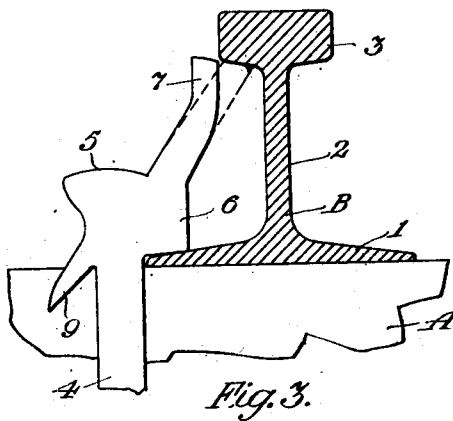
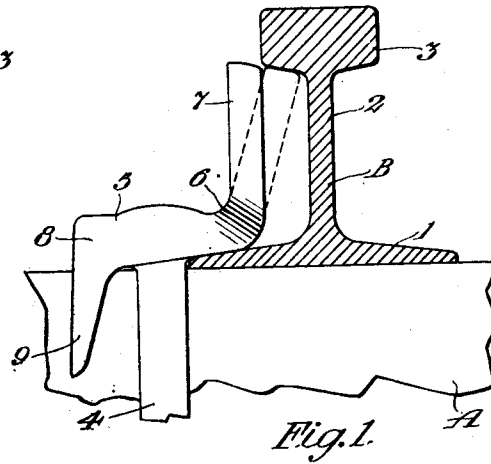
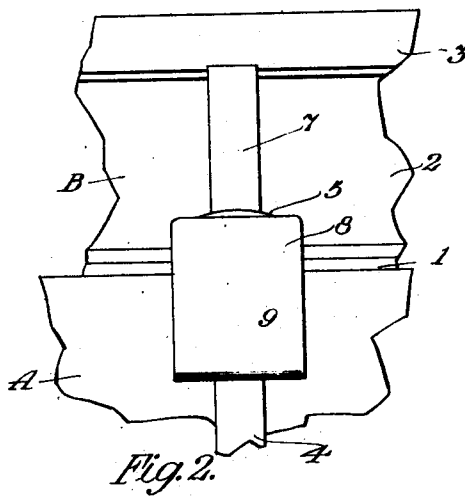


L. T. LA PAUGH.
SPIKE.
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1,031,349.

Patented July 2, 1912.



Witnesses:-
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UNITED STATES PATENT OFFICE.

LOUIE T. LA PAUGH, OF UTICA, NEW YORK.

SPIKE.

1,031,349.

Specification of Letters Patent.

Patented July 2, 1912.

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To all whom it may concern:

Be it known that I, LOUIE T. LA PAUGH, a citizen of the United States, residing at Utica, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Spikes, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to an improved railway spike, and I declare that the following is a full, clear, concise and exact description thereof sufficient to enable one skilled in the art to make and use the same, reference being had to the accompanying drawings in which like letters and numerals refer to like parts throughout.

While the invention is designated as a railway spike it will be seen that it is more than that since it comprises means not only for holding the rail to the tie but also for holding the spike in place to insure such hold and therewith to add a support to the rail-tread and also secondary means engaging the tie increasing the resistance to the spread of the rails. The advantages of all these features are evident to all who have any acquaintance with such matters.

In the drawings I have illustrated the device in one form as applied to a tie and rail and have shown a modification.

Figure 1 is an end view of a rail supported on a tie with a spike of one form. Figs. 2 and 3 are side views of the rail with the other parts, Fig. 3 being a slightly modified form.

In the figures A shows the tie and B the rail with base 1, web 2 and tread 3. The spike has the ordinary shank 4 with head 5 having the inward extension 6 to clamp against the bevel top of the base. In my improved spike the head may be made somewhat thicker and broader. Its inner end is elongated into a prong or lock 7. The spike is made of such material and the lock is made of such shape and size that it is capable of being bent into a given position after the spike is driven home with its head tight against the base. The normal position of the lock or prong is shown by the full lines in the figures and its changed position, when in locking position, by the dotted lines.

The prong is of the proper length so that, when the spike is driven home and the prong

7 by a blow of the sledge is bent to the rail, the end of the prong will have a close bearing against the under face of the tread as seen in Fig. 1.

It is a well known fact that the passing of traffic over the rails tends to loosen the spikes which are also acted upon by weather conditions, and that the tendency is for the spikes to work loose and at certain times require special attention to maintain any degree of safety in the road-bed. By the use of the prong or lock the spike, when once driven home, is held in place, and cannot be moved separate from the rail. This obviates the effect of constant working of the spike in its socket which tends constantly to reduce the strength of its hold in the tie, but, on the other hand, the original grip of the spike in the tie is maintained practically intact, being diminished only by such superior forces as are capable of extracting the spike through the agency of the rail. In short, all possible play between the rail and the spike has been eliminated as also the effect of all forces external to the construction itself.

The head of the spike is extended outwardly in a form which gives added lateral resistance, against the spreading of the rails for instance. This is shown at 8 in Fig. 1, the lateral extension having, in that case, downward extending prong 9 to be embedded in the tie when the spike is driven in. As seen in Fig. 2 this projection 8 and prong 9 are considerably wider than the spike shank and this increase of bearing surface may be carried to a greater degree, both in width and depth of the prong, forming a much greater support than possible were it the width of the spike or spike head and adding very materially, even in the form shown, to the power of the spike to resist the lateral strain which is naturally applied to its head and tends to bend the spike and loosen its grip.

It is evident that the spike can be made in a variety of forms, with different styles and arrangement of the several elements or features pointed out. Thus, as in Fig. 3 the head 5 and projection 6 may be made of greater mass, the prong 7 projecting at an angle and having its base more solid, the bend being applied nearer its tip. The

prong 9^a is capable of the same lateral extension but extends obliquely downward from the head.

I am aware that various kinds of spikes have been produced for such uses, but it is characteristic of my device that the head of the spike presents a surface for driving the same which is distinct from the means provided to hold the spike in place by its engagement with the tread. Conversely, the prong which is provided for such purpose is independent of the head of the spike and extended to one side thereof so that the spike can be driven without touching or bending or weakening the prong and without the prong being strained to one side to clear the rail in driving the spike. The prong is of such character that the spike can be driven in any direction and the prong still be adapted to engage the rail tread. The prong is also distinct from the overlapping portion of the head which engages the rail base, and such overlapping portion is also distinct from the driving head of the spike extending to one side of the portion which receives the blows, so that the blows of the driving hammer do not tend in any way to weaken the overhanging portion. The use of the prong in any manner or under any condition, and even its absence, in nowise lessens the function of the overlapping portion nor that of any other portions of the spike. I thus combine a spike, pure and simple, a lateral tie brace on one side, a rail-base-engaging member, and a rail-tread-engaging member, each distinct and independently vested with its full functions without in any degree interfering with or reducing the efficiency of any of the others, or in any way interfering with the same in any manner of their use.

Other modifications need not be illustrated as those shown will make the invention clear and indicate its purpose and scope.

Having described my invention, what I

claim as new and desire to secure by Letters Patent, is:

1. A railway spike having a shank, a driving head transverse thereof, said driving head enlarged laterally and extended outwardly whereby to provide a bearing on the surface of the tie, and said head extended downwardly in a prong adapted to provide an enlarged bearing surface across the tie, said head extending inwardly to provide an enlarged bearing on the rail-base, said head extending farther inwardly independent of the head and of the rail base engaging portions of the spike, and said head extending in a reduced and pliable prong adapted to be bent to contact with the under face of the tread of the rail, substantially as described.

2. A railway spike having a shank, a head thereon, said head being widened and extending outwardly to form a bearing on the top of the tie, and extending farther and downwardly a substantial distance in a prong of substantially greater width than the shank, and forming an extended bearing surface in the tie against the outward pressure on the spike, the head also being extended inwardly to overlap the rail-base, and having a prong of a size considerably diminished from that of the shank and the head, and located free of the driving head of the spike, and the overlapping portion of the head, and made of a more pliable material than that of the rest of the spike, whereby to be readily bent inwardly under the tread of the rail to contact therewith, and to be bent from said position without affecting the position or function of other portions of the spike, substantially as described.

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

LOUIE T. LA PAUGH.

Witnesses:

HENRY M. LOVE,
EDWIN GRAY.