No. 833,007. PATENTED OCT. 9, 1906.

E. E. SLICK.

ADJUSTABLE FASTENING.

APPLICATION FILED APR. 20, 1905.

2 SHEETS—SHEET 1.

Fig. 1.

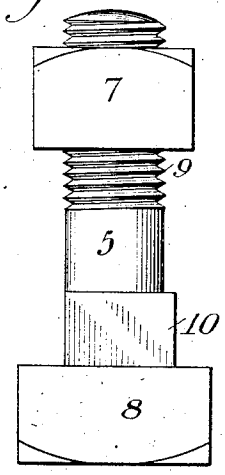


Fig. 3.

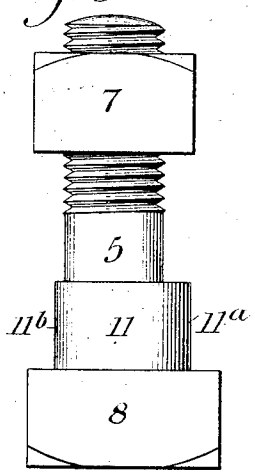


Fig. 5.

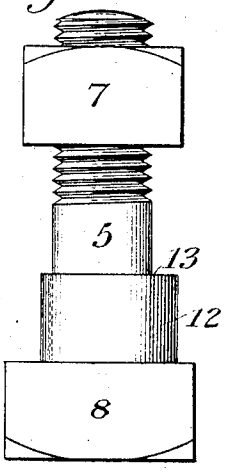


Fig. 2.

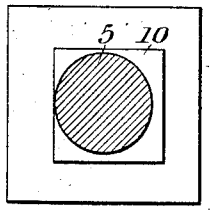


Fig. 4.

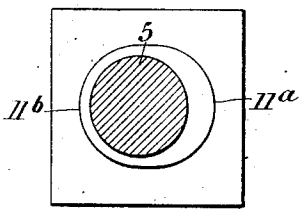


Fig. 6.

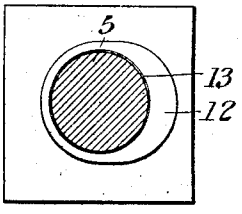


Fig. 7.

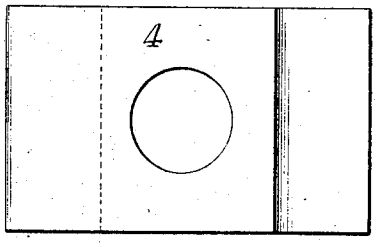
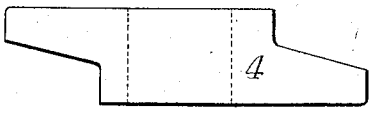


Fig. 8.



WITNESSES

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2 SHEETS—SHEET 2

Fig 9.

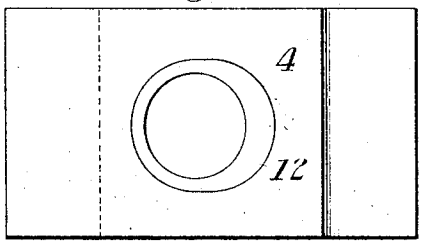


Fig. 10.

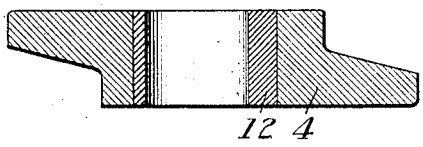
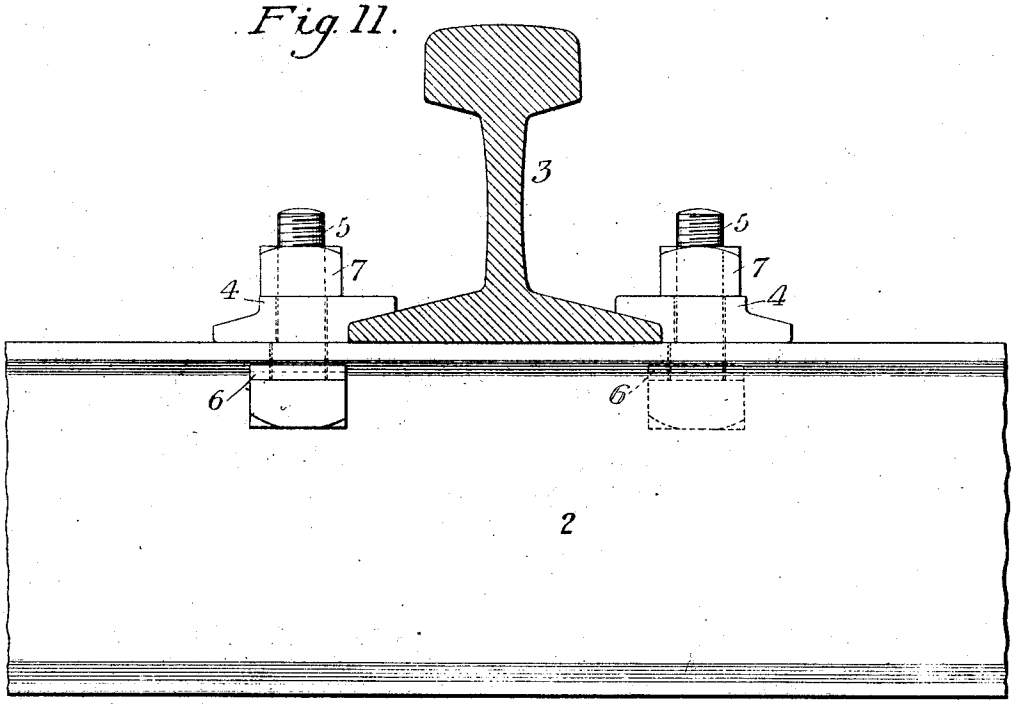


Fig. 11.



WITNESSES

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UNITED STATES PATENT OFFICE.

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ADJUSTABLE FASTENING.

No. 833,007. Specification of Letters Patent. Patented Oct. 9, 1906.

Application filed April 20, 1905. Serial No. 256,654.

To all whom it may concern:

Be it known that I, EDWIN E. SLICK, of Pittsburg, Allegheny county, Pennsylvania, have invented a new and useful Improvement in Adjustable Fastenings, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is an elevation, and Fig. 2 is a sectional end view, showing the preferred form of construction for the fastenings. Figs. 3 and 4 are similar views showing a modified form of the adjustable bolt. Figs. 5 and 6 show the construction of the adjustable washer as applied to an ordinary bolt, and Figs. 7, 8, 9, and 10 are detail views showing the clips used when the adjustable fastening is applied to fasten the rails on metal ties of a railway-track. Fig. 11 is a sectional view showing the adjustable fastening as it is applied to hold the rails in place on the metal ties of a railway-track.

In the drawings, 2 represents a metal tie having a rail 3 held in place on the top flange of the tie by means of the clips 4 and adjustable bolts 5. The bolts, which pass through suitable holes in the ties and clips, are provided with washers 6, the bolts being held in place by means of nuts 7. In the preferred construction, as shown in Figs. 1 and 2, the bolt 5 is provided on its opposite ends with a head 8 and screw-thread 9, and on the inner end of the bolt is a portion 10, which is square in cross-section and which fits into suitable holes in the flanges of the ties or in the clips. The sides of the bolt forming the square portion are located at unequal distances from the axis of the circular portion of the bolt. In this way the location of the axis of the circular portion of the bolt with the center of the opening in which the square portion of the bolt fits may be varied and the required adjustment of the fastening thus secured. In the modified form of bolt shown in Figs. 3 and 4 the enlarged inner end 11 instead of being square has rounded edges and is oblong in cross-section, with the opposite faces 11^a 11^b on the long diameter of the oblong portion at different distances from the axis of the circular portion of the bolt. In both the constructions described the enlarged inner ends of the bolts are formed integral with the body of the bolt.

In Figs. 5 and 6 is shown means for providing the adjustable feature to an ordinary bolt. An eccentric washer 12 is provided with a circular hole 13, through which the bolt is passed. The hole 13 is located with its axis closer to one edge than the other on the diameter of the washer. In this way the axis of the bolt may be varied with the axis of the opening in which the washer is placed, and adjustment of the fastening may be made in a similar manner to that of the bolt shown in Figs. 3 and 4.

The washer 12 may be made of metal, or when it is desired to form an insulated joint by making the adjusting-washer of insulating material the bolt may be insulated from the metal surrounding the washer and the fastening rendered adjustable.

The adjustable fastening is shown as used in connection with a railway-track rail and tie, although I do not wish to limit it to such use, as it may be applied to many other purposes.

The details may be changed and other variations may be made within the scope of my invention, since

What I claim is—

1. An adjustable rail-fastener comprising a clip, a tie, and a bolt for securing said clip to the tie, the bolt having a shoulder portion fitting an opening in said tie and being adapted to be removed therefrom and rotated to vary the axis of the bolt and of the opening in the clip relative to the axis of the opening in the tie; substantially as described.

2. In a rail-fastener, the combination with a rail-clip and a tie having openings therein, of a bolt extending through said openings and having a collar portion fitting the opening in the tie and being arranged to be removed and replaced in said openings to vary the axis of the bolt and opening in the clip relative to the axis of the opening in the tie; substantially as described.

3. In a rail-fastener, the combination with a rail-clip and a tie having openings therein,

of a bolt extending through said openings and having an integral collar portion fitting an opening in the tie and being arranged to be removed and replaced in said openings to vary the axis of the bolt and opening in the clip relative to the axis of the opening in the tie; substantially as described.

In testimony whereof I have hereunto set my hand.

EDWIN E. SLICK.

Witnesses:
R. D. LITTLE,
H. M. CORWIN.