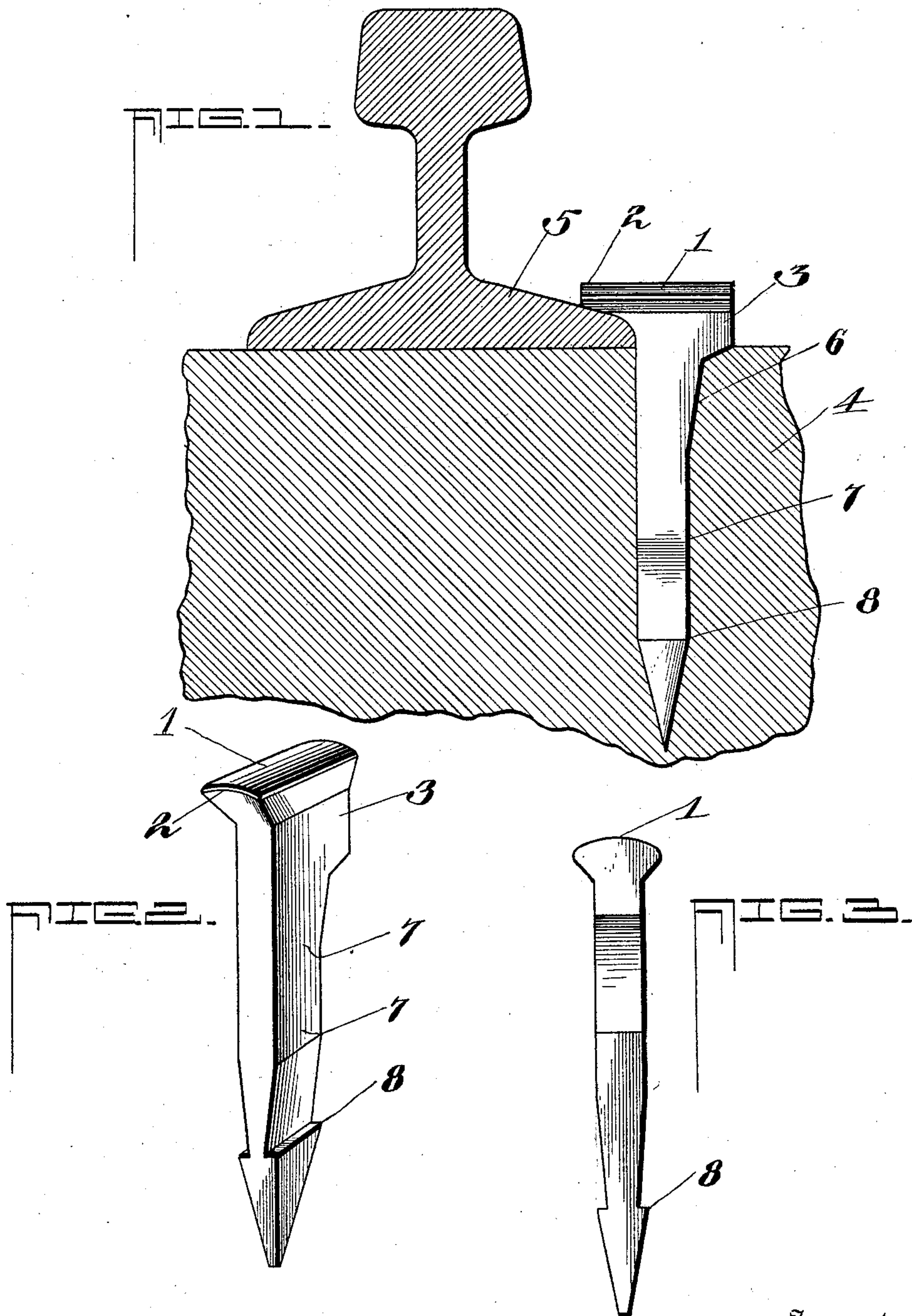


(No Model.)

J. H. MALVEN.
RAILROAD SPIKE.

No. 605,790.

Patented June 14, 1898.



Witnesses
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UNITED STATES PATENT OFFICE.

JAMES H. MALVEN, OF ARKANSAS JUNCTION, COLORADO.

RAILROAD-SPIKE.

SPECIFICATION forming part of Letters Patent No. 605,790, dated June 14, 1898.

Application filed March 19, 1897. Serial No. 628,254. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. MALVEN, a citizen of the United States, residing at Arkansas Junction, in the county of Lake and State of Colorado, have invented certain new and useful Improvements in Railroad-Spikes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to certain new and useful improvements in railroad-spikes, the object of the same being to improve upon the ordinary form of spike now in use in such a way that the track will be held to gage and the rails will be prevented from separating.

A further object of the invention is to provide means for preventing the bending of the upper ends of the rails and the accidental separation of the rails from the ties.

With these and other objects in view, therefore, the invention consists of a spike having a head with a side flange thereon, a shoulder located just beneath said head on the edge opposite said flange, having an angularly-arranged flat surface, a shank which is rectangular in cross-section throughout its entire length and with an angularly-arranged reinforcing portion extending entirely across said shank having a flat surface and located just beneath said shoulder, and an arrow-shaped lower end formed by triangular converging faces which terminate in a point and separated from the shank of the spike by heads formed by angularly-arranged notches extending entirely across said shank, the outer edges of said shoulder lying in the same plane with the sides of the shank.

In the drawings forming a part of this specification, Figure 1 represents a sectional view through a tie and rail with my spike shown in position thereon. Fig. 2 is a detail perspective view of the spike. Fig. 3 is an edge view of the same.

Like reference-numerals indicate like parts in the different views.

My improved spike is formed with a head 1 at the upper end thereof, which has a flange or projecting portion 2 on one side of the spike, as clearly shown. On the edge of the spike opposite the flange 2 is formed a shoulder 3,

which when the spike is in place lies in close contact with or projects below the upper surface of the tie 4, with the flange 2 engaging the base of the rail 5, as clearly shown in Fig. 1 of the drawings. The shoulder 3 extends entirely across the spike and the surface thereof lies at an oblique angle to the side of the head 1. Just beneath the shoulder 3 is a reinforced portion 6, which has an angularly-arranged outer face which leads down to the main portion of the shank 7 of the spike, which is preferably rectangular in cross-section. The extreme lower end of the spike is wedge-shaped and is formed with shoulders 8 8, as clearly shown, formed by oppositely-disposed angularly-arranged slots or notches which extend entirely across the sides of the spike. The outer edges of the shoulders 8 lie in the same plane with the upper part of the shank 7, that part of the shank just above said shoulders being slightly tapering, as clearly shown in Figs. 2 and 3 of the drawings. The outer surfaces of the wedge-shaped lower ends of the spike are triangular in form, slightly converge one toward the other, and terminate in a sharp point, as clearly shown.

In applying my improved spike the same is driven into the tie 4 in the usual manner. As the same passes downwardly the angularly-arranged face of the reinforced portion 6 engages the material of the tie and forces the flange 3 on the head 2 inwardly into close contact with the base of the rail 5. The shoulder 3 abuts against or extends below the upper surface of the tie 4 and prevents the lateral displacement of the spike or the bending of the upper end thereof. The said reinforced portion 6 also serves to prevent the bending of the spike. The lower pointed, wedge-shaped, or arrow-shaped end serves to permit of the ready driving of the spike and the shoulders 8 8 act as a lock to prevent the accidental removal thereof.

When the spike is seated, as shown in Fig. 1 of the drawings, it will be observed that the inner side thereof, adjacent to the flange 2 of the head, lies in close contact with the base of the rail, and the material of which the tie is made is compressed at one side of the reinforced portion 6 and just beneath the shoulder 3, which projects slightly below the

top surface of said tie. We have, therefore, the combined action of the reinforced portion 6 and shoulder 3 to prevent lateral movement of the spike—that is to say, the reinforced portion 6 prevents the bending of the upper end of the spike, and the shoulder 3, which extends down below the top surface of the tie and compresses the material of which the tie is made beneath it, prevents the upward movement of the flange 2 and the consequent downward movement of the opposite side of the head 1, adjacent to the shoulder 3. Both the reinforced portion 6 and the shoulder 3 therefore act conjointly to prevent bending and lateral movement of the spike.

By reason of the fact that the peculiar construction of my spike prevents the upward movement thereof and the lateral displacement or bending of its upper end the necessity of adzing down the tie before the spike can be removed will be dispensed with. In drawing the spike a heavy claw-bar must be used in order to break the lock which is formed, and when the spike has been removed a rectangular opening is left for the insertion of the tie-plug.

Having now described the invention, what

I claim as new, and desire to secure by Letters Patent, is—

A railroad-spike having a head at its upper end, with a side flange thereon, a shoulder located just beneath said head on the edge opposite said flange having an angularly-arranged flat surface, a shank which is rectangular in cross-section throughout its entire length, and with an angularly-arranged reinforcing portion extending entirely across said shank having a flat surface and located just beneath said shoulder, and an arrow-shaped lower end formed by triangular converging faces which terminate in a point and separated from the shank of the spike by shoulders formed by angularly-arranged notches extending entirely across said shank, the outer edges of said shoulders lying in the same plane with the sides of the shank.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JAMES H. MALVEN.

Witnesses:

A. E. BURNSIDE,
S. B. WILLIAMS.