A. K. HOLDEMAN.

GATE.

APPLICATION FILED NOV. 17, 1908.

935,206.

Patented Sept. 28, 1909.

2 SHEETS—SHEET 1.

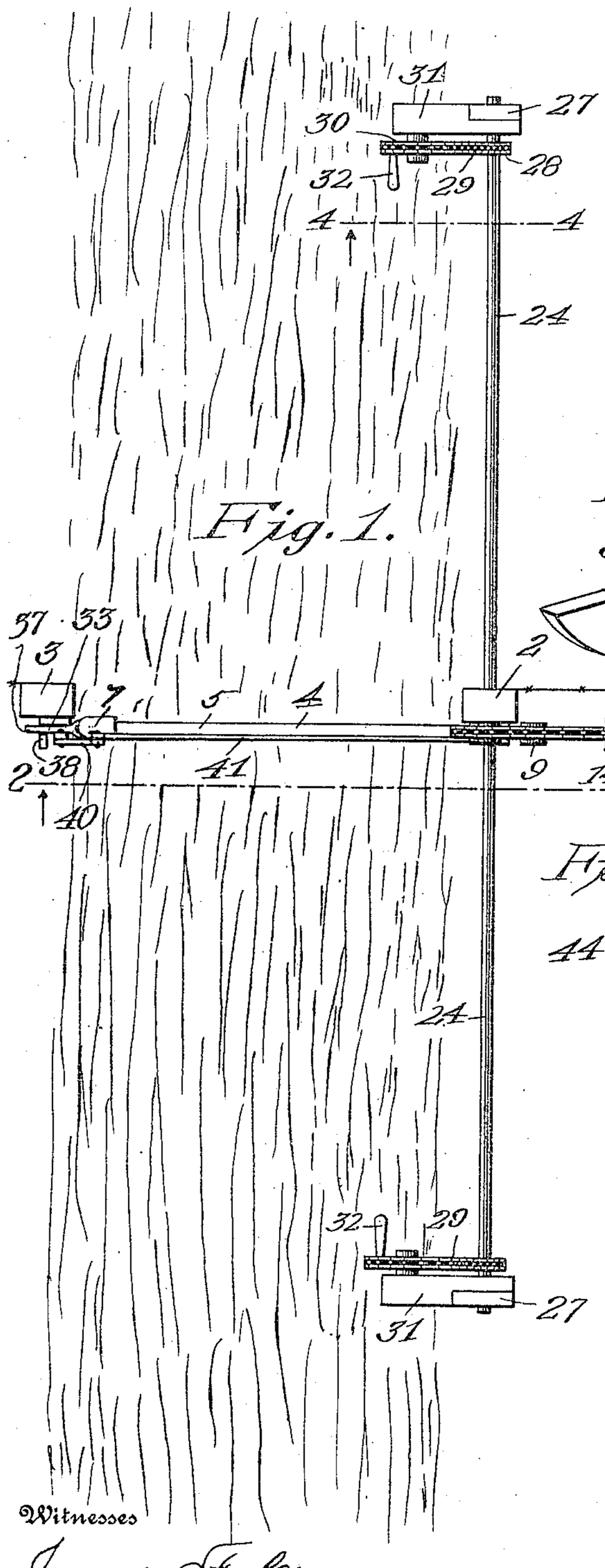
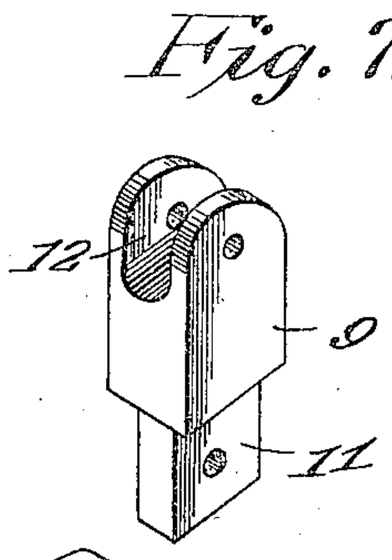


Fig. 1.



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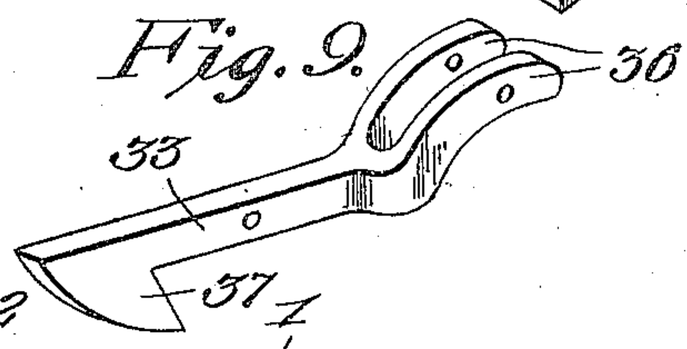

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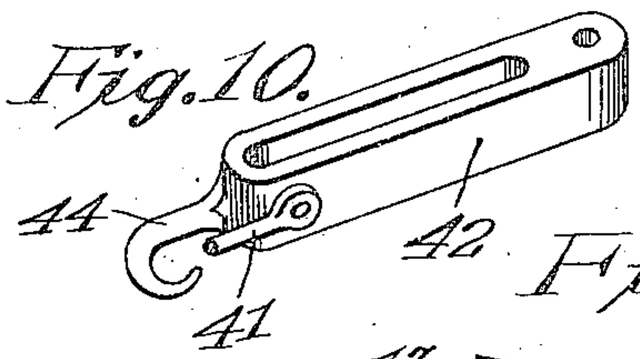

Fig. 10.

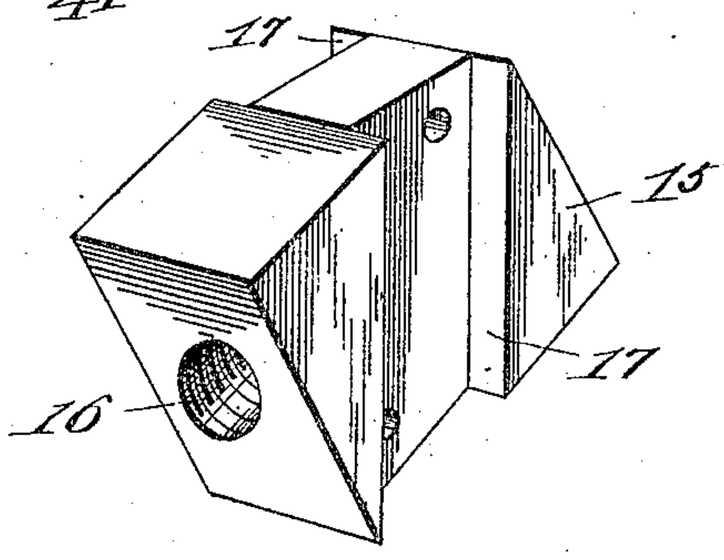

Fig. 8.

Witnesses

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2 SHEETS—SHEET 2.

Fig. 2.

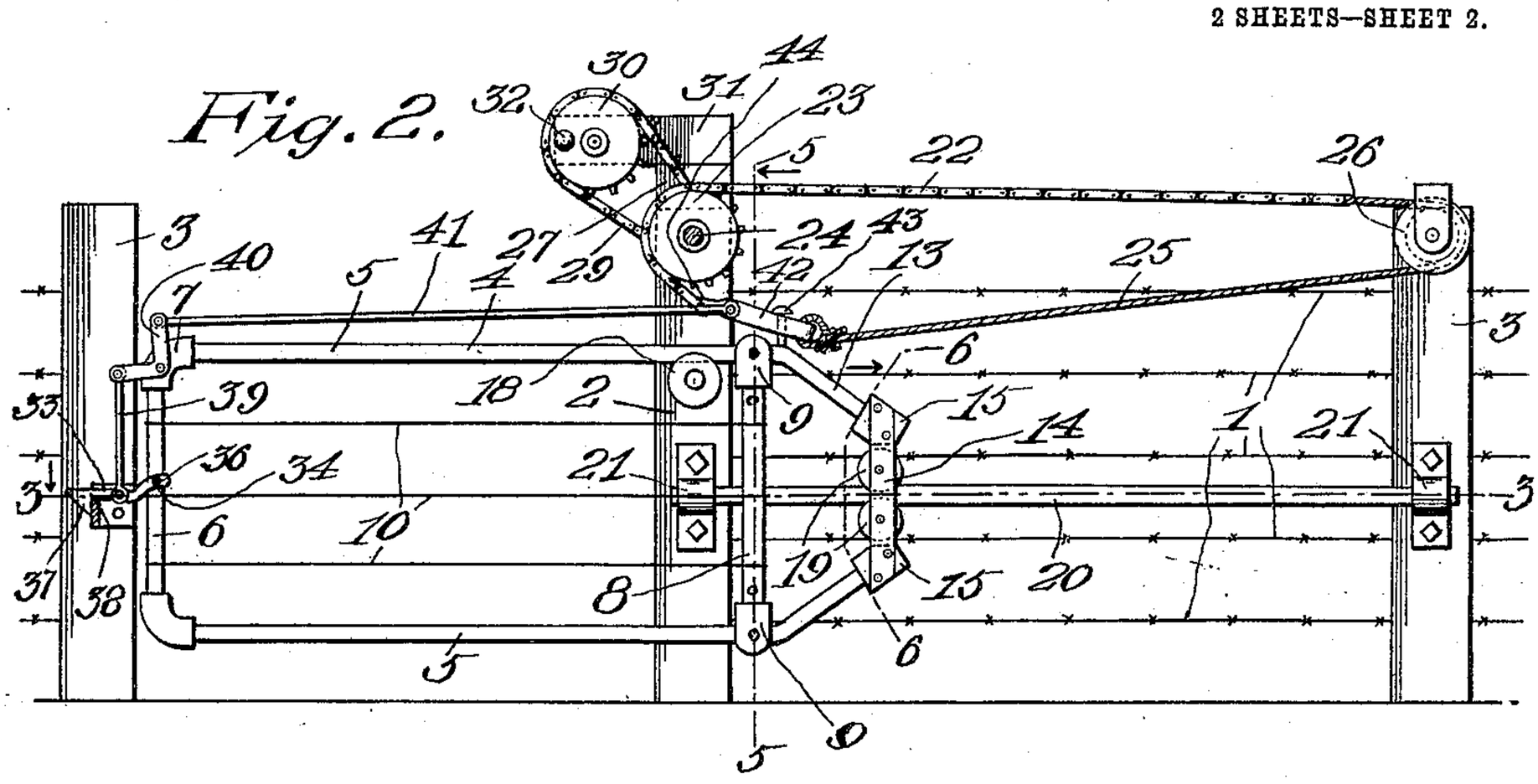


Fig. 3.

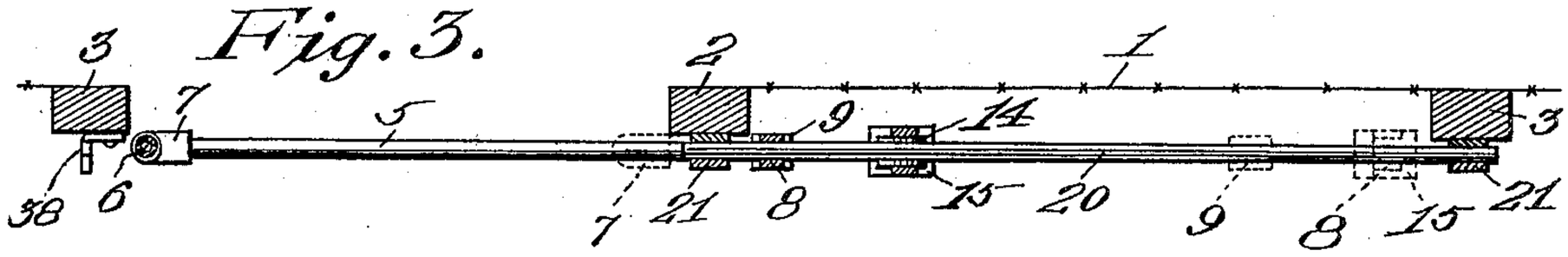


Fig. 4.

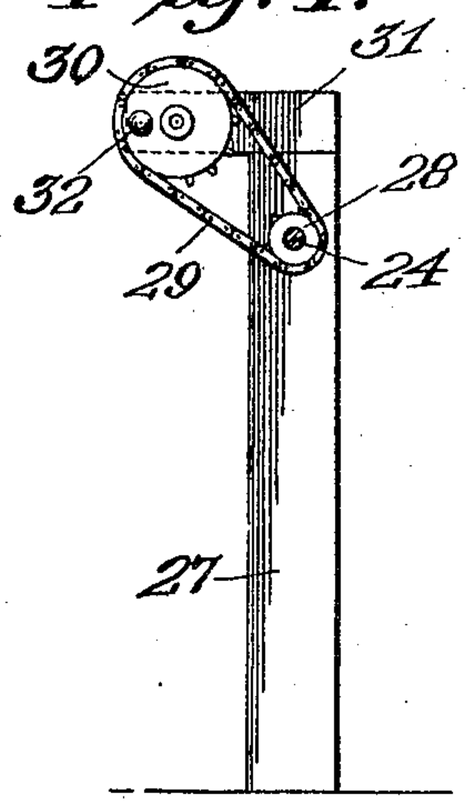


Fig. 5.

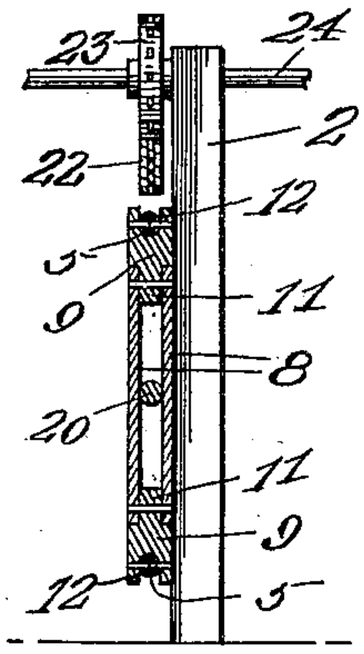
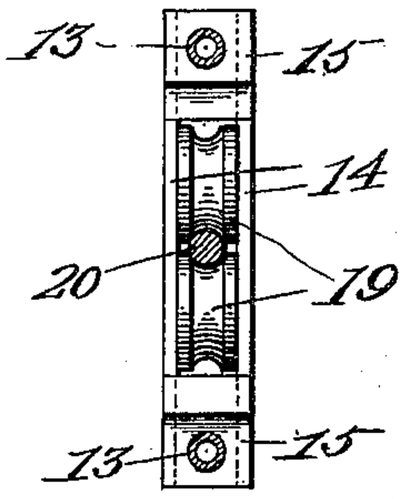


Fig. 6.



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UNITED STATES PATENT OFFICE.

AMOS K. HOLDEMAN, OF CEDAR POINT, KANSAS.

GATE.

935,206. Specification of Letters Patent. Patented Sept. 28, 1909.

Application filed November 17, 1908. Serial No. 463,038.

To all whom it may concern:

Be it know that I, AMOS K. HOLDEMAN, a citizen of the United States, residing at Cedar Point, in the county of Chase and State of Kansas, have invented certain new and useful Improvements in Gates, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to improvements in sliding gates and operating devices therefor.

One object of the invention is to provide an improved all metallic gate of the sliding type which will be simple and comparatively inexpensive in construction and at the same time exceedingly strong and durable in use and easy in operation.

Another object of the invention is to provide a gate of this character with an improved means for operating the same whereby it may be opened or closed by a person within a vehicle or on horse back.

With the above and other objects in view, the invention consists of the novel features of construction and the combination and arrangement of parts hereinafter fully described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a top plan view of the improved gate and its operating means; Fig. 2 is a vertical section taken on the plane indicated by the line 2—2 in Fig. 1 showing the gate in elevation; Fig. 3 is a horizontal section taken on the plane indicated by the line 3—3 in Fig. 2; Fig. 4 is a detail vertical section taken on the plane indicated by the line 4—4 in Fig 1; Figs. 5 and 6 are detail vertical sections taken, respectively, on the planes indicated by the lines 5—5 and 6—6 in Fig. 2; Figs. 7 and 8 are detail perspective views of two of the gate fastenings; Fig. 9 is a detail perspective of the gate latch; and Fig. 10 is a similar view of the slotted member which serves to connect the gate to its operating chain and cable.

In the drawings 1 denotes a fence of any form and construction in which is arranged two gate posts 2, 3, the same being on the opposite sides of the opening in the fence adapted to be closed by the improved sliding gate 4. The latter is constructed of upper and lower tubular bars 5, an outer upright end bar 6 connected by elbows 7 to the outer ends of the bars 5, and an upright inner end bar 8 connected at its ends by castings 9 to the bars 5. These parts form a rectangular frame over which may be stretched wires 10, wire fabric or any other desired covering. The castings or connections 9 are shown more clearly in Fig. 7, each one having a reduced end or shank 11 which is inserted in one end of the bar 8 and secured by a bolt or other transverse fastening. The other or enlarged end of the connection 9 is channeled, as shown at 12, to receive one of the bars 5, which latter is secured therein by a transverse fastening. Said castings 9 are secured to the bars 5 some distance from their inner ends, which latter are bent inwardly to provide converging arms 13 united by spaced upright metal straps 14 secured to the opposite faces of castings 15 provided on said ends of the arms 13. Said castings or connections 15 are shown more clearly in Fig. 8, each one having a socket or opening 16 in one end to receive one of the arms 13, which latter is retained therein, preferably by screwing it into said socket. Said casting or connection 15 has in its opposite faces channels or recesses 17 in which the ends of the straps or bars 14 are secured by transverse fastenings.

The gate is supported and guided in its sliding movement by a supporting roller 18 mounted on the post 2 and by a pair of rollers 19 journaled between the spaced straps 14. These rollers 19 have grooved peripheries and they are superposed so as to receive between them a stationary track bar 20 fixed at its ends in brackets 21 on the gate post 2 and on one of the fence posts or any other suitable support. The supporting roller 18 is also grooved and it is adapted to receive the upper bar 5 of the gate, which bar, consequently, serves as a track. By maintaining the gate in this manner, it will be seen that it may be easily slid sidewise to either its closed or its open position and that it will be strong and durable in construction.

In order to permit the gate to be opened or closed by a person within a vehicle or on horse back, a sprocket chain 22 is attached to the inner portion of the gate and passed around a sprocket wheel 23 fixed to a longitudinal shaft 24. The latter is journaled in bearings in the gate post 2 and extends in both directions therefrom a suitable distance and has means connected to its ends for rotating it. The flexible connection or chain 22 for operating the gate may be composed of a single piece of sprocket chain, but in order to reduce the cost of the device,

said connection 22 is preferably a sprocket chain section and a section 25 of cable, the chain section being passed around the sprocket wheel 23 and the cable section being passed around a guide pulley 26 suitably journaled on one of the fence posts or any other suitable support. It will be seen that when the shaft is turned the chain or connection 22 will either open or close the gate according to the direction of rotation of said shaft. The extremities of the shaft 18 are journaled in bearings in posts 27 located alongside of the roadway and fixed to said ends of the shaft are small sprocket wheels 28 which are connected by sprocket chains 29 to sprocket wheels 30 journaled in outwardly projecting arms 31 on the tops of the posts 27. Said sprocket wheels 30 are provided with crank handles 32 by means of which they may be rotated for imparting the movement of the chains 29 to the shaft 18. It will be seen that when either of the cranks 32 is turned in one direction the gate 4 will be opened and when turned in the opposite direction the same will be closed.

If desired, the gate may be provided with the latch device shown, the same being controlled by the gate operating mechanism above described. This latch comprises a vertically swinging latch member 33 pivoted at 34 on the outer upright bar 6 of the gate. Said latch lever 33 has a forked portion 36 at one end to straddle the bar 6 and guide the latch in its swinging movement; and at its other end is a beveled portion 37 to engage a suitable keeper 38 upon the post 3. The inner or closed part of the forked portion 36 is adapted to engage the bar 6 when the latch lever drops for the purpose of preventing the same from passing below the horizontal. The latch lever 33 is connected by a link or other connecting element 39 to one arm of a bell crank 40 pivoted at its angle upon the outer and upper corner of the gate and having its other arm connected by a link or other suitable connection 41 to a slotted member or bar 42. The latter is slidably arranged upon a headed pin or equivalent device 43 upon the upper portion of the inner end of the gate and has at one of its ends a hook 44 for attachment to one end of the chain 22, and at its other end an aperture to receive the cable 25. This slotted member 42 serves not only as a latch operating member but also as a connecting element between the gate and the chain and cable. It will be seen that, owing to the slidable engagement between the parts 42, 43, when either one of the cranks 32 is turned to open the gate, the chain 22 will have sufficient movement to shift the member 42 and thereby release the latch, before said chain begins to move the gate.

Having thus described the invention what is claimed is:

1. In a gate, the combination of a support, a horizontally sliding gate, a pin arranged thereon, a slotted link slidable on said pin, a latch upon the gate, a connection between the latch and said link, a flexible element connected to the opposite ends of said link and including a sprocket chain, a guide for said element, and a sprocket wheel engaged with the chain for actuating the element to operate the gate and latch.

2. In a gate, the combination of a support, a horizontally sliding gate, a pin arranged thereon, a slotted link slidable on said pin, a latch upon the gate, a connection between the latch and said link, a flexible element connected to the opposite ends of said link and including a sprocket chain, a guide for said element, a horizontal shaft extending upon opposite sides of the gate, a sprocket wheel upon the intermediate portion of the shaft and engaged with said chain, supports for the ends of said shaft, sprocket wheels provided with crank handles and journaled on the last mentioned supports, sprocket wheels upon said shaft adjacent its ends, and sprocket chains connecting the last mentioned sprocket wheels.

3. In a gate, the combination of hinge and latch posts, a horizontally slidable gate, a pin upon the rear portion of the gate, a slotted link slidably engaged with said pin, a pivoted latch on the front end of the gate, a bell crank at the upper front corner of the gate, a link connecting the bell crank and latch lever, a link connecting the bell crank and said slotted link, a flexible element including a sprocket chain having its ends connected to the ends of said slotted link, a guide for said element and a sprocket wheel engaged with said chain for actuating the element to operate the gate and latch.

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

AMOS K. HOLDEMAN.

Witnesses:

B. A. OVERSTREET,

JACOB LUDWIG.