

No. 865,317.

PATENTED SEPT. 3, 1907.

J. E. REESE.

RAILROAD CROSSING.

APPLICATION FILED FEB. 1, 1907.

3 SHEETS—SHEET 1.

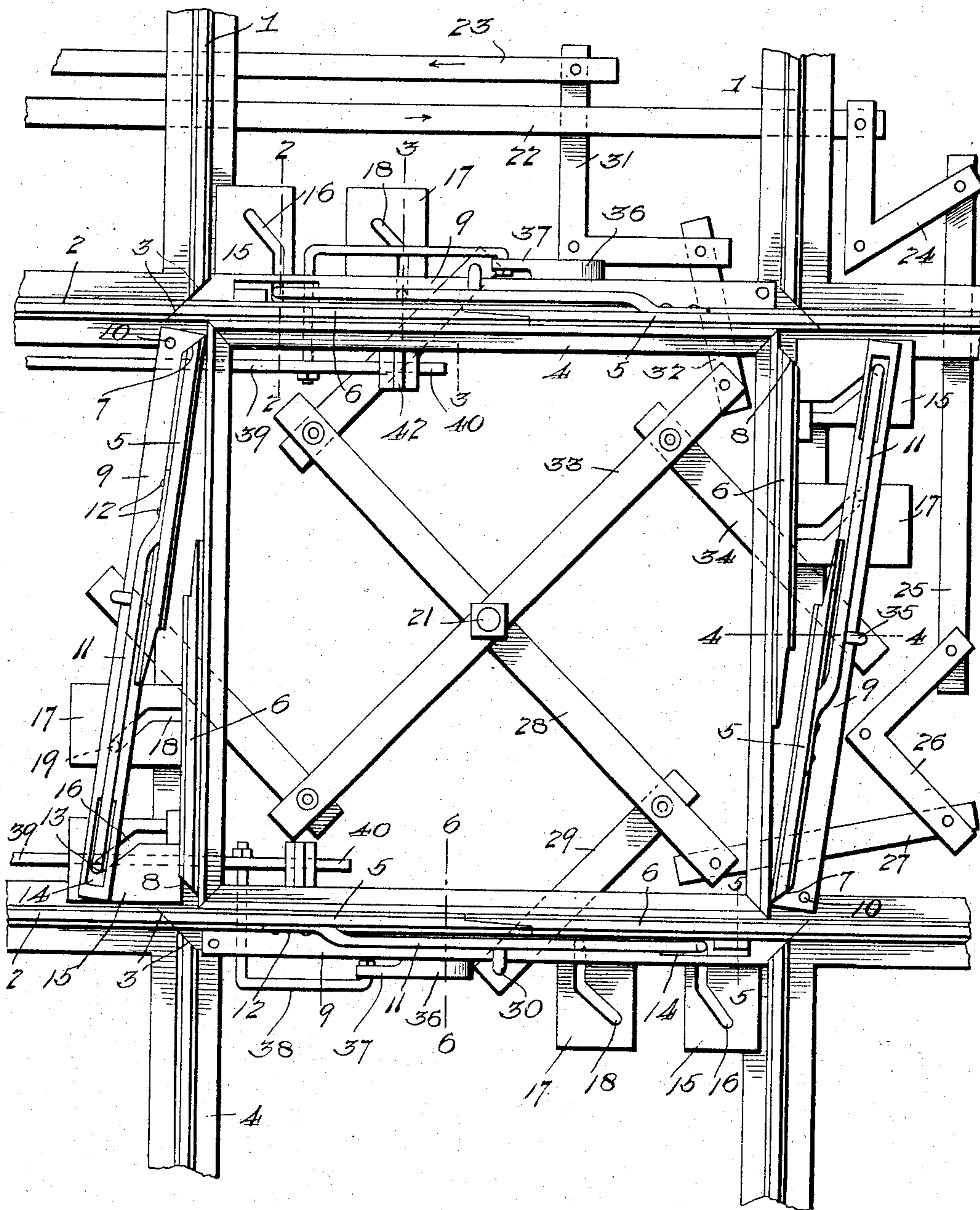


Fig. 1.

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3 SHEETS—SHEET 2.

Fig. 2.

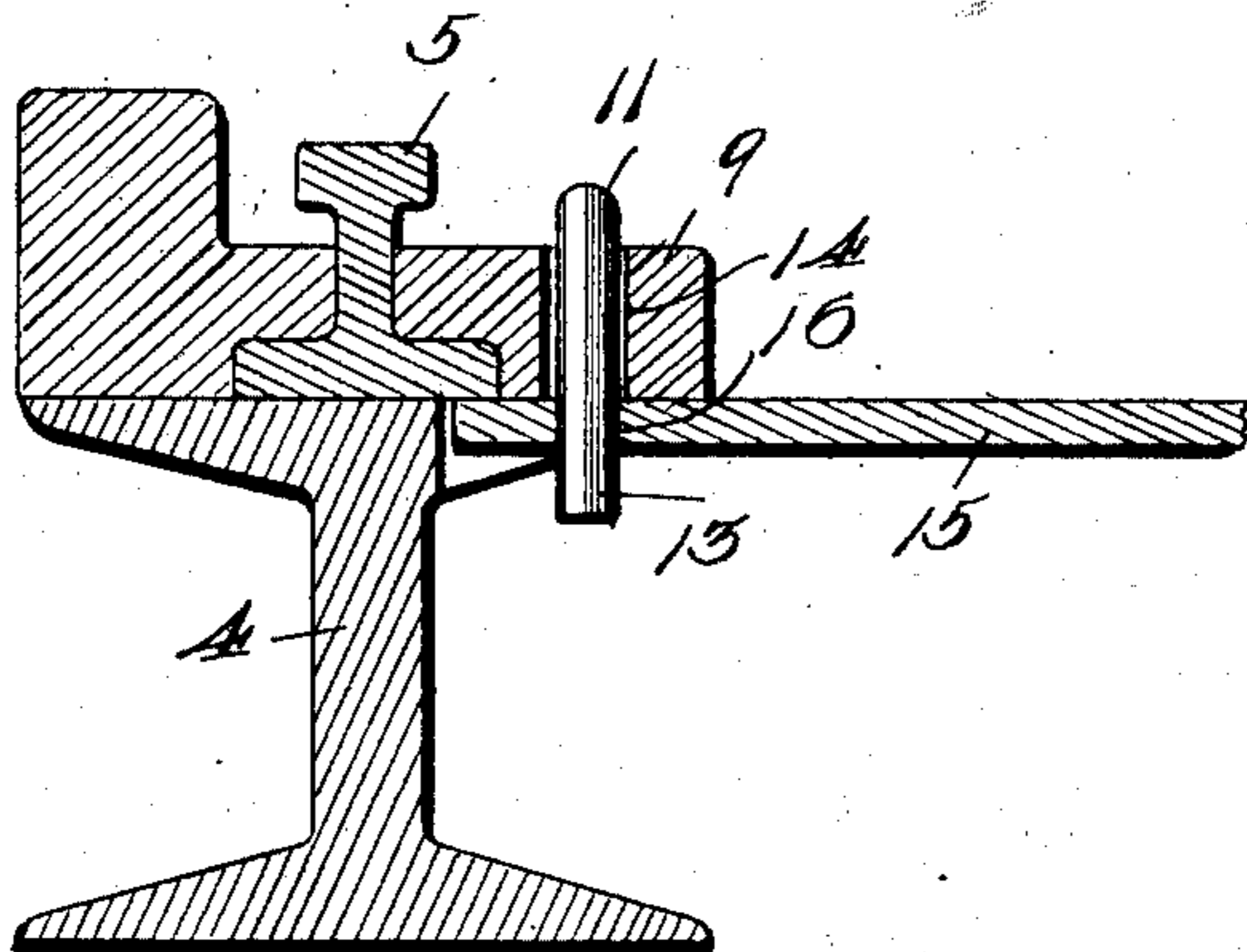


Fig. 5.

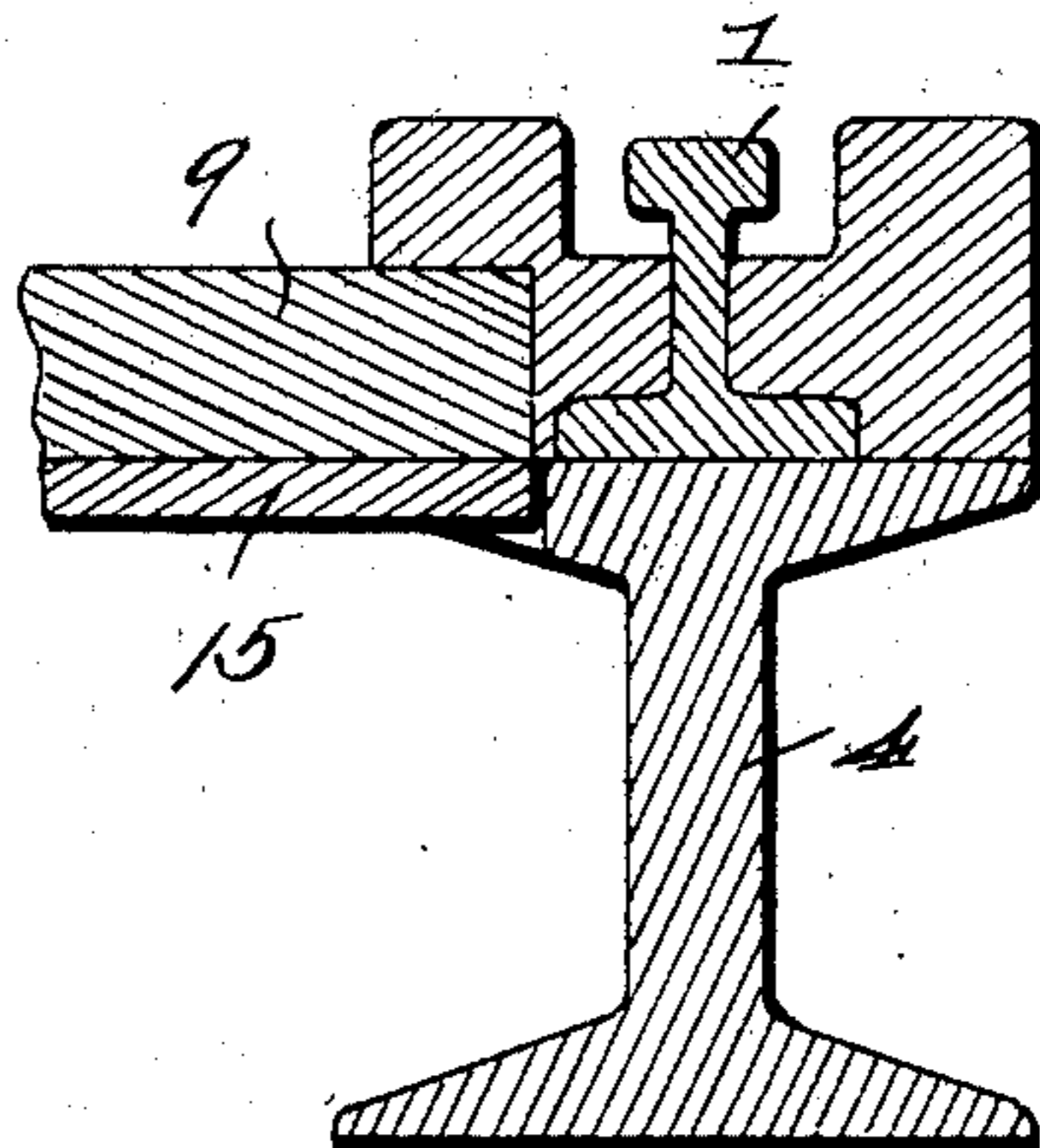


Fig. 3.

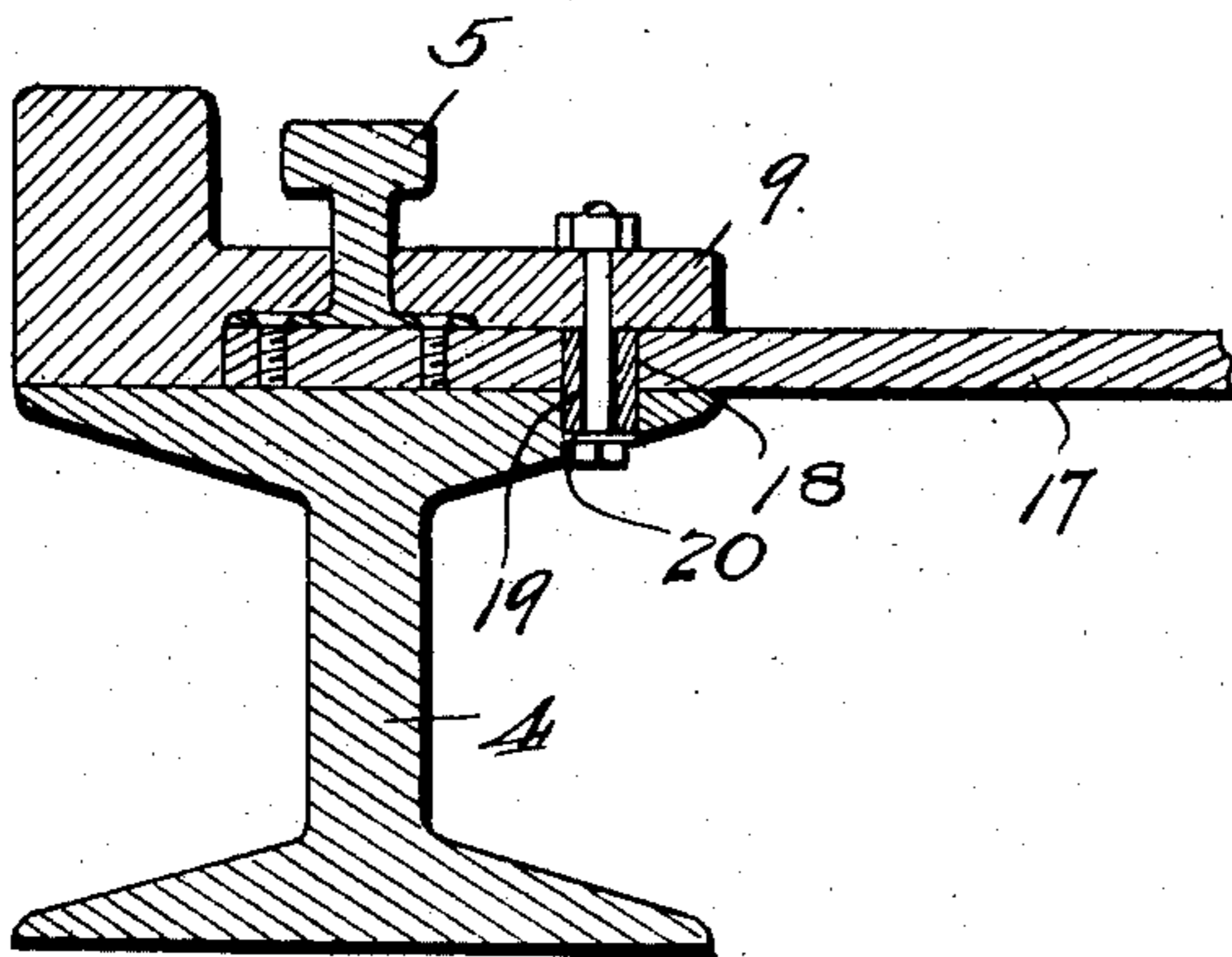
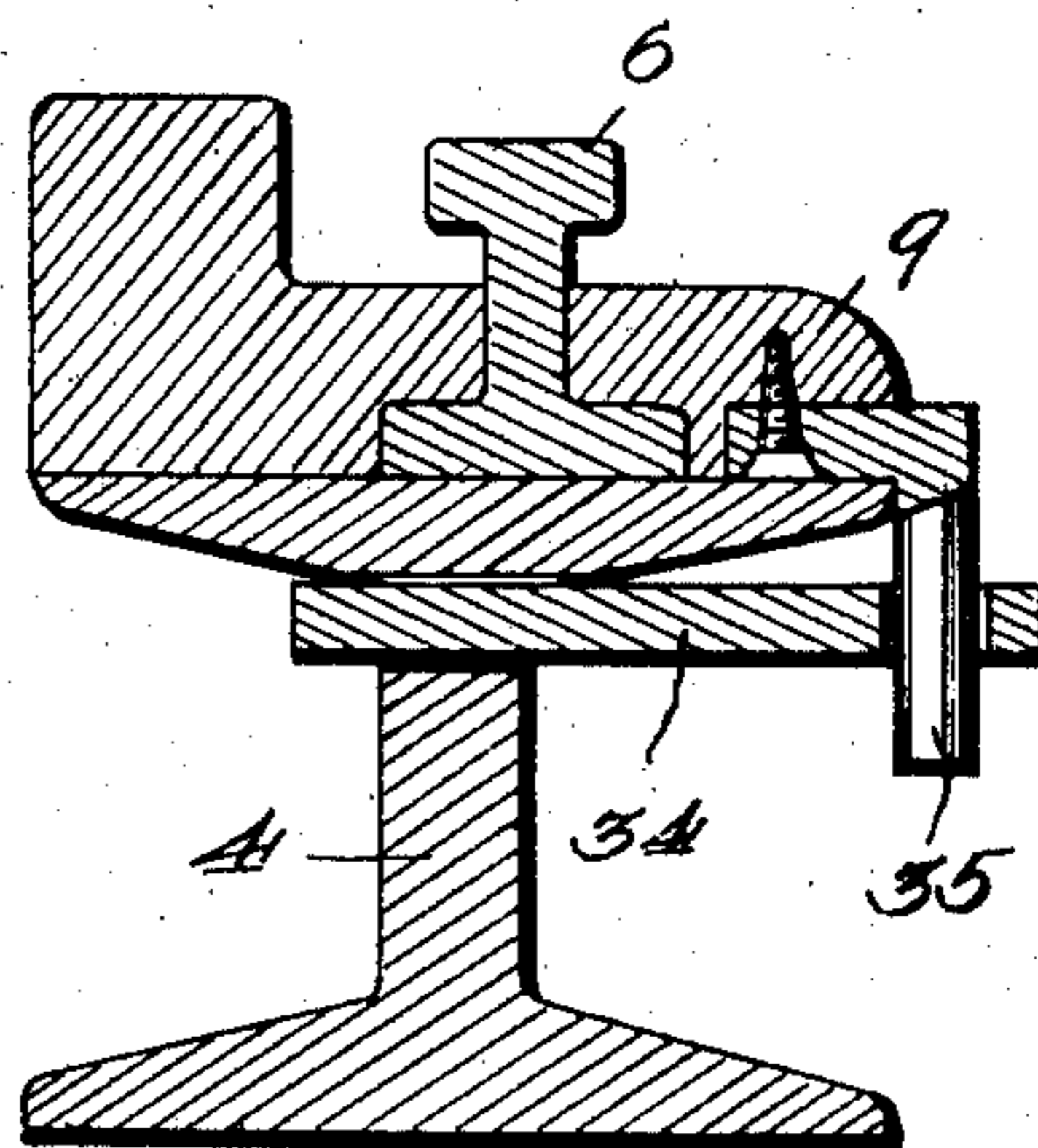


Fig. 4.



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3 SHEETS—SHEET 3.

Fig. 6.

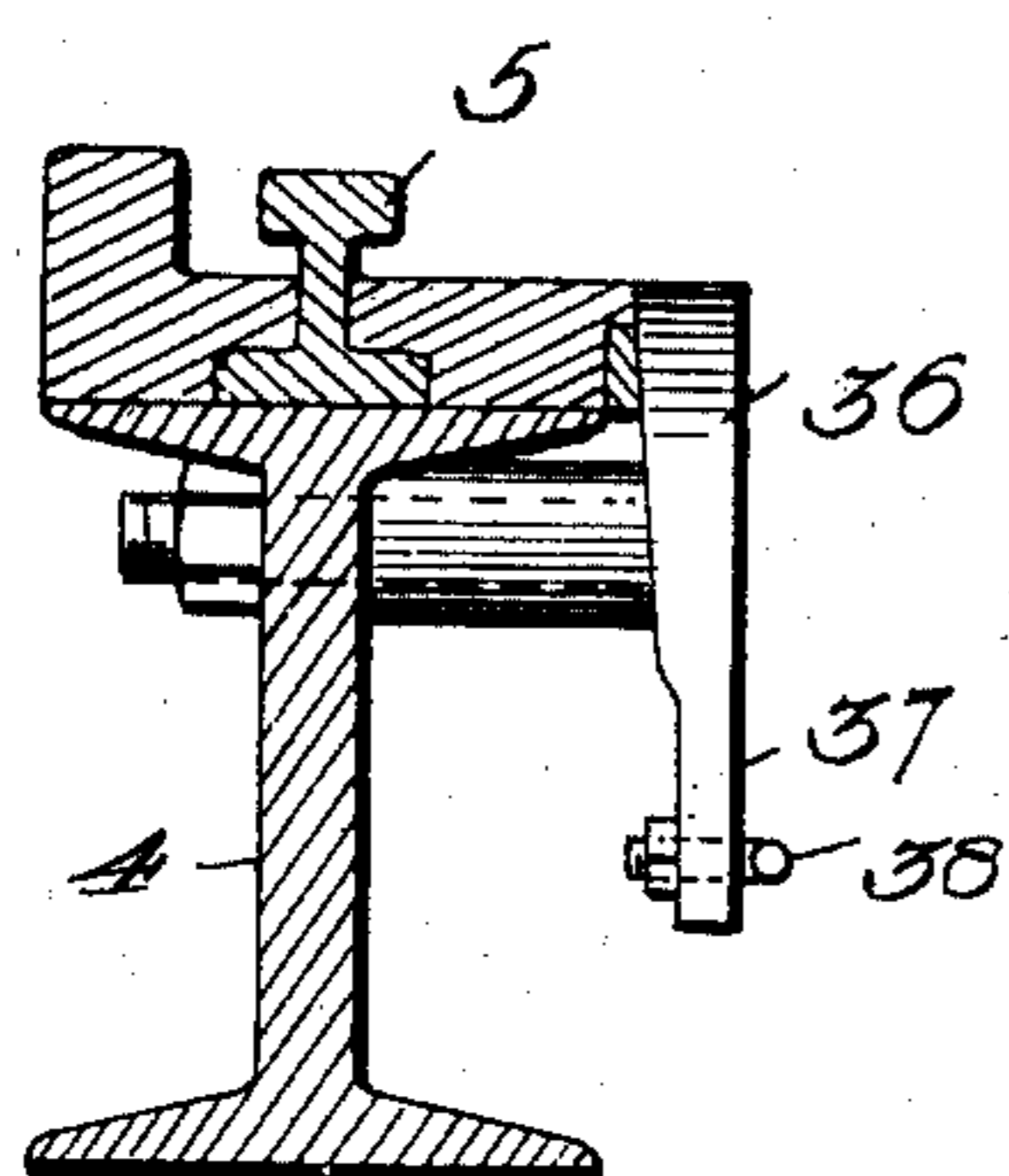
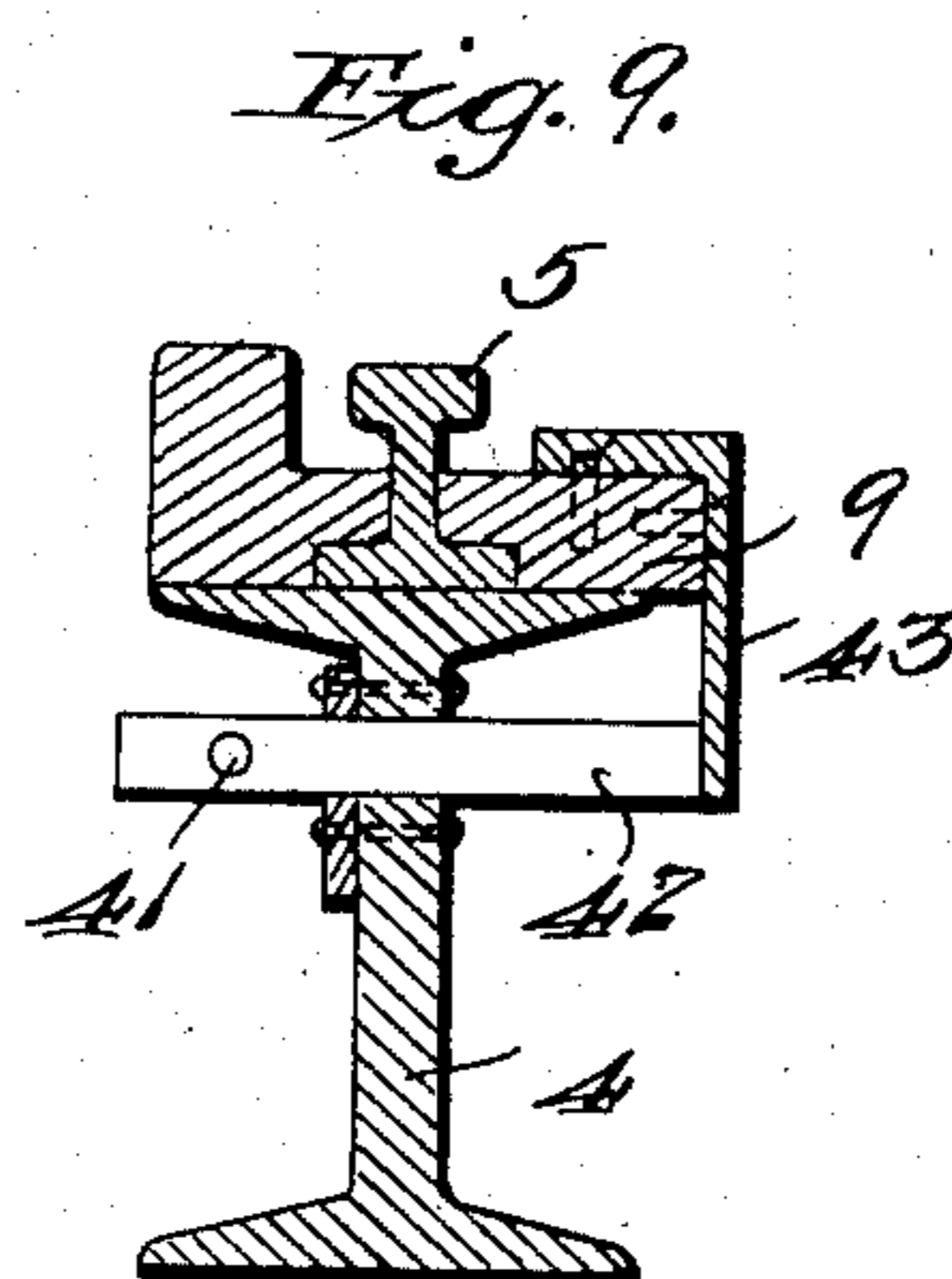
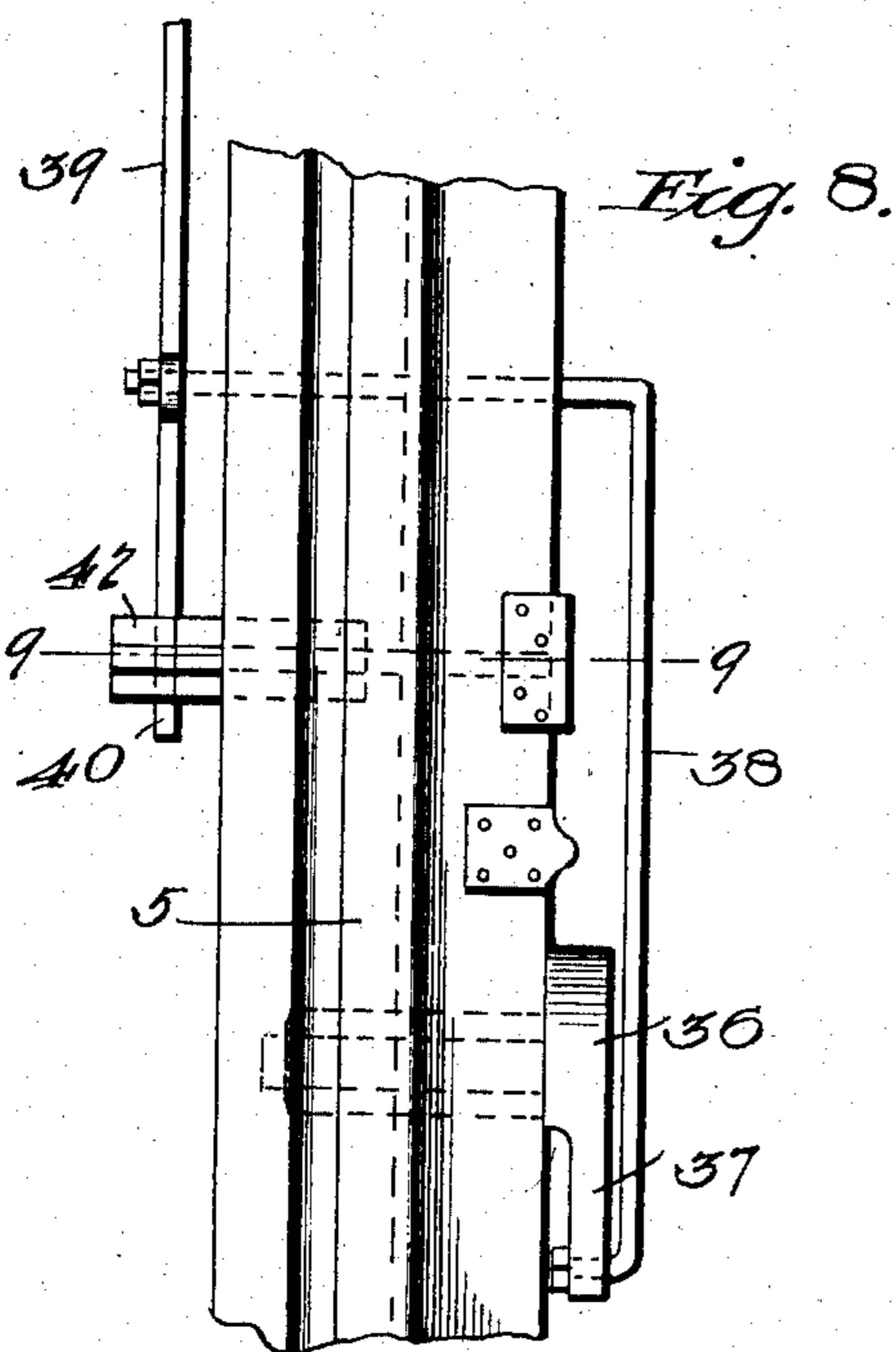
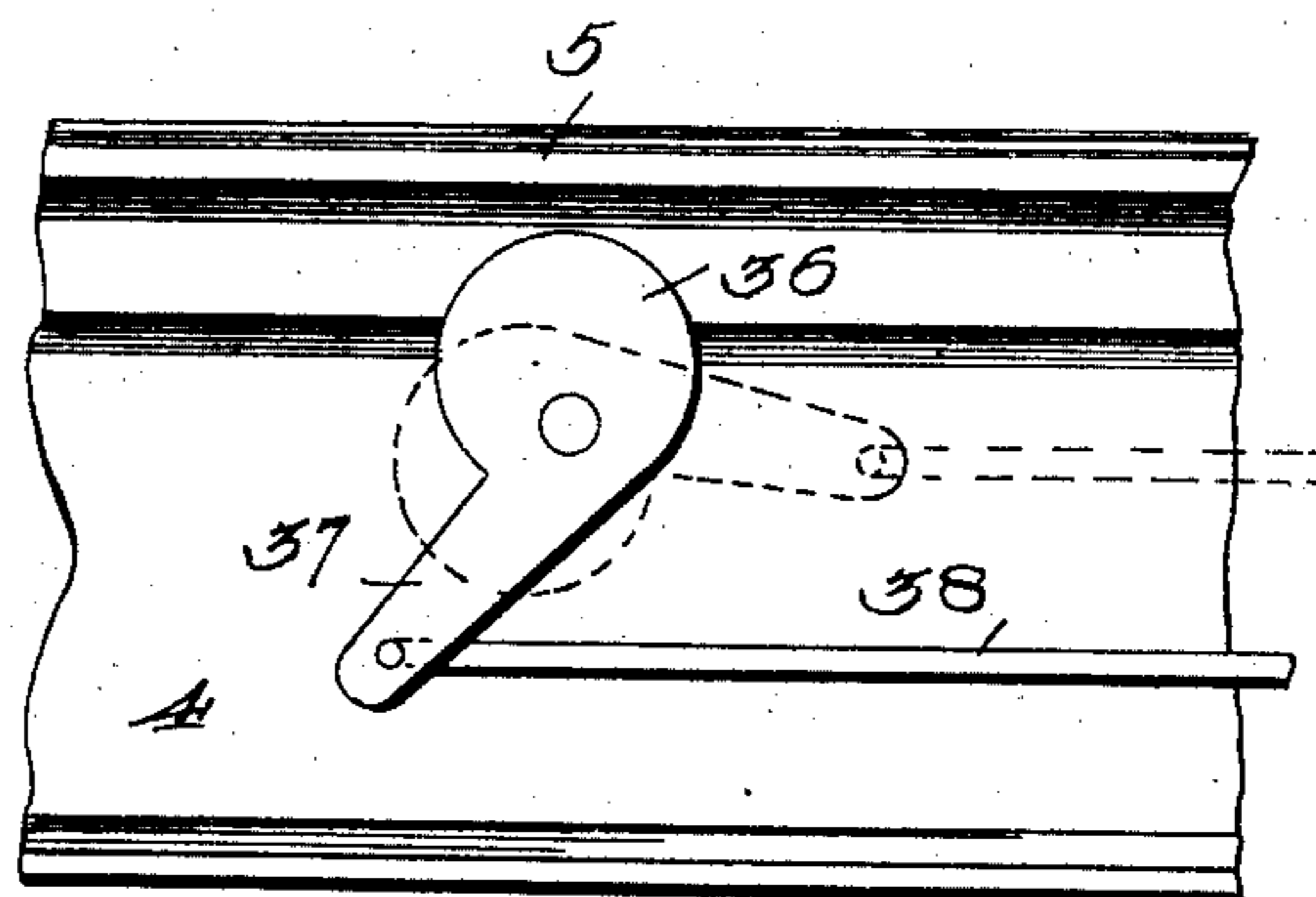


Fig. 7.



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# UNITED STATES PATENT OFFICE.

JOHN E. REESE, OF LOUISVILLE, KENTUCKY.

## RAILROAD-CROSSING.

No. 865,317.

Specification of Letters Patent.

Patented Sept. 3, 1907.

Application filed February 1, 1907. Serial No. 355,302.

*To all whom it may concern:*

Be it known that I, JOHN E. REESE, a citizen of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented a certain new and useful Railroad-Crossing, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to railroad crossings and the object of the invention is to provide in connection with fixed main and crossing rails, intervening rail sections movable in such manner and by such means that the said sections are adapted to be shifted into and out of position and when in position the said movable sections form continuations or extensions of the main or crossing rails as the case may be, thus giving a practically continuous or unbroken track.

The invention has special reference to the shiftable rail section, the manner of mounting, guiding and shifting the same and the operating connections whereby the movement of the sections is primarily effected.

With the above and other objects in view, the nature of which will more fully appear as the description proceeds, the invention consists in the novel construction, combination and arrangement of parts herein fully described, illustrated and claimed.

In the accompanying drawings:—Figure 1 is a plan view of the railroad crossing of this invention, showing the movable sections of one track in position and those of the other track shifted out of position. Fig. 2 is a cross section on an enlarged scale, taken on the line 2—2 of Fig. 1. Fig. 3 is a cross section on the line 3—3 of Fig. 1. Fig. 4 is a cross section on the line 4—4 of Fig. 1. Fig. 5 is a cross section on the line 5—5 of Fig. 1. Fig. 6 is a cross section on the line 6—6 of Fig. 1, illustrating the locking device. Fig. 7 is a side elevation of the locking device, showing portions of the adjacent rail and foundation base. Fig. 8 is a plan view showing the locking device. Fig. 9 is a cross section on the line 9—9 of Fig. 8.

Referring to the drawings 1, 1, designate the main track rails and 2, 2, the crossing rails, or vice versa, the said rails having their ends beveled as shown at 3, the bevel of the extremity of one rail forming practically a continuation of the bevel of the rail adjacent thereto and also at right angles thereto. The main and crossing track rails 1 and 2 are supported by a suitable foundation consisting preferably of I-beams 4, which extend under all of said rails and also beneath the intervening movable rail sections hereinafter particularly described. In connection with each rail 1 and 2, I employ a movable rail section which intervenes between the fixed parts of the rail of which it forms an extension or continuation, and said rail section embodies end to end separable members 5 and 6, the member 5 being mov-

able lengthwise and also laterally and the member 6 being movable lengthwise, whereby the beveled extremities 7 and 8 of the members 5 and 6 are adapted to be moved away from and toward the correspondingly beveled extremities of the fixed rails, Fig. 1 illustrating two of the movable sections in position and the remaining two sections out of position, the operating mechanism for shifting the movable sections being so arranged that when one set of rail sections is moved into position for a train to pass along the track, the other movable rail sections are moved out of position, and vice versa. In order to accomplish the shifting above referred to, the member 5 of each movable rail section is mounted on and carried by a rail shifting lever 9 pivoted at 10, at one end, to the base or foundation referred to, the opposite end of said lever being free to swing. The rail member 5 is mounted to slide endwise upon the lever 9 and is actuated by means of a slide rod 11, one end of which is fastened, as at 12 to the outside of the member 5, while the opposite end of said slide rod is bent downward to form a guide pin 13 which works in a slot extending lengthwise of the lever 9, said slot being shown at 14.

Located under the swinging end of the lever 9 is a fixed guide plate 15 having an angular slot 16 into which the guide pin 13 fits and along which it slides as the lever 9 swings inward and outward when acted upon by the mechanism hereinafter described. By reason of the angularity of the slot 16, as the lever 9 is moved outward and inward, the rail member 5 is shifted endwise along the lever, being at the same time moved laterally by the lever. In this way the member is thrown into and out of alinement with the corresponding fixed rail ends and also slid toward and away from the end of the contiguous fixed rail, as clearly illustrated in Fig. 1. The other complementary rail member 6 is mounted to slide endwise only, suitable guides being provided to permit such movement while preventing lateral movement thereof. In order to slide the member 6, it is provided with a laterally extending plate 17 which is fast thereon and provided with an angular guide slot 18 which receives a projection or runner 19 extending downward from the bottom of the lever 9, as shown in Fig. 3, the said runner preferably embodying an antifriction roller which works easily along said slot 18, the base or foundation being also cut away as shown at 20 to admit of such movement of the runner or projection. It will now be understood that as the lever 9 is moved outward and inward to shift the member 5, the runner 19 acts on the extension plate 17 to shift the member 6 endwise, thereby moving the beveled extremity 8 thereof toward and away from the corresponding beveled extremity of the adjoining fixed rail. It will thus be

seen that the rail section members are operatively connected or coupled together so that when the rail shifting lever is moved in either direction to shift the member 5, the other member 6 is simultaneously shifted, one member being shifted endwise only, and the other member being shifted both endwise and laterally.

The mechanism for shifting the movable rail sections is shown as consisting of two sets of toggle levers connected for simultaneous joint operation by a common pivot 21. To operate said toggle levers, I employ a push rod 22 and a pull rod 23, the said rods operating alternately with a push and a pull. When the rod 22 is pushed inward, it rocks a bell crank lever 24, which pushes on a connecting rod 25; the latter in turn rocks an elbow lever 26 and the latter, through a connecting link 27 pushes inward on one member 28 of one set of toggle levers, the other toggle lever member 29 of that set being connected by a coupling pin 30 to the lever 9 and acting in the movement just described to swing the lever 9 outward to shift the rail section members out of position, as above described. In the reverse movement of the actuating connections just described, the lever 9 is drawn inward and the members 5 and 6 are restored to their operative positions in readiness for a train to pass over them. The rod 23 acts on the other set of movable rail sections, as follows; when the rod 23 is pulled, it rocks an elbow lever 31 which pulls on a link 32 and vibrates one member 33 of the other set of toggle levers, the other member 34 of said set being connected to its respective lever 9 by a coupling pin 35, similar to that 30, above referred to. The two sets of toggle levers are thus connected by a common pivot and one set acts as a fulcrum for the other set.

In connection with each lever 9, I employ locking mechanism consisting of a locking device in the form of a rocking cam 36 pivotally mounted on the base at the outer side and comprising a lever arm 37 from which an operating rod 38 extends lengthwise of the rail for a suitable distance where it is bent and passed transversely under the rail and through the base or foundation, connecting on the opposite side with an actuating rod 39, the projecting end 40 of which is movable into and out of a hole 41 in a latch rod or bar 42, which is connected by means of a bracket 43 to the lever 9. When the lever is swung inward, the cam is thrown up behind said lever and having an inclined inner face, it binds against said lever and locks it in position thus holding the rail sections members securely against lateral displacement. At the same time the end 40 enters the hole 41 and serves as an additional safeguard against the accidental movement of the rail section members.

I claim:—

1. In a railroad crossing, the combination with fixed main and crossing rails, of intervening movable sections having a scarf-jointed abutment with the ends of the fixed main and crossing rails, each intervening section embodying overlapping members, and a single operating device and connections adapted to simultaneously separate the ends of the intervening section members from the corresponding ends of the fixed main and crossing rails.

2. In a railroad crossing, the combination with fixed main and crossing rails, of intervening movable rail sections each embodying relatively movable members connected for simultaneous operation, and operating means for shifting one member and causing it to shift the member to which it is connected.

3. In a railroad crossing, the combination with fixed main and crossing rails, of intervening movable rail sections each embodying relatively movable overlapping members, means connecting said members with one another to effect their simultaneous movement, and means for shifting one of said members, thereby causing it to turn to shift the member to which it is connected.

4. In a railroad crossing, the combination with fixed main and crossing rails, of intervening movable rail sections each embodying relatively movable members which overlap and are connected by means by which in the swinging or lateral movement of one member the member connected therewith is moved endwise, and means connected with the laterally movable member for shifting the same.

5. In a railroad crossing, the combination with fixed main and crossing rails, of intervening movable rail sections having a scarf-jointed abutment with the ends of the fixed rails and each embodying relatively movable members connected for simultaneous operation, and operating means for shifting one member and causing it to shift the member to which it is connected.

6. In a railroad crossing, the combination with fixed main and crossing rails, of intervening movable rail sections having a scarf-jointed abutment with the ends of the fixed rails, each intervening section embodying relatively movable members, connected for simultaneous operation, and means for shifting the sections of one track out of position and the sections of the other track into position and vice versa so that the ends of one pair of sections will occupy the same space previously occupied by the ends of the other pair.

7. In a railroad crossing, the combination with fixed main and crossing rails, of intervening rail sections each comprising relatively movable members having a scarf-jointed abutment with the ends of the fixed rails and connected together for simultaneous operation, and means for shifting the section members of one track out of position and the section members of the other track into position and vice versa so that the ends of one pair of sections will occupy the same space previously occupied by the ends of the other pair.

8. In a railroad crossing, the combination with fixed intersecting track rails, of intervening rail sections each divided to comprise end to end separable members one of which is adapted to be moved endwise and the other both endwise and laterally, means connecting said members for causing such relative movement, and means for shifting one member and thereby effecting the movement of the member connected therewith.

9. In a railroad crossing, intersecting track rails each embodying a movable section divided to comprise end to end separable members, and means for shifting the members into and out of position including a lever and an operative connection between the members whereby one member is caused to move the member to which it is connected.

10. In a railroad crossing, the combination with fixed track rails, of movable sections thereof having a scarf-jointed abutment with the ends of the fixed rails and divided to comprise end to end separable members, and means for shifting the members into and out of position including a lever, and means for locking said lever.

11. In a railroad crossing, intersecting track rails each embodying a movable section divided to comprise end to end separable members, and means for shifting the members into and out of position including toggle levers and an operating device for said toggle levers.

12. In a railroad crossing, intersecting track rails each embodying a movable section divided to comprise end to end separable members, a guide on one member, a guide-engaging projection on the adjoining member, and means for shifting one member.

13. In a railroad crossing, intersecting track rails each embodying a movable section divided to comprise end to end separable members, a fixed guide for one member, a guiding and actuating device carried by one member and engaging the adjacent member, and means for shifting one member and causing it to shift the adjacent member.

14. In a railroad crossing, intersecting track rails each embodying a movable section divided to comprise end to

end separable members, a slotted guide and actuating plate carried by one member and engaging a projection on the adjacent member whereby one member is adapted to move the other, and means for shifting one of said members.

5 15. In a railroad crossing, intersecting track rails each embodying a movable section divided to comprise end to end separable members, and means for simultaneously shifting the members of opposite sections into and out of position including a double set of toggle levers.

10 16. In a railroad crossing, intersecting track rails each embodying a movable section divided to comprise end to

end separable members, and means for simultaneously shifting the members of opposite sections into and out of position including oppositely arranged sets of toggle levers pivotally connected together by a common connection. 15

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

JOHN E. REESE.

Witnesses:

WILLIAM NEAL,  
E. J. CLEM.