

**No. 683,957.**

**Patented Oct. 8, 1901.**

**J. K. LUCAS.**

**GATE.**

(Application filed July 18, 1901.)

(No Model.)

**2 Sheets—Sheet 1.**

FIG. 1.

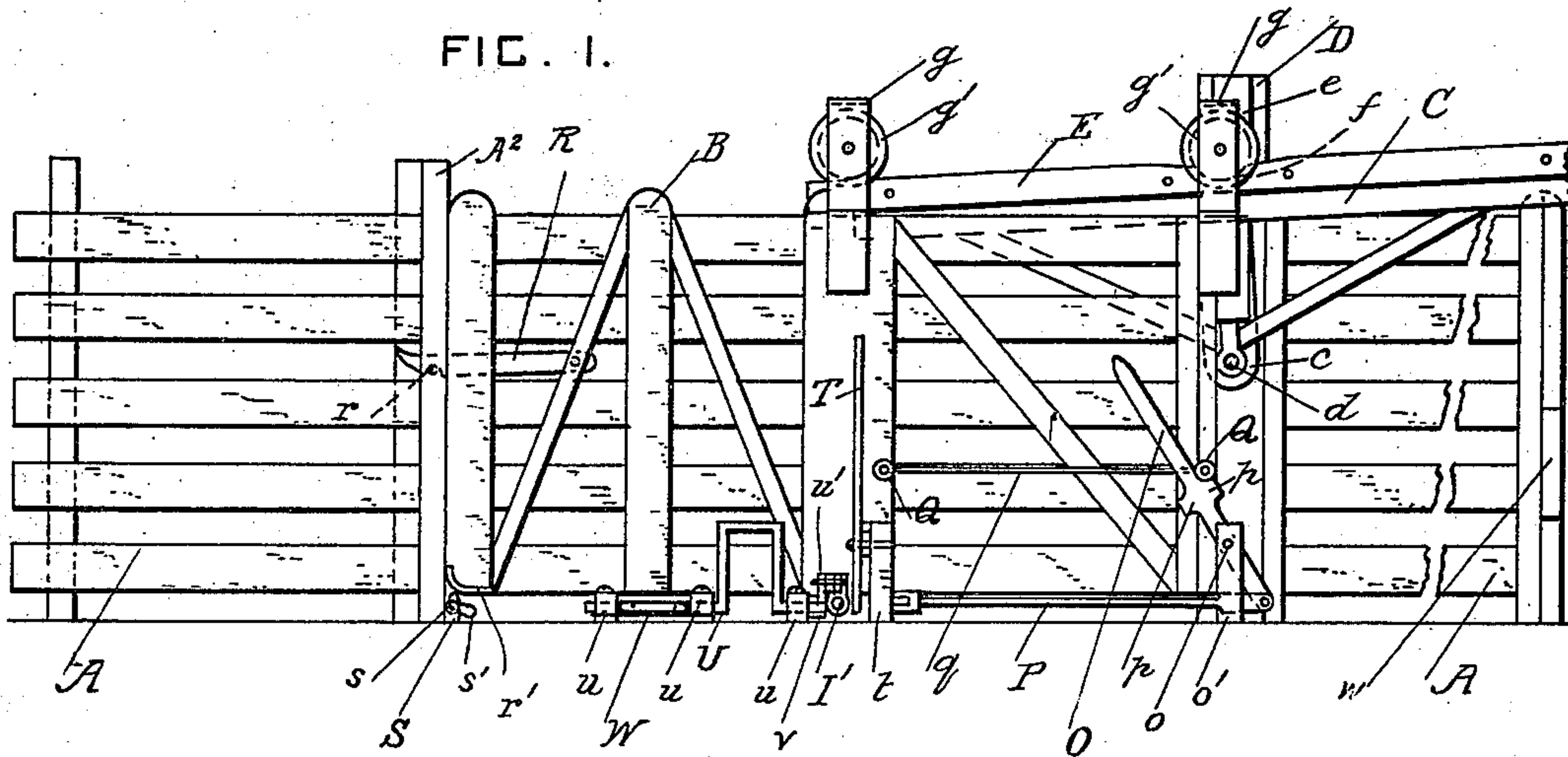
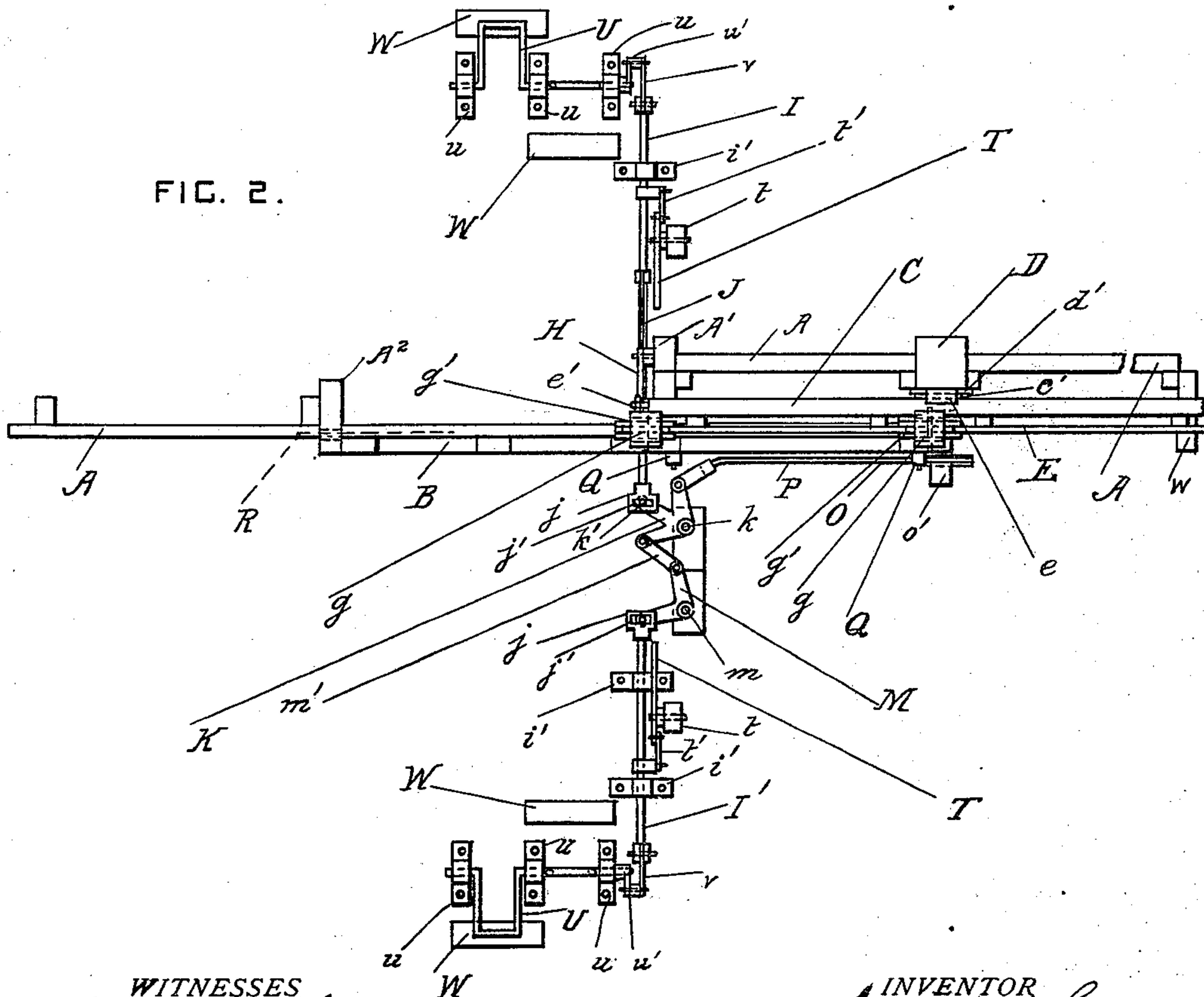


FIG. 2.



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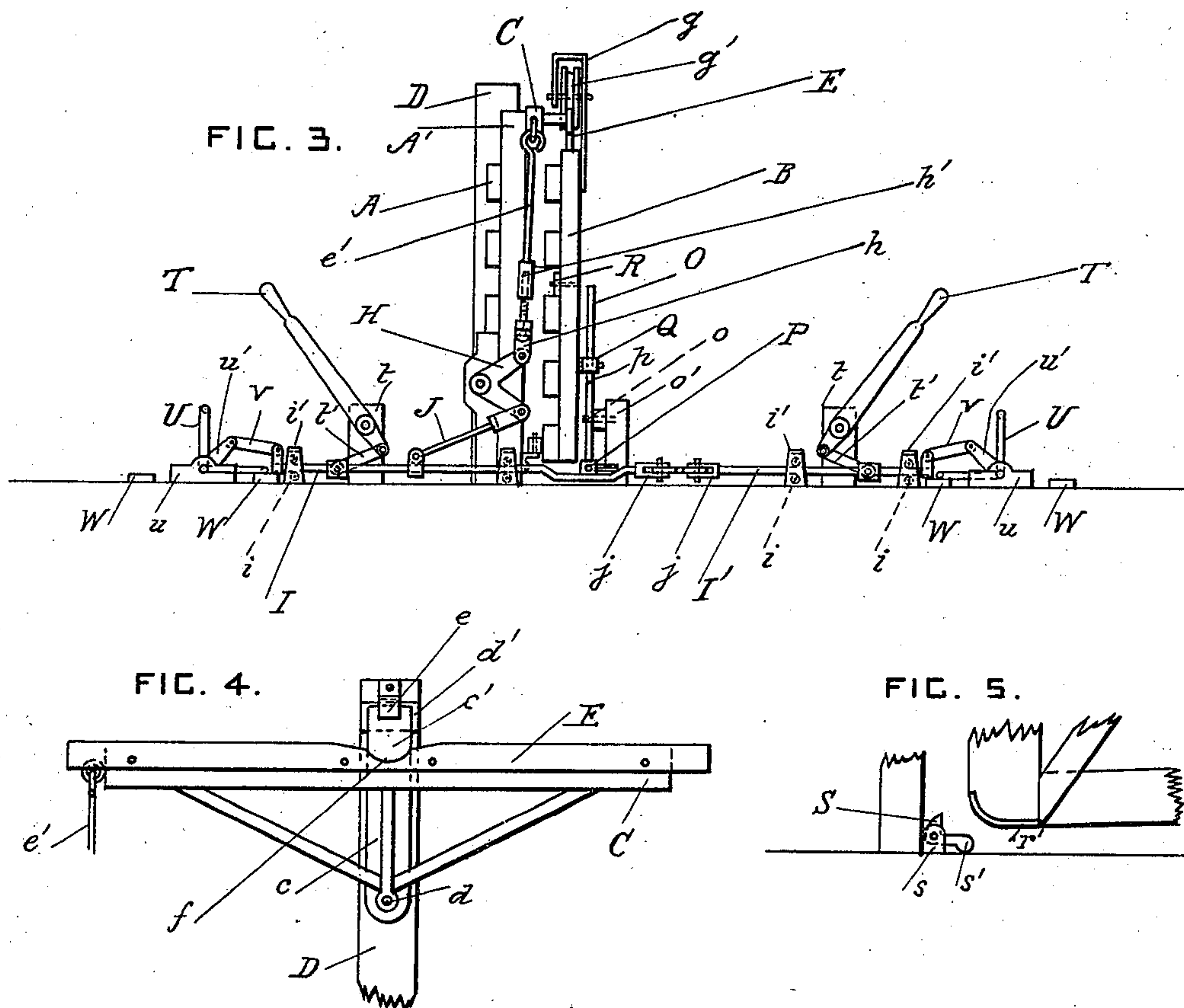
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# UNITED STATES PATENT OFFICE.

JAMES K. LUCAS, OF TERRE HAUTE, INDIANA.

## GATE.

SPECIFICATION forming part of Letters Patent No. 683,957, dated October 8, 1901.

Application filed July 18, 1901. Serial No. 68,807. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES K. LUCAS, a citizen of the United States, residing at Terre Haute, in the county of Vigo and State of Indiana, have invented certain new and useful Improvements in 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.

This invention relates to gates for farm use which can be opened and closed from a short distance; and it consists in the novel construction and combination of the parts hereinafter fully described and claimed.

In the drawings, Figure 1 is a front view of the gate. Fig. 2 is a plan view of the gate. Fig. 3 is an end view of the gate from the left, showing the slidable panel open. Fig. 4 is a detail front view of the rocking beam. Fig. 5 is a detail view of the tilting support for the front end of the gate-panel.

A represents portions of a fence of approved construction, and B is a gate-panel of any approved construction.

C is a rocking beam provided with a vertical member *c* at its middle part and a guide-plate *c'* at the top of the said member. The lower part of the vertical member *c* is pivoted on a pin *d*, which projects from a strong post D, which forms a part of the fence near the gate-opening, which is closed by the gate-panel. The guide-plate *c'* works between a facing-plate *d'*, secured to the post D, and a guard-plate *e*, which overlaps the top edge of the guide-plate and is also secured to the post D. The rocking beam C has a rod *e'* pivoted to one end of it for oscillating it on its pivot.

E is a rail secured to the front side of the rocking beam and provided with a deep notch *f* at about the middle of its length. This rail is inclined slightly on each side of the notch *f*; but its main portions are in line with each other. If desired, the rail E can be made in sections. The gate-panel B is provided with carrier-brackets *g*, and *g'* represents rollers which are journaled in the carrier-brackets and which run on the rail E. These rollers fit the notch *f* when they drop into it.

H is a bell-crank lever which is pivoted to the post A' of the fence on one side of the gate-opening. The rod *e'* is adjustably con-

nected with one arm of the bell-crank lever H by a double eye *h* and a screw-threaded sleeve *h'*.

I and I' are two rods for opening and closing the gate. These rods are arranged in line with each other and are supported by rollers *i*, which are carried by brackets *i'*, secured to the ground.

J is a connecting-rod which is pivoted to the rod I and to the other arm of the bell-crank lever H. The two rods I and I' are operatively connected together, so that they move in opposite directions simultaneously. Each rod has a double eye *j* on its inner end, which is provided with a slot *j'*.

K is a double bell-crank lever which is pivoted on a pin *k*, projecting vertically from a support let into the ground.

M is a single bell-crank lever which is pivoted on a pin *m*, projecting from a support let into the ground near the double bell-crank lever. The adjacent arms of the levers K and M are pivotally connected by a link or links *m'*. The other arm of the lever M is connected with the rod I' by means of a pin which works in the slot of its double eye. The middle arm of the lever K is connected with the rod I by means of a pin *k'*, which works in the slot of the double eye on the rod I. The other arm of the lever K is connected with a lifting-lever O by means of a connecting-rod P. The lifting-lever O is pivoted on a pin *o*, which projects from a support *o'*, which is let into the ground, and it has shoulders *p* at its upper part above its pivot.

Q represents rollers journaled on pins projecting from the gate-panel, and *q* is a rod which extends between the said pins behind the upper part of the lifting-lever. The rollers Q engage with the shoulders on the lifting-lever at the ends of the travel of the gate-panel.

R is a hooked catch pivoted to the gate-panel for engaging automatically with a pin *r* on the opposed gate-post A<sup>2</sup>. The bottom front corner of the gate-panel is rounded and is provided with a wearing-plate *r'*.

S is a tilting support for the plate *r'* to rest on. The support S is pivoted in a bracket *s* and is provided with a weight *s'*, which normally holds it in a raised position.



T represents hand-levers for operating the rods I and I'. These hand-levers are pivoted to supports *t*, which project from the ground and are connected to the rods to which they pertain by links *t'*.

U represents wagon-trips for operating the rods I and I'. Each of these trips consists of a double crank which is pivoted in three bearings *u*, secured to the ground. Each trip is provided with an arm *u'* and a link *v* for connecting it with the rod to which it pertains.

W represents stop-plates secured to the ground for the cranks to rest on at the extremities of their strokes. The cranks of each trip are set at a right angle to each other, so that one is vertical when the other is horizontal and resting on its stop-plate.

The action of the gate is as follows: When the gate-panel is closed and the parts are in the positions shown in Fig. 1, the gate-panel can be opened from either side of the gate by operating either trip or hand-lever. The hand-lever is operated by hand and the trip is operated by driving the wheel of a vehicle over its vertical crank, so as to depress it. This action operates to move the rods I and I' toward each other. The lifting-lever raises the rear roller of the gate-panel out of the notch onto the top of the rail, and the rod *e'* simultaneously raises the lower end of the rocking beam C, which is next to the gate-opening. This action raises the gate-panel bodily, leaving its bars horizontal, and places the rail on the rocking beam in a horizontal position. The continued motion of the rod *e'* then places the rail at an angle. The gate-panel at once runs along the inclined rail E by gravity and by the impulse given it by the lifting-lever until it strikes a stop *w* on the fence and the front roller *g'* drops into the notch *f*. The gate is closed by operating either hand-lever or trip in the reverse direction. The roller engaging with the notch *f* is lifted out of it and the front of the rocking beam is drawn down simultaneously, so that the gate-panel is first lifted bodily and then tilted, so that it runs along the rail and closes the gate-opening. Just before the gate-panel closes the gate-opening the hooked catch R engages automatically with the pin *r*, and the plate *r'* strikes the support S. The support tilts backward when the plate *r'* strikes it, and at that moment the rear roller of the gate-panel drops into the notch *f*, thereby causing the front end of the gate-panel to rise slightly and come to rest with the plate *r'* on top of the support S, which tilts forward, when the front end of the gate is jerked or raised upward and the catch R is in engagement with its pin. The gate-panel is locked automatically in its open and closed positions, and it cannot be operated by animals or by the wind pressing against it. When the gate-panel is opened, the first action of the hand-lever or the trip lifts the catch R off its pin, so that the gate-panel may be free to run on its rail.

What I claim is—

1. The combination, with a post, a rocking beam provided with a downwardly-projecting member at its middle part the lower end of which is pivoted to the said post, and a rail secured upon one side of the said beam and provided with a notch at its middle part; of a gate-panel provided with rollers which run on the said rail and drop into the said notch, and means for tilting the rocking beam on its pivot and lifting the rollers out of the notch, substantially as set forth.

2. The combination, with a post, and a rocking beam pivoted to it and provided with a rail having a notch at its middle part; of a gate-panel provided with rollers which run on the said rail and drop into the said notch, projections on the gate-panel, a support on one side of the gate-panel, and a lifting-lever pivoted to the said support and engaging with the said projections alternately, whereby the gate-rollers are lifted out of the notch and moved horizontally, substantially as set forth.

3. The combination, with a post, and a rocking beam pivoted to it and provided with a rail having a notch in it; of a gate-panel provided with rollers which run on the said rail and drop into the said notch, projections on the gate-panel, a lifting-lever for engaging with the said projections and lifting the rollers out of the notch, a rod connected to one end of the rocking beam for tilting it, and connections coupling the said rod with the said lifting-lever so that they work simultaneously, substantially as set forth.

4. The combination, with a post, and a rocking beam pivoted to it and provided with a rail having a notch in it; of a gate-panel provided with rollers which run on the said rail and drop into the said notch, means for tilting the rocking beam and sliding the gate-panel, a stationary support or bracket, and a tilting support for the front end of the gate when closed, said tilting support being pivoted to the said stationary support and provided with means for restoring it to a vertical position automatically after it has been tilted by the gate, substantially as set forth.

5. The combination, with a post, and a rocking beam pivoted to it and provided with a rail having a notch in it; of a gate-panel provided with rollers which run on the said rail and drop into the said notch, a catch pivoted to the gate-panel, a stationary locking-pin on the gate-post for the said catch to engage with when the gate-panel is closed, and means for tilting the said rocking beam and lifting one of the said rollers out of the said notch simultaneously whereby the said catch is released from the locking-pin, substantially as set forth.

6. The combination, with a post, and a rocking beam pivoted to it and provided with a rail having a notch in it; of a gate-panel provided with rollers which run on the said rail and drop into the said notch; two rods ar-



5 ranged in line with each other; a double bell-crank lever, a single bell-crank lever, and a pivoted link, said parts connecting the adjacent ends of the said rods; projections on the gate-panel, a pivoted lifting-lever for engaging with the said projections, a connecting-rod between the said lifting-lever and the double bell-crank lever; a rod pivoted to one end of the rocking beam, and a pivoted bell-

crank lever and a connecting-rod connecting to the last said rod with one of the aforesaid two rods, substantially as set forth.

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

JAMES K. LUCAS.

Witnesses:

W. B. HUBBARD,

CHARLES HALL.