

W. H. MAYER & I. O. BURCH.

RAIL TIE.

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898,982.

Patented Sept. 15, 1908.

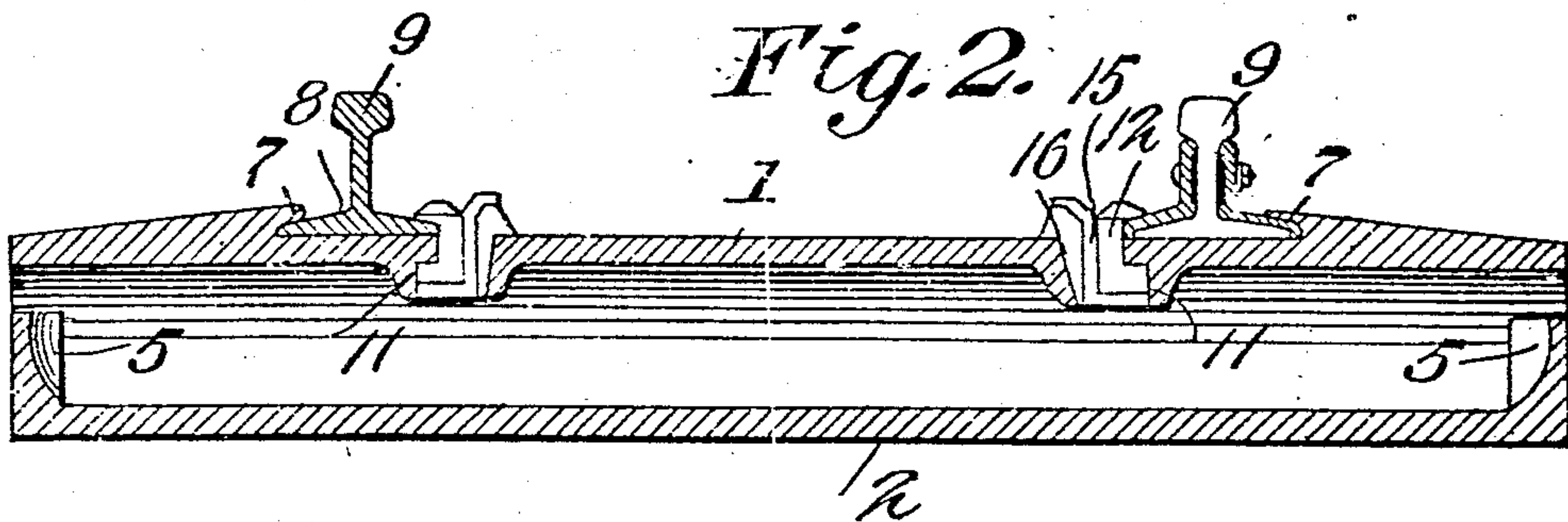
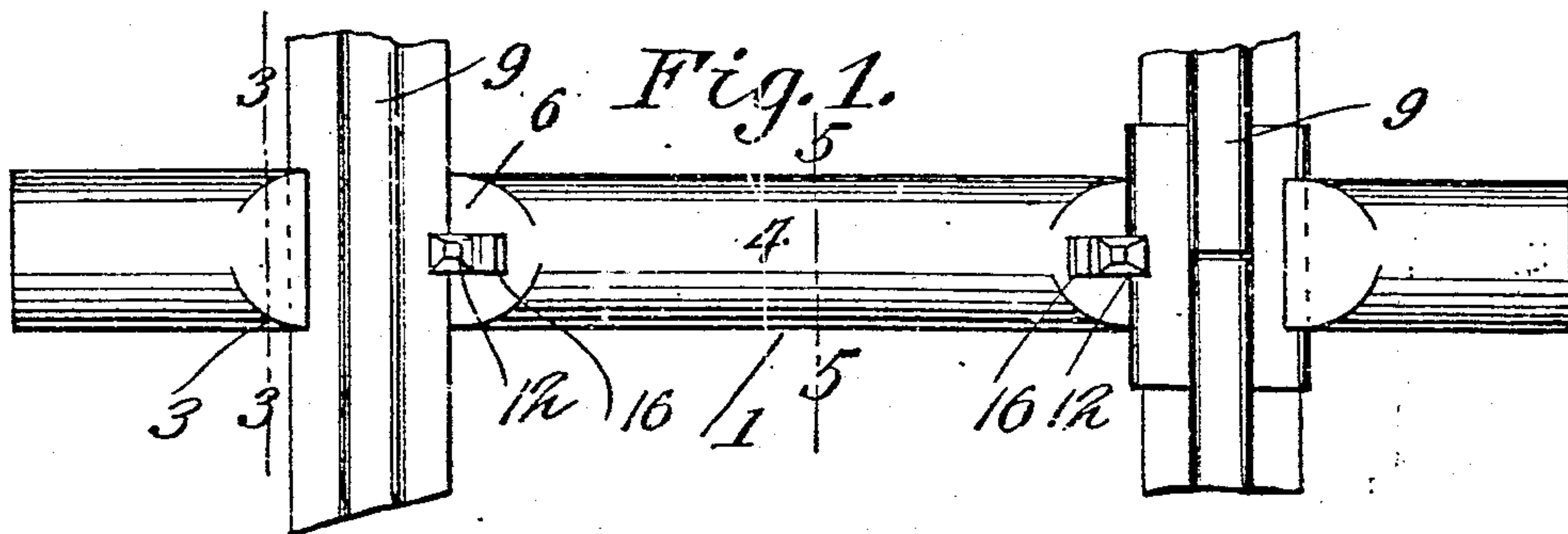


Fig. 3.

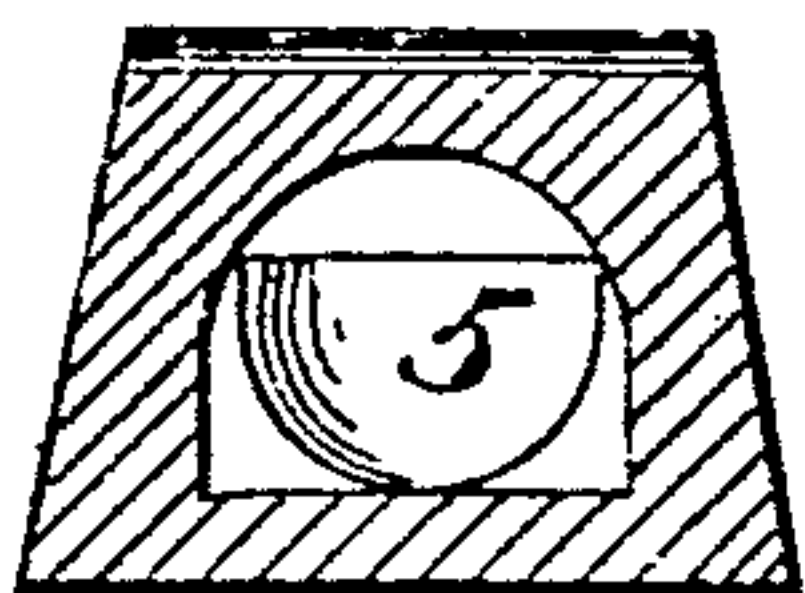


Fig. 4.

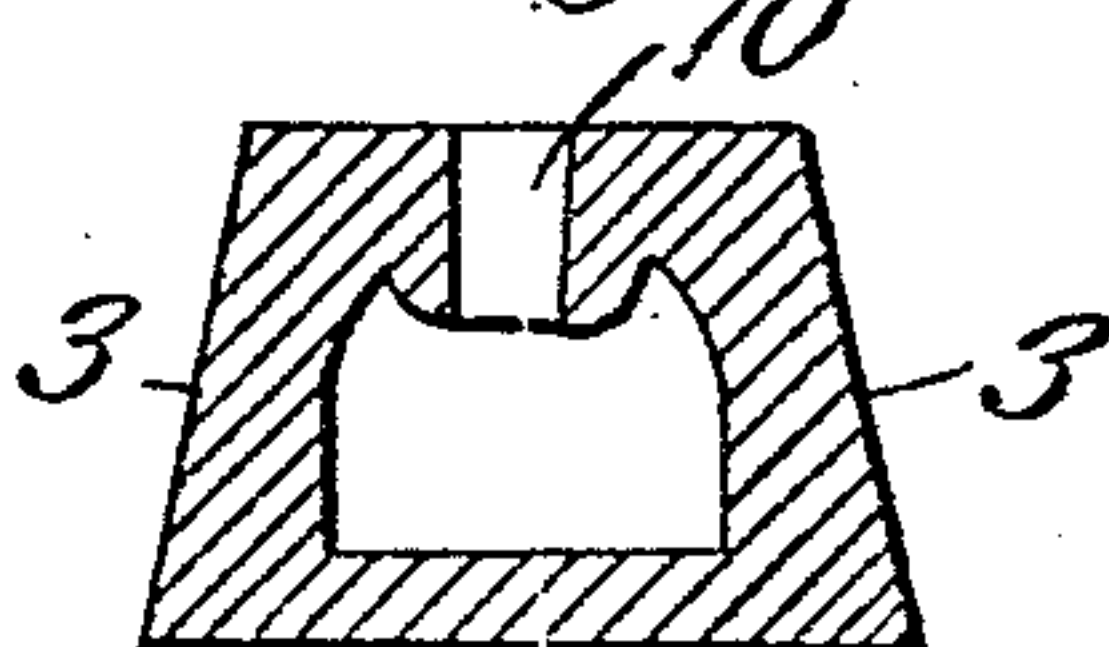


Fig. 5.

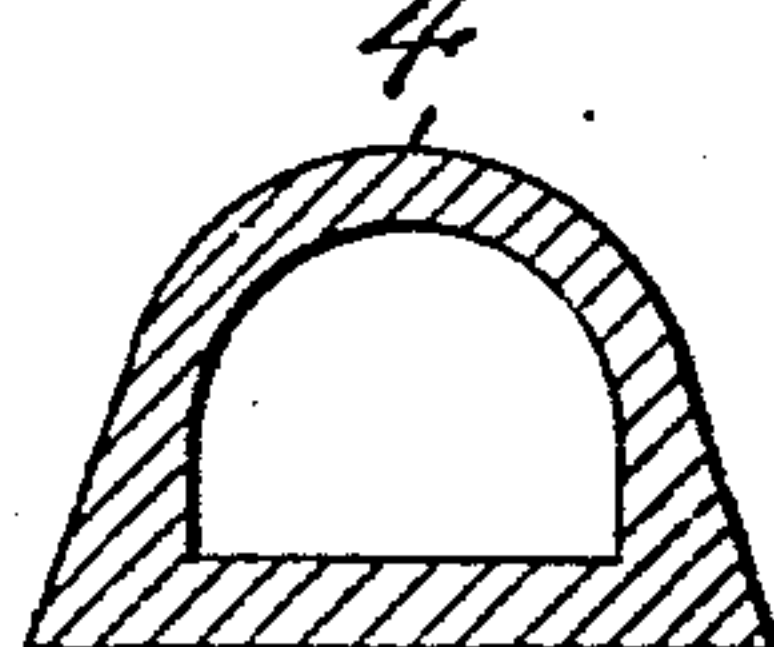


Fig. 6.

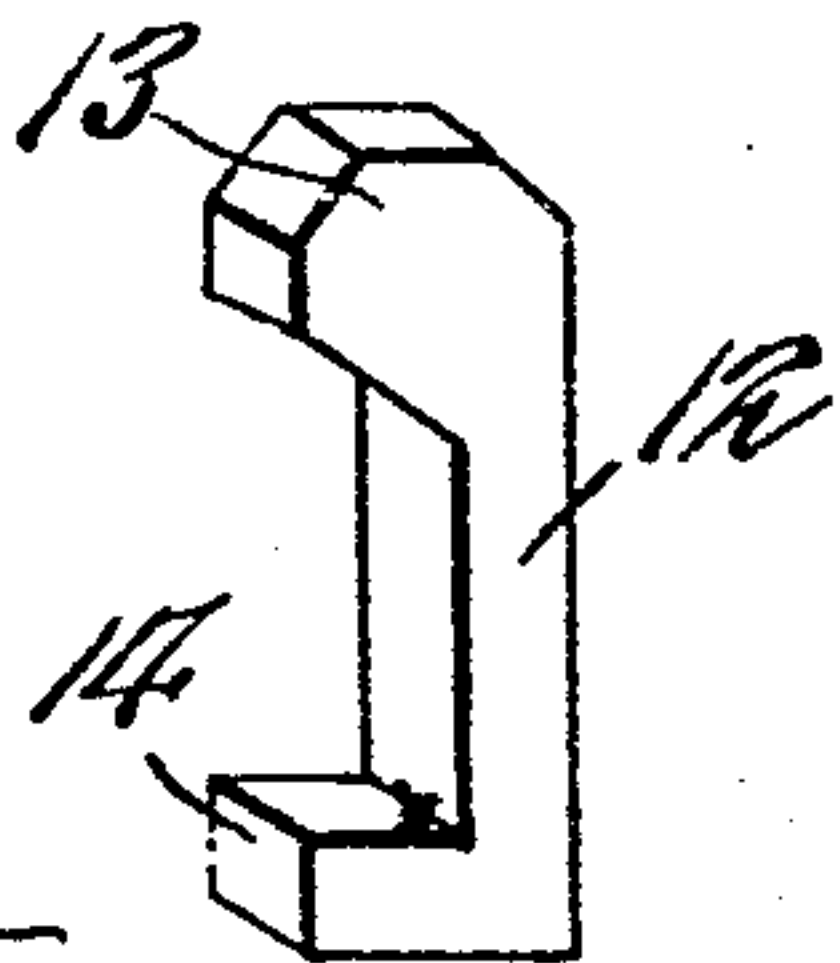


Fig. 7.

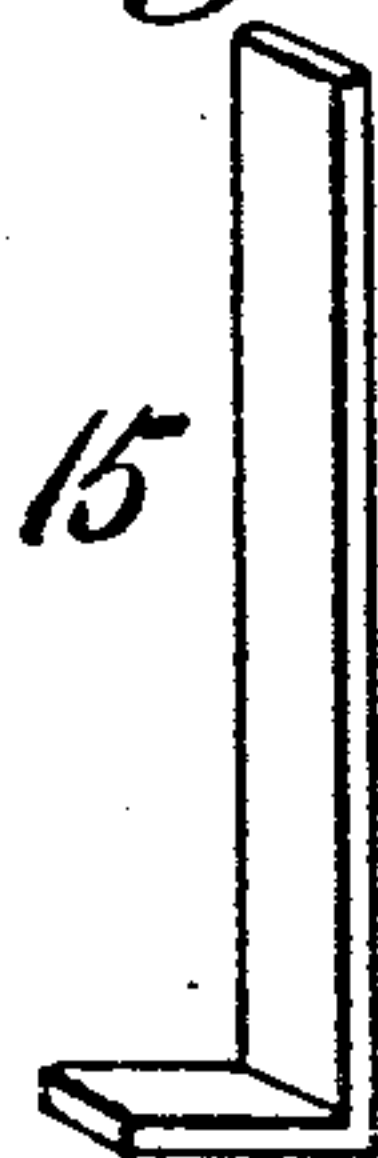
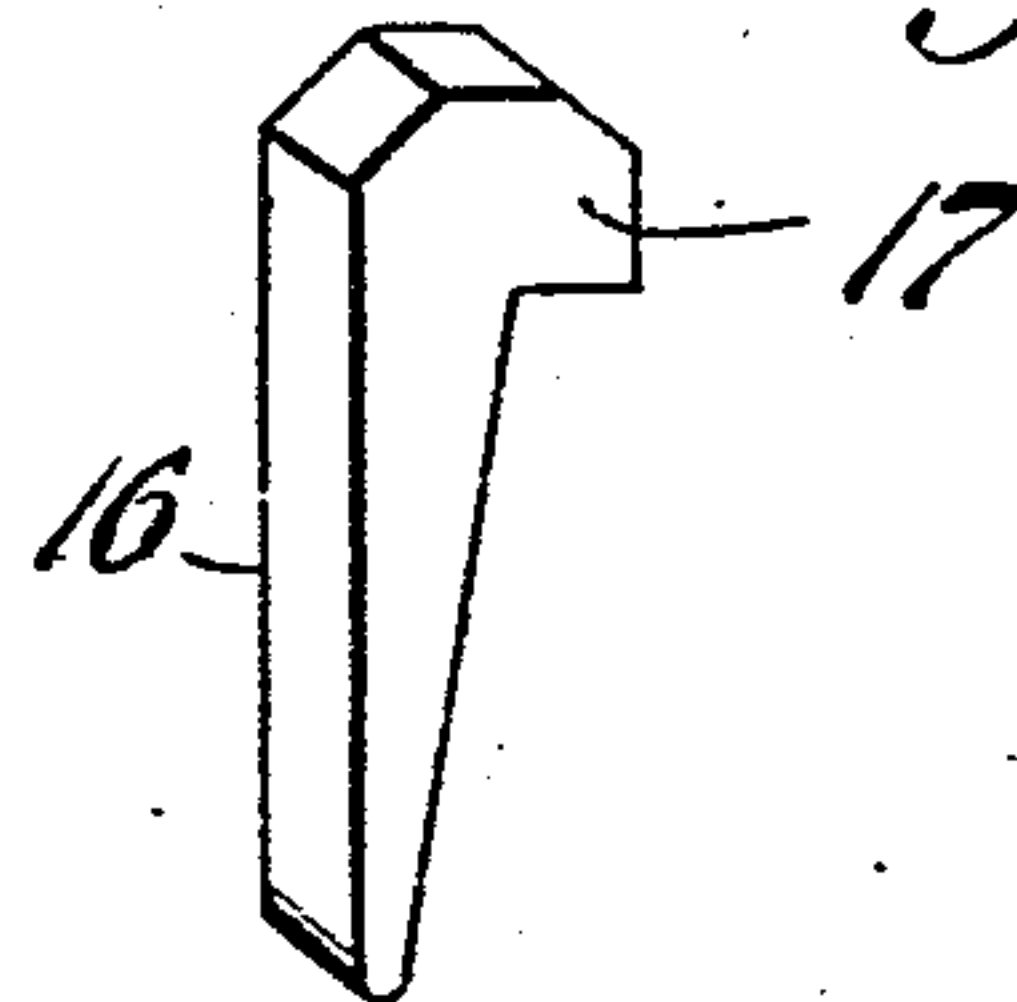


Fig. 8.



Witnesses:

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# UNITED STATES PATENT OFFICE.

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## RAIL-TIE.

No. 898,982.

Specification of Letters Patent.

Patented Sept. 15, 1908.

Application filed March 7, 1908. Serial No. 419,820.

*To all whom it may concern:*

Be it known that we, WILLIAM H. MAYER and IRA O. BURCH, citizens of the United States, residing at Kansas, in the county of Edgar and State of Illinois, have invented new and useful Improvements in Rail-Ties, of which the following is a specification.

This invention relates to metallic railway ties and fasteners, and the object of the invention is to provide a hollow tie of this character, which shall be simple in construction, durable in use, and comparatively inexpensive of production, and a fastening by means of which the rails may be securely locked without the employment of spikes or bolts.

Another object of the invention is to provide a hollow rail tie, of a peculiar formation by which the ballast of the road bed will form a substantial wedge between the ties and prevent the ties from sluing or becoming loosened from the road bed.

With these objects in view the invention resides in the novel construction of rail ties and fasteners hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 is a top plan view of the improved rail tie. Fig. 2 is a central longitudinal sectional view of the same. Fig. 3 is a transverse sectional view upon the line 3—3 of Fig. 1. Fig. 4 is a similar section taken through the key receiving recess of the tie. Fig. 5 is a similar view upon the line 5—5 of Fig. 1. Fig. 6 is a perspective view of a rail key. Fig. 7 is a similar view of the locking key. Fig. 8 is a similar view of the wedge key.

In the accompanying drawings, the numeral 1 designates the improved rail tie. This rail tie 1 is constructed of a hollow member, having a flat base 2 and angular sides 3, slanting toward the rounded top 4. The ends of the tie are provided with walls 5, extending upwardly from the base 2 a suitable distance, as illustrated in Figs. 2 and 3 of the drawings. The top or face 4 of the tie is provided with flattened surfaces 6, adapted for the reception of the rails. The face 4 of the tie is also provided with a transversely extending lip 7, arranged upon the flattened surfaces 6 adjacent the ends of the tie and adapted for the reception of the base flange 8 of the rails 9. The flattened surface 6 is provided with a longitudinal recess 10, adjacent the flange 8 of the rails opposite the edges of the flanges engaged by the lips 7. The walls of the longitudinal recess 10 have reinforce-

ments beneath the under surface of the top 4. The longitudinally extending walls of the recesses 10 are substantially vertical, the walls nearest the center of the tie are inclined, and the walls adjacent the inner edges of the flanges of the rails are provided with an offset 11.

In positioning the rails upon our improved ties, the outer flanges of the rails are engaged by the lips 7, and to secure the rails upon the ties we have provided a rail key 12, having a head 13, adapted to engage the inner edge of flange of the rails, and provided with an inwardly projecting portion 14 adapted to engage the offset 11 of the longitudinal cut away portion 10. Positioned upon the outer face of the rail key 12 is an L-shaped locking key 15, constructed of malleable material, and interposed between the disengaged face of the locking key 15 and the inclined wall of the recess 10 is a wedge key 16. This wedge key is provided with an angular body portion and a head 17 adapted for engagement with the flattened surface 6 of the tie. The projecting finger of the locking key 15 is adapted to be bent over the head 17 of the wedge 16, as illustrated in Fig. 2 of the drawings, and thus effectively secure the rails and the fasteners upon the tie.

From the above description it will be seen that we have provided a novel construction of rail ties, one in which the rails are quickly and securely positioned upon the ties, and by which, should it be desired, the fastening elements may be readily removed and the rail disconnected from the tie. It will be also noted that by providing a hollow tie having its head rounded, except at the flattened portions engaged by the rails, and its sides inclined outwardly towards its base, that we have provided a tie which will afford means whereby the ballast or road bed between the ties will act as a substantial wedge and thus prevent upward or other movement of the ties. By arranging the walls 5 upon the ends of the ties, it will be seen that we have effectively provided means for preventing the entrance of ballast within the hollow tie.

Having thus fully described our invention what is claimed as new is:

1. A metallic rail tie comprising a hollow element having a rounded top provided with flattened rail receiving portions, outwardly inclined sides, a flat base, and partially closed ends.



2. A hollow metallic tie comprising a rounded top having flattened receiving portions, lips upon said flattened portions adapted for the reception of one edge of the  
5 base flange of rails, the flattened portion being provided with longitudinal recesses adjacent the opposite edges of the base flange of the rails, the recesses being provided with vertical side walls, and inclined end walls  
10 and their outer walls being provided with offsets, a rail key adapted to engage the inner edges of the base flanges of the rails and the offsets of the wall, an L-shaped locking key engaging the rail key, a wedge key engaging the locking key and the inclined wall, the  
15 vertical projecting portion of the locking key adapted to be bent over the wedge key to secure the fastening devices and the rails upon the tie.

In testimony whereof we affix our signatures in presence of two witnesses.

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