

S. P. KING.  
GATE OPENING AND CLOSING DEVICE.  
APPLICATION FILED FEB. 15, 1908.

904,963.

Patented Nov. 24, 1908.

2 SHEETS—SHEET 1.

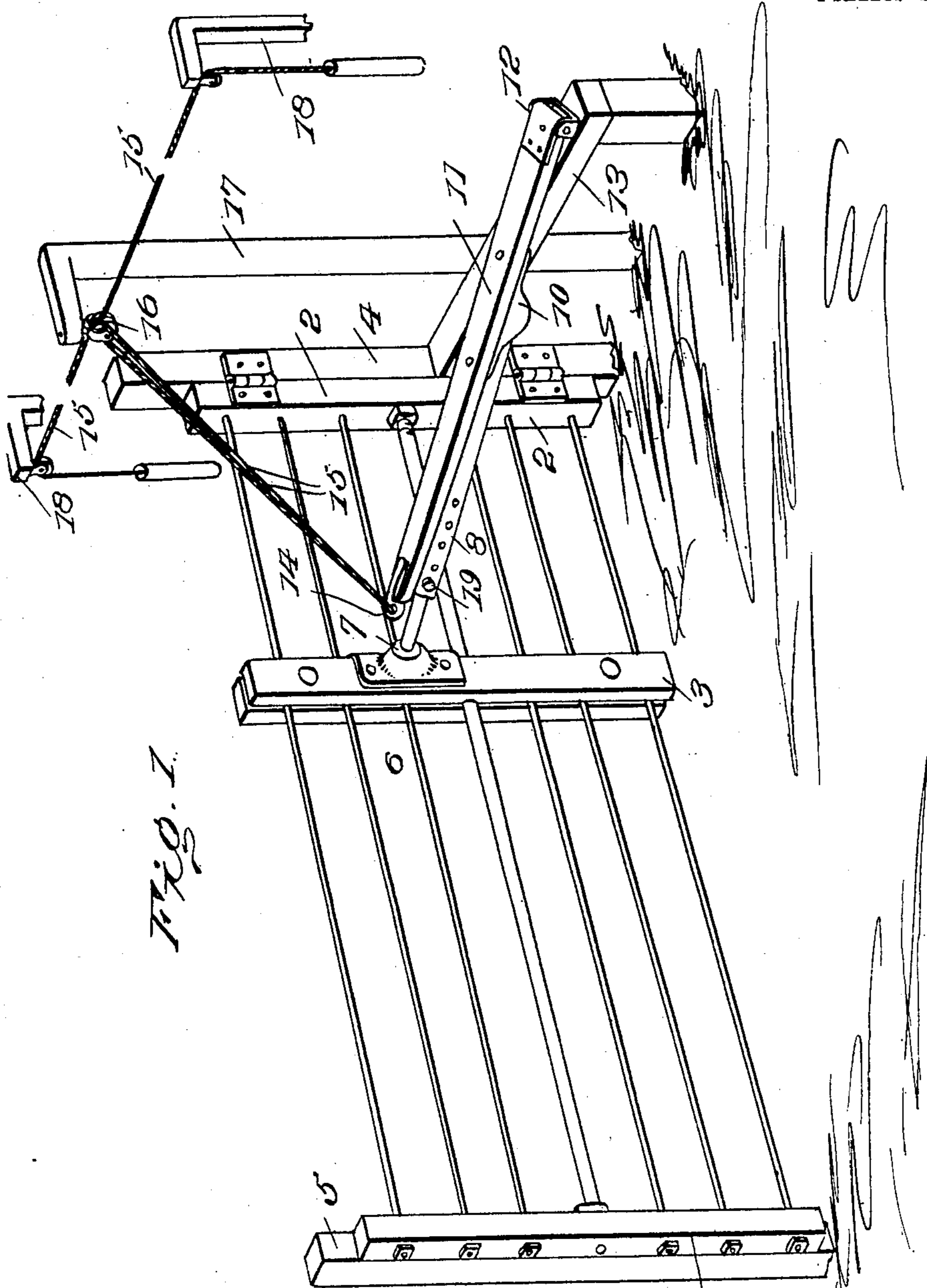


Fig. 1.

Inventor

S. P. King

Witnesses

*[Signature]*  
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By

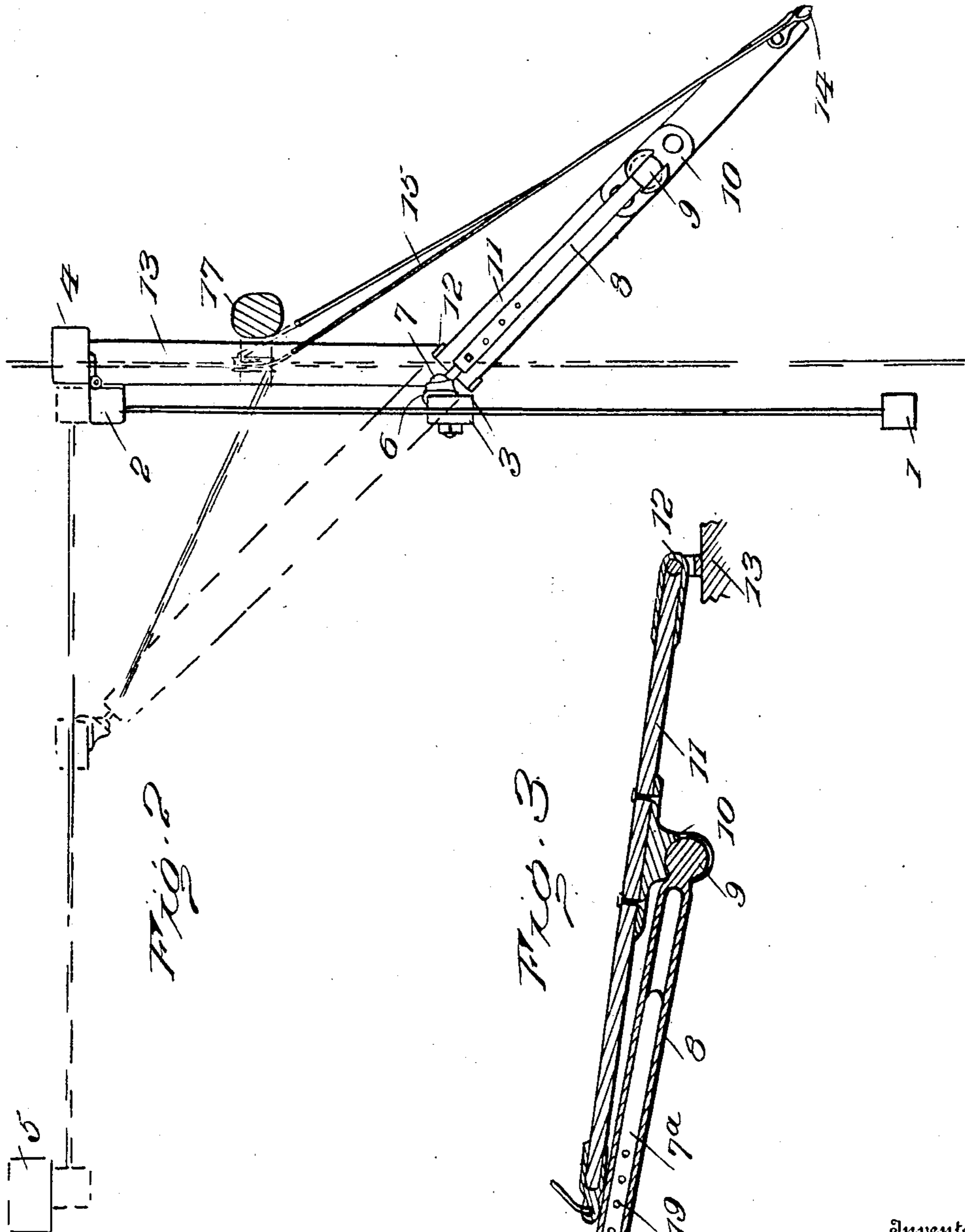
*[Signature]* Attorneys

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R. H. Macey,

Inventor

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# UNITED STATES PATENT OFFICE.

SAMUEL P. KING, OF NORTON, KANSAS.

## GATE OPENING AND CLOSING DEVICE.

No. 904,963.

Specification of Letters Patent.

Patented Nov. 24, 1908.

Application filed February 15, 1908. Serial No. 416,123.

*To all whom it may concern:*

Be it known that I, SAMUEL P. KING, citizen of the United States, residing at Norton, in the county of Norton and State of Kansas, have invented certain new and useful Improvements in Gate Opening and Closing Devices, of which the following is a specification.

This invention has for its object a simple, durable and efficient construction of gate opening and closing mechanism, that may be cheaply constructed and easily applied and conveniently adjusted to any ordinary farm or other gate, and opened or closed without dismounting from horse or vehicle.

The invention consists in certain constructions, arrangements and combinations of the parts that I shall hereinafter fully describe and claim.

For a full understanding of the invention, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a perspective view of my improved gate opening and closing devices; Fig. 2 is a top plan view thereof with parts in section; and Fig. 3 is a detail top plan view with a portion of the link shown in section.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The gate that I shall select for the purpose of illustrating the invention, has longitudinal wires or rails and end uprights 1 and 2, and it may also include an intermediate upright 3. The gate is hinged to the supporting post 4 so as to swing across the road against a latch post 5.

To any convenient portion of the gate, for instance the intermediate upright 3, a cast socket 6 is attached by screws, bolts or similar fastening devices. A ball 7 is fitted to turn for a universal movement within the socket 6 and is formed on one end of a link 8 that may be of any desired material or any desired construction either solid or hollow, the other end of said link being formed with a ball 9 fitting for a universal movement within another cast socket 10 secured to one face of an actuating lever 11, intermediate of the ends thereof. This lever is fulcrumed at one end on a bracket 12 which is preferably swiveled on a supporting beam 13 held

preferably in an elevated position at one side of the road.

The lever 11 is fulcrumed to swing about a horizontal axis and in a plane substantially oblique to the plane of the gate when the latter is closed, and the free end of said lever is preferably provided with an eye or loop 14 to which one or more cables 15 are connected at one end. Preferably two cables are used and said cables extend from their point of attachment to the lever towards and through one or more guide pulleys 16 secured to the outer end of the angularly disposed beam on the upper end of a post 17, secured at any convenient point alongside of the road near the gate. The actuating cables or cords 15 diverge, as illustrated in the drawing, so that the gate may be operated when approached from either side, and if desired the said cables may extend to guiding posts 18 at any desired distance from the gate, and may be provided with pull handles or other convenient form of hand grips for their actuation.

From the foregoing description in connection with the accompanying drawing, it is clear that when either one of the pull cords 15 is pulled upon, the lever 11 will be raised, so as to exert a rearward pull on the link 8 and cause the gate to open. Manifestly, as soon as the lever 11 is swung to an upright position, and slightly past the center, it will of its own weight continue the backward movement and serve to automatically draw the gate to a fully open position. A similar pull upon either of the cables will obviously swing the lever in the reverse direction and after it has passed the center it will automatically close the gate in an evident manner. When the gate is fully closed, the position of the lever and its weight upon the link will tend to hold the gate against an opening movement, except by pulling upon the cords 15, although it is obvious that any desired form of latch, either manually or automatically operated, may be used to lock the gate in closed position.

My invention includes a special form of intermediate upright for the gate, consisting of two side pieces clamped to opposite sides of the gate rails by bolts or clamp screws, so that said intermediate upright may be adjusted along the gate to provide for the convenient attachment of the other operating parts. And this adjustment may

be provided for by forming the link 8 as an extensible link, that portion which is formed with the head 7 being provided with a shank 7<sup>a</sup> designed to telescope in a tubular section of the link, a pin 19 being passed through the two telescoping parts and through any one of a series of apertures formed therein so as to provide for the lengthening or shortening of the link.

10 Having thus described the invention, what is claimed as new is:

15 The combination with a horizontally swinging gate of a vertically swinging lever, a support for said lever, cables secured to the free end of the lever, a guiding device through which said cables extend, said cables

being adapted to swing the lever to and past a vertical position, a link having a universal joint connection with the gate and the lever at an intermediate point of the latter, said link being constructed in telescopic sections one of which is formed with a series of apertures and the other with a corresponding aperture, and a pin designed to extend through any of the apertures to hold the link at different extensions. 20 25

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

SAMUEL P. KING. [L. s.]

Witnesses:

S. B. McGRAW,

BEN B. JAMESON.