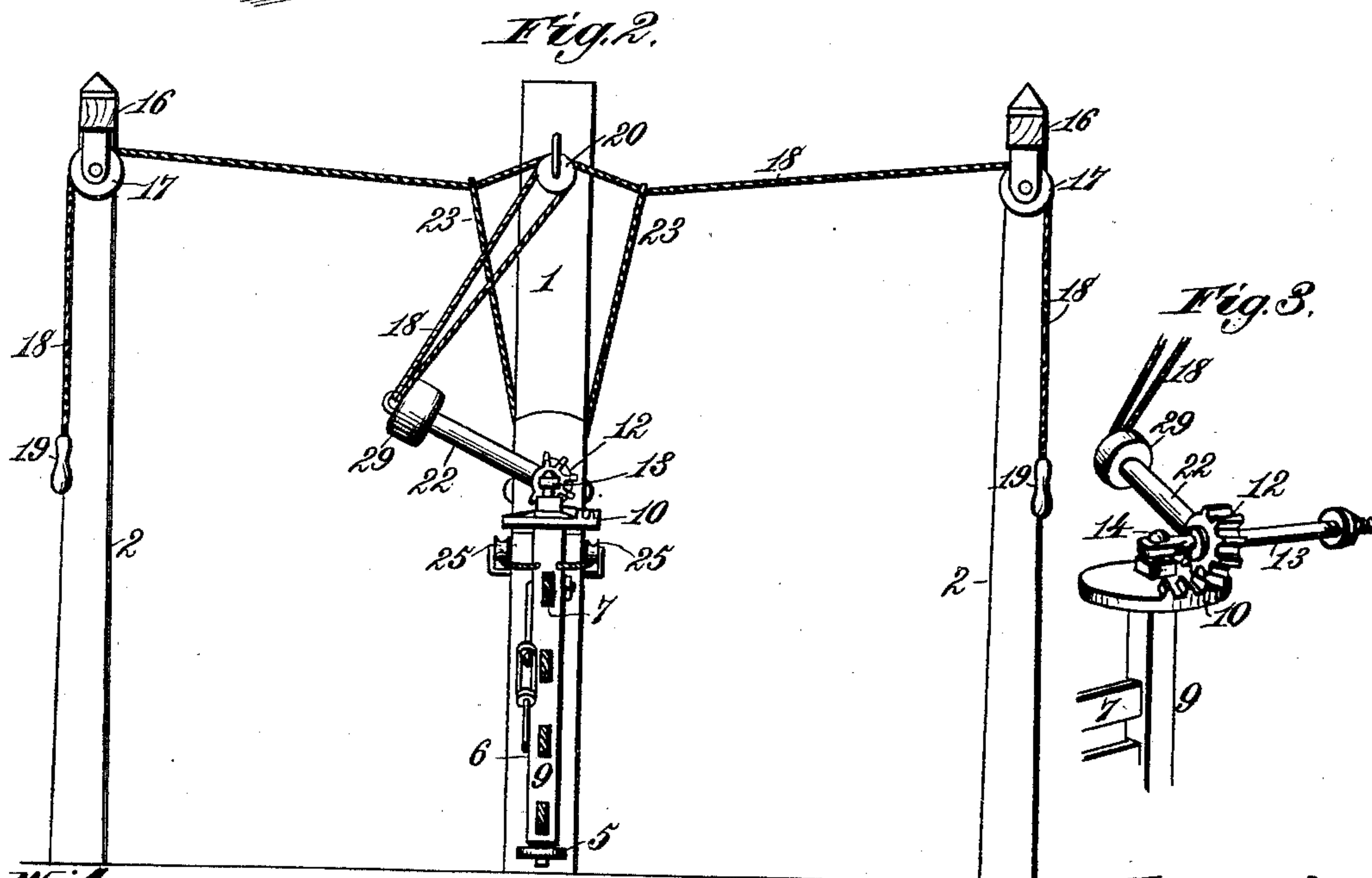
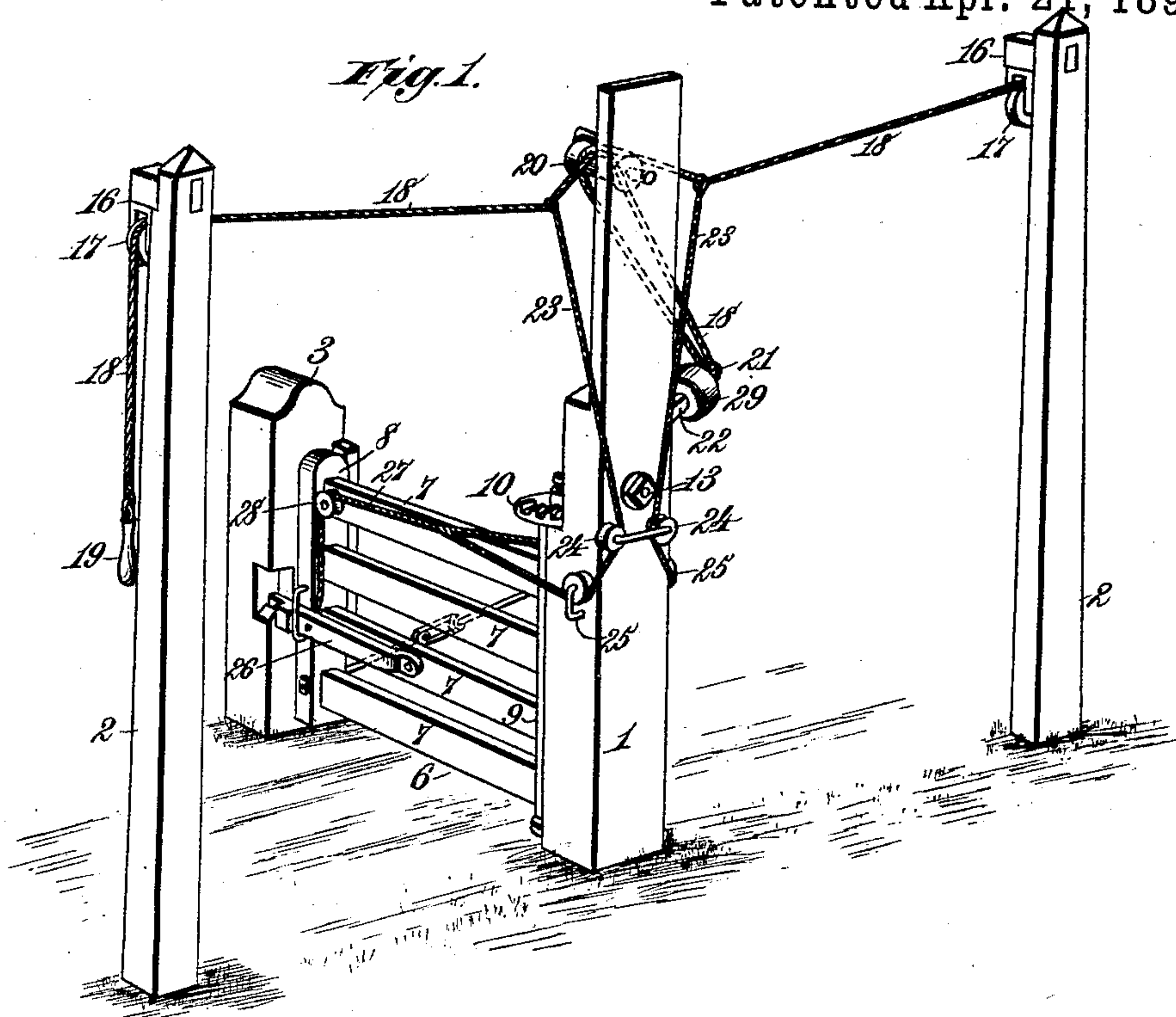


(No Model.)

J. I. SMITH.
GATE.

No. 450,876.

Patented Apr. 21, 1891.



Witnesses.
Robert Everett.
Dennis Sumby.

Inventor.
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Atty.

UNITED STATES PATENT OFFICE.

JAMES I. SMITH, OF PARIS, MISSOURI.

GATE.

SPECIFICATION forming part of Letters Patent No. 450,876, dated April 21, 1891.

Application filed November 10, 1890. Serial No. 370,875. (No model.)

To all whom it may concern:

Be it known that I, JAMES ISAAC SMITH, a citizen of the United States, residing at Paris, in the county of Monroe and State of Missouri, have invented new and useful Improvements in Gates, of which the following is a specification.

My invention relates to that class of farm or other gates having such construction that they may be opened by a person approaching without the necessity of dismounting from the horse or vehicle upon or within which such person may be riding.

The object of my invention is to provide novel means for this purpose; and my invention consists in the several novel features of construction and new combination of parts hereinafter fully set forth, and then definitely pointed out in the claims following this specification.

To enable others skilled in the art to understand and use my said invention, I will proceed to describe the same in detail, reference being had to the drawings accompanying this application, in which—

Figure 1 is a perspective view illustrating my invention. Fig. 2 is an elevation showing the supports of the gate and its operating device, the gate being in vertical section. Fig. 3 is a detail view.

In the said drawings the gate is shown as mounted upon a central gate-post 1, which may be set in the earth or in any other base or foundation composed of wood, stone, or other material. Upon each side of the gate-post 1 is set a post 2, lying substantially in the line passing through the central post at right angles with the gate in its closed position. These posts 2 are placed at about equal distances from the gate-post 1, and directly opposite the latter is placed a latching-post 3, having a suitable keeper for the latch and otherwise of the usual construction. Upon the lower portion of the post 1 is mounted a bracket 5, in which is set one of the pivots of the gate 6, which consists of horizontal bars 7, united at their ends by bars 8 and 9, the latter being extended upward and provided with a horizontally-arranged miter-gear 10, or a disk having a sufficient number of teeth

thereon to provide for or correspond with the swing of the gate.

The gate-post is provided with a horizontal non-rotary shaft 13, suitably secured in a fixed position, and upon this non-rotary shaft is loosely journaled a miter-gear 12, which engages the miter-gear 10 on the end bar 9 of the gate. The shaft 13 is provided at its inner end with a bearing for a pivot 14, which rises from the center of the miter-gear 12. It will be seen that by this construction the partial revolution of the actuating miter-gear 12 by any suitable means will produce a corresponding swing of the gate in opposite directions. The means I employ for the purpose are, as shown in the accompanying drawings, cords or similar connections having the following arrangement: Upon the posts 2 near the top are mounted brackets 16, containing journaled pulleys 17. Over these pulleys run cords 18, having attached to their depending ends weights 19. From one of these pulleys the said cord runs over a pulley 20 upon the central gate-post, its end being secured to an eye or loop 21 upon the end of a counterpoise or weighted lever 22, rigidly connected to or forming a part of the actuating miter-gear 12, and a similar arrangement is made in connection with the similar cord upon the post on the opposite side of the gate. To these cords 18 at points not far removed from the pulley 20 on the central gate-post are attached lighter or more slender cords 23, passing over guide-pulleys 24, journaled on the back of the central gate-post, and thence over guide-pulleys 25, journaled upon the sides of the central gate-post parallel with the gate in its closed position. These cords unite at any suitable point between the gate-post and the gate-latch 26 and are connected to a cord 27, which runs over a pulley 28 and is connected to said latch. By this arrangement it will readily be seen that a downward pull upon either of the pendent weights will raise the gate-latch, the actuating-cords being arranged at such tension that they may act upon the latch an instant before either of the cords 18 acts upon the counterpoise-lever actuating the miter-gear which turns the gate, so that the pull upon either of said ropes 18 raises the

latch and then throws the lever, which, being loaded with a sufficient weight 29, swings the gate by its own gravity after said lever passes the pivotal center or swings a little past the
5 vertical line in which the axis of the pivot lies.

What I claim is—

1. The combination, with the gate-post and the swinging gate having a pivoted end bar provided with a horizontal miter-gear carrying a pivot-pin rising from its center, of a
10 non-rotary shaft fixed in the gate-post and having one end engaged with and forming a bearing for the pivot-pin of the miter-gear on the end bar of the gate, a gear loosely jour-
15 naled and rotating on the non-rotary shaft and having a rigidly-attached lever provided at its outer end with a counterpoise-weight, and the side posts having pulleys and lever-oper-
20 ating cords running over the pulleys on the side posts, engaging pulleys on the gate-post and connected with the outer end of the lever for rotating the gear on the non-rotary shaft, substantially as described.

2. The combination, with the gate-post and
25 a swinging gate having a pivoted end bar provided with a horizontal gear carrying a pivot-

pin rising from its center, of a non-rotary shaft fixed in the gate-post and having one end engaging and forming a bearing for the
30 pivot-pin of the gear on the end bar of the gate, a gear loosely journaled and rotating on the non-rotary shaft and having a rigidly-attached lever provided at its outer end with a counterpoise-weight, the side posts having
35 pulleys, the lever-operating cords running over the pulleys of the side posts and connected with the outer end of the lever for rotating the gear on the non-rotary shaft, a piv-
40 oted latch carried by the gate, and a latch-operating cord secured to each lever-operating cord, extending over pulleys on the gate-post, and connected with the pivoted gate-latch to lift the latter prior to any movement
45 of the weighted lever, substantially as described.

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

JAMES I. SMITH. [L. S.]

Witnesses:

C. C. CURTRIGHT,

T. A. CAPLINGER.