

No. 627,384.

Patented June 20, 1899.

P. O. E. BOUDREAU.
RAILWAY SWITCH.

(Application filed Apr. 8, 1899.)

(No Model.)

2 Sheets—Sheet 1.

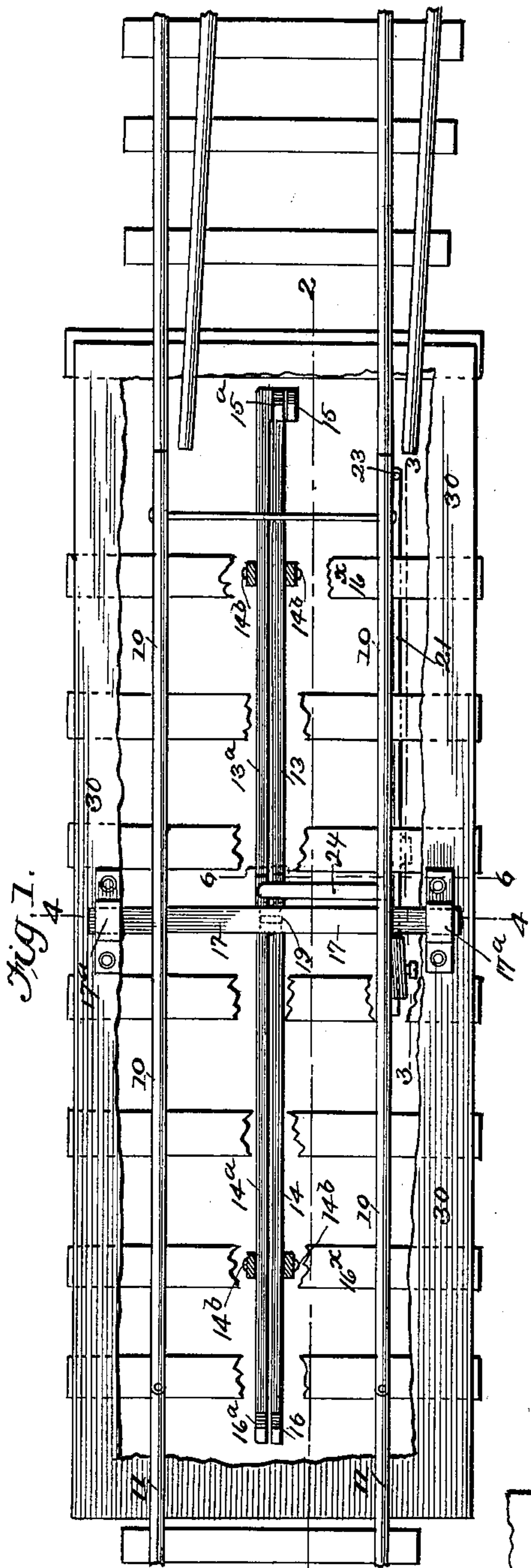


Fig. 1.

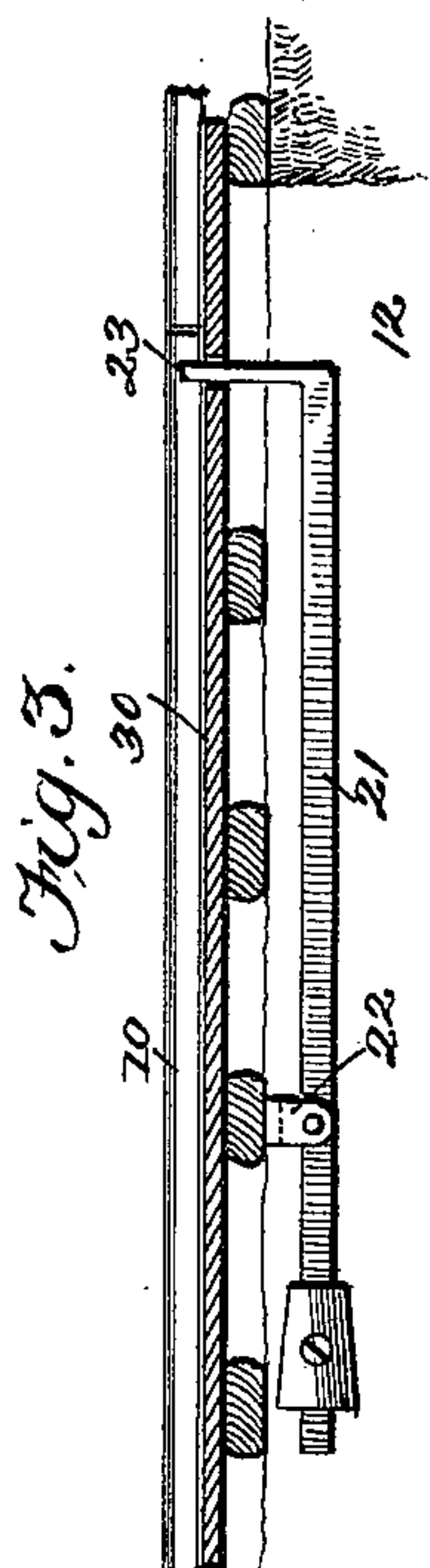


Fig. 3.

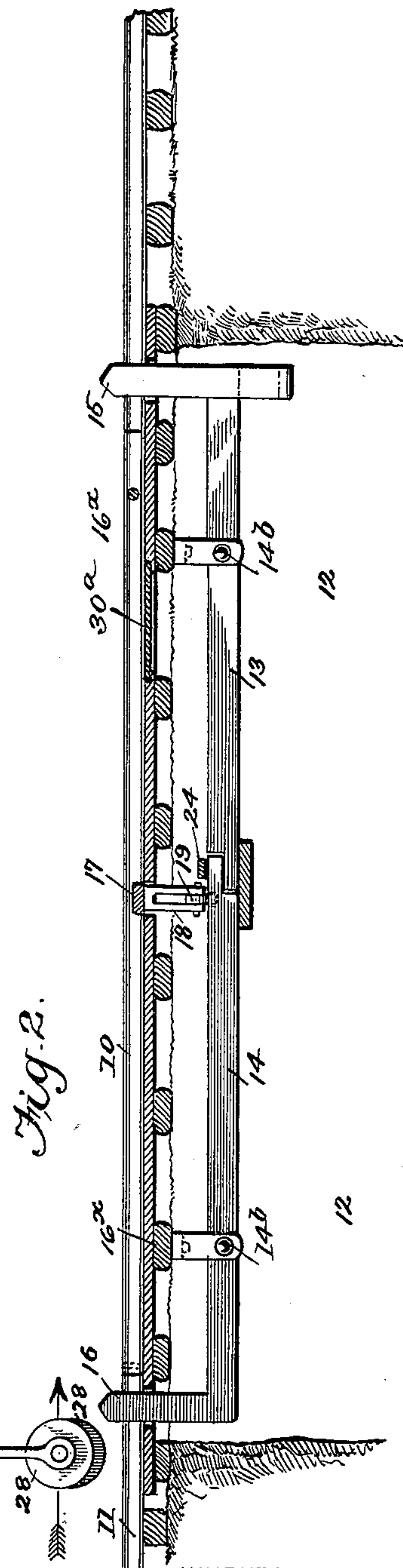


Fig. 2.

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Fig. 4.

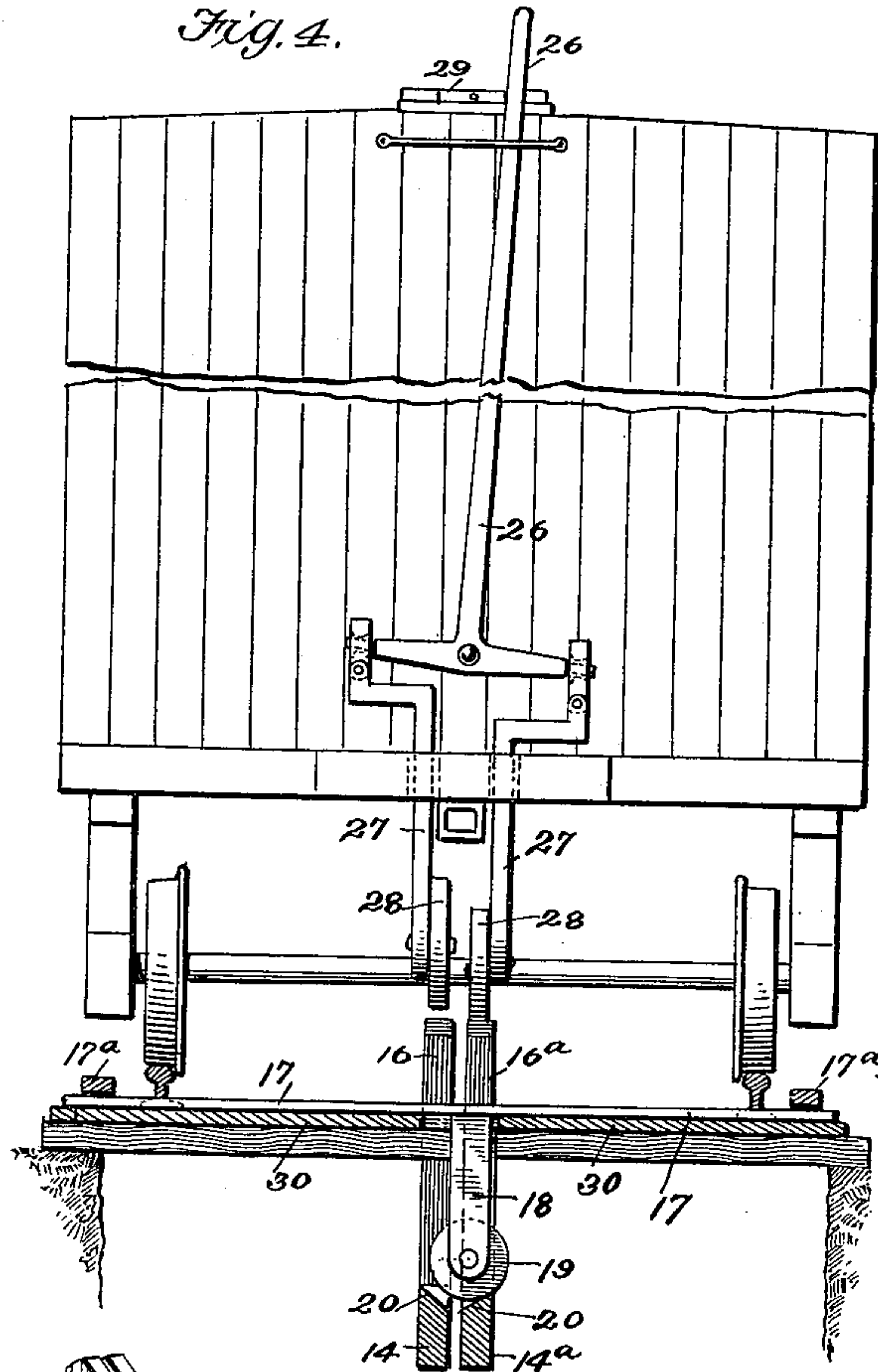


Fig. 5.

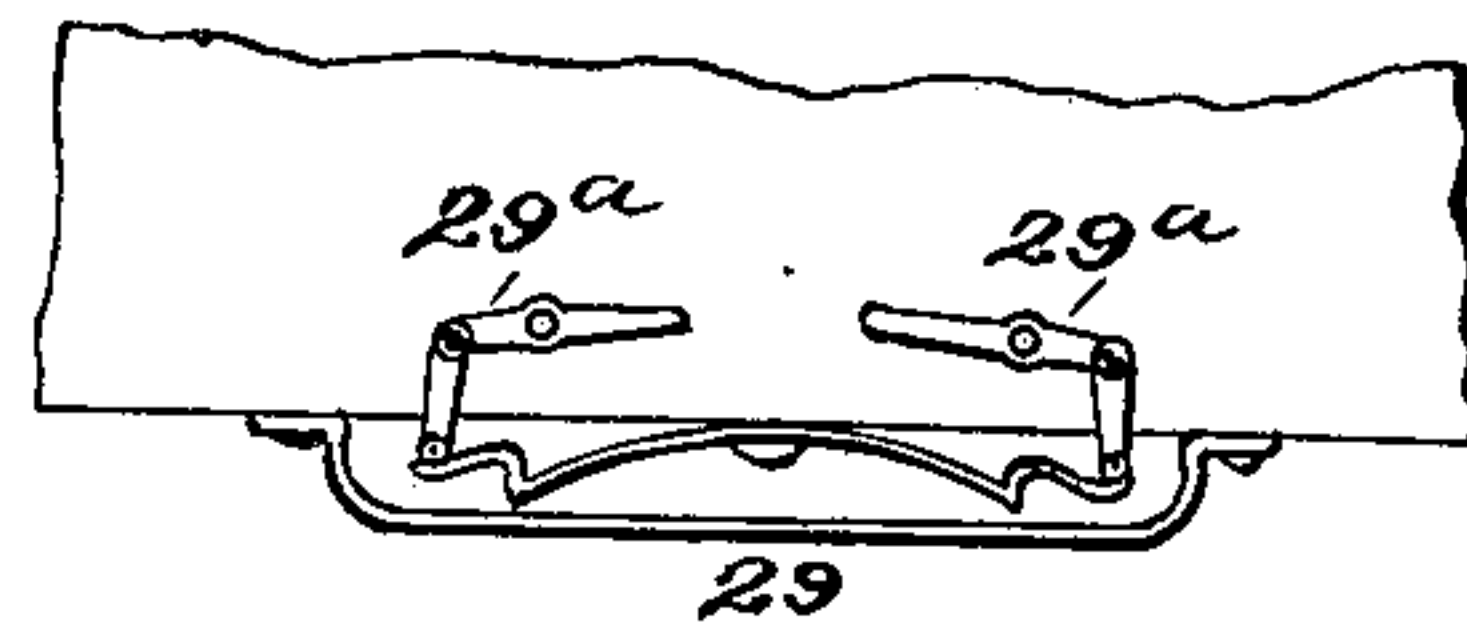


Fig. 6.

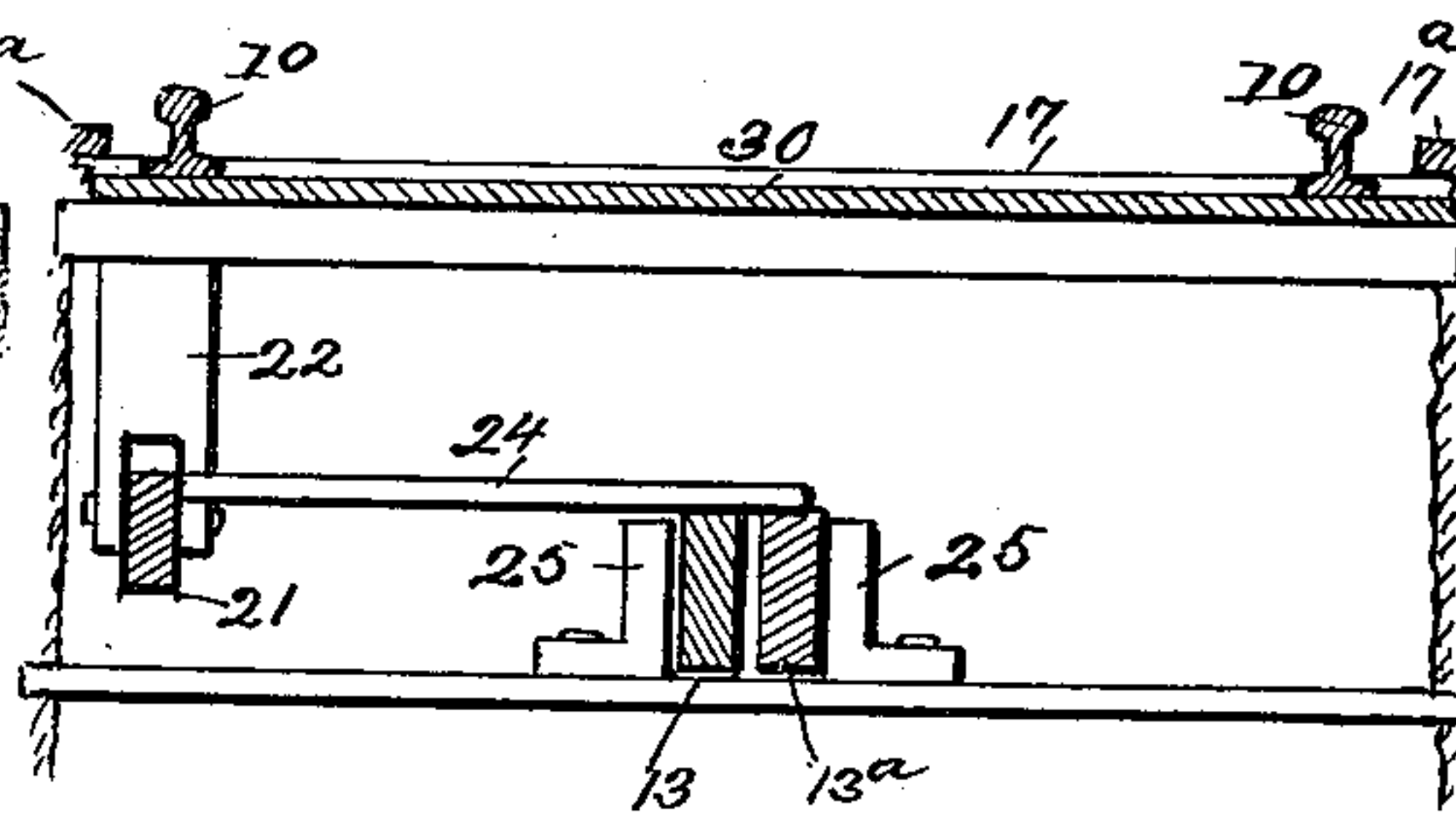
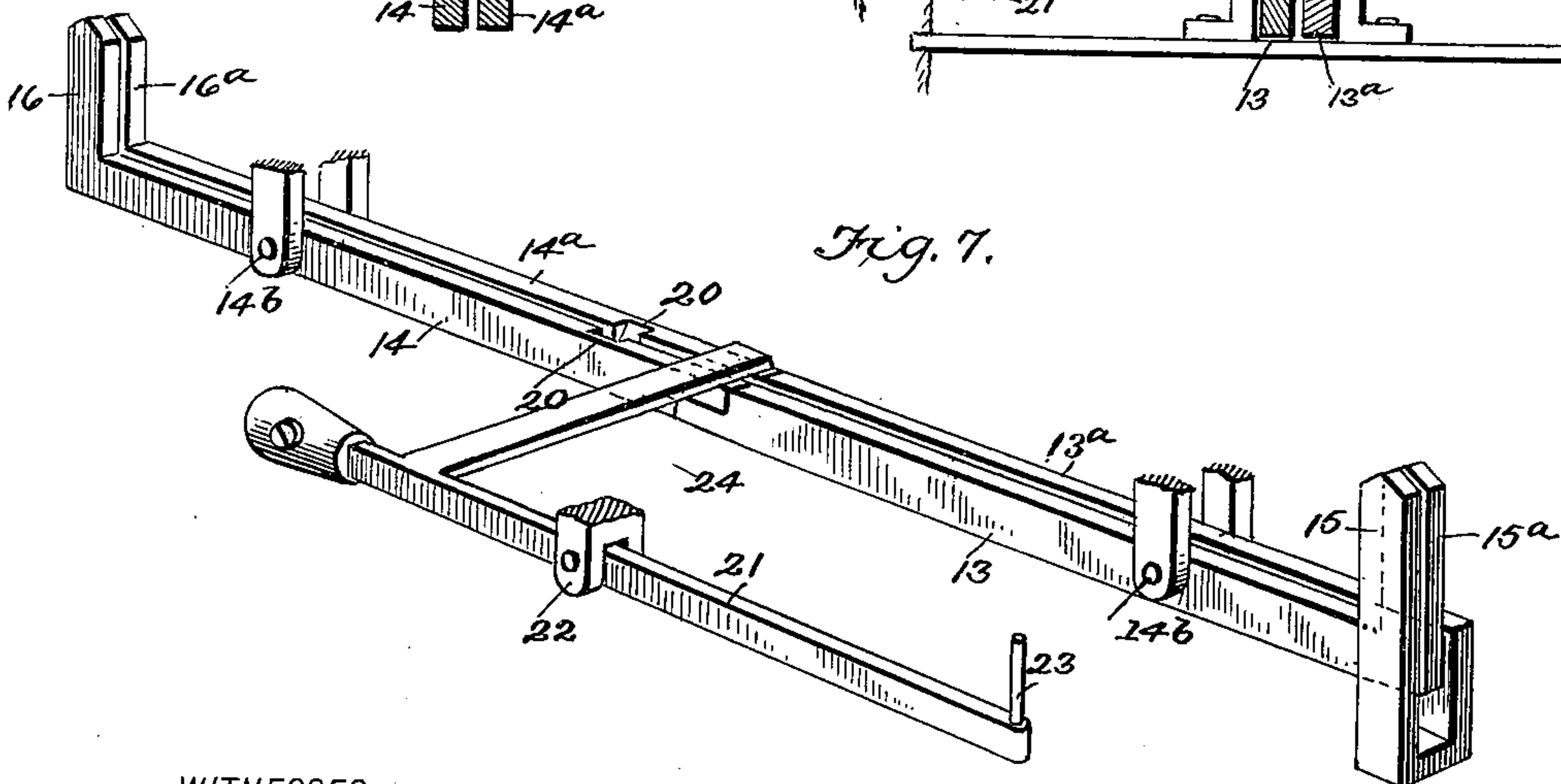


Fig. 7.



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UNITED STATES PATENT OFFICE.

PAUL O. E. BOUDREAUX, OF THERIOT, LOUISIANA, ASSIGNOR OF ONE-HALF
TO XAVIER ST. MARTIN, J. T. THERIOT, AND ANASTASIE WATKINS, OF
SAME PLACE.

RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 627,384, dated June 20, 1899.

Application filed April 8, 1899. Serial No. 712,258. (No model.)

To all whom it may concern:

Be it known that I, PAUL O. E. BOUDREAUX, of Theriot, in the parish of Terre Bonne and State of Louisiana, have invented a new and
5 useful Improvement in Railway-Switches, of which the following is a specification.

My invention relates to that class of railway-switches in which the locomotive or a car of a train engages with the switch-throwing
10 mechanism to operate the same in order to automatically switch the train from the main track to a siding, and vice versa.

The object of the invention is to so construct the switch-throwing mechanism that
15 it may be effectively operated by the train whether the latter is on the main track or on the siding and whereby the possibility of accidentally derailing the train by running upon or off of an open switch may be precluded.

20 A further object of the invention is a locking device for the switch-rails, whereby they will be automatically locked in line with the main-track section or siding, as may be desired.

25 With these objects in view my invention consists in certain arrangement and construction of switch-throwing levers and a locking device, which I shall first describe and then point out the novel features in the appended
30 claims.

Reference is to be had to the accompanying drawings, forming part of this specification, in which like characters of reference indicate corresponding parts in all the views.

35 Figure 1 is a plan view of the device with the protecting-cover partly broken away. Fig. 2 is a vertical section on the line 2 2 of Fig. 1. Fig. 3 is a detail section on the line 3 3 of Fig. 1. Fig. 4 is a vertical section taken
40 practically on the line 4 4 of Fig. 1, the car being shown in position to throw the switch. Fig. 5 is a detail plan view of the guides and holding devices for the lever 26. Fig. 6 is a detail section taken on the line 6 6 of Fig. 1,
45 and Fig. 7 is a detail perspective view illustrating the switch throwing and locking mechanism.

The switch-rails 10 are connected to the main-track section 11 in any approved manner and are mounted to move over a well 12,

in which the switch-throwing mechanism is located. This latter consists principally of four rocking levers 13 and 13^a and 14 and 14^a, pivoted between their ends on spindles or axles 14^b, held in depending yoke-frames 55 secured to cross-bars 16^x or to an ordinary cross-tie of the track. The levers 13 and 13^a are parallel and extend in longitudinal alignment with the levers 14 and 14^a, which latter are also parallel, the meeting ends of one set 60 of levers overlapping and resting upon the ends of the other set. The outer end of each lever terminates at a point beyond the switch-rails, where it is provided with an upright post 15 and 15^a and 16 and 16^a. The posts 16 65 and 16^a are similar in form and construction; but the posts 15 and 15^a, which are located inside of the siding-rails and the adjacent main-track rails, are so arranged that a depression of the post 15 will cause a depression 70 of the diagonally opposite lever 14^a and its post 16^a. This is accomplished by extending the outer end of the lever 13^a downward and inward, as shown in Fig. 7, around the adjacent lever 13 and mounting the post 15 on 75 such extension, so that it will extend up along the inner or opposite side of the adjacent post 15^a.

A cross-bar 17 connects the switch-rails 10, and this bar is formed with a depending bifurcated arm 18, between whose members a wheel 19 is fitted. Just below said wheel the inner side edges of the levers 14 and 14^a are oppositely beveled, as at 20, and on these beveled edges the wheel 19 is adapted to ride, so 85 that when the lever 14^a is rocked its beveled edge will cause the wheel to move over and the switch-rail will be thrown from the main track to the siding. Likewise it will be seen that if the lever 14 is rocked an opposite movement of the parts will be effected. To lock 90 the switch-rails in either position, I mount the locking-lever 21 to tilt in a vertical plane in a yoke-frame 22, secured to the under side of a cross-tie. The said locking-lever 21 extends 95 parallel with the switch-throwing levers, and a locking-pin 23 rises from that end thereof nearest the end of the adjacent switch-rail, while the opposite end of said locking-lever is provided with a lateral finger 24, adapted 100

to extend over and lie upon both lapping ends of the switch-levers. Now it will be seen that when any one of the latter levers is rocked it will raise the finger 24 and tilt the locking-lever. At the same time, however, the switch-rails will be moved laterally, as described above, and as soon as the switch-levers assume their normal position the finger 24 will be released and the locking-lever permitted to tilt back again with its locking-pin 23 resting alongside of the adjacent switch-rail. In other words, the locking-pin moves up and down in one plane when the switch is thrown, while the adjacent end of the switch-rail moves first to one side of said pin and then to the other, being locked thereby in either position. In order to bring the locking-lever quickly to its normal position, its rear end is counterweighted, and in order to maintain the switch-throwing levers in position a guide-post 25 is placed on each side of the same.

The car or the like adapted to operate the switch-throwing mechanism is provided with the usual draw-head and platform, and a T-shaped lever 26 is pivoted, preferably, to each end of the car and carries a leg 27 at each short end, which legs extend downwardly on each side of the draw-head and have inward extensions carrying a rolling presser-foot 28. The legs are fitted in guides on the end of the car, and the free end of the lever 26 is movable on a spring 29, formed with two recesses, into either one of which the lever may be sprung to hold either foot in lowermost position ready for engagement with a post on a switch-throwing lever. To release the lever from the recesses, each end of the spring is secured to a lever 29^a, against which the brakeman may thrust his hand or foot to draw back the spring and release the lever.

A sheet-metal or other cover 30 is fitted over the well 12 just underneath the rails and is formed with an elongated slot for the movement of the arm 18, openings for the passage of the switch-lever posts, an aperture through which the locking-pin 23 may work, and a manhole 30^a, through which access may be had to the interior of the well for the purpose of oiling or examining the parts.

In practical operation, the switch being set for the main track, the brakeman on the car wishing to go upon the siding sets a rolling presser-foot 28 on the car, so that it will engage with and depress the post 16^a as the car goes over the same. This will throw the switch-rails over to the siding, and as the cars leave the switch-rails and ride upon the siding-rails the said presser-foot will depress the post 15 and not the post 15^a, which is accounted for by the fact that the post 15 is located the same distance from the adjacent siding-rail as the depressed presser-foot, and therefore the switch will not be moved, thus obviating any danger of accidental derailment. In the same manner if the switch is set for the siding and a train wishes to continue on the main track the opposite presser-foot is set to depress the

post 16, throwing the switch over to the main-track section, and as the car continues on its way the said presser-foot will depress the post 15^a, thereby causing no change in the position of the switch. By the arrangement of switch-levers which I have devised it will be evident no accidental derailing of a train by an open switch can occur and the car operate the switch when on the siding as well as when upon the main track, thus enabling a train to back from the siding to the main track, all of which renders the device especially effective and advantageous for yard work, where a great deal of "shifting" is necessary.

To prevent the switch-rails from rising at any time while being thrown, the cross-bar 17 is fitted to move through straps 17^a at the side of the track.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a railway-switch, the combination with the laterally-movable switch-rails, of two sets of parallel rocking levers connected with said switch-rails to move the same, the said levers having their meeting ends lapping and having upright posts at their opposite ends, the post of one of said levers extending up along the opposite side of the adjacent post, as and for the purpose set forth.

2. In a railway-switch, the combination with the laterally-movable switch-rails, of the levers mounted to rock in a vertical plane and arranged to throw the switch-rails when rocked and a tilting lever pivoted alongside a switch-rail and having a finger arranged to rest on one end of said levers and a locking-pin adjacent the end of such switch-rail, whereby the said rail will lie first on one side and then on the other of said pin as the switch is thrown by said rocking levers, as set forth.

3. In a railway-switch, the combination with the main-track section, the siding and the movable switch-rails connected at one end to said main-track section, of the two sets of parallel levers mounted to rock between the rails and having their meeting ends lapping and their outer ends extending beyond the switch-rails, means whereby to move said rails when the levers are rocked, posts secured to the outer ends of the levers and arranged to be depressed by a car or the like, the post of one lever adjacent the siding extending up along the opposite side of the adjacent post, whereby when depressed it will rock the diagonally opposite lever, as and for the purpose set forth.

4. In a railway-switch, the combination with the movable switch-rails, of the parallel levers mounted to rock between said rails and having their adjacent edges beveled, an arm depending between and carried by said switch-rails, the said arm having a wheel mounted thereon and adapted to ride on said beveled edges whereby to throw the switch, means for rocking said levers from a car or

the like, and a tilting counterweighted lever pivoted alongside a switch-rail and having a locking-pin at one end and a lateral finger at the other, the latter normally resting upon the
5 ends of the switch-levers, as set forth.

5. In a railway-switch, the combination with the switch-rails, and the rocking levers connected with said rails to throw the same, of the rocking lever mounted to tilt in a vertical plane and having a connection with the
10 rocking levers whereby it will be tilted when

any one of the said levers is rocked, and a locking-pin carried by said lever and normally extending up alongside a switch-rail, whereby the said rail will lie first on one side 15 and then on the other as the switch is thrown, as set forth.

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Witnesses:

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