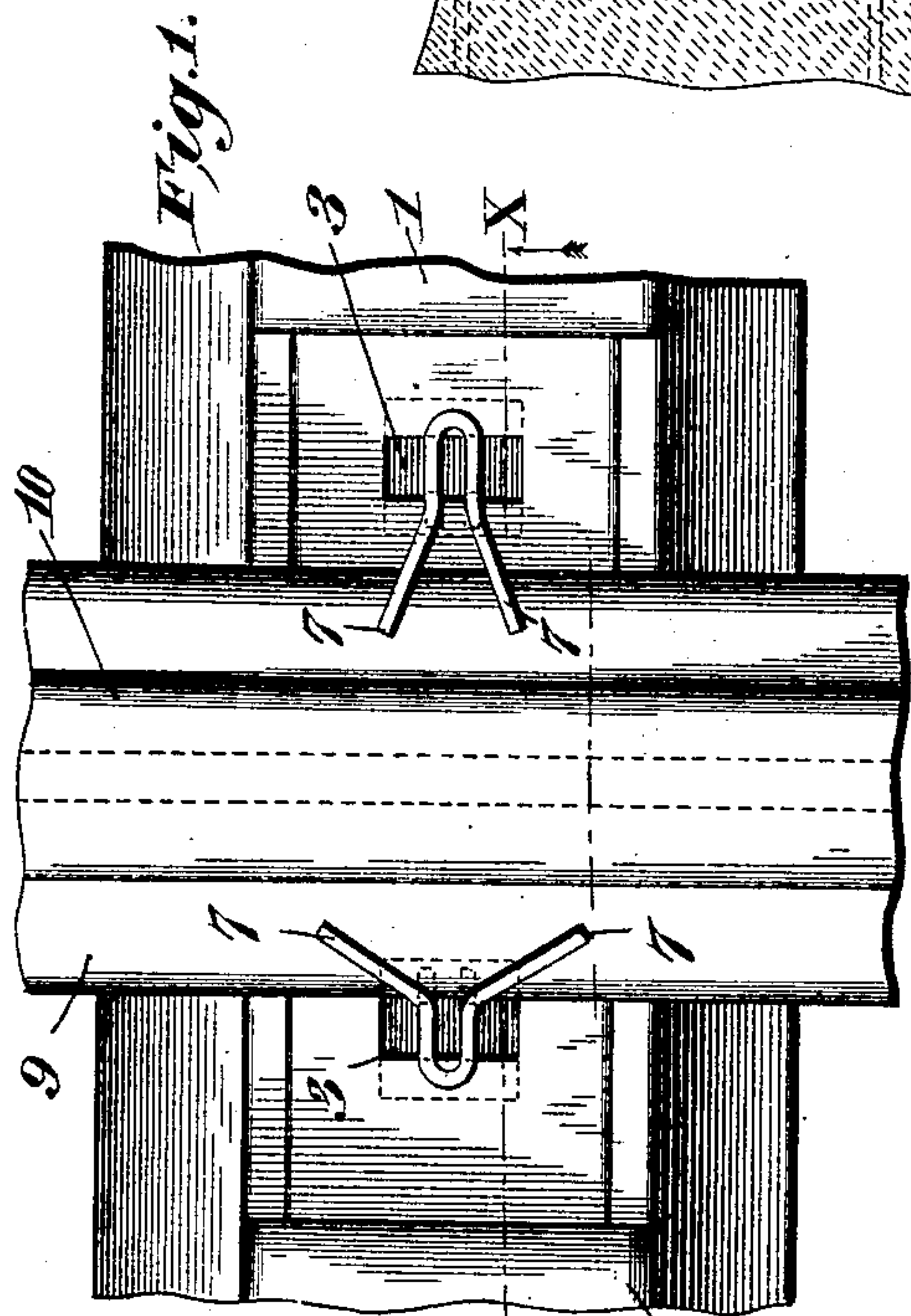


# RAIL FASTENER.

APPLICATION FILED AUG. 17, 1907.

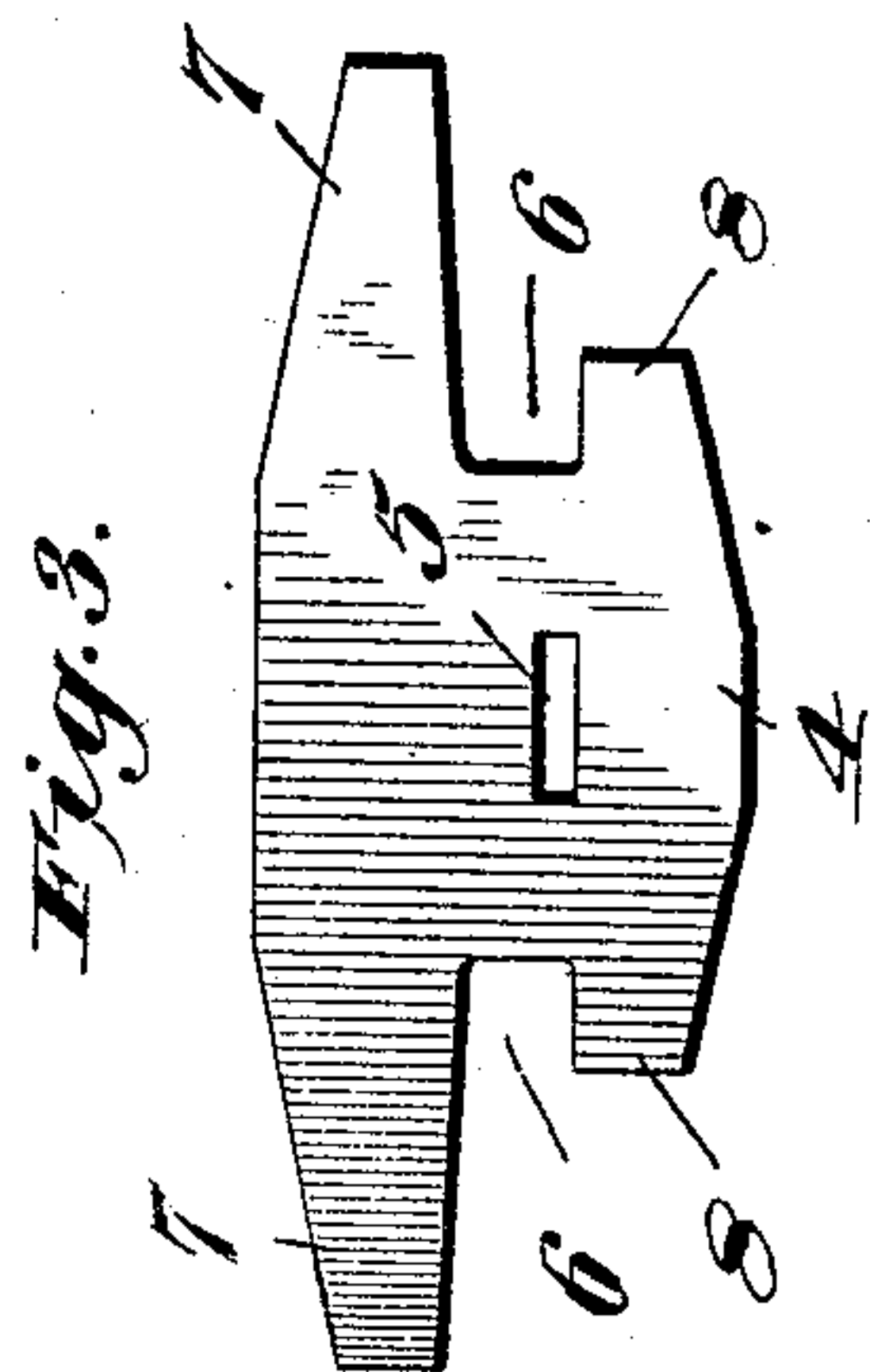
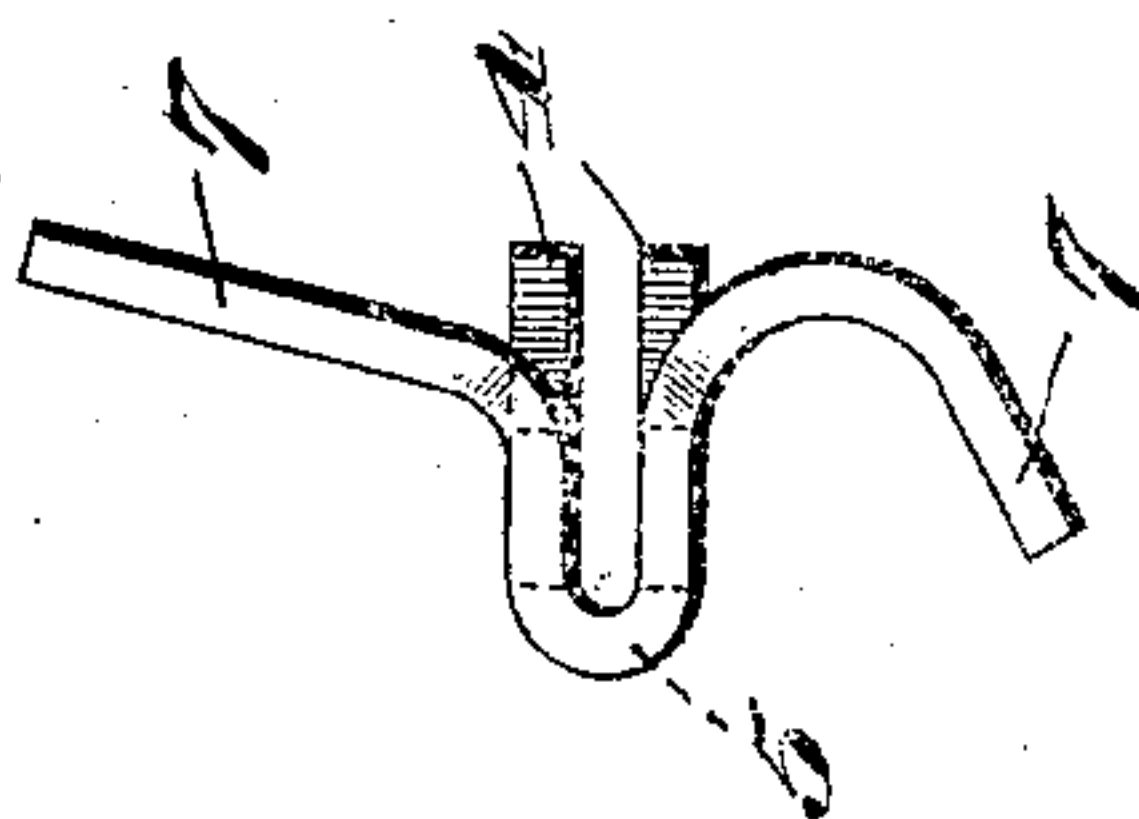
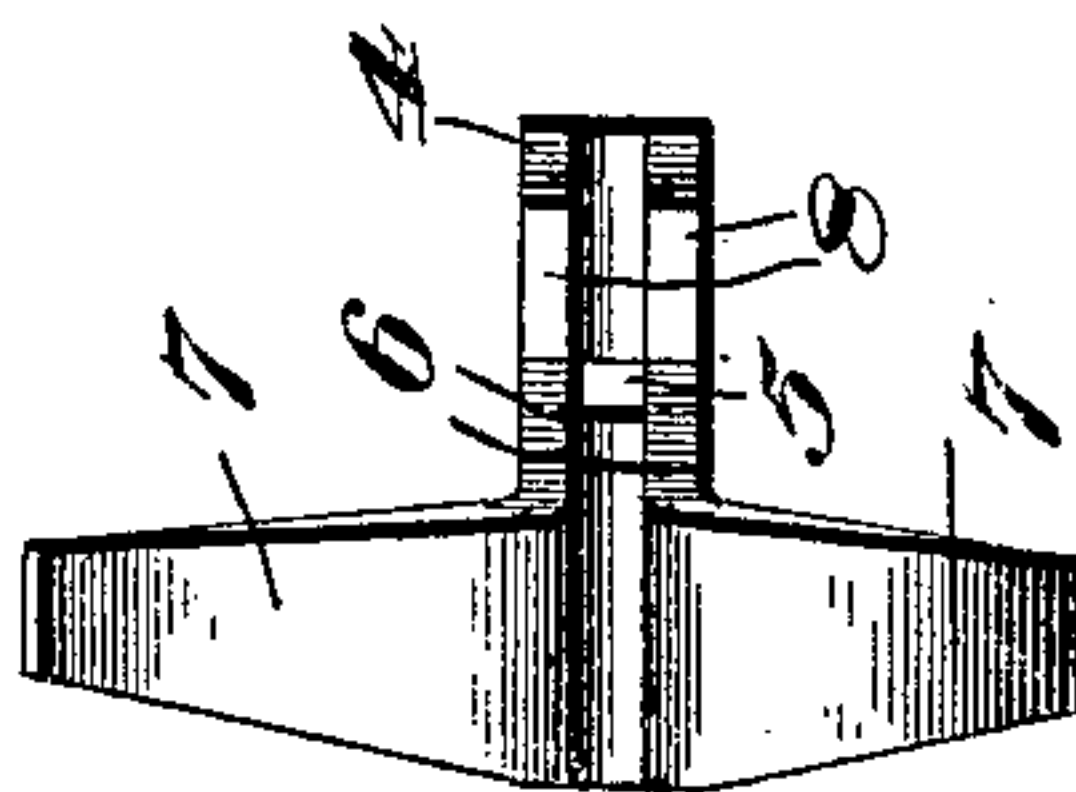
911,970.

Patented Feb. 9, 1909.



WITNESSES,

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# UNITED STATES PATENT OFFICE.

LESTER R. GIFFORD, OF WESTMONT BOROUGH, PENNSYLVANIA.

## RAIL-FASTENER.

No. 911,970.

Specification of Letters Patent.

Patented Feb. 9, 1909.

Application filed August 17, 1907. Serial No. 388,945.

*To all whom it may concern:*

Be it known that I, LESTER R. GIFFORD, a citizen of the United States, residing in the borough of Westmont, in the county of Cambria and State of Pennsylvania, have invented certain new and useful Improvements in Rail-Fasteners; 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.

My invention relates to rail-fasteners used for the purpose of securing railway rails in position for use, and the object of the invention is to provide a device which will hold a rail rigidly in position and will not be readily loosened by the vibration caused by the passage of trains, or in any other manner.

A further object of the invention is to provide a fastener which can be used on various sizes of rails, one which can be readily attached to either metal or concrete ties, and one which will permit of lateral adjustment of the rail.

With these objects in view, the invention consists in a rail-fastener formed from a blank having two jaws on either side thereof, the upper jaws being longer than the lower ones and adapted to bear against the upper surface of the flange of the rail, while the lower jaws grip the rail-seat when the fastener is bent into shape and placed in position. A recess in the central portion of the fastener engages the edge of the opening in the rail-seat, in which the fastener is located.

One of the particular features of my improved rail-fastener is that it can be placed in position with the upper jaws resting with their lower surfaces on the upper surface of an inclined rail flange of ordinary construction, with said upper jaws inclined at a considerable angle from each other, but at the same time bearing firmly on the rail flange, so that if the fastener should become loose from wear, vibration, slight springing of the parts, or other causes, it can readily be adjusted and tightened by moving the upper jaws closer together, thus causing them to ride upward on the rail flange and become tightened. In addition to this, my improved rail-fastener will hold the rails securely in position without undue strain, as on account of its form, construction and the inclined location of the jaws with respect to each other, it will act to a certain extent like a spring, yielding more or less under the passage of trains, with-

out, however, essentially loosening its contact with the parts which it holds together.

Another feature of my improved rail-fastener is that on account of the two jaws which rest at opposite angles upon the rail flange, a part of the pressures between their surfaces contacting with the rail flange are in opposite directions, thus causing a balancing of the pressures. This has the effect of holding the fastener in position and prevents it from turning around on a vertical axis, as a one-piece fastener might otherwise do. In other words, if on account of vibration or any other cause, my fastener would have a tendency to turn around on a vertical axis and thus become loosened from the rail flange, one jaw moving slightly downward along the rail flange, the other would then necessarily move upward, causing a tightening of the latter jaw and preventing further movement of the fastener as a whole.

Referring now to the accompanying drawings forming part of this specification and in which similar characters indicate corresponding parts:—Figure 1 is a top plan view of a rail secured to a tie by means of my improved fasteners, showing also how the lateral adjustment of the rail may be effected; Fig. 2 is a section taken on the line X—X of Fig. 1, showing the fastener in elevation; Fig. 3 is a view of the blank used in the manufacture of the fastener; Fig. 4 is a top plan view of the fastener after being bent, one of the upper jaws having been bent to a greater extent than the other; Fig. 5 is a side view of the fastener bent to the form shown in Fig. 4, and Fig. 6 is an end view of the fastener bent as shown in the last two figures.

Referring to the drawings in detail, a railway tie 1 is provided with a rail-seat 2 having openings 3 in which the lower portion 4 of the fastener is secured. These fasteners are formed of blanks cut in the manner illustrated in Fig. 3, in which the upper edge of the ends of the blanks is shown as being cut away, forming tapering jaws 7, the undersides of which jaws engage the upper surface of the flange 9 of the rail 10. The lower jaws 8 are considerably shorter than the upper jaws and are intended to engage the rail-seat. The jaws are separated by recesses 6, and a slot 5 cut in the central portion of the blank, engages one edge of the opening in the rail-seat. The blank having been cut in the such manner that the lower ones will lie par-



allel with each other, one of the upper jaws 7 will be nearly at right angles with the lower jaws, and the other jaw will form a curve, the end being bent backward until the jaw is approximately U-shaped. The object in bending one jaw more than the other is that the fastener may be turned sidewise and placed in the opening of the rail-seat without interfering with the flange of the rail. The fastener is then turned through a quarter of a revolution and the jaws 7 are forced into the position shown in Fig. 1. It is intended that the lower edge of the upper jaws 7 should not exactly conform to the upper surface of the rail flange, in order that the said jaws may engage the flange without encountering too much resistance and that when properly bent they may grip the rail securely. This detail of construction is shown in Fig. 2 of the drawings.

The slots or openings 3 in the rail-seats are located with their opposing edges at a greater distance apart than the width of the rail flange which rests upon them, which, taken in connection with the length of the jaws 7 of the fasteners, permits a lateral adjustment of the rail as shown, that is, it may be set in the center, or to the right or to the left as desired, on account of the wear, curvature or other reasons for alinement, the jaws on the opposite sides of the flanges being compressed together to a greater or less extent as may be necessary to accomplish this purpose.

As indicated in Figs. 1 and 2 the rail is adjusted somewhat to the left of its normal or central position, but it can be also secured in a location central between the slots or it may be secured in the extreme right hand position.

Although I have shown and described my invention in considerable detail, I do not wish to limit myself to the exact form specified, but may use such modifications, substitutions or equivalents thereof, as are embraced within the scope of my invention as set forth in the claims.

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

1. A rail-fastener consisting of a body portion, means for engaging the rail-seat and two jaws located at an angle with each other and engaging the flange of the rail, whereby the tendency of either of the jaws last mentioned to become loosened will cause the opposite jaw to more firmly grip the flange of the rail.

2. A rail-fastener consisting of two jaws at an angle with each other, engaging the flange of the rail, two jaws engaging the rail-seat, and a central body portion also engaging said rail-seat.

3. A rail-fastener consisting of two jaws at an angle with each other, for engaging the flange of the rail, two jaws engaging the rail-

seat, and a notched body portion adapted to engage the rail-seat.

4. A rail-fastener consisting of a single piece provided with two jaws at an angle with each other for engaging the upper surface of the flange of the rail, and two jaws for engaging the rail-seat.

5. A rail-fastener consisting of a single piece provided with two jaws for engaging the flange of the rail two jaws for engaging the rail-seat, and a notched central portion, also adapted to engage said rail-seat.

6. A blank for forming a rail-fastener consisting of a body portion, elongated jaws extending laterally from the upper part of said body portion, and jaws extending laterally from the lower part of the body portion, said body portion being provided with an elongated opening in the central portion thereof between the upper and lower jaws.

7. A rail-fastener consisting of a single piece provided with two jaws for engaging the rail-seat and with two longer jaws for engaging the flange of the rail.

8. A rail-fastener consisting of a single piece provided with two jaws parallel with each other for engaging the rail-seat and with two longer jaws for engaging the flange of the rail, and with a notched central portion also engaging the rail-seat.

9. A rail-fastener consisting of a single piece provided with two jaws bent parallel with each other for engaging the rail-seat, and two jaws whose ends are flared outwardly for engaging the flange of the rail.

10. A rail-fastener consisting of a single piece provided with two jaws bent parallel with each other for engaging the rail-seat and two jaws whose ends are flared outwardly, the end of one jaw being flared more than the end of the other.

11. A rail-fastener consisting of a single piece provided with two jaws bent parallel with each other for engaging the rail-seat and two jaws flared outwardly, the body portion of the fastener having a notched central portion.

12. A one-piece rail-fastener consisting of a body portion, means for engaging the rail-seat, and two upper jaws adapted to engage the flange of the rail, the under surface of the jaws last mentioned, approximately, but not exactly, conforming to the upper surface of the rail flange.

13. A one-piece rail-fastener consisting of a body portion, two lower jaws adapted to engage the rail-seat, the body portion being provided with a notch also adapted to engage said rail-seat, and two upper jaws adapted to engage the flange of the rail, the under surface of the jaws last mentioned, approximately, but not exactly, conforming to the upper surface of the flange of the rail.

14. In a rail fastening device, a rail-seat provided with openings, rail-fasteners lo-



cated therein and engaging the flanges of the rail, said fasteners consisting of a body portion, two lower jaws integral therewith engaging the rail-seat and two upper jaws also  
5 integral therewith engaging the flange of the rail.

15. In a rail fastening device, a rail-seat provided with openings, rail-fasteners located therein, said fasteners consisting of a  
10 notched central body portion, two lower jaws

integral therewith engaging the rail-seat, and two upper jaws also integral therewith, engaging the flange of the rail.

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

LESTER R. GIFFORD.

Witnesses:

WM. J. FITZMAURICE, Jr.,

CYRUS E. BROWN.