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PATENTED MAR. 29, 1904.

H. SMELSER.
MEANS FOR HOLDING CARS ON SIDINGS.

NO MODEL.

APPLICATION FILED JUNE 27, 1903.

3 SHEETS—SHEET 1.

Fig. 1.

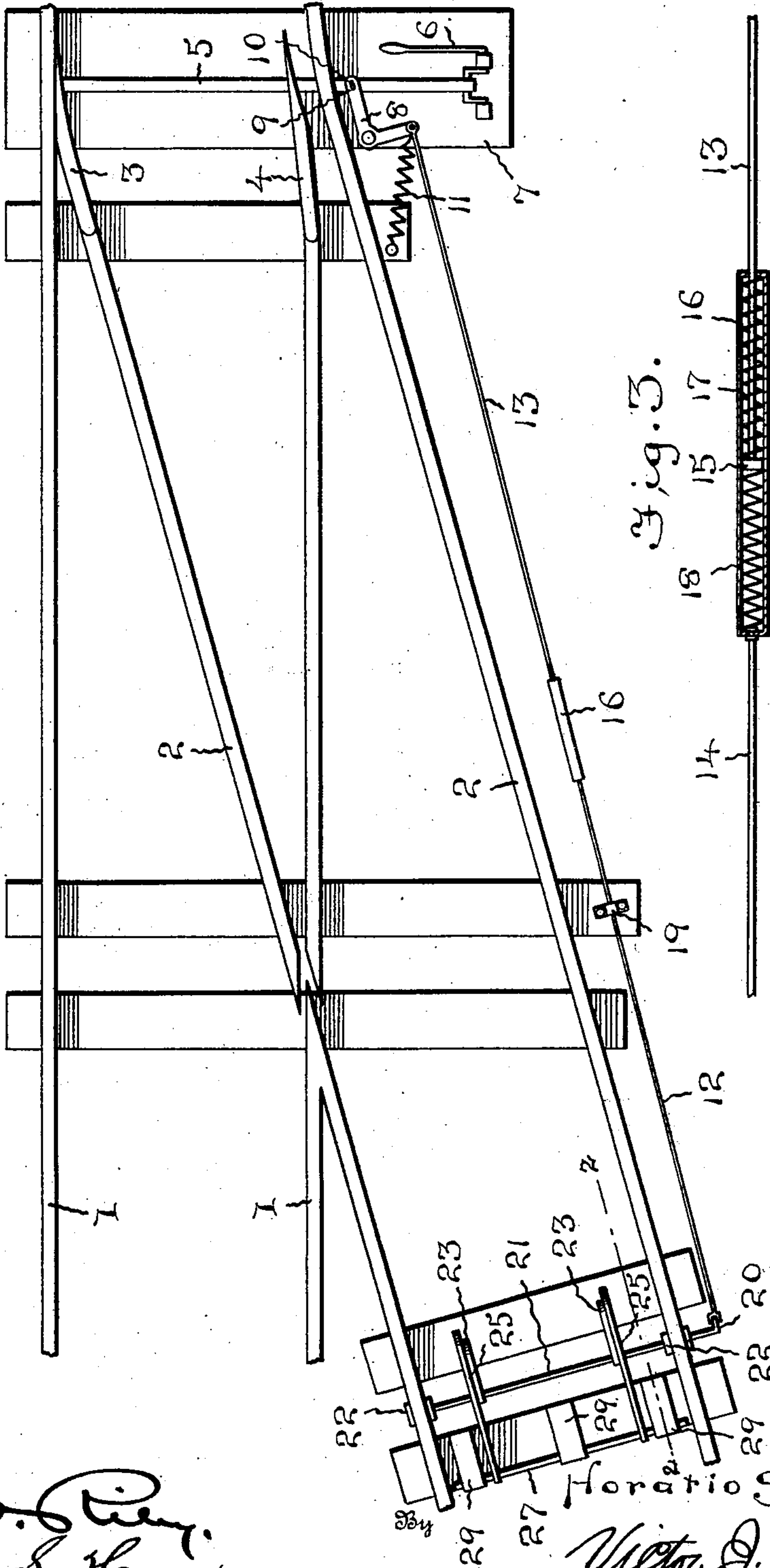


Fig. 3.

Witnesses

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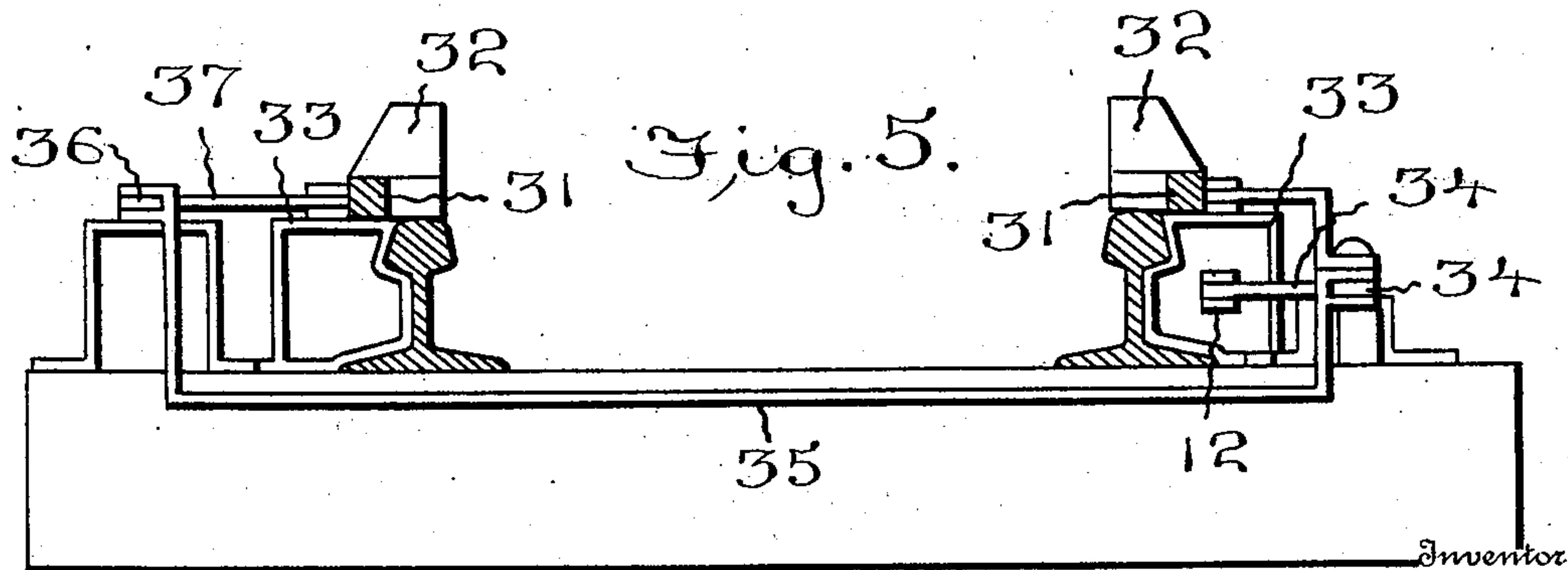
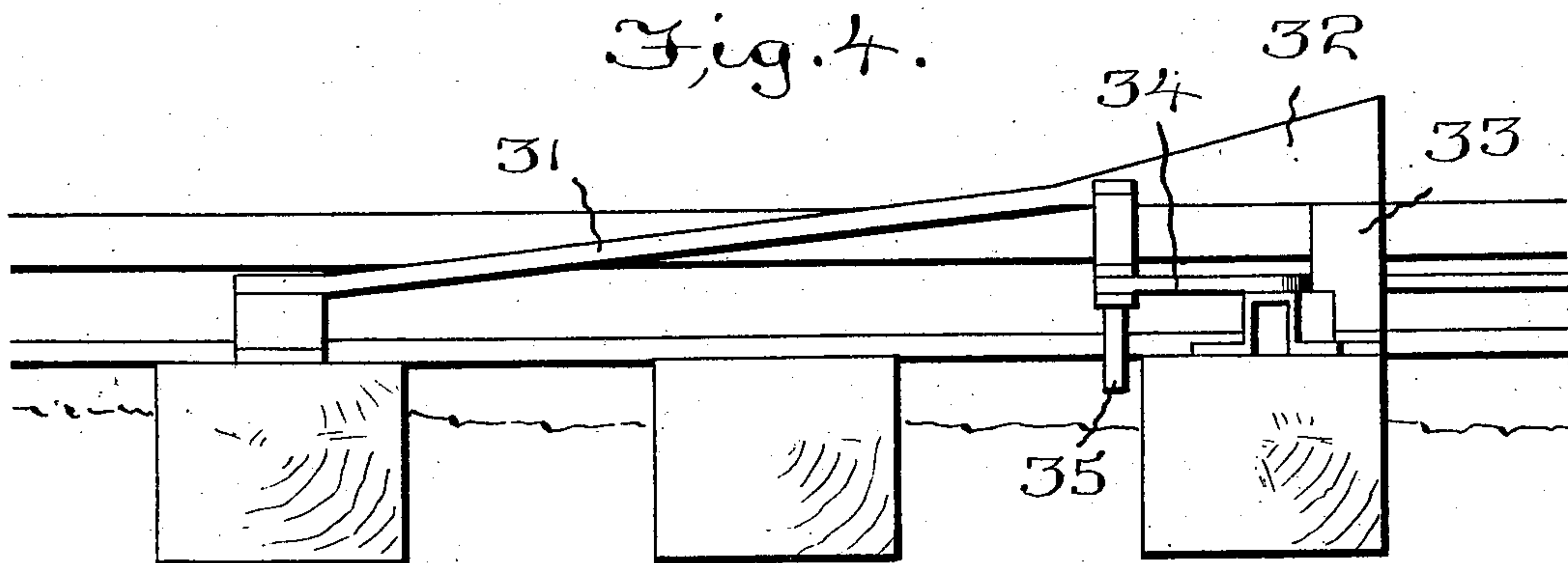
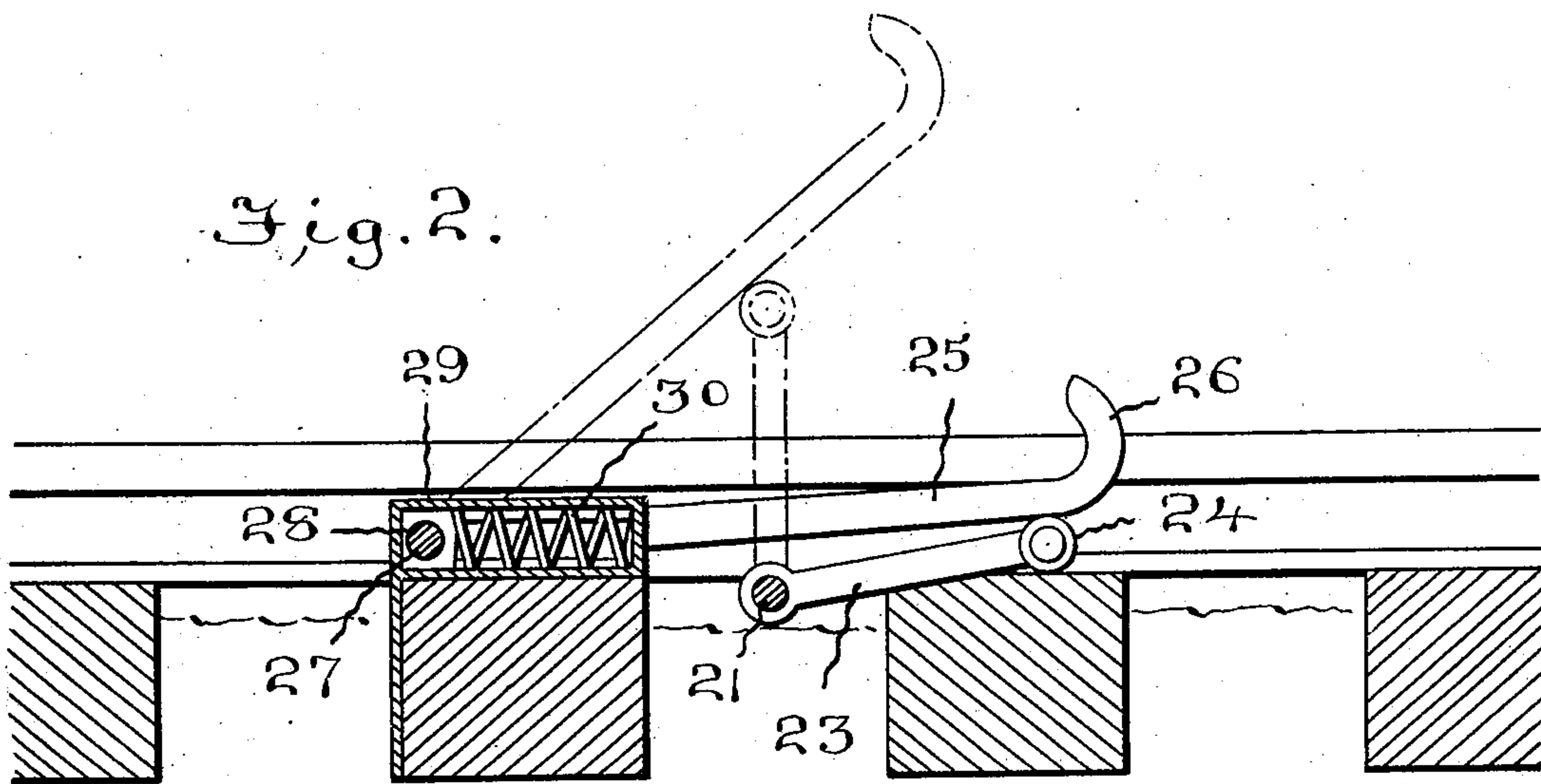
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3 SHEETS—SHEET 2.



Witnesses

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3 SHEETS—SHEET 3.

Fig. 6.

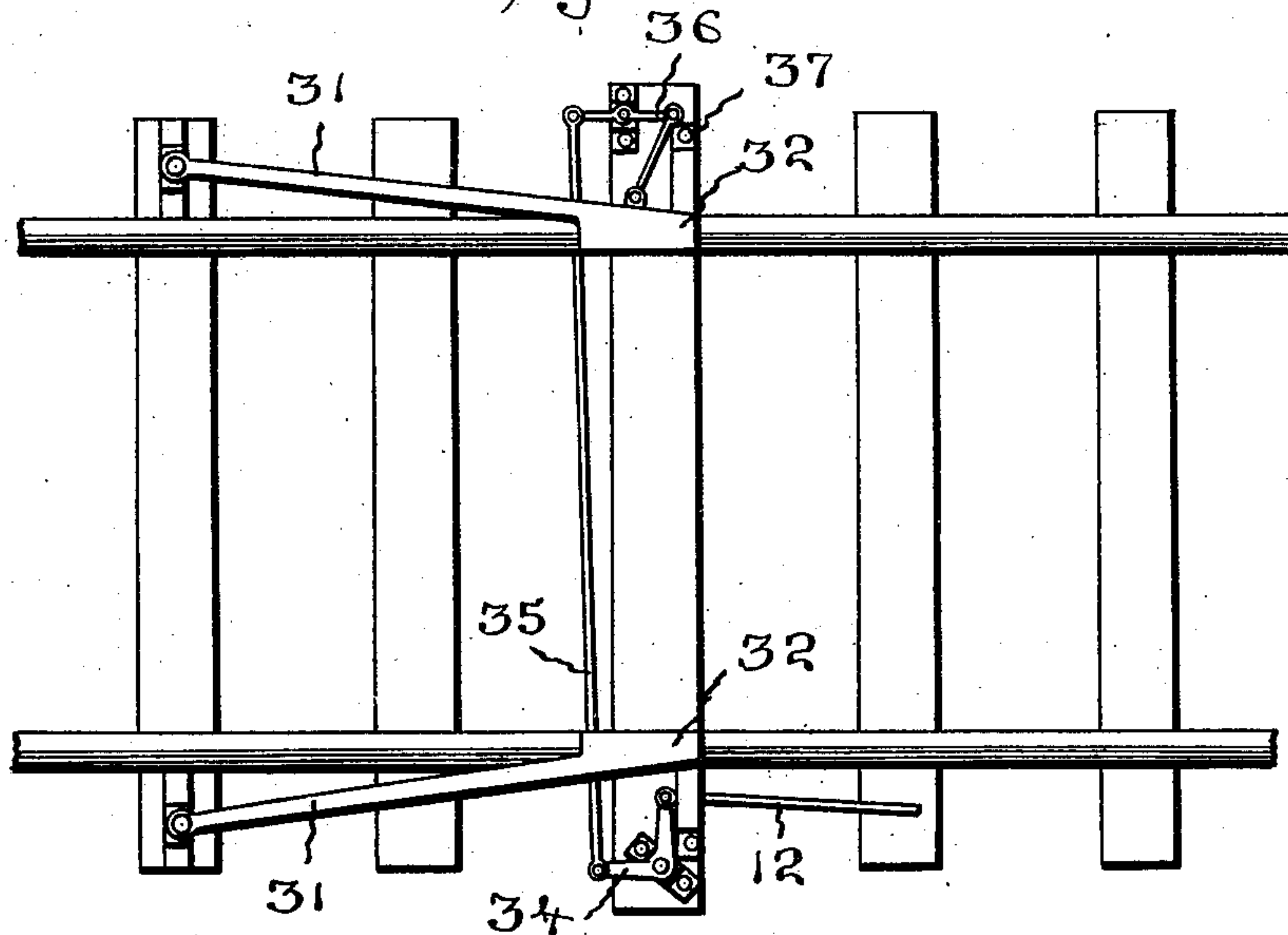
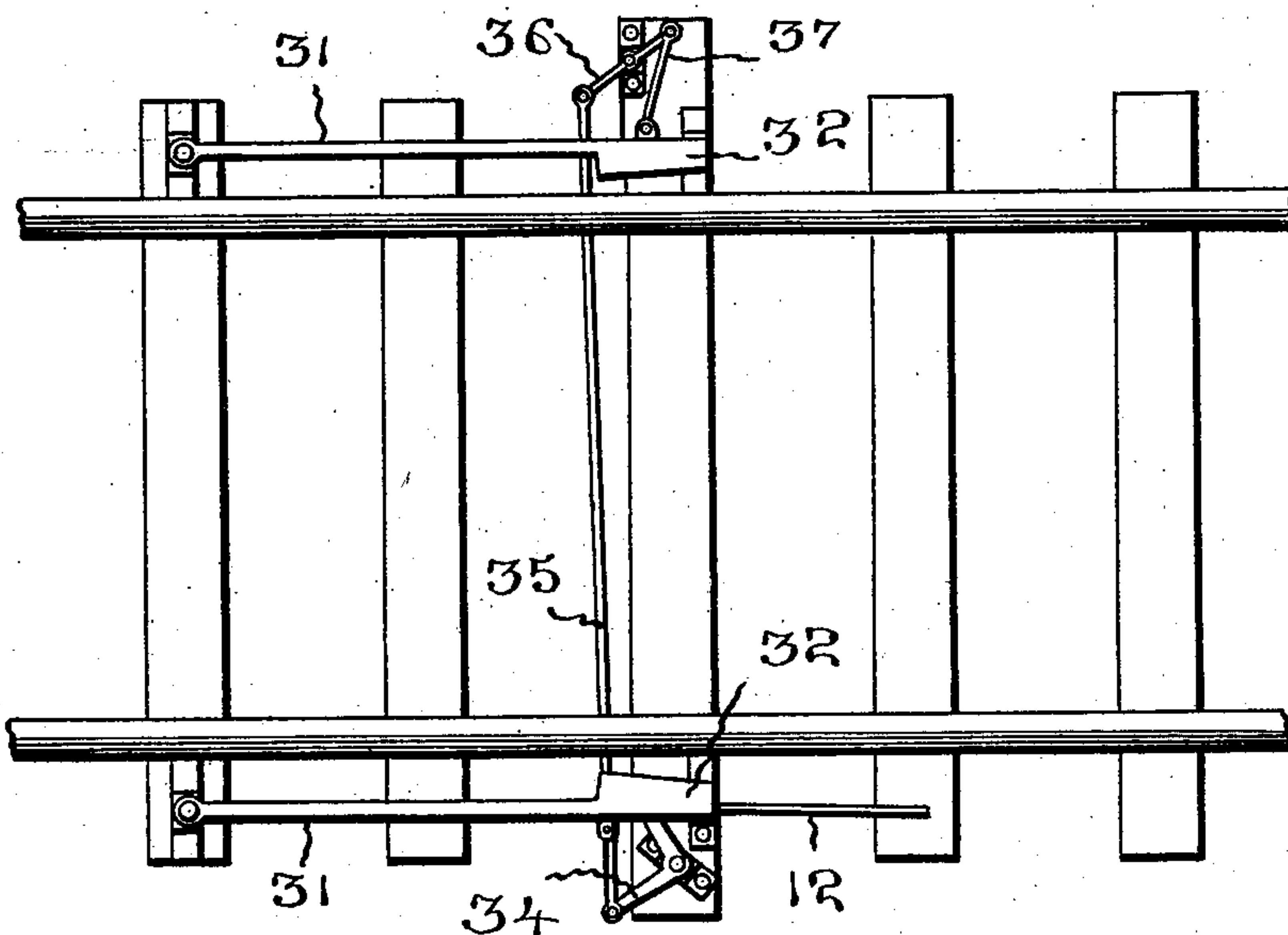


Fig. 7.



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UNITED STATES PATENT OFFICE.

HORATIO SMELSER, OF ASHTON, NEBRASKA.

MEANS FOR HOLDING CARS ON SIDINGS.

SPECIFICATION forming part of Letters Patent No. 755,949, dated March 29, 1904.

Application filed June 27, 1903. Serial No. 163,422. (No model.)

To all whom it may concern:

Be it known that I, HORATIO SMELSER, a citizen of the United States, residing at Ashton, in the county of Sherman and State of Nebraska, have invented new and useful Improvements in Means for Holding Cars on Sidings, of which the following is a specification.

This invention relates to means for preventing cars or other rolling-stock from accidentally running off a siding into a main track with which the siding is adapted to connect.

The invention consists of holding means arranged in operative relation to the rails of a siding to engage the wheel, axle, or part of a truck of a car to prevent the latter from moving after it has been properly positioned on the siding, the said holding means being thrown into engaging position at the time the switch-lever is operated to open the siding or cut out the latter in relation to main track.

The invention further contemplates an organization of cooperating elements whereby the holding means for the rolling-stock will be disposed in inoperative position in relation to the rails of the siding when the switch-lever is thrown to close the siding into the main track.

The invention further consists in the details of construction and combination of the several parts, which will be more fully hereinafter described and claimed.

In the drawings, Figure 1 is a top plan view of a portion of a main track and siding, showing the features of the invention applied thereto. Fig. 2 is a longitudinal vertical section on the line 2 2, Fig. 1, on an enlarged scale, showing a holding means lowered in full lines and elevated in dotted lines. Fig. 3 is a detail longitudinal section showing a portion of a connecting-rod and a spring-buffer therefor embodied in the organization. Fig. 4 is a side elevation of a portion of a siding, showing a modification in the construction of the holding means. Fig. 5 is a transverse vertical section through the siding shown by Fig. 4 and the holding means shown arranged over the rails of the siding. Fig. 6 is a top plan view of a portion of a siding,

showing the holding means illustrated by Figs. 4 and 5 disposed over the rails. Fig. 7 is a view similar to Fig. 6 with the holding means thrown out of engagement in relation to the rails.

Similar numerals of reference are employed to indicate corresponding parts in the several views.

Referring to Figs. 1, 2, and 3, the numeral 1 designates a main track, and 2 a siding, the latter and the main track having switch-rails 3 and 4, respectively cooperating therewith and attached to a switch bar or connection 5, operatively secured to a switch-lever 6, the bar 5 and lever 6 being held on a switch-base 7. On the base 7 a bell-crank lever 8 is movably disposed in horizontal position and has one arm terminally slotted, as at 9, to engage a pin or stud 10, rising from the bar 5. The remaining arm of the bell-crank lever has a retractile spring 11 secured thereto and also attached to an adjacent tie, the function of said spring being to restore the bell-crank lever to normal position. Also attached to the arm of the bell-crank lever to which the spring 11 is secured is one end of a connecting-rod 12, which is formed in two sections 13 and 14, the section 13 at the end opposite that which is attached to the bell-crank lever being provided with a plunger or head 15 and movable in an elongated casing 16. The section 13 is freely slidable through one end of the casing 16, and disposed in the casing on opposite sides of the plunger or head 15 are buffer-springs 17 and 18, which cushion the section 13 when moved by the bell-crank lever 8 and also the entire connecting-rod in a manner which will be presently set forth. The spring 17 also serves to assist in restoring the bell-crank lever 8 and the section 13 of the rod 12 to normal position. The section 14 of the rod is attached to the end of the casing 16 opposite that through which the section 13 has movement, and said section 14 also has a sliding movement through a guide or clip 19 on one of the ties. The end of the section 14 of the connecting-rod opposite that secured to the casing 16 is movably attached to a crank-terminal 20 of a rock-shaft 21, extending transversely under

the siding-rails and disposed in suitable bearings 22. The rock-shaft has a pair of arms 23 secured thereto, with antifrictional rollers 24 at their free ends, said arms being spaced 5 apart from each other and held in a constant position between the rails of the siding. The arms 23 cooperate with holding means adapted to engage the axle of a car-truck and consisting in the present instance of elongated 10 bars 25, having upturned hooks 26 at one end and the opposite ends secured to a pivot rod or connection 27, extending through movable bearing-blocks 28, slidably mounted in boxes 29, secured on a tie in rear of the rock-shaft 15 21, and between each bearing-block 28 and one end of its box a cushion-spring 30 is interposed. The cushion-springs 30 always tend to force the bearing-blocks and the holding means carried thereby backwardly from the 20 rock-shaft 21, and said springs will be stiff enough to set up a resistance sufficient to overcome any tendency to a loose sliding movement of the bearing-blocks 28, for a purpose which will be more fully hereinafter explained. 25 The arms 23 are so arranged that the rollers 24 thereof will engage the end edges of the bars 25, said bars always being in contact with the rollers.

When the switch-rails 3 and 4 are shifted to 30 throw the siding into the main track, the holding means just explained remains in lowered position between the rails of the siding, and after a car has been run off the main track onto the siding and the switch-rails thrown in a re- 35 verse direction to disconnect them from the rails of the main track the holding means will be thrown upwardly, as indicated by dotted lines in Fig. 2, so that the hooked terminals of the bars 25 will be at a proper elevation to 40 engage the nearest axle of the car-truck, said holding means remaining in locked elevated position, and will resist any tendency to an accidental depression thereof. The car after being disposed on the siding may not be in 45 direct engagement with the holding means; but any tendency of the car to move over the siding toward the main track will be obstructed by the hooked terminals of the bars 25 engaging the car-axle nearest thereto, and to 50 prevent breakage or injurious strain of the holding means when the car-axle comes into engagement therewith the springs 30 are used as well as the spring 18 in the cushioning device interposed between the sections 13 and 14 55 of the connecting-rod 12, and by this means the entire organization of contributing elements will be prevented from becoming injured by a forceful impact of the car-axle with the bars 25. It is well known that after cars on a siding are 60 unloaded frequently the brakes are let off and the cars so liberated are apt to be shifted by strong wind or otherwise started over the siding and pass across a portion at least of the main track, thereby obstructing the latter and

often causing serious accident. The holding 65 means in the form thus far described will prevent accidental movement of the cars or car on the siding.

Figs. 4, 5, 6, and 7 show a modification in the construction of holding means, the con- 70 necting-rod 12, bell-crank lever 8, and spring 11 being employed as in the first form. In this modification levers 31 are pivotally connected at one end to one of the ties of the siding-rails and held at a suitable elevation above 75 the latter, said levers being inclined upwardly from their pivotal point to their free end, where wedges 32 are formed by enlargements of the levers. There are two of the levers 31 used in connection with the siding-rails and 80 disposed outside of the latter, and the wedge enlargements are materially wider than the remaining portion of the levers to extend over the siding-rails, as shown by Figs. 5 and 6. Secured on a tie or other base-support adja- 85 cent to the wedge enlargements of the levers 31 are supports 33, having their inner sides closely fitted against the outer portions of the rails and their upper surfaces in the same plane as the upper surfaces of the rail-treads, 90 and on this support the wedge enlargements have sliding movement inwardly and outwardly in relation to the rails of the siding. On one end of the tie to which the supports 33 are secured a bell-crank lever 34 is hori- 95 zontally disposed, and to one arm thereof is attached one end of the connecting-rod 12. A motion-transmitting rod or connection 35 is attached to the remaining arm of the bell-crank lever 34 and extends transversely un- 100 der the siding-rails to one end of a rock-arm 36, centrally fulcrumed on the end of the tie opposite that to which the said bell-crank lever is applied. The motion-transmitting rod or connection 35 is attached to the wedge en- 105 largement on one lever 31 nearest the bell-crank lever 34, and the wedge enlargement on the opposite lever is connected to a rock-arm 36 through the medium of a link 37, so that when the bell-crank lever is moved in oppo- 110 site directions the two wedge enlargements will be synchronously operated. The operation of this modified construction of the holding means is practically similar to that of the holding means first described, and when 115 the switch-rails for the siding are thrown into connection with the main-track rails the levers 31, with their wedge enlargements, are moved outwardly away from the siding-rails, as shown by Fig. 7. After a car or cars 120 pass over onto the siding and the switch-rails and the latter are thrown out of engagement in relation to the main-track rails the levers 31 are both moved inwardly, and their wedge enlargements are disposed over the 125 rails of the siding and obstruct the passage of rolling-stock over said rails. The free terminals of the wedge enlargements stand at a

considerable elevation above the rails of the siding, and the rims of the car-wheels are adapted to engage the same and prevent accidental movement of a car or cars off a siding.

5 The holding means in either of its forms is comparatively inexpensive in its structure and application, and it will be observed that the same principle is involved in both forms shown, and the operation of either the hooked
10 bars or the lever with wedge enlargements will be effected through the connecting-rod 12 and bell-crank lever 8, movably attached to the bar or shifting means secured to the switch-rails. The parts of both forms of
15 holding means are also of a strong and durable nature and will not readily become disarranged and will operate with certainty to effect the function for which they have been devised.

20 This device may also be used on main tracks where the main track of one line crosses the main track of another line.

Having thus fully described the invention, what is claimed as new is—

25 1. The combination with a main track and siding having switch-rails operative to connect and disconnect the siding in relation to the main track, of car-holding means disposed in operative relation to the rails of the siding,
30 shifting means for the switch-rails, and a connecting means interposed between the said shifting means and the car-holding means and consisting of two rod-sections, an elongated

casing to which one rod is terminally connected, the extremity of the remaining rod mov- 35
ably projecting into the casing, and a spring in the casing engaged by the extremity of the rod projecting into said casing.

2. The combination with a main track and siding having switch-rails coöperating there- 40
with, of means for moving the switch-rails, and car-holding means including elongated bars having hooked terminals disposed in operative relation to the rails of the siding and connected to the means for moving the switch- 45
rails, the said bars being adapted to be thrown above the plane of the track-bed.

3. The combination with a main track and siding having switch-rails operative to connect and disconnect the siding in relation to 50
the main track, of car-holding means disposed in operative relation to the rails of the siding, shifting means for the switch-rails, and connecting devices interposed between the said shifting means and the car-holding means and 55
consisting of rod-sections, and a support having a spring therein, the one rod-section being terminally secured to the support and the extremity of the other rod-section movable in
said support. 60

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

HORATIO SMELSER.

Witnesses:

WM. SMELSER,

ALPHA SMELSER.