(No Model.)

J. CHURCHWARD.

SPIKE.

No. 421,386. Patented Feb. 18, 1890.

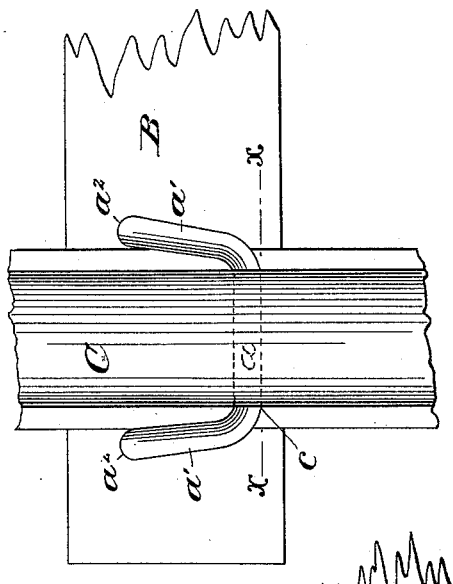

Fig. 4.

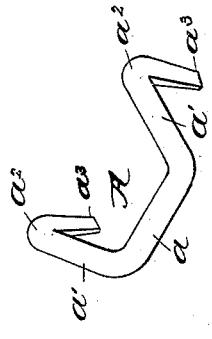

Fig. 1.

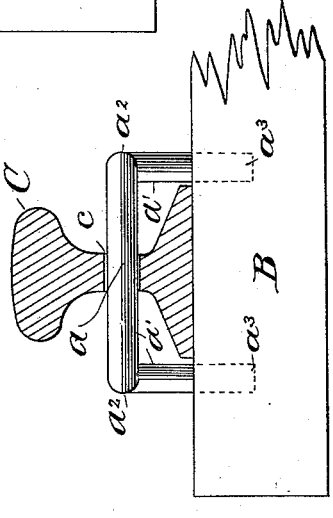

Fig. 3.

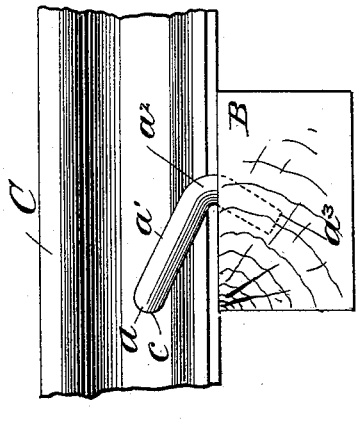

Fig. 2.

Witnesses:
C. W. Benjamin.
A. B. Chabot.

James Churchward
Inventor;
By L. E. Field
his Attorney

UNITED STATES PATENT OFFICE.

JAMES CHURCHWARD, OF BROOKLYN, NEW YORK, ASSIGNOR OF ONE-HALF TO CHARLES F. QUINCY, OF BOSTON, MASSACHUSETTS.

SPIKE.

SPECIFICATION forming part of Letters Patent No. 421,386, dated February 18, 1890.

Application filed December 3, 1889. Serial No. 332,475. (No model.)

To all whom it may concern:

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

This invention relates to spikes for railway-rails, and has for its object the provision of a light, strong, and durable spike composed of a single piece of metal, whereby the rails may be firmly secured to the sleepers and prevented from "creeping."

For a clear understanding of the invention recourse may be had to the drawings forming a part hereof, wherein—

Figure 1 is a perspective view of the spike detached. Fig. 2 is a partial side elevation of a rail and an end view of a sleeper, showing the spike applied. Fig. 3 is a transverse section of the rail, taken on the line x x in Fig. 4, showing the spike applied; and Fig. 4 is a partial plan view of a rail and sleeper, showing the spike applied.

Similar letters of reference denote corresponding parts in all the views.

The spike A is constructed of a single piece of steel, iron, or any other suitable metal; and it consists of a top member a and diverging side members a' integral with the top member, said side members at a point a^2 between their lower ends and their junction with the top member being bent at an obtuse angle, said bent portions being in the same vertical plane with the straight portion of said members a', and the extremities a^3 of said bent portions are sharpened in any proper manner, as by beveling their upper and lower faces, as shown best in Fig. 1, to adapt them to readily enter the sleeper B.

The rail C is of the usual type of T-rail, although it may have any other preferred form, and is provided in its web between its head and foot with transverse apertures c, one only of said apertures being shown in the drawings, to allow of the passage of the spike through the rail and to hold its member a in place in the rail. In use one of the side members a' of the spike is passed into and through the aperture in the rail until the member a rests transversely in the rail with its side members at an equal distance from the sides of the web of the rail, and its extremities a^3 rest on the sleeper. By alternately striking the spike at the points a^2 of its side members a few smart blows with a sledge or hammer the spike ends a^3 are driven into the sleeper at an angle thereto and firmly hold the rail to the sleeper.

As many apertures c as are deemed desirable may be formed in the web of the rail and the spikes inserted therein and driven home, as above specified. The spikes are preferably so set in the sleepers that their pointed ends enter the sleepers at an inclination in the direction of the line of travel on the rails, thereby acting to resist any tendency of the rails to "creep" in that direction. The spikes may, however, if considered advisable, be set alternately in the rail and sleepers—that is, with the pointed ends of one spike set at an angle in the direction of the line of travel and those of the next spike at an angle away from such direction.

It will be seen that by my invention I provide a light, strong, and durable spike which binds the rail firmly to the sleeper, and as it enters the same at an angle it is not liable to become loosened and displaced by the pounding of the cars upon the rail, as is the case with the ordinary straight spike applied to the flange or foot of the rail, and that as the spike has two parallel members they re-enforce each other and through the transverse member give a stability to the rail not attained by the use of a straight spike.

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

A railway-spike constructed of a single piece of metal, consisting of a top member and diverging side members integral with the top member, said side members being bent at an obtuse angle between their lower ends and their junction with the top member, substantially as shown and described.

J. CHURCHWARD.

Witnesses:
A. B. CHOBOT,
G. V. EVANS.