

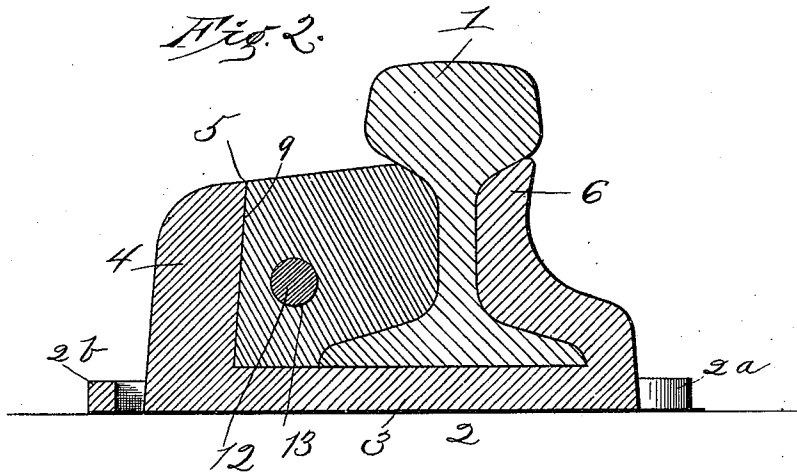
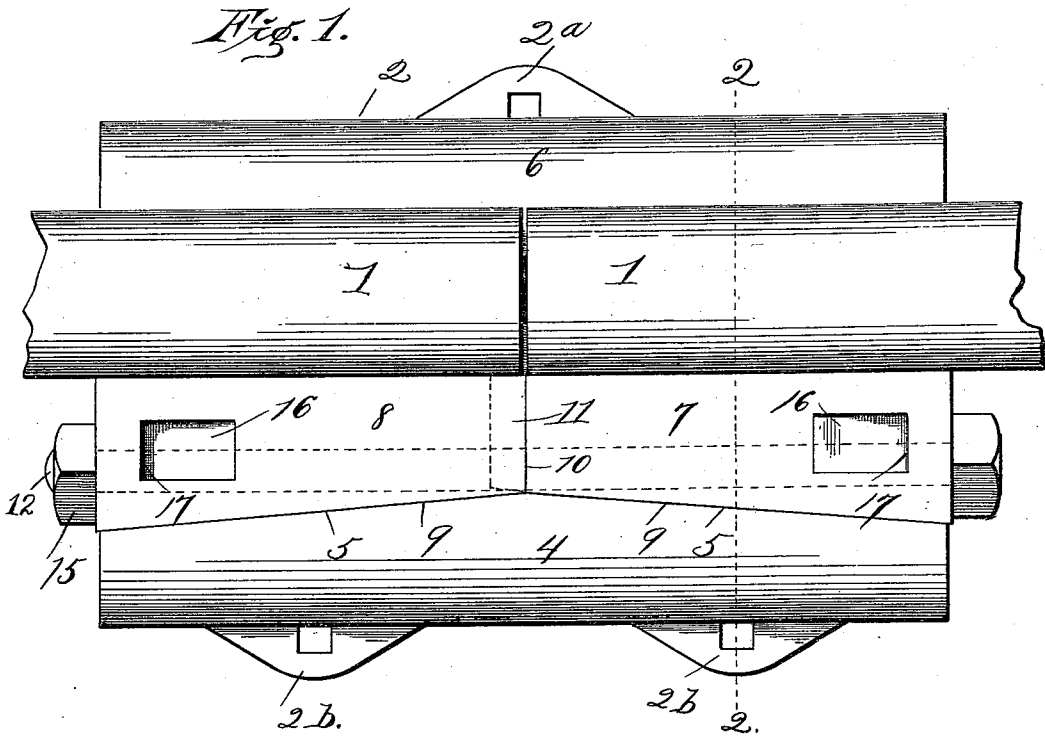
(No Model.)

2 Sheets—Sheet 1.

L. BURKHART.
RAILWAY RAIL JOINT.

No. 510,381.

Patented Dec. 5, 1893.



Witnesses:-

W. R. Smith.

Inventor:-

Lorenz Burkhardt.

By *W. R. Smith* *W. R. Smith* Attys.

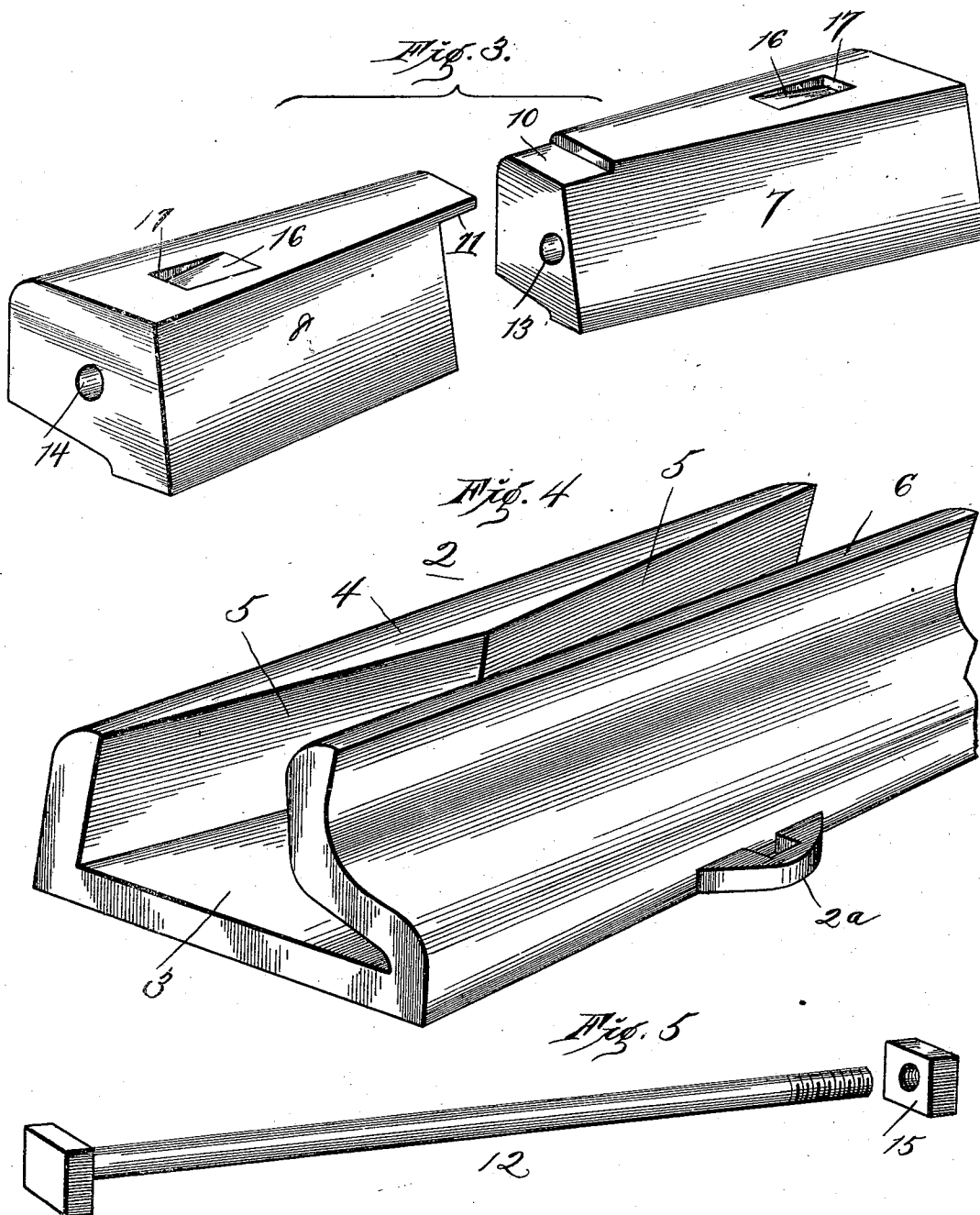
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2 Sheets—Sheet 2.

L. BURKHART.
RAILWAY RAIL JOINT.

No. 510,381.

Patented Dec. 5, 1893.



Witnesses:
M. P. Smith,
G. P. Thorpe.

Inventor:
Lorenz Burkhardt.
By H. Jaon & H. Jaon attys.

UNITED STATES PATENT OFFICE.

LORENZ BURKHART, OF KANSAS CITY, MISSOURI.

RAILWAY-RAIL JOINT.

SPECIFICATION forming part of Letters Patent No. 510,381, dated December 5, 1893.

Application filed February 10, 1893. Serial No. 461,751. (No model.)

To all whom it may concern:

Be it known that I, LORENZ BURKHART, of Kansas City, Jackson county, Missouri, have invented certain new and useful Improvements in Railway-Rail Joints, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to improvements in railroad rail joints, and has for its object the construction of a device by which the ends of the rails may be securely joined together along the line of track, in such manner that the rails will be effectually prevented from spreading laterally, due to the pressure of the flanges of the wheels of the moving train, also to prevent their depression at the ends where they are weakest due to the downward pressure of the train, and furthermore to provide a rail-joint without the use of bolts passing through the ends of the rails and thus weakening the same, which can be quickly and easily applied to the ends of the rails, or removed therefrom, and finally to provide a rail-joint which is simple, durable, strong and comparatively inexpensive of construction.

To the above purposes my invention consists in certain peculiar and novel features of construction, as will be hereinafter fully described and claimed.

In order that my invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1, is a top-plan view of the meeting ends of two rails joined together by a rail-joint embodying my improvements. Fig. 2, is a vertical sectional view, taken on the line 2—2 of Fig. 1. Fig. 3, is a perspective view of the wedge-blocks forming a part of my improved rail-joint. Fig. 4, is a detail perspective view of the base or chair plate, of my improved rail-joints, and Fig. 5, is a detached perspective view of the tie-bolt, for securing the wedge-blocks from longitudinal movement, and the retaining nut therefor.

Referring to the drawings, where similar numerals designate similar parts in all the figures, 1 designates the meeting ends of two rails of the ordinary construction and arrangement.

The rail-joint of my improved construction, comprises only four parts, which I respectively term the base or chair plate, the mating wedge-blocks, the tie-bolt and the nut therefor. The base or chair-plate 2 is of length about equal to the width of a cross-tie, and is of somewhat greater width than the base-flanges of the rail, and extending longitudinally of the inner margin of the bottom 3 thereof, is the vertically and upwardly extending flange 4, the inner vertical surface of which is beveled inward at 5 from each end to a point about midway the length of the base or chair plate, thus forming when the rails 1 are in proper position, as shown in Fig. 1, wedge-shaped spaces at the inner sides of the rails and extending from the middle to the outer ends of the base or chair plate. A longitudinal flange 6 also extends upwardly from the outer margin of the base or chair plate, the inner side of which is of contour to fit the outer side of the rails 1, and bear against the underside of the head of the rails at its upper end. The inner flange 4 extends upwardly to about the height of the underside of the head of the rail, and wedge-blocks 7 and 8, having each an inclined or beveled vertical side 9, and an inner and lower side of contour to fit the inner side and the base-flange of the rails 1, are driven or forced into the wedge-shaped spaces between the inner flange 4 of the base or chair plate and the inner side of the rails 1, toward each other, and to prevent any sand or dirt entering the joint between the meeting ends of the said wedge-blocks, the block 7 is recessed in its upper side and at its inner end at 10 and the inner end of the block 8 is provided at its upper margin with a forwardly projecting tongue or flange 11, which is adapted to engage the recess 10 of the block 7. It will be seen that when these wedge-blocks are driven or forced into the wedge-shaped spaces between the rails and the inner flange 4 of the base or chair-plate, the ends of the rails will be forced laterally and held tightly against the inner side of the outer flange 6 of the base or chair-plate, and to prevent any longitudinal displacement of the wedge-blocks 7 and 8, and as a result the lateral displacement of the ends of the rails, a tie-bolt 12 extends through

longitudinally extending and registering passages 13 and 14 formed respectively through the blocks 7 and 8, and a retaining nut 15 engages the projecting screw-threaded end of the tie-bolt.

The blocks 7 and 8 are each provided in their upper surfaces with a recess or depression 16, the bottom surface of which extends longitudinally of the blocks and inclined downwardly to form abrupt or vertical walls or shoulders 17 at their outer ends, and when it is desirable to remove the blocks from their position relative to the rails and the base or chair plate, the nut 15 is removed from the bolt 12, and a crow-bar or other tool is placed against the vertical or abrupt wall or shoulder 17 of the recesses 16, to drive or force the blocks longitudinally from their position.

The base or chair plate 2 is provided with the ears or lugs 2^a at its outer side, and 2^b—2^b at its inner side; these ears or lugs 2^a and 2^b—2^b being provided with vertical apertures through which the usual rail-spike is driven to secure the base or chair plate upon the cross-tie.

From the above description, it will be seen that I have produced a simple, strong, durable and inexpensive rail-joint which can be easily and quickly applied to or removed from the meeting ends of two rails, and which will effectually prevent any spreading of the rails, and consequent injury to the rails, and the rolling-stock and adding to the safety of the passengers traveling over the road.

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

In a railway rail joint, the combination with a chair to support the meeting ends of the rails, of a pair of wedge blocks, one having a recess 10 and the other a tongue 11 adapted to engage said recess, and a recess 16 formed in each wedge-block, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in the presence of two witnesses.

LORENZ BURKHART.

Witnesses:

MAUD FITZPATRICK,
M. P. SMITH.