

(No Model.)

S. H. BRACEY.
RAILROAD SPIKE.

No. 487,111.

Patented Nov. 29, 1892.

Fig. 1.

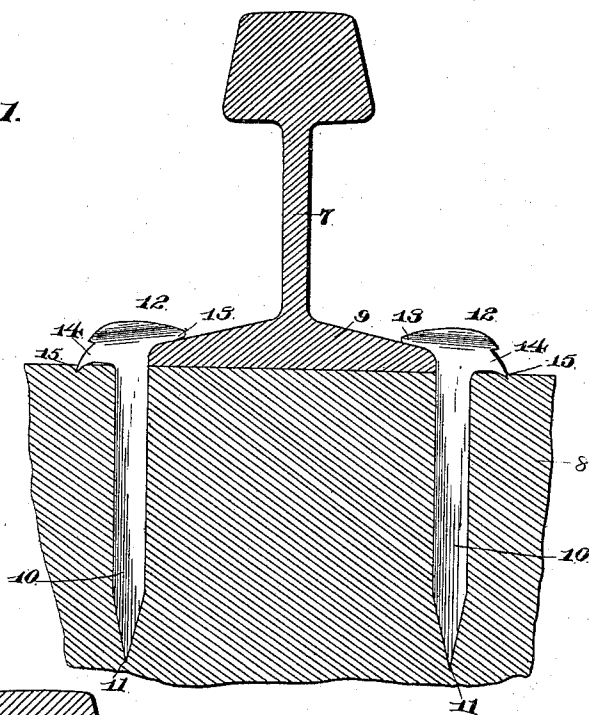


Fig. 2.

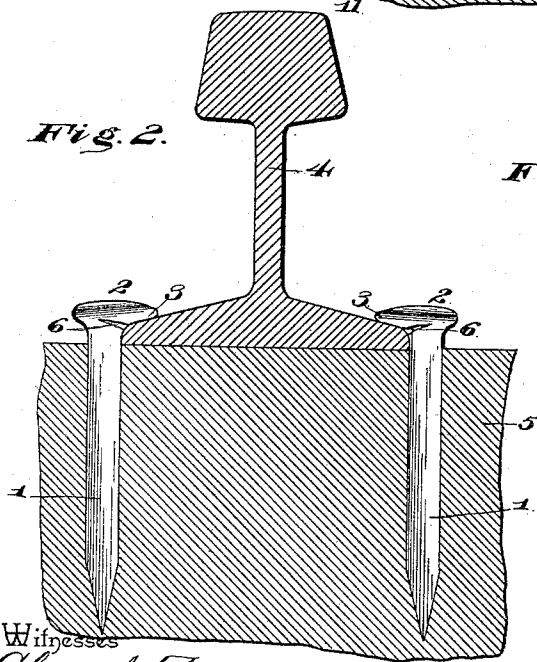


Fig. 4.

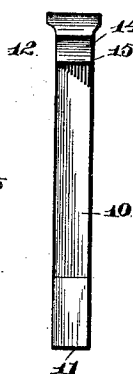
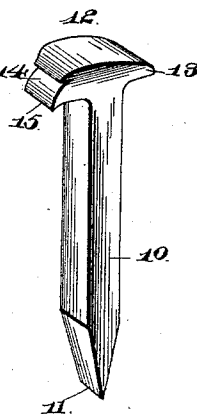


Fig. 3.



Witnesses

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RAILROAD-SPIKE.

SPECIFICATION forming part of Letters Patent No. 487,111, dated November 29, 1892.

Application filed May 9, 1892. Serial No. 432,256. (No model.)

To all whom it may concern:

Be it known that I, SMITH H. BRACEY, a citizen of the United States, residing at Weston, in the county of Lewis and State of West Virginia, have invented a new and useful Railroad Spike, of which the following is a specification.

My invention relates to improvements in railroad-spikes; and the following are the objects in view: first, to produce a spike which will not become fractured or its head become broken during the operation of driving; second, to produce a spike that will not be cant-
ed by the outward pressure of the rails as caused by the flanges of the wheels of the passing trains.

In the employment of ordinary spikes in track-laying during the construction of railroads and repairing of the same it often happens that after the spike-head has come in contact with the base of the rail an extra blow will be delivered upon the head by the spike-driver, and inasmuch as said head has no support at its outer side the extra blow causes a downward movement or farther entrance into the tie of the spike and a prying from the upper end of the spike of the head. The fracture through the spike below the head of course renders the spike useless, and if the head is not entirely broken off it is but a short time before the lateral pressure or tendency of the rails to spread causes said head to separate entirely from the spike-body. To obviate this objection is the first object of my invention. In use the tendency to laterally spread causes a lateral pressure to be exerted upon the spikes, and inasmuch as the ordinary spike is not supported at its outer side it is crowded outwardly, thus enlarging the space for receiving the base of the rail between the spikes and permitting such rail to move laterally and causing a spreading of the rails. To obviate this objection is the second object of my invention.

A still further object of my invention is to construct the spike so that that portion thereof—namely, the neck—directly below the head, which is subjected to the greater strain, will be the best adapted to resist such strain.

With these objects in view the invention

consists in certain features of construction hereinafter specified, and particularly pointed out in the claim.

Referring to the drawings, Figure 1 is a transverse section of a rail mounted upon a tie and secured in position by spikes constructed in accordance with my invention. Fig. 2 is a similar view illustrating the rail as secured upon the tie by an ordinary spike, illustrating how the latter is fractured by over-driving. Fig. 3 is a perspective view of my improved spike. Fig. 4 is an elevation of the spike.

Like numerals of reference indicate like parts in all the figures of the drawings.

In constructing a spike of the ordinary character a body portion 1, rectangular in cross-section and tapered at its lower end, is employed, and at the upper end of said body portion a head 2 is formed, said head being larger than the body portion in cross-section and having a shoulder 3 extending from its inner side. In Fig. 2 I have illustrated the operation of driving the spike of this character and in said figure 4 designates the rail, having the usual head and flange, and 5 the tie. In driving this spike it often happens that after the flange or shoulder 3 has come in contact with the base of the rail an additional stroke is delivered by the driver upon the head, so that the spike is driven farther into the tie, and the head being immovable and prevented from following the body of the spike the same becomes fractured, as indicated at 6, so that it takes but little pressure under the flange to tear the head from the body of the spike.

In Figs. 1 and 3 I have illustrated my improved spike, and in the former figure I have illustrated the same in operative position. In the said figure, 7 designates the rail, 8 the tie upon which the rail is mounted, and 9 the flange or base of the rail.

10 designates the rectangular body of the spike, which terminates at its lower end in a point 11. The said body is provided at its upper end with an enlarged head 12, which head, as is usual, is provided at its inner side with the shoulder 13, which corresponds with the shoulder 3 of the spike-body 1, before de-

scribed. The outer side of the head and spike is provided with a downwardly-turned shoulder 14, the under side of which is below the plane of that of the shoulder 13, is provided at its extremity with a slightly-tapered point 15, which serves, as will hereinafter be seen, as an anchor to prevent lateral or outward crowding of the spike by the lateral tendency of the rails to spread.

In driving the spike constructed in accordance with my invention it will be seen that after the shoulder 13 has arrived in contact with the base of the rail an additional or unnecessary blow upon the head of the spike will not fracture said spike for two reasons—first, for the reason that the difference between two planes of the under sides of the shoulders 13 and 14 is about equal to the thickness of the base of the rail, and hence the shoulder 14 at the time that the head receives the additional stroke is resting upon the tie, and hence offers resistance to the further downward movement of the spike, and thus the strain is avoided and its consequent fracture, and, furthermore and secondly, the spike is thickened by the formation of the outer shoulder directly at the point where the fracture usually occurs, and thus is better adapted to withstand the strain made in the ordinary construction of a spike. This strengthening of the head is still further increased by the lateral extension of the head beyond the sides of the body of the spike, whereby side shoulders or projections 16 are formed, and these projections serve the additional function of constituting shoulders which may be engaged

by any ordinary claw-bar for removing the spikes from the ties.

When the spikes are driven into place, the points 15 at the outer extremities of the shoulders 14 take a short distance into the tie just sufficient to prevent a lateral spreading of the spikes and constitute a secure anchorage, so that the tendency of the rails to spread laterally does not act upon the spike to crowd the same outwardly, and thus permit of a spreading of the rails and destruction of the track.

Having described my invention, what I claim is—

The herein-described improved spike, the same consisting of the rectangular body terminating at its lower end in a driving-point and provided at its upper end at its inner and outer sides with shoulders 13 and 14, the inner shoulder being disposed obtusely with relation to the shank-body and adapted to engage over and conform to the base of a rail and the outer shoulder being in a plane below the inner shoulder and the distance therefrom agreeing with the thickness of the base of the rail and disposed at a right angle to the body portion of the spike and terminating at its outer extremity in a spur or point 15, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

SMITH H. BRACEY.

Witnesses:

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