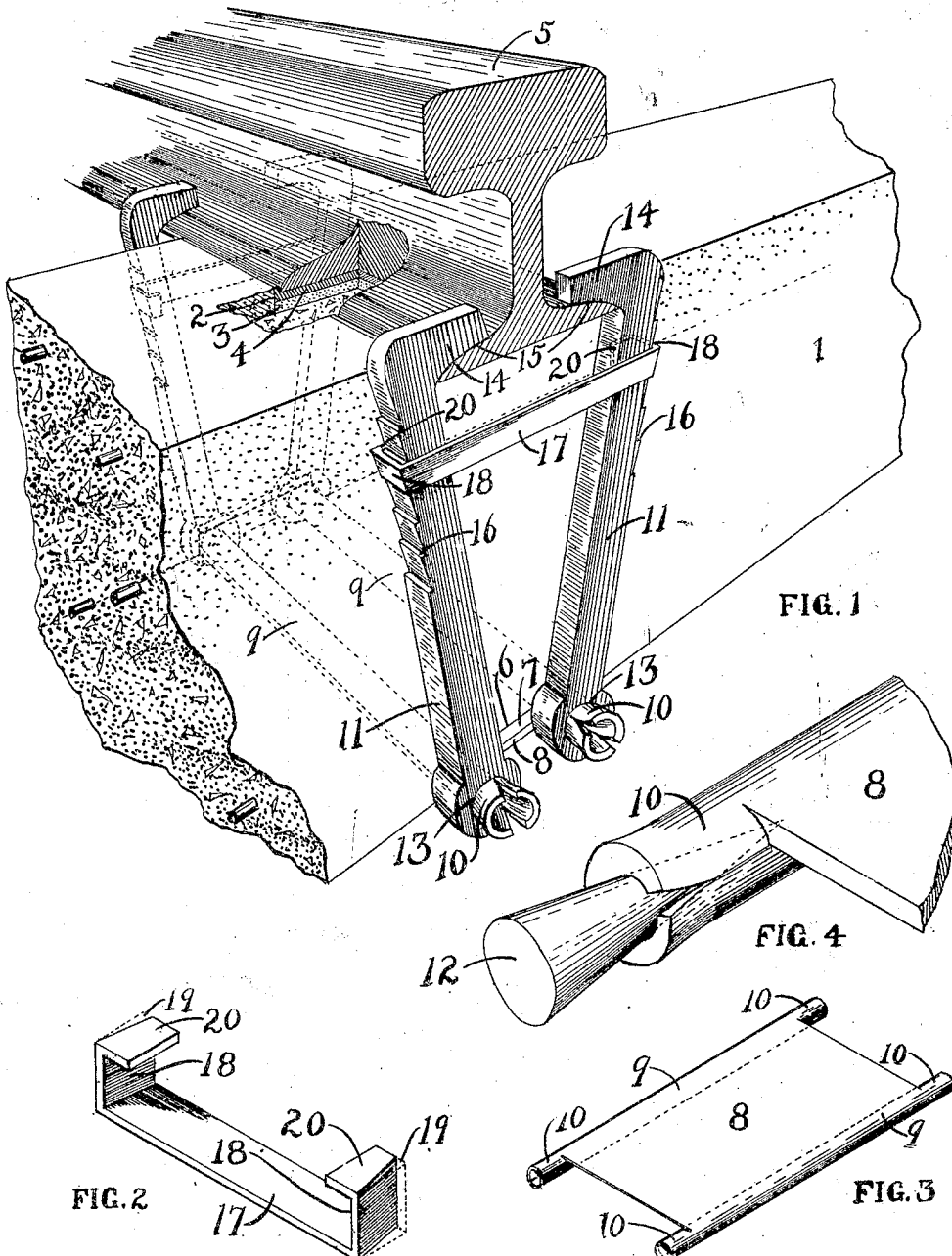


E. J. ROSENCRANS & H. SANDERSON.
 DEVICE FOR SECURING RAILROAD RAILS TO TIES.
 APPLICATION FILED DEC. 26, 1912.

1,056,944.

Patented Mar. 25, 1913.



WITNESSES

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UNITED STATES PATENT OFFICE.

ERNEST J. ROSENCRANS AND HENRY SANDERSON, OF SAN JOSE, CALIFORNIA, ASSIGN-
ORS OF ONE-THIRD TO FRANCIS C. BATES, OF SAN JOSE, CALIFORNIA.

DEVICE FOR SECURING RAILROAD-RAILS TO TIES.

1,056,944.

Specification of Letters Patent.

Patented Mar. 25, 1913.

Application filed December 26, 1912. Serial No. 739,639.

To all whom it may concern:

Be it known that we, ERNEST J. ROSENCRANS, a citizen of the United States, and HENRY SANDERSON, a British subject, residing at San Jose, in the county of Santa Clara and State of California, have invented certain new and useful Improvements in Devices for Securing Railroad-Rails to Ties, of which the following is a specification.

Our invention relates to improvements in devices for securing railroad-rails to ties.

One object of our invention is to provide means for securing railroad-rails to ties without making holes in the ties, and without the use of bolts, nuts, screws or spikes.

Another object of our invention is to provide means of securing railroad-rails to ties that will strengthen rather than weaken the tie, and that will be efficient, economical, and durable, easily applied and easily removed.

Further objects of our invention will appear in the following description.

Our invention consists of the parts and the construction and combination of parts as hereinafter more fully described and claimed, having reference to the accompanying drawings, in which—

Figure 1 is a perspective view of our device for securing railroad-rails to ties when in use, parts of rail and tie being broken away. Fig. 2 is a perspective view of the locking bar. Fig. 3 is a perspective view of the under friction plate, showing the four split pivots. Fig. 4 is an enlarged perspective view of a portion of the under friction plate, and one split pivot being spread with a tapering tool.

Similar numerals refer to similar parts throughout the several drawings.

With reference to the accompanying drawings, 1, Fig. 1, is a railroad cross-tie which may be of reinforced concrete, wood, or any other suitable material and with or without recesses in the upper or lower surfaces thereof. Fig. 1 shows the preferred method of using our device; recess 2 being cast in the upper surface of said tie 1, and antifriction pad 3, friction plate 4, and the flanged base of rail 5 placed therein; recess 6 being cast in the lower surface of said tie 1, and antifriction pad 7 and friction plate

8 with its four split pivots placed therein. Said friction plate 8, Figs. 1, 3, and 4, is made of metal of the proper length, breadth and thickness, and has its two side edges rolled under into the form of a hollow cylinder as shown at 9, Figs. 1 and 3. The four corners of said friction plate 8 are prolonged, cut, rolled, and split a distance at the ends to form split pivots as shown at 10, Figs. 1, 3, and 4; said split pivots are for the purpose of receiving the lower ends of notched clamps 11, Fig. 1, said notched clamps 11 being held in place on said split pivots 10 by spreading said split pivots 10 with a tapering tool 12 as shown in Fig. 4. Notched clamps 11, Fig. 1, are made of metal of the proper dimensions, bored through at one end as shown at 13 to fit said split pivots 10, and provided at their opposite ends with arms 14 formed at right angles to the body portion of said notched clamps 11 and beveled on their under sides to approximately the same angle as the flange on said rail 5, as shown at 15, for the purpose of engaging said flanges on said rail 5 when drawn inward by locking bar 17. Notches 16 in said notched clamps 11, are of the proper length and depth to engage locking bar 17. Said locking bar 17, Figs. 1 and 2, is made of metal of the required dimensions, the ends thereof being bent inwardly a distance and at right angles to the main portion of said locking bar 17, as shown at 18, Figs. 1 and 2, and slope downwardly and inwardly a distance as shown at 19, Fig. 2, to conform to the slope of said notches 16 in said notched clamps 11; the ends of said sides 18 are bent inwardly a distance at right angles to said sides 18 as shown at 20, Figs. 1 and 2. Said locking bar 17 is for the purpose of drawing said notched clamps 11 together as it is forced upward over said notches 16, thus forcing said arms 14 inwardly; the beveled under surfaces 15 of said arms 14 engaging the beveled flanges of said rail 5 and drawing said rail 5 firmly and tightly down to its position on the cross-tie. To remove said device for securing railroad-rails to ties, first close the spreaded portions of said split pivots 10 and pry two of the notched clamps 11 (preferably one on each side of said cross-tie) from their respective pivots.

when locking bar 17 will fall away and the remaining notched clamps 11 can be easily detached from the rail.

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

1. In a device for securing railroad-rails to ties, a metallic friction plate having its two side edges rolled downwardly and inwardly a distance into a cylindrical form, said cylindrical portion projecting a distance beyond the ends of said friction plate and at the four corners thereof, said projecting cylindrical portions being split back a distance from the ends thereof, as shown and described.

2. In a device for securing railroad-rails to ties, a metallic plate having split pivots on the four corners thereof, notched clamps pivotally mounted thereon, and means for retaining the same in place, substantially as shown and described.

3. In a device for securing railroad-rails to ties, a friction plate having split pivots on the four corners thereof, notched clamps pivotally mounted thereon, means for retaining said notched clamps on said split pivots, and a locking bar bent and formed

to engage the notches in said notched clamps to draw and lock said clamps to the rail, substantially as shown and described.

4. In a device for securing railroad-rails to ties, metallic clamps having arms beveled on the under side thereof to approximately the same angle as the flanges on the rail, said clamps having holes bored through the lower ends thereof and a plurality of notches cut in the outer sides thereof; a metallic locking bar, the ends being bent inwardly a distance and at right angles to the main portion and sloping downwardly and inwardly a distance conforming to the slope of said notches cut in said clamps, and adapted to draw and lock said notched clamps together when forced upward, clamping the rail and tie together, as shown and described.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

ERNEST J. ROSENCRANS.
HENRY SANDERSON.

Witnesses:

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J. B. CAMBERS.