

(No Model.)

J. F. LE BARON.  
RAILROAD SPIKE.

No. 453,648.

Patented June 9, 1891

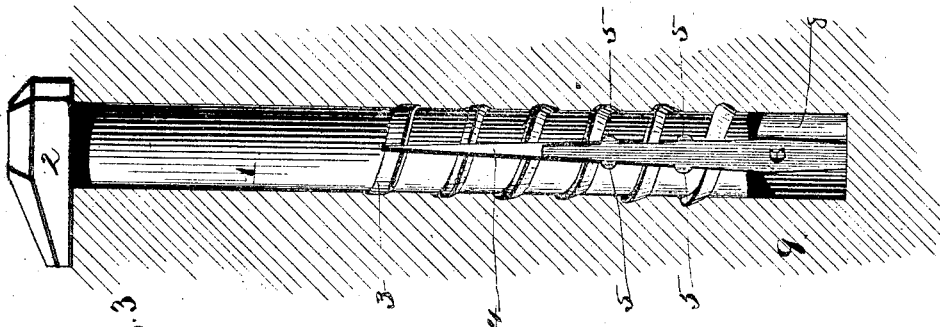


Fig. 3

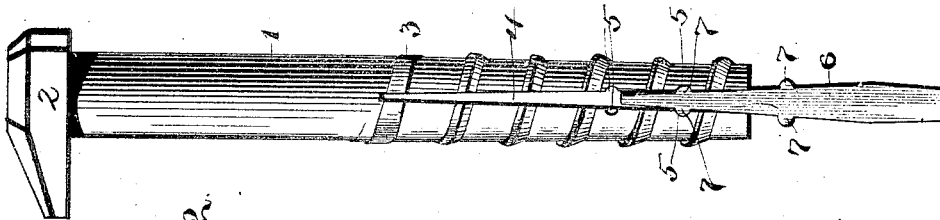


Fig. 2

Fig. A

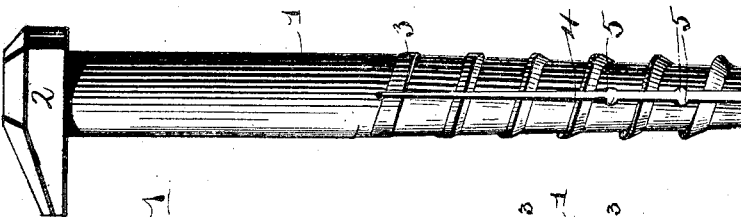
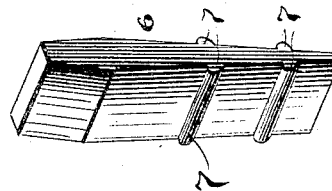
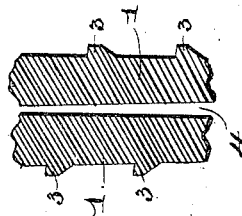


Fig. 1

Fig. 5



Witnesses:

*W. S. Duval*

By his Attorneys,

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*John F. Le Baron*

# UNITED STATES PATENT OFFICE.

JOHN FRANCIS LE BARON, OF MANDARIN, FLORIDA.

## RAILROAD-SPIKE.

SPECIFICATION forming part of Letters Patent No. 453,648, dated June 9, 1891.

Application filed December 18, 1890. Serial No. 375,169. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN FRANCIS LE BARON, a citizen of the United States, residing at Mandarin, in the county of Duval and State of Florida, have invented a new and useful Railroad-Spike, of which the following is a specification.

This invention has relation to improvements in railroad-spikes, the objects in view being to provide a spike possessing all the advantages of a large screw and none of the disadvantages thereof—in other words, to provide a spike which by its peculiar construction, is designed to be easily inserted, extremely secure and safe, to be capable of an easy withdrawal when necessity requires the same, and, furthermore, to be so constructed as not to mar the wood of the tie, and thus lay the same open to early decay.

Other objects and advantages of the invention will appear in the following description, and the novel features thereof will be particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a side elevation of a spike constructed in accordance with my invention. Fig. 2 is a similar view, the locking-wedge being in position and the spike ready for insertion in the tie. Fig. 3 is similar view after the spike has been inserted and locked in the tie. Fig. 4 is a detail in perspective of the locking wedge-shaped key. Fig. 5 is a vertical longitudinal section of the lower end of the spike.

Like numerals of reference indicate like parts in all the figures of the drawings.

In practice I construct a spike preferably circular in cross-section and slightly tapered from about its center to its lower end, and at its upper end is provided with a head which is of the usual form. When thus formed, the spike is split transversely, so that the cleft extends from the point of the spike to about its center. Previous to this splitting, however, a spiral thread is formed upon the exterior of the spike from about the inner end of the cleft to the point of the spike. These threads gradually deepen toward the point, and upon their undersides are beveled or inclined, while their upper sides are at substantially a right angle to the body of the spike, so that sharp threads are formed.

1 designates the spike; 2, the head; 3, the thread extending spirally around the same, and 4 the cleft, the side walls of which at opposite points and near the outer end and about midway the ends of the same are provided with shallow transverse grooves 5.

6 designates a wedge-shaped key rectangular in cross-section and provided at opposite sides and points with transverse ribs 7, of a size and character corresponding with the grooves 5 of the spike.

In operation, in order to prepare the spike for use, the tapered end of the wedge is inserted into the cleft, so that the first pair of ribs are engaged by the first pair of grooves in the side walls of the cleft. This insertion gives no appreciable expansion to the spike, and the same is inserted into an opening 8, previously bored in the tie 9. The boring of the holes is accomplished, preferably, previous to the setting of the ties, so that the same may be accurately gaged, and said holes are of a length equal to the combined length of the spike from below its head and the key when locked and the spikes spread, as shown in Fig. 3. After being inserted in the hole a few light taps of a hammer serve to force the wedge-shaped key farther into the cleft, and until its second pair of locking-ribs engage the first pair of grooves and the first pair of ribs engage the last pair of grooves, and by entrance of the wedge the spike is spread, so that its sharp spiral thread is forced into the fiber or grain of the tie and a withdrawal of the same is rendered difficult, the upper horizontal face of the thread serving to squarely interlock with the grain, as will be apparent.

By reason of the threads the spike engages with the wall of the opening in the tie, so that while possessing all the qualities of a screw, yet it can be inserted without rotation and with the same ease and manner of an ordinary spike.

Having described my invention, what I claim is—

1. The herein-described spike, having an external spiral thread and provided with a cleft or slot, in combination with a wedge-shaped key located in the slot, substantially as specified.

2. The herein-described spike, having an external thread, the upper face of which is at a right angle to the body of the spike and the lower face of which is beveled or inclined,  
5 said spike having a cleft or slot in its threaded end, in combination with a wedge-shaped key inserted in the slot or cleft, substantially as specified.

3. The herein-described spike, having an  
10 external thread and provided with a cleft or slot, the opposite walls of which have oppo-

site grooves, in combination with a key of wedge shape, provided with transverse ribs for engaging the grooves, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

JOHN FRANCIS LE BARON.

Witnesses:

Mrs. B. B. HAY,  
THOS. WILLINGHAM.