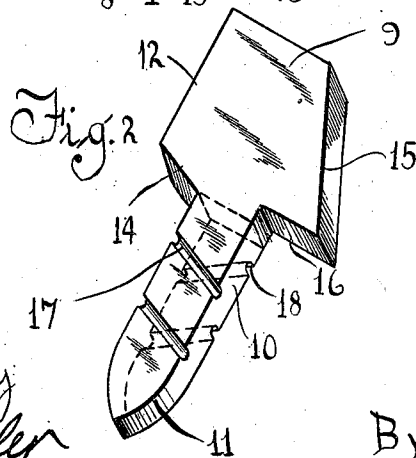
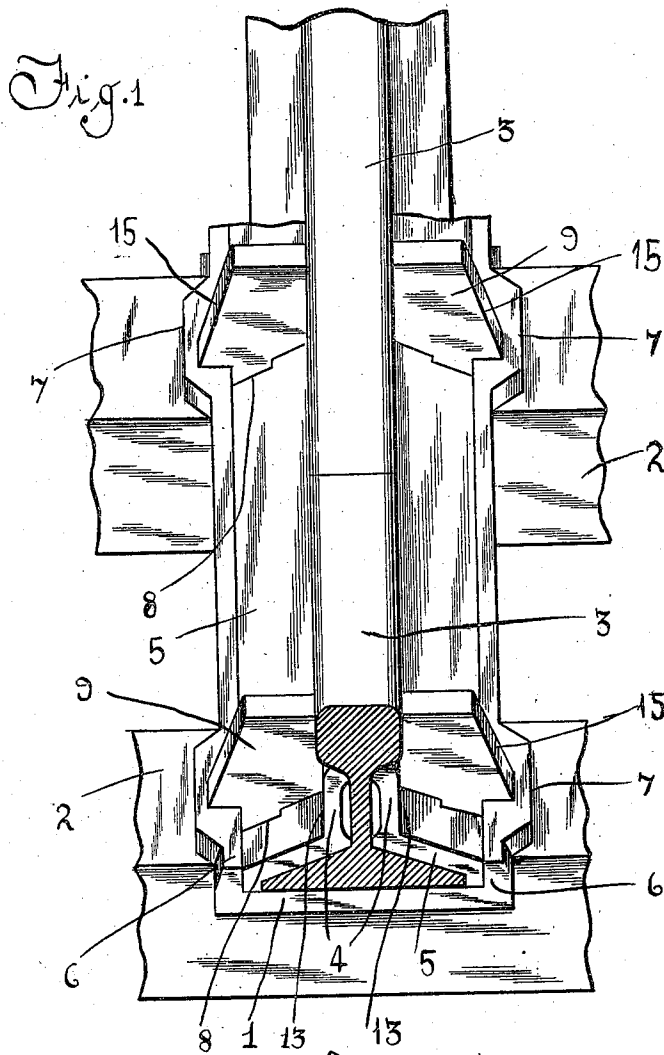


A. L. BARNES.
SPIKE.
APPLICATION FILED AUG. 5, 1910.

983,856.

Patented Feb. 7, 1911.



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UNITED STATES PATENT OFFICE.

ALFRED L. BARNES, OF BEAVER FALLS, PENNSYLVANIA.

SPIKE.

983,856.

Specification of Letters Patent.

Patented Feb. 7, 1911.

Application filed August 5, 1910. Serial No. 575,666.

To all whom it may concern:

Be it known that I, ALFRED L. BARNES, a citizen of the United States of America, residing at Beaver Falls, in the county of Beaver and State of Pennsylvania, have invented certain new and useful Improvements in Spikes, of which the following is a specification, reference being had therein to the accompanying drawing.

10 This invention relates to spikes, and especially to a spike designed for use in connection with my improved rail joint and tie plate for which I was granted a patent Oct. 12, 1909, Patent No. 936,850.

15 The objects of the present invention are to provide a spike with a novel head that will brace the splice bars used in connection with my rail joint, and to furnish the shank of the spike with novel means whereby it will be firmly anchored in a tie.

20 I attain the above objects by a mechanical construction that will be hereinafter specifically described and then claimed, and reference will now be had to the drawing, wherein—

25 Figure 1 is a perspective view of a rail joint equipped with my improved spikes, and Fig. 2 is a perspective view of the spike.

30 Since the spike has been particularly designed for my improved rail joint, its application to the rail joint will be better understood by a brief description of the same in connection with the drawing. The rail joint consists of a chair or tie plate 1 arranged upon two ties 2, the ends of the chair being shaped to grip the longitudinal edges of the ties 2. The rails 3 to be connected are mounted upon the chair and embracing the confronting ends of said rails are splice bars 4, these bars being suitably connected to the rails and having the angular flanges 5 thereof braced by the longitudinal edges 6 of the tie plate 1. The longitudinal edges 45 of the tie plate 1 are provided with enlargements 7 directly above the ties 2, these enlargements reinforcing the tie plate at the spike openings thereof, the spike openings vertically alining with spike openings 8 formed in the angular flanges 5 of the splice bars 4.

50 Each spike comprises a head 9 having an integral shank 10, the lower end of which is pointed or tapered, as at 11 whereby it can be easily driven into one of the ties 2. The head 9 has the side 12 thereof shaped to

engage the outer sides 13 of the splice bars 4, the lower edge of the head being cut at an angle, as at 14 to extend over the angular flanges 5 of the splice bars 4. The opposite side 15 of the head extends over the enlargements 7 of the chair or tie plate 1, and the lower edge 16 of this side of the head is raised above the lower angular edge 14 of the head to provide a space between the enlargements 7 and the head 9 to permit of a crow-bar or other instrument being inserted under the head for withdrawing the spike from the tie.

The shank 10 has the sides thereof provided with angularly disposed grooves 17 and 18, the grooves 17 upon one side of the shank being disposed at a reverse angle to the grooves 18 upon the opposite side of the shank. After the spike is driven in the tie, these grooves will retain such water as may enter the tie along the sides of the spike and cause the wood adjacent to the tie to swell to that extent as to engage in the grooves and firmly hold the spike within the tie.

I attach considerable importance to the shape of the heads 9 of the spikes, as these heads will firmly brace the outer sides 13 of the splice bars 4 and prevent lateral displacement of the splice bars.

Such changes in the size and shape of the spike as fall within the scope of the appended claim can be resorted to without departing from the spirit of the invention.

What I claim is:—

A spike comprising a flat shank having opposite sides thereof provided with angularly disposed grooves, the grooves upon one side being at a reverse angle with respect to the grooves upon the opposite side, and a flat head carried by said shank, said head having one side edge thereof disposed at an angle, one side of its inner edge disposed at right angles with respect to the shank and the other side of its inner edge at an inclination with respect to the shank, said inclined portion of said inner edge merging in the shank inwardly of the point of emergence between the right-angularly disposed portion of the inner edge and the shank.

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

ALFRED L. BARNES.

Witnesses:

JAMES D. PERROTT,
JOSEPH McFERRON.