

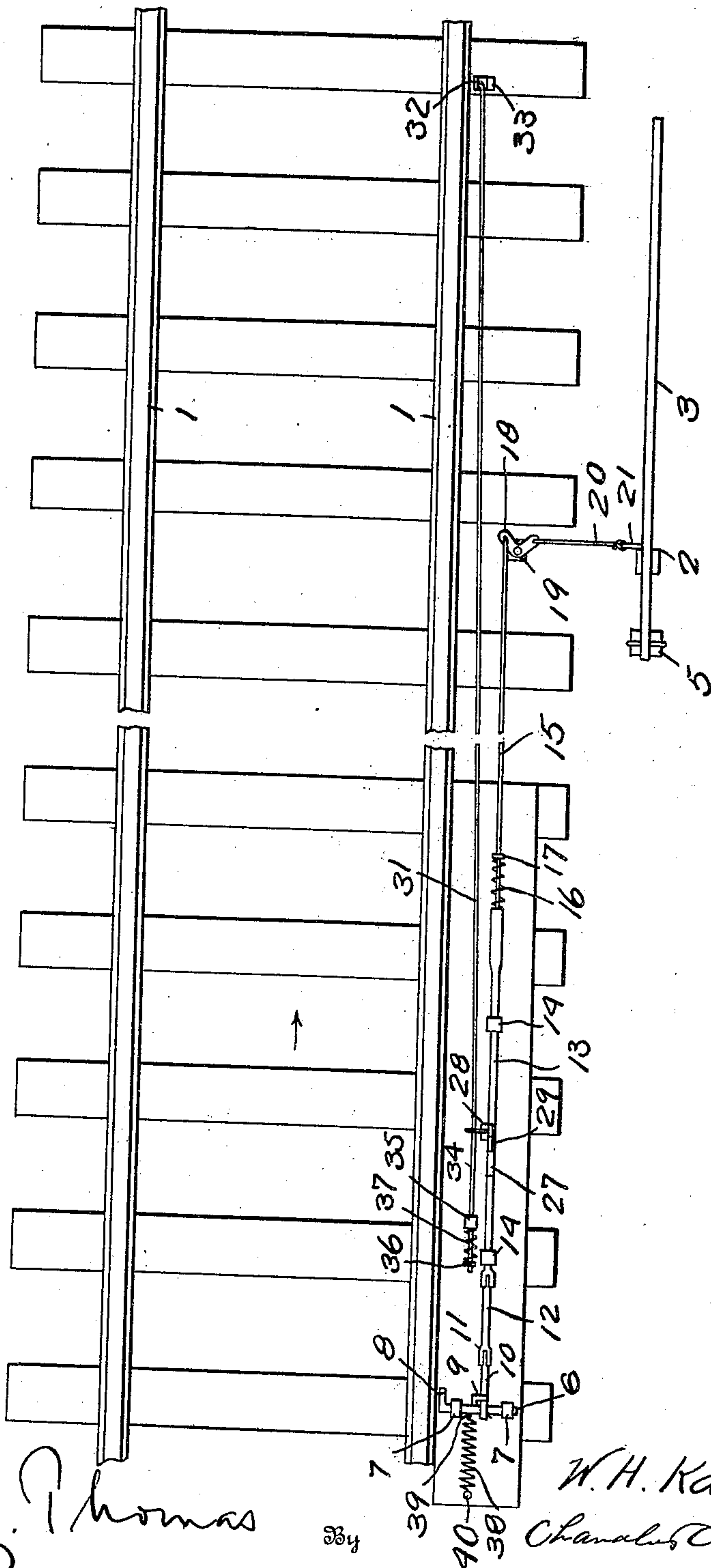
No. 886,816.

W. H. KARN.
RAILROAD GATE.
APPLICATION FILED JULY 11, 1907.

PATENTED MAY 5, 1908.

3 SHEETS—SHEET 1.

FIG. 1.



Witnesses

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3 SHEETS—SHEET 2.

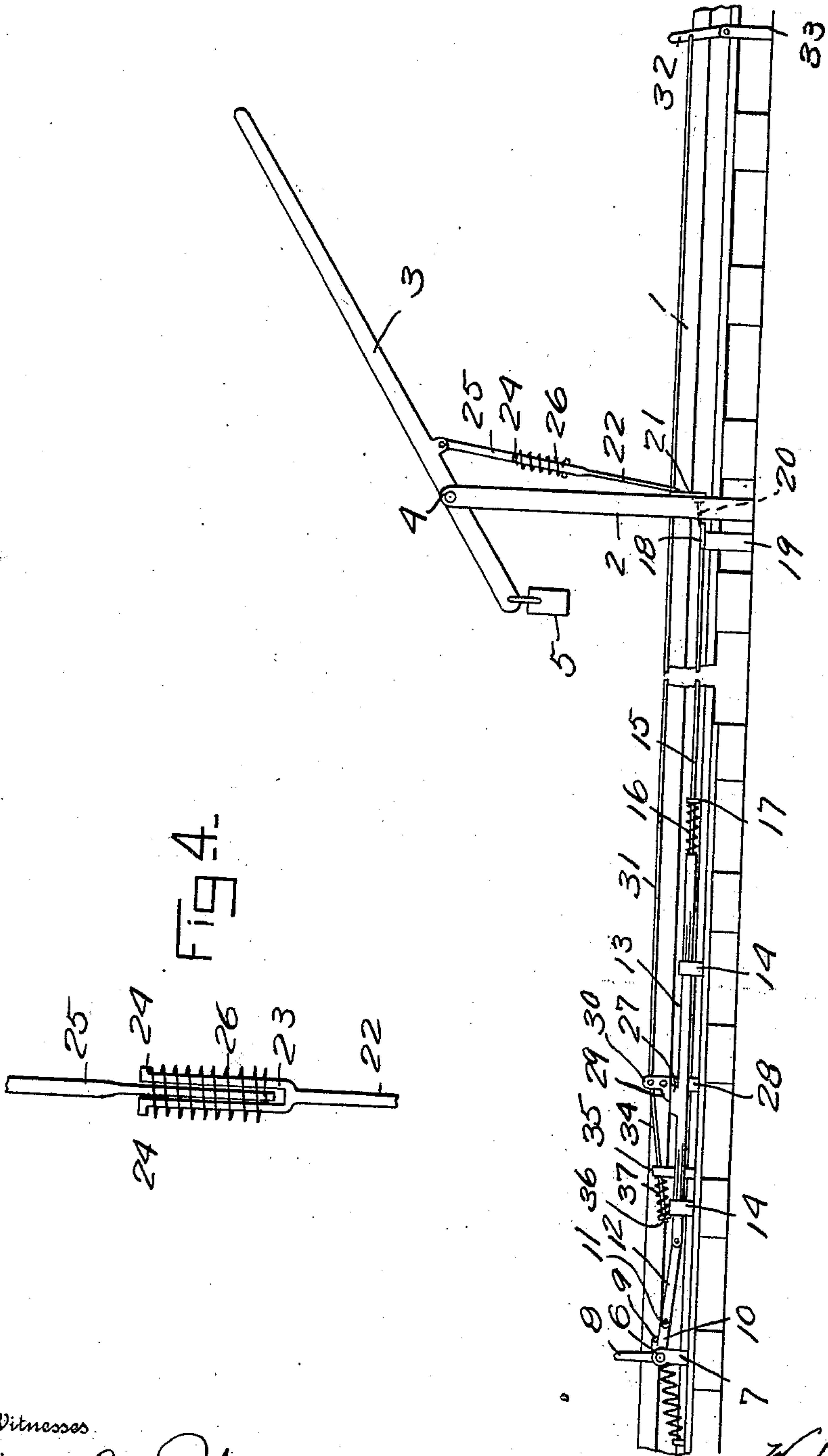


Fig. 2.

Fig. 4.

Witnesses

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3 SHEETS—SHEET 3.

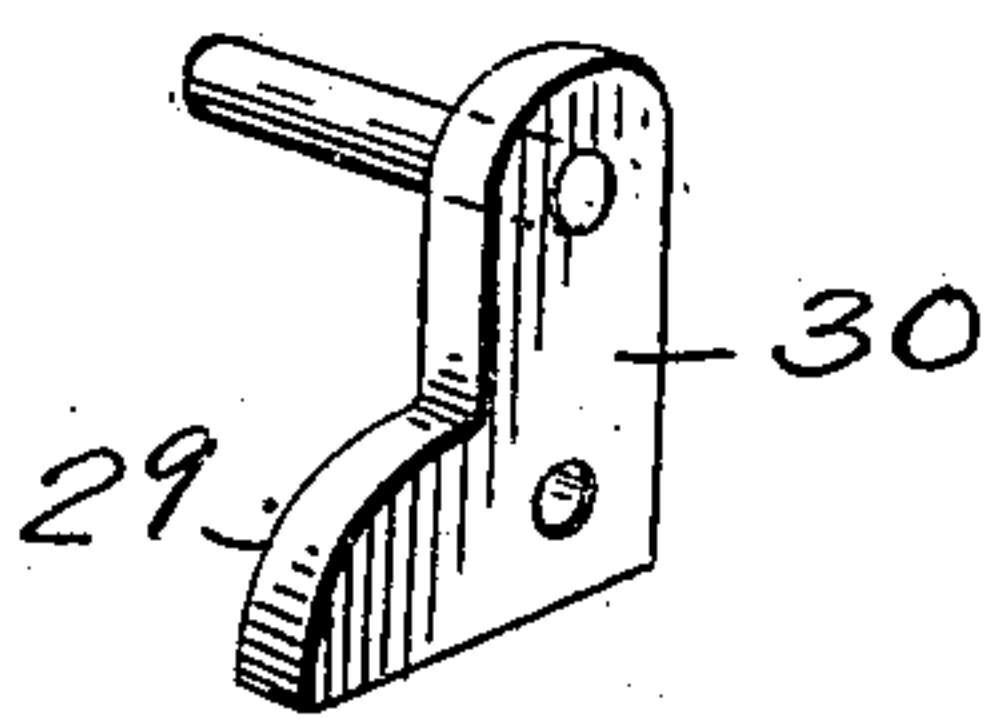


Fig. 3.

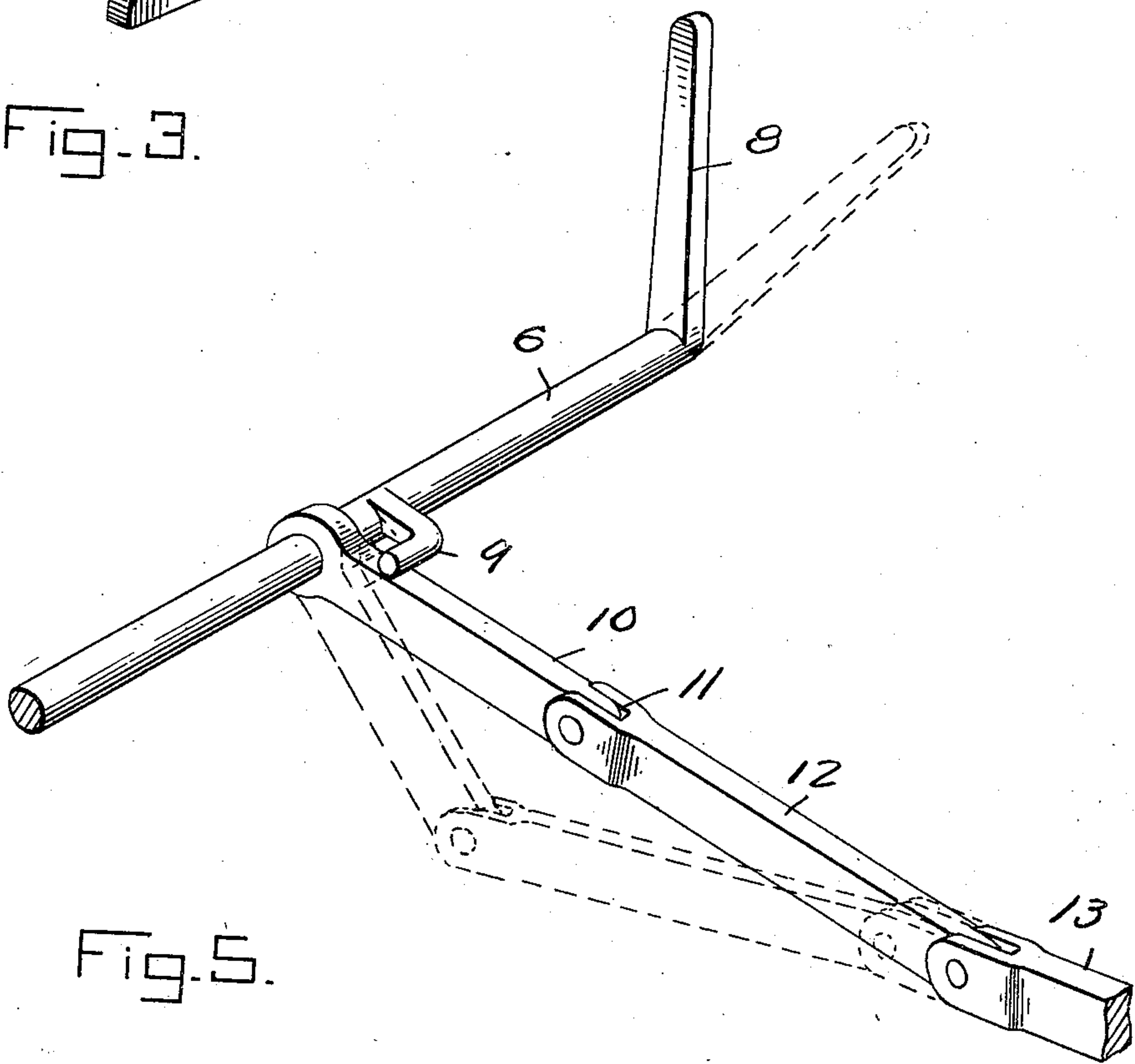


Fig. 5.

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UNITED STATES PATENT OFFICE.

WILLIAM H. KARN, OF MILO, OHIO.

RAILROAD-GATE.

No. 886,816.

Specification of Letters Patent.

Patented May 5, 1908.

Application filed July 11, 1907. Serial No. 383,206.

To all whom it may concern:

Be it known that I, WILLIAM H. KARN, a citizen of the United States, residing at Milo, in the county of Franklin, State of Ohio, have invented certain new and useful Improvements in Railroad-Gates; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The invention relates to new and useful improvements in railroad gates and it has particular reference to a gate of that type in which automatic train actuated operating mechanism is employed.

In connection with a gate of the above general type the invention aims as a primary object to provide a novel construction combination, and arrangement of parts, the details of which will appear in the course of the following description, in which reference is had to the accompanying drawings, forming a part of this specification, in which like characters of reference designate similar parts throughout the several views, wherein;

Figure 1 is a top plan view illustrating a railway line equipped with the gate and gate-operating mechanism comprehended in the present invention, Fig. 2 is a side elevation thereof, Fig. 3 is an enlarged detail view of an angular dog comprehended in this invention, Fig. 4 is a detail view illustrating a cushioning connection embodied in the train of gate operating mechanism, Fig. 5 is a detail view of a rock-shaft and its adjuncts, which form a part of the operating mechanism.

In the accompanying drawings the numeral 1 designates the rails, 2 the gate post, 3, the gate, 4 its pivot, and 5 a suspended counterbalance weight carried at the rear end of the gate 3.

On the outer side of one of the rails 1, a rock-shaft 6, is journaled in bearings 7. The shaft 6 carries a fast vertical arm 8 and a fast horizontal arm 9. The latter is formed to overlie a link 10, which at one end surrounds said shaft and which at its other end is pivoted at 11 to a link 12, the links 10 and 12 being substantial toggles. The link 12 is pivoted to a slidable rod 13 which is mounted in guides 14 and which has its end formed to receive a link or rod 15. A retractile coil-spring 16 connected to the rod 13, has its end engaged with a lug 17, formed on the link or

rod 15, the spring 16 serving as a cushioning element to absorb vibrations when the parts are suddenly actuated. The link or rod 15 has connection with one arm of a bell crank lever 18, pivoted upon a post 19 and the other end of the lever 18 is connected with a wire 20 the latter being in turn connected with one arm of a bell crank lever 21 pivotally mounted upon the post 2. Connected with the other arm of the lever 21 is a rod 22 and the latter has its upper end bifurcated as at 23 and formed with angular lugs 24. The bifurcations 23 straddle the lower end of a lever 25 pivoted to the gate 3 forwardly of the pivot of the latter and an expansive coil-spring 26 surrounds the bifurcations 23 and the lever 25 and is connected to the lower end of the latter, the lugs 24 being engaged with the upper end of the spring 26.

The rod 13 is formed with an elongated lug 27. Adjacent the lug 27 is a post 28 which carries a pivoted angular dog having a working portion 29 and a vertical arm 30, the latter having connection with a rod or wire 31 which in turn is pivoted to an arm 32 pivotally mounted on a bracket 33 at the opposite side of the crossing to the gate 3. The arm 30 likewise has connection with a rod 34 projected and slidable through a stationary bracket 35 and carrying at its end a nut 36, an expansive coil spring 37 surrounding the rod 33 between the bracket 34 and the nut 35.

In operation, assuming that a train is moving in the direction of the arrow in Fig. 1, the wheel of the engine will depress the arm 8 to the dotted line position (see Fig. 5) and in this actuation the arm 9 will engage the link 10 moving the same downwardly and consequently moving the rod 13. Such movement of the rod 13 serves, by means of the connections described, to lower the gate 3. When the rod 13 has moved a sufficient distance, the spring 37 acts to move the pivoted dog to engage the working portion 29 with the lug 27 and to sustain the rod 13 and the elements connected therewith, in the positions to which they have been moved. When the train passes over the crossing the front wheel of the engine engages the arm 32 and depresses the latter. This action of the arm 32 serves to actuate the dog to disengage its working portion 29 from the lug 27 at which time, the counterbalance weight 5 restores the gate 3 and the interconnected parts to

normal position, the action of the weight 5 being aided by a retractile coil spring 38 engaged with a lug 39 on the shaft 6 and with a stationary bracket 40.

5 The invention is simple in its structural details, inexpensive to manufacture and practical and efficient in use.

From the foregoing description it will be seen that simple and efficient means are pro-
10 vided for accomplishing the objects of the invention, but while the elements herein shown and described are well adapted to serve the functions set forth, it is obvious that various minor changes may be made in
15 the proportions, shape and arrangement of the several parts without departing from the spirit and scope of the invention as defined in the appended claims.

What is claimed, is,

20 The combination with track rails, a gate post, a gate pivoted thereto and a counter-

balance weight carried by said gate, of a rock-shaft mounted adjacent one of said rails, a fast vertical arm carried thereby and projecting in the path of the car wheels, a
25 slidable rod, operative connection between said shaft and said rod for moving the latter from the former, operative connections be-
tween said rod and said gate, a pivoted dog
30 formed to engage said rod at the termination of its operative movement, means for engag-
ing said dog with said rod, an arm pivoted adjacent said rail at a distance from said
gate and normally-disposed in the path of the
35 car wheels and a connection between said arm and said dog.

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

WILLIAM H. KARN.

Witnesses:

VELLA C. DOWNS,
T. R. HARRINGTON.