

(No Model.)

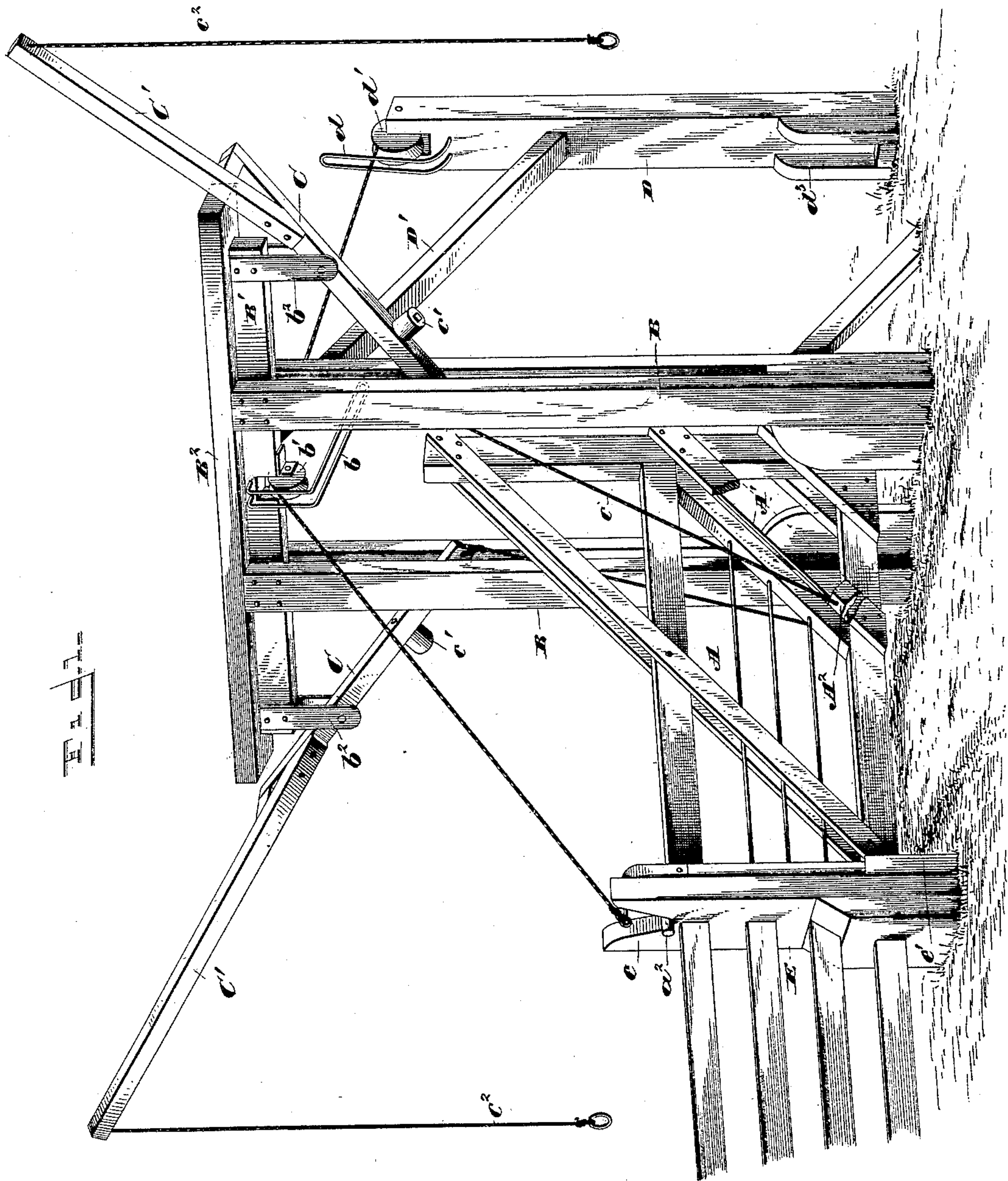
2 Sheets—Sheet 1.

W. O. PIERCE.

GATE.

No. 398,798.

Patented Feb. 26, 1889.



William O. Pierce.

INVENTOR

by

*[Signature]*

Attorney

WITNESSES

*G. S. Elliott.*  
*E. M. Johnson.*

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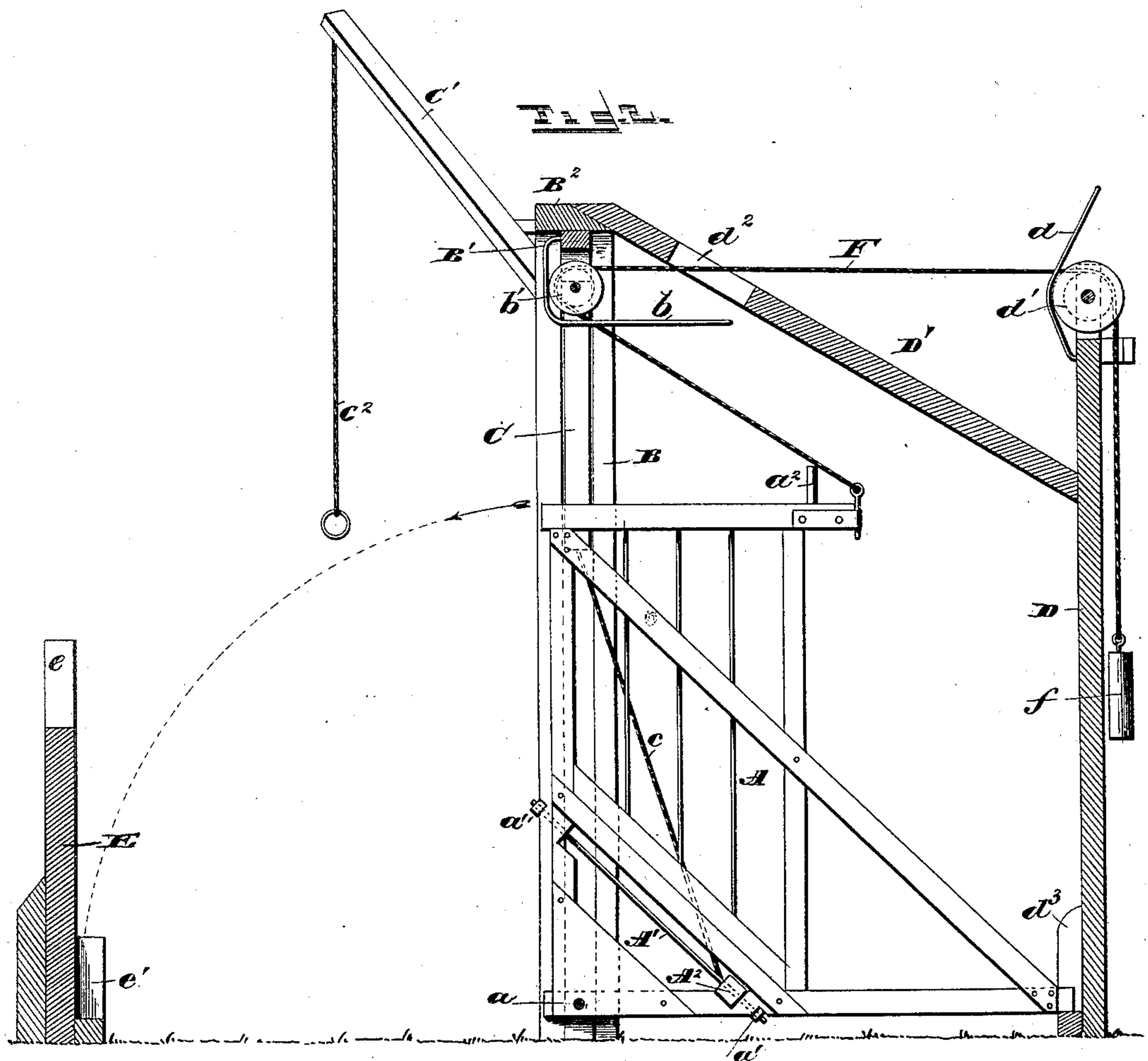
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# UNITED STATES PATENT OFFICE.

WILLIAM O. PIERCE, OF SACRAMENTO, ASSIGNOR OF ONE-HALF TO MAX  
MIERSON, OF PLACERVILLE, CALIFORNIA.

## GATE.

SPECIFICATION forming part of Letters Patent No. 398,798, dated February 26, 1889.

Application filed September 6, 1888. Serial No. 284,696. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM O. PIERCE, a citizen of the United States of America, residing at Sacramento, in the county of Sacramento and State of California, 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to that class of tilting gates designed to be opened and closed by a hand-lever.

The object of the invention is to provide gates of this character with an automatic gravitating catch, to which the operating-levers are connected, and with a counter-balance tending to raise the free end of the gate.

A further object of the invention is to simplify and cheapen gates of this description.

To this end the invention consists in novel features and combinations, to be hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a perspective view of a gate embodying my improvement. Fig. 2 is a side elevation of the same, showing the supporting-frame in section.

The rear lower corner of the gate A is provided with a transverse spindle,  $a$ , which is journaled in bearings in the lower ends of the side posts, B, of the T-shaped supporting-frame. These side posts are double, being each constructed of two vertical timbers arranged at such distance apart as to admit of the play of the inner ends of the operating-levers C between them. The two top timbers,  $B^1$   $B^2$ , of this frame are arranged one,  $B^1$ , between the upper ends of the side posts, and the other,  $B^2$ , to rest upon the upper edge of the timber  $B^1$  and the upper ends of the side posts, as shown in Fig. 1. The timber  $B^1$  is provided at a point midway between the side posts with a gain, within which is journaled a grooved spool or pulley,  $b^1$ , and stout metal

straps  $b^2$  depend from the outer ends of this timber, between the lower ends of which the operating-levers C are fulcrumed.

Directly in rear of the supporting-frame, and in line with the pulley  $b^1$ , is a post, D, provided at top with a grooved pulley,  $d^1$ , and connected to the center of the cross-timbers of the supporting-frame by an inclined brace,  $D^1$ , having a longitudinal mortise,  $d^2$ , near its upper end. I prefer to guard the pulleys  $b^1$   $d^1$  with wire or other guide loops,  $b$   $d$ , as shown, to prevent the accidental displacement of a cord or rope passing over them.

At the rear lower corner of the gate A, I arrange inclined way or ways  $A^1$ , on which or in which a gravity-catch,  $A^2$ , is mounted to slide freely. The way or ways  $A^1$  may be of any known construction, and should be arranged at an angle of about forty-five degrees with relation to the bottom and end pieces of the gate in order that the catch may be carried the same distance from the pivot  $a$  of the gate when the latter is at either extreme of its limit of movement. I prefer, however, to form the way of a single metal rod connected at its ends to the hinge-post and bottom rail of the gate, as this is simple, cheap, and efficient, and serves, in connection with the nuts  $a^1$  upon its threaded ends, as an adjusting-brace for the gate. The automatic catch used in connection with this diagonal way consists of a rectangular metal block,  $A^2$ , provided centrally with an eye, through which the rod  $A^1$  passes, and connected at its ends to the inner ends of the operating-levers C by means of ropes or chains  $c$ . The inner ends of these levers are provided with adjustable counter-balance-weights  $c^1$ , and the outer ends,  $C^1$ , of the levers are arranged at angles to the inner ends to cause said outer ends to overhang the roadway, bringing the pull-cords  $c^2$  within convenient reach of the occupant of a vehicle.

The keeper-post E is provided at top with a V-shaped notch,  $e$ , to receive and guide a stud or pin,  $a^2$ , projecting from the top of the free end of the gate, the face of said post being also provided at its lower end with a forked keeper-block,  $e^1$ , to receive the lower corner



of the gate. The post D is also provided at the lower end with a forked keeper-block,  $d^3$ , to receive the upper end of the hinge-post of the gate when the latter is in its open position.

5 A rope or chain, F, is secured to the free end of the gate at top, passing thence over the pulley  $b'$ , through the mortise  $d^2$  of the brace D', and thence over pulley  $d'$  of post D, the end being provided with a suitable weight  
10 or counterpoise,  $f$ , as shown in Fig. 2. Owing to the arrangement of this weighted rope over the pulley  $b'$ , it will be seen that the initial movement of the gate in either direction is assisted by the weight  $f$ , thus necessitating  
15 but a slight pull on the hand-cord, and that when the free end of the gate has passed its center of gravity, either in opening or closing, the weight  $f$  will serve to check the movement of the gate, thus preventing undue shocks in  
20 opening or closing.

In operation the outer end of one of the operating-levers is drawn down, thus raising one end of the catch, normally positioned at the lower end of the way, and causing it to grip  
25 or bind upon the rod or way, the force thus applied exerting a lifting action upon the free end of the gate until the catch reaches a point in a vertical plane with the pivot or spindle  $a$  of the gate, or, in other words, until the gate  
30 has nearly reached its limit of movement. During this time the weight  $f$ , through rope F, exerts a lifting action on the free end of the gate until the point of connection of cord to gate has reached a point directly beneath  
35 the pulley  $b$ , when the gate is practically in equilibrium, after which the action of the weight will be to retard the further movement of the gate, thus lessening the shock or jar incident to a sudden stoppage at the limit of  
40 movement.

When the gate is entirely open or closed, the hand-rope is released and the automatic

catch will slide down to the lower end of the inclined way, in readiness to move the gate in the opposite direction.

I claim—

1. In a gate of the character described, the combination of the supporting-frame, the gate pivoted therein, the operating-levers, a way or ways arranged diagonally across the rear  
50 lower corner of the gate, the automatic gravitating catch mounted thereon, and connections between the inner ends of the operating-levers and the catch, substantially as described.

2. In a gate of the character described, the combination of the supporting-frame, the gate pivoted at its rear lower corner between the lower ends of the side posts of said frame, the diagonally-arranged way, the automatic gravi-  
60 tating catch mounted thereon, the operating-levers pivoted on the frame, a spool or pulley journaled in the top of the frame between the side posts, connections between the inner ends of the operating-levers and the catch, 65 and a weight, as  $f$ , connected to the upper free corner of the gate by a rope passing over the pulley on the frame, substantially as described.

3. In a gate of the character described, the combination of the supporting-frame, the gate  
70 connected thereto at its rear lower corner by a pivot, a way consisting of a metal rod strained diagonally between the hinge-post and bottom rail of the gate, and an automatic  
75 catch mounted on said way, consisting of a rectangular metal block having a central eye to receive said way, substantially as described.

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

WILLIAM O. PIERCE.

Witnesses:

C. A. LOVELL,  
W. H. SILVER.