G. K. HOFF.

RAILROAD SPIKE.

APPLICATION FILED OCT. 24, 1907.

916,153.

Patented Mar. 23, 1909.

Fig. 1

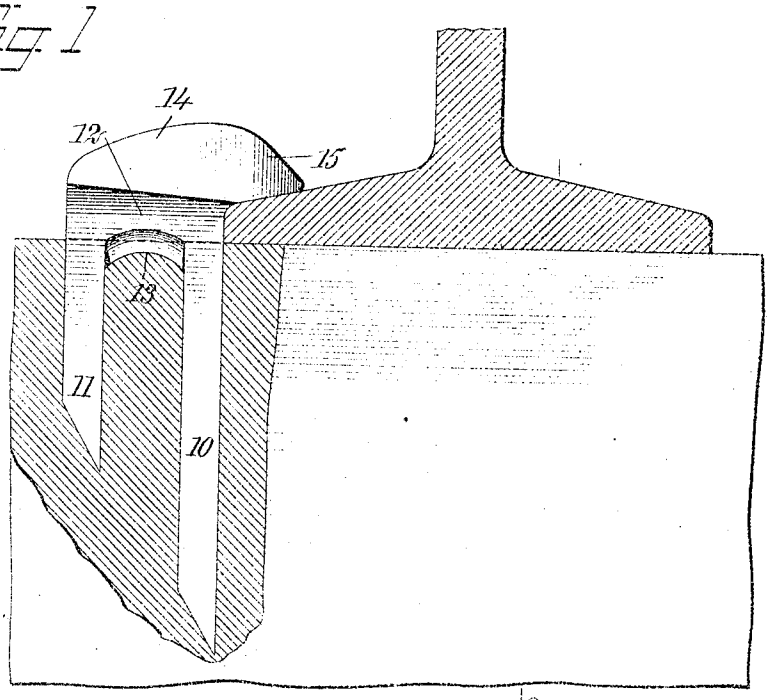


Fig. 2

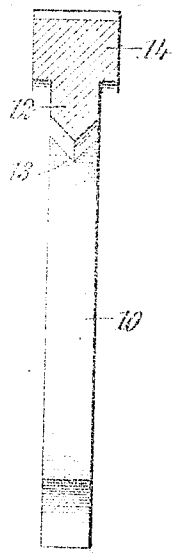
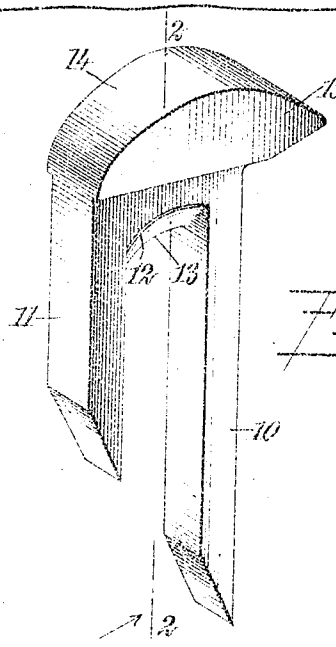


Fig. 3



WITNESSES

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GEORGE K. HOFF, OF PHILADELPHIA, PENNSYLVANIA.

RAILROAD-SPIKE.

No. 916,153. Specification of Letters Patent. Patented March 23, 1909.

Application filed October 24, 1907. Serial No. 398,913.

To all whom it may concern:

Be it known that I, GEORGE K. HOFF, a citizen of the United States, and a resident of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and Improved Railroad-Spike, of which the following is a full, clear, and exact description.

This invention relates to certain improvements in spikes adapted for use in securing railroad rails to ties, and more particularly to that type of spike in which two separate shanks are employed, both connected to the same head.

The objects of my invention are to so form the portion intermediate the two shanks that it will cut into the wood, to so form the head that the spike may be readily withdrawn, and to so form the points of the shank members as to facilitate the driving of the spike and to prevent its accidental withdrawal.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures, and in which—

Figure 1 is a side elevation of a railroad spike constructed in accordance with my invention and showing a portion of a railroad rail and tie in section; Fig. 2 is a vertical section through the spike, said section being taken at approximately the line 2—2 of Fig. 3; and Fig. 3 is a perspective view of the spike.

My improved spike involves in its construction two separate and distinct shanks 10 and 11, each having substantially parallel sides, and the two shanks being disposed parallel to each other. One shank is preferably somewhat longer than the other, and each shank is provided with a chisel cutting edge to facilitate the driving of the spike into the tie. Each of the chisel edges lies in the plane of one side of the corresponding shank, that is, the bevel leading to the cutting edge is entirely on one side, as clearly illustrated. The cutting edge of the shorter shank 11 is on the side toward the shank 10, and the cutting edge of the shank 10 is on the side away from the shank 11. The two shanks are connected together by a bridge portion 12, which intermediate the two shanks is provided with a depending curved cutting edge 13. The edge is formed by the beveling outward of the sides of the bridge portion 12, and the ends of this edge, that is, the portions nearest the two shanks, extend nearer to the points of the shanks than does the center portion. The spike is provided with a head 14 of a width somewhat greater than the thickness of either shank, and said head extends the full length of the bridge portion and across the upper ends of both shanks. The head includes a laterally-extending shoulder 15, the under side of which is spaced a distance above the cutting edge 13 somewhat greater than the thickness of the base flange of a railroad rail. The head is undercut across the bridge portion 12 along a line substantially even with the under side of the shoulder 15.

In use, my improved spike is driven into the tie to substantially the position shown in Fig. 1. The shoulder 15 engages with the upper edge of the base flange of the rail to hold the latter securely in place, while the cutting edge 13 of the bridge portion 12 sinks into the upper surface of the tie for a short distance. Lateral thrust on the spike is resisted not only by the full cross sectional area of both shanks, but also by the full cross sectional area of the bridge portion 12, as the rail contacts with the shank 10 in alinement with the end of the bridge portion. A lifting of the spike by the rail is prevented, as even though this lifting effect would tend to loosen the shank 10, it merely tends to bend the shank 11 and hold the same even firmer within the tie. When desired, the spike may be readily withdrawn, as a tool may be inserted beneath the edge of the head at a point intermediate the two shanks. Both of the shanks being substantially parallel, compress the wood fiber therebetween and render the loosening of the spikes less liable than were a spike having a single shank employed. The substantially parallel sides of each shank render the shank less liable to loosening than would a shank tapered throughout its length.

It is known that spikes have been devised in which there was provided a spur at the rear side of the shank and adapted to enter the tie to act as a brace to the main body of the spike, but as far as known these spurs have been of little or no value, inasmuch as the enormous pressure applied to the tie at the time a train passes over the rails, causes a slight bending of the tie, a portion of which bending occurs between the shank and the spur. The pointed nature of the spurs causes them to immediately work loose and to serve in effect as a pry continuously tending to loosen the main spike; in fact, spikes pro-

vided with these spurs loosen far quicker than does the ordinary and common form of spike. Furthermore, spikes of the character above referred to have the bridge portion thereof spaced above the tie, so that the shearing effect is resisted almost entirely by the main spike, and whereby a slight bending of the spike causes a movement of the spur in respect to the body of the spike and a loosening of the spur. All of these qualities have been overcome in my spike.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

A spike having two parallel shanks of different length, each of uniform cross section throughout the major portion of its length and each having one straight side and having the opposite side parallel thereto and terminating in a beveled surface, the beveled surfaces of the two shanks being at substantially the same angle and upon the corresponding sides and in substantially the same plane, a connecting portion between said shanks at their upper ends and convex on its under side and terminating in a depending curved cutting edge, and a head extending across the upper ends of said shanks and said connecting portion, said head being of greater width than said shanks and having an outwardly-extending shoulder adjacent the upper end of the longer shank.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE K. HOFF.

Witnesses:
S. W. FOULKROD,
GEORGE K. HOFF, Jr.