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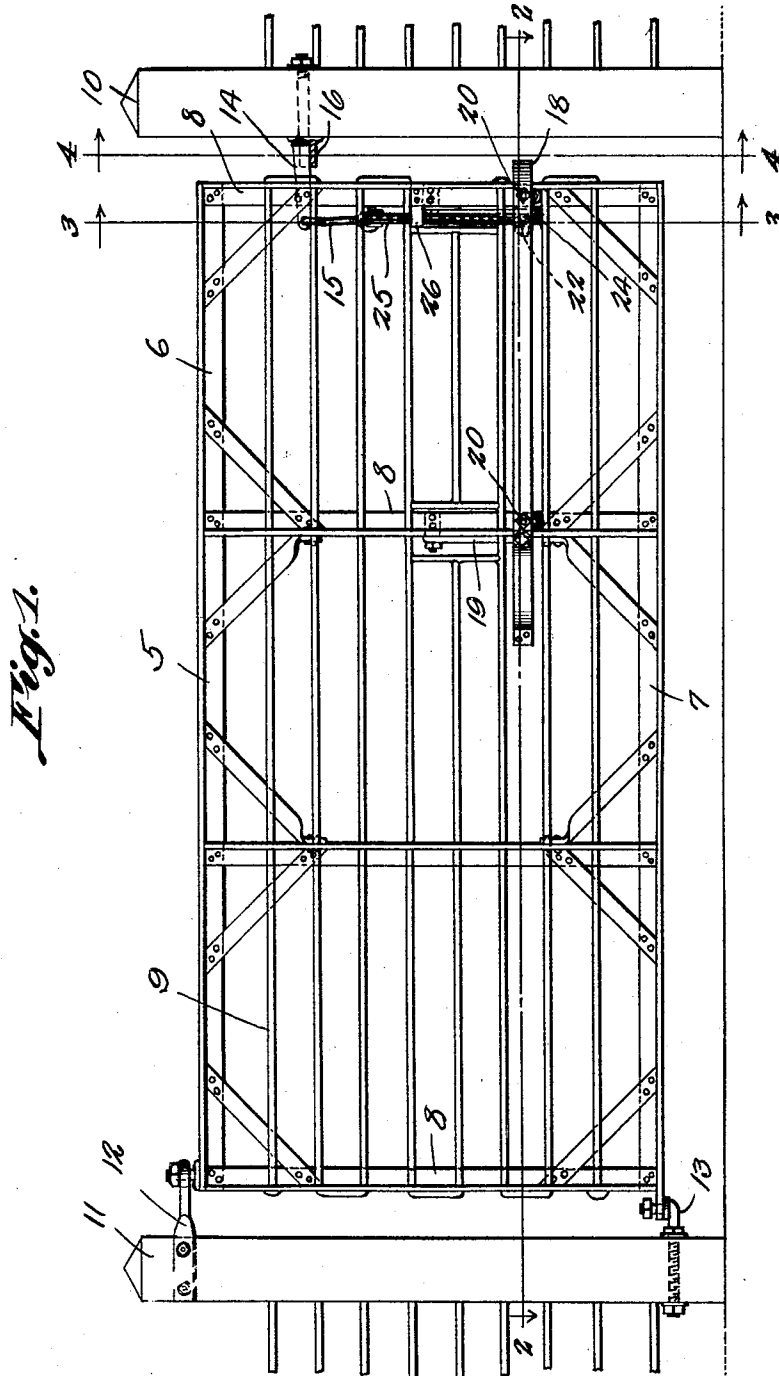
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1,798,699

VEHICLE OPERATED GATE

Filed Feb. 16, 1929

2 Sheets-Sheet 1



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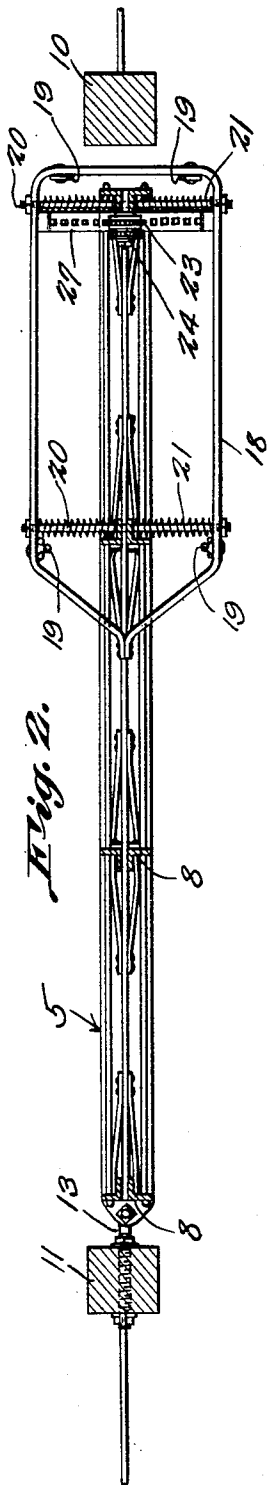
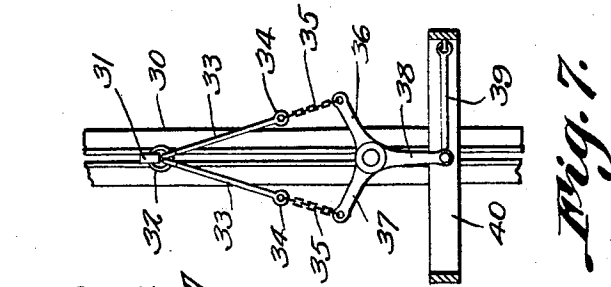
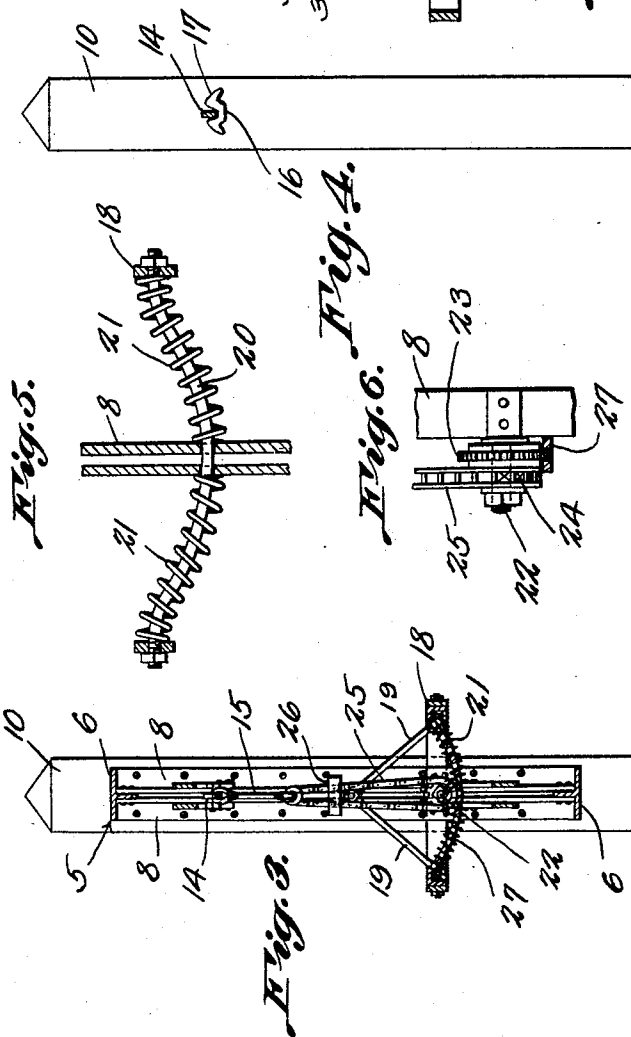
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VEHICLE OPERATED GATE

Filed Feb. 16, 1929

2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

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VEHICLE OPERATED GATE

Application filed February 16, 1929. Serial No. 340,387.

This invention relates to highway gates, and more particularly to gates of the swinging type, novel means being provided whereby the gate will be moved to its open position by the action of a vehicle moving against the gate.

An important object of the invention is to provide means forming a part of the gate to be struck by the bumper or front wheels of the vehicle to operate the pivoted latch that normally holds the gate in its closed position so that the gate may swing open.

A further object of the invention is to provide a pivoted latch operating member which will be automatically returned to its normal position after the gate has been moved by a car rubbing thereagainst so that the gate will be automatically latched in its closed position.

A still further object of the invention is to support the gate on hinges arranged in such a way that the gate will automatically return to its closed position.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, may be made within the scope of what is claimed, without departing from the spirit of the invention.

Referring to the drawings:

Figure 1 is an elevational view of a gate constructed in accordance with the invention, showing the gate in its closed position.

Figure 2 is a sectional view taken on line 2—2 of Figure 1.

Figure 3 is a vertical sectional view taken on line 3—3 of Figure 1.

Figure 4 is a sectional view taken on line 4—4 of Figure 1.

Figure 5 is a sectional view showing the guide bar and spring for operating the guide bar.

Figure 6 is a fragmental detail view showing the sprocket and chain for operating the latch.

Figure 7 is an elevational view of a modified

form of latch operating device, the bumper being shown in section.

Referring to the drawings in detail, the gate is indicated generally by the reference character 5 and includes upper and lower rails 6 and 7 respectively which are connected by means of the vertical bars 8 defining a frame for the wires 9 that form the body of the gate.

As shown, the gate is swung between the gate posts 10 and 11 respectively by means of the hinges 12 and 13 respectively, the hinge 12 being substantially long so that the pivot point of the gate is thrown off center with the result that when the gate is moved to its open position in either direction the free end of the gate is elevated so that the gate will gravitate to its closed position after the vehicle has passed through the gate.

The latch forming an important part of the invention includes a pivoted finger 14 to which the link 15 is connected, the latch or finger having its free end extended beyond the free end of the gate to engage within the keeper 16 that has cam surfaces 17 that guide the latch or finger 14 into the central notch of the keeper to normally hold the gate in its closed position.

As clearly shown by the drawings, the latch operating mechanism is of the bumper type and embodies a substantially wide frame 18 that has one end thereof extended beyond the free end of the gate, the opposite end thereof being disposed between certain wires of the gate body, the side members of the bumper being spaced appreciable distances from the sides of the gate proper to permit of sufficient movement of the side members of the latch operating frame to operate the latch.

At each end of the latch operating frame, are upwardly inclined rods 19 that have their upper ends connected with certain bars 8 in such a way as to permit the frame to swing freely. Openings are formed in the bars 8 to which the rods 19 are connected, which openings accommodate the rods 20 which are curved as clearly shown by Figure 5 of the drawings and provide supports for the springs 21 that have their outer ends

engaging the side bars of the frame, while the inner ends thereof rest against the bars 8 disposed adjacent thereto with the result that when the latch operating frame is moved inwardly towards the gate the springs will be compressed, thereby relieving the gate structure of undue strain caused by a vehicle hitting the bumper. The springs will also act to return the latch operating member to its normal position.

Extending inwardly from the bar 8 at the free end of the gate, is a shaft 22 on which the gear 23 is mounted which gear is provided with a hub to which the sprocket 24 is secured, the sprocket being rotated by the action of the gear 23, to operate the chain 25 which moves over the sprocket 24. This chain 25 moves through a guide 26 and has pivotal connection with the link 15 at the lower end of the link similar to the connection shown at 32 in Figure 7 of the drawing so that when the chain is rotated and the link pulled downwardly, the finger 14 will be pivoted to swing the outer end thereof upwardly away from the keeper in which it rests, to unlatch the gate.

Movement of the latch operating frame is transmitted to the gear 23 and sprocket 24 by means of the curved bar 27 that has its ends connected with the side bars of the latch actuating frame or bumper, the bar 27 having openings to accommodate the teeth of the gear 23 to rotate the gear as the bar 27 moves thereunder.

In the form of the invention as shown by Figure 7, a portion of the frame of the gate is indicated by the reference character 30 to which the pivoted latch 31 is connected. A ring 32 extends through an opening formed in one end of the pivoted latch to which ring the upper ends of the links 33 are connected, the opposite ends of the links having eyes 34 for the reception of the uppermost links of the chains 35, the lower ends of the chains 35 being connected to the arms 36 and 37 respectively of the operating device.

A depending arm 38 forms a part of the operating device and is connected with the link 39 that also connects with the operating frame or bumper 40. Thus it will be obvious that when the bumper or operating frame 40 is moved laterally by having been engaged by the front wheels or bumper of a motor vehicle, the arms 36 and 37 will be operated to pivot the latch 31 and cause it to be moved out of contact with its keeper.

In the operation of the gate, assuming that the gate is in its closed position, the vehicle to pass through the gate is moved to engage the latch actuating frame or bumper, causing one side of the latch actuating frame to move towards the gate proper. It is obvious that with this movement of the latch actuating frame the bar 27 moves under the gear 23 rotating the gear and imparting rotary move-

ment to the sprocket 24 and chain 25 to draw the latch finger downwardly raising the outer end out of the keeper.

As the motor vehicle moves by the gate the gate swings open and the latch actuating frame automatically assumes its normal position where the latch will operate to secure the gate in its closed position when it swings inwardly.

I claim:

1. In combination with a swinging gate and the pivoted latch thereof, a latch operating mechanism including a frame, means for pivotally connecting the frame to the gate, a bar having openings, secured to the frame, a gear engaged by the bar to be operated by the bar, a sprocket rotated by the gear, a chain operating over the sprocket, means for connecting the chain and latch member, said chain adapted to rotate to move the latch to its inactive position, and means for returning the frame to its normal position.

2. In combination with a gate and the pivoted latch thereof, a latch operator comprising a swinging frame, a curved bar having openings, disposed transversely of the frame, a gear mounted on the gate, the teeth of the gear operating in the openings of the bar, to rotate the gear when the frame is moved, and means for transmitting movement of the gear to the latch to move the latch to unlatch the gate.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature.

ALFRED I. RALSTON.