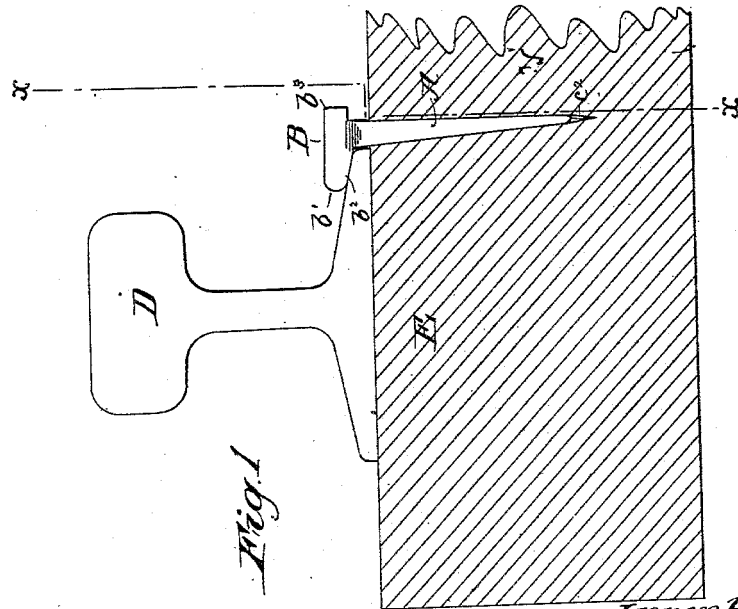
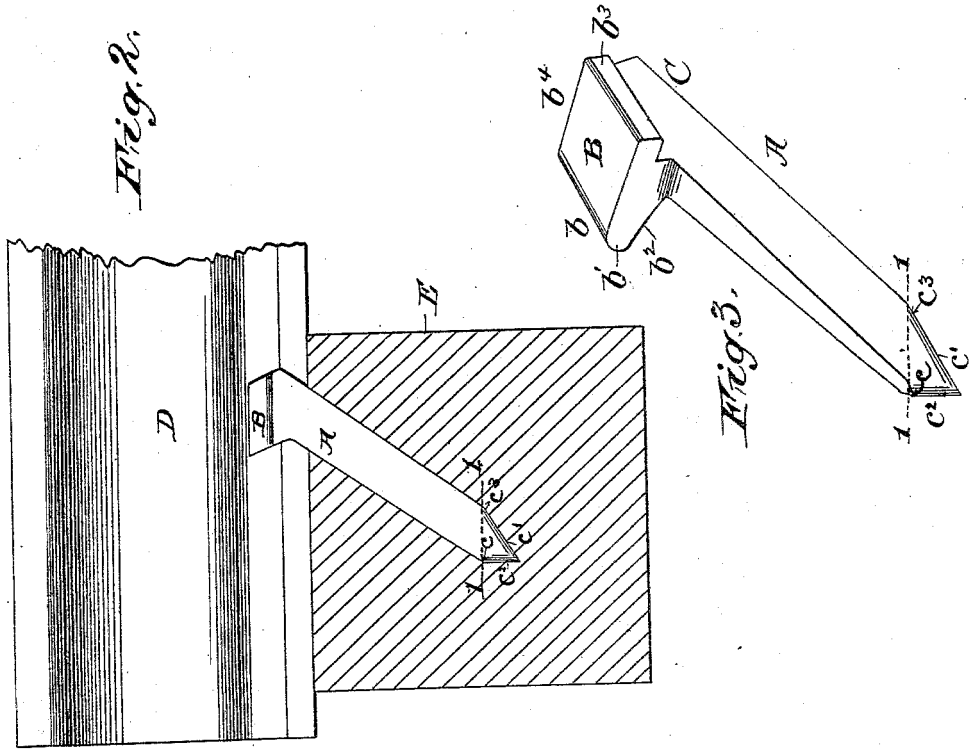


(No Model.)

J. CHURCHWARD.
RAILWAY SPIKE.

No. 425,407.

Patented Apr. 15, 1890.



Witnesses:
W. Benjamin.
G. V. Evans.

Inventor.
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UNITED STATES PATENT OFFICE.

JAMES CHURCHWARD, OF BROOKLYN, NEW YORK, ASSIGNOR TO THE
DUNHAM MANUFACTURING COMPANY, OF MAINE.

RAILWAY-SPIKE.

SPECIFICATION forming part of Letters Patent No. 425,407, dated April 15, 1890.

Application filed December 16, 1889. Serial No. 333,982. (No model.)

To all whom it may concern:

Be it known that I, JAMES CHURCHWARD, a subject of the Queen of Great Britain, and a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Railway-Spikes, of which the following is a full, clear, and exact description.

My invention relates to railway-spikes, and is an improvement upon the device shown and described in United States Letters Patent No. 394,678, granted and issued to Thomas A. Davies on December 18, 1888, said improvement consisting in a novel construction of the foot of the spike, whereby it may be more easily driven to place and hold the rail securely to the cross-tie and be as readily removed whenever occasion requires.

For a clear understanding of the improvement reference is to be had to the accompanying drawings, forming a part of this specification, whereon similar letters of reference designate corresponding parts in all the views.

Figure 1 is an end elevation of a railway-rail in place upon a cross-tie, showing my improved spike applied. Fig. 2 is a side elevation of the same, the tie being shown in section on the line $x x$ of Fig. 1; and Fig. 3 is a perspective view of the spike detached.

The spike A has a head B and a body C disposed at an obtuse angle to each other, substantially as in the case of the spike hereinbefore mentioned. The portion b of the head is rounded at its outer edge, as at b' , and beveled on its under surface, as at b^2 , to correspond approximately with the bevel of the upper face of the flange of the rail D. At the opposite side of the head there is formed a lip b^3 , which is cut away on its under surface in a plane parallel with the upper face of the head, whereby as the spike is driven to place, as shown in Figs. 1 and 2 of the drawings, a space is afforded between the under face of said lip and the upper face of the cross-tie for a purpose hereinafter explained. The body C of the spike is of a gradually decreasing thickness from its head toward its foot, substantially as in the case of the spike previously mentioned; but at a point on said body, designated in Figs. 2 and 3 of the drawings by the dotted line 1 1, which

is parallel with the base-line of the head B, the body of the spike is beveled downwardly at each side, as shown at c^3 , thus producing a "sword-edge" c' , which lies in a plane at an obtuse angle to the base-line of the head B.

The front edge c^2 of the spike-body is cut away from the point c downward on a line lying in a plane at a right angle to the base-line of the head B, and meets the edge c' at an acute angle, the edge c^2 being also beveled outwardly and downwardly to produce a sword-edge.

In use, the spike is placed with its lower end next the flange of the rail, the part b of said head facing the rail-flange, and as the spike is struck upon the point b^4 of its head by a proper tool the two sword-edges act conjointly to cleave the fiber of the cross-tie and guide the spike-body diagonally to place in the tie E until the part b of the head bears firmly on the rail-flange.

Whenever it is found necessary to remove the rail for any reason, the track-man, by applying the usual pry to the spike-head between the tie and the part b^3 of said head, may readily remove the spike from the rail and tie.

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

1. A railway-spike having the lower end of its body formed with a sword-edge lying in a plane at an obtuse angle to the base-line of the head of the spike, substantially as shown and described.

2. A railway-spike having the forward face of the lower end of its body formed with a sword-edge lying in a plane at a right angle to the base-line of the head of the spike, substantially as shown and described.

3. A railway-spike having the lower end of its body formed with two sword-edges, one lying in a plane at an obtuse angle to the base-line of the head of the spike and the other at a right angle to said base-line, said edges meeting at an acute angle, substantially as shown and described.

JAMES CHURCHWARD.

Witnesses:
M. V. CRONIN,
G. P. EVANS.