(No Model.)

# B. JUNQUERA.

## SPIKE.

No. 450,811. Patented Apr. 21, 1891.

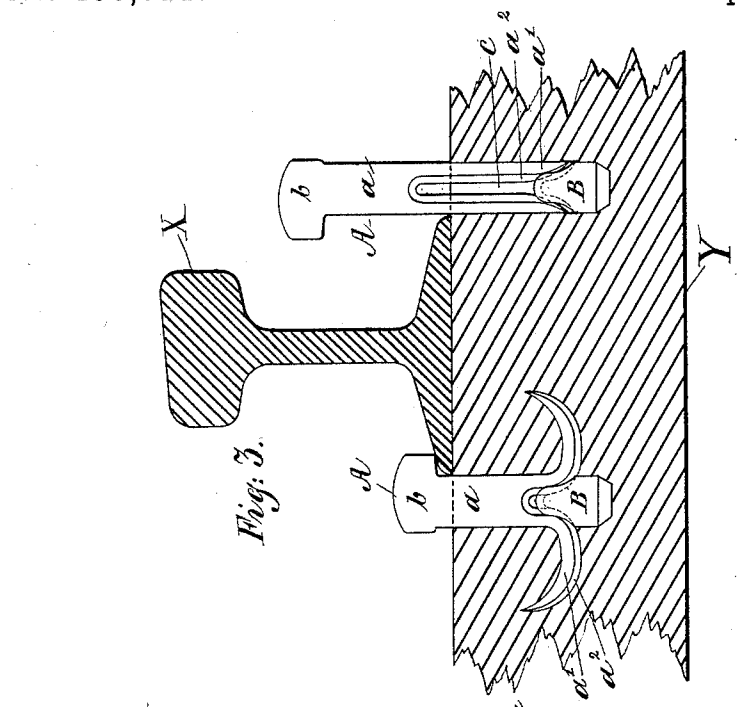



Fig. 3.

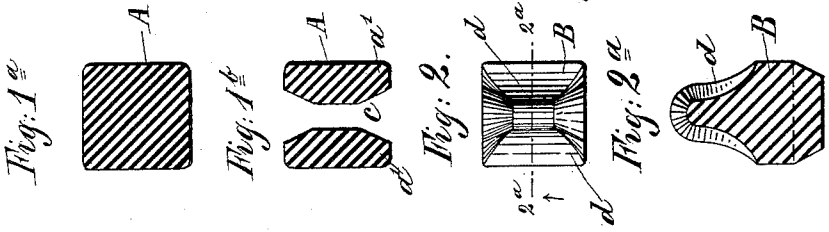



Fig. 1a. Fig. 1b. Fig. 2. Fig. 2a.

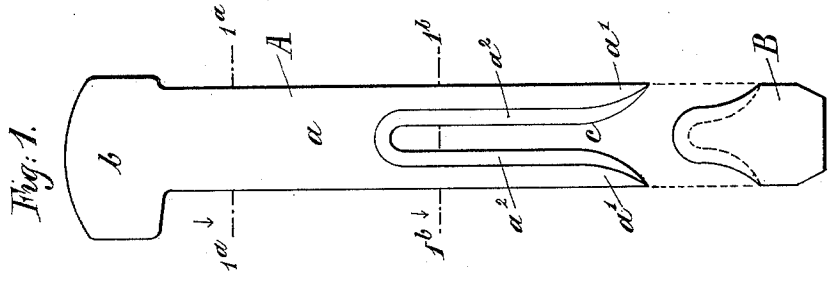



Fig. 1.

INVENTOR:

Buenaventura Junquera,

By Henry Connett

Attorney.

WITNESSES:

J. B. Laplunger

E. W. Stuart

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

# UNITED STATES PATENT OFFICE.

BUENAVENTURA JUNQUERA, OF MIERES, SPAIN.

## SPIKE.

SPECIFICATION forming part of Letters Patent No. 450,811, dated April 21, 1891.

Application filed August 29, 1889. Serial No. 322,390. (No model.) Patented in Spain May 29, 1889, No. 9,632; in France July 16, 1889, No. 199,601; in Belgium July 16, 1889, No. 87,007; in England July 22, 1889, No. 11,657; in Germany August 23, 1889, No. 51,793; in Austria-Hungary August 23, 1889, and in Italy August 26, 1889, No. 26,048.

*To all whom it may concern:*

Be it known that I, BUENAVENTURA JUNQUERA, a subject of the King of Spain, and a resident of Mieres, Asturia, Spain, have invented certain Improvements in Split Spikes, (for which patents have been granted in England, No. 11,657, dated July 22, 1889; in France, No. 199,601, dated July 16, 1889; in Belgium, No. 87,007, dated July 16, 1889; in Italy, No. 26,048, dated August 26, 1889; in Germany, No. 51,793, dated August 23, 1889; in Spain, No. 9,632, dated May 29, 1889, and in Austria-Hungary, dated August 23, 1889,) of which the following is a specification.

My invention relates to that class of spikes in which a portion of the body of the spike is split and a spreader is employed to turn the points of the spike outward when the latter is driven, thereby fixing the spike so firmly in the wood that it will not work loose and come out.

My invention will be fully described hereinafter, and its novel features carefully defined in the claim.

In the accompanying drawings, illustrative of my invention, Figure 1 is a side view of a spike embodying my invention and of the spreader for the same, and Figs. $1^a$ and $1^b$ are transverse sections of the same in the planes indicated, respectively, by the lines $1^a$ $1^a$ and $1^b$ $1^b$ in Fig. 1. Fig. 2 is a plan view of the spreader, and Fig. $2^a$ is a section of the same on line $2^a$ $2^a$ in Fig. 2. Fig. 3 is a view on a smaller scale, illustrating the manner of using my improved spike.

A is the spike as a whole, of which *a* is the body portion and *b* the head. The body portion is divided longitudinally for a considerable portion of its length by a slit *c*, extending in from its point, which slit is of uniform width for the greater part of its length, but becomes gradually wider or flared at the point of the spike. By means of this slit prongs *a'* are formed on the spike, and these prongs are beveled at $a^2$ by chamfering their inner corners.

B is the spreader, which is of the same breadth and thickness as the body of the spike, and has grooves *d* formed in its sides adapted to fit and receive the points of the prongs of the spike, as seen at the right in Fig. 3, which view illustrates the application of my spike in securing a railway track-rail X to a cross-tie Y.

In using my spike I proceed as follows: A hole is bored in the tie or piece Y (for example) about deep enough to house the split portion of the spike and of about the same diameter as the body of the spike. In the bottom of this hole I place the spreader B, and then insert the spike A therein, taking care that the points of the prongs of the spike engage and fit into the grooves *d* in the spreader. The spike and spreader will then present the appearance seen at the right in Fig. 3. The spike is now driven in with a hammer until its head rests upon the rail flange, as seen at the left in Fig. 3. The curved form of the grooves in the spreader serves to deflect the points of the spike outwardly, and as the walls of the hole embrace the spike above the spreader it follows that the said points will be driven outwardly in opposite directions and take the curved form seen at the left in Fig. 3. When the prongs are thus embedded in the wood, it will require considerable force to withdraw the spike, and it will not work loose and come out of itself.

I am fully aware that split spikes to be employed in connection with spreading wedges are very old, and I do not claim these, broadly. I am also aware that a spike having a double body, one slitted or split and the other carrying a spreader, is old, and this I do not claim; but

What I do claim is—

The combination, with the split spike A, having the prongs *a'*, with bevels $a^2$, of the short spreader B, having the same breadth and thickness as the body of the spike and provided with grooves *d* in its sides of the same form and dimensions as the points of the prongs of the spike, whereby when said spreader is dropped into the hole the prongs of the spike will fit into the said grooves, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

B. JUNQUERA.

Witnesses:
EMILE BERT,
R. J. PRESTON.