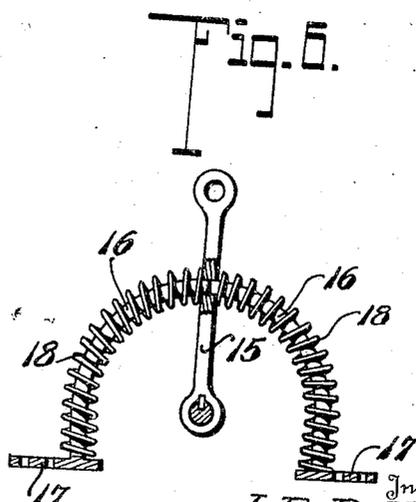
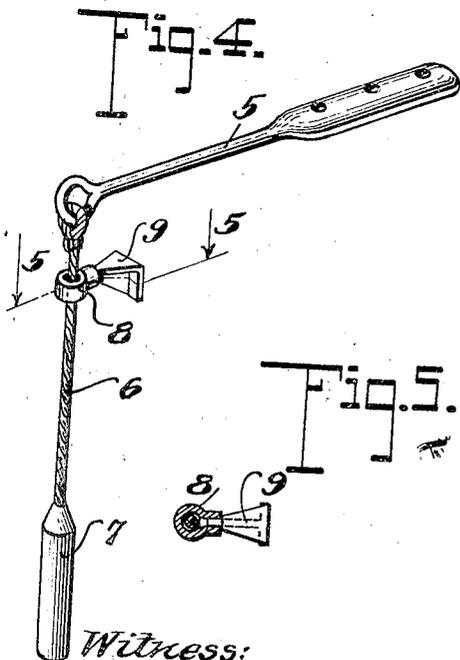
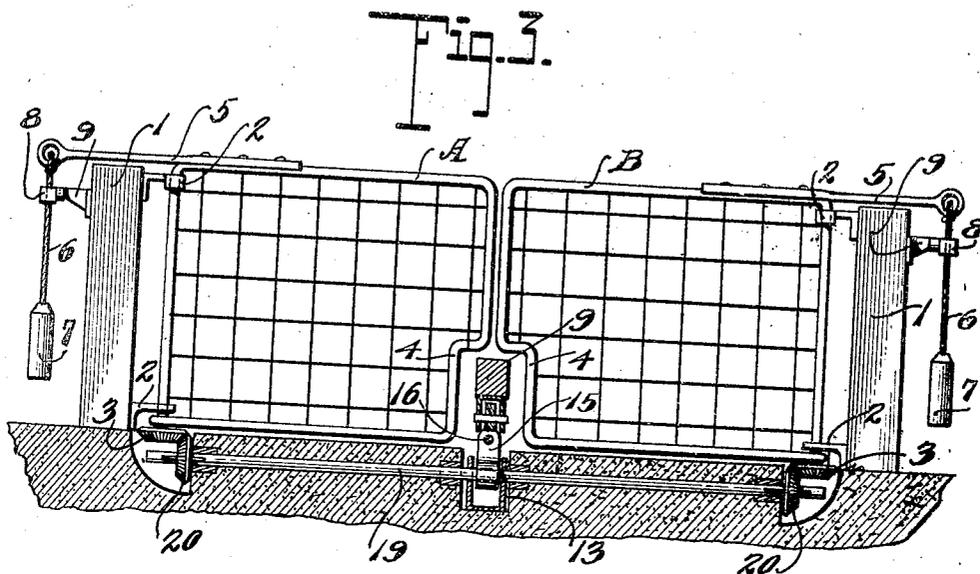


Jan. 2, 1923.

J. R. ROLLMAN.
AUTOMATIC VEHICLE OPERATED GATE.
FILED AUG. 9, 1921.

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2 SHEETS-SHEET 2



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UNITED STATES PATENT OFFICE.

JOSIAH R. ROLLMAN, OF ENCAMPMENT, WYOMING.

AUTOMATIC VEHICLE-OPERATED GATE.

Application filed August 9, 1921. Serial No. 490,970.

To all whom it may concern:

Be it known that I, JOSIAH R. ROLLMAN, a citizen of the United States, residing at Encampment, in the county of Carbon and State of Wyoming, have invented certain new and useful Improvements in Automatic Vehicle-Operated Gates, of which the following is a specification.

The present invention relates to improvements in automatic vehicle operated gates and has for its object to provide a simple structure of this type having novel means for retaining the gates normally closed and for automatically returning them to such position following the operation thereof.

The invention is designed with as few a number of parts as practicable to insure against the mechanism becoming disordered in use, and to maintain the cost of manufacturing at a minimum for this type of construction.

These and such other objects as may hereinafter appear are attained by the novel construction, combination and arrangement of parts to be hereinafter specifically described and claimed.

Reference will now be had to the accompanying drawings forming a part of this specification, wherein:

Figure 1 is a perspective view showing a gate construction of the type comprehended by this invention.

Figure 2 is a transverse sectional view showing in dotted lines the open position of the gate and the operated position of the vehicle operating bar and a spring means for actuating the bar to automatically close the gate.

Figure 3 is a sectional view longitudinally of the gate construction and showing in detail the operative connections between the vehicle operative bar and the gate members.

Figure 4 is a detail view of the means for automatically closing the gate of the preferred construction.

Figure 5 is a sectional view on the line 5-5 of Figure 4.

Figure 6 is a detail view partly in section of the auxiliary spring means, designed to be used in this construction assisting in closing the gates.

Throughout the following detailed description and on the several figures of the drawing, similar parts are referred to by like reference characters.

Referring to the drawings, A and B des-

ignate a pair of swinging gates suspended across a roadway at each side of which is a supporting post 1. The gates may be of any desired construction, but as herein illustrated comprise metallic frame members, the end bar member of each gate being pivotally mounted in the brackets 2 on the inner face of the gate post and having the said end bar extended a suitable distance at its lower end to receive a gear member 3. At the inner or meeting end of the gate the frame is bent as indicated at 4 so as to accommodate the operating means for the gate hereinafter described. Attached to the top of each gate and adjacent the pivot end thereof is a longitudinally extending arm 5 which projects over the gate post 1 and has suspended therefrom by means of a rope 6 a heavy weight 7. As shown most clearly in Figure 4 the rope 6 passes through the swiveled eye or guide 8 mounted upon a bracket 9 attached to the outer face of the gate post. Thus when the gate is swung around upon its pivot the arm tends to carry the weight out of its vertical position, but being restrained from such movement by the guide eye 8, the weight is drawn upwardly and places the gate under tension so that when the gate-actuating means is released the weight will tend to gravitate to its lower position and this action automatically closes the gate.

Centrally of the roadway is arranged a vehicle operated bar 9, the opposite ends of which are suitably inclined or beveled so that when a vehicle approaches the roadway this bar will ride under the axles of the vehicle. The bar is supported a suitable distance from the surface of the roadway by means of the arms 11 which are pivoted at their lower ends to the bearing members 12 secured in the base of a depression 13 and which are at their upper ends mounted in bearing plates or ears 14. The upper bearing members 14 are somewhat deeper than the corresponding lower bearing members in order to take care of the variations in depression of the bar by vehicles having varying clearance beneath the axle.

The bar is provided with a third supporting arm 15 arranged centrally and connected in the same manner to suitable bearings. At each side of this central arm, however, is disposed an arcuate shaped guide rod 16 having a base plate 17 by means of which said rod is secured to the base of the depression

13, the two rods 16 when in operative relation forming substantially a semi-circle. The arm 15 is provided with a guide opening to receive the rods 16 and this guide means greatly strengthens the operating bar 9 against lateral stresses incident to its operation by vehicles. The guide members 16 in addition to their guiding function may have disposed thereupon coil spring 18, one arranged at each side of the arm 15, which springs will place the bar 19 under tension when the arm is moved in either direction, tending to restore it to its normal elevated position, and it should be understood that this spring arrangement may be employed in conjunction with the weight device 7, one acting auxiliary to the other, or I contemplate that the weight device may be used without the spring arrangement just referred to.

The central arm 15 is fixed to a shaft 19 which at its opposite ends carries a bevel gear member 20, said gears meshing with the respective gears 3 upon the end gate bars of the gates A and B thus operatively connecting the vehicle operated member or bar 9 with the gate members.

The operation of the gate will be clear from the foregoing but may be briefly summarized as follows: Upon approaching the gateway the forward vehicle axle will come into contact with the inclined face 10 of the bar 9 and will ride upon the upper surface of said bar causing it to be depressed into a dotted line position shown in Figure 2, which actuation will cause the shaft 19 to be rotated and in turn the gates swung upon their pivots to open position also as shown in Figure 2. This movement of the gates, as hereinbefore described, will tend to shift the weight members 7 from the vertical plane occupied thereby as shown in Figure 1, and will place the gates under tension. Or such depression will compress one of the springs 18 and place the arm 15 under tension. The bar 9 is sufficiently long to remain depressed by co-action with the forward and rear axles of the vehicle until such vehicle has entered within the gates and cleared the same, whereupon the bar 9 will resume its elevated position accompanied by the automatic closing of the gates. Obviously the gates open in

opposite directions according to the direction in which the bar 9 is shifted by the vehicle.

A simple and sturdy construction of gate or gates is provided by an arrangement such as hereinbefore described, and owing to the few parts which are employed the mechanism will be more or less free from becoming accidentally disordered. Whenever it is necessary to replace any of the parts they are easily accessible. For example, in replacing the springs 18 it is only necessary to loosen up the bolts 17 sufficiently to enable one of the arcuate members 16 to be shifted slightly away from the arm, whereupon the spring may be replaced.

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

1. In an automatic gate opening means, the combination with a gate, a vehicle operated bar arranged in the roadway and extending transversely of the position assumed by the gate when in a closed position, pivotally mounted arms for normally supporting the bar in an elevated position, the ends of the bar being beveled for engagement with the axle of an approaching vehicle, an operative connection between the bar and the gate for automatically opening the gate when the bar is swung downwardly, guide means for the bar, and a spring mounted upon the guide means and cooperating with the bar for automatically closing the gate after operation thereof by the bar.

2. In a gate device of the class described, a pair of swinging gates, a vehicle operated bar arranged in the roadway centrally of the gates and transversely thereto, pivotally mounted arms for supporting the bar elevated from the surface of the roadway, arcuate guide means co-acting with one of said arms, actuating means connected with the gates for automatically closing the same, operative connections between the gates and the vehicle operated bar, and means auxiliary to the actuating means and co-acting with the guide means for the bar tending to automatically close the said gates after operation by the bar.

In testimony whereof I affix my signature.
 JOSIAH R. ROLLMAN.