

No. 864,651.

PATENTED AUG. 27, 1907.

H. O. KELSEY.
RAILWAY TIE.

APPLICATION FILED FEB. 25, 1907.

2 SHEETS—SHEET 1.

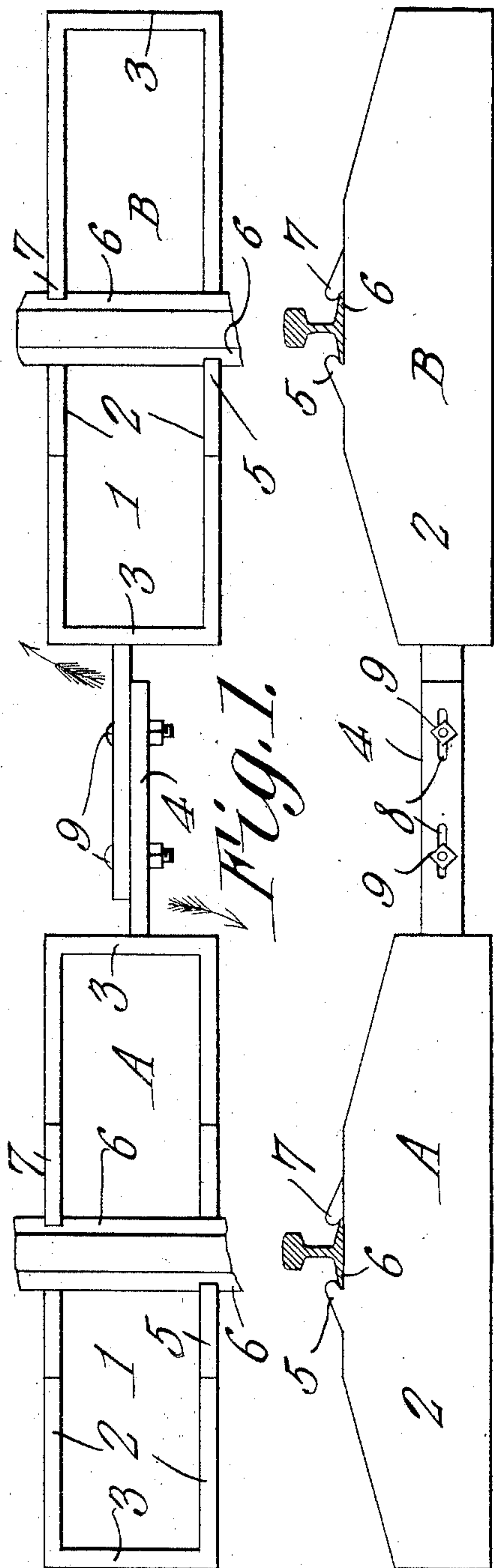


Fig. 1.

Fig. 2.

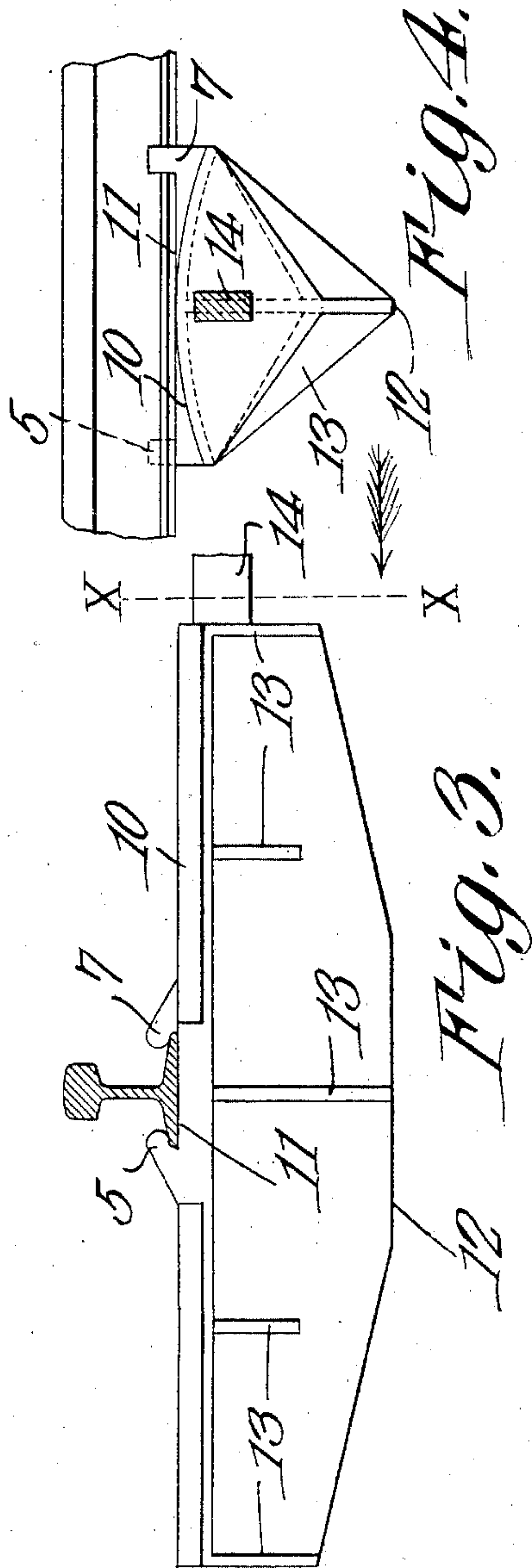


Fig. 4.

Fig. 3.

WITNESSES:

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Henry O. Helsey,
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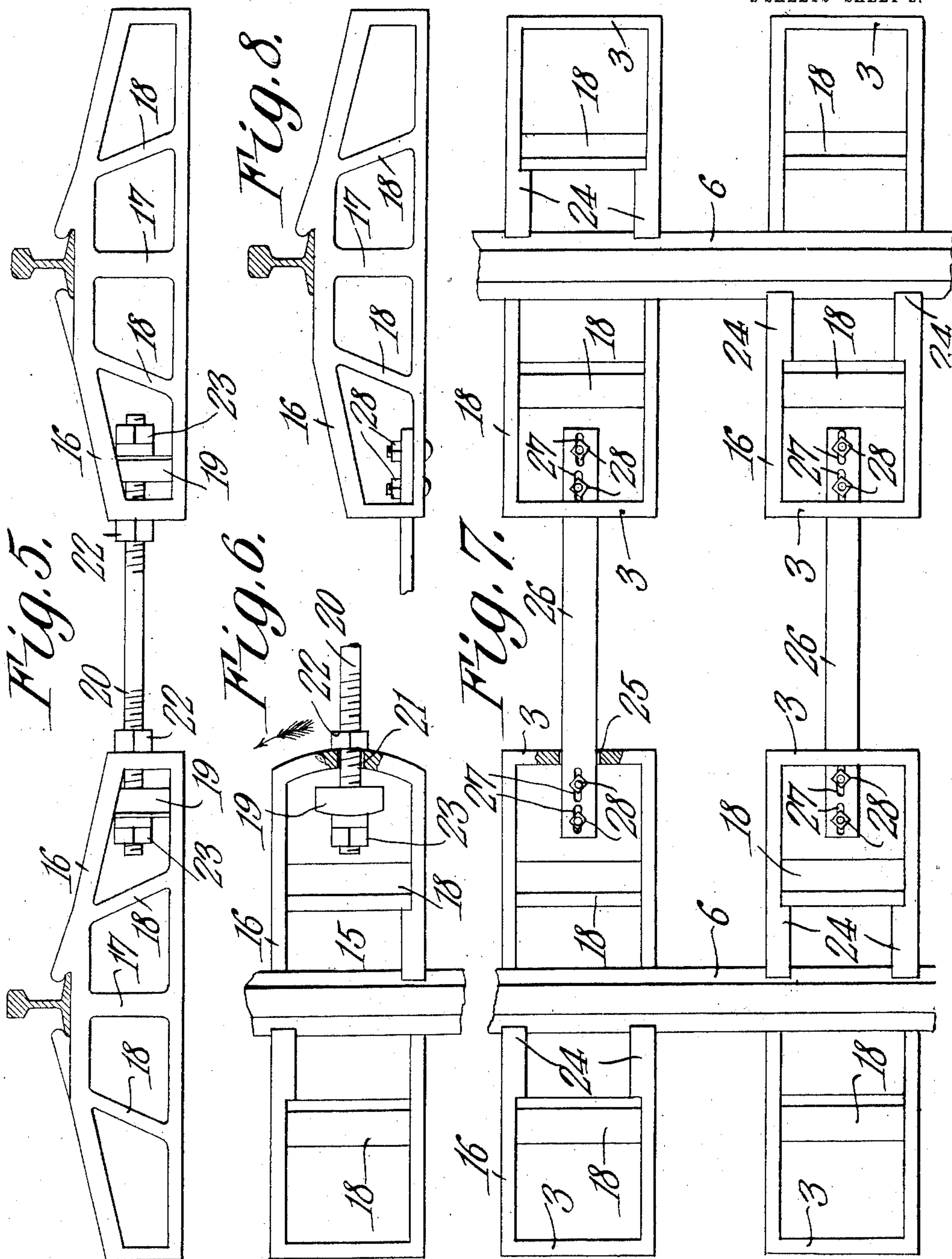
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UNITED STATES PATENT OFFICE.

HENRY O. KELSEY, OF WEST SALAMANCA, NEW YORK, ASSIGNOR OF ONE-THIRD
TO WASHINGTON S. HATCH AND SARAH E. HATCH, BOTH OF WEST SALAMANCA,
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RAILWAY-TIE.

No. 864,651.

Specification of Letters Patent.

Patented Aug. 27, 1907.

Application filed February 25, 1907. Serial No. 359,117.

To all whom it may concern:

Be it known that I, HENRY O. KELSEY, a citizen of the United States, residing at West Salamanca, in the county of Cattaraugus and State of New York, have invented a new and useful Railway-Tie, of which the following is a specification.

This invention relates to metallic railway ties and rail fasteners.

The object of the invention is to provide a tie made up of detachably connected sections each having rail engaging means which are maintained in engagement with the rails as long as the tie sections are secured together.

Another object is to provide rail fasteners which are integral with the tie sections and which can not be disengaged from the rails without shifting the tie sections out of position upon the road bed.

A still further object is to provide means for holding the tie sections against independent movement, said means being simple and durable in construction and readily accessible.

With these and other objects in view the invention consists of certain novel features of construction and combinations of parts which will be hereinafter more fully described and pointed out in the claims.

In the accompanying drawings is shown the preferred form of the invention.

In said drawings: Figure 1 is a plan view of the tie, the same being shown in engagement with rails; Fig. 2 is a front elevation of the tie; Fig. 3 is a front elevation of one of the sections of a modified form of tie; Fig. 4 is a section on line $x-x$, Fig. 3; Fig. 5 is a front elevation of another form of tie; Fig. 6 is a plan view of one of the sections of the tie shown in Fig. 5; Fig. 7 is a plan view showing other forms of ties in engagement with rails; and Fig. 8 is a front elevation of one of the tie sections shown in Fig. 7.

Referring to the figures by characters of reference, A and B are similar tie sections oppositely disposed and each consisting of a body made up of a base 1, side walls 2, and end walls 3. Extending longitudinally from one of the end walls of each section is a tongue 4 one face of which is in alinement with the longitudinal center of the section from which it extends. Formed on one of the side walls 2 is an ear 5 designed to engage one of the base flanges 6 of a rail and another similar ear 7 is formed upon the opposite wall 2 of the tie section and is designed to engage the other flange 6 of the rail. The two ears 5 and 7 are so positioned as to bind upon the opposite flanges of a rail when the same is disposed upon the tie and at right angles thereto. The two tie sections are exactly similar and it is designed to cast both of them from the same mold.

When the tie is in use the sections A and B are disposed opposite to each other and with their tongues 4 lapping. These tongues have elongated openings 8 disposed to register so as to receive securing means in the form of bolts 9. When the parts are located in this manner the ears 5 and 7 on the two sections A and B will hold the rails at proper distances apart. By drawing the tongues together and fastening them said ears will bind tightly upon the rails and hold them against displacement. By providing the elongated openings 8 a slight adjustment of the sections A and B toward or from each other is permitted. It is of course understood that the tie sections are entirely or partly embedded within the road ballast. Should it be desired to release one of the rails the tongues of the tie sections are unfastened from each other and that section of the tie under the rail to be released is swung in the direction of the arrow shown in Fig. 1 and the ears on the section will therefore be withdrawn from engagement with the rail flanges and the rail can then be lifted from its seat. It is apparent that neither of the rails can be disengaged from the tie unless one of the tie sections is moved independently of the other.

Instead of forming the tie of box-like sections as shown in Figs. 1 and 2, the same can be made of two sections each of which consists of a transversely curved top portion 10 having its intermediate portion flat as shown at 11 and provided with rail engaging ears, such as shown in Figs. 1 and 2. An anchoring rib 12 extends longitudinally under the center of the top portion 10 and is provided at its ends and at intermediate points with reinforcing webs 13. Each of these tie sections has a tongue 14 similar to the tongues 4 and designed to be fastened together in the same manner. The entire section shown in Fig. 3 is formed in a single casting and all parts thereof are adapted to be embedded within the road bed except the top portion 10.

In Figs. 5 and 6 is shown a tie embodying the principles of the constructions shown in Figs. 1 to 4. Each of the sections of this modified construction is made up of a base 15 having side walls 16 formed with large openings therein so that the weight of the sections is considerably reduced. A web 17 extends transversely of each section and beneath the rail supporting portion thereof, and inclined webs 18 are also formed within each section at opposite sides of the web 17. An ear 19 is formed upon the base 15 near one end and is adapted to receive the threaded end of a coupling rod 20. The threaded portions of this rod extend loosely through openings 21 in the adjoining ends of the tie sections and also through openings in the ears 19. A stop nut 22 is arranged upon the rod near each end and is designed to bear against the apertured end of the tie section. Nuts

23 engage the extremities of the rod 20 and serve to draw the stop nuts 22 against the tie sections and to thus securely fasten the tie sections together. By adjusting the nuts 22 and 23 the distances between the tie sections can be readily regulated. When it is desired to disconnect one of the tie sections from a rail the nut 23 within said section is removed and the nut 22 adjacent the other section is screwed toward the center of the rod 20. The end of said rod is then withdrawn from the tie section to be shifted.

In the constructions of tie heretofore described each of the sections is formed with two oppositely disposed ears for engaging opposite flanges of a rail. In Figs. 7 and 8 I have shown ties designed to be used in pairs, the ears upon one of the ties being disposed to engage the outer flanges of the two rails while the ears on the other tie of the pair are located to engage the inner flanges of the rails. As shown in Figs. 7 and 8 the ears 24 are arranged upon opposite walls of the tie section and one end of each of the tie sections has an opening 25 designed to receive one end of a coupling strap or bar 26. This bar has elongated openings 27 to receive securing means 28 engaging the faces of the sections. By forming the ears on one tie so as to engage the outer flanges of a rail and by arranging them on another tie so as to engage the inner rail flanges the ties can be disposed alternately as shown in Fig. 7 and by pressing the ears against the flanges and then securing the sections together so as to prevent independent movement the rails will be securely held in place.

It will be noted that in all of the constructions which have been shown and described it is necessary to unfasten a rail to move one of the tie sections independently of the other tie section. This is a feature deemed of the utmost importance inasmuch as accidental independ-

ent movement of the tie sections is practically impossible in view of the fact that the two sections are securely fastened together and are, moreover, partly or entirely embedded.

What is claimed is:

1. A tie comprising oppositely disposed similar sections, each section comprising a body disposed to be partly embedded within the road bed and having non-alining means integral therewith and disposed, when the section is swung in a horizontal plane in one direction, to engage the inner and outer rail flanges respectively, and when the section is swung in an opposite direction, to be disengaged from the rail flanges, and an adjustable connection between the two sections for holding them in engagement with rails and against independent movement.

2. A tie comprising similar oppositely disposed rail supporting sections, each section comprising a body disposed to receive ballast, said body having non-alining rail engaging devices integral therewith, said devices being disposed to simultaneously engage opposite rail flanges when the section is swung in a horizontal plane in one direction, and an adjustable connection between the tie sections for holding said sections against movement in the opposite direction.

3. A tie comprising oppositely disposed similar rail supporting sections, each section comprising a box-like body disposed to receive ballast and having non-alining rail engaging devices integral therewith, said devices being disposed to simultaneously engage opposite rail flanges when the section is swung in a horizontal plane in one direction, and an adjustable connection between the tie sections for holding said sections against movement in an opposite direction.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

HENRY O. KELSEY.

Witnesses:

THOMAS LLOYD,
GEO. H. BARCOCK.