(No Model.)

J. M. FENNERTY

RAILROAD SPIKE.

No. 345,423. Patented July 13, 1886.

FIG. 1.

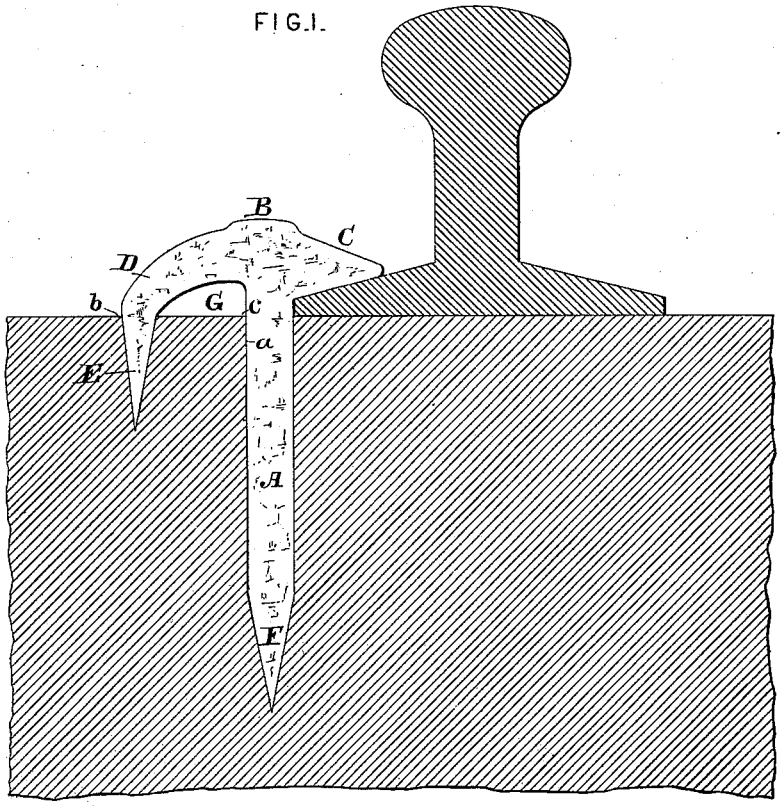
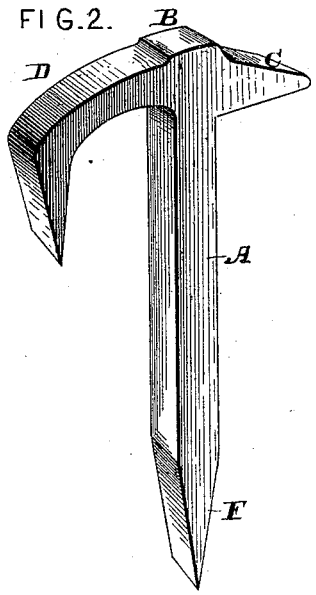


FIG. 2.



ATTEST-
J. Henry Kaiser
Harry L. Amer

INVENTOR-
John M. Fennerty

UNITED STATES PATENT OFFICE.

JOHN M. FENNERTY, OF WASHINGTON, DISTRICT OF COLUMBIA.

RAILROAD-SPIKE.

SPECIFICATION forming part of Letters Patent No. 345,423, dated July 13, 1886.

Application filed December 29, 1885. Serial No. 186,978. (No model.)

To all whom it may concern:

Be it known that I, JOHN M. FENNERTY, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Railroad-Spikes, of which the following is a specification, reference being had therein to the accompanying drawings.

In practice it is found that railway-spikes are first loosened from their position in the ties by the lateral pressure of the rails caused by the expansion of the rails in cold weather, and also by the weight and force exerted on them by passing trains, which gradually enlarges the space occupied by the spikes in the ties until they easily yield to the vertical vibratory motion of the rails, and are of no service in holding the rails in position. It is also found that the overlapping ledges, which are usually cast with the spikes to form a hold for the claw-bar or other tool to withdraw or extract them from the ties, are liable to become chipped or broken off, and thus leave no place by which they may be grasped to withdraw them.

Now, this invention is intended to obviate the above-named objectionable features of the spikes in common use, and to provide a spike for securely holding the rail in position, either by direct contact therewith or through the intervention of a chair, and which will offer a great resistance to the lateral pressure or strain of the rail, as well as to its vertical vibratory motion; and it consists of the parts and combinations of parts hereinafter described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a side elevation of one of my improved spikes in position, and Fig. 2 a perspective view of the same.

Similar letters refer to similar parts throughout both the views.

A represents the body or shank of the spike, having a sharpened wedge-shaped point, F, which enters the tie and severs the fibers thereof, instead of merely crowding or displacing them. At its upper end the body or shank A is provided with an enlarged head, B, somewhat elongated. This enlargement does not extend out beyond the body A on either side, but does extend or is elongated beyond a vertical line drawn from or a continuation of line *a* of the body A, thus presenting a surface sufficiently large to form a head for the spur E, as well as the body A, enabling it to be driven in at the same time and by the same force which drives the body, without liability of the spur or its arm D being broken.

From the upper end or head, B, of the spike projects a shoulder or chin, C, beveled on its under side, so as to fit and rest closely on the flange of a rail when the spike is in position. From the opposite side of the spike an arm, D, projects. This arm D, it will be observed, is curved from the head B downwardly to the point *b*, and also on its under side from its connection with the body of the spike to the same point. This construction is of great importance, as when the spike and spur are driven into the tie the arm D forms a bridge over that part of the tie between the body A and spur E, leaving a space, G, under the arm, in which a crow-bar, a pick, or other tool may be inserted and the spike withdrawn from the tie. It will also be observed that it is next to impossible to drive the body A and spur E so far into the wood that the space G will be closed, for the reason that on the rail side of the spike the shoulder or chin C rests on the flange of the rail, the top of which is elevated some distance above the tie, which will effectually prevent the further entrance of the spike, while on the opposite side of the head the arm D springs from the body of the spike at a point slightly above the point of connection of the lower side of the shoulder or chin C, and curves downwardly, so that any attempt to drive the spike in beyond the point *c*, and thus close the space G, will break the curved arm. The spur E is sharpened at its point, after the manner of a chisel, which severs the fibers of the wood, making a clean, sharp cut, and insuring a solid backing therefor.

The spur E increases the resisting-power of the spike to the lateral strain of the rails, and the spike, being thus re-enforced, more effectually resists the vertical vibratory motion thereof, which has a tendency to withdraw it.

Thus it will be seen that my improved spike is adapted to resist great outward strain upon the rails, especially where curves occur, and

that it can be more readily withdrawn by ordinary track-tools, and is less liable to fracture at its head, as it has no overlapping ledge to be broken or chipped off.

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

A chisel-edged railroad spike having an elongated head, B, a beveled shoulder, C, a curved arm, D, springing from the body of said spike at a point above the lower surface of said shoulder, and terminating in a chisel-edged spur, E, whereby an opening is provided beneath said arm for the insertion of a lever to withdraw the spike, substantially as and for the purpose specified.

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

JOHN M. FENNERTY.

Witnesses:

W. A. REDMOND,

J. HENRY KAISER.