

No. 759,116.

PATENTED MAY 3, 1904.

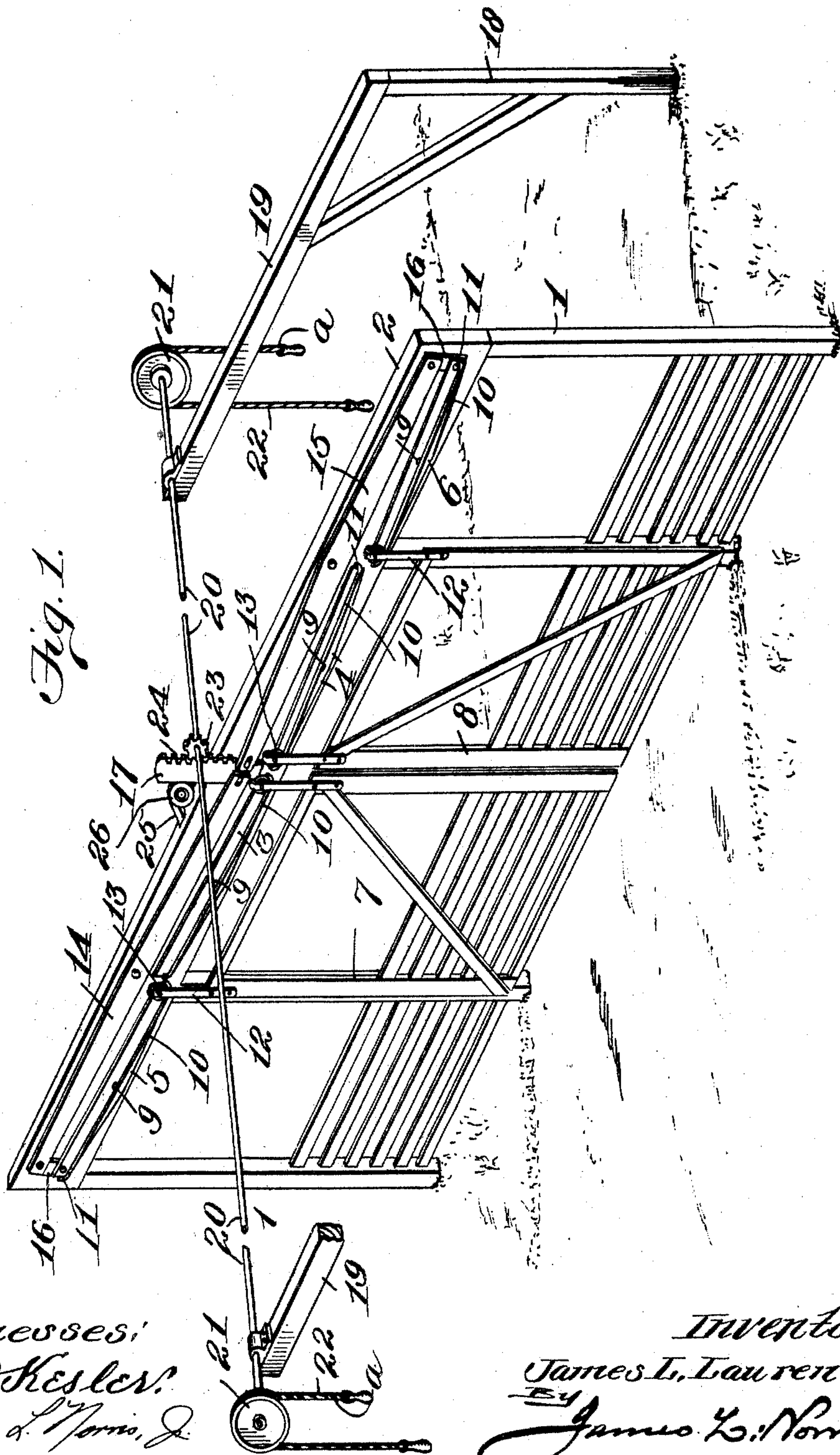
J. L. LAURENCE.

SLIDING GATE.

APPLICATION FILED NOV. 6, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses:
C. D. Kesler.
James L. Norris, Jr.

Inventor
James L. Laurence
By
James L. Norris.
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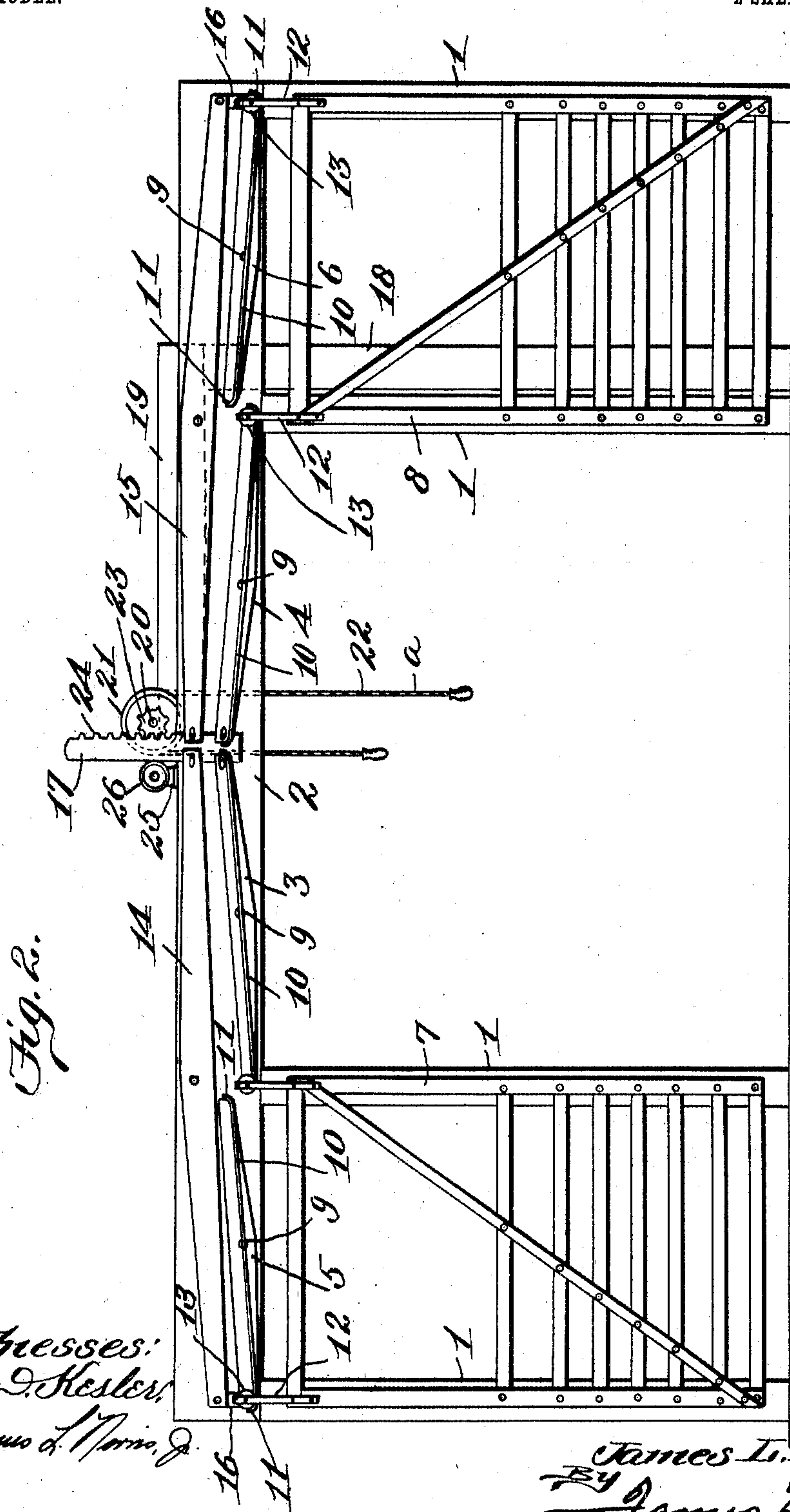
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James L. Norris,

Inventor

James L. Laurence

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UNITED STATES PATENT OFFICE.

JAMES L. LAURENCE, OF CLOVERDALE, OREGON.

SLIDING GATE.

SPECIFICATION forming part of Letters Patent No. 759,116, dated May 3, 1904.

Application filed November 6, 1903. Serial No. 180,064. (No model.)

To all whom it may concern:

Be it known that I, JAMES L. LAURENCE, a citizen of the United States, residing at Cloverdale, in the county of Tillamook and State of Oregon, have invented new and useful Improvements in Sliding Gates, of which the following is a specification.

This invention relates to sliding gates, and especially to that class of sliding gates which may be opened and closed from either side by a person in a vehicle or mounted on horseback, and has for its object to provide in such a gate novel mechanism for opening and closing the gate which will be simple, durable, and inexpensive in construction and efficient and facile in operation.

To these ends my invention consists in the features and in the construction, combination, and arrangement of parts hereinafter described, and particularly pointed out in the claims following the description, reference being had to the accompanying drawings, forming a part of this specification, wherein—

Figure 1 is a perspective view of my improved gate, showing the two gates in their closed position, a portion being broken away for the sake of clearness; and Fig. 2 is a view in elevation showing the gates open.

Referring to the drawings, the numerals 1 1 indicate two vertical posts, which are located on each side of the gateway, and fixed to the upper ends of said posts is a horizontal beam 2, which extends over and across the gateway. Pivoted intermediate their ends to said beam are four rocking or tilting levers 3 4 5 6, the levers 3 and 5 being arranged to support one of the sliding gates 7 and the levers 4 and 6 being arranged to support the other sliding gate 8, as will be hereinafter more fully explained. Each of the rocking levers is pivoted midway between its ends, as at 9, to the beam 2, and to each of said levers is attached a longitudinal track or rail 10, said rails being preferably turned upward at one or both ends, as at 11, for the purpose hereinafter made apparent.

To the upper opposite ends of each of the gates are attached bracket-arms 12, and in each of said bracket-arms and in the upper ends of said bracket-arms are journaled rollers 13, which are arranged to travel on the

tracks 10, the bracket-arms and rollers constituting hangers by which the gates are suspended from the rocking levers and by means of which said gates are arranged to travel back and forth on the track-rails before referred to.

Pivoted to the beam 2 above the rocking levers before described are two rocking levers 14 and 15, said levers being approximately twice the length of one of the rocking levers 3, 4, 5, or 6. In the arrangement shown there will be one lever, such as 14, and two levers, such as 3 and 5, for each gate, and the outer ends of the levers 14 and 15 are respectively connected to the outer ends of the levers 5 and 6 by links 16, which are pivotally attached to the outer ends of said levers. Hence it will be apparent that any rocking movement imparted to the levers 14 and 15 will in turn be communicated by the links 16 to the rocking levers 5 and 6. The adjacent ends of the levers 14 and 15 and the levers 3 and 4 are pivotally connected to a vertically-reciprocating rack-bar 17, so that any vertical movement imparted to the rack-bar 17 will directly communicate a rocking movement to the levers 3 and 4 and through the medium of the levers 14 and 15 and links 16 will communicate a rocking movement to the levers 5 and 6.

It will be evident from the arrangement shown and described that as the rack-bar is reciprocated the levers 3 and 5 will be rocked in the same direction. This is also true of the rocking levers 4 and 6, the said levers being arranged in pairs, as shown.

Arranged on one side of the roadway and on each side of the gate and at a suitable distance from the latter are vertical posts 18, which are provided at their upper ends with horizontal arms 19, which overhang one side of the roadway. Journaled in the ends of said arms is a shaft 20, on the opposite ends of which are fixed pulleys 21, about which latter pass operating-ropes 22. On said shaft, intermediate its ends, is fixed a spur-wheel 23, which engages the teeth 24 of the rack-bar. Journaled in a suitable bracket 25 on the beam 2 on the side of the rack-bar oppo-

site to the spur-wheel 23 is a friction-wheel 26, which loosely bears against the sides of the rack-bar 17 and holds the latter in engagement with the spur-wheel 23.

5 The operation of my improved gate is as follows: Let it be assumed that the two gates are closed. Then as a person in a vehicle or mounted on horseback approaches the gate it is only necessary for him to draw down upon
10 the end *a* of the cord 22, and thus rotate the pulley 21, shaft 20, and spur-wheel 23. As the spur-wheel 23 rotates it will raise the rack-bar 17 and will raise the adjacent ends of the levers 14 and 15 and the levers 3 and 4 in the
15 manner before described, and the levers 14 and 15 through the medium of the links 16 will rock the levers 5 and 6 in the same respective direction as the levers 3 and 4. All the "track-rail" levers, as I denominate the
20 levers 3, 4, 5, and 6, will now be tilted downward in a direction toward the opposite sides of the roadway, and hence the gates 7 and 8, which are supported by hangers on the tracks 10, will open or move away from one another
25 by gravity, the rollers 13 sliding down the inclined tracks 10. After passing through the gateway the operator on arriving beneath the overhanging arm 19 on the other side of the gate will draw down upon the end *b* of
30 the rope 22, thus turning the shaft 20 and the spur-wheel 23 in the proper direction to depress the rack-bar 17. The rack-bar 17 in its downward movement will depress the ends of the levers 14 and 15 and the levers 3 and 4
35 and through the medium of said levers 14 and 15 and the links 16 will depress the inner ends of the levers 5 and 6, whereupon the rollers 13 will roll down the inclined tracks 10 toward the center of the gateway, and the gates
40 will thus automatically close by gravity.

By providing the gateway with two sliding gates instead of a single sliding gate the gates can be opened and closed with little more than one-half the power it would require to operate a single gate, and, moreover, the gateway
45 is opened and closed in much less time than it would require to open a gateway controlled by a single gate.

Having described my invention, what I claim
50 is—

1. In a gate, the combination with opposite posts and a connecting cross-beam, of levers pivoted intermediate their ends to the cross-beam, longitudinal track-rails fixed to said levers, a vertically-movable rack-bar pivotally
55 connected to the adjacent ends of the levers, a shaft arranged transversely of the cross-beam, a spur-wheel on the shaft engaging the rack-bar, two oppositely-sliding gates suspended by hangers slidably arranged on the track-rails, and means on the opposite ends of said shaft for rotating the latter and the spur-wheel to reciprocate the rack-bar and thereby tilt the levers to open and close the gates, substantially as described.
65

2. In a gate, the combination with opposite posts, and a connecting cross-beam, of levers pivoted intermediate their ends to the cross-beam, longitudinal track-rails fixed to said levers, a vertically-movable rack-bar pivotally
70 connected to the adjacent ends of the levers, a shaft arranged transversely of the cross-beam, a spur-wheel on the shaft engaging the rack-bar, two oppositely-sliding gates suspended by hangers slidably arranged on the
75 track-rails, pulleys on the opposite ends of said shaft, and ropes passing about said pulleys for rotating the spur-wheel to reciprocate the rack-bar and thereby tilt the levers to open and close the gates, substantially as described. 80

3. In a gate, the combination with opposite posts and a connecting cross-beam, of levers pivoted intermediate their ends to the cross-beam, longitudinal track-rails fixed to said levers, a vertically-movable rack-bar pivotally
85 connected to the adjacent ends of the levers, two posts provided with overhanging arms on the opposite sides of the gates, a shaft arranged transversely of the cross-beam and journaled at its ends in said overhanging arms, a spur-wheel on the shaft engaging the rack-bar, two
90 oppositely-sliding gates suspended by hangers slidably arranged on the track-rails, pulleys on the opposite ends of said shaft and ropes passing about said pulleys for rotating the
95 spur-wheel to reciprocate the rack-bar and thereby tilt the levers to open and close the gates, substantially as described.

4. In a gate, the combination with opposite posts and a connecting cross-beam, of four
100 rocking levers pivoted intermediate their ends to the cross-beam and having affixed thereto longitudinal track-rails, said levers being disposed in longitudinal alinement and arranged in pairs on each side of the center of the cross-beam, two oppositely-sliding gates, each provided with two hangers slidably arranged on the track-rails of a corresponding pair of said levers, a vertically-movable member pivotally
105 connected to the adjacent ends of the inner of said levers, means connected to said member for rocking the two outer of said levers, and means operable from each side of the gate for reciprocating said member to tilt said levers and open and close the gates, substantially as
115 described.

5. In a gate, the combination with opposite posts and a connecting cross-beam, of four rocking levers pivoted intermediate their ends to the cross-beam and having affixed thereto
120 longitudinal track-rails, said levers being disposed in longitudinal alinement and arranged in pairs on each side of the center of the cross-beam, two oppositely-sliding gates, each provided with two hangers slidably arranged on
125 the track-rails of a corresponding pair of said levers, a vertically-movable member pivotally connected to the adjacent ends of the inner of said levers, two auxiliary levers pivoted between their ends to the cross-beam, said aux- 130

iliary levers being pivotally connected at their adjacent ends to said member and at their opposed ends to the outer ends of the two outer track-rail levers, and means operable from 5 each side of the gate for reciprocating said member to tilt said levers to open and close the gates, substantially as described.

6. In a gate, the combination of opposite posts and a connecting cross-beam, of four 10 rocking levers pivoted intermediate their ends to the cross-beam and having affixed thereto longitudinal track-rails, said levers being disposed in longitudinal alinement and arranged in pairs on each side of the center of the cross- 15 beam, two oppositely-sliding gates each provided with two hangers slidably arranged on the track-rails of a corresponding pair of said levers, a vertically-movable rack-bar pivotally

connected to the adjacent ends of the two inner of said levers, two auxiliary levers pivoted in- 20 termediate their ends to the cross-beam, said auxiliary levers being pivotally connected at their adjacent ends to said rack-bar and at their opposed ends to the outer ends of the two track-rail levers, a shaft arranged transversely 25 of the cross-beam, a spur-wheel on the shaft engaging the rack-bar, and means at the opposite end of the shaft for rotating the latter, substantially as described.

In testimony whereof I have hereunto set 30 my hand in presence of two subscribing witnesses.

JAMES L. LAURENCE.

Witnesses:

CHAS. P. NELSON,
J. C. FOSTER.