

No. 860,037.

PATENTED JULY 16, 1907.

M. R. KRAMER.
METALLIC RAILWAY TIE.
APPLICATION FILED APR. 18, 1907.

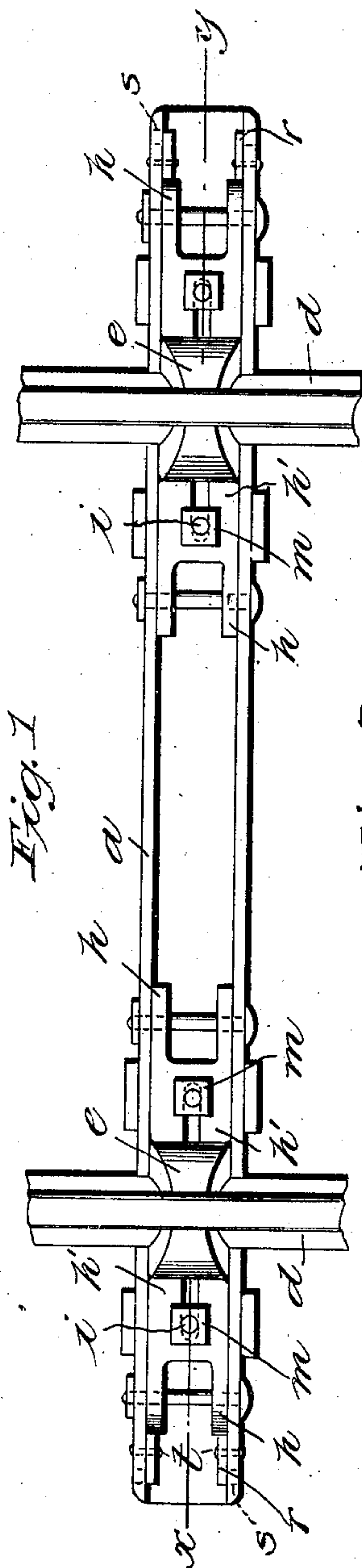


Fig. 1

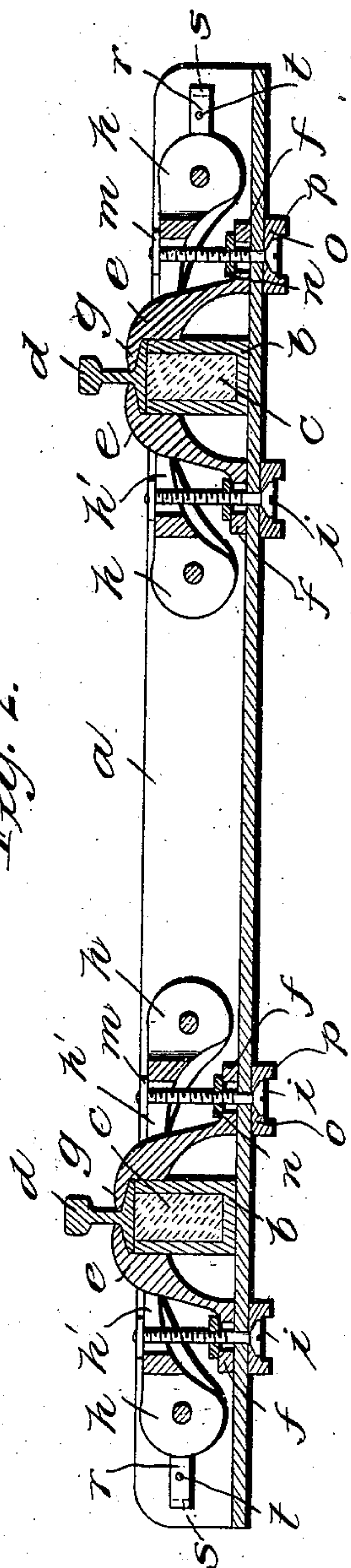


Fig. 2

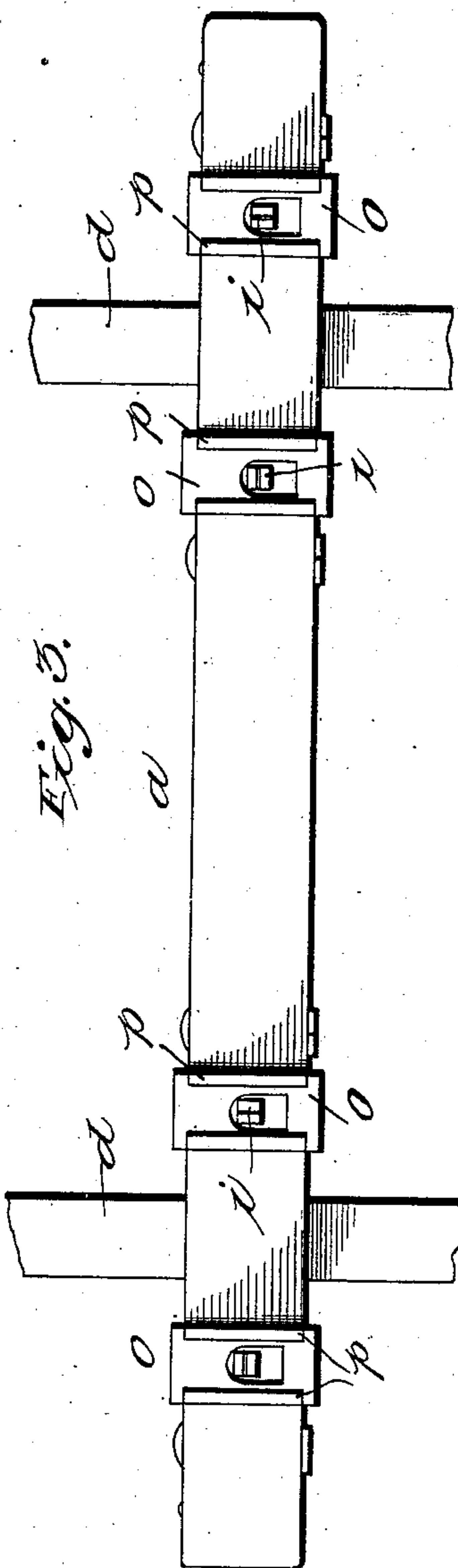


Fig. 3

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UNITED STATES PATENT OFFICE.

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METALLIC RAILWAY-TIE.

No. 860,037.

Specification of Letters Patent.

Patented July 16, 1907.

Application filed April 18, 1907. Serial No. 368,854.

To all whom it may concern:

Be it known that MONROE R. KRAMER, a citizen of the United States, residing at the city of Altoona, in the county of Blair and State of Pennsylvania, has invented certain new and useful Improvements in Metal Railway-Ties, of which the following is a specification.

My invention relates to combined metallic railway ties and rail locks and its object is to provide such an article which is particularly simple in construction and highly efficient in use.

The invention includes the combination and arrangement of parts to be hereinafter described and particularly pointed out in the claims.

In the accompanying drawings which illustrate my invention Figure 1 is a top plan view. Fig. 2 is a section on line $x-y$ and Fig. 3 is a bottom plan view.

The invention includes generally a metallic railway tie provided with cushion seats for the track rails and securing or locking means carried by the tie for retaining the track rails on the seats.

The railway tie is here illustrated as comprising a channel or U-shape member a and transversely extending trough members b located within the channel of the member a and spaced a distance apart corresponding to the desired gage of the track rails. The members b may be integral with the member a or they may be formed separately and afterwards secured within the channels of the member a . Concrete or a similar medium is packed within the troughs of the members b to provide suitable foundations upon which the rails d are seated.

The track rails d are held on to the foundations provided by the troughs b and fillings c by retaining mechanism which preferably constitutes a part of the tie. As herein illustrated, each track rail d is directly engaged by clamping pieces e located on opposite sides of the trough b each of said clamping pieces being provided with a foot f , resting on the bottom of the member a and a recessed end providing a nose g which engages the adjacent upper face of the web of the rail. A retaining piece h is associated with each clamping piece e for holding the latter in place. As herein illustrated, each piece h is pivoted at its rear end between the sides of the member a and engages with its forward edge the rear wall of the clamping piece with which it is associated. For holding the retaining piece in engagement and for also initially holding the clamping piece in position, a suitable bolt i is provided common to each pair of said members. In the present embodiment of the invention the shank of each bolt i passes upwardly through the base of the member a through the slot in foot f and through a slot h' in retaining piece

h and has secured thereon directly above the foot and retaining piece, respectively, nuts m n which co-act with said parts to retain the same in place. The head of each bolt is seated in the base of one of a number of brackets or straps o of channel shape in cross section which closely embrace the outer surface of the member a , and are each provided with a transverse recess in its bottom portion presenting transverse ribs or bars p which dig into the foundation upon which the member a rests to retain the latter against shifting movement.

If desired, devices additional to the bolts i may be provided for holding the retaining members after they are tightened up. The devices herein disclosed for this purpose consist of clips r having laterally extending parts s fitting into slots in the side walls of the member a , having their forward ends engaged with the slightly eccentric outer peripheries of the retaining members h and being intermediately secured against movement by rivets t . In the accompanying drawings the devices are shown as associated with the outer retaining members e only.

I claim:

1. In a metallic tie a channel member, trough members extending transversely of the channel thereof, a concrete filling in said trough members, a rail seated on said filling, and clamping mechanism for the rail comprising clamping members engaging opposite sides of the rail, and retaining members pivoted at their rear ends between the side walls of the channel members and engaging the clamping members with their front edges.

2. In a combined metallic railway tie and rail clamp, a channel member, a seat for the rail extending transversely of the latter, clamping members engaging opposite sides of the rail each provided with a foot resting on the base of the channel member, a retaining member associated with each clamping member, and a bolt common to each clamping and retaining member for holding the same in place.

3. In a combined metallic railway tie and rail retainer, a channel member, a rail seat extending transversely of the same, clamping members engaging opposite sides of the rail, each provided with a foot resting on the base of the channel member, a retaining member associated with each clamping member pivoted at one end in the channel of the channel member and having its opposite edge engaging the clamping member with which it is associated, a bolt associated with each retaining member having its shank extending through the base of the channel member and through the retaining member, and a nut on the shank of the bolt engaging the retaining member.

4. In a combined metallic railway tie and rail clamp, a channel member, a rail seat extending transversely of the latter, rail clamps co-acting with the rail, a retaining member for each clamp pivoted between the sides of the channel member, a bracket embracing the outside of the channel member having a ribbed undersurface, a bolt common to each retaining and clamping member having its head seated in the bracket and its shank extending through the said clamping and retaining members, and

nuts mounted on each bolt co-acting with the said retaining and clamping members.

5 . 5. In a combined metallic railway tie and rail holder, a channel member, a seat for the rail extending transversely of said member, a clamping member for the rail, a pivoted retaining member associated therewith, a bolt for holding the retaining member in place, and additional means for holding the retaining member in place comprising a clip secured to the side wall of the channel mem-

ber having its front edge engaging the said retaining member. 10

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

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Witnesses:

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