

990,137.

H. JEFFREY.
RAILROAD SPIKE.
APPLICATION FILED OCT. 25, 1909.

Patented Apr. 18, 1911.
2 SHEETS—SHEET 1.

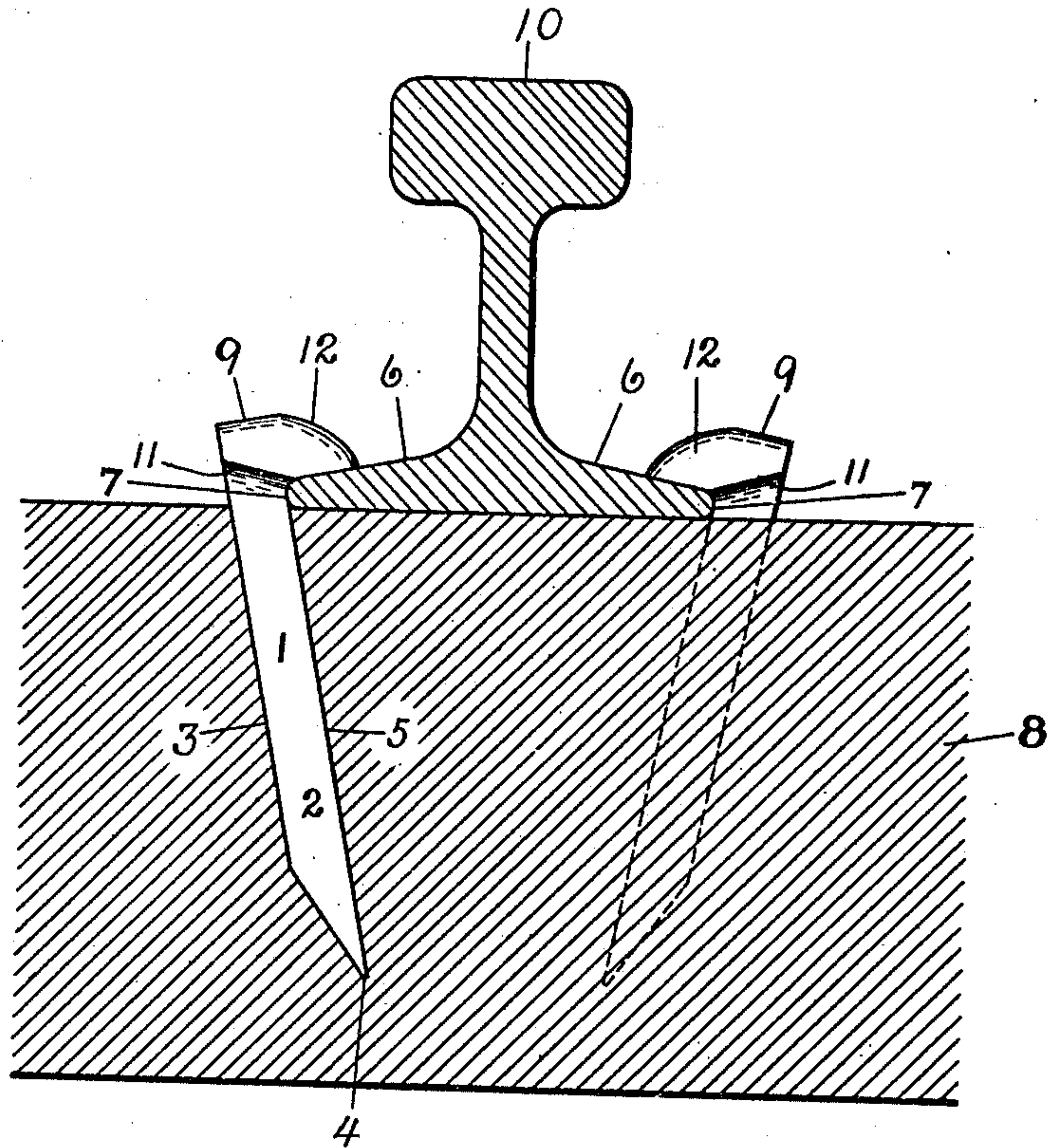


Fig-1-

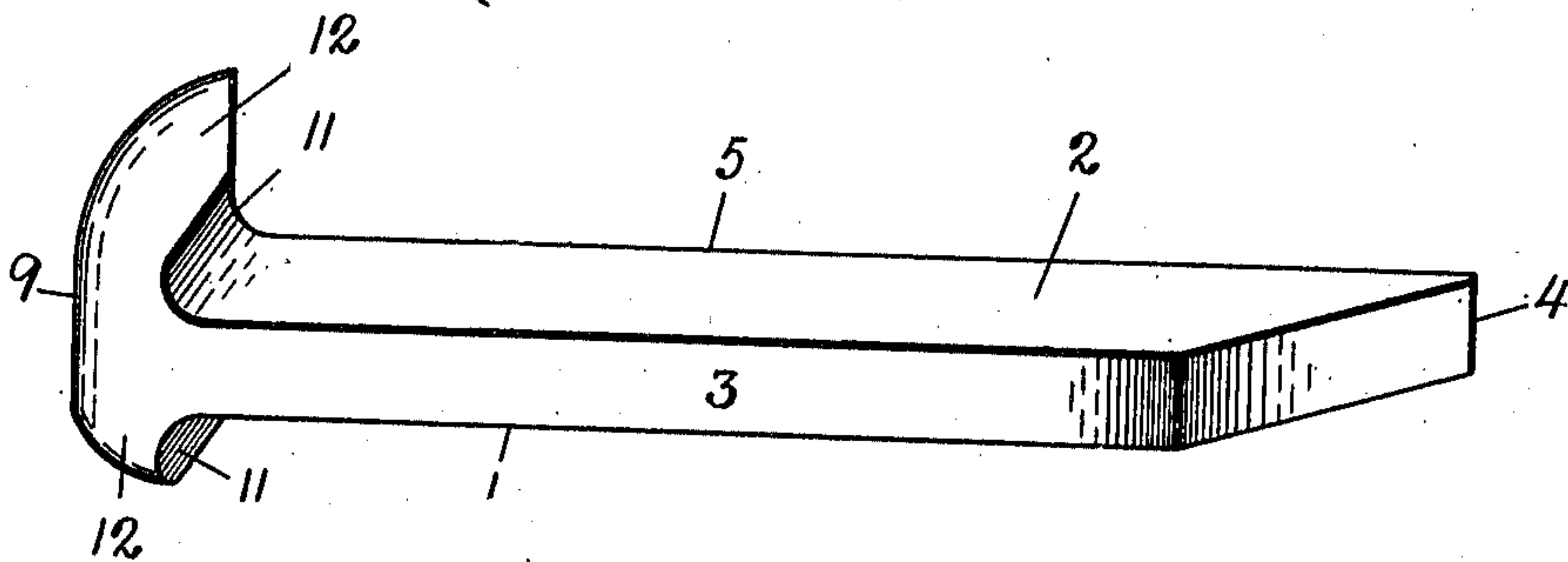


Fig-2-

WITNESSES:

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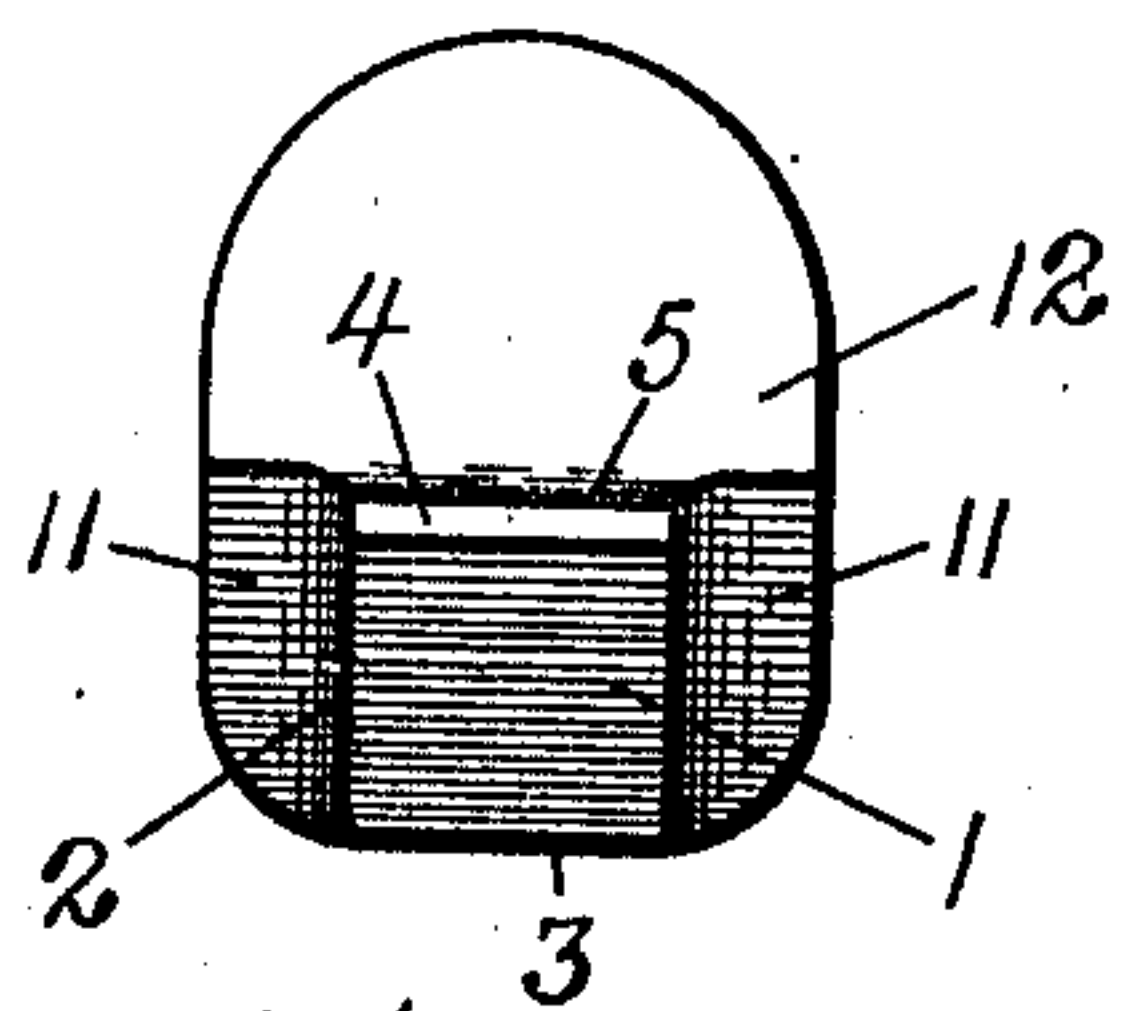


Fig - 4 -

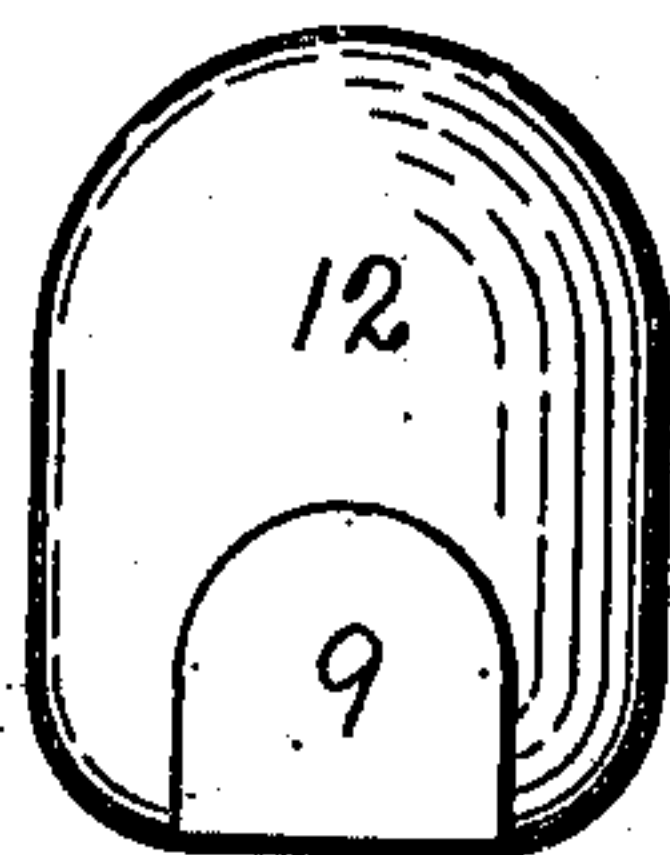


Fig - 5 -

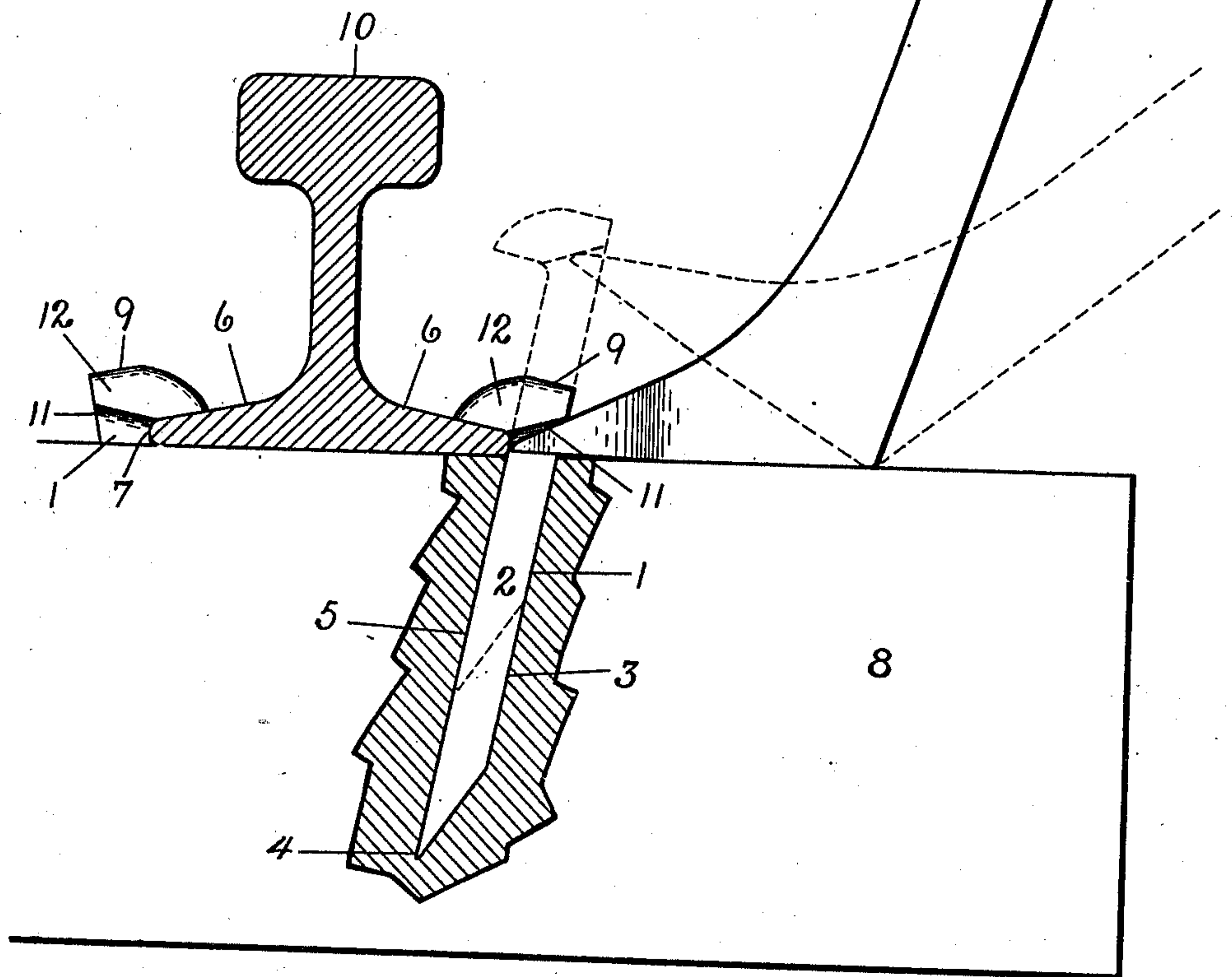


Fig - 3 -

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UNITED STATES PATENT OFFICE

HARRY JEFFREY, OF LOUISVILLE, KENTUCKY.

RAILROAD-SPIKE.

990,137.

Specification of Letters Patent.

Patented Apr. 18, 1911.

Application filed October 25, 1909. Serial No. 524,292.

To all whom it may concern:

Be it known that I, HARRY JEFFREY, a citizen of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented a new and useful Improvement in Railroad-Spikes, of which the following is a specification.

This invention relates to means for fastening the rails to the cross-ties on a railway, and the objects of my improvement are, to provide a spike which shall have greater holding power vertically and thus prevent the loosening of the spikes, to provide a spike which is more easily driven than the spikes in common use, to provide a spike with claw-bar flanges on the head so arranged that the claw-bar is easily entered under the head without driving with a maul, and to provide a spike which is more easily withdrawn from the cross-tie with the claw-bar than the spikes in common use.

These objects I attain by means of the structure illustrated in the accompanying drawings, in which—

Figure 1 is an elevation, showing the rail and the cross-tie in section; Fig. 2 is a perspective view; Fig. 3 is an elevation showing the rail in section, the tie partly broken away, and the claw-bar applied to the spike and showing the spike partly withdrawn in dotted lines; Fig. 4, a bottom plan view; and, Fig. 5, a top plan view.

Similar reference numerals refer to similar parts throughout the several views of the drawing.

The spike, 1, has the usual shank, 2, adapted to enter the wood of the cross-tie. The rear face, 3, of shank 2 is preferably straight and its point, 4, is chisel-shaped, being beveled from the rear forward, so that the point coincides with the front face, 5, of the shank. With the point thus directed forward, the front face of the shank of the spike may be applied to the edge of the rail-flange, 6, at, 7, and the spike driven into the cross-tie, 8. By thus forming the point, the spike has a tendency to cut under rail-flange 6 in the direction indicated in Figs. 1 and 3.

The spikes in common use have their heads so formed that the under face of the head forms an obtuse angle with the front face of the shank, so that when the spike is driven perpendicularly into the cross-tie, the under face of the head coincides with or fits the top of the rail-flange. It is well known that the common spike thus formed is fre-

quently partly withdrawn from the cross-tie by the rail, so that the rail becomes loose. This occurs when a cross-tie becomes depressed into the road-bed beyond the normal level, so that as a heavy train passes over the rail the cross-tie is alternately pressed down into the depression and raised up again by the resiliency of the rail. Under these circumstances it is necessary that the spike have a very strong hold in the cross-tie in order that it may not be partly withdrawn and become loose. My spike, on the other hand, is so formed that the under face of the head forms substantially a right-angle with the front face of the shank and the spike is therefore adapted to be driven into the cross-tie at an angle relative to the surface and the grain of the cross-tie, and at right-angles to the top surface of the rail-flange. It will be understood that the spike thus driven in, with its point at some distance under the rail-flange, can be drawn vertically upward from the cross-tie with great difficulty, for even if the spike were loose in the cross-tie, the effort to withdraw it perpendicularly, as by the rail-flange pulling by the head, would cramp the shank in the hole and it would still hold with great force.

I have provided the top of the head of my spike with a flat surface, 9, adapted to receive the blows of the spike-maul, and this surface I prefer to form in a plane substantially at right-angles to the axis of the shank of the spike, in order that the spike-maul may not glance off or leave dents in the head of the spike.

It will be appreciated that since the spike is driven into the cross-tie at such an angle that its point is directed under the flange, the head is leaning outward from the ball, 10, of the rail, and there is not the liability to accidentally strike the rail while driving the spike that there is when the spike is driven in vertically in the usual way and the head is very close to the ball of the rail.

It has been customary to form the claw-bar flanges of spikes on the sides of the head so arranged that their under face lies in a plane at right-angles to the shank of the spike; and these flanges have been formed so low that they are quite close to the surface of the cross-tie, and it is common to see workmen, in attempting to remove the spikes from the cross-ties, driving the nose of the claw-bar under the head of the spike with a

maul or some other tool. This results in battering and frequently breaking the points off the claw-bar or otherwise injuring or destroying it. Then too, the claw-bar frequently does not enter sufficiently far under the flanges to get a firm hold, and the points of the nose are cracked off, requiring a trip to the forge shop for repairs or replacing the claw-bar with a new one. Again, when the common spike is withdrawn from the cross-tie vertically, as is necessary, it is frequently bent backward so that it must either be straightened before using again or be discarded. This is due to the nose of the claw-bar describing an arc of a circle while withdrawing the spike, and since the flange is horizontal, the head of the spike is required to follow the claw in its backward movement while describing the arc. These difficulties are avoided, as is shown in Fig. 3, by forming my spike so that the under surface, 11, of the claw-bar flanges, 12, is in a plane which forms an obtuse angle with the rear face 3 of the shank 2. Thus constructed, there is considerable space between the head of the spike and the cross-tie, and the claw-bar may be fully entered and take a firm hold upon the spike. Again, the angular position of the spike in the cross-tie causes it to follow very closely the direction of the arc described by the claw and it is not bent; and furthermore, when the spike-head is some distance up (Fig. 3

dotted lines) the slanting surface of the flange allows the claw to slip backward, so that the spike is not drawn backward with it with sufficient force to be bent. 35

This construction of my spike results in great saving of claw-bars and repairs thereto, as well as in spikes. It also facilitates the work of driving and extracting spikes very greatly, and greatly increases the holding power. 40

Having thus described my invention so that any one skilled in the art pertaining thereto, may understand its construction and use, I claim— 45

A spike, comprising a rectangular shank and a head overhanging said shank on three sides, the underside of said head comprising unobstructed flat surfaces inclining in opposite directions from the front face of the shank, the flat surface in front of the shank lying at right-angles thereto, and the curved surfaces at the sides of the shank inclining rearwardly at a greater angle relative to the axis of the shank than the front flat face, whereby unobstructed flaring tool receiving recesses extending to the front side of the shank are formed, when the spike is driven at an angle. 50 55 60

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Witnesses:

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