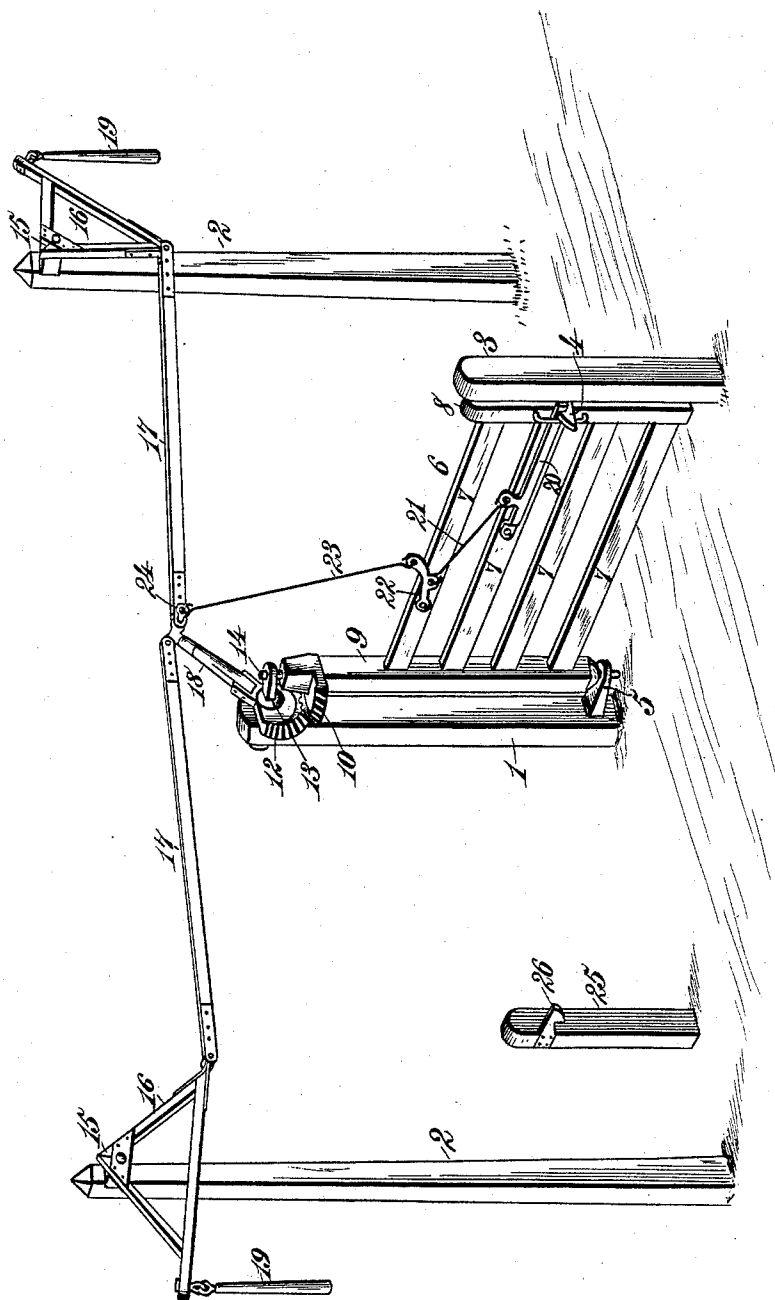


(No Model.)

O. B. CLEMENTS & J. I. SMITH.
GATE.

No. 474,213.

Patented May 3, 1892.



Witnesses:
Phet Smith
Dennis Sumby

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UNITED STATES PATENT OFFICE.

OLIVER B. CLEMENTS AND JAMES I. SMITH, OF MADISON, MISSOURI.

GATE.

SPECIFICATION forming part of Letters Patent No. 474,213, dated May 3, 1892.

Application filed December 11, 1891. Serial No. 414,725. (No model.)

To all whom it may concern:

Be it known that we, OLIVER B. CLEMENTS and JAMES I. SMITH, citizens of the United States, residing at Madison, in the county of Monroe and State of Missouri, have invented new and useful Improvements in Gates, of which the following is a specification.

This invention relates to the gate for which Letters Patent No. 450,876 were issued April 21, 1891, to James I. Smith, wherein a toothed segment on the lower end of a swinging lever engages a gear on the upper extremity of the pivoted end bar of the gate, so that the gate is opened and closed by the action of the swinging lever.

The objects of the present invention are to provide novel means for operating the swinging arm of the toothed segment, whereby the gate can be opened and also closed from either side thereof, and to provide novel means for actuating the gate-latch by the movement of the swinging lever.

To accomplish these objects the invention consists in the features of construction and the combination or arrangement of devices hereinafter described and claimed, reference being made to the accompanying drawing, in which the figure is a perspective view of a gate and operating mechanism constructed in accordance with our invention.

In order to enable those skilled in the art to make and use our invention, we will now describe the same in detail, referring to the drawing, wherein—

The numeral 1 indicates a gate-post, which may be set in the earth or otherwise suitably supported. At each side of the gate-post is arranged a standard 2, which standards are placed at about equal distances from the gate-post, and directly opposite the latter is placed a latching-post 3, having a suitable keeper 4 for the gate-latch, hereinafter described. At 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 segmental 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 toothed segment 12, which engages the 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 gear 10. It will be seen that by this construction the partial revolution of the actuating-segment 12 will produce a corresponding swing of the gate in opposite directions.

To the upper end of each standard 2 is pivoted at its angle 15 a triangular lever-frame 16, which is adapted to oscillate in a vertical plane and has one end of its hypotenuse pivoted to one extremity of a rigid rod 17, the other extremity of which is pivoted to the upper end portion of a swinging lever 18, formed with or attached to the toothed segment 12. The opposite end of the hypotenuse of each triangular lever-frame 16 is provided with a suspended pivotally-attached handle 19, adapted to be grasped by the hand for oscillating the lever-frame to open or close the gate. The gate-latch 20 is pivoted at one extremity to the gate and its opposite extremity is adapted to engage and disengage the keeper 4, and between such extremities the gate-latch is pivotally engaged with one end of a link 21, which at its upper end is pivotally engaged with the central portion of a latch-operating lever 22, pivoted at one end to the gate and having its opposite end loosely engaged with one end of a link 23, the other end of which is loosely engaged with an eye 24, connected with the upper end portion of the swinging lever 18 in such manner that when the swinging lever moves in one direction it rocks the latch-operating lever 22, and thereby raises the gate-latch 20 from engagement with the keeper 4. By the employment of the oscillatory triangular lever-frames 16, pivotally engaged with rigid rods 17, that connect with the swinging lever 18, it is possible to open and close the gate from either side thereof. The lever-frames and connecting-rods materially simplify the operating mechanism required to swing the gate and are very much more simple, economical, and efficient than the system of cords and pulleys described and shown in the patent hereinbefore alluded to; and, furthermore, by our present improvement it is possible to dispense entirely with a counter-

balance-weight for continuing the movement of the swinging lever, as in the former patent.

For the purpose of retaining the gate in an open position we provide an upright 25, having a keeper 26, with which the gate-latch engages when the gate swings to its open position. The gate-latch is released from this keeper by swinging either one of the triangular lever-frames in a manner similar to that required to release the gate-latch from the keeper on the latch-post.

Having thus described our invention, what we claim is—

The combination, with a pivoted gate having a gear at the upper portion of its end bar and a swinging lever having a gear or toothed segment engaging the gear on the end bar of the gate, of a standard arranged at each side of the gate, an oscillatory triangular lever-frame pivoted at its angle to each standard and having one end provided with a pivotally-

attached pendent handle, a rigid rod at one end pivotally engaged with the opposite end of the lever-frame and at the other end jointed to the swinging lever, a gate-latch pivoted to the gate, a rocking latch-operating lever pivoted at one end to the gate, a link connecting the other end of the rocking latch-operating lever directly with the upper end of the swinging lever, and a link jointed to the latch-operating lever between its extremities and pivotally engaged with the gate-latch, substantially as described.

In testimony whereof we have hereunto set our hands and affixed our seals in presence of two subscribing witnesses.

OLIVER B. CLEMENTS. [L. S.]
JAMES I. SMITH. [L. S.]

Witnesses:

J. J. ARMSTRONG,
C. F. MAHAN.