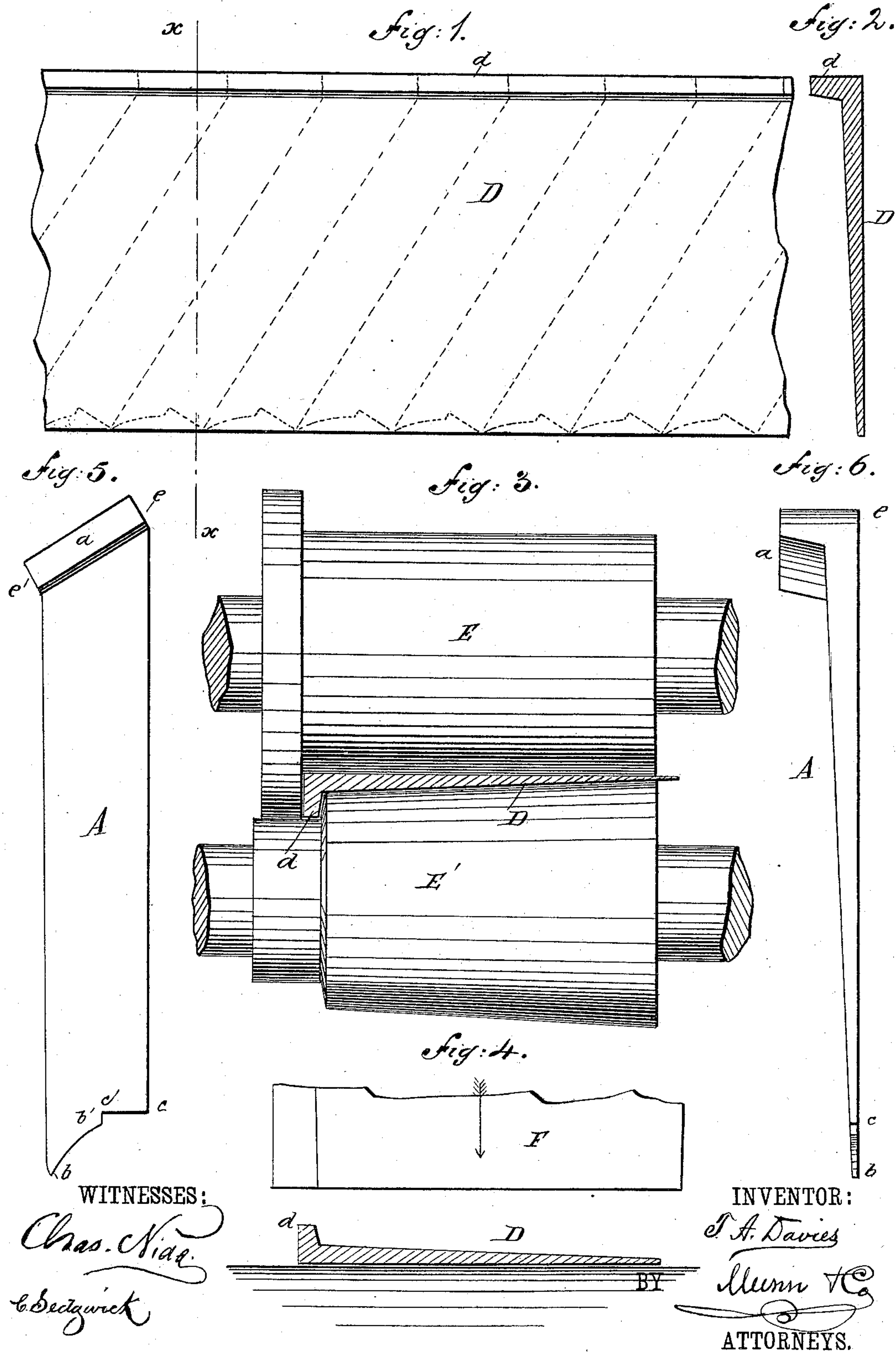


T. A. DAVIES.

RAILWAY SPIKE AND METHOD OF MAKING THE SAME.

No. 368,818.

Patented Aug. 23, 1887.



(No Model.)

2 Sheets—Sheet 2.

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Fig. 8.

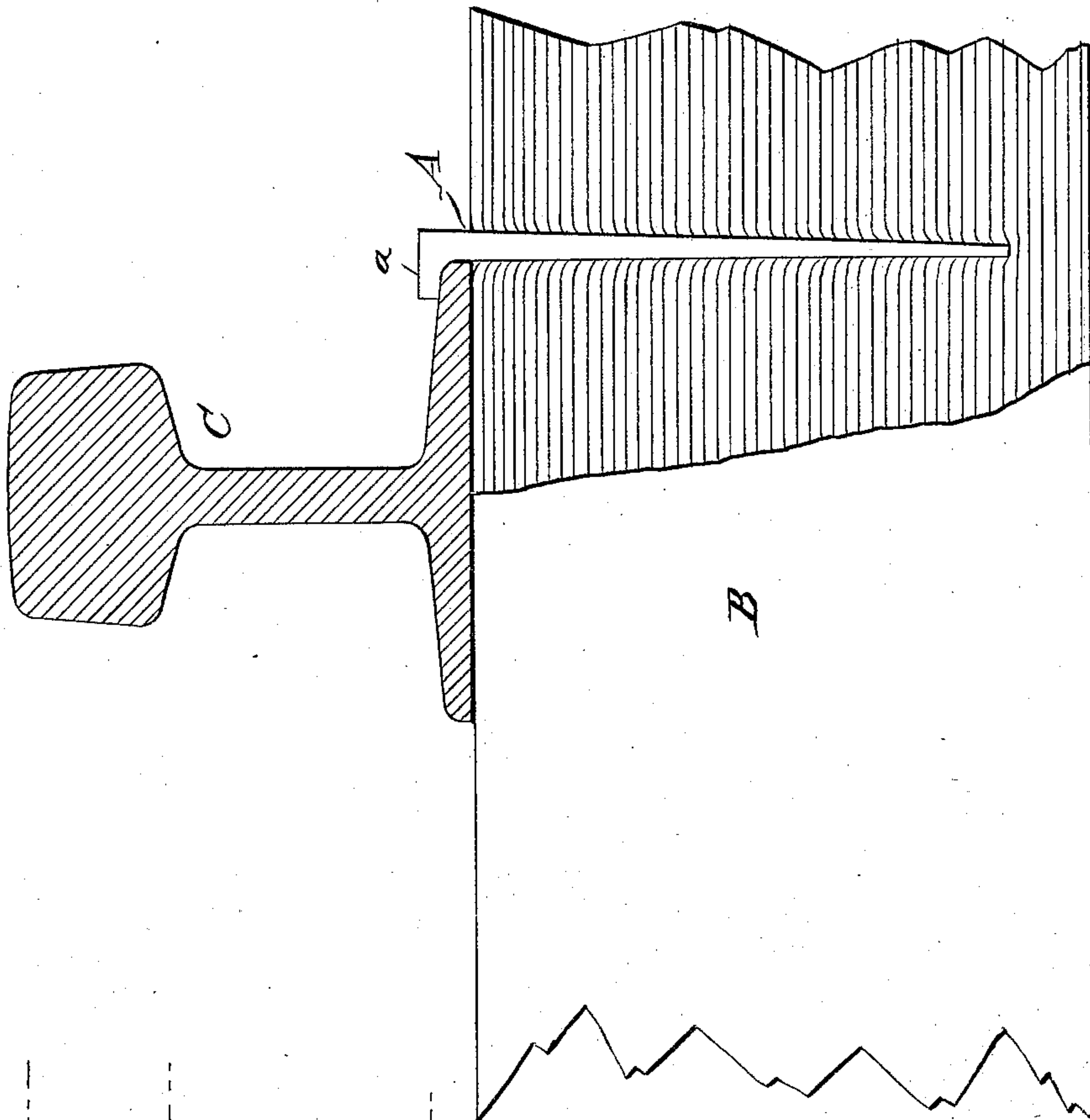
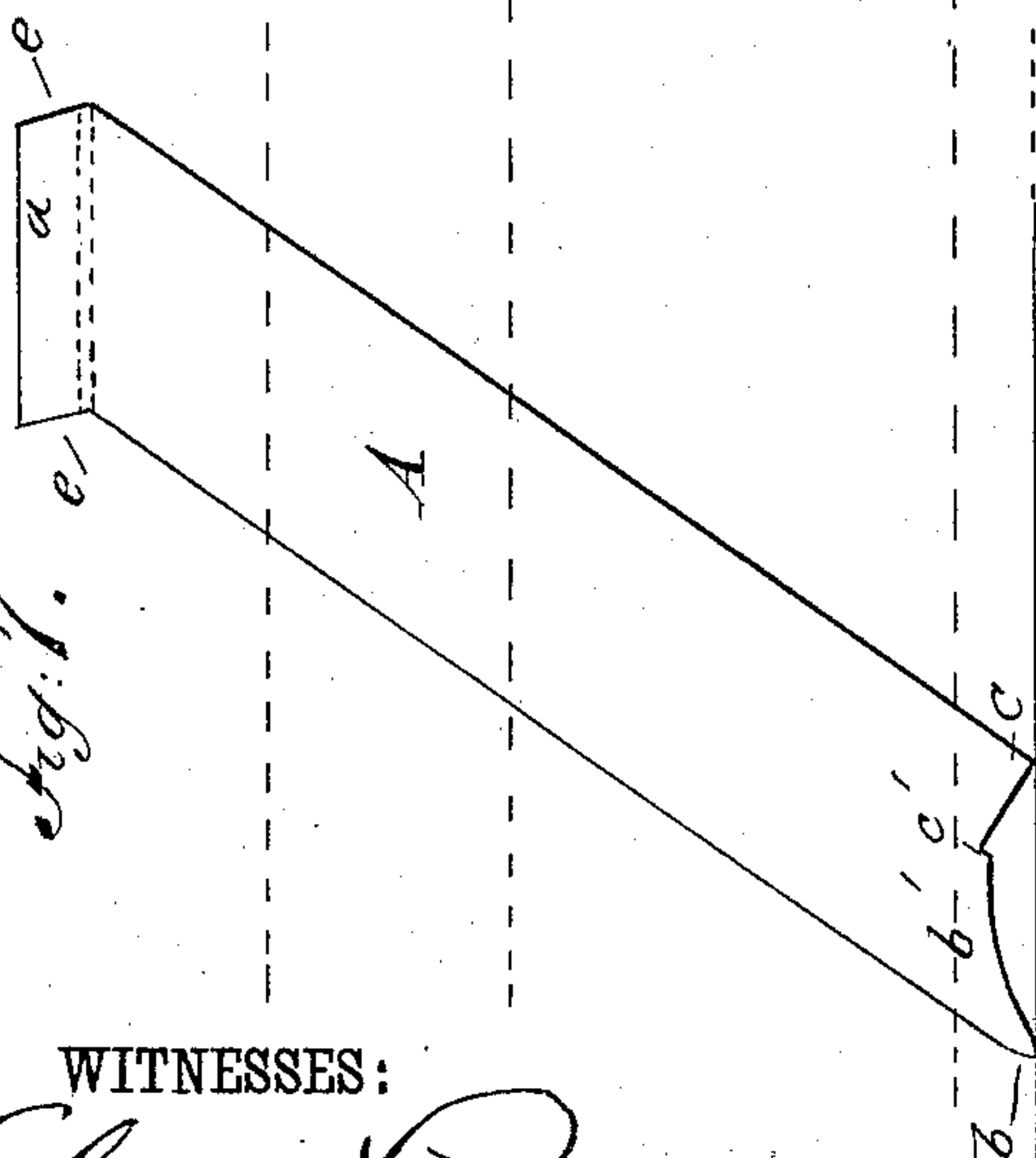


Fig. 7.



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UNITED STATES PATENT OFFICE.

THOMAS A. DAVIES, OF NEW YORK, N. Y.

RAILWAY-SPIKE AND METHOD OF MAKING THE SAME.

SPECIFICATION forming part of Letters Patent No. 368,818, dated August 23, 1887.

Application filed June 24, 1887. Serial No. 242,389. (No model.)

To all whom it may concern:

Be it known that I, THOMAS A. DAVIES, of the city, county, and State of New York, have invented a new and useful Improvement in Railway-Spikes and Method of Making the Same, of which the following is a full, clear, and exact description.

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

Figure 1 is a plan view of a metal blank tapered and flanged and from which my new and improved spikes are cut, the line of the cuts being indicated by dotted lines. Fig. 2 is a transverse sectional view of the blank, taken on the line xx of Fig. 1. Fig. 3 shows the form of rollers employed for shaping the blank. Fig. 4 illustrates the die for cutting the blank to form the spikes. Fig. 5 is a front elevation of the completed spike. Fig. 6 is an edge view of the same. Fig. 7 illustrates the method of starting the spike into the tie; and Fig. 8 is a sectional elevation of the tie and rail, illustrating the compression of the fibers of the wood next to the driven spike.

My new and improved spike, A, is made in plate form. It constitutes a diagonal plate spike made tapering from the point or lower end up to the head a , which projects to one side of the spike only, and is formed at an angle to the side edges of the spike—that is, the line of the length of the head forms obtuse angles with the lines of the side edges of the spike. The object of this diagonal arrangement of the head of the spike is, that the spike may be driven into the cross-tie B at an angle, as indicated in Fig. 7, and the head a , when driven home, will rest flat upon the flange of the rail C, as indicated in Fig. 8.

The lower end of the spike is formed with two points, b c , which facilitate the starting of the spike in driving, and the point c is shorter than the point b , so that these points determine the exact pitch at which the spike should be started into the tie to always cause the head a to properly meet the flange of the rail. Between the points b c the edge of the spike is curved upward, as shown at b' , and formed with the notch c' , which facilitates the penetration of the spike into the wood.

In making the spikes I first roll a plate or blank, D, of metal between two rollers, E E', shaped to taper the plate and to form a flange, d , at one of its edges, as shown clearly in Figs. 1, 2, and 3. I then place this blank thus formed in a die or beneath a drop-knife, F, shaped to cut the blank diagonally from edge to edge, as indicated in dotted lines in Fig. 1. In this manner the spikes may be formed very rapidly and very cheaply. One edge of the knife is shaped to cut the flange d at an angle, thus forming the shoulder e at the top, which forms the head for driving the spike, and forms, also, the angle e' , which constitutes a lip for withdrawing the spike. The spikes, after being severed from the plate or blank D, are placed in a drop-die and the ends cut to form the points and curves b c b' c' ; or the blank may be properly shaped at its edge to form said curves and points for each spike before the plate is delivered to the knife F; or the knife F may be shaped to cut the spike from the blank and shape it at both ends, all at one operation. The rolled plates D can be cut square across or at any angle to make spikes of different forms and possessing different qualities.

It will be observed that the spike is formed to present a continuous general taper, the converging surfaces of which are parallel with the length of the rail. In driving the spike the fibers of the wood are first depressed and then cut, and the severed fibers continually forced apart as the driving continues, so that each fiber of wood through which the spike passes, being thus continuously compressed, reacts upon the surfaces of the spike and holds it with great firmness in the tie.

The diagonal head of the spike embodies the principle of my patent dated November 17, 1885, No. 330,567.

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

1. As a new article of manufacture, a plate spike with a general taper for its entire length and formed with a diagonal head, a , substantially as described.

2. The method herein described of forming spikes, which consists in first forming a tapering plate, D, with a flange at one edge, and then cutting the blank into narrow strips diagonally

across the blank from edge to edge, substantially as described.

3. The spike A, formed with a diagonal head, *a*, having the opposite ends, *ee'*, cut at an angle,
5 substantially as described.

4. The spike A, formed with points *b c* at its lower end and with the diagonal head *a*, substantially as described.

5. The spike A, formed with the points *b c*, curve *b'*, and notch *c'* at its lower end, substantially as described. 10

THOMAS A. DAVIES.

Witnesses:

H. A. WEST,
C. SEDGWICK.