

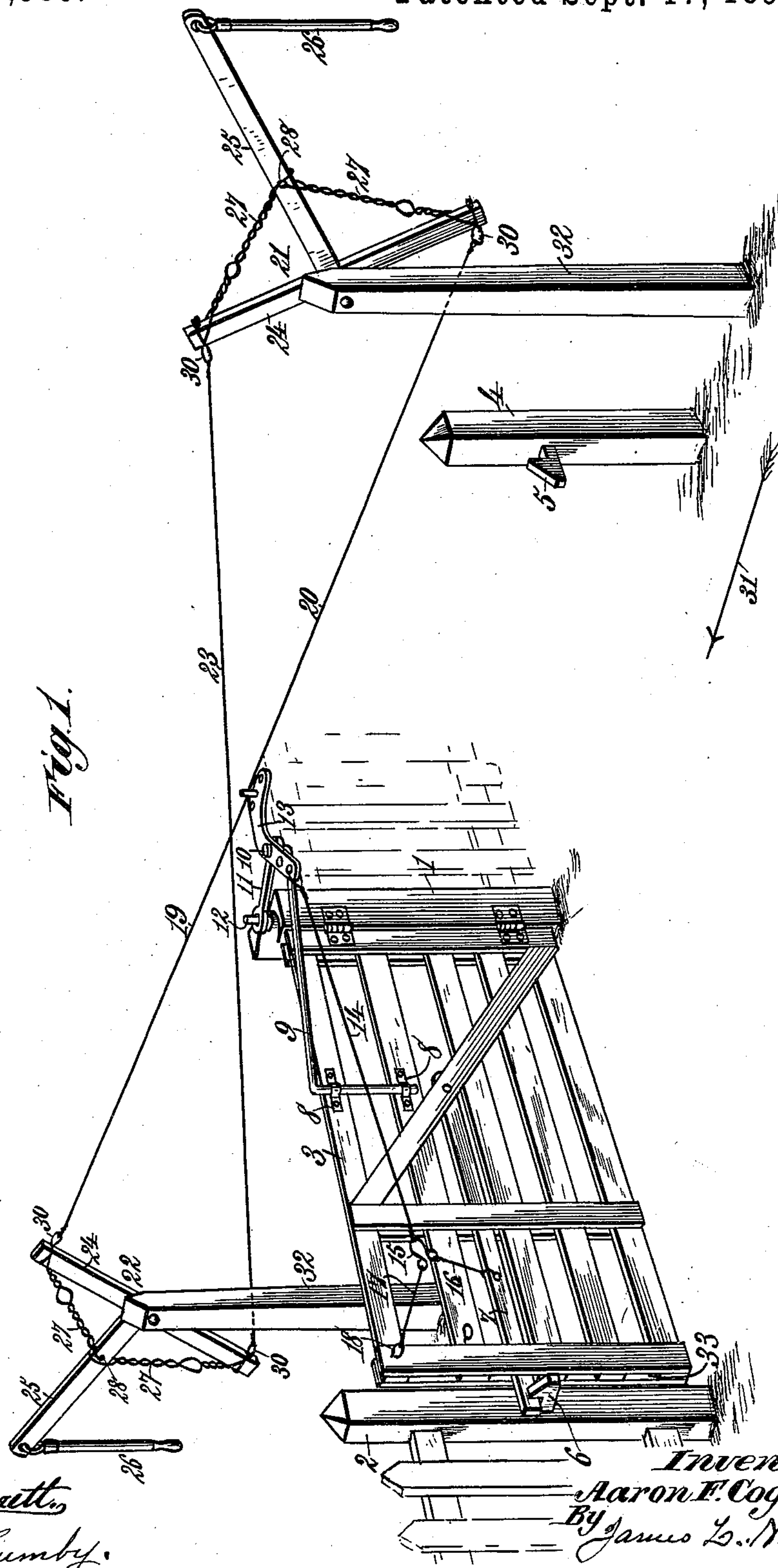
(No Model.)

2 Sheets—Sheet 1.

A. F. COGHILL.  
SWINGING GATE.

No. 546,580.

Patented Sept. 17, 1895.



Witnesses,  
Robert G. Pratt,  
Dennis Sumbly.

*Inventor.*  
*Aaron F. Coghill.*  
*By James L. Norris.*  
*Atty.*

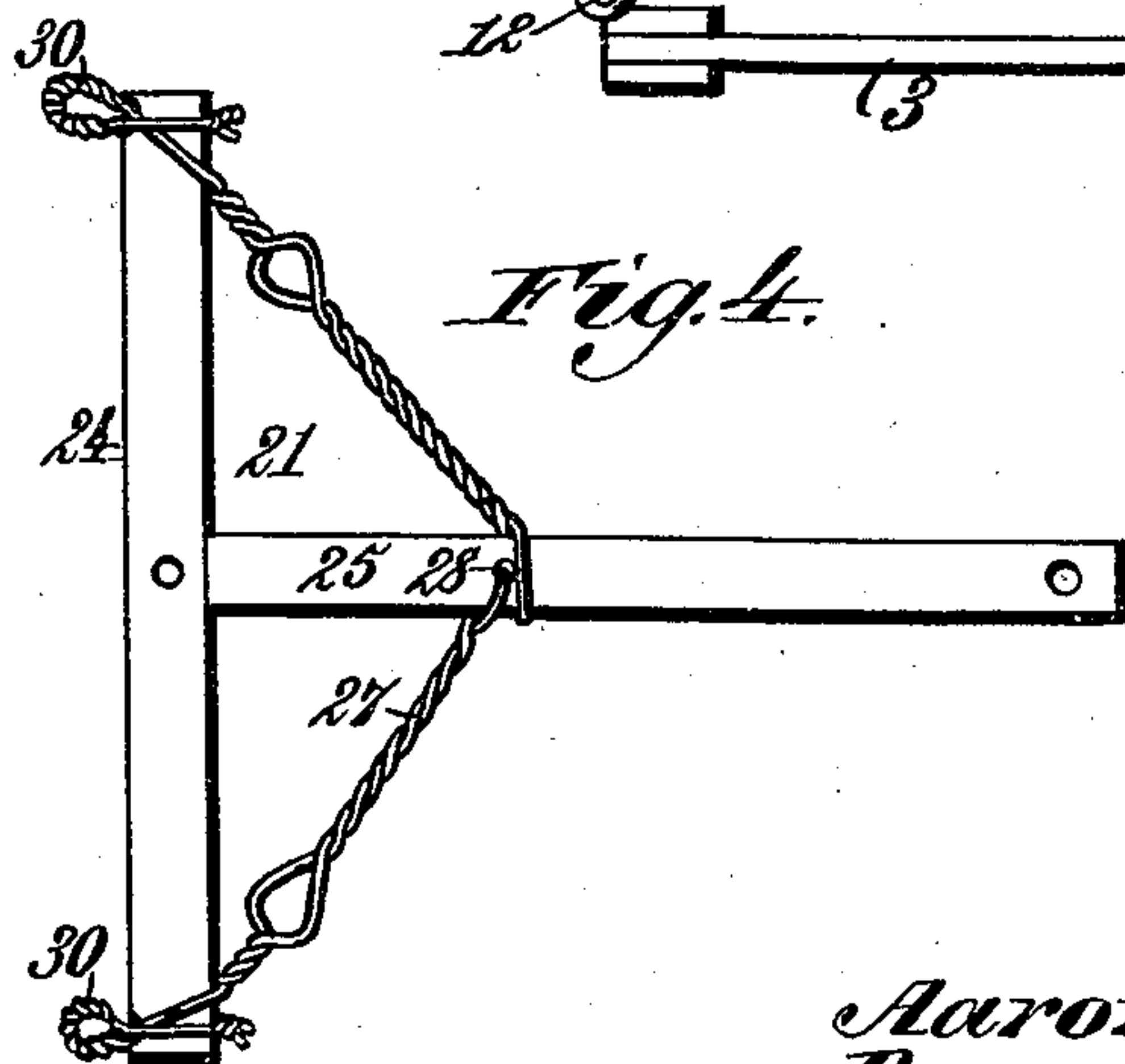
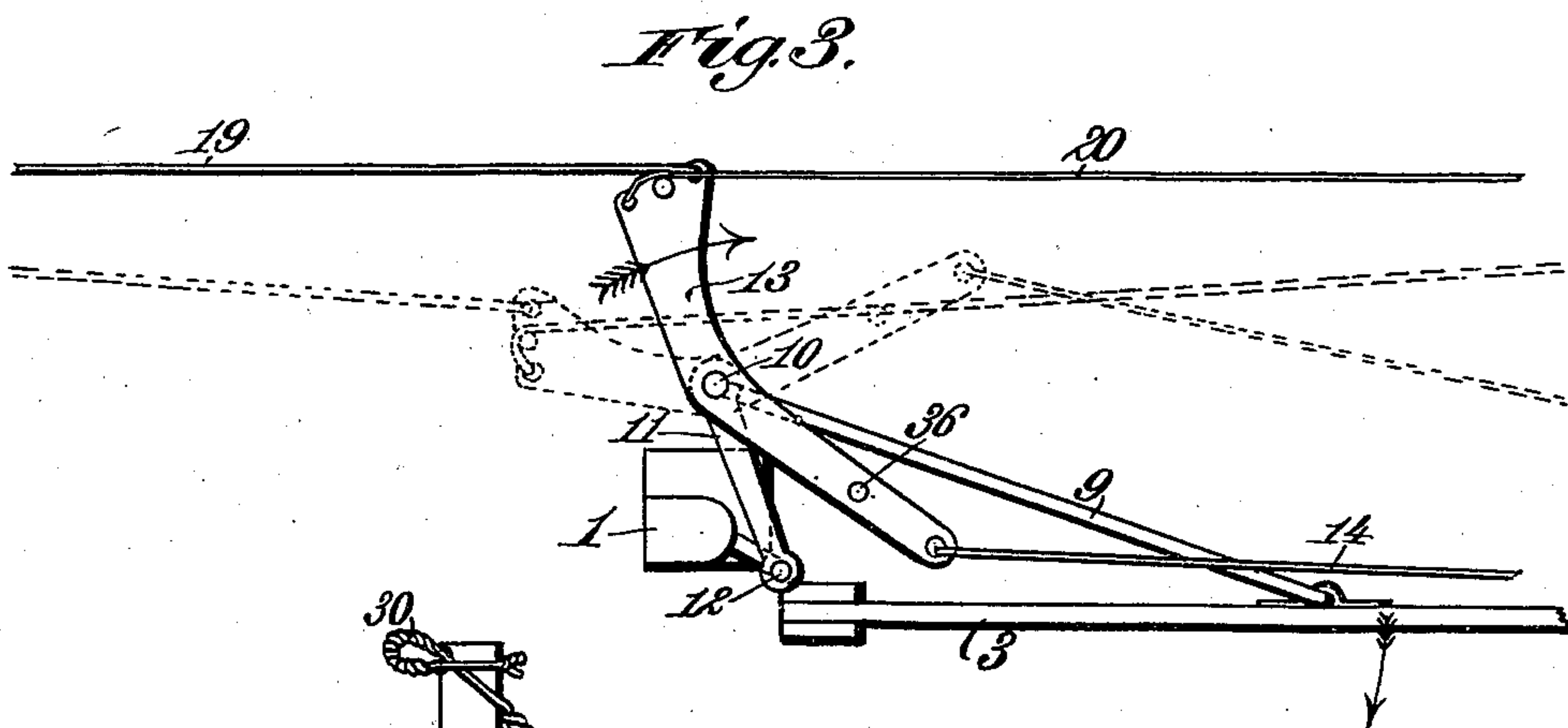
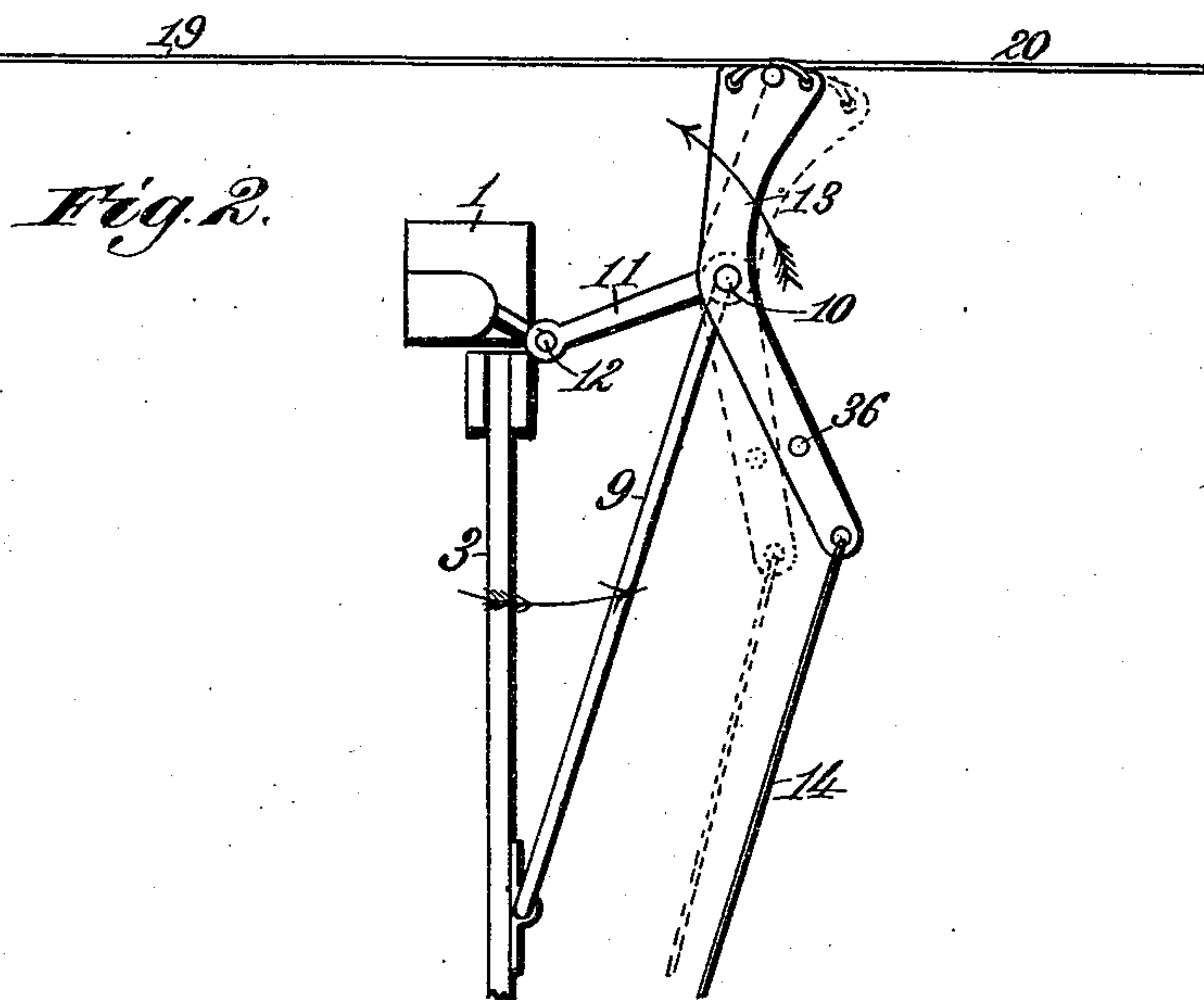
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2 Sheets—Sheet 2.

A. F. COGHILL.  
SWINGING GATE.

No. 546,580.

Patented Sept. 17, 1895.



*Witnesses.*  
*Robert Garrett.*  
*Dennis Sumbly.*

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*Aaron F. Coghill.*  
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# UNITED STATES PATENT OFFICE.

AARON F. COGHILL, OF AUBURN, KENTUCKY.

## SWINGING GATE.

SPECIFICATION forming part of Letters Patent No. 546,580, dated September 17, 1895.

Application filed May 7, 1895. Serial No. 548,431. (No model.)

*To all whom it may concern:*

Be it known that I, AARON F. COGHILL, a citizen of the United States, residing at Auburn, in the county of Logan and State of Kentucky, have invented new and useful Improvements in Swinging Gates, of which the following is a specification.

This invention relates to swinging gates, and particularly to that class thereof known as "hand-lever openers."

The object of my invention is to provide improved and simple mechanism whereby the gate may be opened and closed from either side thereof with the expenditure of but slight force and in an expeditious manner, and to improve and simplify the construction and render more efficient the operation of this class of mechanism generally.

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

Figure 1 is a perspective view of my improved gate. Fig. 2 is a detail plan view of a portion of the operating mechanism, the dotted lines showing the position of the tripping-lever immediately before tripping the gate-latch. Fig. 3 is a similar view showing the gate open, the dotted lines showing the position of the tripping-lever at the moment the gate has been fully opened; and Fig. 4 is a detail view of one of the hand-levers.

Referring to said drawings, the numeral 1 indicates the hinge-post and 2 the latch-post, the gate 3 being hinged to the post 1. At one side of the roadway I arrange an auxiliary latch-post 4, provided with a keeper 5, and a similar keeper 6 is secured to the latch-post 2.

Pivotally secured to the gate 3 is one end of a latch 7, the free end of which is adapted to engage the keepers 5 and 6 and hold the gate in both its closed and open positions.

Secured to the panels of the gate by clips 8 is a bent arm 9, which at its other end is bent up at a right angle to form a journal 10, and over said journal is arranged one end of an arm 11, which at its other end is journaled

on a pintle 12, secured in the top of the hinge-post 1. Journaled upon the journal 10 is the tripping-lever 13, consisting of a metallic arm slightly bent, as shown, which is pivotally connected to said journal 10 by heading down the latter, as is more clearly shown in Fig. 1. To one end of the tripping-lever 13 is connected one end of a wire 14, the other end of said wire being attached to a loop 15, and said loop is in turn connected by wires 16 and 17 to the gate-latch 7 and an eyebolt 18, fastened in the upper front end of the gate. To the opposite end of said tripping-lever 13 are secured the ends of two wires 19 and 20, the other ends of said wires being secured to the opposite ends of hand-operated levers 21 and 22, the other two ends of said levers being connected by a diagonal wire 23. Each of the levers 21 and 22 consists of a head 24, pivoted in an approximately vertical position to a post 32, arranged at the side of the roadway at a suitable distance upon each side of the gate, and rigidly secured to said head is a shank portion 25, to the free end of which is loosely hung a rigid handle 26. With a view to rendering and maintaining said levers perfectly rigid I pass two wires 27 through an aperture 28, formed in the shank portion 25, and loop the other ends of said wires about the opposite ends of the head 24, and then twist said wires until they are drawn perfectly taut, thus bracing the head and shank portion of said lever together in the most rigid manner. By leaving loops 29 in said wires they may from time to time, by the insertion of a suitable tool, be tightened to compensate for any shrinkage or wear that may occur in the levers, and by forming loops 30 in the ends of the wires a convenient means is provided for the attachment of the operating-wires 19, 20, and 23.

The operation of the mechanism above described is as follows: Let it be assumed that the gate is closed, as shown in Fig. 1, and that it is approached by a team driven in the direction of the arrow 31. The driver of the team upon reaching the operating-lever 21 draws down the handle 26, thus rocking said lever upon its pivot and through the medium of the diagonal wire 23 rocking the other le-



ver 22 upon its pivot in the opposite direction. As the lever 22 is oscillated, it draws upon the operating-wire 19 and starts to swing the tripping-lever 13 in the direction indicated by the arrow in Fig. 2, the position of said lever before any movement has taken place being indicated by dotted lines. As said lever 13 is rocked upon its pivot, it draws upon the wire 14 and tends to cause said wire and the wire 17 to assume the same straight line, thus drawing the wire 16 up vertically and lifting the latch. When the tripping-lever has assumed the position indicated by full lines in Fig. 2, the latch will have been raised entirely from engagement with its keeper, and the continued oscillation of the tripping-lever will then exert a direct pull upon the front 33 of the gate through the medium of the wires 14 and 17, the force exerted to open the gate being thus applied at a point remote from the hinges of the gate, which, in connection with the leverage obtained by the lever 13 and the operating-handle, will enable the movement operates to swing the gate open until the parts have assumed the position shown by dotted lines in Fig. 3, at which time the gate will have been swung entirely open, causing the latch to engage the keeper 5 and hold the gate open. After driving through the gate the driver grasps the handle of the lever 22 and raises the shank portion of said lever and rocks the latter. The lever 21, through the medium of the diagonal wire 23, is thus rocked in the opposite direction, and the wire 20 will then operate to oscillate the tripping-lever 13 to the position shown by full lines in Fig. 3 and raise the latch in the manner before described and release the gate, and as the tripping-lever continues to oscillate the wire 14 will be drawn taut, and said tripping-lever will then operate through the medium of the arm 9 to swing the gate to its closed position. It will be noted that in both opening and closing the gate the tripping-lever in its initial movement operates to draw upon the wire 14 and raise the latch, and that after the latch has been raised and said wire becomes taut the tripping-lever is held rigid by the wire 14 and will then operate as it is oscillated upon its journal to swing the gate open or closed, as the case may be. If desirable a greater leverage may be afforded the lever 13 by attaching the wire 14 thereto at a point, as at 36, instead of to the end thereof, thereby changing the relative proportions of the two ends of the levers and changing the leverage in a manner that will be obvious. It will be noted that all the operating parts are arranged upon that side of the gate which is the rear side when the gate is open, and said parts are thus effectually removed from all danger of being broken or disarranged by contact with vehicles or heavily-loaded wagons passing through the gateway.

Having described my invention, what I claim is—

1. In a swinging gate, the combination with a bent arm carried by the gate and bent up at its upper extremity to form a journal 10, and an arm 11 secured to the end of said bent arm and pivotally secured to the gate post, of a combined tripping and operating lever 13 journaled upon the journal 10, a gravity latch 7 pivotally connected to the gate for locking the latter in both its open and closed position, tripping mechanism operated by the initial movement of said lever in either direction for raising the latch, rocking hand levers 21, 22, pivotally secured to supports arranged upon opposite sides of the gate, a wire 23 connecting the upper end of one of said levers to the lower end of the other lever, and operating wires 19 and 20 connected at their adjacent ends to the lever 13, and at their opposite ends to the opposite ends of the levers 21 and 22, substantially as described.

2. In a swinging gate, the combination with a bent arm, carried by the gate, of an oscillating lever journaled upon the extremity of said bent arm, a pivoted latch for locking the gate in both its open and closed position, a flexible connection secured at its opposite ends to the latch and to the upper portion of the gate, a wire connected at one end to the flexible connection intermediate of the ends of the latter and at its opposite end to one end of said lever, hand levers arranged upon the opposite sides of said gate and connected together to move simultaneously in opposite directions, and operating wires connecting said hand levers with the said oscillating lever, substantially as described.

3. In a swinging gate, the combination with a support 9 carried by the gate and pivotally connected by a hinged arm 11 to the gate post, of an oscillating lever 13 journaled upon said support, a gravity latch 7 pivotally connected to the gate, a flexible connection connected to said latch and to the upper portion of the gate, a wire 14 connected at one end to said flexible connection and at its other end to one end of the lever 13, rocking hand levers 21, 22, pivotally secured to supports arranged upon the opposite sides of the gate, a wire 23 connecting the upper end of one of said levers to the lower end of the other lever, and operating wires 19 and 20 connected at their adjacent ends to the lever 13, and at their opposite ends to the opposite ends of the levers 21 and 22, substantially as described.

4. The combination with a swinging gate, and mechanism for opening and closing the same, of rocking hand levers 21—22, pivotally secured to supports arranged upon the opposite sides of the gate for actuating the gate operating mechanism, each of said hand levers, consisting of a head 24 and a shank portion 25 secured thereto at an approximate

right angle and provided with a pendent handle 26, and wires 27 connected to the shank and to the ends of the head and twisted torsionally to brace said head and shank, the  
5 ends of said twisted wires terminating in loops 30 for the attachment of the gate operating wires, substantially as described

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

AARON F. COGHILL.

Witnesses:

BYRON HADEN,  
HENRY MORTON.