

No. 816,452.

PATENTED MAR. 27, 1906.

G. A. FREEMAN & C. E. ZORTMAN.  
COMBINED RAIL AND SPIKE BRACE.

APPLICATION FILED AUG. 12, 1905.

Fig. 1.

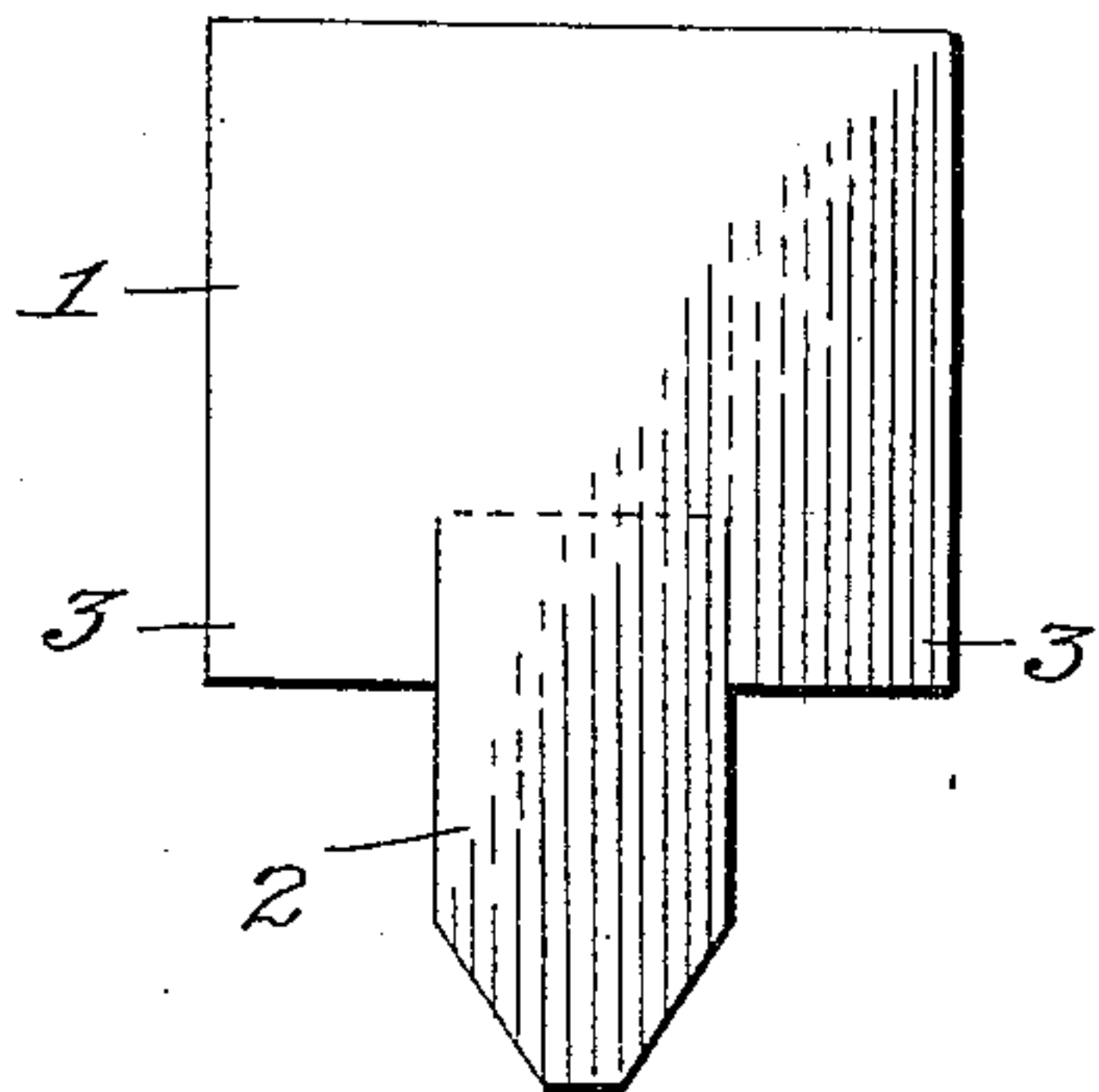


Fig. 2.

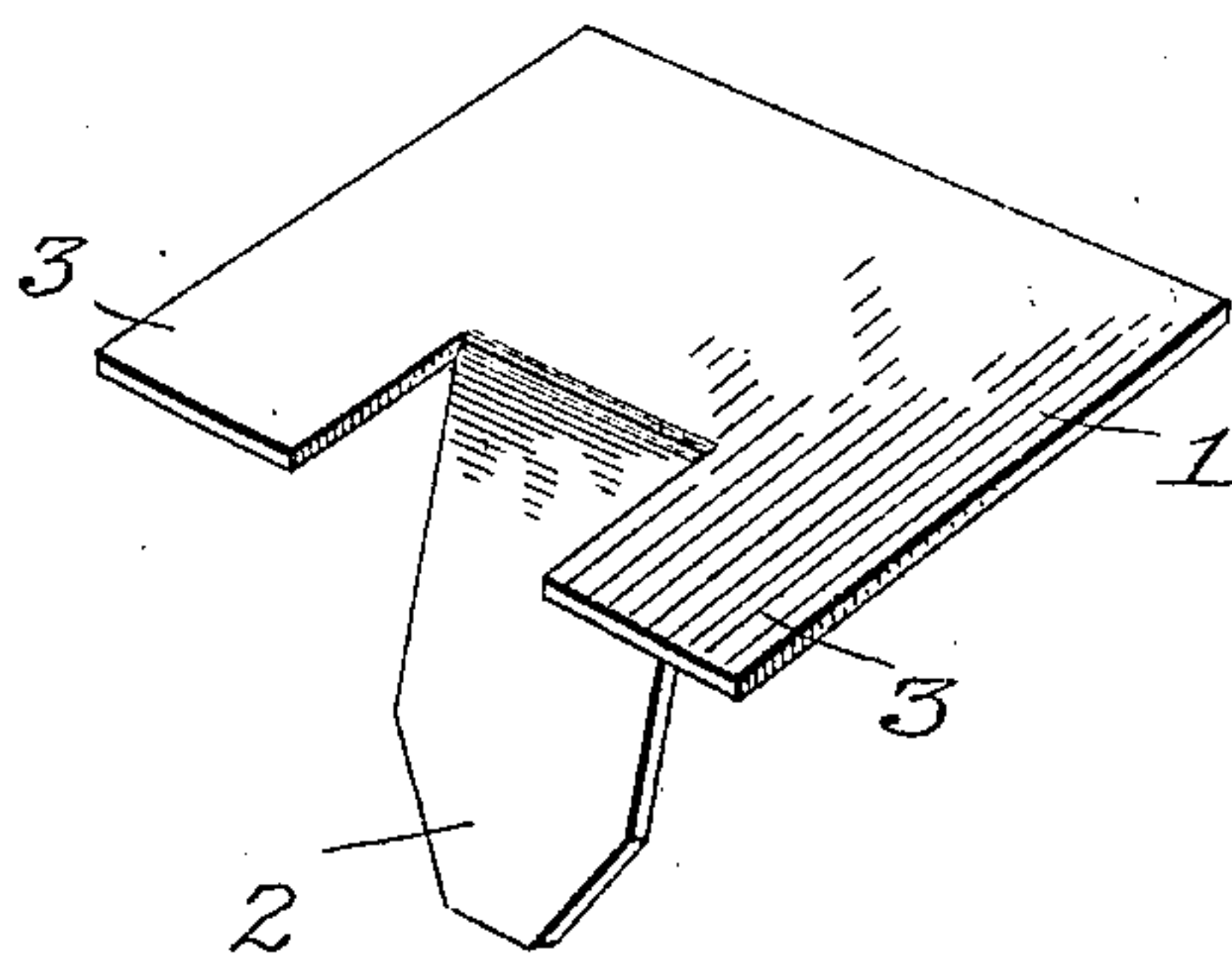


Fig. 4.

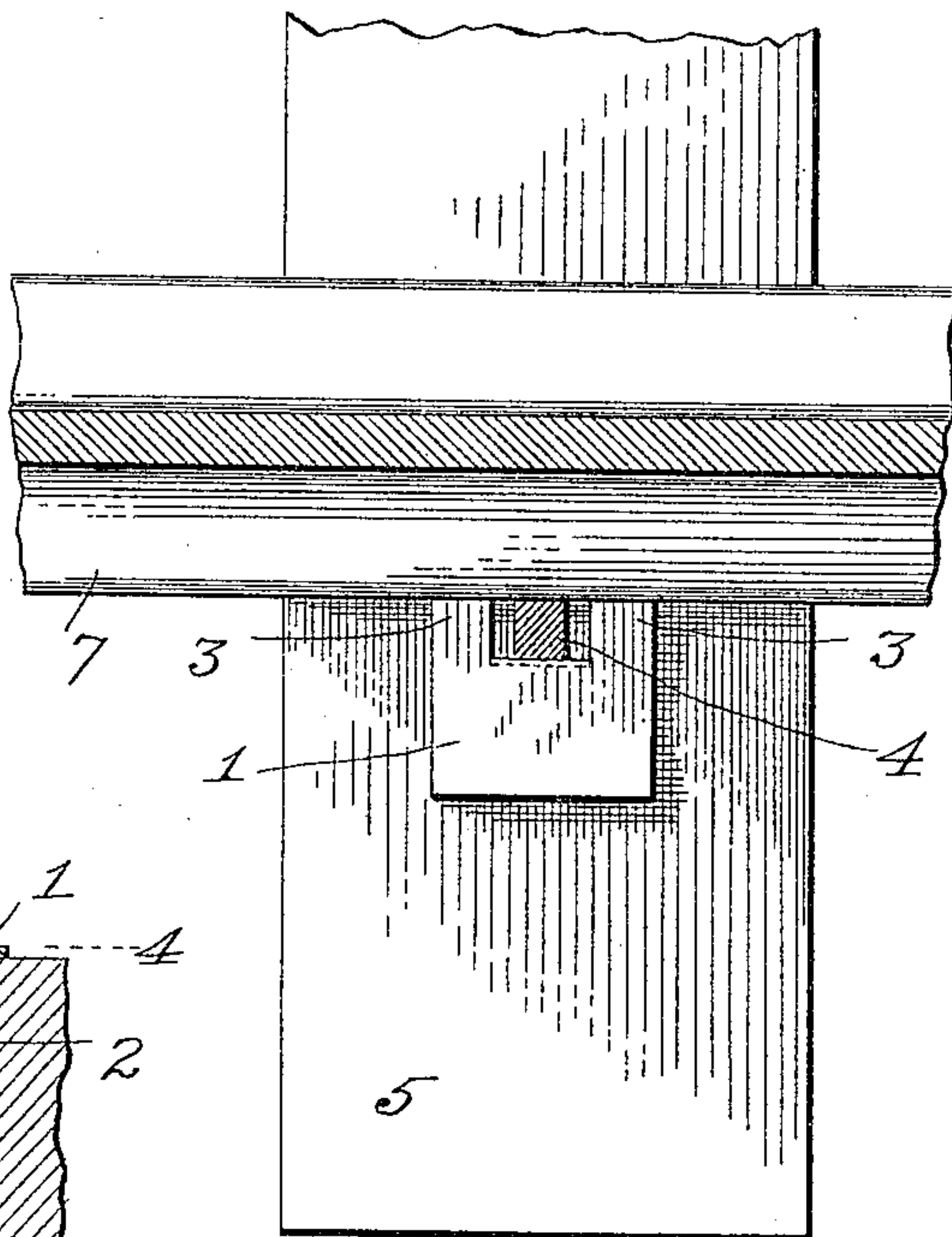
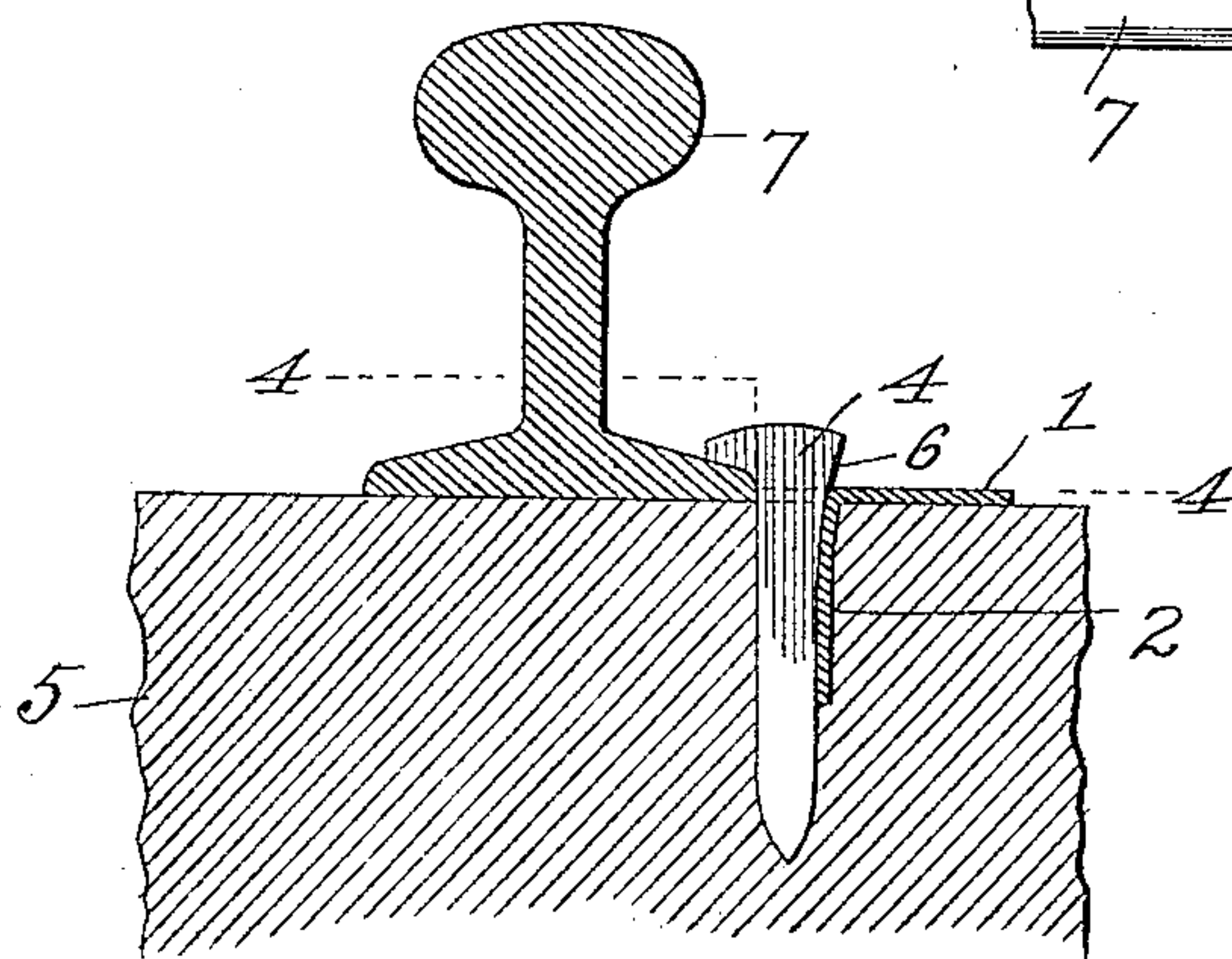


Fig. 3.



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# UNITED STATES PATENT OFFICE.

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## COMBINED RAIL AND SPIKE BRACE.

No. 816,452.

Specification of Letters Patent.

Patented March 27, 1906.

Application filed August 12, 1905. Serial No. 273,918.

*To all whom it may concern:*

Be it known that we, GEORGE A. FREEMAN, residing at Grampian, in the county of Clearfield, and CHARLES E. ZORTMAN, residing at Cresson, in the county of Cambria, State of Pennsylvania, citizens of the United States, have invented certain new and useful Improvements in a Combined Rail and Spike Brace, of which the following is a specification.

Our invention relates to track-fastenings, and has for its object to provide a combined rail and spike brace that will not only prevent lateral movement of the rail, but will also effectually brace the spike holding the rail and retain the same firmly in position against displacement.

In the accompanying drawings, Figure 1 is a top plan view of our improved brace as it is stamped from a sheet of metal. Fig. 2 is a perspective view showing the brace shaped or bent and ready for use. Fig. 3 is a transverse sectional view through a rail and tie, showing our improved brace in position. Fig. 4 is a view on the line 4 4, Fig. 3.

Similar numerals of reference denote corresponding parts in the several views.

In the said drawings, the reference-numeral 1 denotes the body of our improved brace, the same being preferably stamped from a sheet of soft steel and substantially rectangular in shape. Projecting from one side of said body portion 1 is a tongue 2, said tongue projecting into said body portion to a depth equal to the cross area of the ordinary rail-spike of commerce—*e. g.*, three-quarters of an inch. Said tongue is also preferably about twice the width of the spike for a purpose hereinafter to be described. To render said brace ready for use, the tongue 2 is bent downwardly to almost, but not quite, a right angle to the body portion 1, as shown in Fig. 2, which leaves on each side of said tongue a projecting portion 3, as clearly seen in Fig. 2.

Our improved brace is intended to be applied to a rail already spiked in position in the following manner: The tongue 2 of the brace shaped as shown in Fig. 2 is brought closely against the rear face of the spike 4 and

then driven its full length into the tie 5, as shown in Fig. 3. Now it is well known that rail-spikes are thickened from front to rear at their upper ends to overcome any shearing action, which provides an inclined rear face 6 on said spikes. The tongue 2 when driven will follow said inclined face 6 of the spike, and owing to the fact that said tongue is bent to not quite a right angle to its body portion the said tongue will closely hug said spike, thus bringing the projecting portions 3 of the brace lying on each side of the spike in contact with the flange of the rail 7, as seen in Fig. 4.

The tongue 2 of the brace being practically twice as wide as the spike 4 offers a broad engaging surface in the tie 5, thus effectually bracing the said spike against displacement by the rail 7, the projecting portions 3 of the brace at the same time by their contact with the flange of said rail offering a direct resistance to any lateral movement of said rail.

While we have described our improved brace as preferably formed by being stamped from soft steel, it will be understood that the same may be formed in any other suitable manner, as by casting or forging.

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

1. A combined rail and spike brace, embodying a body portion and a depending tongue, said body portion projecting beyond said tongue at each side thereof.

2. A combined rail and spike brace, embodying a body portion and a tongue projecting therefrom, said tongue being bent at an angle to said body portion and projecting into said body portion so as to leave the latter projecting on each side thereof.

3. In combination with a rail, a tie, and a spike driven into said tie and engaging said rail, a brace consisting of a body portion and a tongue projecting therefrom and driven into the tie immediately back of said spike, said body portion projecting on each side of said tongue to contact with the rail-flange when said tongue is driven into place.

4. In combination with a rail, a tie, and a spike driven into said tie and engaging said

rail, a brace consisting of a body portion and  
a tongue projecting therefrom and formed  
wider than said spike, said tongue being  
driven into the tie immediately back of said  
5 spike, said body portion projecting on each  
side of said tongue to contact with the rail-  
flange when said tongue is driven into place.  
In testimony whereof we have hereunto set

our hands in the presence of two subscribing  
witnesses.

GEORGE A. FREEMAN.  
CHARLES E. ZORTMAN.

Witnesses:

CHAS. B. FREEMAN,  
W. CLYDE FLORA.