

(No Model.)

2 Sheets—Sheet 1.

S. F. STEVER.  
RAILWAY RAIL JOINT.

No. 492,848.

Patented Mar. 7, 1893.

Fig 1.

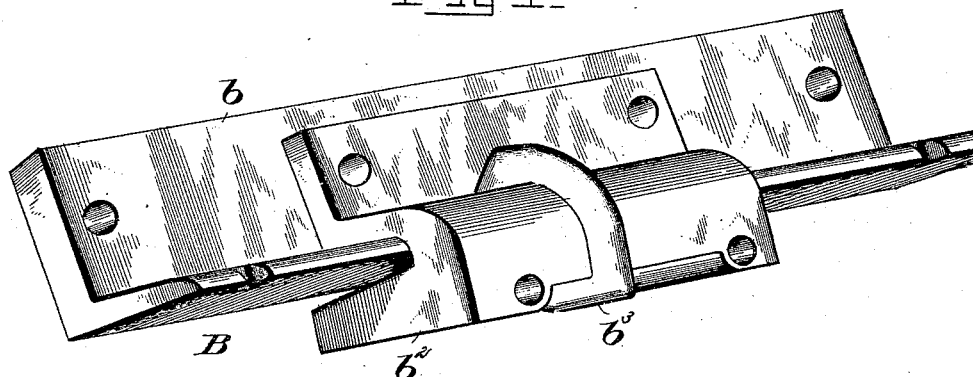
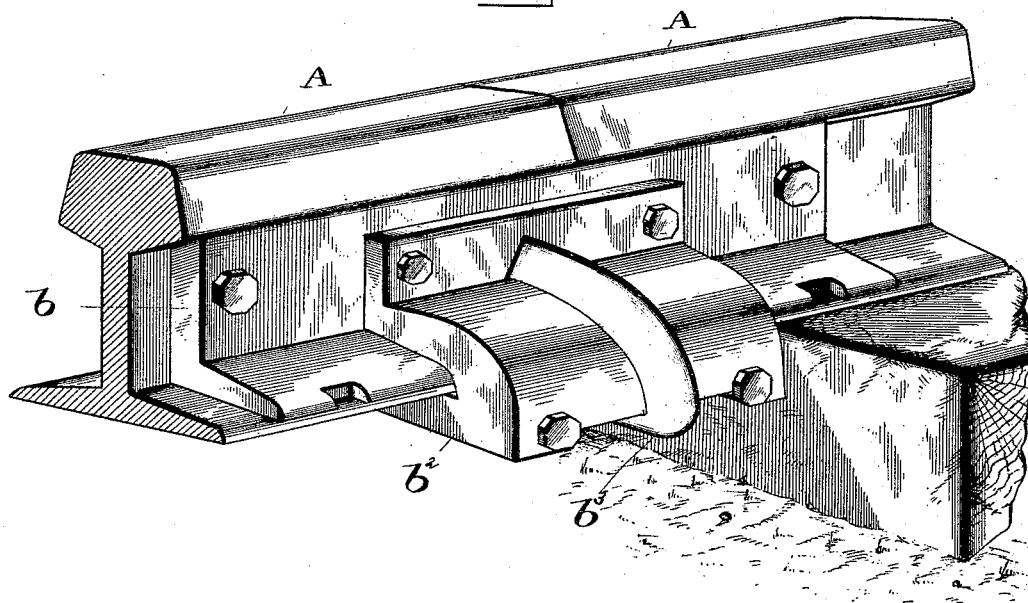


Fig 2.



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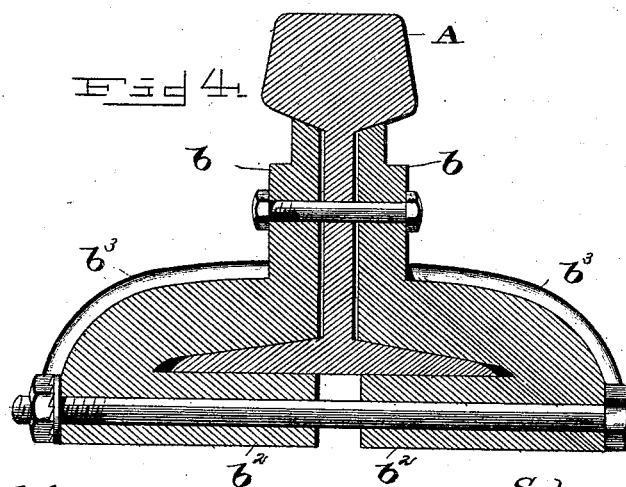
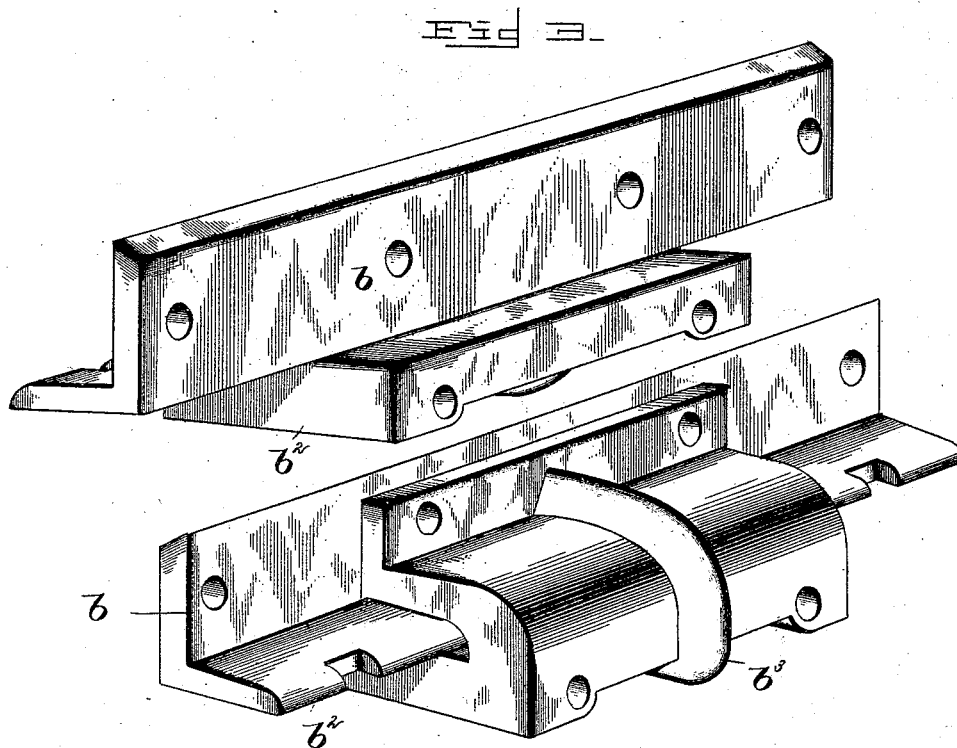
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# UNITED STATES PATENT OFFICE.

SOLOMON F. STEVER, OF FAIRFIELD, IOWA.

## RAILWAY-RAIL JOINT.

SPECIFICATION forming part of Letters Patent No. 492,848, dated March 7, 1893.

Application filed January 11, 1892. Serial No. 417,715. (No model.)

### *To all whom it may concern:*

Be it known that I, SOLOMON F. STEVER, a citizen of the United States, residing at Fairfield, in the county of Jefferson and State of Iowa, have invented certain new and useful Improvements in Railway-Rail Joints; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to railway-rail joints.

The object of the invention is to supply means for forming a joint for railway-rails, which shall be of such construction as to prevent either up or down movement of the ends of the rails during the approach or passage of trains, thus obviating wear of the rails at the ends.

The object of the invention is furthermore, to produce a railway-rail joint, of such construction that any wear or loosening may be taken up, and the joint at all times be kept tight and firm, making it as strong as or stronger than the body of the rail and as even, thus producing a practically continuous rail for the track.

With these objects in view, the invention consists in the improved combined angle-bar and jaw, as hereinafter fully described and claimed.

The invention is illustrated in the accompanying drawings, in which:—

Figure 1—is a perspective view of my combined angle-bar and jaw, the view being taken from the outer face of the same. Fig. 2—is a perspective view, showing a section of two rails, a portion of a tie, and my improved angle-bar and jaw in position for use. Fig. 3—is a perspective view, showing two of my combined angle-bars and jaws in position to be applied to the ends of adjacent rails, illustrating the inner face of one angle-bar and jaw and the outer face of the other; and Fig. 4—is a transverse section of a railway-rail with two of my improved angle-bars and jaws applied thereto.

In the drawings, A, A, represent the ends of adjacent rails, which are of the form now in common use, having the lower faces of the crowns and the upper faces of the flange-portion

tions beveled, forming an opening decreasing in size from outward toward the shank.

B represents my combined angle-bar and jaw, one of which is designed to be placed on each side of the rails to be joined, at the point of juncture, and extend a short distance along each rail. The inner part *b* of the angle bar portion is designed to fit between the crown of the rail and the flange thereof, and in order that a tight fit may be made between the rail and the part *b*, the upper and lower faces of the part *b* are beveled to correspond to the incline of the crown and flange.

When the combined angle bars and jaws are first put into position on the rails, there is a small space of a quarter of an inch, more or less left, between this part *b* and the shank of the rail, to permit any wear between the parts being taken up by drawing the two jaws placed on opposite sides of the rails toward each other.

The jaw portions of the combined angle bars and jaws are indicated by the letter *b*<sup>2</sup>. They are formed in one piece with, or welded to the angle bar, and they are in their general form inclined downward and outward from the side of the rail. The jaw portions extend beneath the flanges of the rails and bear directly against the lower faces and are of a width to extend to within a quarter of an inch, more or less, of the middle of the rail leaving a space of approximately half an inch between the two jaw portions when the joint is first made. The openings in the jaw portions decrease in size from their inner end outward so that as they are forced inward on the flange, they will tightly inclose the same. The upper faces of the openings correspond in incline to that of the upper face of the flange, and the lower faces are level corresponding to the bottom face of the rails. The jaws are connected by any suitable means which will permit them to be drawn together firmly to inclose the rails, and to compensate for wear after having been put into position. In the present illustration, I have shown the jaw portions as provided in their depending parts with horizontal openings for the reception of bolts, the tightening of the nuts thereon serving to draw the jaws together. The

openings for the reception of the bolts are preferably elliptical in cross-section to permit the natural contraction and expansion of the rails, due to changes in temperature, and resulting in slight shortening and lengthening of the rails. Holes similar in form, and of any suitable number, are provided in the shanks of the rails and in the angle bar portion *b*. If desired, however, the openings in the shanks may be round and those in the angle bar portion elongated, or vice versa.

In order to strengthen the combined angle bar and jaw at the point where it is most needed, namely at the point where the space between the ends of the rails occur, the exterior of the angle bar and jaw is provided with a rib *b*<sup>3</sup>, which may be of any size and form to insure proper strength to the device.

By the construction herein described the drawing together of the combined angle bars and jaws when in position on the rails by tightening the nuts on the bolts securing the jaw portions together, or those on the bolts passing through the angle bar portion and the shanks of the rails, will serve to force the angle bar portion securely between the crowns of the rails and the flanges, thus presenting the entire strength of the device to oppose any up and down motion of the ends of the rails which ordinarily results in presenting the ends of the rails to the blows of wheels of passing cars. In addition to this, the tightening has the effect of exerting upward pressure on the rails by reason of the inclined form of the jaw portions.

While I have herein particularly described and shown my improved combined angle-bar and jaw as placed, one on each side of the rail, it will be understood that I do not wish to limit myself to this specific arrangement, as, if desired, the combined angle-bar and jaw may be placed only upon one side of the ends of adjacent rails with a fish-plate or other suitable device, on the other side, se-

cured to the combined angle-bar and jaw by bolts, or the like.

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

1. An angle-bar adapted to fit into the hollow at the side of two railway-rails placed end to end, and a jaw of less length than the angle-bar integral with the same, forming a substantially-central reinforcement thereto and to be at the place of juncture of the two rails when the device is in use, the jaw being adapted to inclose the flanges of the two rails at their ends on one side and also bear directly against and sustain the under sides of the rails at the joint, substantially as described.

2. An angle-bar adapted to fit into the hollow at the side of two railway-rails placed end to end, and a jaw integral with the angle-bar and extending downward and outward from the same, the jaw being of less length than the angle-bar and placed at about the center thereof to be at the point of juncture of the two rails, forming a reinforcement, and having openings for the reception of bolts, substantially as set forth.

3. An angle-bar adapted to fit into the hollow at the side of two railway-rails placed end to end, and a jaw integral with and of less length than the angle-bar, forming a substantially central reinforcement thereto, the jaw being provided with bolt-holes and having a tapering opening of a length greater than the width of the flange of a rail, and being adapted to inclose the flange and bear directly against and sustain the under sides of the two rails, substantially as described.

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

SOLOMON F. STEVER.

Witnesses:

DAVID H. MEAD,  
R. M. ELLIOTT.