(No Model.) 2 Sheets—Sheet 1.

A. ROSS.

SWINGING GATE.

No. 472,716. Patented Apr. 12, 1892.

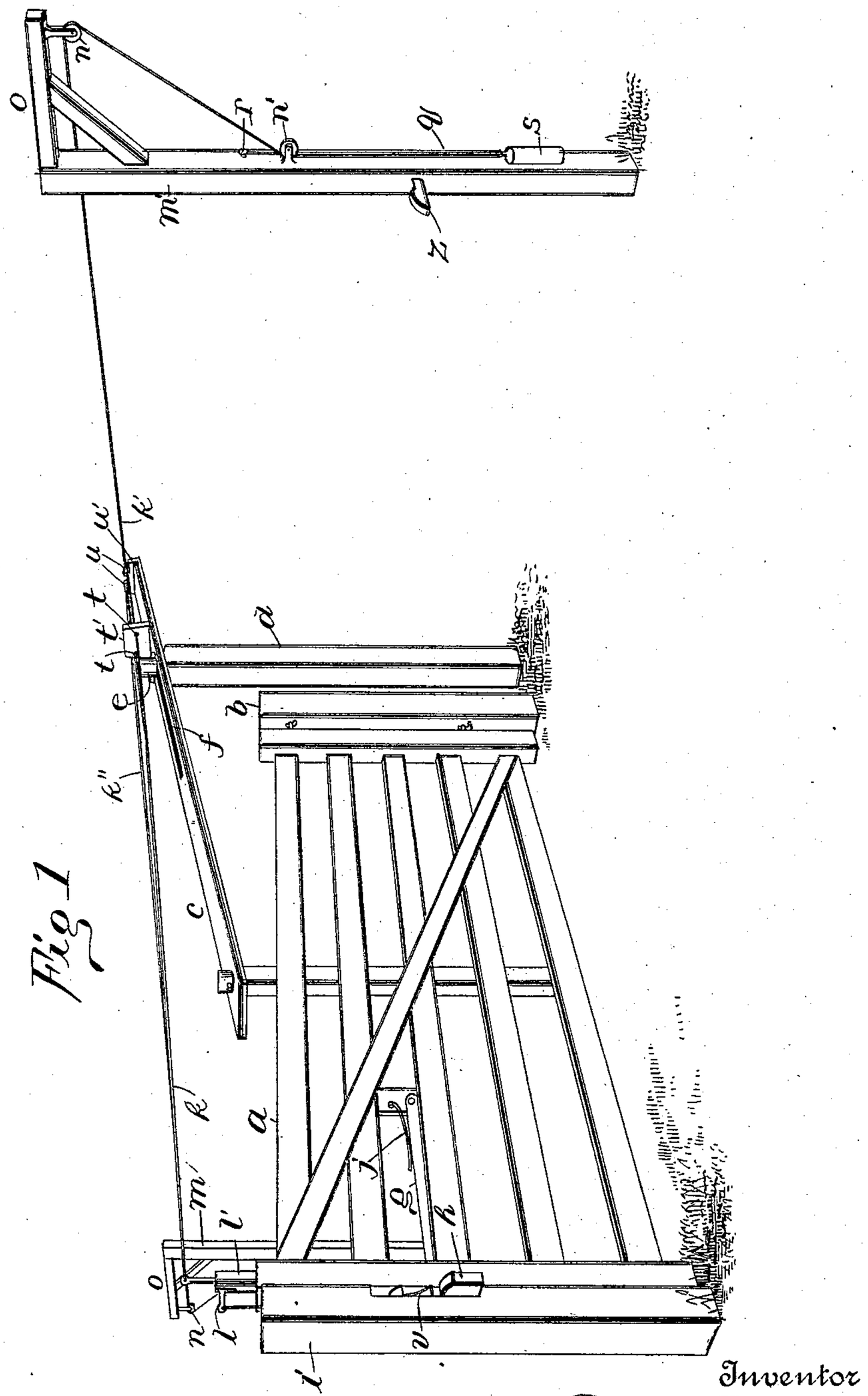

Fig 1

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C. C. Burdine
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Inventor
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per R. H. Young Jr.
his Attorney

(No Model.) 2 Sheets—Sheet 2.

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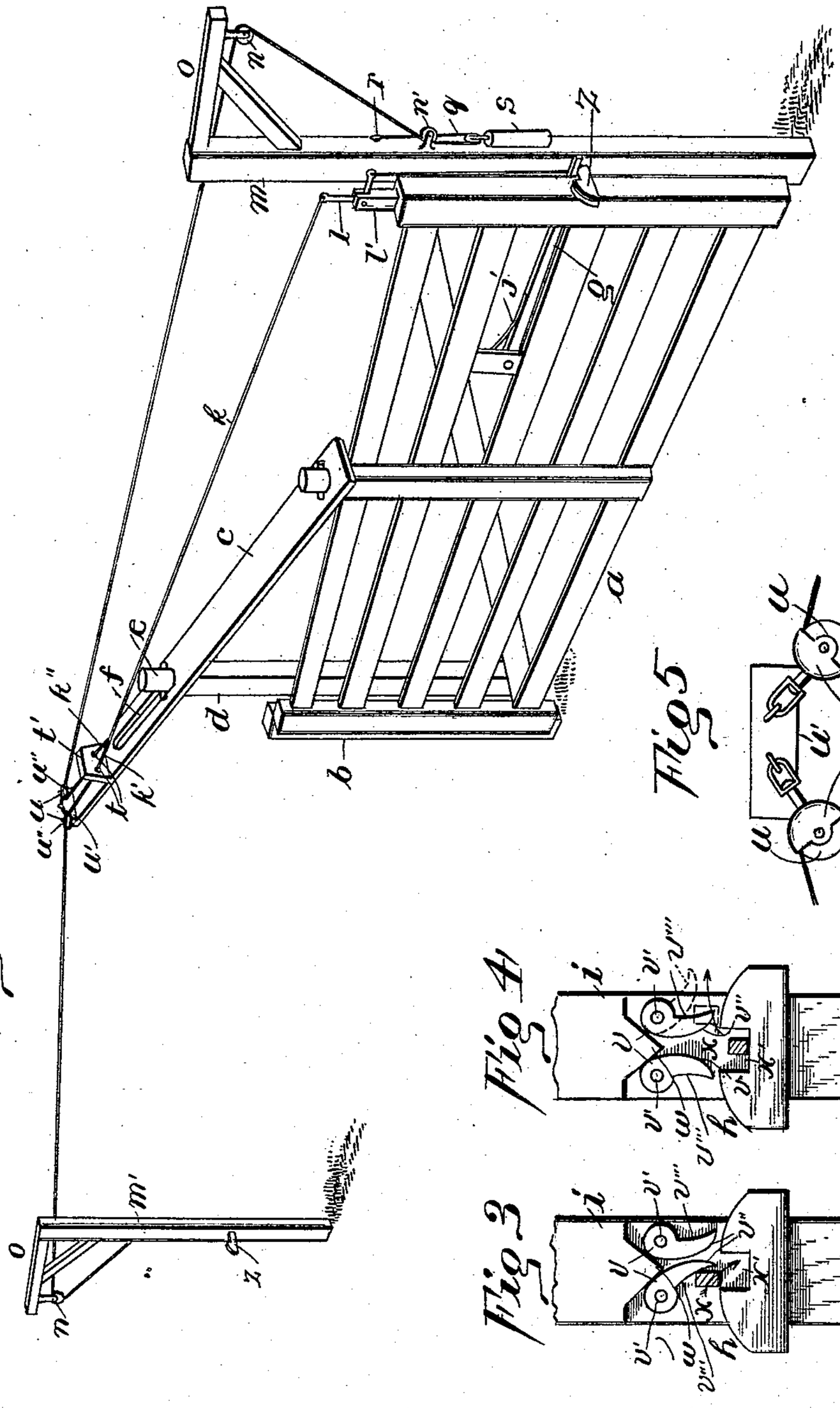

Fig 2

Fig 5

Fig 4

Fig 3

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UNITED STATES PATENT OFFICE.

ALVA ROSS, OF VIRDEN, ILLINOIS.

SWINGING GATE.

SPECIFICATION forming part of Letters Patent No. 472,716, dated April 12, 1892.

Application filed August 29, 1891. Serial No. 404,132. (No model.)

To all whom it may concern:

Be it known that I, ALVA ROSS, a citizen of the United States, residing at Virden, in the county of Macoupin and State of Illinois, have invented certain new and useful Improvements in Swinging Gates; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to swinging gates for driveways, and especially to that class in which elevated ropes are employed to lift the latch to swing the gate.

Heretofore it has been customary to use a lever having one arm pivoted to the gate and the other arm provided with rollers or loops to receive the operating-rope, the lever being loosely pivoted on the rear gate-post, so as to have endwise play and swing to the right or left in opening or closing the gate. It has also been customary to provide the latch-post with means for arresting the end of the gate to prevent it from swinging back and forth before locking. It is my purpose to so arrange these particular parts of the gate as to obtain more efficient action, whereby its operation will be made more satisfactory.

With this purpose in view my invention consists in the peculiar features and combinations of parts more fully described hereinafter, and pointed out in the claim.

In the accompanying drawings, Figure 1 represents a front perspective view of my complete invention, in which the gate is shown closed; Fig. 2, a similar view showing the gate open, and Figs. 3 and 4 detail views of the latch mechanism. Fig. 5 is an enlarged detail view of the pulleys employed.

The gate *a* is hinged to swing upon a post *b*, and is actuated in opposite directions by means of a slotted rod or lever *c*. At the rear of the gate-post *b* is located a taller post *d*, having upon its top a fulcrum *e*, which passes through an elongated slot *f*, which slot enables the lever to move endwise upon the post. The gate is provided with a latch *g*, which engages a keeper *h* on the latch-post *i* and is normally held down by spring *j*.

The means for imparting motion to the gate, and at the same time liberating the latch, consists of a rod, cord, or wire *k*, extending parallel with the gate when closed and having one end attached to the upper arm of a bell-crank lever *l*, fulcrumed in the top of an arm *l'* on the front end of the gate, and the other end to a pair of like ropes, cord, or other flexible devices *k' k''*. These cords *k' k''* extend to the side posts *m m'*, which are constructed alike, so that the description of one will answer for both. The ropes pass through orifices *t* in a guide-block *t'*, fixed to the lever *c*, thence around groove-pulleys *u*, swiveled to a block *u'* on the rear end of the lever. These pulleys are provided with guards *u''*, which prevent the ropes from slipping off. By thus swiveling the pulleys they are allowed to adapt themselves to the different positions of the rope without binding the latter or interfering in any way with its free action. The ropes then pass through pulleys *n* on the under side of overhanging arms *o*, attached to the top of the posts *m m'*, and from these pulleys *n* they pass downward in a diagonal direction to pulleys *n'* on the side of the posts. Thence they pass downward and upward to form a loop *q*, and have their ends fastened to a nail *r*, and a weight *s* is hung in the loop to keep the ropes taut.

The means for stopping the gate whenever it comes opposite the post *i* consists of a pair of gravitating tumblers *v*, hung upon pivots *v'* upon opposite sides of a V-shaped projection *w*, which is interposed between the upper part of the tumblers. These tumblers are located within the recess *x*, so that they lie back of the face of the post and permit the gate to swing freely by them when not engaged by the latch. The adjacent inner edges *v''* of the tumblers are curved to permit the latch to slide freely over them in the releasing operation. The upper part of the adjacent face *v''* comes in contact with the projection *w* whenever the latch strikes the opposite face *v'''*, as seen in Fig. 3, thus limiting the inward play of the tumbler and preventing the latch, and hence the gate, from swinging past the post. When the tumbler is thus held against the projection *w*, it serves as a guide to direct the latch into the recess *x'* in the keeper, and after the latch drops the tumbler gravitates back to an upright position and will allow the latch when raised to pass freely away from the post in either di-

rection. Both tumblers are exactly alike, and when the gate swings toward the post from the opposite direction the opposite tumbler performs precisely the same functions in arresting the movement of the gate.

When the gate is closed, as in Fig. 1, it is opened by pulling on the cord k' between the pulleys n and n'. This actuates the bell-crank lever on the end of the gate, lifts the latch up between the lower ends of the tumblers, and simultaneously draws on the rear end of the lever c, thereby forcing the opposite end away from the operator and toward the opposite side post m'. A continued draft on the rope throws the end of the gate against said side post, to which it is held by a keeper z. When the gate is thus open, it will be seen that the actuating-lever c is out of parallel or at an angle to the gate, so that lateral strain is brought to bear upon the latter, and the closing operation is consequently greatly facilitated, for if this lever should lie parallel with the gate when open the endwise strain upon the bar would be insufficient to close it. The closing operation is performed by grasping the rope k'' between the loops on the side post and pulling the rope downward, thereby bringing the lateral strain upon the rear end of the actuating-lever c and at the same time actuating the bell-crank lever on the front of the gate and lifting the latch. When the gate reaches the latch-post, the end of the latch engages the edge of one of the tumblers, throws it back against the projection w, stops the gate, and allows the latch to drop into the recess x', as previously described. A second pull upon said rope k'' will lift the latch and swing the gate away from the operator and against the opposite side post in exactly the same manner as it did in opening in the opposite direction.

Among the advantages of my invention might be mentioned the fact that the gravitating weights attached to the ropes always keep them taut, the spring-latch always insures a positive catch to hold the gate open or shut, the gate-actuating lever being fulcrumed out of parallel with the gate always makes the opening and closing operation easy, and the swiveled pulleys on the end of the lever prevent the rope from catching in the pulley-guards and enable the rope to pass over the pulley with facility.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The combination, in a swinging gate, of a gate hinged to a gate-post and provided with an actuating-lever fulcrumed on a separate post at the rear of the gate-post, whereby increased leverage is obtained when the gate is open, swiveled pulleys attached to the rear of said lever, ropes passing over said pulleys and having their opposite ends connected to side posts, and a rope connecting them with a latch upon the gate, all arranged in the manner and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

ALVA ROSS.

Witnesses:
HENRY M. GOTTHELF,
GEORGE A. ORGAN.