

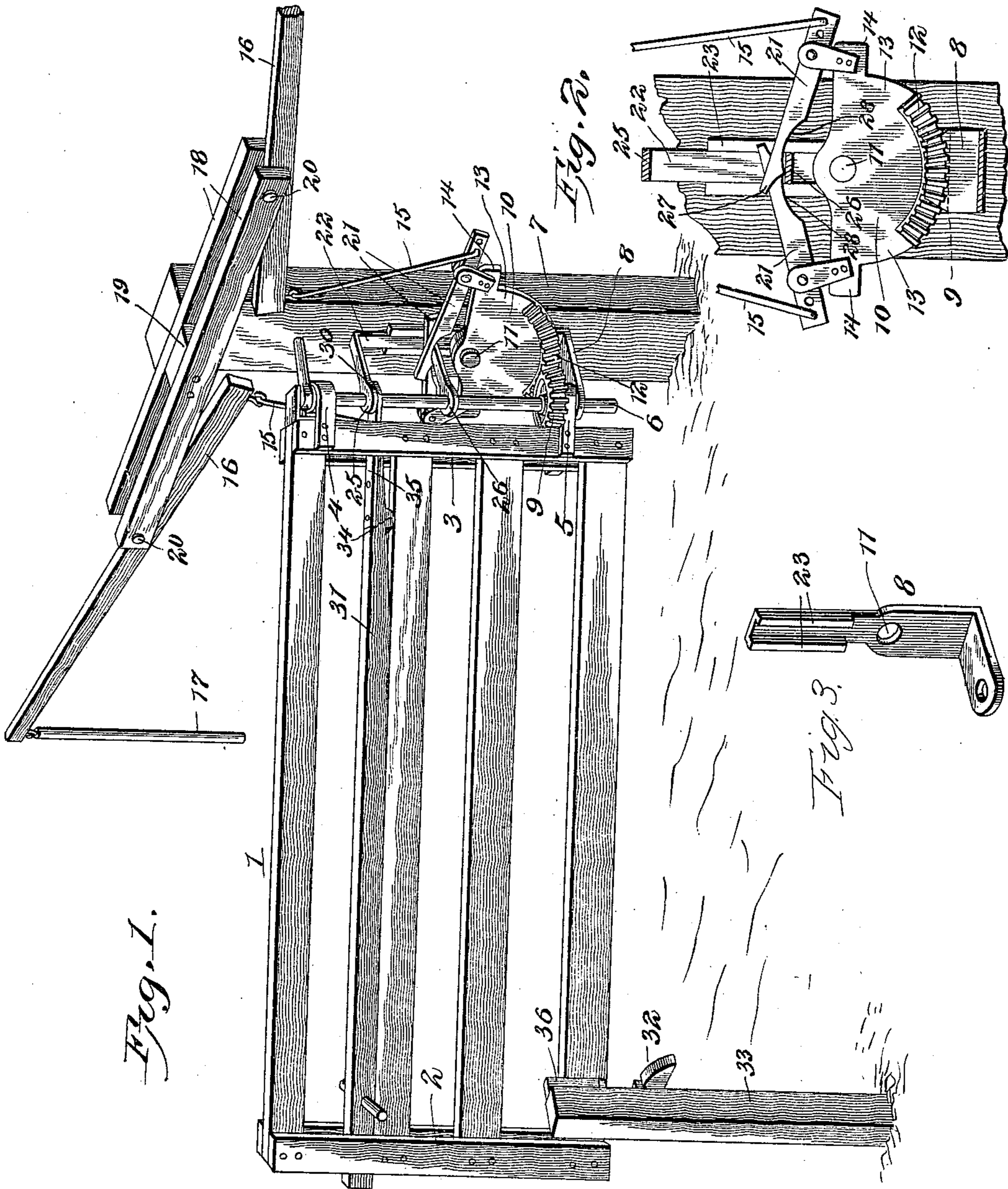
No. 641,521.

Patented Jan. 16, 1900.

C. F. LEE.
GATE.

(Application filed Sept. 29, 1899.)

(No Model.)



Witnesses

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UNITED STATES PATENT OFFICE.

CHARLES F. LEE, OF ASTORIA, ILLINOIS, ASSIGNOR OF ONE-HALF TO
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GATE.

SPECIFICATION forming part of Letters Patent No. 641,521, dated January 16, 1900.

Application filed September 29, 1899. Serial No. 732,102. (No model.)

To all whom it may concern:

Be it known that I, CHARLES F. LEE, a citizen of the United States, residing at Astoria, in the county of Fulton and State of Illinois, have invented a new and useful Gate, of which the following is a specification.

The invention relates to improvements in gates.

One object of the present invention is to improve the construction of swinging gates, more especially the means for opening and closing the same, and to provide a simple and comparatively inexpensive device capable of enabling the gate to be operated at a distance from either side of it or at the latch-post.

A further object of the invention is to provide a device of this character which will cause the gate to swing away from the operator, but which will enable the same to be opened and closed from the same side, if desired, so that after the gate has been opened it will not be necessary to pass through the gateway to the opposite side of the same in order to close it.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a perspective view of a gate constructed in accordance with this invention. Fig. 2 is an enlarged detail view illustrating the construction of the toothed segment and the latch-operating levers. Fig. 3 is a detail view of the bracket.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a swinging gate composed of horizontal rails and vertical end bars 2 and 3, arranged in pairs at opposite sides of the ends of the rails; but instead of constructing the gate in this manner a gate of any other desired construction may be employed, as will be readily understood. The gate is provided with upper and lower eyes 4 and 5, arranged on a vertical pintle-rod 6, which is supported in suitable eyes of an upright or support 7. The upper eye may be formed by an eyebolt, as shown, and the lower eye preferably consists of a perforation of an L-shaped bracket 8.

Secured to the gate at the upper face of the

lower eye is a pinion 9, which meshes with a vertically-disposed segment 10, mounted on a horizontal pivot 11 and adapted to be oscillated, by the means hereinafter described, to rotate the horizontal pinion 9 and swing the gate to open and close the same. The pinion is provided with spur-teeth and the segment is provided at its lower edge with similar teeth 12, and it has smooth portions 13 arranged at the ends of the series of teeth and adapted to allow the teeth of the segment to be drawn beyond and out of mesh with the pinion after the gate has been opened, whereby the gate will be retained in its open position. A slight pull will carry the teeth of the segment into mesh; but there is no liability of the gate's accidentally closing when the teeth of the segment are drawn past the pinion, as before explained, as a positive lock is thus provided.

The segment is provided at opposite sides with arms 14, extending from its upper edge and connected with rods 15 by the means hereinafter described, and these rods extend upward to the inner end of operating-levers 16, which are fulcrumed between their ends and extend from the gate in opposite directions. The levers, which are provided at their outer ends with depending-handles 17, are fulcrumed between horizontal bars 18, secured to the upper end of the upright 7 and cooperating with the same to form a supporting-frame. The bars 18 are spaced apart at their centers by a block 19 and their terminals are secured to the supporting-levers by the pivot-bolts 20. The handles which depend from the outer ends of the operating-levers consist of rods and are arranged within easy reach. When the outer end of either of the operating-levers is drawn downward, the segment is oscillated to swing the gate away from the operator, and should it be desired to close the gate without going through the gateway the depressed operating-lever may be raised to return the gate to its closed position.

Fulcrumed on the arms 14 of the segment are latch-operating levers 21, provided at their outer ends with perforations to receive the lower ends of the rods 15 and having their inner ends overlapping and engaging a vertically-movable slide 22. The arms 14 are preferably provided with ears to support the piv-

ots of the latch-operating levers, and the latter are preferably provided with a plurality of perforations to receive the lower ends of the rods 15, so that the leverage may be varied to suit the latch to be operated.

The slide, which is arranged in ways 23 of the bracket 8, is provided at its top and bottom with horizontal arms 25 and 26, having eyes through which passes the pintle-rod, and by this construction the slide which is guided on the supporting-frame does not interfere with the swinging of the gate. The inner portions of the latch-operating levers are provided at their lower edges with tapering projections 27 and are recessed at opposite sides of the same to provide curved edges 28. The projections engage the lower arm of the slide, at the upper face thereof, when the gate is closed, and they are carried beyond the arm of the slide when the gate is open.

The upper arm of the slide is arranged above an eye 30 of a latch-bar 31, extending horizontally from one end of the gate to the other and projecting beyond the front end of the same to engage a keeper 32 of a latch-post 33. The latch 31 is provided near its rear end with a projection 34 and is cut away, as shown, to form a space for the said projection. The eye 30 is formed by a perforation or opening of an arm or piece 35, extending rearward from the upper edge of the latch, at the rear end thereof, and when the slide is moved downward by the latch-operating levers the latch is tilted to disengage its front end from the keeper. When the outer ends of the operating-levers are depressed, the outer portions of the latch-operating levers are elevated, and their inner portions are depressed to force the slide downward, and thereby operate the latch.

A tapering block or piece 36 is mounted on the latch-post at a point above the keeper to form a stop to prevent the gate from swinging past the latch-post in closing. The tapering stop 36 causes the latch-bar, when lifted, to swing to one side or the other of it, so that it will not interfere with the operation of the gate.

It will be seen that the gearing by being provided with the opposite smooth portions 13 and the short curved series of teeth is adapted to obviate the necessity of employing supplemental latches or keepers for holding the gate open, as the end teeth of the said short series are adapted to be drawn beyond and out of mesh with the pinion.

Changes in the form, proportion, size, and the minor details of construction within the scope of the appended claims may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

What is claimed is—

1. The combination of a swinging gate provided with a latch and having a pinion, an oscillating gear, a pair of latch-operating levers fulcrumed on and carried by the gear,

operating mechanism connected with the said levers, and connections between the latch and the said levers, whereby the latch will be operated when the gear is oscillated, substantially as described.

2. The combination of a swinging gate provided with a pinion, an oscillating segment meshing with the pinion, a latch, a slide connected with the latch, a pair of latch-operating levers fulcrumed on the segment on opposite sides thereof and engaging the slide, and operating mechanism connected with the said levers, substantially as described.

3. The combination of a swinging gate provided with a latch, a vertically-movable slide connected with the latch, a support having ways receiving the slide, a pinion mounted on the gate, a segment pivotally mounted on the support and having teeth to mesh with those of the pinion, a pair of latch-operating levers fulcrumed on the segment and having inner overlapping ends engaging the slide, and operating mechanism connected with the outer ends of the levers, substantially as described.

4. The combination of a support, a pintle mounted thereon, a gate having eyes receiving the pintle and provided with a pinion, a latch fulcrumed on the gate and having an eye receiving the pintle, a vertically-movable slide guided on the support and having upper and lower arms provided with eyes receiving the said pintle, a segment mounted on the support and provided with teeth, latch-operating levers fulcrumed on the segment and engaging the lower arm of the slide and adapted to carry the upper arm into engagement with the latch, and operating mechanism connected with the said levers, substantially as described.

5. The combination of a support provided with ways, a vertical pintle mounted on the support, a gate hinged to the pintle, a vertically-movable slide mounted in the said ways and having arms guided on the said pintle, a latch mounted on the gate and arranged to be engaged by one of the arms of the slide, and means for depressing the other arm of the slide, substantially as described.

6. The combination of a support, a toothed segment mounted thereon, a swinging gate provided with a pinion meshing with the segment, a slide guided on the support, a pair of latch-operating levers fulcrumed on the segment and provided at their inner portions with projections engaging the slide, a latch connected with the slide, and means for operating the said lever, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

CHARLES F. LEE.

Witnesses:

T. E. TOLER,
WM. TREGALLAS.