

(Model.)

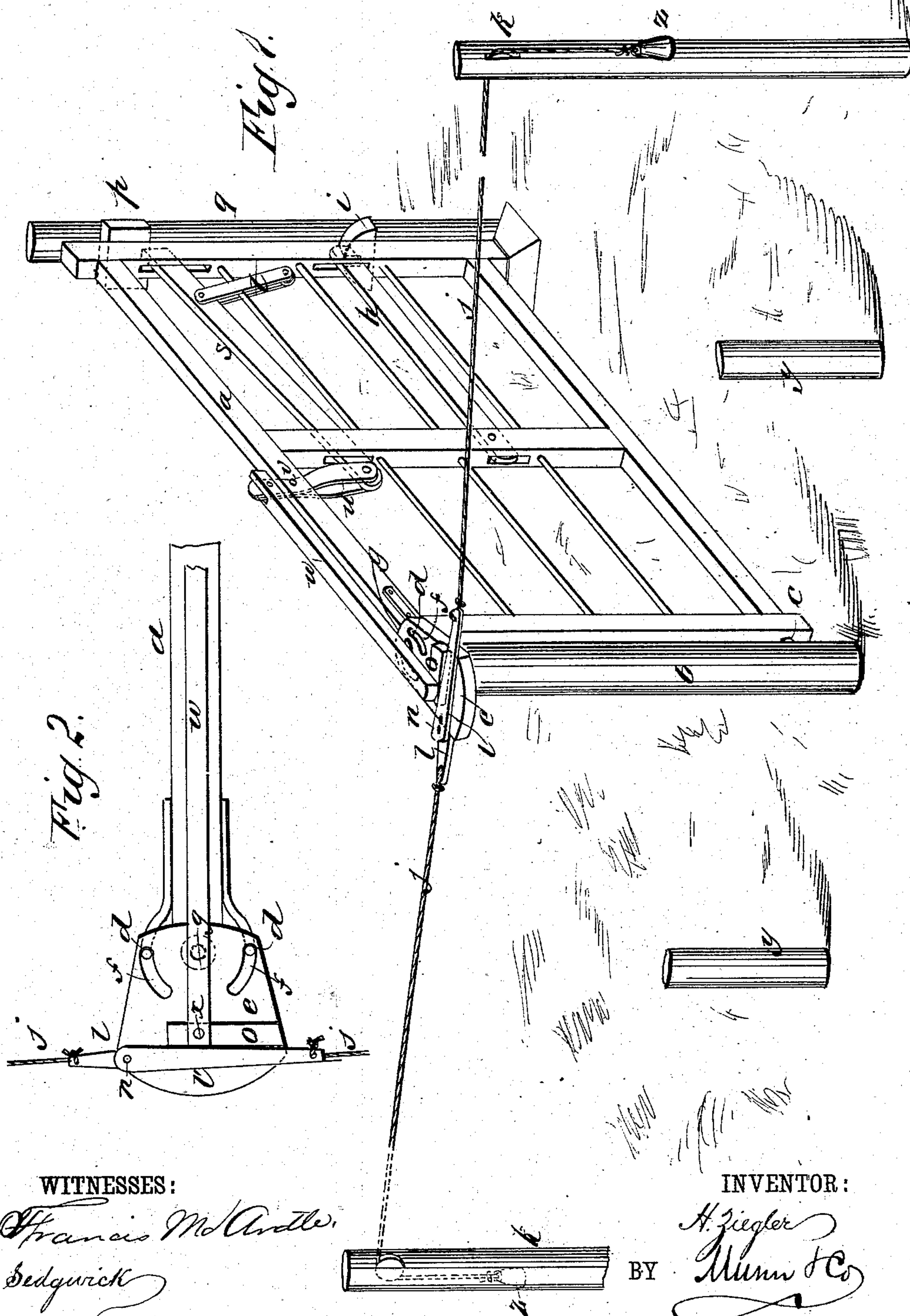
2 Sheets—Sheet 1.

H. ZIEGLER.

GATE OPERATING APPARATUS.

No. 293,550.

Patented Feb. 12, 1884.



WITNESSES:

Francis McArdle,
C. Sedgwick

INVENTOR:

H. Ziegler
BY Munn & Co
ATTORNEYS.

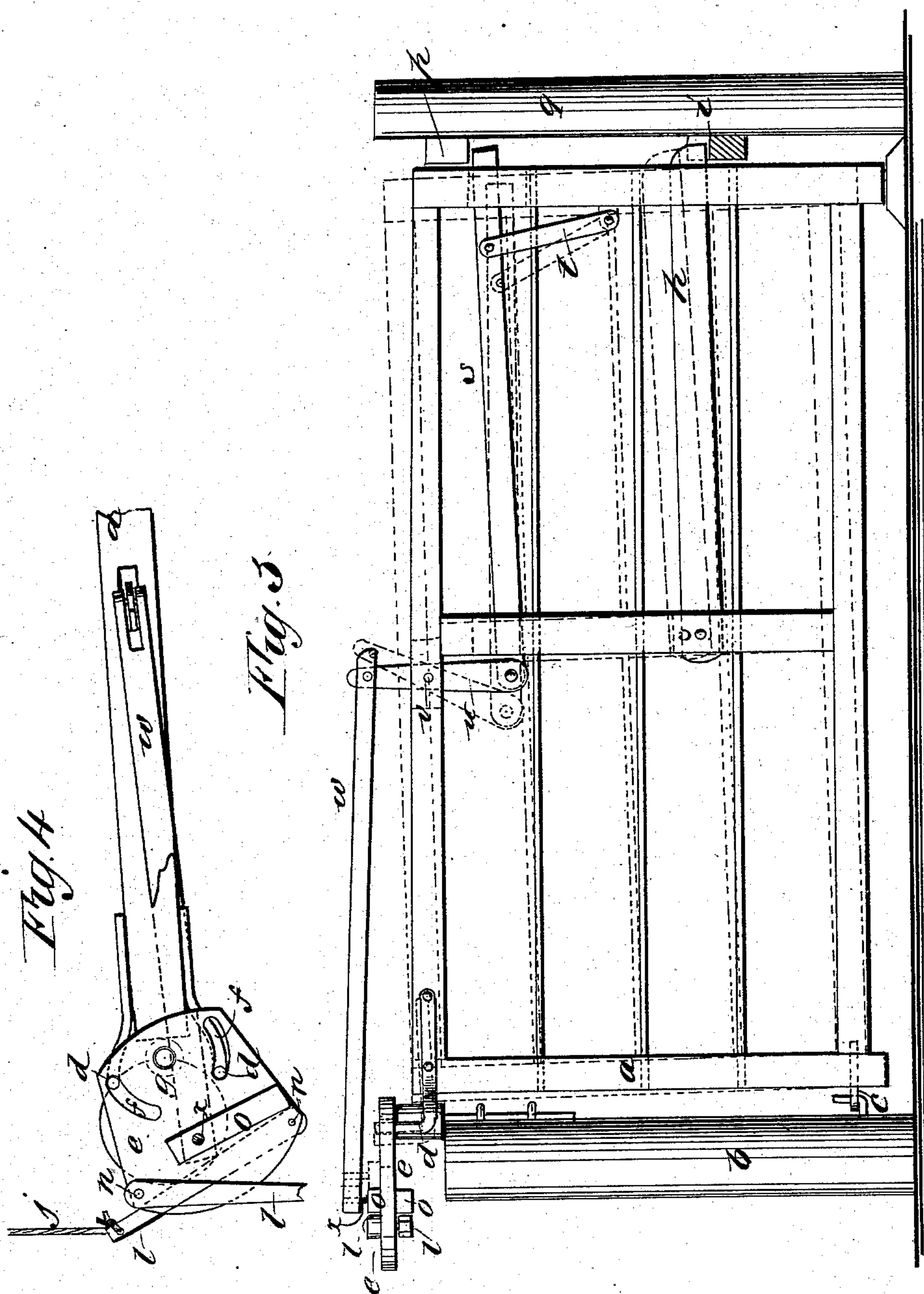
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UNITED STATES PATENT OFFICE.

HENRY ZIEGLER, OF NORTH LIMA, OHIO, ASSIGNOR TO HIMSELF AND ENOS ZIEGLER, OF SAME PLACE.

GATE-OPERATING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 293,550, dated February 12, 1884.

Application filed August 13, 1883. (Model.)

To all whom it may concern:

Be it known that I, HENRY ZIEGLER, of North Lima, in the county of Mahoning and State of Ohio, have invented a new and Improved Gate-Operating Apparatus, of which the following is a full, clear, and exact description.

My invention consists of an apparatus for opening and closing gates, without dismounting from a carriage, by pulling a rope at either side stretched along the side of the roadway from the post whereon the gate is hinged, and supported by other posts at a suitable elevation to be reached from the carriage or on horseback, the said apparatus being a horizontal plate fixed on a pivot on the top of the gate-post, and connected by a curved slot on each side of the pivot with a cranked pivot forming the upper hinge to the gate, and set eccentric to the lower hinge, so that whichever way the plate is pulled the free end of the gate will first be raised and unlatched, and then will be swung open opposite to the way it is approached, as will be hereinafter fully described, and specifically set forth in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of a gate contrived according to my invention. Fig. 2 is a plan view of a portion of the same, as when shut. Fig. 3 is a side elevation, with dotted lines showing the free end elevated for opening the gate; and Fig. 4 is a plan view of a portion of the gate partly opened.

The gate *a* is connected at the bottom to the hinge-post *b* by an ordinary hinge, *c*, but at the top it has two cranked pivots, *d*, so to speak, said pivots being set eccentric to the line of hinge *c*, the projection being in the line of the roadway. These pivots *d* engage with the plate *e* by its slots *f*, respectively, said plate being pivoted at *g* to the top of the post *b* in the line of the pivot *d*, or thereabout. The plate *e* extends backward over the top of the post a suitable distance to afford the requisite leverage for raising the gate to lift the latch *h* out of the catch *i* by a cord, *j*, two

of which cords are attached to the rear end of said plate and extended along the roadway in opposite directions and supported on posts *k* in suitable positions for being reached from a carriage to pull the gate open. The cords are connected to the plate *e* by short levers *l*, which extend across the plate to the side opposite to the direction of the cord, and are attached by pivots *n* to extend the points of connection beyond the plane of the gate, so that the travel of the pivots will be more in the direction of the pull of the cords, and will thereby afford better leverage as the gate swings than would be had if the pivots were set in the plane of the gate. To maintain the proper leverage for starting the gate and shutting it when open by the said pivoted levers *l*, the swing of the levers toward the plane of the gate, when open, is limited by stops *o*, attached to the plate, which keep the levers at right angles to the gate when open, and afford the best leverage for closing the gate. The levers are pivoted to plate *e* in order that the pull may be in direct lines from the pivots *n* when opening the gate, and this makes it necessary to use the stops for keeping the lever in the right position for closing the gate.

The slots *f*, by which the cranked pivots *d* of the top of the gate are connected to the plate *e*, are so adjusted that when the gate is closed the pivots *d* lodge at the forward ends of said slots, both serving alike to hold up the latch end of the gate. It will therefore be seen that whichever way the plate *e* is pulled the first effect is to raise the latch end of the gate by a pull directly backward to the gate on the pivot *d* at the side of the gate opposite to the person pulling. As the gate rises, the plate swings on pivot *g*, and also along the pivot *d* of the other side, at the same time pulling the gate open, the latter operation being facilitated by the effect of gravity on the raised end. When the gate has been opened and passed, a pull on the cord of the other side will first raise the gate and then swing it shut in the same manner.

In order that the latch *h*, which is disconnected from the catch *i*, as before stated, by the lifting of the gate when it is to be opened, shall not be liable to be lifted out of the catch

by the raising of the gate by hogs and cattle, I have provided a stop, *p*, on the catch-post *g*, and a stop-lever, *s*, on the gate, the lever *s* being supported on the link *t*, pivoted to it
5 and to the gate, as shown, for a fulcrum, and projecting under the stop, and also being connected to the short vertical lever *u*, pivoted to the top bar of the gate at *v*, and connected to bar *w*, which extends back to and is fitted on
10 a stud-pin, *x*, of the plate *e* in a line with pivot *g* when the gate is shut. When the gate is down in the normal position, the bar *w* causes lever *u* to swing into the upright position shown in full lines in Fig. 3, which thrusts
15 lever *s* forward under the stop *h*, and effectually prevents the gate from being raised; but when plate *e* is pulled to raise the gate, stud-pin *x* swings forward, and the bar *w* causes the lever
20 *s* to withdraw from under stop *p* and allow the gate to rise sufficiently to raise the latch *h* out of the catch *i*.

The posts *y* are employed for stops to prevent the gate from opening too wide.

The ends of the cords hanging from posts *k*
25 have weights *z* to keep the cords taut.

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

1. The upper hinge of the gate, consisting

of the cranked pivots *d* and the slotted plate *e*, pivoted to the post at *g*, and having cords 30 connected to and extending along the roadway for opening and closing the gate, substantially as described.

2. The combination of the slotted plate *e*, pivoted to post *b*, levers *l*, and cords *j*, with 35 the gate *a*, having pivots *d*, eccentric to the hinge *c*, said pivots working in the slots of the plate *e*, substantially as described.

3. The combination of stops *o*, with the levers *l*, slotted plate *e*, and the gate *a*, said 40 gate being provided with pivots *d*, and the plate being pivoted to the post, substantially as described.

4. The combination of the stop *p*, levers *s* and *u*, and bar *w*, with the gate *a* and the plate 45 *e*, having slots *f*, said gate being connected to the plate by the eccentric pivots *d*, which enter said slots *f*, and the plate being pivoted to the post *b*, and having cords attached to it for opening and closing the gate, substantially 50 as described.

HENRY ZIEGLER.

Witnesses:

NOAH LEHMAN,
HENRY SPRINKEL.