

(No Model.)

P. H. DUDLEY.
RAILWAY SPIKE.

No. 362,208.

Patented May 3, 1887.

Fig. 1.

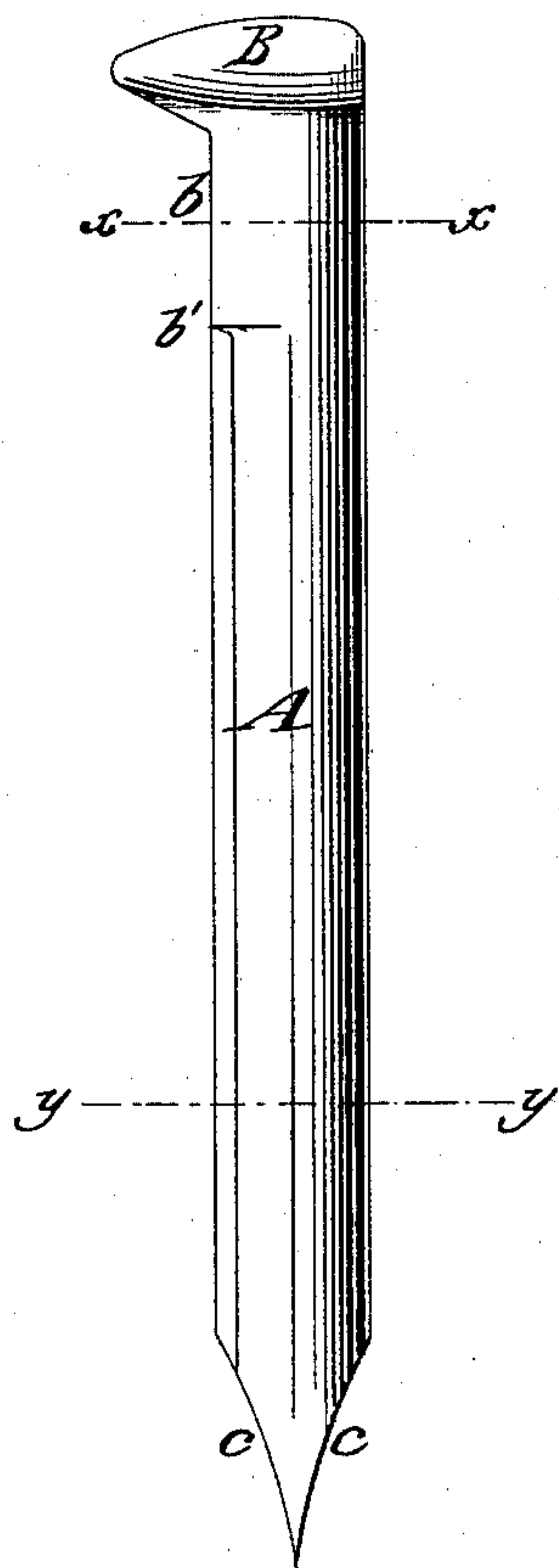


Fig. 2.

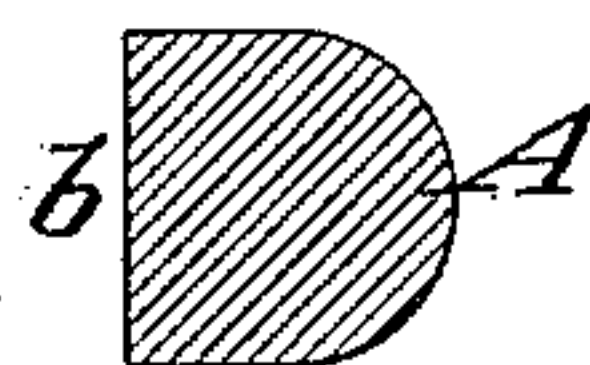


Fig. 3.

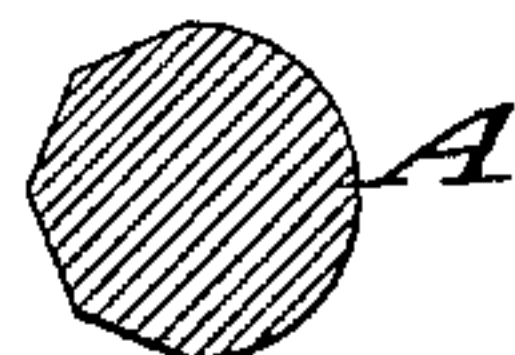
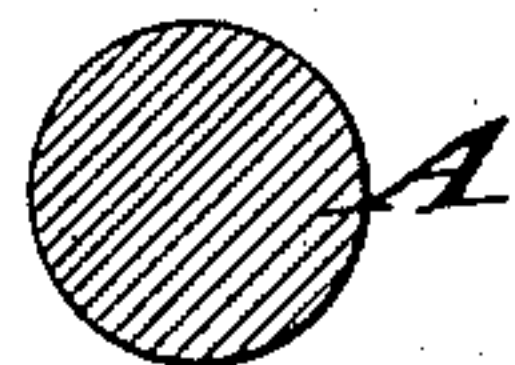


Fig. 4.



Witnesses.
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PLIMMON H. DUDLEY, OF NEW YORK, N. Y.

RAILWAY-SPIKE.

SPECIFICATION forming part of Letters Patent No. 362,208, dated May 3, 1887.

Application filed December 23, 1886. Serial No. 222,374. (No model.)

To all whom it may concern:

Be it known that I, PLIMMON H. DUDLEY, of the city and county of New York, in the State of New York, have invented a new and
5 useful Improvement in Railway-Spikes, of which the following is a specification.

When railway-spikes of the ordinary rectangular transverse section are driven into solid wood the fibers of the wood are distorted and
10 injured to an extent which greatly lessens the adhesion or hold of the spike in the wood, and increases the liability of the wood to decay.

By experiment I have found that by boring holes in the ties and using a spike of peculiar form the rails will be more securely held
15 in place than heretofore, and that the liability of the wood to early decay around the spike will be greatly reduced.

The invention consists in a railway-spike
20 having a body of substantially circular or round transverse section throughout nearly its entire length, the back of the spike being semicircular or half-round clear to the head, but having immediately below the head a flattened
25 or flat front surface for bearing against the rail-flange. I also preferably form the wedge-shaped point of the spike with its faces concaved lengthwise of the spike or formed with the curve of least resistance, as the spike may
30 then be more easily driven.

In the accompanying drawings, Figure 1 is an elevation of a spike embodying my invention. Fig. 2 is a transverse section on the line *x x*, Fig. 1. Fig. 3 is a similar section on the line *y y*, Fig. 1, and Fig. 4 is a similar section illustrating a slight modification of my invention.

Similar letters of reference designate corresponding parts in all the figures.

40 A designates the body and B the head of the spike, which is, as usual, adapted to overlap the rail-flange.

In all cases the body A will be substantially circular or round in transverse section throughout the principal front portion of its length, excepting in the portion immediately below the head B, where the body is flattened or flat, as shown at *b*, in order to give the spike a broad bearing against the edge of the rail-flange. The length of such flattened or flat
50 bearing-surface *b* may be from three-fourths

of an inch to one inch, or thereabout, and below the point *b'* the body is truly or substantially round or circular.

The body of the spike at the back is substantially half-round or semicircular from the head to the point. 55

In Figs. 1 and 3 I have represented the front of the body as polygonal throughout half of its circumference, such portion being shown as of octagonal form. I may, however, make the entire body from the point *b'* downward of truly circular form, as shown in Fig. 4, and, even if it be polygonal, the polygon will be of such a number of sides as will give the body a
65 substantially circular or round form, as distinguished from the ordinary square or rectangular spike. In other words, I always make the body of such form as will cause it to fill a bored hole into which the spike is driven, and
70 to produce a substantially uniform degree of adhesion of the wood upon the spike around its entire circumference.

Instead of making the faces *c c*, which constitute the wedge-shaped point of the spike, flat
75 or straight longitudinally or slightly convex, as is usual, I make such surfaces concave longitudinally or lengthwise of the spike, and thereby enable the spike to more readily enter the wood. 80

When a spike of the form described is driven into a previously-formed hole bored slightly smaller than the spike, the hole will be completely filled and water will be prevented from entering. I may, in order to preserve the
85 wood, fill or partly fill the hole with paint or chemicals before driving the spike, as described in my pending application No. 222,375, filed of even date herewith.

It is important to make the back of the spike
90 substantially semicircular or half-round clear to the head, because there are then no corners which break down the wood at the back or outer side of the spike-hole and admit water, which hastens decay. The corners at the front side
95 of the spike are unavoidable, because of the flat surface *b*; but such corners are covered by the flange of the rail, and I dispense with any corners at the back of the spike which will break down the wood and admit water. 100

I am aware that a chisel-pointed spike is not new, but believe that heretofore all such

spikes have had the faces of their points flat and true converging planes. The faces of my spike-point are concave lengthwise of the spike, and therefore the point more readily enters the wood.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The railway-spike herein described, having a body of substantially circular or round transverse section throughout nearly the entire length, the back of the spike being semi-circular or half-round clear to the head but having immediately below the head a flattened or flat front surface, *b*, for bearing against the rail-flange, substantially as herein set forth.

2. The railway-spike herein described, having a flat front surface, *b*, below the head and substantially circular or round in transverse section throughout the remainder of its length, the back of the spike being substantially semi-circular or half-round clear to the head and having the faces *c* of its wedge-shaped point concave in a direction lengthwise of the spike, substantially as herein set forth.

P. H. DUDLEY.

Witnesses:

C. HALL,
FREDK. HAYNES.