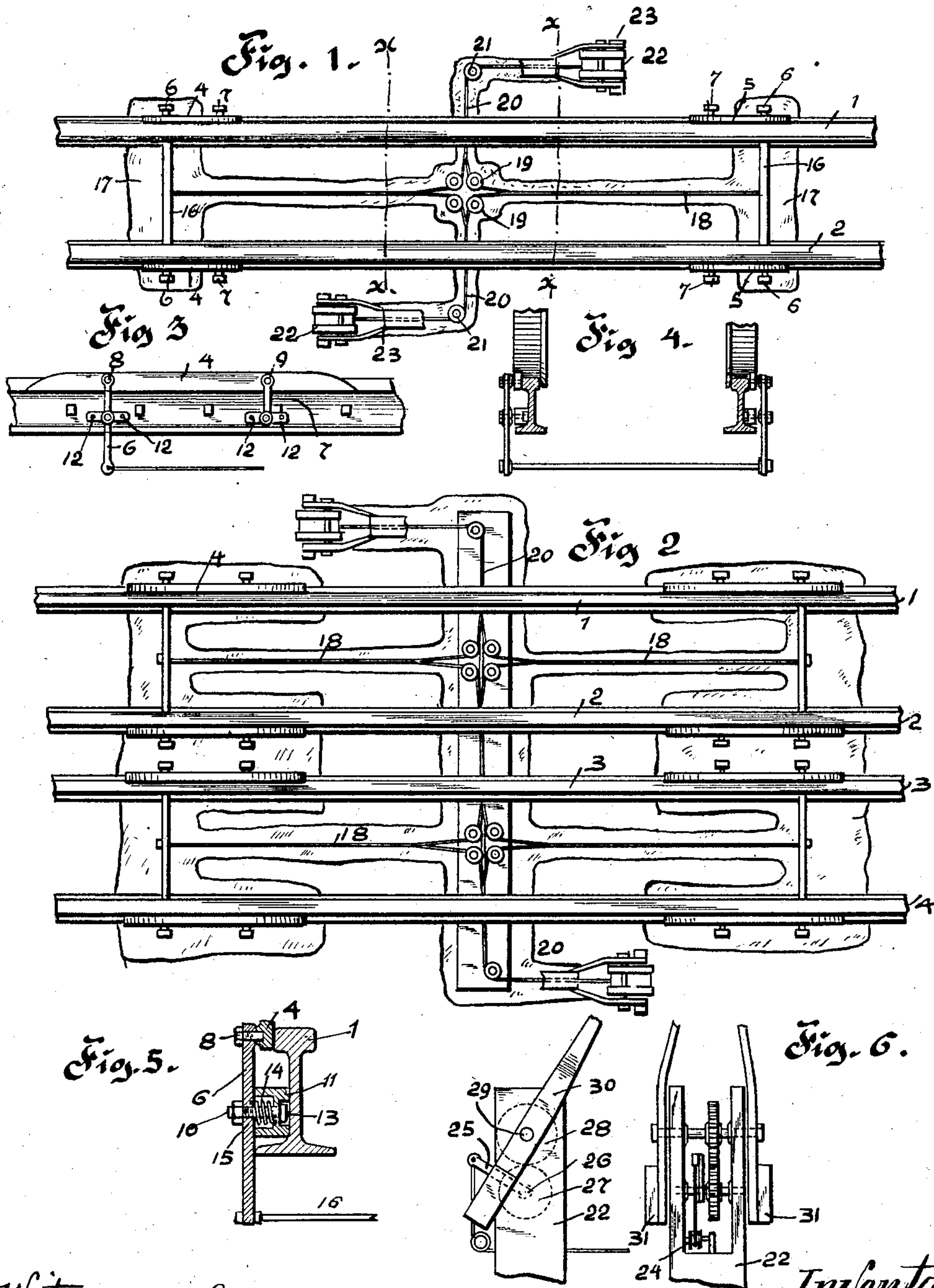


No. 763,702.

PATENTED JUNE 28, 1904.

M. J. VERNET.
RAILWAY CROSSING GATE.
APPLICATION FILED FEB. 20, 1904.

NO MODEL.



Witnesses:
W. H. Butler,
E. E. Potter,

Inventor,
M. J. Vernet,
By H. C. Everett & Co.
Attorneys.

UNITED STATES PATENT OFFICE.

MARSHALL J. VERNET, OF CECIL, PENNSYLVANIA.

RAILWAY-CROSSING GATE.

SPECIFICATION forming part of Letters Patent No. 763,702, dated June 28, 1904.

Application filed February 20, 1904. Serial No. 194,502. (No model.)

To all whom it may concern:

Be it known that I, MARSHALL J. VERNET, a citizen of the United States of America, residing at Cecil, in the county of Washington and State of Pennsylvania, have invented certain new and useful Improvements in Railway-Crossing Gates, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention has relation to railway-crossing gates, and has for its object the provision of novel means for securing the automatic operation of such gates by passing trains.

In carrying my invention into effect I provide duplicate pairs of movable tread-bars, which are mounted on rocking levers secured to the rails on each side of the crossing, and I connect the movable tread-bars to swinging gates arranged one on each side of the track at the crossing which it is desired to guard, so that a train coming from either direction and passing over the tread-bars will automatically lower the gates, which will reassume their vertical position when the train has passed.

My invention consists in the novel construction, combination, and arrangement of parts to be hereinafter more fully described and claimed.

In the accompanying drawings, Figure 1 is a plan view of a single-track railway with my improvements applied thereto. Fig. 2 is a similar view of a double-track railway. Fig. 3 is a side elevation of part of a railway-rail, showing the tread-bar and appurtenant parts by means of which the gates are operated. Fig. 4 is a vertical sectional view of the same, showing a pair of wheels approaching the tread-bars. Fig. 5 is a vertical sectional view through a rail, the tread-bar, and the rocking lever upon which the tread-bar is supported; Fig. 6, details in side elevation and front view of the operating mechanism of the swinging gates.

The dotted lines *xx* indicate the location of the crossing, and 1 2 designate the rails of the track. At each side of the crossing a pair of tread-bars 4 4 and 5 5 are arranged, said tread-bars being carried on the ends of rocking levers 6 7, which are pivotally attached by bolts 8 9 to the tread-bars, so that as the

tread-bars are depressed by the wheels of a train coming in either direction the levers 6 7 will be rocked, allowing the bar to descend to the level of the track. The connection of the rocking levers to the track is shown in Fig. 5 of the drawings on an enlarged scale, and I will now refer to this figure and describe the specific construction of the connecting means, it being understood that each rocking lever on each side of the track is constructed and arranged in the same manner as the rocking lever shown in Fig. 5 and that therefore the description of one of the rocking levers and its connections will suffice, the rocking lever 6 (shown in Fig. 5) being one of the longer of the levers of each set, but being in other respects similar in construction and the attaching means therefor being similar in construction to that of the other levers.

The lever 6 is pivotally supported by a bolt 10, which is arranged in a box 11, that is secured to the track by bolts 12 12, as shown in Fig. 3. The box 11 has a cavity in its back to receive the head 13 of the bolt 10, and the box 11 is formed with a cavity 14, within which is arranged a spiral spring 15, having one end fixed in the back of the recess 14 and the other end attached to the lever 6. The result of this construction and arrangement of parts is that if the lever 6 is rocked in either direction the spring will by its resiliency return the lever to its normal upright position, in which position the upper edge of the tread-bar 4 will project slightly above the top of the head of the rail. The opposite levers 6 6 are connected at their lower ends by a rod 16, which passes under the track through a trench 17. A cable 18 is attached to the rod 16 and running lengthwise of the tracks through a suitable extension of the trench 17 divides, and passing around pulleys 19 19 connects with cables 20 20, which pass around pulleys 21 21 and lead to the hollow standards 22 of the swinging gates 23. If desired and to guard against accidental breakage of the cables 18, they may be duplicated—that is, two separate strands of cable may be employed, which are both connected to the cables 20 20.

In Fig. 2 of the drawings I have shown

my improvements applied to a double-track railway, the rails being designated 1 2 3 4', the devices shown in this figure being duplications of the devices shown in Fig. 1 and the cables 18 of each track being connected to the cables 20 20, leading to the swinging gates, so that the gates will be operated by a train coming toward the crossing from either direction on either track. The cables 20 after passing around pulleys 21 pass around horizontally-journaled pulleys 24, which are arranged in the hollow standards 22, and the ends of the cables are connected to crank-levers 25, that are carried on shafts 26, journaled in the standards 22. Gear-wheels 27 on the shafts 26 mesh with gear-wheels 28, carried on rocking shafts 29, which latter are also journaled in the standards and carry on their outer ends the swinging gates 30, which are provided with balance-weights 31 on their ends.

The operation of my device is as follows: When the car approaches the crossing, as soon as the first pair of wheels reaches the tread-bars on either side of the crossing the tread of the wheels will come in contact with the bars and depress the same, the levers 6 7 will rock on their pivots, and the levers 6 will be swung in the direction reverse to that in which the train is traveling. This movement of the levers will pull the cable 18 and draw down the crank-lever 25, which turning the shaft 26 will effect the lowering of the gates 30 on both sides of the track, thus guarding the crossing on both sides. As soon as the train has passed the rocking bars 4 will assume their upright position, being impelled thereto by the resiliency of the spiral springs 14 in the boxes 11. The operation of the rocking bars at each side of the track is precisely similar to that just described, and it will be therefore readily understood that the gates will be low-

ered by the train passing over the tread-bars at either side of the crossing.

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

1. In a device of the character described, the combination with the track-rails, and movable gates arranged adjacent the track, of mechanism for operating said gates, comprising a plurality of boxes secured to each rail of the track, bolts carried by said boxes, rocking levers carried by said bolts, tread-bars pivoted to said rocking levers and lying adjacent the rail-tread and projecting normally above the same, springs on the bolt and connected at their one end to the rocking levers, a rod connecting one lever at one side of the track to one lever at the opposite side of the track, and flexible connections between said rod and the gates, substantially as described.

2. In a device of the character described, the combination with the rails of a double-track railway and movable gates arranged adjacent the tracks, of bolts supported upon the rails of both tracks at points in both directions from the crossing guarded by said gates, rocking levers mounted on said bolts, springs arranged on the bolts, with one end connected to the levers for returning the latter to their normal position, tread-bars pivotally secured to said levers, a rod connecting the lever at one side of each track to the lever at the opposite side of the track and means connecting both gates with all of the said rods, whereby the gates will be actuated when the tread-rods are depressed.

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

MARSHALL J. VERNET.

Witnesses:

WM. C. HEITZ,
K. H. BUTLER.