E. J. BRICKER.

RAILWAY SPIKE.

APPLICATION FILED FEB. 12, 1907.

902,935. Patented Nov. 3, 1908.

Fig. 1.

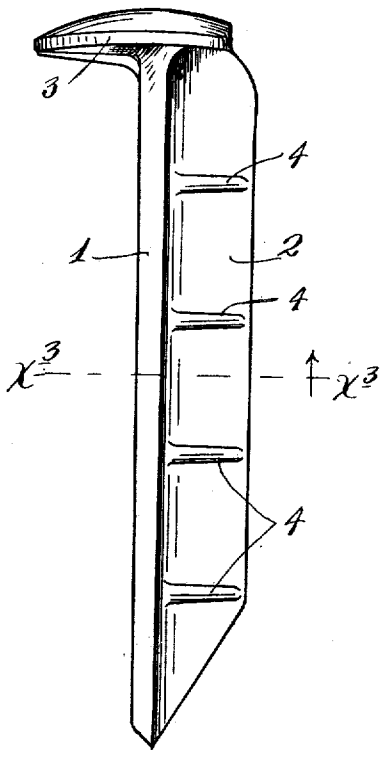


Fig. 2.

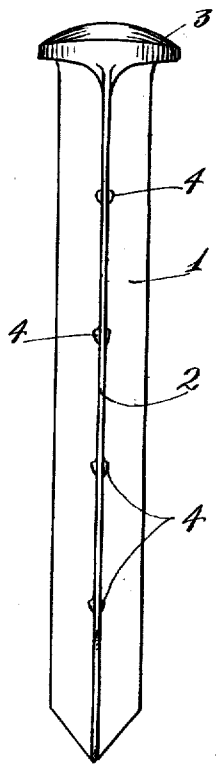
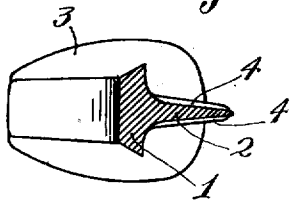


Fig. 3.



Witnesses.
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UNITED STATES PATENT OFFICE.

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RAILWAY-SPIKE.

No. 902,935. Specification of Letters Patent. Patented Nov. 3, 1908.

Application filed February 12, 1907. Serial No. 356,962.

To all whom it may concern:

Be it known that I, EDWARD J. BRICKER, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Railway-Spikes; 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 has for its object to provide an improved railway spike which when driven into a tie can not be accidentally loosened or withdrawn therefrom.

To the above ends the invention consists of the novel construction and arrangement of parts hereinafter described and defined in the claims.

It is a well known fact that many serious railway accidents are caused by spreading of the rails, and that spreading of the rails can take place only when the spikes are loosened or withdrawn from the ties. Hence, the obvious importance of providing a spike which, when driven into a tie, will not work loose and can not be pulled out under any drawing strains that will be applied thereto incident to the service, such as forces tending to spread or tilt the rails.

The improved spike is illustrated in the accompanying drawings, wherein like characters indicate like parts throughout the several views.

Referring to the drawings, Figure 1 is a view in side elevation. Fig. 2 is a view in rear elevation; and Fig. 3 is a section on the line x^8 x^8 of Fig. 1.

In cross section, the body of the spike is approximately T-shaped, the same being made up of a relatively heavy front bar portion 1 and a relatively light intermediate reinforcing flange 2. The said portions 1 and 2 are formed integral with each other and with the head 3 of the spike. The reinforcing flange 2 is provided preferably on both faces and at different points longitudinally of the spike with laterally projecting anchor ribs 4. At the lower end of the spike, both the bar portion 1 and the reinforcing flange 2 are beveled and brought to a point, so that the spike may be easily driven. The edges of the bar portion 1 are also preferably beveled, as best shown in Fig. 3, so that the spike may be more readily driven into the tie.

When the spike is driven into a tie, the separated fibers of the wood will, especially by the anchor ribs 4, be turned downward at an acute angle to the spike, so that they will resist and practically lock the spike in its seated position in the tie. In fact, the spike can be withdrawn from the tie only by applying a drawing strain thereto sufficient to cause the spike to dislodge the downturned fibers of the wood, and practically to cause the said spike to tear its way out of the tie.

By reference particularly to Fig. 3 it will be noted that the spike is formed with three sharp edged flanges, and by reference to Figs. 1 and 2 it will be noted that these three sharp edges converge downward and terminate at a common point at the end of the spike. This makes the spike very easy to drive into the tie. By reference particularly to Fig. 2 it will be noted that the retaining ribs 4 in cross section taper downward and are formed with shoulders at their upper portions, so that while they do not very materially resist the driving of the spike, nevertheless make the withdrawal of the spike a very difficult matter because the engaging and overlying downwardly bent fibers of the wood bear directly against the shouldered upper portions of the said ribs and tightly hold the spike within the tie.

The spike described has in practice been found to be stronger than an ordinary railway spike having the same or even greater weight of metal. The spike may be very cheaply constructed by means of a drop forge with suitable dies. The saving in the weight of metal obtained in making my improved spike will more than offset any additional work, if any, required in making the spike.

By reference to Fig. 3 it will be noted that the sharp edges of the face forming flanges of the spike are, in cross section, beveled so that they flare in a direction away from the front face of the spike; or, in other words, flare in a direction in which the intermediate rib projects from the spike, and it will also be noted that said intermediate rib of the spike flares in a direction reverse to the flare of the said flange edges. This materially increases the transverse anchorage afforded by the flanges without increasing the width of the front face of the spike. Furthermore, the taper or flare of the intermediate rearwardly projecting rib produces

a forward pressure which tends to force the spike against the rail.

A spike constructed as above described is much stronger than a spike having the same amount of metal constructed on the old lines. Furthermore, this improved spike, when it is driven, does not cut the fibers of the wood as much as the old form of spike but, on the contrary, has a greater tendency to spring and press apart the grain of the wood and is consequently held in the wood under very much greater friction than the old form of spike. However, as already stated, the so-called anchoring ribs 4 become interlocked with the downturned portion of the wood which is engaged therewith. The point of the spike is formed by beveling the lower end of the flange 2 toward the bar portion 1, and by beveling the opposite lower edges of the said bar portion 1. The spike, therefore, when it is driven into the wood cuts or forces a triangular hole in the wood. Also, this improved spike has a very much larger amount of exposed wood engaging surface than the ordinary spike.

The device, while especially designed for use as a railway spike may, of course, be made in various sizes and may be put to various different uses. However, it especially meets the requirements of a high grade railway spike.

What I claim is:

1. A spike formed with three longitudinally extended flanges, the lower portions of which converge toward a common point, and two of which flanges extend in the same plane to form the flat front face of the spike, and the third of which flanges projects intermediately from the back of the two alined flanges and is provided on its opposite sides with transversely extended anchoring ribs, substantially as described.

2. A spike formed with three longitudinally extended flanges, the lower portions of which converge toward a common point, and two of which flanges extend in the same plane to form the flat front face of the spike and are provided with beveled rearwardly flaring edges, and the third of which flanges projects intermediately from the back of the two alined flanges and in cross section converges toward the rear of the spike, and which intermediate flange is provided on its opposite faces with transversely extended anchoring ribs, substantially as described.

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

EDWARD J. BRICKER.

Witnesses:
MALIE HOEL,
F. D. MERCHANT.