

No. 781,235.

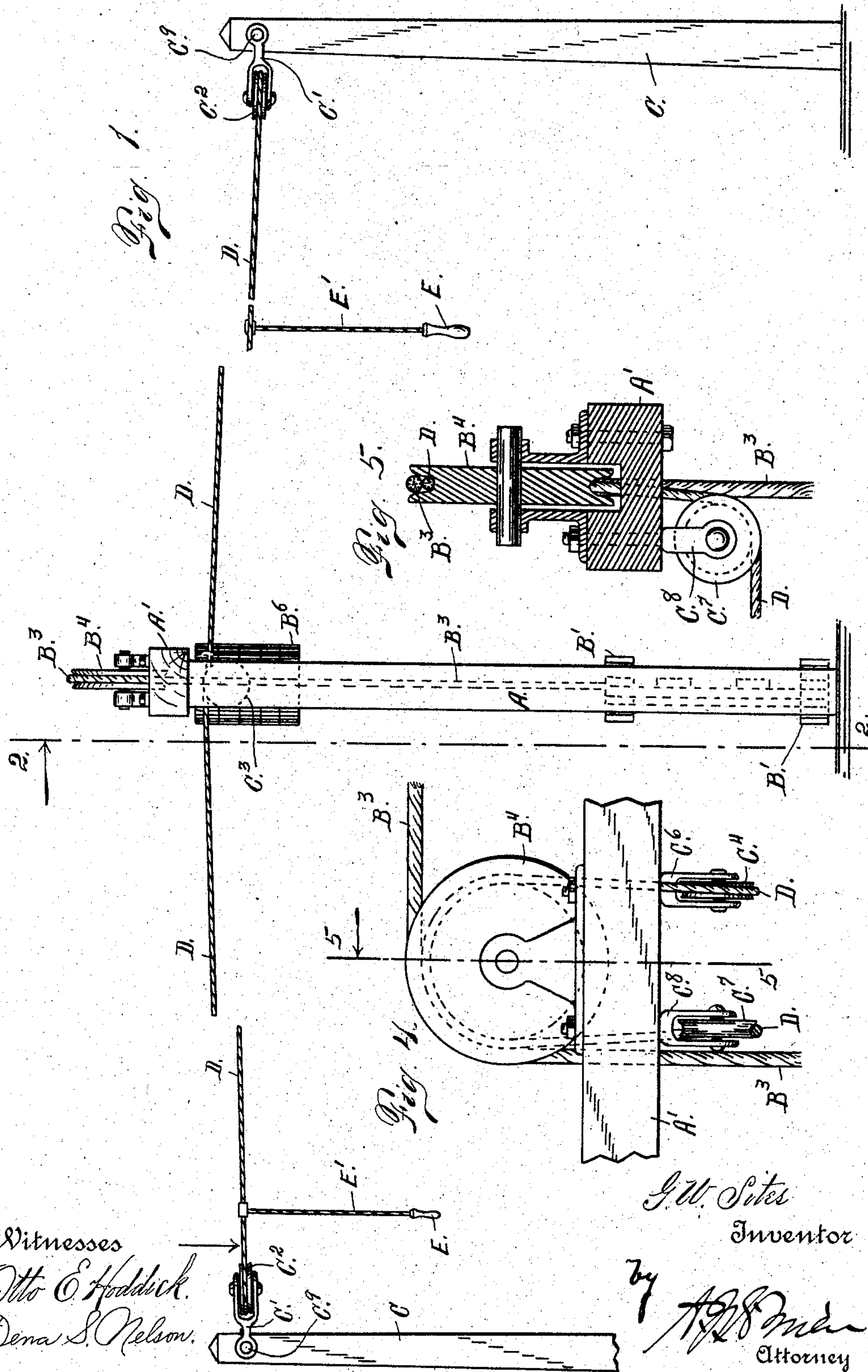
PATENTED JAN. 31, 1905.

G. W. SITES.

GATE.

APPLICATION FILED MAY 27, 1904.

3 SHEETS—SHEET 1.



Witnesses
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Dena S. Nelson.

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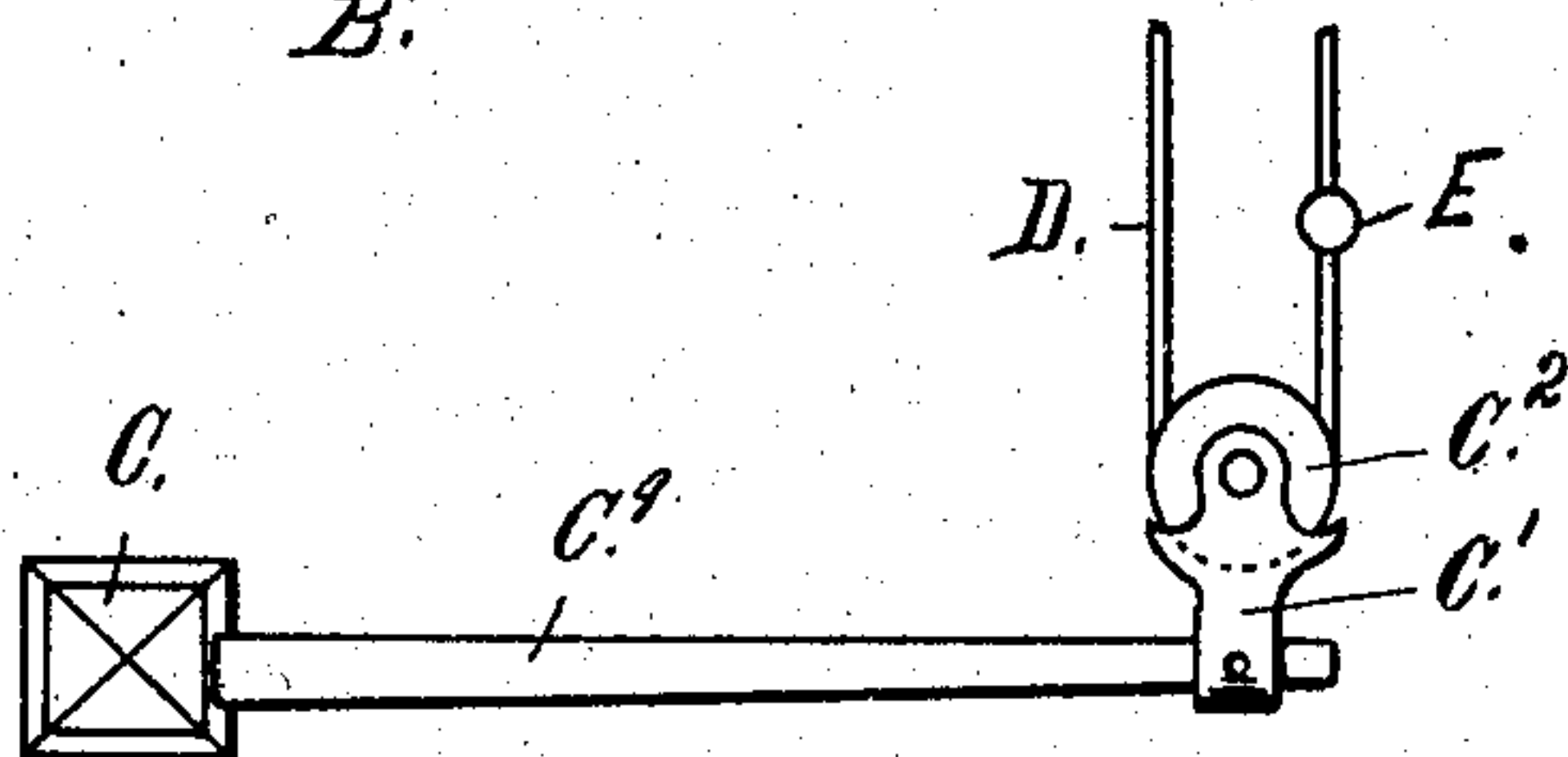
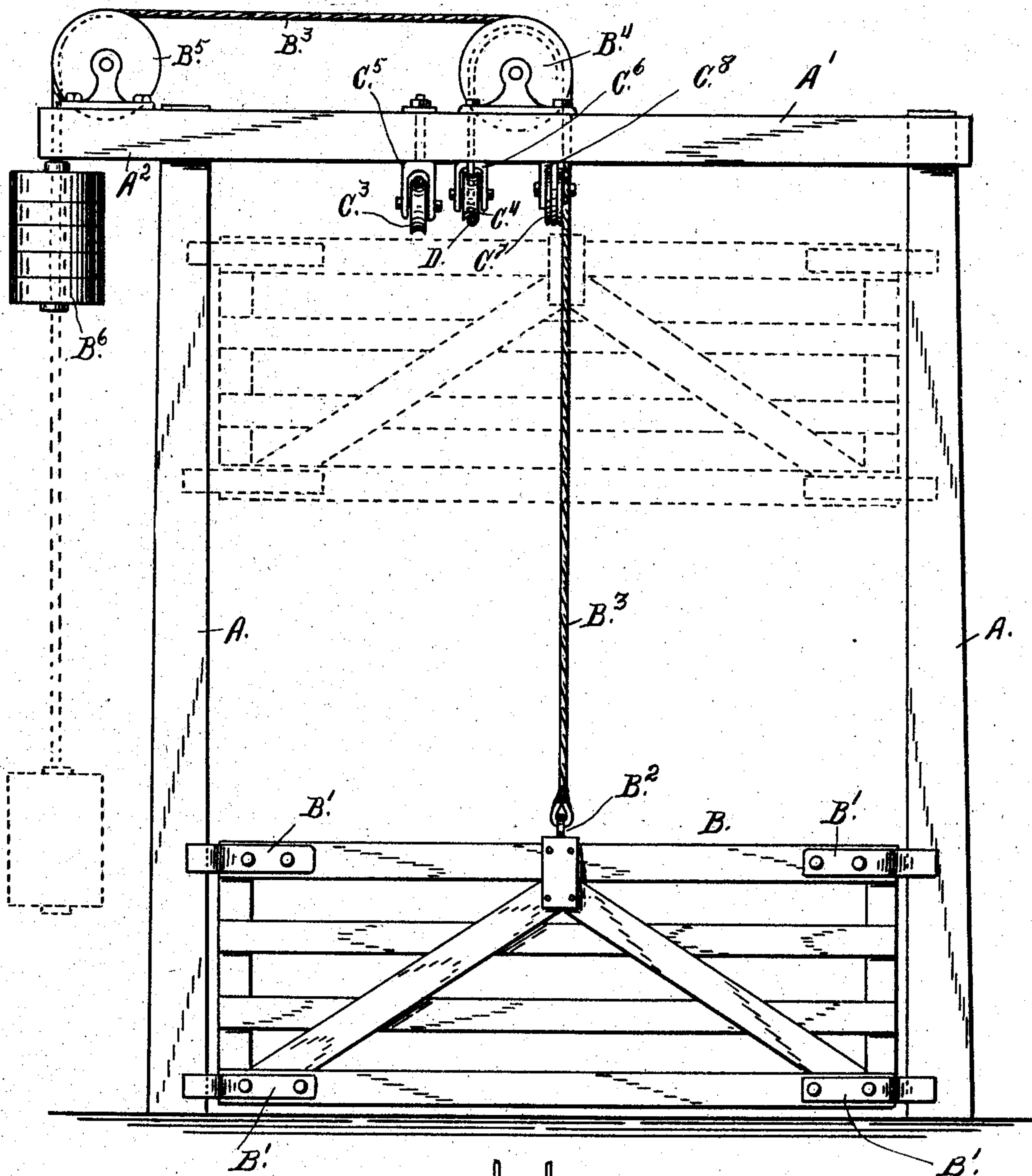


Fig. 2.

Fig. 3.

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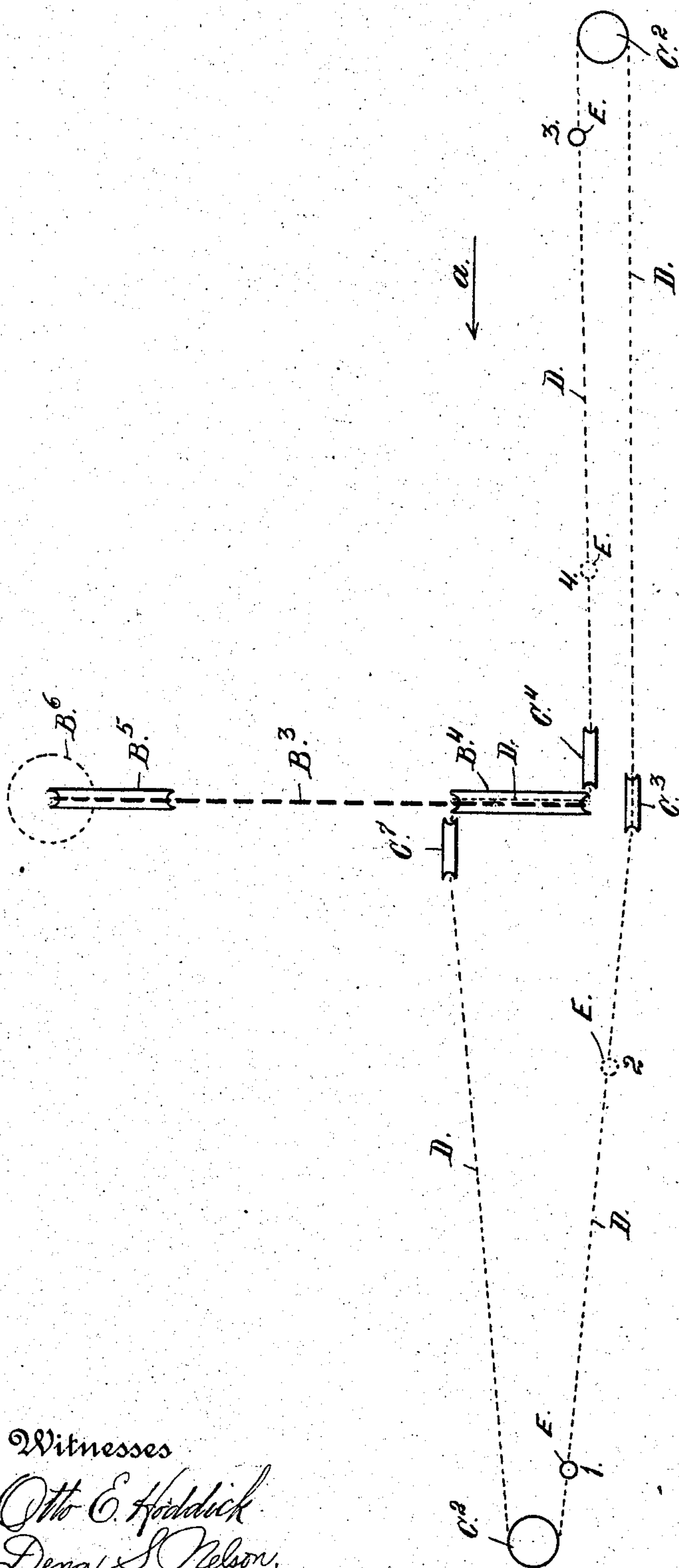
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6.

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UNITED STATES PATENT OFFICE.

GEORGE W. SITES, OF LYONS, COLORADO.

GATE.

SPECIFICATION forming part of Letters Patent No. 781,235, dated January 31, 1905.

Application filed May 27, 1904. Serial No. 210,083.

To all whom it may concern:

Be it known that I, GEORGE W. SITES, a citizen of the United States of America, residing at Lyons, in the county of Boulder and State of Colorado, have invented certain new and useful Improvements in Gates; and I do 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 the characters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in gates of the class usually termed "farm-gates" and also of the class provided with chains, cords, or cables which may be used to open and close the gate, as may be desired. In this class of apparatus the manipulating parts extend from the gate a sufficient distance on each side to enable the driver of a vehicle to operate the gate from his position therein.

My improved apparatus consists of certain novel features of construction, all of which will hereinafter be described in detail, reference being made to the accompanying drawings, in which is illustrated an embodiment thereof.

In the drawings, Figure 1 is a side view of my improved gate mechanism, the operating cords, ropes, or cables being broken for lack of space on the sheet. Fig. 2 is a view of the gate, taken at right angles to Fig. 1. This may be called a "section" taken on the line 2 2, Fig. 1, with a slight change in the scale of the drawing so far as the elevation or height of the gate is concerned. Fig. 3 is a top view of one of the posts, showing its laterally-extending arm provided with a guide-pulley. Fig. 4 is a detail view of the pulley over which the rope or cable connected with the gate passes, shown on a larger scale. In this view the top bar mounted on the posts forming the vertical guides for the gate is shown, also the depending guide-pulleys. Fig. 5 is a section taken on the line 5 5, Fig. 4, viewed in the direction of the arrow. Fig. 6 is a diagrammatic view illustrating the cables and the location of the various pulleys.

The same reference characters indicate the same parts in all the views.

Let A designate each of two vertical posts connected at the top by a beam A'. These posts form vertical guides for the gate B, which is provided with metal parts B' at its extremities, the said parts being adapted to straddle the posts A on the inside, thus holding the gate in place during its operation. To the top central part of the gate is attached an eye B², with which is connected one extremity of a cable B³, which passes over sheaves B⁴ and B⁵, mounted on the beam A'. The sheaf B⁴ is mounted on the beam near its center, while the sheaf B⁵ is mounted on the extremity A² of the beam, which projects beyond one of the posts A. To the extremity of the cable B³ remote from the gate is attached a weight B⁶, preferably of sufficient gravity to balance the gate or approximately balance the latter.

Mounted on opposite sides of the posts A and at the same distance from the gate are posts C, each of which is provided with a lateral arm C⁹, having a sheave-holder C⁷, carrying a sheave C². The cross-beam A' is also provided with sheaves C³, C⁴, and C⁷, mounted in holders C⁵, C⁶, and C⁸, suitably connected with the beam. The sheaves C³, C⁴, and C⁷ are located adjacent the sheave B⁴, but project below the beam instead of above the same.

An endless operating-cable D is employed. This cable is indicated by the light dotted lines in Fig. 6, while the cable B³, connected with the gate, is indicated by the heavy dotted lines in this view. The cable D passes around the sheaves or pulleys C² on opposite sides of the gate and also engages the sheaves C³, C⁴, C⁷, and B⁴. Following the cable D in Fig. 6 from the sheave C² at the right and in the direction of the arrow *a*, the cable passes under the pulley C⁴, thence up over the pulley B⁴, thence down under the pulley C⁷, thence around the pulley C² farther to the left, thence over the pulley C³, and thence around the pulley C² farther to the right. The cable is provided on each side of the gate with a depending handle E, connected with the gate by a suitable flexible device E'. The user of the gate may open the latter by using either one of these handles and

may close the gate after he passes through the gate-opening by the use of the other handle. Again referring to Fig. 6, if the handle E on the left of the gate or at the left of the figure 5 is moved from the full-line position 1 to the dotted-line position 2 the gate will be opened, since the operating-cable D will be moved the distance between the positions 1 and 2, and this movement of the cable will turn the sheave B⁴ 10 sufficiently to raise the gate. It is also evident that if the gate be approached from the right (referring to Fig. 6) the gate may be opened by moving the handle E at the right from the position 3 to the position 4. Now if it be as- 15 sumed that the user of the gate is approaching from the left of Fig. 6 or going in the direction indicated by arrow K he grasps the handle E and moves it from the position 1 to the position 2. This opens the gate, and he 20 drives through. After passing through the gate he grasps the handle E on the opposite side and moves it from the position 4 to the position 3 or in the reverse direction from the opening movement of the operating-cable. 25 This movement of the handle E from the position 4 to the position 3 moves the cable the same distance as the opening movement thereof in the reverse direction. Hence this movement of the handle E from 4 to 3 will operate 30 the sheave B⁴ sufficiently to close the gate. It will be observed that the cable D and the cable B³ both pass over the pulley B⁴.

Having thus described my invention, what I claim is—

35 1. The combination with a suitable frame and a gate vertically movable thereon, of a cable connected with the gate, sheaves mounted on the frame over which the cable passes, a counterbalance-weight connected with the 40 cable, an endless operating-cable extending from the gate in opposite directions, and suitable guide-sheaves engaged by the endless cable which also engages one of the sheaves over which the cable connected with the gate passes 45 whereby as the endless cable is actuated, the sheave over which the gate-cable passes is actuated to raise or lower the gate, substantially as described.

2. In a gate and operating means, the com- 50 bination of a suitable upright frame, a gate vertically movable on the frame, a cable connected with the gate, sheaves mounted on the frame above the gate over which the gate-cable passes, a counterbalance-weight con- 55 nected with the gate-cable, guide-pulleys also mounted on the frame above the gate, posts located at a suitable distance from the gate on

opposite sides, pulleys supported by the posts, and an endless operating-cable engaging all the pulleys and one of the sheaves engaged 60 by the gate-cable, whereby as the endless cable is actuated the gate is operated, substantially as described.

3. The combination with a suitable upright frame, of a gate vertically movable on said 65 frame, a cable connected with the gate at one extremity, a counterbalance-weight connected with the cable at its opposite extremity, sheaves mounted on the frame over which the said cable passes, three depending guide-pulleys 70 mounted on the frame above the gate, posts located on opposite sides of the gate, guide-pulleys mounted on the posts, and an endless operating-cable engaging the guide-pulleys and also one of the sheaves engaged by the 75 gate-supporting cable whereby as the operating-cable is actuated the gate is operated as set forth.

4. The combination with two posts suitably separated, a beam connecting the posts at the 80 top, a cable vertically movable on said posts, a cable connected with the gate, sheaves mounted on the beam connecting the posts, the gate-cable passing over said sheaves, a weight connected with the cable, guide-pulleys suitably 85 supported above the gate and on opposite sides thereof, an endless operating-cable engaging the guide-pulleys and passing over one of the sheaves engaged by the gate-supporting cable, and handles connected with the operating-ca- 90 ble for the purpose set forth.

5. The combination of a suitable frame, a gate vertically movable thereon, a flexible de- 95 vice connected with the gate, a sheave mounted on the frame and over which the flexible device passes, a counterbalance-weight connected with the extremity of the flexible device remote from the gate, guide-pulleys 100 mounted on the frame and other guide-pulleys, suitably supported on opposite sides of the gate, and an endless flexible operating device engaging these guide-pulleys and also engaging the sheave which is engaged by the flexible device connected with the gate where- 105 by as the flexible operating device is actuated the gate is operated, substantially as described.

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

GEORGE W. SITES.

Witnesses:

CHESTER B. HALL,
A. E. HOWE.