

B. F. Gossin.

Railroad Chair.

N^o 38,159.

Patented Apr. 14, 1863.

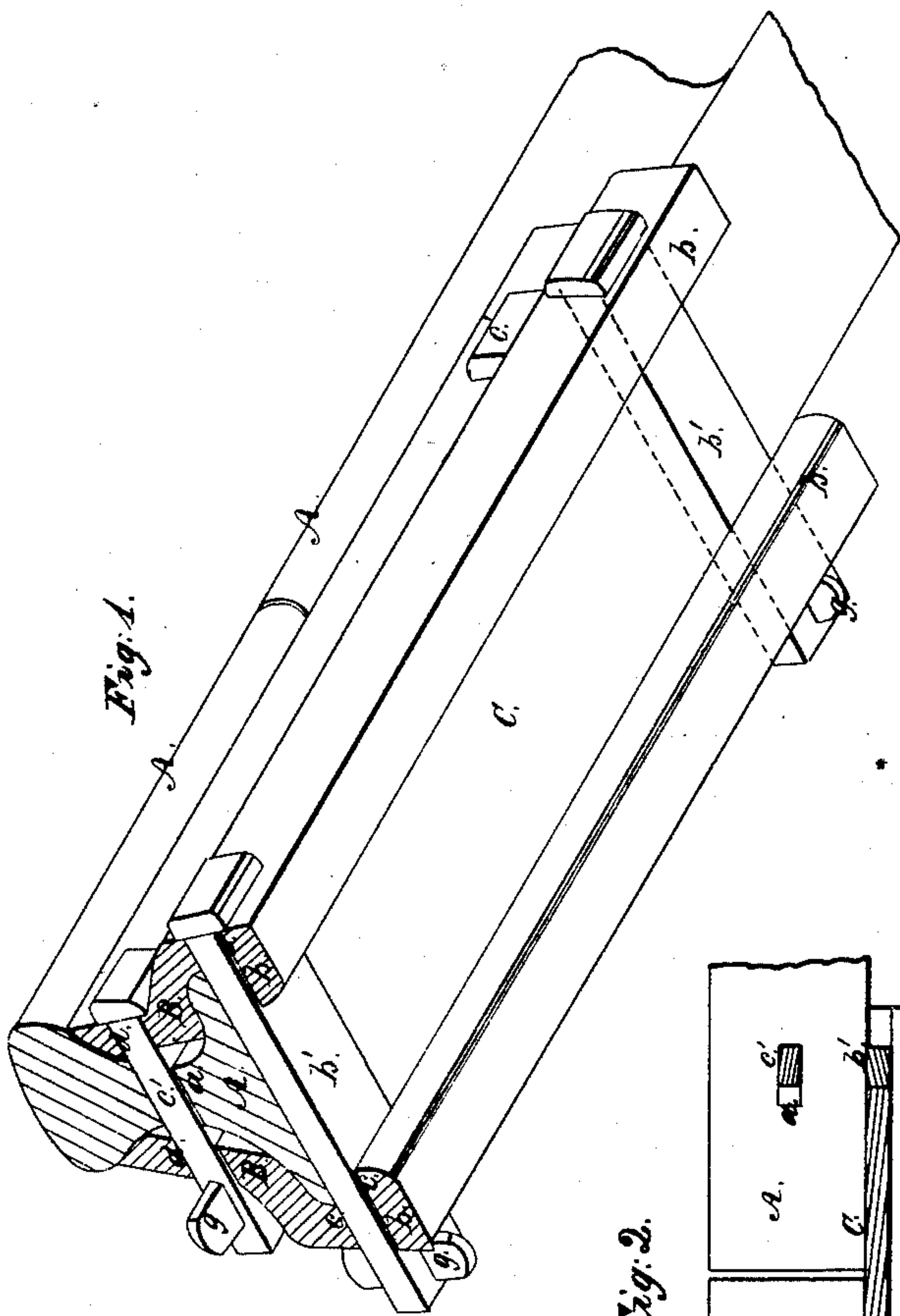


Fig. 2.

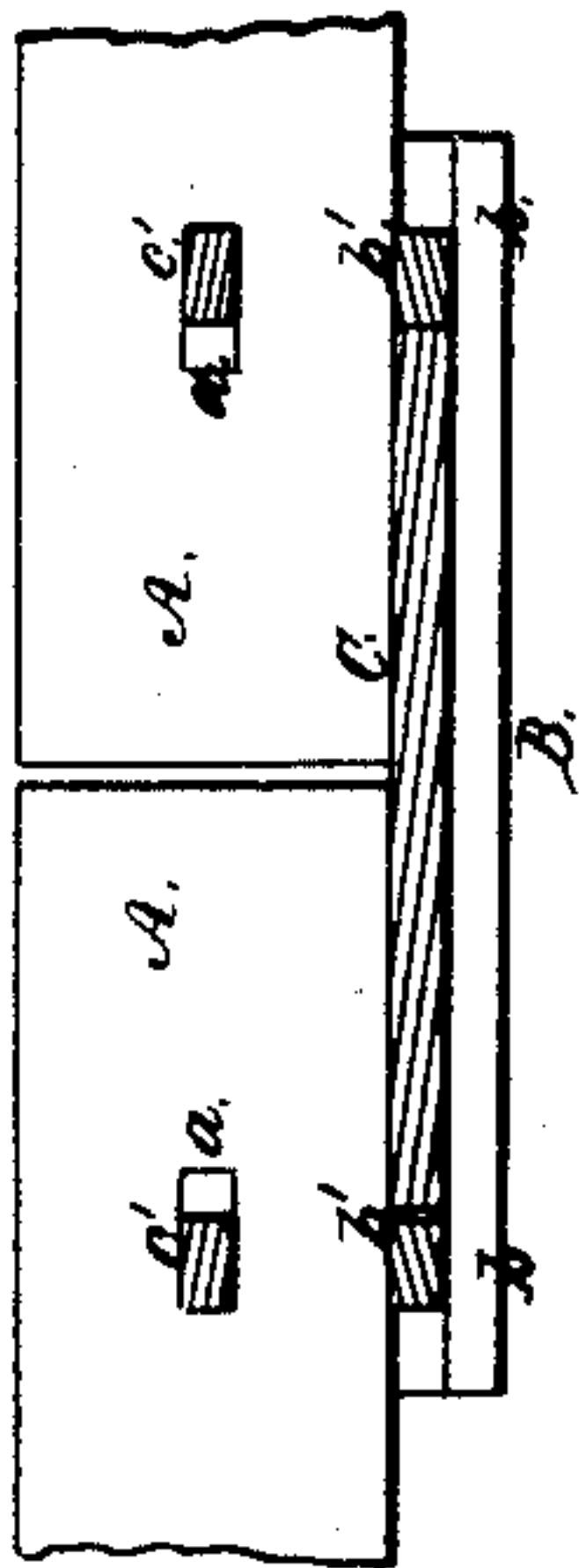
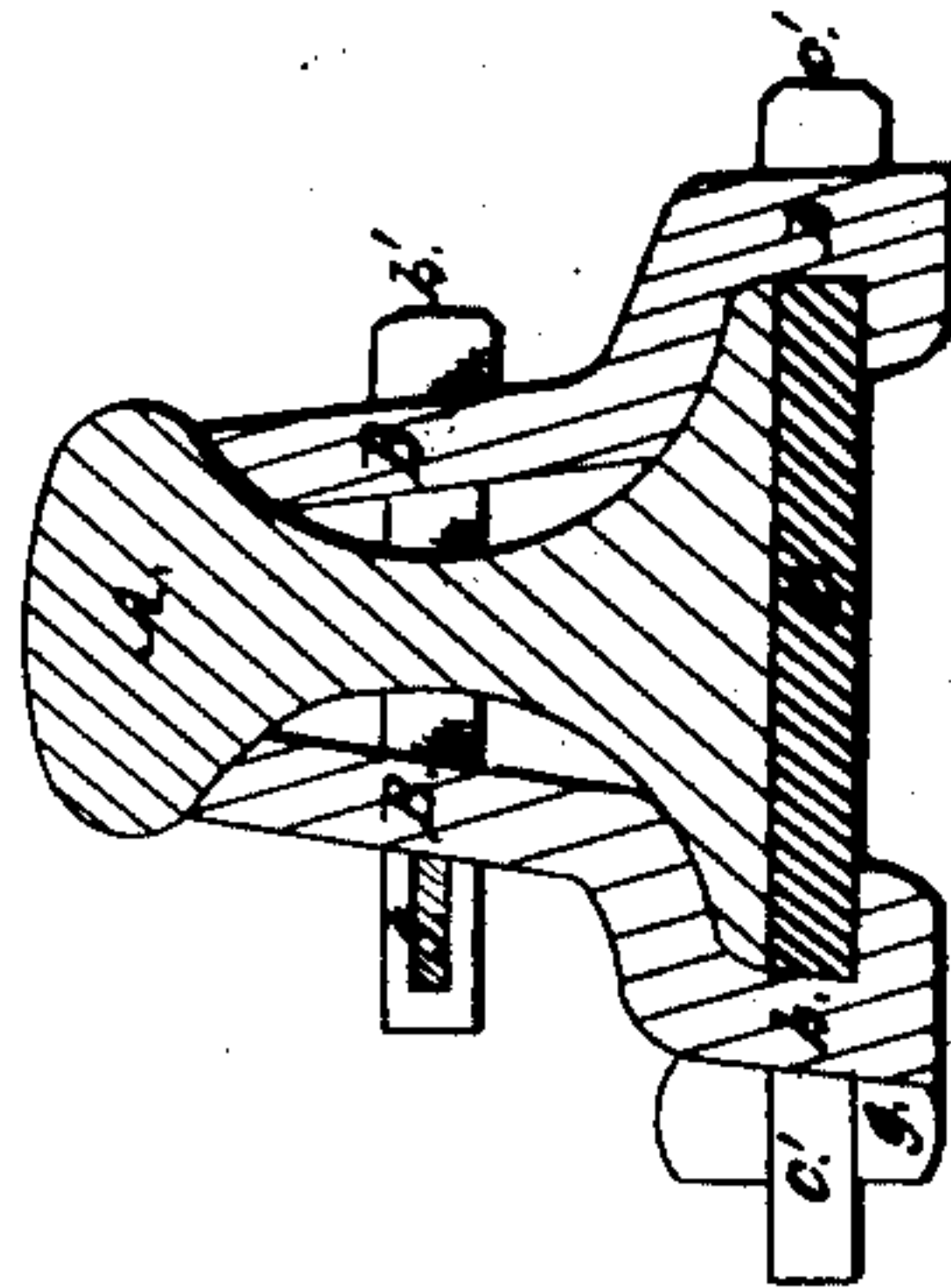


Fig. 3.



Witnesses:

Gustav Dietrich.

R. T. Campbell

Inventor:

B. F. Gossin
by his attys

Mason Kenrick Lawrence

UNITED STATES PATENT OFFICE.

BENJAMIN F. GOSSIN, OF CINCINNATI, OHIO.

IMPROVEMENT IN RAILROAD-CHAIRS.

Specification forming part of Letters Patent No. 38,159, dated April 14, 1863.

To all whom it may concern:

Be it known that I, BENJAMIN F. GOSSIN, of Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and Improved Railroad-Chair; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view of the bottom of two sections of rails connected together at their joints with my improved compound chair. Fig. 2 shows the ends of two rails with one of the side supporting-bars removed. Fig. 3 is a transverse vertical section through the chair and rail, taken at an intermediate point between the rail-bolts of each section of rail.

Similar letters of reference indicate corresponding parts in the three figures.

This invention is intended to connect together and support the rails at the joints thereof in a more substantial and perfect manner than hitherto, and in such manner that the pressure of the rolling load upon the rail-head or table of the T-rail will not only be supported by the rails at their joints, but all lateral thrust, or a tendency thereto, will be prevented. At the same time I make all necessary provision for the lineal expansion and contraction of the rail in consequence of the change of temperature.

I am aware that wedges or tie-plates have been passed under rails laterally, but in such contrivances the ends of the wedges or tie-plates have not been confined by the side supporting bars or plates.

The nature of my invention consists in so adapting the side plates and the base or tie plate for application to the joints of rails that with the aid of key-bolts the base-plate when applied to the joint of the rail is confined within a rectangular frame-work, below the rail, in such manner that it is supported vertically—laterally and longitudinally—such support being on both sides and at both ends of the plate. As the plate is thus supported, it in turn supports the joint of the rail in the most thorough manner. The operation is such that the side plates receive the weight that comes upon the rail in such manner that they have nearly their tensile instead of their cross-sectional strength.

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

In the accompanying drawings, A A represent the ends of two sections of the common railroad T-rail, which have oblong slots *a a* punched through their necks at some distance from the ends of each rail. The lengths of the slots *a a* are made in a direction with the length of the rail, and the bolts which pass transversely through this slot, as will be hereinafter described, are not quite as wide as the length of the slot. It will therefore be seen that provision is made at these points for expansion and contraction of the rails.

B B are two clamping-plates, which are made of a sufficient length to extend some distance on each side of the rail-joint. These two plates are formed with jaws *b b* at their lower edges, which jaws form longitudinal recesses for the reception of the longitudinal edges of the bridge or base plate C. The upper portions of the plates B B are curved and fashioned in such a manner as to support the lips of the rail-table, as clearly shown in Figs. 1 and 3 of the drawings. Two holes, *c d*, are punched transversely through the clamping-plates B B, at each end thereof, for the purpose of receiving the transverse through-bolts *b' b' c' c'*, which confine the whole together, and the bridge-plate C is kept in its place and prevented from moving endwise by the two bolts *b' b'*, against which the ends of plate *c* abut. The through-bolts *c' c'*, which pass through the necks of the two sections of rails, confine the supporting or "fishing plate" in place against the under surfaces of the lips of the rail-table, as shown clearly in Figs. 1 and 3 of the drawings.

The bolts which I use to confine the clamping-plates in their places are flat, with a square head on one end and a vertical longitudinal slot punched through the other end for receiving a wedge, *g*, which is used to lock the joint together. These bolts *b' b' c' c'*, four being used, not only clamp or draw the plates B B up closely to each side of the rail ends A A, and clamp the bridge-plate C tightly in its place laterally, but the bolts prevent the plate C from moving longitudinally, and keep it rigidly fixed in its relative position with the joint of the two sections of rail, independently of railroad-spikes, which have been used in con-

junction with chairs to keep them in their places, and which are always objectionable on account of their being liable to draw out of place by the concussions of the rolling load on the rail-joints.

It will be seen from the above description that the bridge-plate C gives a firm support to the rail-base, while it is itself again supported by the thick clamps *b b* of the side plates B B. Then, again, the upper edges of these plates B B support the lips of the rail-table, and all combined furnish a positive support against any upward or downward movement of the rails at the joints. The plate C, together with the clamping-plates B B and the manner of putting the whole together, will prevent any lateral thrust of the rail-joints. It will also be seen that by using the bridge-plate C under the rail base this plate will receive the weight of the rolling load and communicate it to the clamping-plates on the side of the rail in such a manner that the ends of the two sections of rail are supported throughout the entire length of the respective portions B B and C, thus adding great strength to the rail at the joints thereof and preventing a rapid destruction of the rails in consequence of the beating down of the ends. These plates B B and C may also be applied to rails which are spiked down to the ties, and thus obviate the great loss of time required with many railroad-chairs to lift up the ends of the rails to apply the chairs, which involves

the necessity of withdrawing the spikes and regaging the rails.

It is obvious that the number of through-bolts may be varied or changed, as necessity may demand, without departing from the character of my invention.

I do not claim, broadly, a base-support to a rail-joint; nor do I claim side supports, nor do I claim a wedge plate driven through side plates and under a rail-joint; but

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

1. The adaptation of the base-plate C, side plates B, bolts *b' b'*, and rails A A, for use together in such manner that the base-plate C is supported and confined against lateral, longitudinal, and vertical, movement, in the manner substantially as described.

2. The combination of the side plates B *b b*, through bolts *b' b' c c*, and plate C, with the rails A A, in the manner substantially as described.

3. The side plate B *b b*, constructed as described, for the purpose set forth.

4. The arrangement, at the ends of the plate C, of the key-bolts *b' b'*, in the manner and for the purpose described.

5. Preventing lateral play of the base-plate C by means of the jaws *b b*, which underhang the plate C in the manner described.

Witnesses: BENJ. F. GOSSIN.

WM. M. BURGoyNE,
C. CURRY WILLIAMS.