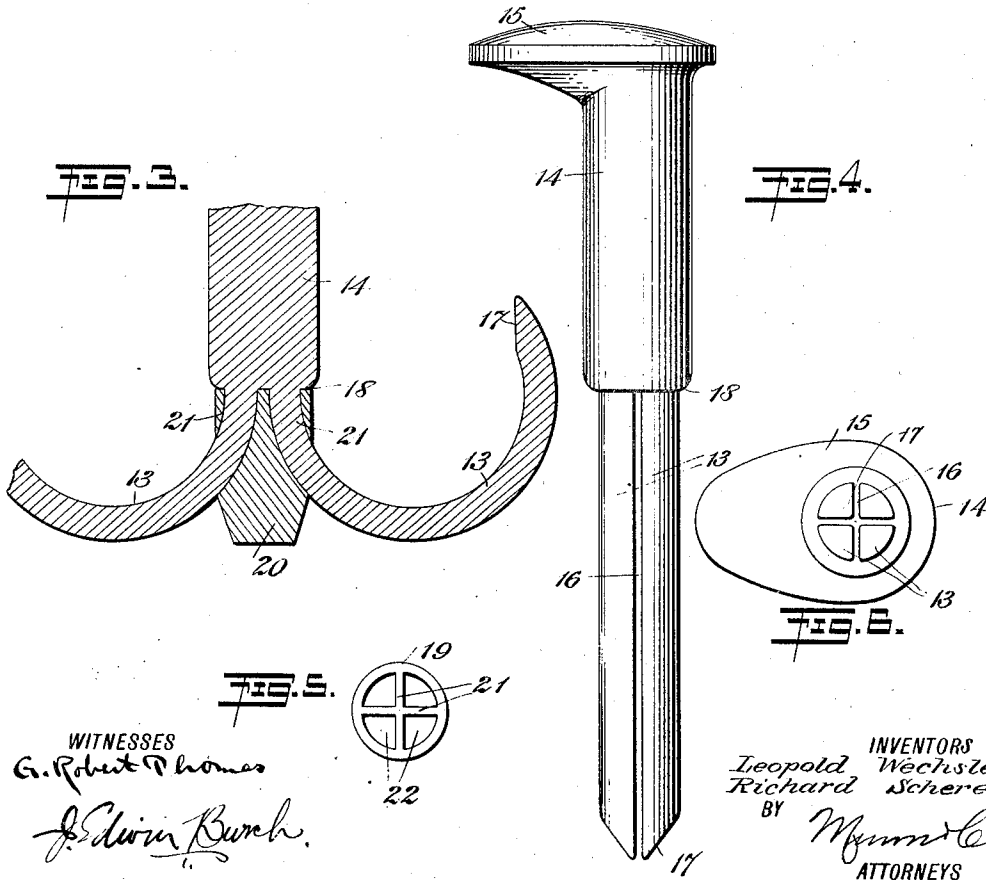
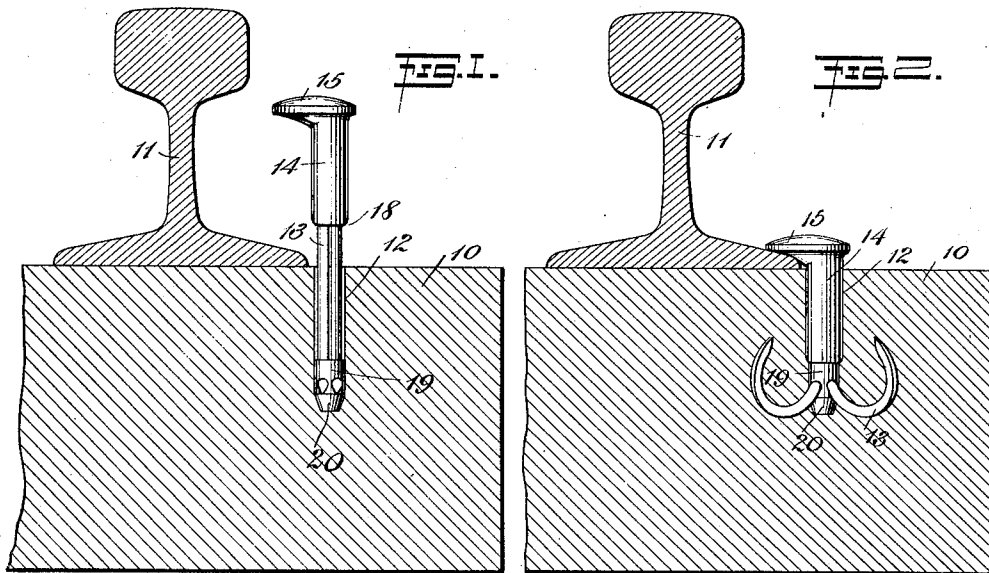


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RAILWAY SPIKE.
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RAILWAY-SPIKE.

1,095,052.

Specification of Letters Patent.

Patented Apr. 28, 1914.

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To all whom it may concern:

Be it known that we, LEOPOLD WECHSLER and RICHARD SCHERER, both citizens of the United States, and residents of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Railway-Spike, of which the following is a full, clear, and exact description.

The present invention comprehends an improved railway spike and relates more particularly to those having a shank divided into a plurality of points adapted to be deflected outwardly and upwardly when forced into a railway tie or body of wood whereby displacement of the bolt or spike is obviated.

The primary object of the invention is comprehended in the provision of a spike of the above character in which the lower part of the shank is divided into a plurality of points, preferably four in number to form a portion of reduced diameter relative to the upper part of the shank, said points being designed to cooperate with a spreading member adapted to fit it in a bored out portion or socket in the tie whereby when the spike is driven, the points are deflected outwardly and upwardly with the least possible mutilation of the wood, whereby splitting of the latter, as commonly results in the driving of spikes without first boring the tie for receiving the spike, is further prevented.

With the above and other objects in view, the invention resides more particularly in the peculiar combinations and arrangements of the parts which will be illustrated as a preferred embodiment in the accompanying drawings and described in the specification.

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 views, and in which—

Figure 1 is a vertical sectional view of one end of a railway tie with a rail mounted thereon, the tie being bored out and having the improved spike and deflector engaged therein before the spike is driven. Fig. 2 is a similar view showing the spike in position after being driven and its prongs or points deflected into the wood. Fig. 3 is an enlarged fragmentary sectional view of a portion of a spike and deflector in the same relative position shown in Fig. 2. Fig. 4

is an enlarged side elevation of the spike. Fig. 5 is a plan view of the deflector; and Fig. 6 is an underside view of the spike.

In the illustrated embodiment of the invention the numeral 10 designates a fragmentary portion of a railway tie which is preferably of wood, the same having a rail 11 mounted thereon. In securing the rails it is common to drive a spike into the tie so that the head of the spike will overlie a flange of the rail but in so doing splitting and cracking of the tie often occurs while the wood is distorted in such a manner that the spike usually becomes loose very quickly and thus its usefulness in retaining the rails securely against the ties becomes nil.

It is the object of the present invention to overcome these difficulties and for this purpose the tie or wood in which the spike is to be driven is bored out as shown at 12 to provide a socket of suitable depth to accommodate the points or prongs 13 of the spike which consists of an enlarged and preferably cylindrical body portion 14 having a head 15 designed to engage over a flange of the rail. The points or prongs 13 of the spike are formed by splitting or otherwise rendering the reduced lower portion of the shank crosswise as shown at 16, this formation resulting in the complete separation of the points or prongs which are tapered at the lower ends toward the center of the spike as shown at 17, and which are of a cross section conforming to the shape of a quarter segment of a circle or of substantially triangular shape with their outer faces convexly arcuate, as is shown in Figs. 4 and 6 of the drawings. By providing a spike with an enlarged upper shank portion and a reduced lower shank portion, a shoulder 18 is produced which preferably tapers toward the points as shown. The points are also slightly longer than the enlarged portion of the shank so as to render it unnecessary to bore the socket in the tie unnecessarily deep and to permit a greater length of the shank of the spike to enter the wood or tie.

Adapted for cooperation with the spike is a deflector 19 which consists of a cylindrical shell having its lower end tapered as shown at 20 but provided with parallel end walls at right angles to the axis of the shell. The shell is divided by diametrical walls 21 disposed at right angles to each other and passing through the center of the shell as to form a series of passages 22, four in number

and conforming in cross section to the cross section of the points of the spike. These passages are provided with curved walls as is shown more particularly in Fig. 3 of the drawings and are directed outwardly through the wall of the shell above the tapered portion 20. In this manner when the tie has been bored out the shell is inserted therewith the spike, the points of the spike being engaged in the passages of the shell as shown in Fig. 1 of the drawings. The spike is then driven and the points are caused to be deflected or curved outwardly and upwardly in the manner shown in Figs. 2 and 3 of the drawings, taking the same curvature as the curvature of the passages. The reduced portion of the shank will readily enter the bore or socket and the points will be forced into the tie in an outward and upward direction so as to secure the benefits of the retaining and torsional strength of the wood in all directions but the upper or enlarged part of the shank will be forced into the bore or socket to further rigidify the hold or grip secured for retaining the spike in position with the head in contact with the flange of the rail. During this operation the beveled shoulder 18 will prevent excessive outward pressure against the walls of the socket and splitting of the wood at this point is also obviated.

Having thus described our invention, what we claim as new and desire to secure by Letters Patent is:—

1. The combination with a wooden body and a member to be secured thereon, said body having a bored out portion adjacent to the member; of means for securing the member to the body, said means embodying a spike having a head, an upper shank portion and a lower shank portion of reduced size relative thereto to provide a shoulder, said lower shank portion being adapted to freely pass into the bored out portion when the spike is driven and the upper portion of the shank being adapted to snugly fit therein

to assist in holding the spike in position to exclude water.

2. The combination of a wooden body and a member to be secured thereon, said body having a bored out portion adjacent to the member; of means for securing the member to the body, said means embodying a spike having a head, an upper shank portion and a lower shank portion of reduced size relative thereto, said lower shank portion being adapted to freely pass into the bored out portion when the spike is driven and a deflector consisting of a shell having a tapered lower end and diametrical walls intersecting each other to provide curved passages communicating with its upper end and exterior face, said lower shank portion being divided into points engaged in the respective passages whereby when the deflector is seated in the bottom of the bore and the spike is driven, said points will be deflected outwardly and upwardly into the body to prevent displacement of the spike.

3. A fastening device comprising a spike having its shank formed with four points of substantially triangular cross section with tapered extremities and a deflector consisting of a circular shell having diametrical walls disposed at right angles to each other to provide passages which are curved outwardly through the surrounding walls of the shell, the lower end of the deflector being tapered and the top and bottom portion thereof being parallel at right angles to the axis of the shell and the shank having an enlarged upper portion producing a shoulder adapted to contact with the upper end of the shell to limit the driving of the spike.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

LEOPOLD WECHSLER.
RICHARD SCHERER.

Witnesses:

JOHN E. BURCH,
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