

No. 730,570.

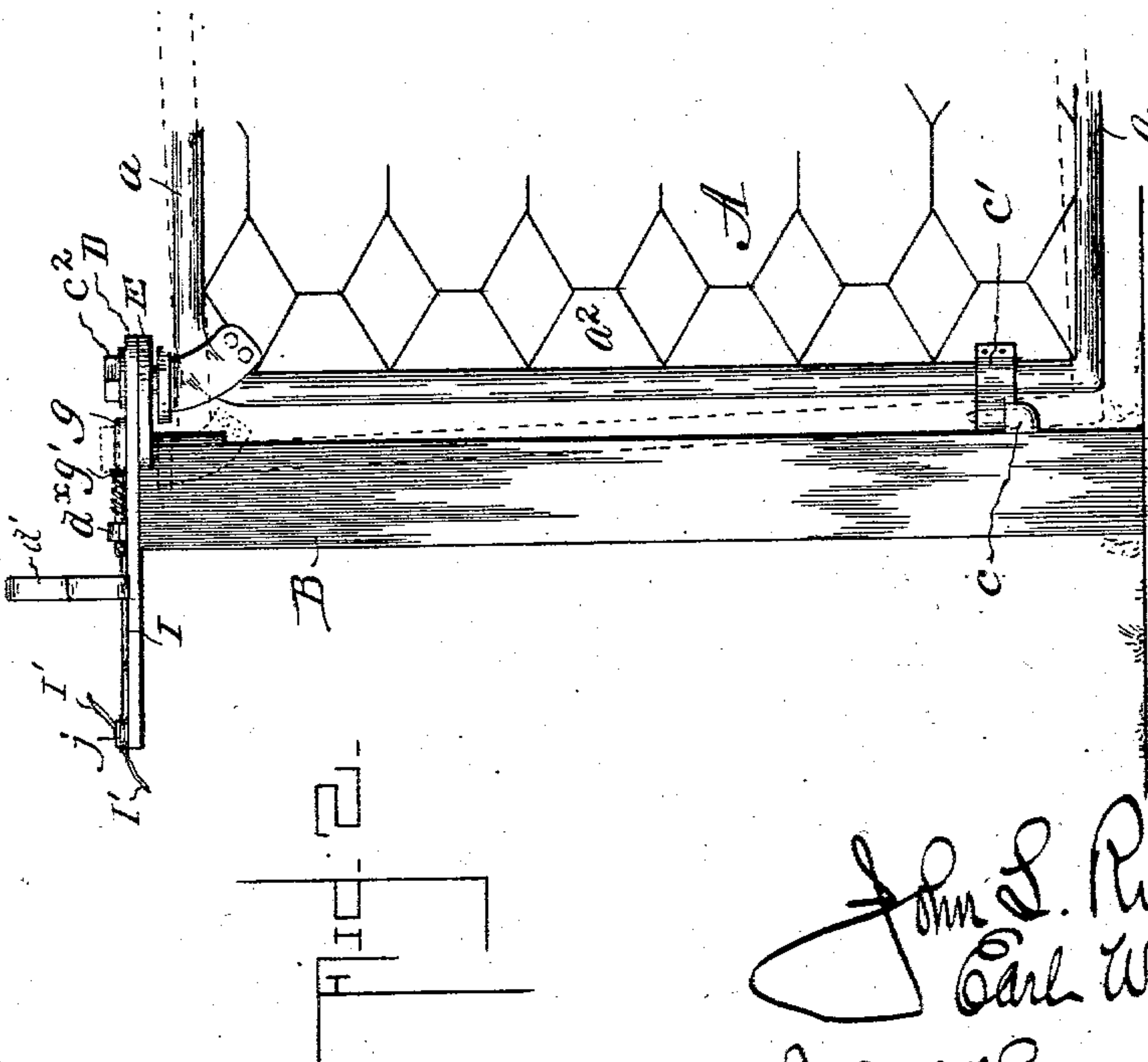
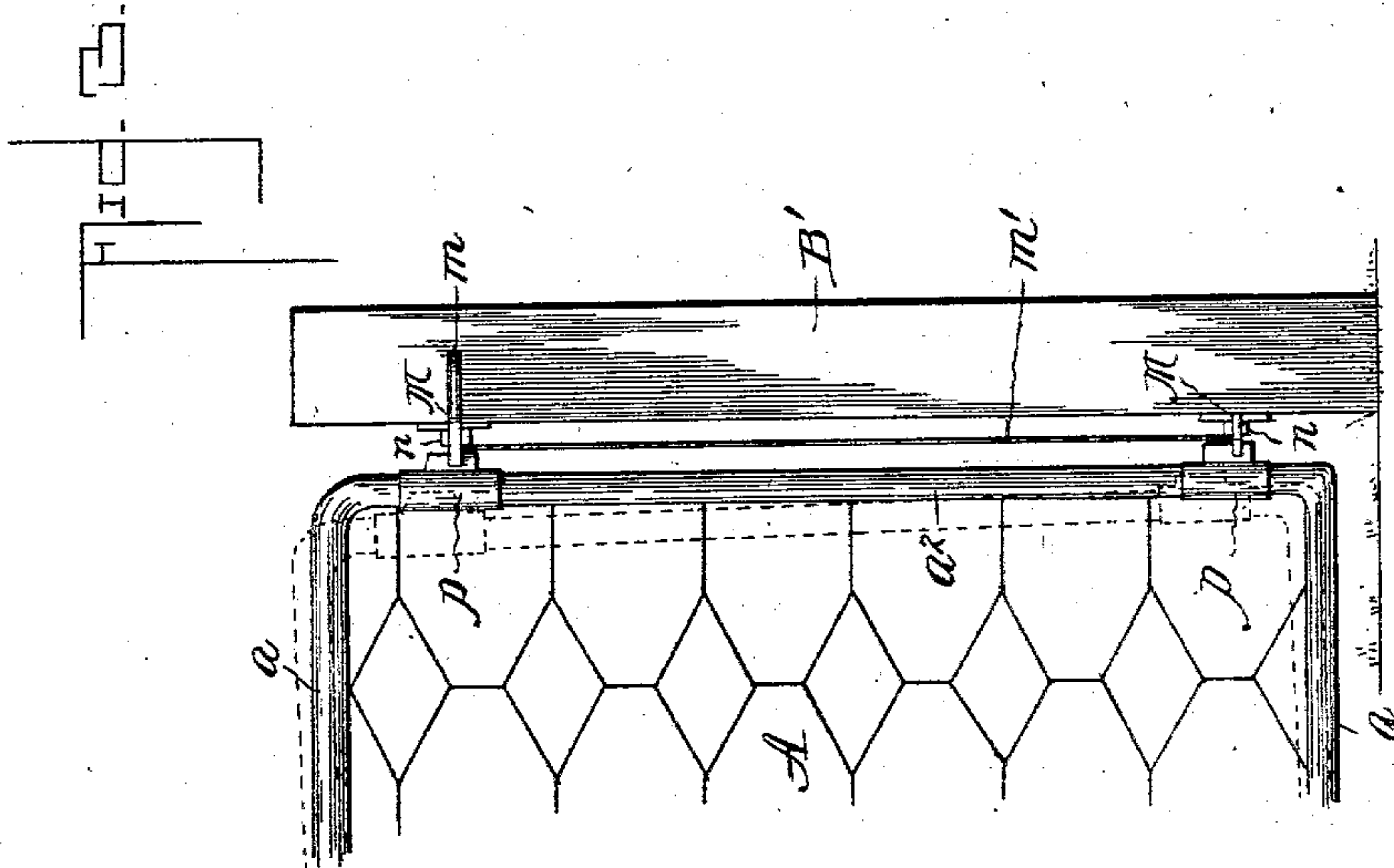
PATENTED JUNE 9, 1903.

J. L. RITER & E. W. CARLOS.
GATE.

APPLICATION FILED SEPT. 6, 1902.

NO MODEL.

3 SHEETS—SHEET 2.



Witnesses:

R. J. Beech
W. L. Duwall

by

John L. Riter
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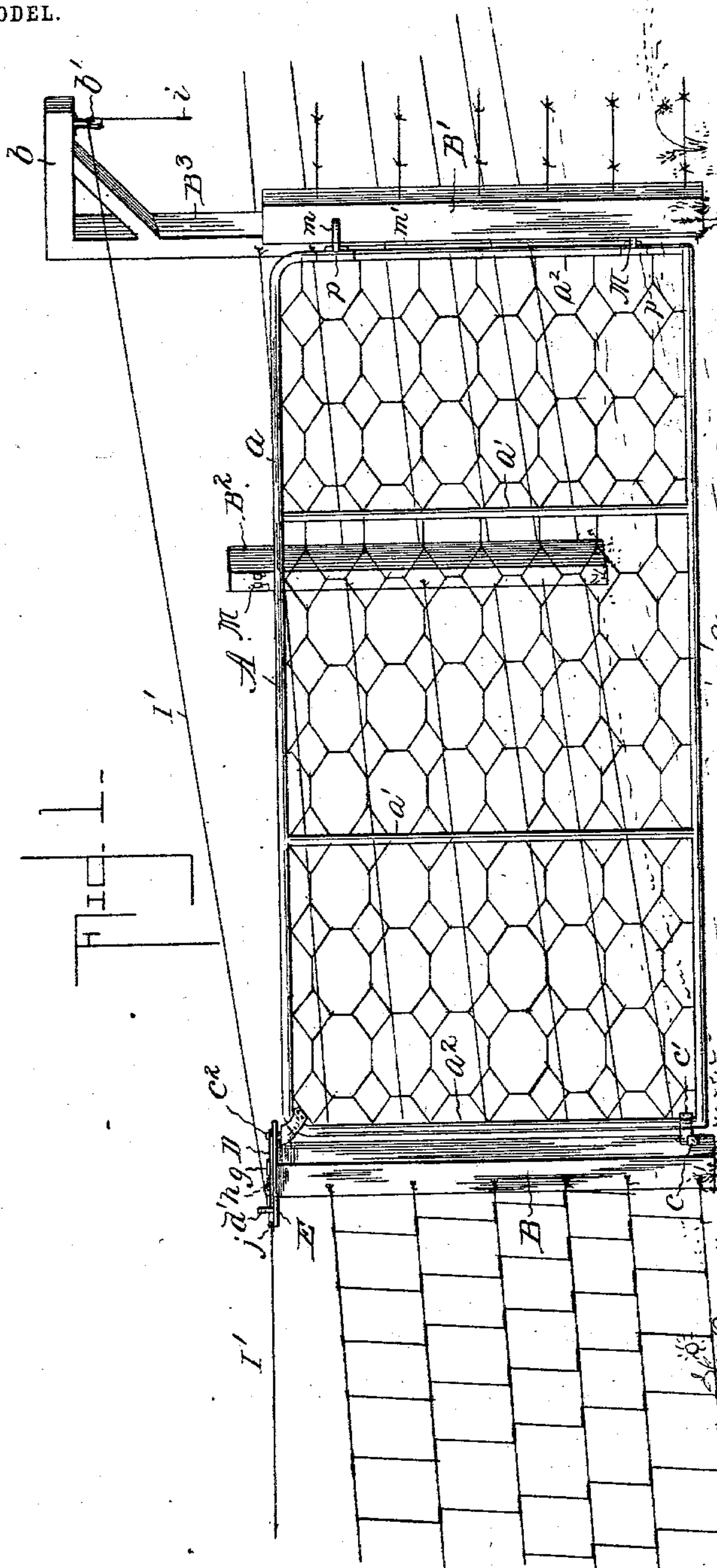
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3 SHEETS—SHEET 1.

NO MODEL.



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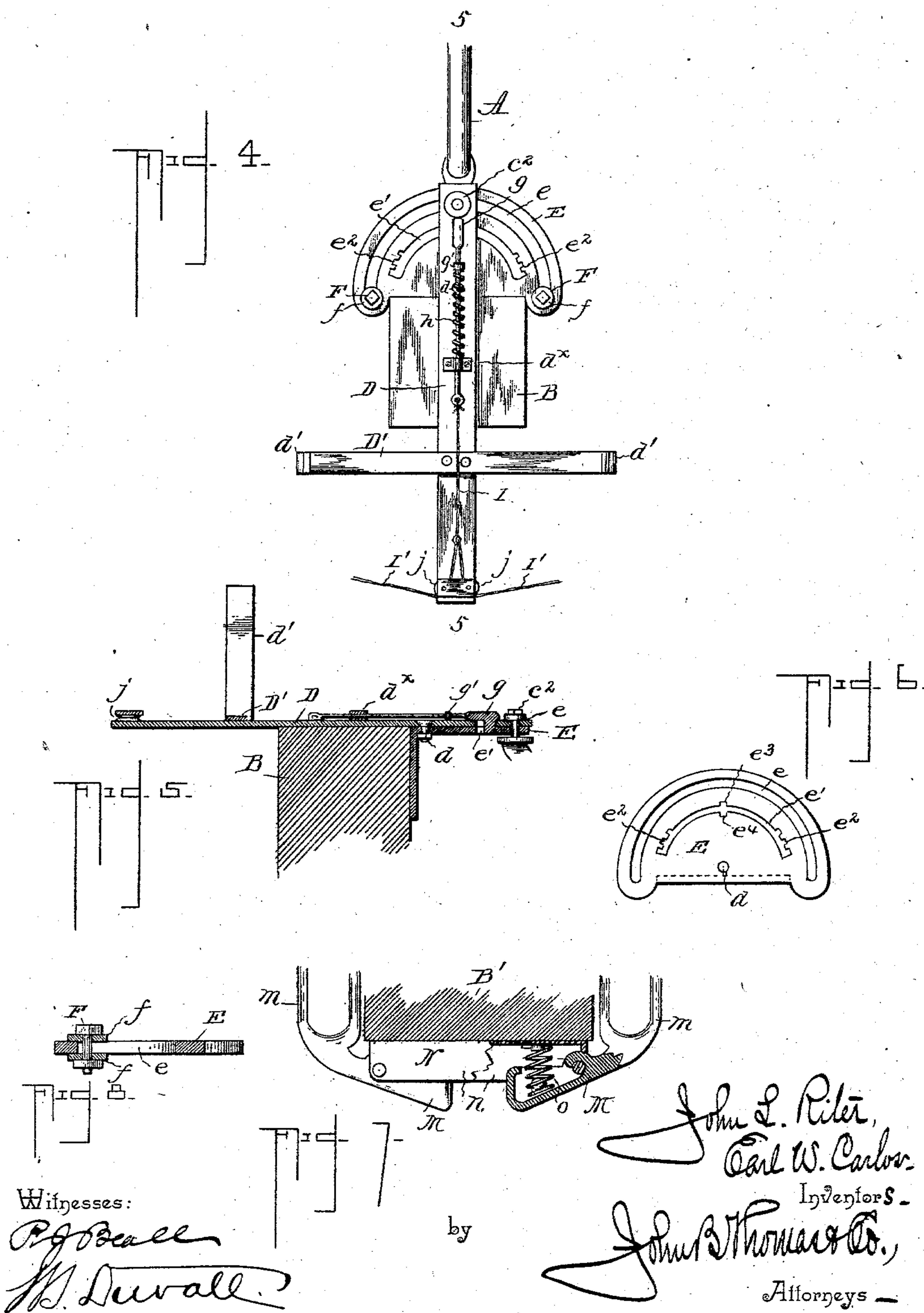
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3 SHEETS--SHEET 3.



UNITED STATES PATENT OFFICE.

JOHN L. RITER AND EARL W. CARLOS, OF BROWNSVILLE, INDIANA.

GATE.

SPECIFICATION forming part of Letters Patent No. 730,570, dated June 9, 1903.

Application filed September 6, 1902. Serial No. 122,348. (No model.)

To all whom it may concern:

Be it known that we, JOHN L. RITER and EARL W. CARLOS, citizens of the United States, and residents of Brownsville, in the county of Union and State of Indiana, have invented a Gate, of which the following is a specification.

Our invention is an improvement in gates, and relates more especially to swinging gates of that class which are opened and closed by tilting the gate through the intervention of mechanism operated at a distance therefrom.

The primary object of our invention is to provide a gate of this character which is opened and closed by shifting the pivot end thereof to different inclinations, whereby the gate is also tilted and will gravitate to either an opened or closed position, according to the direction of inclination of said pivot end.

A further object of our invention is to provide peculiar latch mechanism for the purpose of automatically locking the gate in either its open or closed position, the said latch mechanism engaging the gate at the front and rear ends thereof, so as to firmly and securely hold the same, and so constructed and arranged that the gate will be released automatically when operated upon by the tilting mechanism.

A further object of our invention is to provide for opening and closing the gate independent of the tilting mechanism, so that pedestrians may open the gate without the necessity of operating the tilting mechanism.

These objects are attained by pivoting the lower end of the gate to a fixed support and the upper end to a lever by which said upper end is shifted, so that the pivotal axis of the gate may be thrown to different inclinations, and providing said lever with a sliding catch adapted to engage notches in a plate for holding said pivot end to its shifted position, in combination with spring-latches which engage the outer or free end of the gate and from which engagement the gate is moved automatically by the operation of tilting the same.

Our invention consists in the particular construction and combination of parts, all as will be hereinafter fully described and more specifically set forth in the appended claims.

In the accompanying drawings, which form

a part hereof, Figure 1 is a perspective view of a gate constructed in accordance with our invention, showing the gate in its closed position. Fig. 2 is an enlarged side elevation of the pivot end of the gate, the dotted lines showing the position to which it is thrown in opening the same. Fig. 3 is a similar view of the front end of the gate. Fig. 4 is a plan view of the hinge end of the gate and the mechanism carried by the post. Fig. 5 is a sectional view on the line 5 5 of Fig. 4. Fig. 6 is a detail plan of the upper hinge-bracket. Fig. 7 is a detail plan view, partly in section, showing one set of catches. Fig. 8 is a detail sectional view of one of the buffers.

Like letters of reference designate like parts in the several views of the drawings.

A designates the gate proper, which in the present instance is shown as composed of a frame of tubular metal and consisting of the horizontal bars a a and vertical bars a' and a'' , forming panels, which are covered by a wire network, as shown; but inasmuch as the particular construction of the gate proper is an immaterial feature of our invention the same may be changed or modified to any extent desired.

B designates a post which is located at one side of the roadway and to which the gate is pivoted, B' designates a post located opposite the aforesaid post and carrying the latches for holding the gate closed, and B² designates a post located on a line with the post B and against which the gate abuts when open. On a line with the posts B and B², at a suitable distance beyond the latter and at either side of the gateway, are posts B³, having arms b , suitably braced and adapted to support the operating-cords hereinafter referred to.

In carrying out our invention we attach near the lower end of the post B a pintle c , upon which turns a socket or hinge member c' , attached to the gate A, and these parts form the fixed pivot for the lower end of the gate. At the upper corner of the rear end of the gate is attached or formed integrally a pivot-pin c^2 , having a bearing in the forward end of a lever D, said lever being pivoted on a plate E, attached to the upper end of the post B and providing the movable or shifting support for the upper pivot of the gate. The pivot-pin c^2 passes through and travels

in a slot e , curved concentric to the fulcrum or pivot d of the lever D , and at either end of this slot e is a buffer F , adjustable in said slot and consisting of the disks $f f$, connected by a bolt and nut by which they are clamped upon the plate. These buffers not only serve to receive the impact of the pivot-pin c^2 , but more especially for the purpose of limiting the throw of the lever D , and consequently determining the inclination to which the pivotal axis of the gate is moved, for it will be understood that a light gate requires a greater inclination or tilt than a heavy one. In the plate E , between the slot e and the pivot of the lever D , is a second segmental slot e' , in which travels the downwardly-projecting end of a sliding catch g , carried by the lever D , and at each end of the slot e' the plate is provided with notches e^2 , with which the catch engages when the gate is open, and centrally said slot is provided with opposite notches e^3 and e^4 , with which said catch engages when the gate is closed.

The shank of the sliding catch g works in a boss d^x , formed on the lever D , and between said boss and a collar g' on the shank is a helical spring h , which serves to project the catch into engagement with the notches e^2 and e^3 . The head of the catch plays in a slot in the lever and is provided with flanges which overlie the upper and lower surfaces of said lever. To the rear end of the shank of the sliding catch is attached the operating-cord I , which is divided into two lengths $I' I'$, which pass around guide-pulleys $j j$ at the rear end of the lever D and extend in opposite directions from the gate, the outer ends being supported by the arms b of the posts B^3 , so that the terminals will be in easy reach. The outer ends of these operating-cords pass through pulleys b' , supported by the arms b , and the terminals of said cords are provided with handles i . The arrangement of the operating-cords permits the gate to be operated at a distance from either side of the same in the manner hereinafter described. In order that the lever D may be operated when it is on or nearly on a line with the posts B and B^3 , said lever is provided with a cross-arm D' , the ends of which are turned upward, forming fingers d' , against which the operating-cords bear.

To provide for locking the gate in a closed position, two sets of spring-latches are located, respectively, at the upper and lower ends of the post B' , each set consisting of two latch members $M M$, pivoted between the plates $n n$ of the bracket N , the contiguous inner ends of said latch members being projected normally by means of helical springs o , contained between the plates of the bracket. The outer ends of the upper set of latches are provided with grasping portions m , and in order to operate both the upper and lower latches they are connected by rods m' , and the disposition of the rods is such that they

may be moved by the thumb of the hand while the fingers grasp the front bar of the gate. The front or outer bar of the gate is provided with upper and lower projecting plates $p p$, with which the latches engage. It will be here understood that the gate closing from either side of the gateway will depress one latch and strike against the other, the former latch moving out to lock and hold the gate closed, also that the plates p are of such length that when the gate is tilted upward, as indicated in dotted lines, Fig. 5, said plates will be moved above the latches, so that the gate may be swung open without manipulating the latches.

In operation, supposing the gate to be closed, as in full lines, Fig. 1, one of the operating-cords I' is drawn upon, which will first release the catch g from the notch e^3 in the plate E and then swing the lever upon its pivot so that it will carry the upper pivot end of the gate around to one end of the plate E —that end at the opposite side of the post B —and this will not only dispose the pivot end of the gate at an outward inclination, but also tilt the forward end of the same upward, and the tilting of the gate, combined with the inclination of the pivot end, will cause said gate to swing open upon its pivot or axis outward or away from the operator. When the gate is open, the outer end thereof abuts against the post B^3 , engaging a spring-latch S thereon, which serves to hold it open. After passing through the gate the operator, wishing to close the same, draws upon the other operating-cord I' , which will first release the catch g from the notch e^2 and then swing the lever so that it will move the upper pivot end of the gate to the center of the plate E , the catch first engaging the notch e^4 , and when the operating-cord is released then springing forward into engagement with the notch e^3 opposite. The pivot end of the gate is then returned to nearly a vertical position, inclining slightly forward, and the forward end being moved out of engagement with the latch S the said gate will close by gravity, being caught between the latches at the upper and lower ends of the latch-post B' . It will be here noted that the pivot end of the gate is held securely by the catch g engaging the notch e^3 , so as to prevent the gate being opened by pressure against the rear end of the same from any cause—such, for instance, as a heavy wind blowing against the same or by the rubbing of cattle against the gate. In the operation of opening the gate the upper pivot travels in the segmental slot e until it abuts against the buffer or stop F , and then the catch engages the notch e^2 , which is on a line with the catch, and therefore it will be understood that the inclination of the pivot end of the gate can be changed by adjusting the buffer or stop in the slot. When the lever is swung to dispose the pivot end in a substantially vertical position, it is held by the

catch, as hereinbefore stated, and the gate may then be opened and closed in the usual manner by first releasing the latches which engage the forward end of the gate. The opening and closing of the gate in the usual manner is not interfered with in the least by the opening and closing mechanism, nor does this manner of opening and closing disturb said mechanism. In other words, the gate in its normal position becomes an ordinary pivoted gate. This is an important feature of the invention, as also is the fact that the mechanical devices for opening and closing the gate at a distance from either side thereof are extremely simple in their construction and arrangement and are not liable to get out of order and will at all times insure a positive operation.

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

1. In a swinging gate, the combination with the lower pivot, of an upper pivotal connection, a pivoted lever forming a part of said upper pivotal connection, a plate upon which the lever is pivoted, said plate having concentric segmental slots e and e' in front of the pivot, notches e^2 at the ends of slot e' and notches e^3 and e^4 at the center portion of said slot, the last-mentioned notches being directly opposite each other, a catch carried by the lever and traveling in slot e' and adapted to engage the aforesaid notches, and a pivot on the gate connected to the forward end of the lever and traveling in the slot e ; together with operating-cords connected to the catch

and by which the lever is also operated, substantially as shown and described.

2. In a swinging gate, the combination with the lower pivot, of an upper pivotal connection, a pivoted lever forming a part of said upper pivotal connection, a plate upon which the lever is pivoted, said plate having segmental slots, a catch carried by the lever and adapted to travel in one of said slots and engage notches in the plate, a pivot on the gate traveling in the other of said slots and connected to the lever, and buffers or stops adjustable in the last-mentioned slot.

3. In a swinging gate, the combination with the lower pivot, of an upper pivotal connection, a pivoted lever forming a part of said upper pivotal connection, a plate upon which the lever is pivoted, said plate having segmental slots, a catch carried by the lever and adapted to travel in one of said slots and engage notches in the plate, a pivot on the gate traveling in the other of said slots and connected to the lever, buffers or stops adjustable in the ends of the last-mentioned slot, and operating-cords attached to the catch and passing therefrom over guide-rollers at the rear end of the lever, said lever having a cross-arm with upturned ends, substantially as shown and for the purpose set forth.

In testimony whereof we affix our signatures in the presence of two witnesses.

JOHN L. RITER.

EARL W. CARLOS.

Witnesses:

JOHN A. KAUTNER,
JOHN W. KELLEY.