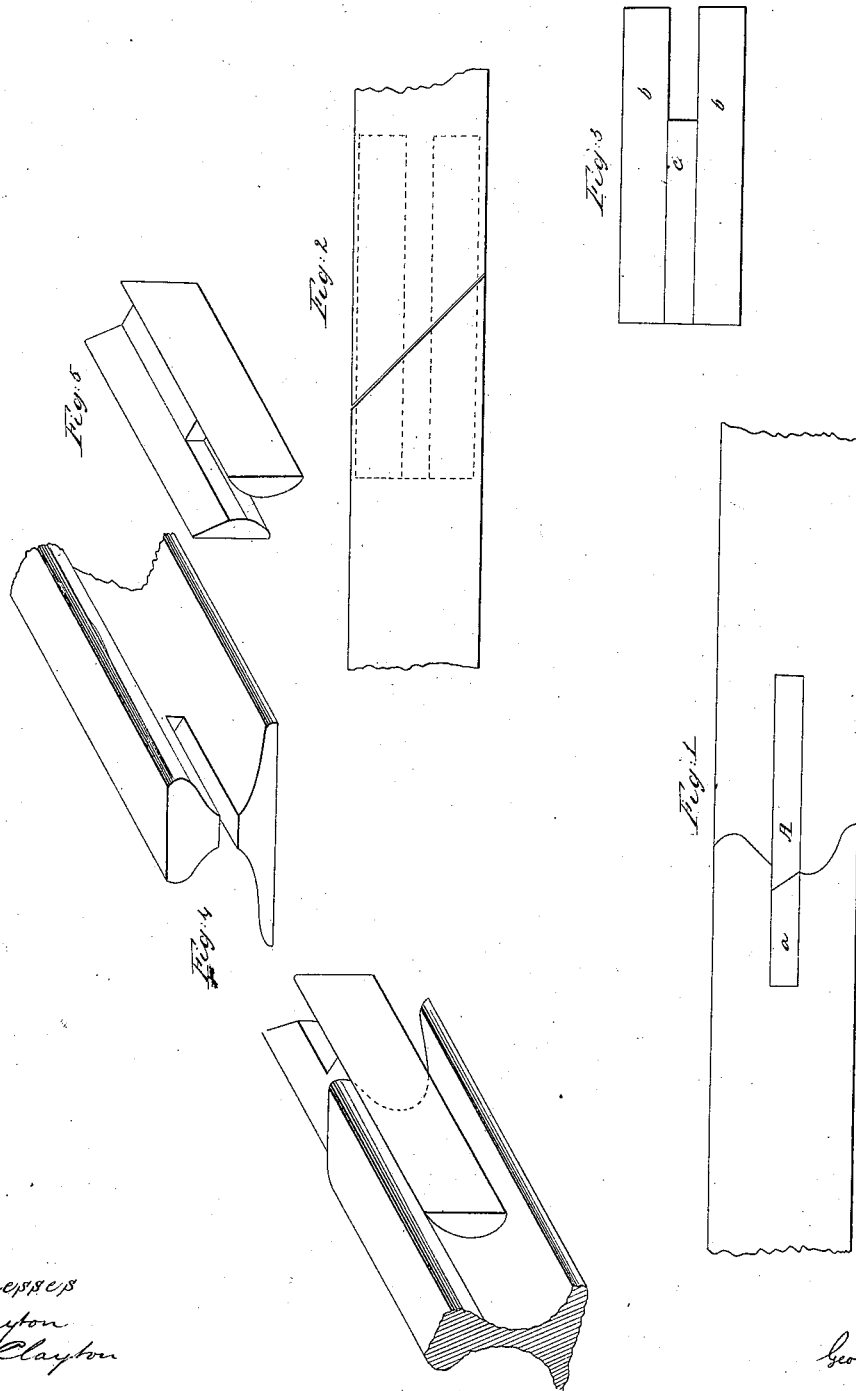


G. M. Ramsay,
Railroad-Rail Joint,

No 46,388.

Patented Feb. 14, 1865.



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GEORGE M. RAMSAY, OF NEW YORK, N. Y.

IMPROVED RAILROAD RAIL-JOINT.

Specification forming part of Letters Patent No. 46,388, dated February 14, 1865.

To all whom it may concern:

Be it known that I, GEORGE M. RAMSAY, of the city, county, and State of New York, have invented a new and Improved Railroad Joint or Coupling; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings and letters of reference marked thereon, making part of this specification.

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

Figure 1 represents a side view of the joint, showing the longitudinal slots *a* and *A* through the thinnest part of the rail. The slot *A* is made longer than the slot *a* of its fellow. Fig. 2 represents a top view of the joint when united, the dotted lines showing the position of the clamp, Fig. 3, when in its proper position. Fig. 3 is a top view of the clamp by which the ends of the rails are held together. Fig. 4 is a perspective view of the joint detached with the clamp, Fig. 3, in position on one portion of the rail. Fig. 5 is a perspective view of the clamp.

To make this joint as represented in the drawings the ends of the rails should be cut at an angle of forty-five degrees. To cut them at a more acute angle would weaken the extreme points. To cut them at a less acute angle would require a greater space between the two ends of the rails for expansion, and thereby render the joint to that extent less perfect.

It is evident to the intelligent observer that an angle of forty-five degrees would require for longitudinal expansion only half the space between the ends of the rails that is required in a joint made at a right angle or transverse. A little variation from forty-five degrees would not destroy the utility of this joint, but would lessen its value by marring its perfection. This acute angle is more readily and accurately made by a circular saw operating perpendicularly from top to base of rail. The slots *a* *A* are readily made by placing the rail on its side and slit with a similar saw, or may be made by a punch. The inner sides of *b* *b*, Fig. 3, are made to correspond (to fit) to the sides of the rails, and are united by a solid

union, *C*, which union is made to fit in and fill the slot *a* at one end of the rail, and half the slot *A* of the other rail. The sides *b* *b*, Fig. 3, are made so as to extend the full length of slot *A*, so as to cover the slot *A* and support that part of the rail containing the longer slot *A*, which is not filled and supported by the union *C*. The slot *A* is made longer than slot *a* for the purpose of driving or sliding back upon the rail the clamp, Fig. 3, so as to detach the joint, in order that the rails may be taken up for repair or alteration, if required.

This clamp may be applied cold or hot, or may be made so as to receive packing between the surfaces of the rails and clamp. The packing may consist of gutta-percha, felt, or any similar material. Experience alone will determine which is best, if required.

Having prepared the ends of the rails as shown and described, also the clamp, the joint is completed by driving the clamp on the end of the rail with the longer slot, the union *C* is driven into the slot *A*, while the long ends of the sides *b* *b* slide past the slot *A*, grasping the sides of the rail. The end of the other rail is then placed in position and the clamp is driven forward into the slot *a*, thus uniting the two rails in such a manner as to present a continuous tread for the car-wheels, while half the space only for expansion is required that is necessary for a transverse joint. The sides *b* *b* give ample support to the acute ends of the joint and to that portion of the rail containing the longer slot, not supported by *c*, also a joint that can be put down or taken up with facility.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination of the miter or lap joint, together with the clamp, substantially as described.
2. Making the slot *A* *a* longer than the union *C*, substantially as described.
3. Making the ends *b* *b* to extend beyond the end of *C*, substantially as described, for the purposes described.

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Witnesses:

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