

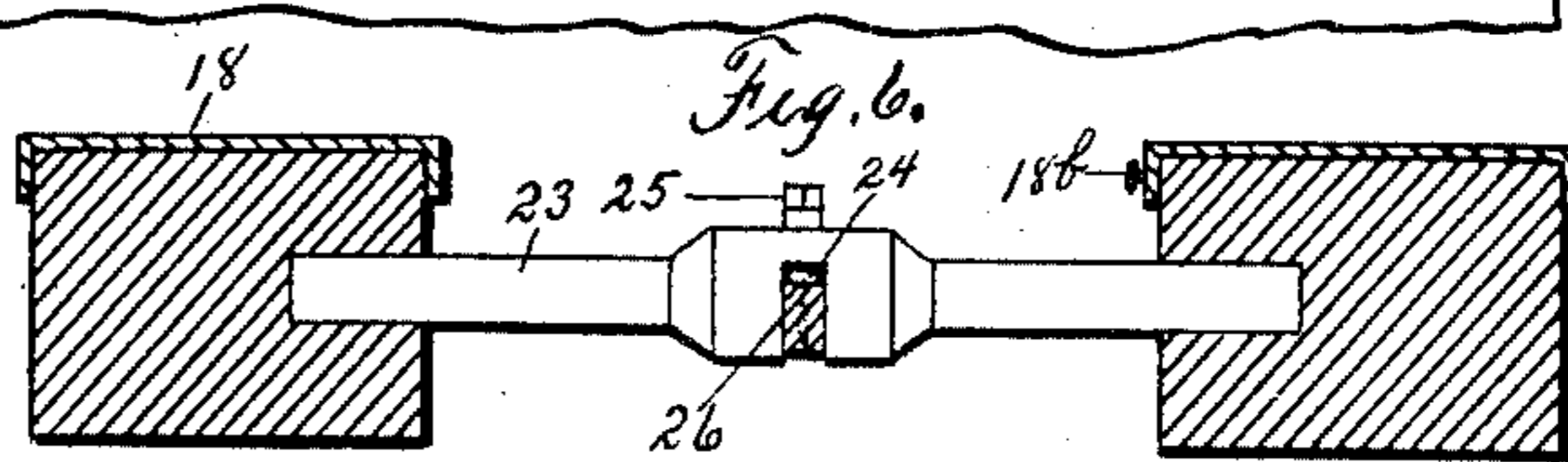
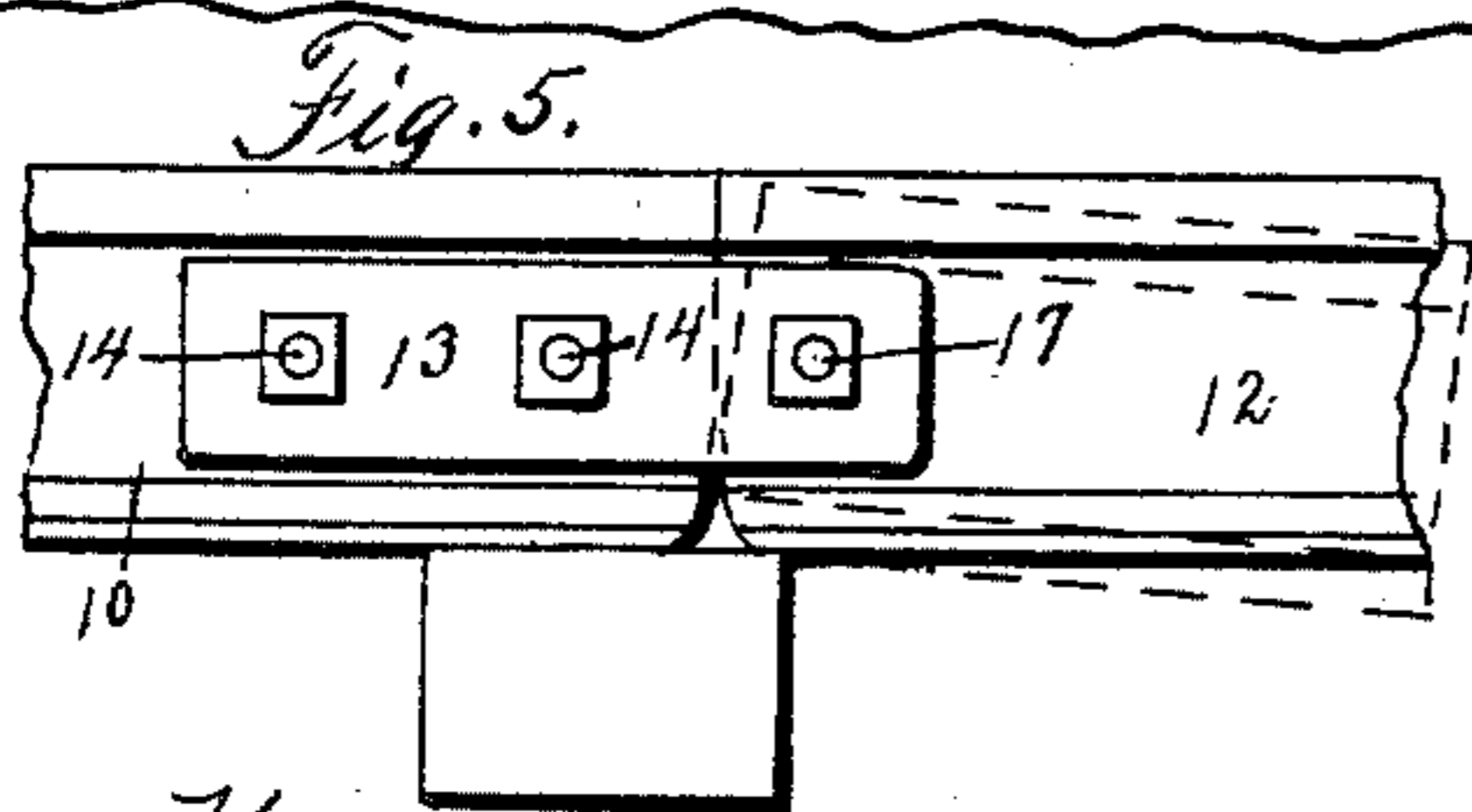
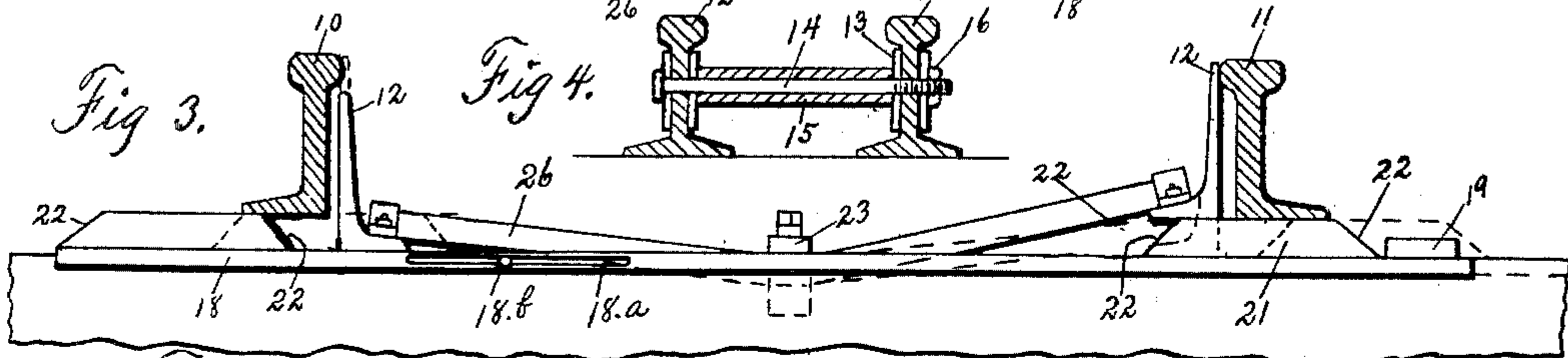
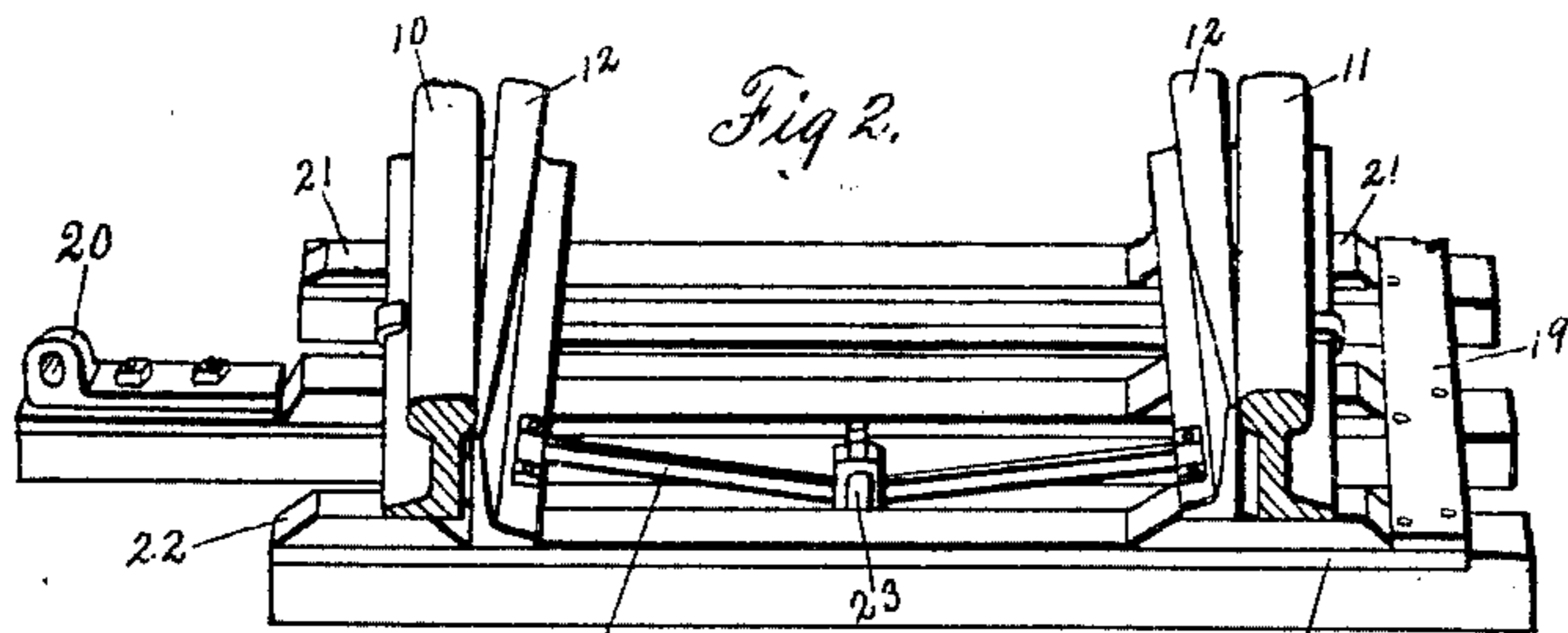
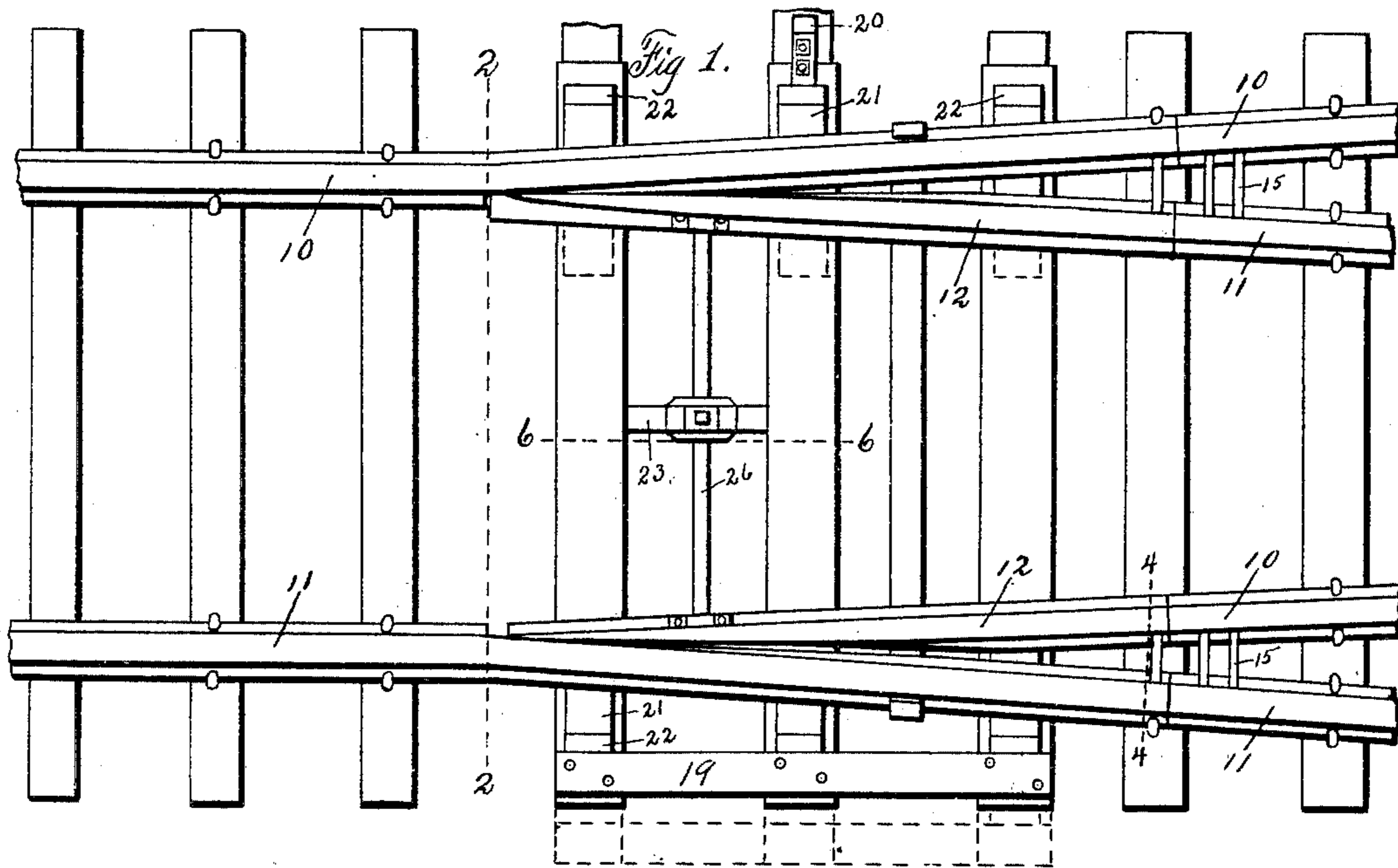
No. 675,489.

Patented June 4, 1901.

L. J. LINDSAY.
RAILWAY SWITCH.

(Application filed June 8, 1900.)

(No Model.)



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UNITED STATES PATENT OFFICE.

LEROY J. LINDSAY, OF SEYMOUR, IOWA.

RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 675,489, dated June 4, 1901.

Application filed June 8, 1900. Serial No. 19,636. (No model.)

To all whom it may concern:

Be it known that I, LEROY J. LINDSAY, a citizen of the United States, residing at Seymour, in the county of Wayne and State of Iowa, have invented certain new and useful Improvements in Railway-Switches, of which the following is a specification.

The object of this invention is to provide a railway-switch of simple, durable, strong, and inexpensive construction, that may be easily operated and that cannot be rendered inoperative by snow, ice, sand, &c.; and my object is, further, to provide a railway-switch in which the switch-rails move vertically and not horizontally, thereby avoiding the possibility of the accumulation of substances between the switch-rails and the track-rails, and, further, to provide improved means for raising and lowering the switch-rails and for supporting them and the adjacent portions of the track-rails when the switch-rails are in any position.

My invention consists, essentially, in the construction, arrangement, and combination of parts whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which—

Figure 1 shows a plan of the complete railway-switch and connected portions of the track-rails. Fig. 2 shows a transverse sectional perspective view through the indicated line 2 2 of Fig. 1. Fig. 3 shows a sectional view of the track-rails with the switch-rails and movable parts shown in one position in solid lines and in a reverse position in dotted lines. Fig. 4 shows a sectional view through the indicated line 4 4 of Fig. 1. Fig. 5 shows in side elevation the joint for connecting the switch-rails with the track-rails and by dotted lines the position of the switch-rail when lowered. Fig. 6 shows a sectional view through the indicated line 6 6 of Fig. 1.

Referring to the accompanying drawings, I have used the reference-numeral 10 to indicate the two rails of a railway-track permanently secured to railway-ties in the ordinary manner, and 11 to indicate the track-rails of a similar track, all of said rails being arranged to converge, so that a train passing over either of said tracks may pass to a single

track. The inner rail of each track is cut off at a point some distance from a point at which the rails converge, and the switch-rails (indicated by the reference-numeral 12) are supplied to form continuous tracks to the point where the rails converge. All of the rails are arranged in the ordinary manner, except that the switch-rails both lie flat against the surfaces of the adjacent track-rails. Each of these switch-rails is connected with its abutting track-rail by means of the plates 13, rigidly secured to the sides of the track-rails and overlapping the end of the switch-rail. Two bolts 14 are passed through the ends of the track-rails abutting the switch-rails and also through the track-rails beside the switch-rails. On the central portion of each of the bolts 14 is a rigid sleeve 15 to impinge against the plates 13, and nuts 16 on the ends of the bolts provide means whereby the adjacent track-rails are rigidly supported with relation to each other and against movement to and from each other. Another bolt 17 is provided to pass through the plates 13 and the end of each switch-rail, thus providing pivots upon which the switch-rails may swing in a vertical plane and also providing means whereby the switch-rails may be firmly held in alinement with their abutting track-rails.

Mounted upon the ties under the switch-rails is a series of sliding plates 18 of a length slightly greater than the width of the track, and said plates are connected at one end by the cross-piece 19. On one of said plates is a bar 20, to which a switch may be applied for sliding the plates longitudinally upon the ties. I have mounted upon these sliding plates a series of blocks 21, having their both ends beveled downwardly and outwardly at 22. These blocks are so arranged with relation to each other and to the rails that when the plates 18 are thrown to one limit of their movement the said blocks will assume the position shown in solid lines in Fig. 3, with the track-rail resting upon the blocks at one side of the track and the other track-rail and switch-rail resting upon the blocks at the opposite side of the track, and when said plates are moved to the opposite limit of their movement the blocks will assume the position shown in dotted lines in Fig. 3. Hence at all times the track-rails will be supported upon the

blocks and one or the other of the switch-rails will be supported, while the remaining switch-rail will be free to move downwardly on top of the plate. It is obvious that by this arrangement of parts any obstructions—such, for instance, as snow, ice, sand, &c.—that may become lodged any place about the switch will not interfere with the operation of the sliding plates and blocks, &c., because the wedge-shaped blocks will push such obstructions aside during their movement, and by reason of their movement they will always clear a space in which the switch-rail may move downwardly. The movement of the sliding plates is limited by a slot 18^a in one plate and a bolt 18^b, passed through the slot into the tie.

I have provided means whereby the switch-rails may be forced to assume opposite positions—that is, when one switch-rail is at its upper limit the other one will be forced to its downward limit, as follows:

The numeral 23 indicates across-piece suitably supported between two of the ties and preferably central between the rails. This cross-piece is vertically slotted in its central portion at 24, and a set-screw 25, passed through the top of the cross-piece, enters said slot. 26 indicates a cross-bar mounted in said slot to be engaged by the set-screw 25, the ends of said bar being pivotally connected to the switch-rails. This bar serves the double function of maintaining the switch-rails at their proper distance of separation from each other and at the same time forcing one rail downwardly while the other is being elevated. By an adjustment of the set-screw 25 it is obvious that the path of movement of the switch-rails may be raised or lowered.

In practical use and assuming that the parts were arranged as shown in Fig. 1 it is obvious that the switch may be “thrown” by simply moving the bar 20 from one limit of its movement to the other. Obviously the ordinary switch-lever may be connected with this bar to accomplish this function. This movement of the bar will obviously move all of the blocks from beneath one of the switch-rails and force all of the blocks beneath the other switch-rail, with the effect of raising the last-mentioned switch-rail and through the bar 26 forcing the first-mentioned switch-rail downwardly against the sliding plates. This downward limit of movement of the switch-rails is sufficient to place them below the wheel-flanges, and obviously no amount of snow, ice, &c., upon or about the rails or sliding plates can materially interfere with this operation. Furthermore, the said blocks by passing under adjacent portions of the track-rails not only serve as supports for the rails, but prevent an accumulation of ice, snow, &c., under the track-rails and between the bases of the track and switch rails.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States therefor, is—

1. An improved railway-switch, comprising fixed track-rails, two switch-rails pivoted to swing vertically, a number of wedge-shaped blocks under each switch-rail, designed to pass under and engage and support the adjacent portions of the track-rails and capable of sliding outwardly from beneath the switch-rails without passing from under, or withdrawing their support from the track-rails, means for connecting the blocks to operate in unison, and means for operating said blocks.

2. An improved railway-switch, comprising fixed track-rails, two switch-rails pivoted to swing vertically, a number of wedge-shaped blocks under each switch-rail, designed to pass under and engage and support the adjacent portions of the track-rails, and capable of sliding outwardly from beneath the switch-rails without passing from under, or withdrawing their support from the track-rails, means for connecting the blocks to operate in unison, means for operating said blocks, and means for positively limiting the sliding blocks, whereby they are prevented from withdrawing their support from the track-rail.

3. An improved railway-switch, comprising fixed track-rails, two switch-rails pivoted to swing vertically, a number of wedge-shaped blocks under each switch-rail, designed to pass under and engage and support the adjacent portions of the track-rails, and capable of sliding outwardly from beneath the switch-rails without passing from under, or withdrawing their support from the track-rails, means for connecting the blocks to operate in unison, means for operating said blocks, means for positively limiting the sliding blocks, whereby they are prevented from withdrawing their support from the track-rail, and means for positively forcing one of the switch-rails downwardly upon the elevation of the other switch-rail.

4. An improved railway-switch, comprising fixed track-rails, two switch-rails pivoted to swing vertically, a number of wedge-shaped blocks under each switch-rail, designed to pass under and engage and support the adjacent portions of the track-rails, and capable of sliding outwardly from beneath the switch-rails without passing from under, or withdrawing their support from the track-rails, means for connecting the blocks to operate in unison, means for operating said blocks, means for positively limiting the sliding blocks, whereby they are prevented from withdrawing their support from the track-rail, a bar extended transversely of the railway-tracks between the switch-rails pivoted at its central portion to swing in a vertical plane, and pivotally connected at each end with one of the track-rails, and means for vertically adjusting the said bar at its pivotal point, for the purposes stated.

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Witnesses:

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