

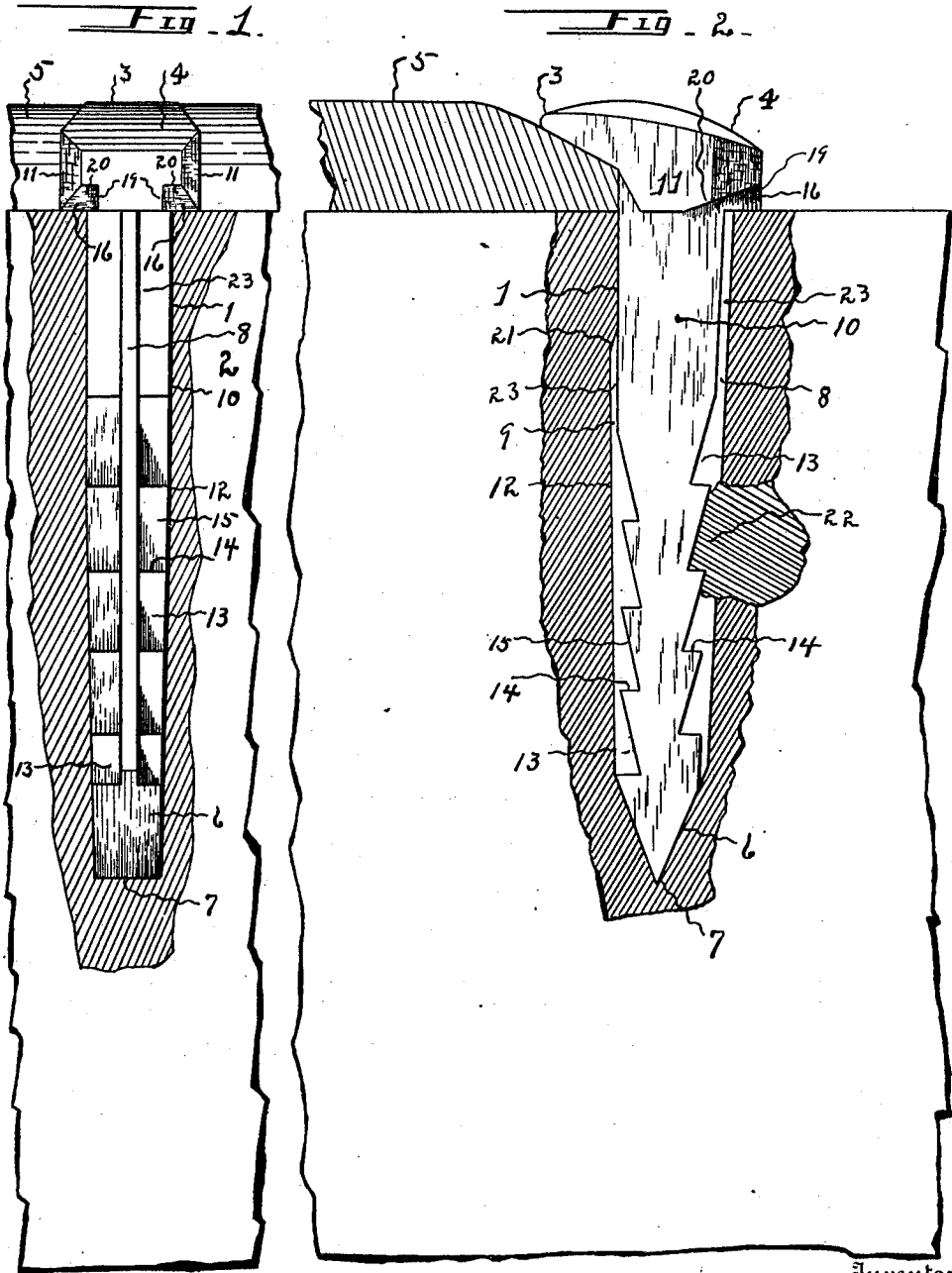
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SPIKE.

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988,744.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, LUDVIK SVOBODA, a citizen of the United States, residing at South Omaha, in the county of Douglas and State of Nebraska, have invented certain new and useful Improvements in Spikes, of which the following is a specification.

This invention relates to spikes, of the class particularly adapted for use in railway construction for connecting the rail flanges upon wood crossties, and has for its object to provide a spike of integral structure which may be conveniently and economically formed and will be reliable for securing the rails upon the ties.

The invention consists of the novel construction, form and arrangement of parts as described herein and claimed, and as illustrated in the drawing, wherein,—

Figure 1 is a side view of a part of a rail flange with a spike mounted thereon embodying my invention; an end view, partly in section, of a portion of a rail tie also being shown. Fig. 2 shows the same parts as Fig. 1, the same being a sectional end view of the flange, a side view of the spike and a side view, partly in section, of a portion of a rail tie.

Referring now to the drawing for a more particular description, numeral 1 indicates a spike embedded in a rail tie 2, the forwardly projecting lip 3 of the head 4 of the spike being disposed upon the rail flange 5. The body of the spike is preferably rectangular in cross-section, and in order that it may cut the grain of the wood when driven therein, it is provided with the tapered end 6 having a cutting edge 7, and when driven into the wood, its edge 7 is disposed transversely of the tie. I provide combs or ridges 8 and 9 upon the respective front and rear sides of the spikes and extending midway between the side faces, longitudinally of the body portion 10 thereof. They engage the tie outwardly of said body portion, and tend to prevent any swinging or rotating movement on its longitudinal axis, of the spike, after it has been embedded in the tie. The head 4 has a length and width greater than body portion 10 so that, after its outwardly projecting side portions 11 are seated upon the upper surface of the tie, it will overhang or extend outwardly of the aperture 12 formed in the tie by the spike, after the latter has been driven therein.

To the end that the spike will not be with-

drawn from the tie from vibration of the flange or action of heat, cold or moisture, I provide pockets or recesses 13 formed at longitudinal intervals, and each having a ledge or base-wall 14 formed at right angles to the longitudinal axis of the body of the spike, and a wall 15 extending upwardly and inclined outwardly from wall 14.

In order that the spikes may be conveniently removed from the ties, as when replacing old or decayed ties, I provide the oppositely disposed recesses 16 to provide a place for access of a spike remover. A part of the head of the spike or the outer part thereof adjacent to its body portion is reduced and has a less thickness than its body portion, as plainly shown in Fig. 1, to form the upright wall 19 of each recess between its head and body portion, and to form wall 20 of said recess, wall 20 extending inwardly from the rear part of the head and inclined downwardly to a junction with the lowermost part of an outwardly projecting side portion 11; and on account of this construction, the recess is accessible while portions 16 and 11 of the head are disposed upon the tie. Ridge 8 is disposed upon the front side and midway between the side faces of body portion 10, and extends from the head to the tapered entering terminal of the spike; and while ridge 9, upon the rear side of the spike, is in all other respects the same, it has an upper terminal 21 disposed between the ends of body portion 10 so that, in operation, it will not prevent the rear side of said body portion from being seated in contact with the flange, when the spike has been driven into the tie.

In operation, when the spike is driven into the cross tie, edge 7 cuts the fiber, as mentioned, while disposed crosswise of the grain of the wood, and the tendency of the wood thus severed is to move inwardly of the aperture and to fill the recesses, as indicated by the sectioned part 22 in Fig. 2, and therefore the spike becomes firmly secured. With respect to altitude, recesses 13 adjacent to ridges 8 and 9 are preferably disposed in alternation, thereby tending to more effectively resist vibration of the spike; also it is of advantage to have the recesses located in the manner described since this arrangement tends to resist or retard decay of the wood. Since ridges 8 and 9 are located substantially at the middle and extend longitudinally of the respective front and rear

sides of body portion 10 of the spike, it is obvious that longitudinal grooves 23 will be formed at the sides of said ridges, between the ridges and the side faces of said body portion, recesses 13 opening upon said grooves. It will be noted that while each of walls 14 of recesses 13 forms a tooth or barb for the body of the spike, these teeth do not project outwardly of the body portion to form obstructions, when driving the spike into the wood tie. Also, since the side faces of body portion 10 are not cut or reduced in a direction of the longitudinal axis of said body portion, a strong construction is provided for this part of the spike. While the front and rear sides of the body portion are reduced in this respect to provide recesses, ridges 8 and 9 tend to reinforce these parts. When the spike has been seated, the wood material of the tie engages within recesses 13 and within grooves 23, walls 14 tending to prevent withdrawal, and combs or ridges 8 and 9 tend to prevent lateral movement of the spike.

Having fully described my invention, what I claim and desire to secure by Letters Patent is,—

1. A spike for the purpose described, comprising a head portion, a body portion substantially rectangular in cross-section integral with the head portion having a tapered end and longitudinal ridges formed upon its front and rear sides midway between its side faces, and provided at the sides of said ridges at longitudinal intervals from its tapered end with recesses, each recess having a ledge disposed transversely to the longitudinal axis of the spike and an upwardly extending wall inclined outwardly from the inner terminal of the ledge, the arrangement being that a transverse ledge of a recess of one side will be disposed diametrically opposite to the inclined wall of a recess of the opposite side of said body portion.

2. A holding spike for flanges, comprising

a head portion, a body-portion substantially rectangular in cross-section, and a tapered entering terminal, said head portion being reduced adjacent to the body portion to form oppositely-disposed recesses having adjacent, upright walls disposed inwardly of two opposite sides of said body portion and each formed with a transverse inwardly-extending wall inclined downwardly from said head portion, the front and rear sides of said body portion having longitudinal ridges formed thereon and provided at longitudinal intervals from its entering terminal, at the sides of said ridges, with recesses, each recess having a ledge disposed transversely to the longitudinal axis of said body portion and an upwardly-extending wall inclined outwardly from the inner terminal of said ledge.

3. A spike for the purpose described, comprising a head portion, a body portion rectangular in cross-section and provided with a tapered end, its front and rear sides being each reduced to form thereon a pair of longitudinal grooves opening upon its side faces and to provide a ridge disposed midway between each pair of grooves, the ridge upon the front side of said body portion extending from said tapered end to said head portion, the ridge upon the rear side of said body portion extending from said tapered end in the direction of and terminating adjacent to said head portion, said body portion being provided at longitudinal intervals with recesses having a base wall disposed substantially at right angles to the longitudinal axis of said body portion, and a second wall extending inclinedly and outwardly from said base wall.

In testimony whereof I have affixed my signature in presence of two witnesses.

LUDVIK SVOBODA.

Witnesses:

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