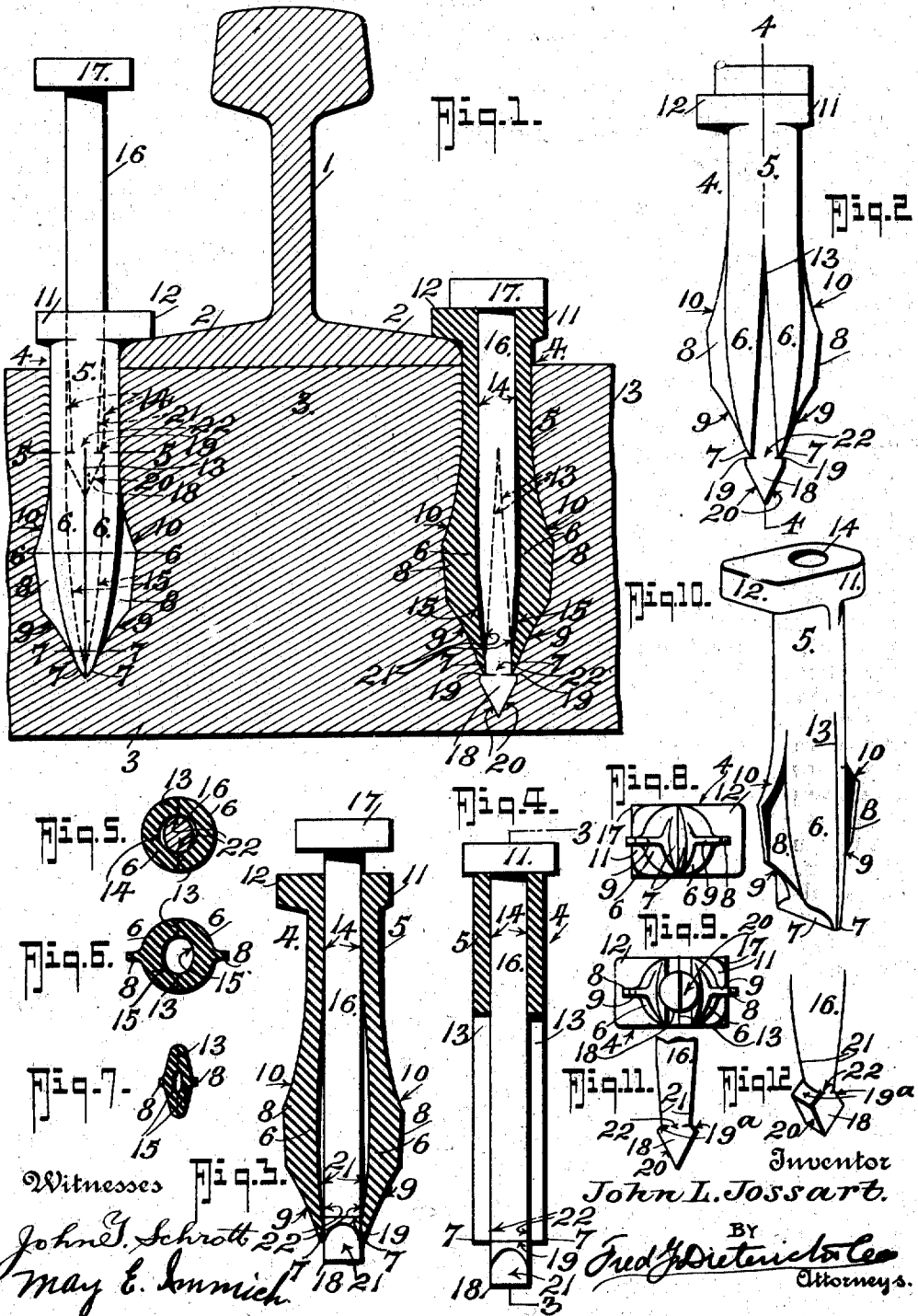


1,001,411.

Patented Aug. 22, 1911.



UNITED STATES PATENT OFFICE.

JOHN L. JOSSART, OF MINOCQUA, WISCONSIN.

SPIKE.

1,001,411.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN L. JOSSART, residing at Minocqua, in the county of Oneida and State of Wisconsin, have invented certain new and useful Improvements in Spikes, of which the following is a specification.

This invention is an improvement in spikes and relates particularly to that class of spikes which are utilized to secure rails to ties.

The present invention is a modification and improvement on the spike disclosed in my Patent #974,391, of November 1, 1910.

It is one of the objects of this invention to construct a spike, which when inserted in a tie will appear at its lower end and thereby clenching the same in a tie against removal from the latter, while the spreading element is in place, a spreading element being provided which is removably interlocked with the spike proper under working conditions but which has provisions in virtue of which it may be easily removed from the spike proper when conditions may require.

A further object of my invention is to provide a device of the character stated of a simple and effective construction which can be readily manufactured at a comparatively low cost and which will readily and effectively serve its intended purposes.

In its more subordinate nature the invention includes those novel details of construction, combination and arrangement of parts, all of which will be first fully described, then be specifically pointed out in the appended claims and illustrated in the accompanying drawings, in which:—

Figure 1, is a cross section of a tie and rail with my invention applied, two spikes being shown, one of which is shown in elevation with the spreading pin being inserted and the other is shown in central section with the spreading pin in place, the spreading pin being shown in elevation. Fig. 2, is an elevation of the spike with the spreading pin in place. Fig. 3, is a section on the line 3—3 of Fig. 4, with the spreading pin turned 90°. Fig. 4, is a section on the line 4—4 of Fig. 2. Figs. 5, 6, 7 are sections respectively on the lines 5—5; 6—6; and 7—7, of Fig. 1. Fig. 8, is an inverted plan view of the tubular spike member shown in Fig. 10. Fig. 9, is an inverted plan view of the parts shown in Fig. 2. Fig. 10, is a detail perspective view of the tubular spike

member proper. Fig. 11, is a detail elevation of a modification of the spreading pin. Fig. 12, is a perspective view of the same.

Referring now to the accompanying drawings in which like letters and numerals of reference indicate like parts in all of the figures, 1 designates the rail having the base flange 2 and resting on the tie 3. The spike 4 which constitutes my present invention embodies a tubular member 5 having its lower end separated as at 13, to provide a pair of tongues 6 whose outer walls taper toward a chisel 7, as shown in the drawings, and on whose outer side, ribs 8 are provided, the ribs 8 having their lower ends beveled, as at 9, and their upper ends beveled as at 10 in a manner similar to the construction shown in my patent aforesaid.

The tubular member 5 has a head 11 that projects to a greater distance at one side, as at 12, to lie over the base 2 of the rail and clamp the same to the tie 3 when the tubular member 5 is driven into the tie.

The tubular member 5 has an internal bore 14 extending from the flanged or headed end 11 toward the penetrating end of the spike, the bore 14 tapering as at 15 toward the penetrating edge of the spike, as best shown in dotted lines in the left hand spike disclosed in Fig. 1 of the drawings.

16 designates the spreading pin which in the present form of my invention is in the nature of a rod having a substantially uniform diameter throughout its length and provided at one end with a squared head 17 to form a wrench receiving portion, by means of which the spreading pin 16 may be turned when in position in the tubular member 5. The lower end of the spreading pin 16 is flattened as at 20 to form a spear-head 18 and it is further cut away as at 21 to leave shoulders 19, the cut away portion 21 being of oval shape where it joins with the head 18 of the pin 16, as clearly shown in the drawings, thereby defining a cam-like portion 22 at the juncture of the cut away portion 21 with the spear head 18, the longest diameter of the cam portion 22 being equal to the greatest diameter of the pin 16 and head 18.

In practice the tubular member 5 is driven into the tie to engage the rail base, as shown in Fig. 1 of the drawings, the peculiar construction of the tongues 6 serving to hold the slit 13 closed while the spike is being

driven into the tie. After the tubular spike member has been driven into the tie the spreading pin 16 is inserted into the bore 14 with the flaps or cut away faces 20 in a position to be opposite the tapering portion of the bore 14 so that when the pin 16 is driven home, shown in the right hand spike of Fig. 1, the spear head 18 will force the tongues 6 apart a distance sufficient to permit passage of the head 18 which, as soon as it passes the chisel ends 7 of the tongues 6 will permit the tongues 6 to spring against the cutaway portions 21 of the pins 16 and engage the shoulders 19 to prevent withdrawal of the pin.

When it is desired to withdraw the pin 16 and remove the tubular spike member 5 from the tie it is only necessary to apply a wrench to the head 17 of the pin 16 and turn it through an arc of 90°, thereby causing the ends 7 of the tongues 6 to be spread apart a distance equal to the greatest diameter of the head 18, after which the pin 16 may be forced upwardly out of the tubular member 5. As soon as the pin 16 has thus been removed from the tubular member 5 a force applied to such tubular member in an upward direction will cause the tongues 6 to approach one another and enable the spike to be withdrawn from the tie.

In the modified form of the invention shown in Figs. 11 and 12, the shoulders 19^a instead of being "straight cut", as in the form shown in the preceding figures, are upwardly beveled, so that the spreading pin can be withdrawn from the tubular member 5 without the necessity of giving it a clear turn by simply forcing the spreading pin 16 upwardly to cause the tongues 6 to separate sufficiently to permit the head 18 to pass therebetween. This form, however, is also provided with cam-like portions 22 as it will be found less difficult to remove the pin 16 by giving it a clear turn before pulling it out.

From the foregoing description taken in connection with the accompanying drawings, it is believed the complete construction, operation and advantages of my invention will be readily understood by those skilled in the art to which the invention appertains.

What I claim is:—

1. In a spike, a split spike member having a longitudinal bore and separable sections, a spreading pin projected into said bore to separate said sections, said spreading pin including a spear head to pass through said bore and interlock with said split spike member, and means carried by said pin for effecting a further separation of said spike member portions to permit withdrawal of said pin.

2. A spike having a pair of separable tongues and a longitudinal bore extending into said spike and terminating at the penetrating ends of said tongues, combined with a spreading pin rotatable in said bore and including a spear head to pass through said bore to spread said separable tongues and abut the ends of said separable tongues to retain said spreading pin in said bore when said tongues are spread, said pin having a head to limit its movement into said bore, said pin including a cam portion to effect a separation of said separable tongues when said pin is turned in said bore to disengage said spear head from said tongues to permit removal of said pin.

3. In a spike, a tubular member provided with a flanged upper end and having its lower end formed of a plurality of tongues, longitudinal ribs on the outside of said tongues, said tubular member including a bore that extends from the top of the pin toward the bottom thereof and tapers to and terminates at the penetrating ends of said tongues, and a spreading pin insertible into said bore and adapted to force said tongues outwardly as said pin is driven into said bore, said pin including a spear head to pass through said bore beyond the ends of said tongue, said pin including shoulders against which said tongues engage to prevent the withdrawal of said pin when in one position, said pin including means for separating said tongues when said pin is turned to another position to permit withdrawal of said pin.

JOHN L. JOSSART.

Witnesses:

H. T. AMES,
MYRON HERRICK.