No. 621,969.

Patented Mar. 28, 1899.

J. B. MIESSE.

GATE.

(Application filed July 20, 1898.)

(No Model.)

2 Sheets—Sheet 1.

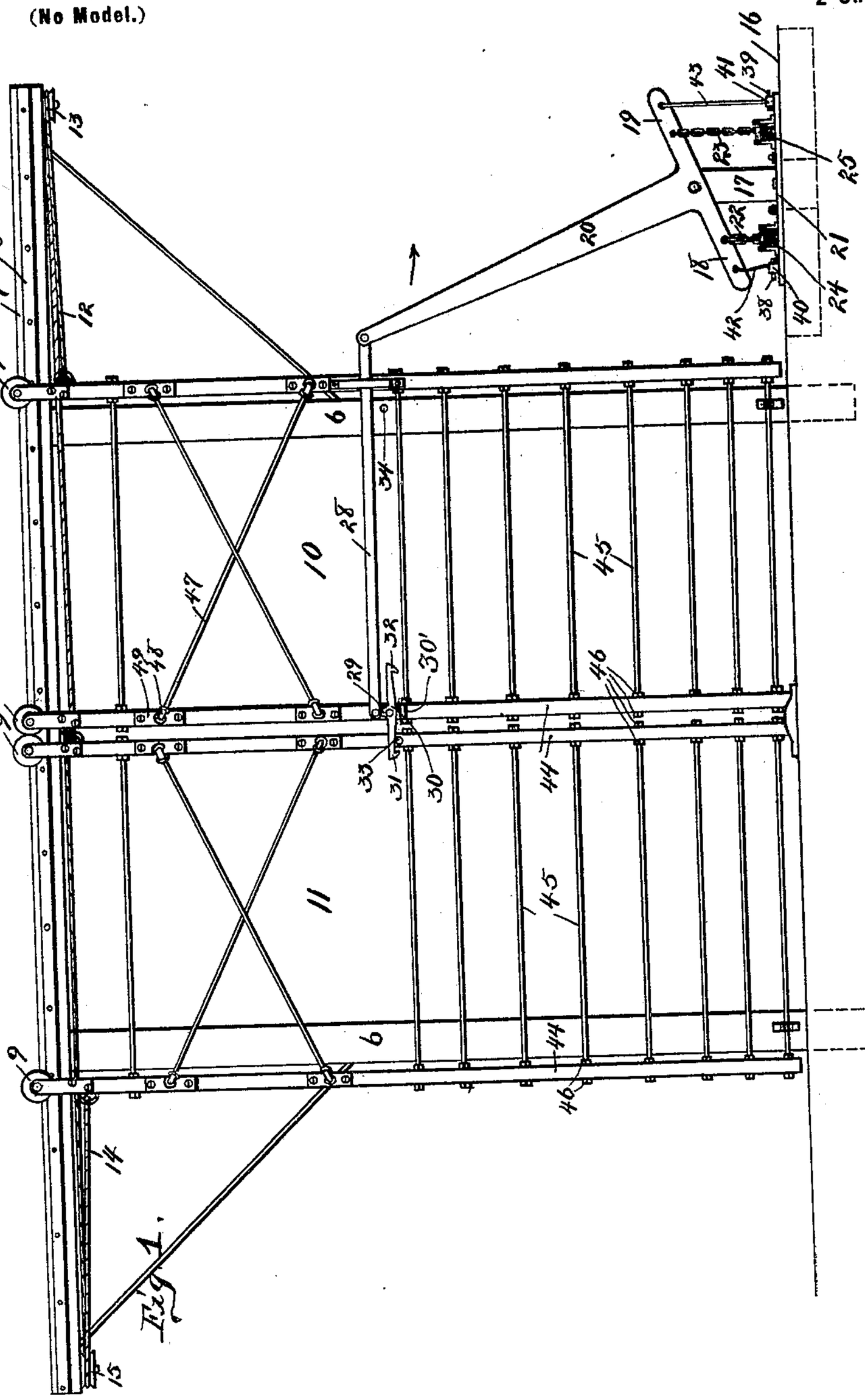

Fig 1.

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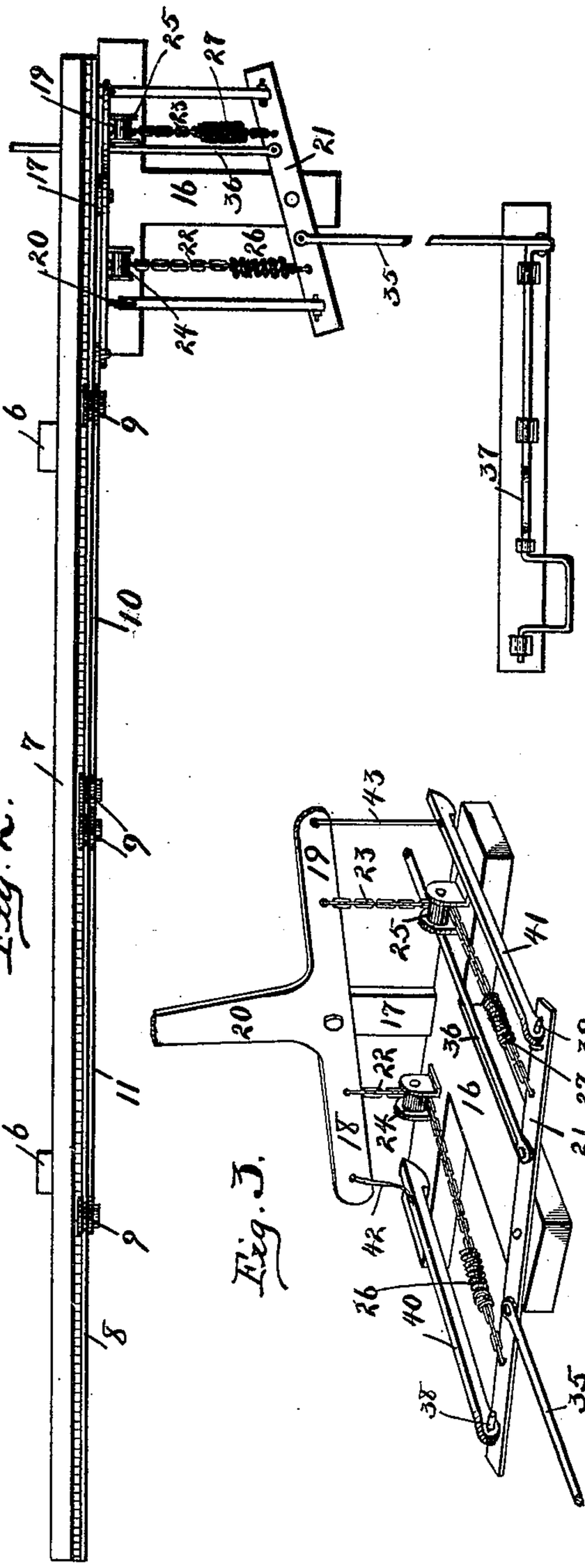

Fig. 2.

Fig. 3.

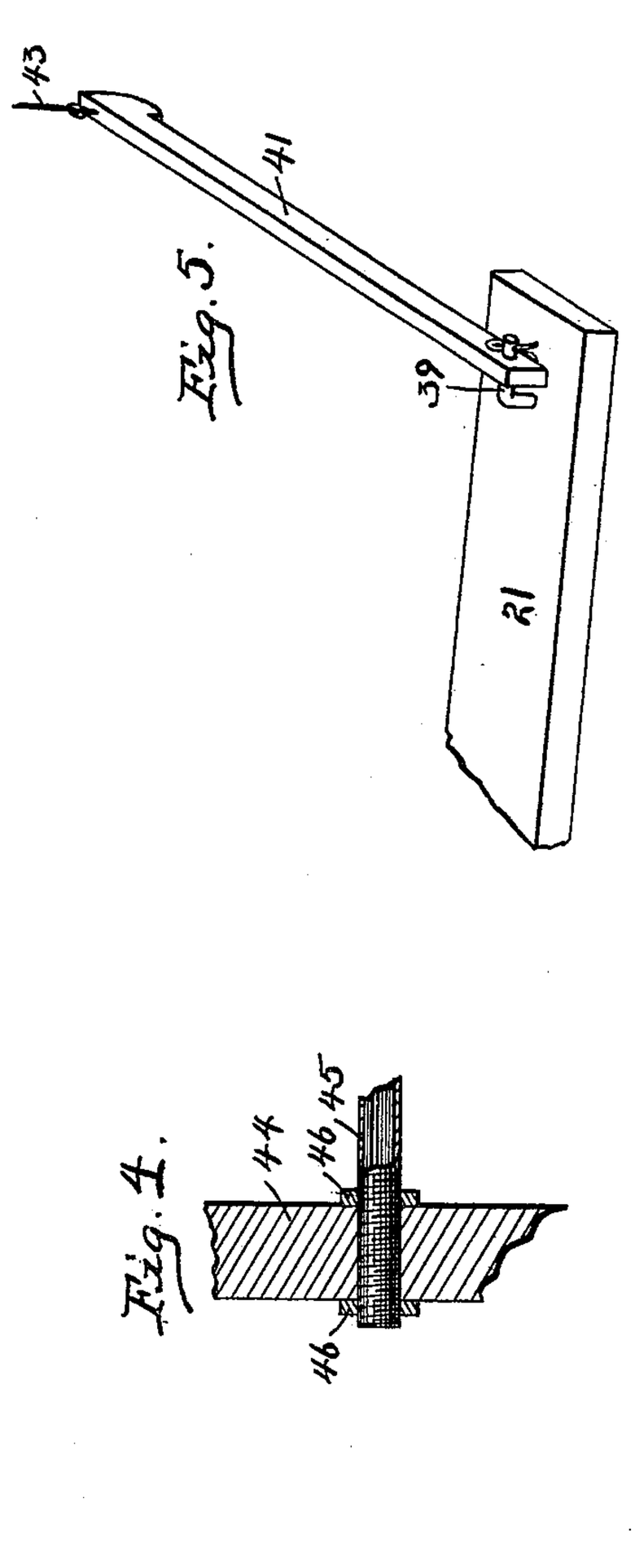

Fig. 5.

Fig. 4.

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GATE.

SPECIFICATION forming part of Letters Patent No. 621,969, dated March 28, 1899.

Application filed July 20, 1898. Serial No. 686,452. (No model.)

To all whom it may concern:

Be it known that I, JACOB B. MIESSE, a citizen of the United States, residing at Noblesville, in the county of Hamilton and State of Indiana, have invented a new and useful Gate, of which the following is a specification.

My invention relates to an improvement in farm-gates.

The object of my invention is to produce a gate-operating device by means of which the gate may be automatically opened and closed without the usual jaring and uncertainty.

The accompanying drawings illustrate my invention.

Figure 1 is a front elevation of a gate embodying my invention. Fig. 2 is a plan thereof. Fig. 3 is a perspective of the main portion of the operating mechanism. Figs. 4 and 5 are details.

In the drawings, 6 6 indicate suitable posts placed one at each side of the road. To the tops of posts 6 is secured a track-supporting beam 7, carrying a track 8 of any desired form. Mounted upon track 8 are two sets of wheels 9 9, from which are suspended two gate-sections 10 and 11. For the purpose of moving the two gate-sections simultanously in opposite directions I secure to the section 10 one end of a cable 12, which is passed around a pulley 13, carried by the end of the beam 7, and the other end of which is secured to the section 11. Similarly a cable 14 is secured to the section 11, passed around a pulley 15, carried by the opposite end of the beam 7, and secured to the section 10. Mounted to one side of the gate thus formed is the main portion of the operating mechanism. Upon a base 16 is mounted an upright 17, to the upper end of which is pivoted so as to swing in a plane parallel with the gate-sections a T-shaped operating-lever having the arms 18, 19, and 20. Pivoted also upon base 16 so as to swing in a plane substantially horizontal is a lever 21, the opposite arms of which are connected by chains or cables 22 and 23 with the arms 18 and 19, respectively, of the operating-lever, the said chains being carried beneath guide-pulleys 24 and 25, respectively, which are mounted upon the base 16. Mounted in the chains 22 and 23, respectively, are springs 26 and 27, the purpose of which will be made to appear. The arm 20 of the operating-lever extends upward and is pivoted at its upper end to one end of a link 28, the opposite end of which is pivoted to the arm 29 of a double catch 30, which is pivoted upon the gate-section 10 so as to swing in a plane parallel therewith. Catch 30 is provided with a pair of oppositely-extending catch-carrying arms 31 and 32, which are adapted to engage with pins 33 and 34, respectively, which are secured to the gate-section 11 and the opposite post 6, respectively. In order to prevent catch 30 from swinging too far, a suitable stop 30′ is mounted beneath the said catch, as shown in Fig. 1. The opposite arms of lever 21 are connected by oppositely-extending links 35 and 36 with wheel-operated levers 37 of the usual well-known form. Mounted upon opposite ends of the lever 22 are two inverted-L-shaped pins 38 and 39, the vertical arms of which are pivotally mounted in the ends of said lever and upon the horizontal arms of which are pivotally mounted catches 40 and 41, respectively, the said catches being adapted to engage at their outer ends with a portion of the base 16. The outer free ends of the catches 40 and 41 are connected, respectively, with the arms 18 and 19 of the operating-lever by means of the flexible connections 42 and 43, the said connections being of such length that when the arm to which either is attached is raised to its highest point the free end of the catch to which the connection is also secured will be raised sufficiently to clear the base 16.

The gate-sections 10 and 11 are each formed of a pair of uprights 44, which are connected by means of a series of transverse members 45. The members 45 are preferably formed of ordinary pipe, each member being threaded at both ends and the ends passed through the uprights, the said uprights being held positively in position by means of a pair of nuts 46 46, both of which are mounted upon the threaded end of the member, one upon the inside and the other upon the outside of the upright. By this means an extremely rigid, but at the same time light, gate is formed. The upper ends of the uprights are further braced by means of diagonal braces 47, each of which is preferably formed of pipe. Secured to each end of said diagonal members

is an L 48, into the open end of which is secured a plug carried by a plate 49, which in turn is secured to the upright.

The operation is as follows: A vehicle is driven along the road and over the lever 37 in the usual manner. The movement of the lever 37 through the link 35 causes the lever 21 to swing upon its pivot in the direction indicated by the arrow, thus pulling upon chain 23. The first action of lever 21 is to stretch spring 27 and at the same time to throw catch 40 forward until its free end engages with the base 16, so as to prevent a backward movement of the lever 21. The pull of the spring 27 is then transmitted along the chain 23 and a pull exerted upon the arm 19 of the operating-lever. The initial movement of the arm 20 of the operating-lever through the link 28 and arm 29 swings catch 30 until its arm 31 is free from pin 33. The continued movement of the operating-lever pulls the gate-section 10 transversely, which section by means of cable 14 also pulls the gate-section 11 simultaneously in the opposite direction. When the operating-lever has nearly reached its extreme opposite position, the length of connection 42 is less than the distance between the arm 18 and the free end of the catch 40, so that the said catch is thereby lifted out of engagement with the base 16. As the gate-sections reach their open position the arm 32 of the catch 30 engages pin 34, and thus holds the gate open. The vehicle then passes through the gate and over the other lever 37, (not shown,) when lever 21 is returned to its original position through the medium of the link 36. In this case the pull upon the operating-lever is through chain 22 and spring 26, the said lever being locked for a time by the catch 41 in the manner described. In returning the gate-sections to their original positions the first push upon the link 28 operates, through arm 29 of catch 30, to raise the end 32 of said catch out of engagement with the pin 34, and thus release the section 10. Section 11 is returned to its original position by means of the cable 12.

It will be noticed that by the above-described construction the gate, instead of being jerked open suddenly by the movement of the wheel-operated lever 37, is gradually opened by the action of the spring connections and that the accidental return of the lever 21 is prevented by the catches 40 or 41.

I claim as my invention—

1. In a gate, an operating mechanism therefor consisting of an operating-lever, suitable connections between said lever and the gate, a second lever, means for swinging the second lever, elastic connections between the two levers, and means for locking the second lever in its extreme positions, the arrangement being such that said locking takes place after the stretching of the elastic connections and before the completion of the movement of the operating-lever, substantially as described.

2. In a gate, an operating mechanism therefor consisting of an operating-lever, suitable connections between said lever and the gate, a second lever, elastic connections between said levers, means for locking said second lever in either of its extreme positions, and means for automatically releasing said locking means.

3. In a gate, an operating mechanism therefor consisting of an operating-lever mounted so as to swing in a plane parallel with the gate, a second lever mounted so as to swing in a plane substantially at right angles to the first lever, means for swinging the second lever, a pair of elastic connections between the two levers, and means for locking the second lever in its extreme positions, the arrangement being such that said locking takes place after the stretching of the elastic connections and before the completion of the movement of the operating-lever, substantially as described.

4. In a gate, an operating mechanism therefor consisting of an operating-lever mounted so as to swing in a vertical plane, a second lever mounted so as to swing in a substantially horizontal plane, a pair of elastic connections between the two levers, a pair of catches carried by the second lever and adapted to lock said lever in either of its extreme positions, and means for automatically releasing said catches.

5. In a gate, an operating mechanism therefor consisting of an operating-lever mounted so as to swing in a vertical plane, a second lever mounted so as to swing in a substantially horizontal plane, a pair of elastic connections between the two levers, a pair of catches carried by the second lever and adapted to lock the said lever in either of its extreme positions, and connections between the operating-lever and the catches whereby the said catches are automatically thrown out of action and the second lever released, substantially as and for the purpose set forth.

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Witnesses:
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