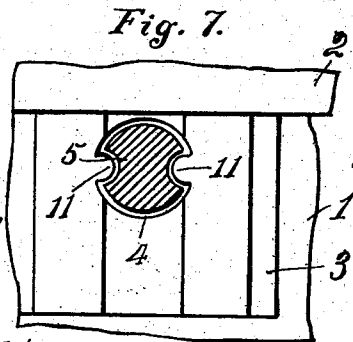
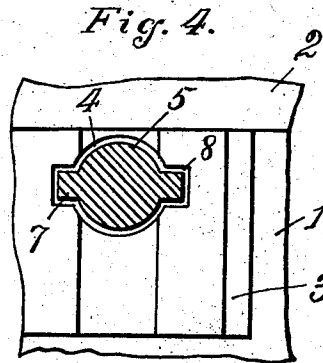
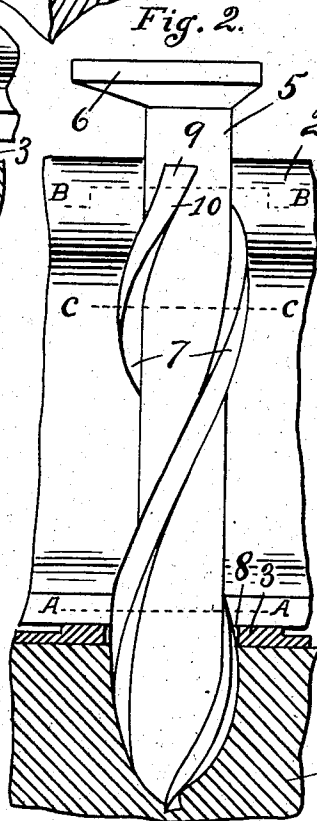
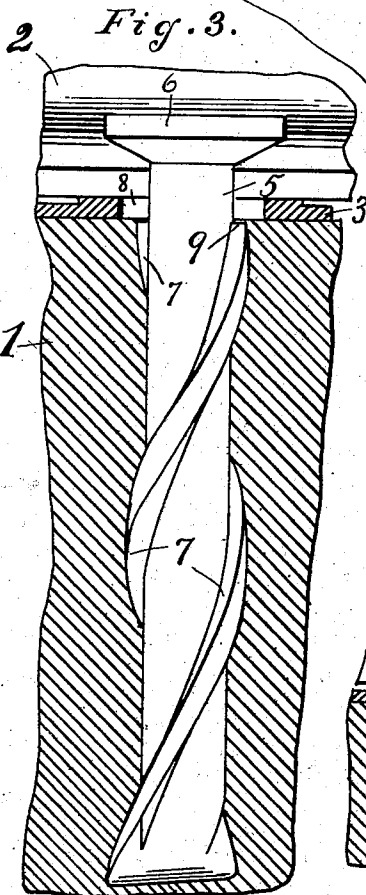
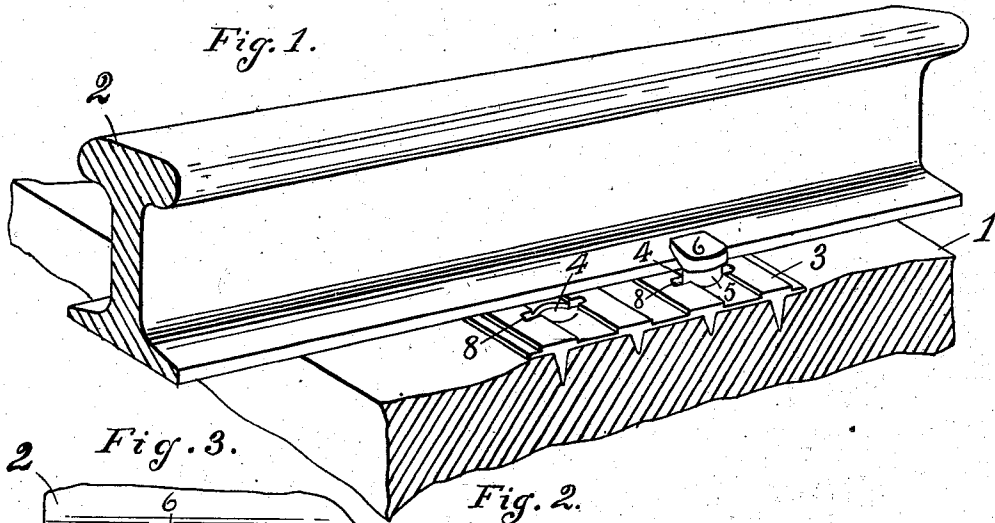
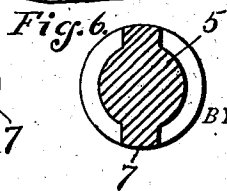
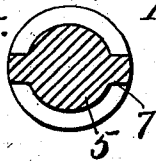


J. W. MACAULAY.
RAILROAD SPIKE AND TIE PLATE THEREFOR.
APPLICATION FILED OCT. 9, 1902.

NO MODEL.



WITNESSES:
Basie Gorfinkel
H. Lockwood Herino.



INVENTOR.
J. W. Macaulay
BY *Francis M. Wright*
ATTORNEY.

UNITED STATES PATENT OFFICE.

JOHN W. MACAULAY, OF SAN JOSE, CALIFORNIA.

RAILROAD-SPIKE AND TIE-PLATE THEREFOR.

SPECIFICATION forming part of Letters Patent No. 730,139, dated June 2, 1903.

Application filed October 9, 1902. Serial No. 126,566. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. MACAULAY, a citizen of the United States, residing at San Jose, in the county of Santa Clara and State of California, have invented certain new and useful Improvements in Railroad-Spikes and Tie-Plates Therefor, of which the following is a specification.

My invention relates to railroad-spikes and tie-plates therefor, the object of my invention being to provide a spike and tie-plate by means of which the rail may be held down to the tie with greater security than heretofore and with substantially no greater cost than with prior forms of spikes and tie-plates.

My invention therefore resides in the novel construction, combination, and arrangement of parts for the above ends, hereinafter fully specified, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of a portion of a rail secured by means of my improved spike and tie-plate. Fig. 2 is a vertical section showing the spike in side elevation in the position in which it has partly descended into the tie. Fig. 3 is a similar view showing the spike having wholly descended thereinto. Fig. 4 is a horizontal section on the line A A of Fig. 2. Figs. 5 and 6 are cross-sections of the spike on the lines B B and C C, respectively, of Fig. 2. Fig. 7 is a view similar to Fig. 4 of a modified form of the tie-plate and spike.

Referring to the drawings, 1 represents a railroad-tie upon which is secured a rail 2, said rail resting upon a tie-plate 3, which is driven into the tie. Said tie-plate has formed on each side of the rail holes 4 to receive the spikes 5, the heads 6 of which extend over the flange of the rail and hold it securely in place. My invention resides in the novel construction of such tie-plate and railroad-spike. In order that the spike shall be held in the wood of the tie as firmly as possible against displacement, it is provided with two diametrically opposite spiral ribs or threads 7. The pitch of each of these threads is such as to impart to the spike one complete turn while it is being driven down into the wood. In order to insure that the amount of rotation given to the spike shall be accurately one complete turn independently of the nature of the wood, whether soft or hard or wet or dry, the tie-plate has formed the rein recesses or slots

8, extending from the sides of the holes 4, in which recesses the ribs 7 of the spike move as the spike descends. By this means it is absolutely insured that the spike makes exactly a full turn when driven through its whole length, and therefore that the head of the spike shall point in the same direction when driven home into the tie as when it is first placed upon the tie to drive it in. Thus it is insured that the head of the spike will when driven home be in proper position over the flange of the rail. The ribs or threads formed upon the spike are cut off to form shoulders 9 at a point which will be below the surface of the tie-plate when the spike is driven home. The upper ends of said ribs are made slightly wider or thicker at the upper part 10, as seen by comparison of Figs. 5 and 6, so as to move snugly through the recesses or slots as the spike is driven home, thus insuring both that the head of the spike shall point accurately at right angles to the edge of the rail and over the flange thereof and also a better resistance against removal of the spike.

In Fig. 7 is shown a modified form of the invention in which the spike is made with a grooved thread instead of with a rib, and the plate is formed with projections or lugs 11, extending into the hole in said plate, which projections 11 enter said grooved threads.

I claim—

1. In combination, a tie-plate having a hole through which the spike passes, and a spike passing through said hole, said spike having a spiral rib formed on its surface and entering a recess in said plate at the side of the hole to guide and turn the spike in its downward movement, substantially as described.

2. In combination, a tie-plate having a hole through which the spike passes, and a spike passing through said hole, said spike being threaded to impart rotation thereto in its descent, and the hole being shaped to conform to the cross-section of the spike to accurately guide or turn said spike in its downward movement, substantially as described.

In witness whereof I have hereunto set my hand in the presence of two subscribing witnesses.

J. W. MACAULAY.

Witnesses:

FRANCES M. WRIGHT,
BESSIE GORFINKEL.