

(No Model.)

S. EMRICH.
RAILWAY SPIKE.

No. 486,328.

Patented Nov. 15, 1892.

Fig. 1

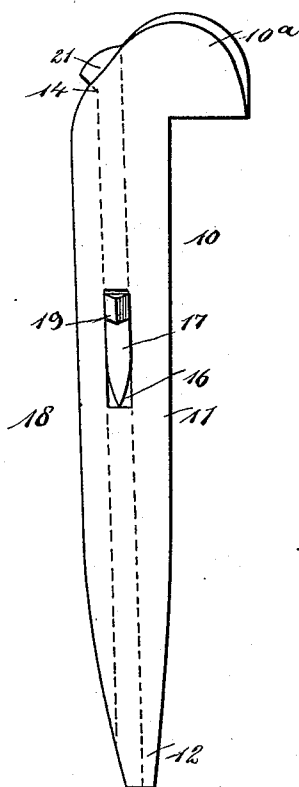


Fig. 2

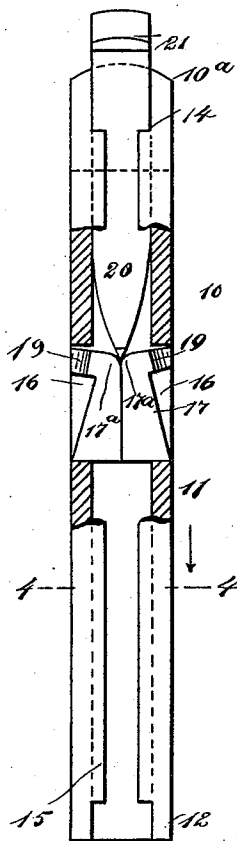


Fig. 3

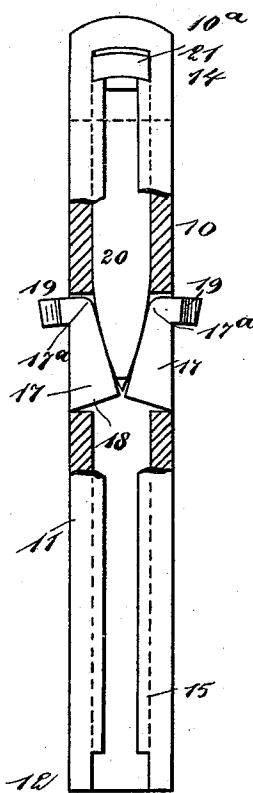


Fig. 5

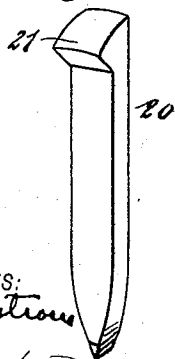


Fig. 6

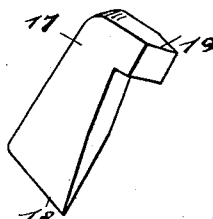
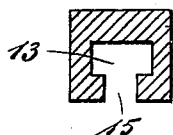


Fig. 4



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SAMUEL EMRICH, OF RENO, NEVADA.

RAILWAY-SPIKE.

SPECIFICATION forming part of Letters Patent No. 486,328, dated November 15, 1892.

Application filed June 28, 1892. Serial No. 438,301. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL EMRICH, of Reno, in the county of Washoe and State of Nevada, have invented a new and Improved Railway-Spike, of which the following is a full, clear, and exact description.

My invention relates to improvements in spikes, and especially to spikes such as are used for fastening railway-rails to the sleepers.

It is well known that spikes of this class are very likely to work loose, and the object of my invention is to produce a spike which when driven home may be fastened there, so that it cannot possibly work loose.

To this end my invention consists in a spike the construction of which will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the spike embodying my invention. Fig. 2 is a broken rear elevation, partly in section, showing the position of the locking-plates before they are spread. Fig. 3 is a similar view, but showing the locking-plates spread, so as to be embedded in the adjacent wood. Fig. 4 is a cross-section through the spike on the line 4 4 in Fig. 2. Fig. 5 is a detail perspective view of the wedge used for spreading the locking-plates, and Fig. 6 is a detail perspective view of one of the locking-plates.

The spike 10 is of the same general shape as an ordinary railway-spike, having a head 10^a, which is formed, chiefly, on the front portion of the spike, and an elongated shank 11, which terminates in a tapered lower end 12. The spike is hollow, having a bore 13 extending longitudinally through it, and the bore terminates at its upper end a little back of the head of the spike, as shown at 14 in Fig. 1. A slot 15 extends longitudinally along the back of the spike, the object of the slot being chiefly to enable the spike to be more cheaply made than it otherwise could, and near the center of the spike and extending through its side walls are mortises 16, in which are held the locking-plates 17. The spike is provided with a pair of these locking-plates, and each plate has a widened lower end 18, which is formed into an edge, so that if by

any chance the edge projects when the spike is driven it will pass without much resistance through the wood, and the upper end of the plate is bent outwardly, as shown at 19, and this bent end is also formed into an edge, so that it may be easily driven into the wood. The inner upper corner of each plate is slightly rounded, as shown at 17^a, so that the spreading-wedge will readily enter between and easily force the plates apart.

To spread the locking-plates, a wedge 20 is used, which wedge is adapted to fit snugly in the bore 13, and it is of such a length that when driven home in the bore it will extend between the locking-plates, as shown in Fig. 3, so as to force the upper ends of the plates apart. The wedge has a suitable head with a nose 21 on one side, the object of this being to enable the wedge to be withdrawn when necessary. The spike is used in the same way as an ordinary spike—that is, it is driven into the sleeper so that its head will overlap the flange of the rail. When the spike is driven the locking-plates 17 are in the position shown in Fig. 2, so that they will not project from the mortises 16, and after the spike is driven home the wedge 20 is driven into the bore 13 of the spike, and the lower end of the wedge entering between the locking-plates 17 will force the upper ends of said locking-plates apart, thus causing the bent ends 19 to be buried in the adjacent sleeper, and it will be readily seen that with these ends projecting, as shown in Fig. 3, it will be impossible for the spike to work loose. It will be noticed by reference to Fig. 3 that the wedge extends only to the lower portion of the locking-plates, and consequently its thicker part will not act on said lower portions, and only the upper portions of the plates will be spread.

The spike shown and described is intended, essentially, for a railway-spike; but it is obvious that it may be used for many other purposes with good results. When the spike is to be withdrawn for any reason, the locking-plates are forced outward through the mortises, thus leaving the body of the spike free, and it may then be withdrawn the same as an ordinary spike. To push out these locking-plates, the same mechanism may be employed which is shown in Letters Patent of the United States, No. 431,259, dated July 1, 1890.

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

- 5 1. The combination, with a spike having a longitudinal bore therein and mortises in the side walls of the bore, of locking-plates adapted to rest in the mortises, said plates having their lower ends formed into edges and their upper ends bent outwardly, and a spreading-
10 wedge adapted to enter the bore of the spike and to extend between the upper portions of the locking-plates, substantially as described.
2. The combination, with a spike having a longitudinal bore therein and side mortises

opening through the side walls of the bore, of 15 locking-plates held in said mortises, the locking-plates having their lower ends formed into edges, their upper ends bent outwardly and formed into edges, and their upper corners rounded, and a spreading-wedge adapted to 20 enter the bore and extend between the upper portions of the locking-plates, substantially as described.

SAMUEL EMRICH.

Witnesses:

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CHARLES ADAMS.