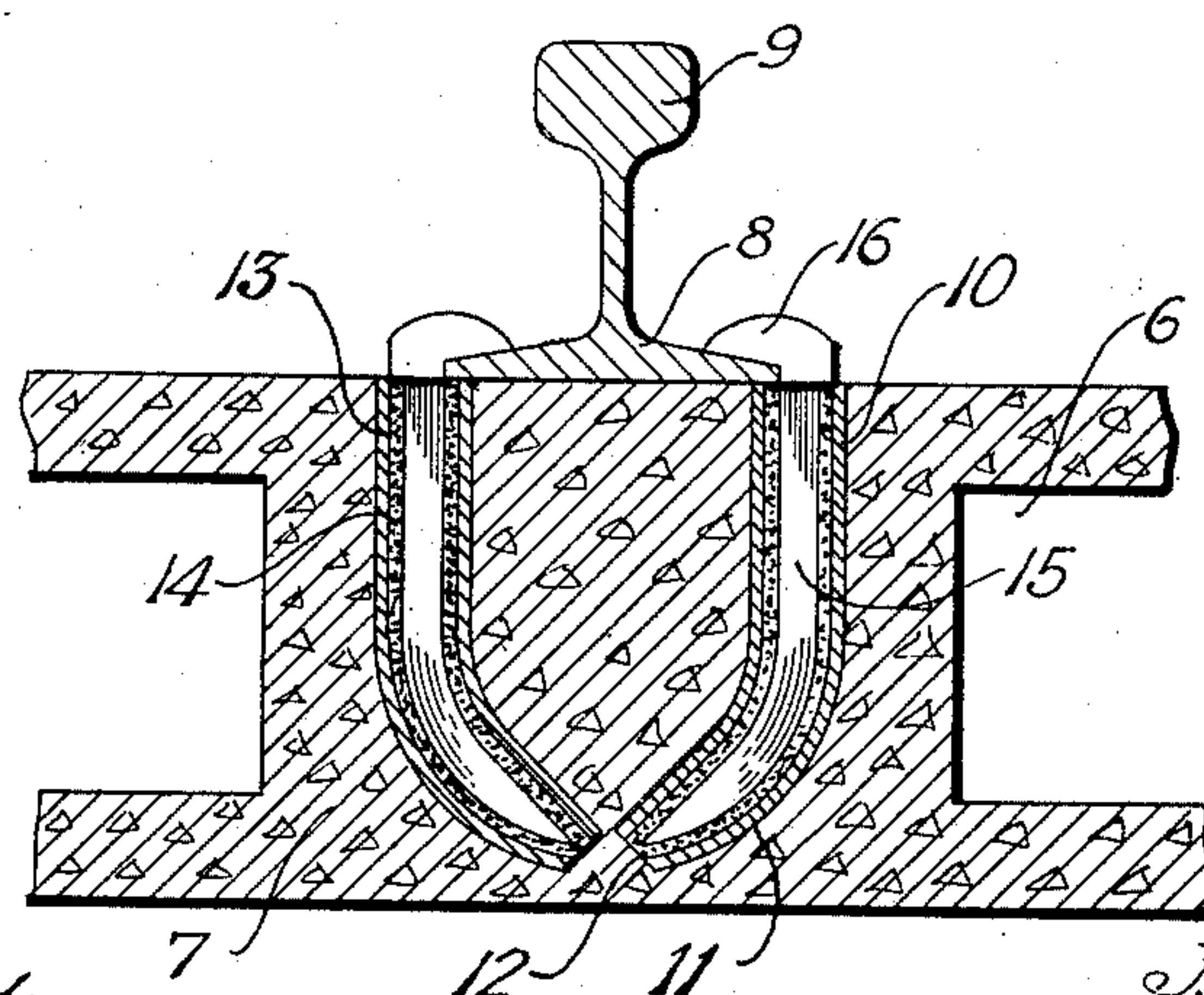
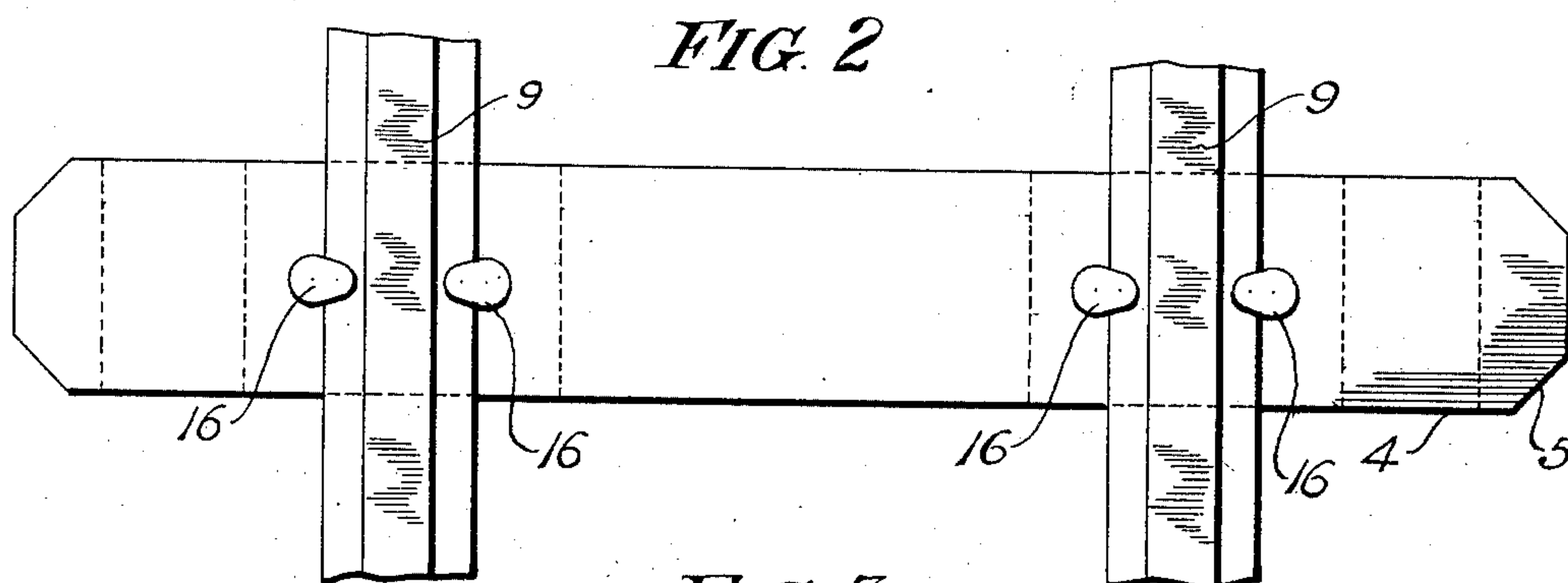
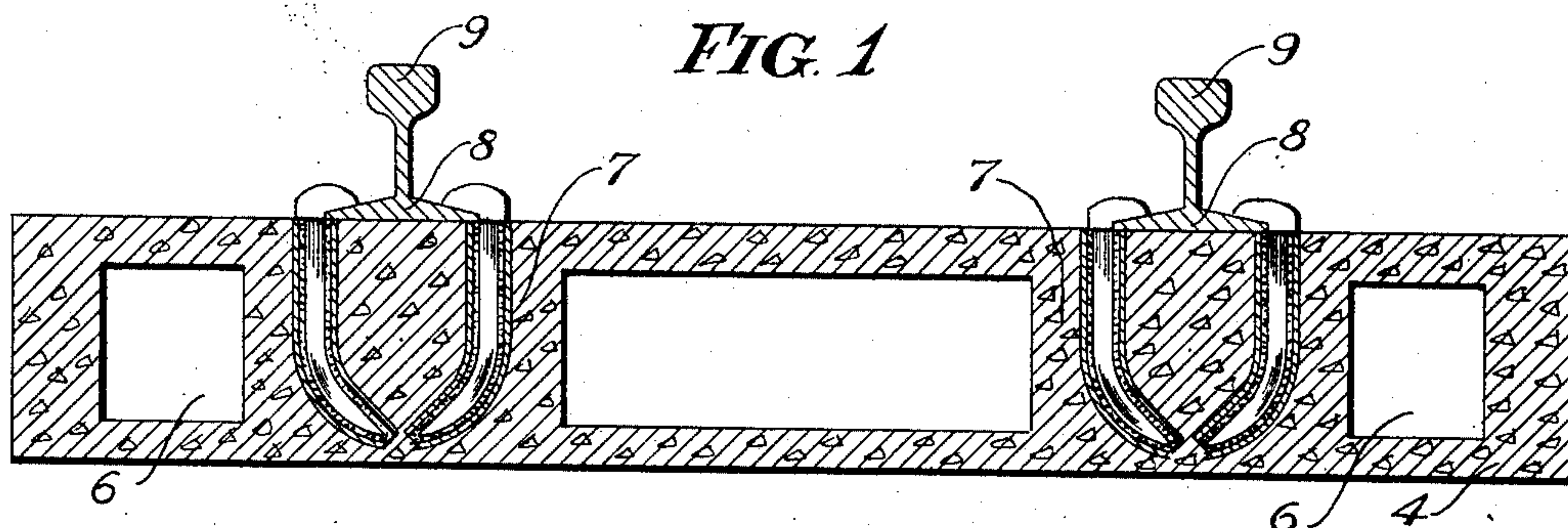


J. A. McKENNA.
TIE AND RAIL FASTENER.
APPLICATION FILED MAY 19, 1911.

998,368.

Patented July 18, 1911.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JAMES A. McKENNA, OF PITTSBURG, PENNSYLVANIA.

TIE AND RAIL-FASTENER.

998,368.

Specification of Letters Patent.

Patented July 18, 1911.

Application filed May 19, 1911. Serial No. 628,199.

To all whom it may concern:

Be it known that I, JAMES A. McKENNA, a citizen of the United States of America, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Ties and Rail-Fasteners, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to ties and rail fasteners, and the objects of my invention are to provide a strong and durable concrete tie that can be substituted for the present type of wooden tie, and to furnish the tie with novel rail fasteners that will positively retain rails thereon.

Further objects of my invention are to provide a cross tie that can be manufactured at a minimum cost and tamped in a roadbed to provide a firm foundation for rails, and to embody means for clenching or positively retaining fasteners in engagement therewith.

I attain the above objects by a mechanical construction that will be hereinafter specifically described and then claimed, and reference will now be had to the drawing, wherein:—

Figure 1 is a longitudinal sectional view of the tie, Fig. 2 is a plan of the same, and Fig. 3 is an enlarged longitudinal sectional view of a portion of the tie.

The reference numeral 4 denotes an oblong concrete body having the ends thereof cut away or chamfered, as at 5, said body having a plurality of transverse openings 6, preferably three in number with the small openings adjacent to the ends of the tie and the large opening centrally thereof, thus providing foundations 7 for the base flanges 8 of rails 9. The ends of the body are chamfered and said body provided with openings whereby the tie can be easily tamped and embedded in a roadbed. For instance, a portion of the ballast of the roadbed can enter the openings 6 to firmly anchor the tie and prevent the same from creeping or moving relatively to other ties.

The rail foundations 7 are provided with central oppositely disposed recesses 10 having the lower ends thereof curved inwardly, as at 11 to a point in proximity to each other. The lower curved ends of the recesses 10 gradually taper to the flat bottoms 12 of the recesses. Arranged within the recesses are

metallic sockets 13, these sockets having the lower ends thereof curved to conform to the curvature of the recesses 10, the lower ends of said sockets resting upon the flat bottoms 12 of the recesses. Within each socket 13 is a lining 14 of fiber or other yieldable material, the lining having the lower end thereof tapered and closed at the lower end of the socket.

Mounted in the sockets 13 are malleable spikes 15 having heads 16 adapted to overlap the base flanges 8 of the rails 9. The spikes prior to being driven in the sockets are straight and when driven therein the lower ends are bent to conform to the curvature of the lower ends of the sockets, consequently the spikes are clenched within the sockets and cannot become accidentally displaced.

The sockets 13 are embedded or positioned in the plastic material when the tie is molded or otherwise produced, and the fiber lining can be placed in the sockets either prior to placing the sockets in the tie or after the sockets have become permanently fixed in the tie. The fiber lining compensates for the expansion and contraction of the spikes 15 and the base flanges 8 of the rails. A suitable instrument as a spike pulling machine can be employed when it is desired to withdraw the spikes from the sockets 13.

It is to be understood that the tie can be made of various sizes and shapes and that such changes can be resorted to as fall within the scope of the appended claims.

What I claim is:—

1. In a tie and rail fastener, a concrete body adapted to support rails, said body having transverse openings formed therein providing rail foundations, the rail foundations of said body having oppositely disposed recesses formed therein with the lower ends of said recesses curved inwardly to a point within proximity to each other, metallic sockets mounted in said recesses and having the lower ends thereof curved to correspond to the curvature of the lower ends of said recesses, and spikes driven in said sockets and having the heads thereof engaging the base flanges of rails upon said body and the lower ends thereof clenched in the lower curved ends of said sockets.

2. In a tie and rail fastener, a concrete body providing rail foundations, the rail foundations of said body having oppositely disposed vertical recesses formed therein

with the upper ends of said recesses terminating at the top of the body and the lower ends thereof curved inwardly to a point within proximity to each other, metallic sockets mounted in said recesses and having the lower ends thereof curved to conform to the curvature of the lower ends of said recesses, fiber linings arranged within said sockets, and spikes driven in said sockets and

having the lower ends thereof clenched in the curved ends of said sockets. 10

In testimony whereof I affix my signature in the presence of two witnesses.

JAMES A. McKENNA.

Witnesses:

MAX H. SROLOVITZ,
CHRISTINA T. HOOD.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
