(No Model.)

# W. H. BAILEY.

## SPIKE.

No. 285,373. Patented Sept. 25, 1883.

Fig. 1.

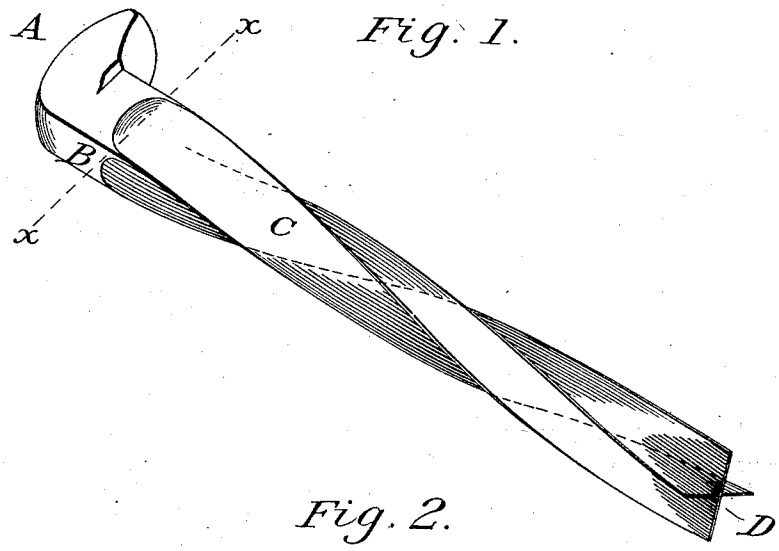



Fig. 2.

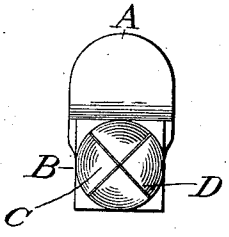
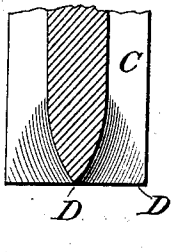



Fig. 3.




Witnesses:

H. A. Toulmin

F. R. Gantt.

Inventor:

William H. Bailey.

C. M. Alexander,

Atty.

N. PETERS. Photo-Lithographer. Washington, D. C.

# UNITED STATES PATENT OFFICE.

WILLIAM H. BAILEY, OF MINNEAPOLIS, MINNESOTA.

## SPIKE.

SPECIFICATION forming part of Letters Patent No. 285,373, dated September 25, 1883.

Application filed February 26, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. BAILEY, of Minneapolis, in the county of Hennepin, and in the State of Minnesota, have invented certain new and useful Improvements in Spikes; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

This invention relates to certain new and useful improvements in spikes and analogous articles, without regard to their longitudinal or diametrical dimensions, the same being specially designed for holding railroad-rails securely and firmly down to the railway-bed or the cross-ties on which the rails are laid. It is observable that my improved spikes may be used for any other purposes to which they are applicable, whether such purposes relate to railroads or to any of the common uses of spikes. They consist of a head of any desirable configuration, a straight shank, (preferably of rectangular form in cross-section,) a twisted or helically-formed body, and a flat or abrupt end having its face at right angles to the longitudinal axis of the spike, as more fully hereinafter specified. They are specially intended as an improvement on the spike for which Letters Patent were granted to me August 8, 1882, numbered 269,344, the particular feature of improvement consisting in the peculiar formation of the entering end, as will more fully hereinafter appear.

My invention has for its object to provide spikes or other similar devices which shall embody in them the minimum or least possible amount of material, and which shall be capable of withstanding the maximum or greatest amount of strain without liability of withdrawal.

In the accompanying drawings, forming a part of this specification, and on which like letters of reference indicate corresponding parts, Figure 1 represents a perspective view of my improved spike; Fig. 2, a plan view thereof, looking down upon the entering end; and Fig. 3, a vertical sectional view of the same, the upper portion being broken off.

The letter A designates the head of the spike, the same being of the ordinary or of any approved form, and the letter B the shank thereof, the same being preferably of rectangular form, and extending from the head to the dotted line *x x*. In some instances I contemplate using any form of shank which may be found best adapted to the purposes of my invention. This portion of the spike agrees in configuration and dimensions with the bar from which it is produced. Beginning where the shank terminates or leaves off, the stock is given a twist equal to about half a revolution, thus carrying each of the angular corners or edges through an arc of one hundred and eighty degrees, the effect of which is to form a spiral or helical body, the spaces between each respective two of the spiral edges being of concaved form, this metal *c* constituting the body of the spike. The stock terminates abruptly, leaving the entering end flat or at right angles to the longitudinal axis of the spike. The termini of the spiral edges are tapered or beveled from their respective opposite sides to a sharp edge, D, and the concave body metal *c*, between the said edges, is also beveled or tapered longitudinally toward its center, as seen in Figs. 4 and 5, the object of which is to provide the spike with a proper entering end. The diameter of the spike, measuring from the diametrical spiral edges, is equal, or approximately so, from end to end, save a slight taper, which is given the edges near their lower termini.

The manner of using my spike is substantially that described in my patent above alluded to, and consists in placing it in such relative position to the thing to be secured that its head will be in proper position after it shall have been driven home, the spike receiving a partial rotation as it proceeds into the wood.

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

1. A spike consisting of a head, a shank below the head, and a spirally-twisted and longitudinally-concave body, the body, including its spiral flanges, being tapered near the lower end, the flanges from opposite sides respect-

ively, and the body proper toward its center, whereby the end is formed, substantially as described.

2. A spike consisting of a head, a shank below the head, and a spirally-twisted body, the spiral flanges of the body and the body itself being tapered near the end, the flanges from their respective opposite sides, and the body proper from all sides toward the center, whereby an entering end is formed, substantially as described.

3. A spike consisting of a head, a shank below the head, of rectangular form in cross-section, a spirally-twisted and longitudinally-concaved body, the spiral flanges of the body and the body itself being tapered near the end, the flanges from their respective opposite sides, and the body proper from all sides toward the center, whereby an entering end is formed, substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses, this 26th day of February, 1883.

WILLIAM H. BAILEY.

Witnesses:

CHAS. D. DAVIS,

J. J. MCCARTHY.