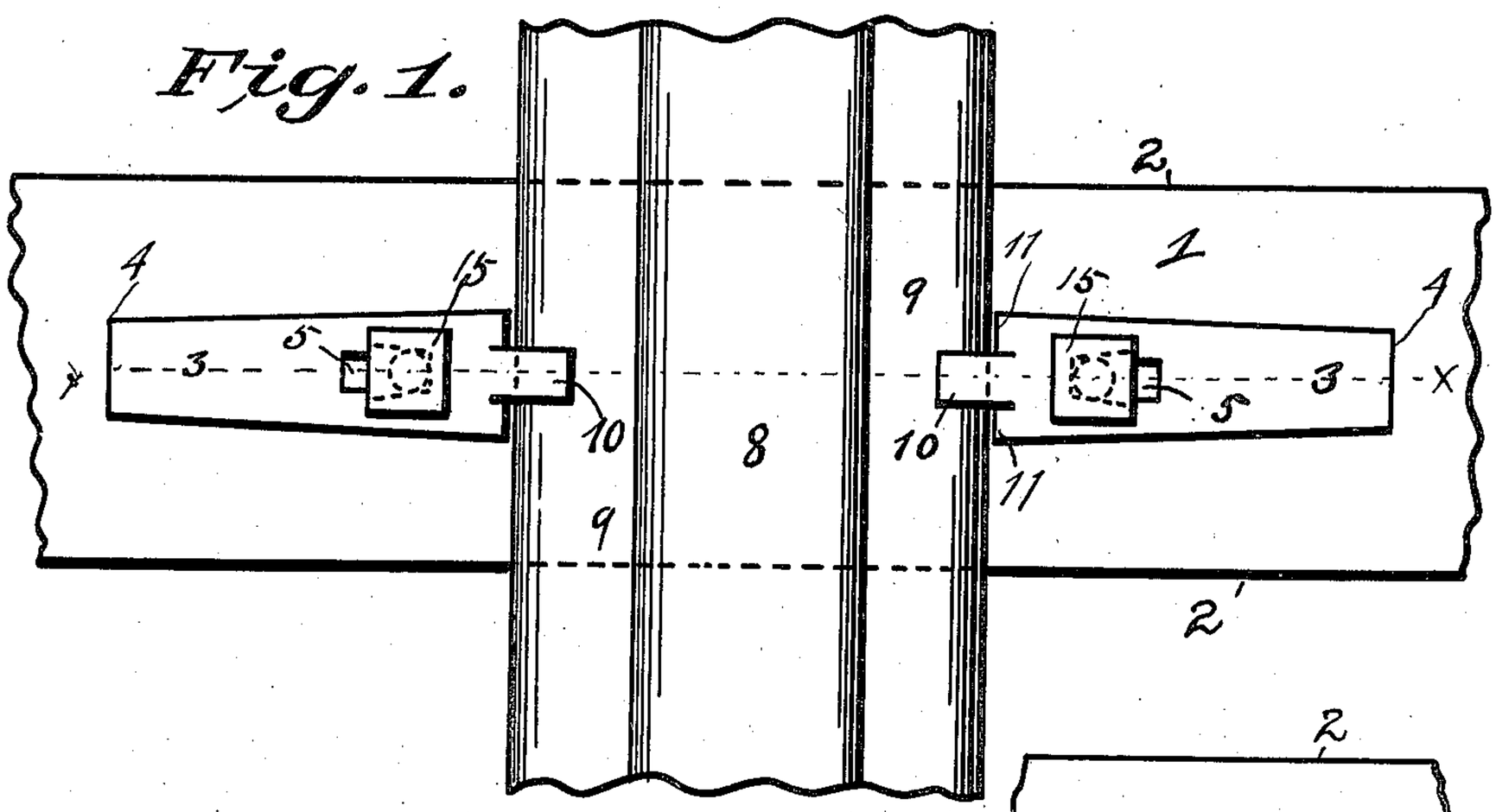
No. 846,724. PATENTED MAR. 12, 1907.

J. F. BOWMAN.

MEANS FOR ATTACHING RAILS TO METALLIC TIES.

APPLICATION FILED DEC. 8, 1906.

Fig. 1.



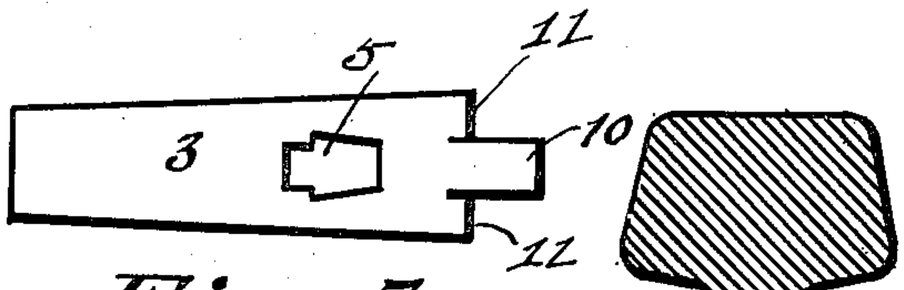


Fig. 3.

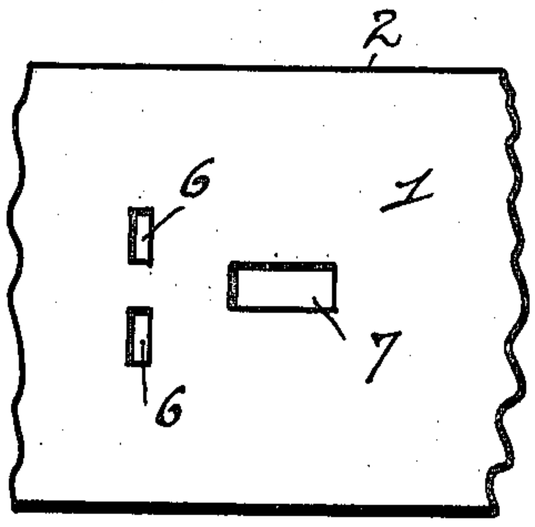


Fig. 4.

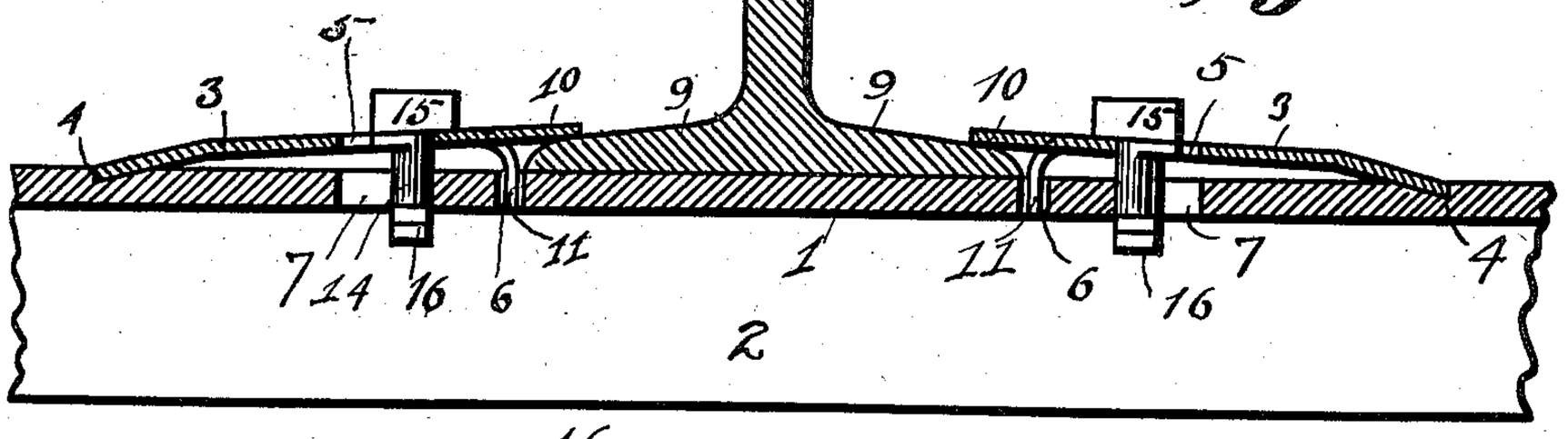


Fig. 2.

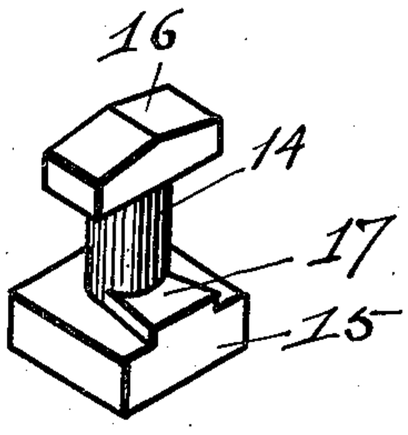


Fig. 5.

Witnesses

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JACOB F. BOWMAN, OF ARTESIA, TERRITORY OF NEW MEXICO.

MEANS FOR ATTACHING RAILS TO METALLIC TIES.

No. 846,724. Specification of Letters Patent. Patented March 12, 1907.

Application filed December 8, 1906. Serial No. 346,835.

To all whom it may concern:

Be it known that I, JACOB F. BOWMAN, a citizen of the United States, residing at Artesia, in the county of Eddy and Territory of New Mexico, have invented certain new and useful Improvements in Means for Attaching Rails to Metallic Ties; and I do 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in means for securing rails to metallic cross-ties, such means being hereinafter particularly described in the specification, and pointed out in the subjoined claims.

Preceding a detail description of the invention, reference is made to the accompanying drawings, of which—

Figure 1 is a top plan view of a portion of a rail and a portion of a metallic cross-tie, showing my improved fastening devices. Fig. 2 is a sectional view on the line *x x* of Fig. 1. Fig. 3 is a detached plan view of one of the fastening-tongues. Fig. 4 is a detail view of the upper side of a portion of the metallic cross-tie with the fastening-tongue removed. Fig. 5 is a detached view of the fastener.

In a detail description of the invention similar reference characters indicate corresponding parts.

The metallic cross-tie is constructed of pressed steel and comprises an upper side 1 with two downward right-angled extensions 2 2. In placing this metallic cross-tie so constructed a suitable foundation is provided—such, for example, as concrete or its equivalent. On either side of the rail 8 there are provided in the top of this metallic cross-tie two openings 6 6 and a single opening 7, extending lengthwise of the tie, the openings 6 6 being in line with the flanges 9 of the rail and extend transversely of the tie. Coöperating with these openings, which are duplicated on each side of the rail, are two fastening-tongues or spring-clamps 3, which are provided at one end with an extended tongue 10, which overlaps the adjacent flange 9 of the rail 8, and two downwardly-turned tongues 11, which extend into the openings 6 6 in the metallic tie, and thus prevent the tongues or spring-clamps 3 from having any undesirable longitudinal movement away from the rail-flanges 9. The outer ends of said spring-clamps 3 engage in suitable depressions 4 in the upper side of the tie 1, and thus provide additional means for maintaining said spring-clamps against longitudinal movement.

At a suitable point in the body of each of said spring-clamps there is an opening 5, with outwardly-tapering sides and terminating in an oblong form. Coöperating with these openings 5, which lie immediately above and in alinement with the oblong openings 7 in the tie, are bolts 14, one end of which terminates in an integral head 15, and the other end of which terminates in an integral cross-head 16, which is oblong and is passed through the elongated openings 5 and 7 in the spring-clamp 3 and the tie 1, and when in such position the said cross-head 16 is made to lie transversely of the spring-clamp and the tie, so that it will lock on either side of the opening 7 in said tie. The bolt-head 15 lies above the spring-clamp 3 and has upon its under side a projection 17, with tapering sides to match the sides of the opening 5 in said spring-clamp, and in which opening the said projection 17 lies, so that the cross-head 16 of the bolt engages the under side of the tie 1, while the head 15 of said bolt interlocks with the spring-clamp 3 by lying within the opening 5. The resiliency of the bar or clamp 3 is such that it exerts at all times an upward pressure against the bolt-head 15, which serves to prevent the bolt from turning when placed in position to lock said clamp against the rail-flange. In inserting the bolt in such position the spring-clamp 3 is first placed in position with the tongue 10, overlapping the rail-flange 9, the tongues 11 projecting into the openings 6 6 in the tie 1 and the end lying within the depression 4 in the upper side of the cross-tie. The bolt is then inserted by passing the cross-head 16 into the opening 5 of the clamp 3, and said clamp is then pressed downwardly by means of any suitable implement to enable the cross-head 16 to be passed down through the opening 7 in the tie and then turned, so that said cross-head will lie or extend across the opening 7 and will interlock with the under surface of the cross-tie,

while the head 15 of the bolt will interlock with the spring-clamp 3 in the manner hereinbefore specified and, as before stated, the natural resiliency of the spring-clamp will maintain the bolt in such interlocked position.

I claim—

1. A metallic tie having openings in its upper surface lying on each side of the rail, in combination with a spring-clamp which engages the rail-flange and the tie at one end and the tie at the other end, and a double-headed bolt adapted to be passed through the spring-clamp and the tie to maintain said clamp in engagement with the rail-flange and the tie.

2. A metallic tie having openings therein lying on each side of the rail, in combination with a spring-clamp, one end of which engages the openings nearest to the rail in the tie and overlaps the rail-flange, a double-headed bolt adapted to extend through openings in said clamp and in the tie, one of said heads interlocking with the tie and the other interlocking with the spring-clamp to prevent rotary movement of said bolt.

3. In a fastener for uniting rails to metallic cross-ties, the combination with a metallic cross-tie having suitable openings on both sides of the rail, of a spring-clamp interlocking at one end with the tie and the rail and at the other end with the tie, a bolt penetrating an opening in the body of said spring-clamp and the tie with means on one end thereof for interlocking with the tie, and means on the other end thereof for interlocking with the spring-clamp to maintain a proper engagement between the spring-clamp and the tie, and the rail, and to prevent said bolt from turning from a locking position.

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

JACOB F. BOWMAN.

Witnesses:

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JAS. E. SWEPSTON.