

(No Model.)

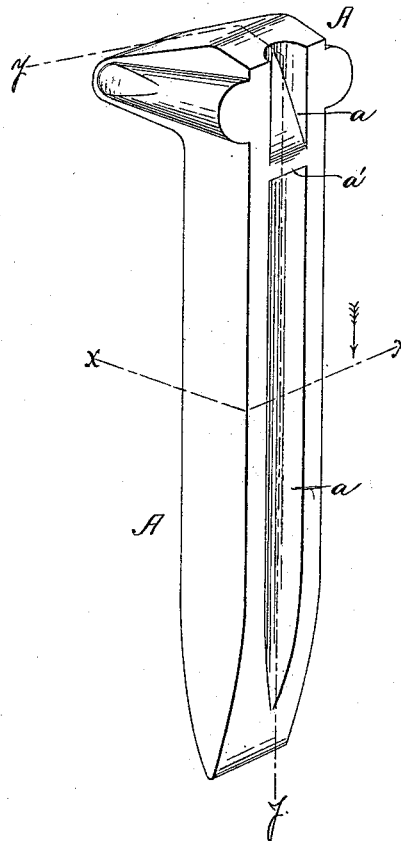
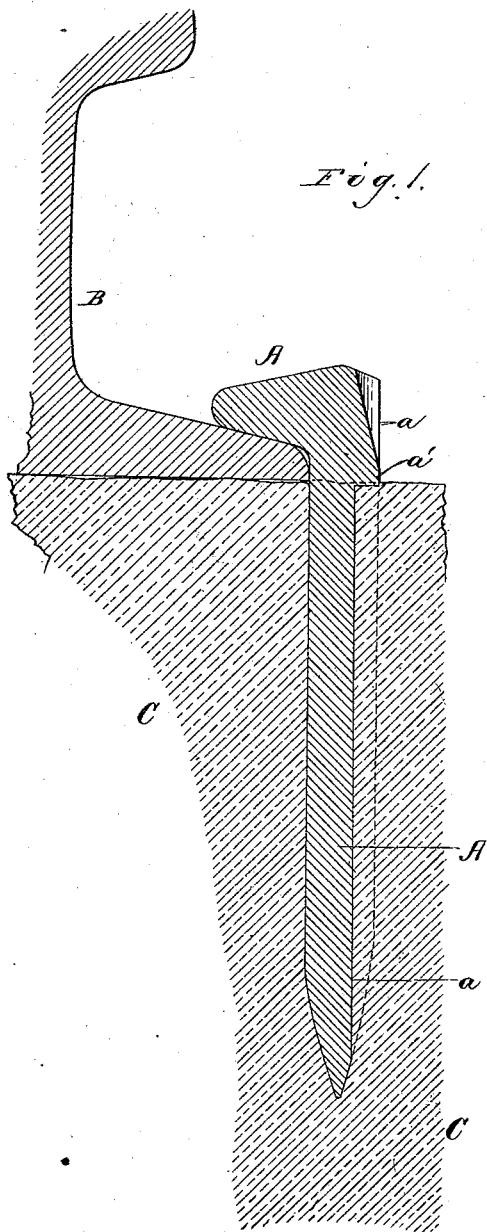
H. W. FOWLER.

RAILROAD SPIKE.

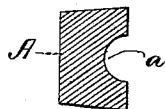
No. 345,628.

Patented July 13, 1886.

*Fig. 2.*



*Fig. 3.*



Witnesses.  
Henry Faust  
Joseph Grove

Inventor.  
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# UNITED STATES PATENT OFFICE.

HERVEY W. FOWLER, OF CHICAGO, ILLINOIS.

## RAILROAD-SPIKE.

SPECIFICATION forming part of Letters Patent No. 345,628, dated July 13, 1886.

Application filed September 18, 1885. Serial No. 177,510. (No model.)

*To all whom it may concern:*

Be it known that I, HERVEY W. FOWLER, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful  
5 Improvements in Rail-Spikes; and I do hereby declare that the following specification, taken in connection with the drawings furnished and forming a part of the same, is a clear, true, and complete description of my invention.

10 My improved spikes are preferably manufactured under certain Letters Patent issued to me May 17, 1881, No. 241,641, and May 5, 1885, No. 317,330; but other methods and mechanism may be employed in their production, because it is immaterial in what way the  
15 novel features of my improved spikes are produced.

The objects of my present invention are to provide a rail-spike of such a form that when  
20 driven in the wooden sleeper it will oppose to the crowding thrust of the rail greater bearing-surface than is offered by spikes now in general use; also, to reduce the liability of blooming or tearing the ties; to economize in  
25 metal without impairing the effective strength of the spike, and also to materially protect certain portions of the tie and reduce its liability to decay at the rear of and below the neck of the spike.

30 My spikes have, as heretofore, a groove at the rear side of the shank; but, as a novel feature, said groove terminates at its top at an abrupt lateral web, cap, or shoulder, which rests on the tie when the spike is driven, as in use,  
35 and above said web the head of the spike is grooved and inclined so as to lead water away from that portion of the tie which occupies the groove below said web, thus materially obviating decay of the tie where it is specially liable to occur. Such decay obviously permits  
40 the backward deflection of a spike and a consequent loosening of a rail.

Another novel feature is involved in the form of the shank, which, instead of being  
45 rectangular in cross-section, as heretofore, is broader at its back than at its front, and its sides are narrower than the front face, thus affording a light, strong shank which can be driven with little liability of tearing or blooming  
50 a tie, and which when driven is capable of successfully resisting the well-known tendency to rearward deflection, notwithstanding the

light weight of metal embodied therein. A spike with a shank thus formed, especially when grooved at its back, more successfully  
55 resists twisting strains and the well-known tendency of the head to turn away from the foot of a rail than any other form of spike known to me.

To more particularly describe my invention, 60 I will refer to the accompanying drawings.

Figure 1 is a vertical side sectional view of my improved spike cut through its center at line *yy* of Fig. 2, which also shows its position relative to the wooden sleeper and the  
65 rail, as when properly driven. Fig. 2 is a perspective view of said spike. Fig. 3 is a cross-sectional view of shaft of same at line *xx* of Fig. 2.

The spike A has at the rear side of its shank 70 the longitudinal groove *a*, as heretofore; but the novel feature in this connection is the abrupt shoulder or web *a'*, having an inclined upper surface formed by a recess or inclined groove in the head of the spike, as clearly  
75 shown. When the spike is driven to clamp the foot of a rail, B, upon a tie, C, said web or cap operates as an abutting shoulder and rests upon the upper surface of the tie and protects the underlying portion thereof from the weather, 80 and the inclined roof of the web leads water away from the splined portion of the tie which occupies said groove *a*, thus materially protecting it from decay. No prior grooved spike known to me has been constructed with special  
85 reference to thus protecting the splined portion of the tie; but in all of them, adjacent to the groove at the neck of the spike, there have been one or more cavities or pockets in which dirt and moisture could collect at the  
90 surface of the tie, thus tending to speedy decay and a consequent loosening of the spike. This portion of my improvement is obviously not dependent upon any particular form or construction of other portions of the shank, 95 which, as here shown, is novel, in that it has a back broader than its face or front and sides narrower than its face. This feature of peculiar sectional area and the relative proportions of width in the back, front, and sides of the  
100 shank, coupled with the groove, involves not only economy in metal, but also durability and effective service.

Rail-spikes as ordinarily made have square

or equal-sided shanks. Reducing the width of the sides and increasing the width of the back and the front, as well as widening the back as compared to the front, affords greater abutting resistance against rearward deflection than a square-shank spike of the same weight, and at the front side of the spike there is afforded a greater area of contact of the spike with the clamped edge of a rail, thus, as compared with the ordinary spike, increasing its capacity to resist the loosening effects due to the abrasion therewith of the rail. The abrupt shouldered groove at the back of the spike having a shank thus proportioned and specially formed contributes largely to desirable results, not only for preventing rearward deflection, but also obviating rotative displacement, thus keeping the broad front face of the shank squarely in contact with the foot of the rail.

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

1. A rail-spike having a groove in the back

of its shank and a lateral web or cap at the neck of the spike abruptly terminating said groove, and having an inclined upper surface, substantially as shown and described, whereby when said spike is driven into a tie, as in use, said web or cap will rest on the surface of the tie and protect that part of the tie which occupies said groove against the entrance of water and the consequent decay incident to the accumulation of dirt and moisture on said tie adjacent to said groove.

2. A rail-spike having a shank which is broader at its back than at its face or front, and sides which are narrower than its face, and also a longitudinal groove in the back terminating at an abutting shoulder for resting on the surface of a tie when driven therein, substantially as described.

HERVEY W. FOWLER.

Witnesses:

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