

W. S. DANIELS.
SPIKE.
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1,066,471.

Patented July 8, 1913.

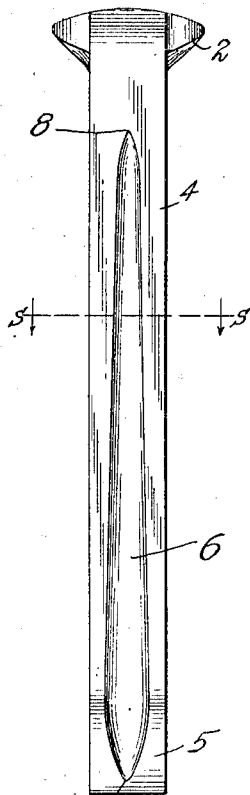


Fig. 1

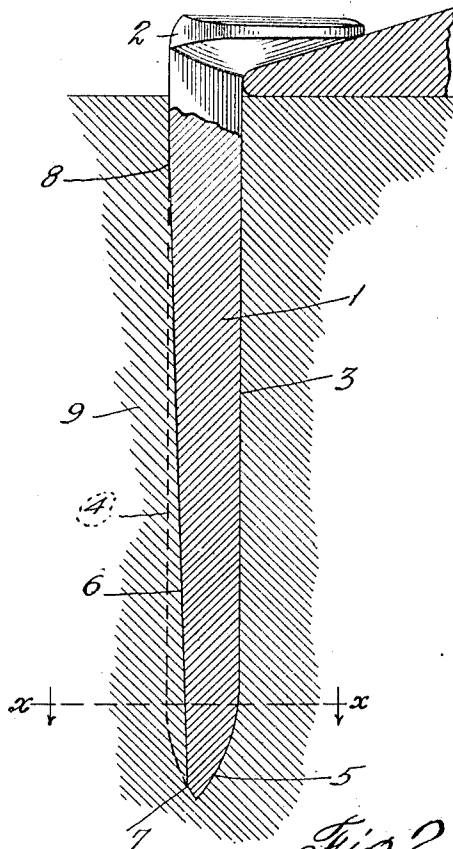
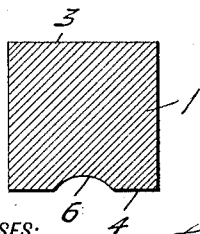
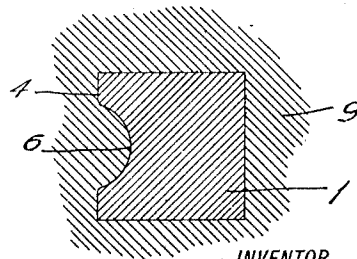


Fig. 2



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Fig. 3



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Fig. 4

UNITED STATES PATENT OFFICE.

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SPIKE.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WINFIELD S. DANIELS, citizen of the United States, residing at Dallas, in the county of Dallas and State of Texas, have invented certain new and useful Improvements in Spikes, of which the following is a specification.

This invention relates to new and useful improvements in spikes such as are used for fastening rails to ties.

The object of the invention is to provide a spike which when driven into a tie will not turn.

A further object is to provide a spike which will present a greater surface to the wood of the tie than those now in common use.

Other features are the provision of a spike which will require less material and possess a greater holding strength, also one which when driven into a tie having a soft center will not break but penetrate said center; and further the provision of a spike having a tapered groove disposed longitudinally along its outer side.

A still further object of the invention is to provide a spike that will be strong, durable and efficient, simple and comparatively inexpensive to produce, also one in which the several parts will not be likely to get out of working order.

With the above and other objects in view the invention has relation to certain novel features of construction and operation, an example of which is described in the following specification and illustrated in the accompanying drawings, wherein:

Figure 1 is an elevation of the spike, Fig. 2 is a sectional view of portions of a rail and tie with the spike in position, Fig. 3 is a cross sectional view on the line S—S of Fig. 1, and Fig. 4 is a cross sectional view on the line X—X of Fig. 2.

In the drawings the numeral 1 designates a spike having a head 2 which is formed substantially the same as the head of the spike now in common use. The side of the spike over which the head hangs is termed the inner side and I have designated the same by the numeral 3; while the opposite side 4 is known as the outer side. The spike has the usual point 5.

My invention consists in a groove 6 formed longitudinally in the outer side of the spike. This groove is concaved in cross section, but at no point does it form a complete half

circle. The groove extends from a point 7 near the bottom edge of the point 5 up to a point 8 below the head 2. The point 8 is located a sufficient distance below the head so that when the spike is driven into a tie no portion of said groove will be exposed above the tie. One of the main features of the invention is the shape of the groove. By observing the drawings it will be noted that the groove tapers or is contracted toward its upper end thus causing it to be considerably deeper at its portion adjacent the point 5 than at its portion adjacent the head. As shown in Figs. 1 and 2 the lower end of the groove is terminated above the cutting edge of the point 5 so as not to interfere with the proper action of the same.

When the spike is driven into the tie indicated by 9 in Fig. 2, the wood is received in the groove very much the same as if an ordinary gouge was driven in said tie, the result being that the wood is cut and not broken as where the ordinary spike is used. The wood received in the groove forms a key or tongue thus acting as a guide and preventing the spike from turning while it is being driven. The groove tapering or diminishing toward its upper end permits the necessary thickness of metal to give the required strength at the upper portion of the spike and also permits the spike to wedge into the tie as it is driven which would not be the case if the groove had the same depth throughout its length.

Many times the center of the tie is decayed or "soft" and when the ordinary spike is driven into the tie this central portion is broken or crumbled with the result that a large opening is made about the greater portion of the length of the spike and the latter has practically no holding strength. Where the spike herein described is driven into such a tie the provision of the groove permits said spike to cut through and not break the "soft" center of the tie with the result that practically no opening is made around the spike and its holding efficiency is considerably greater than that of the ordinary spike. Another advantage of the tapered groove will be seen by observing Fig. 2 wherein it will be noted that the wooden key formed by the groove is inclined upward and outward. This being on the outer side of the spike will have a tendency to guide the spike toward the rail as it is driven which is very desirable as it brings the head

and shank of the spike into close engagement with the flange of the rail.

What I claim, is:

1. A spike having in its outer side a longitudinal groove concaved in cross section and being considerably deeper at the point of the spike than it is at the head of the spike, said groove being gradually tapered from its lower end toward its upper end.
2. A railway spike rectangular in cross-section and having its head projecting over one side, the opposite side of the spike being provided with a groove extending from a point near the driving point of the spike

upward whereby the entire bottom of the groove is inclined outward and upward, the faces of the spike at each side of the groove being comparatively broad and increasing in width gradually toward the upper end of the groove.

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

WINFIELD S. DANIELS.

Witnesses:

JACK A. SCHLEY,
J. M. HEFNER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."