

(No Model.)

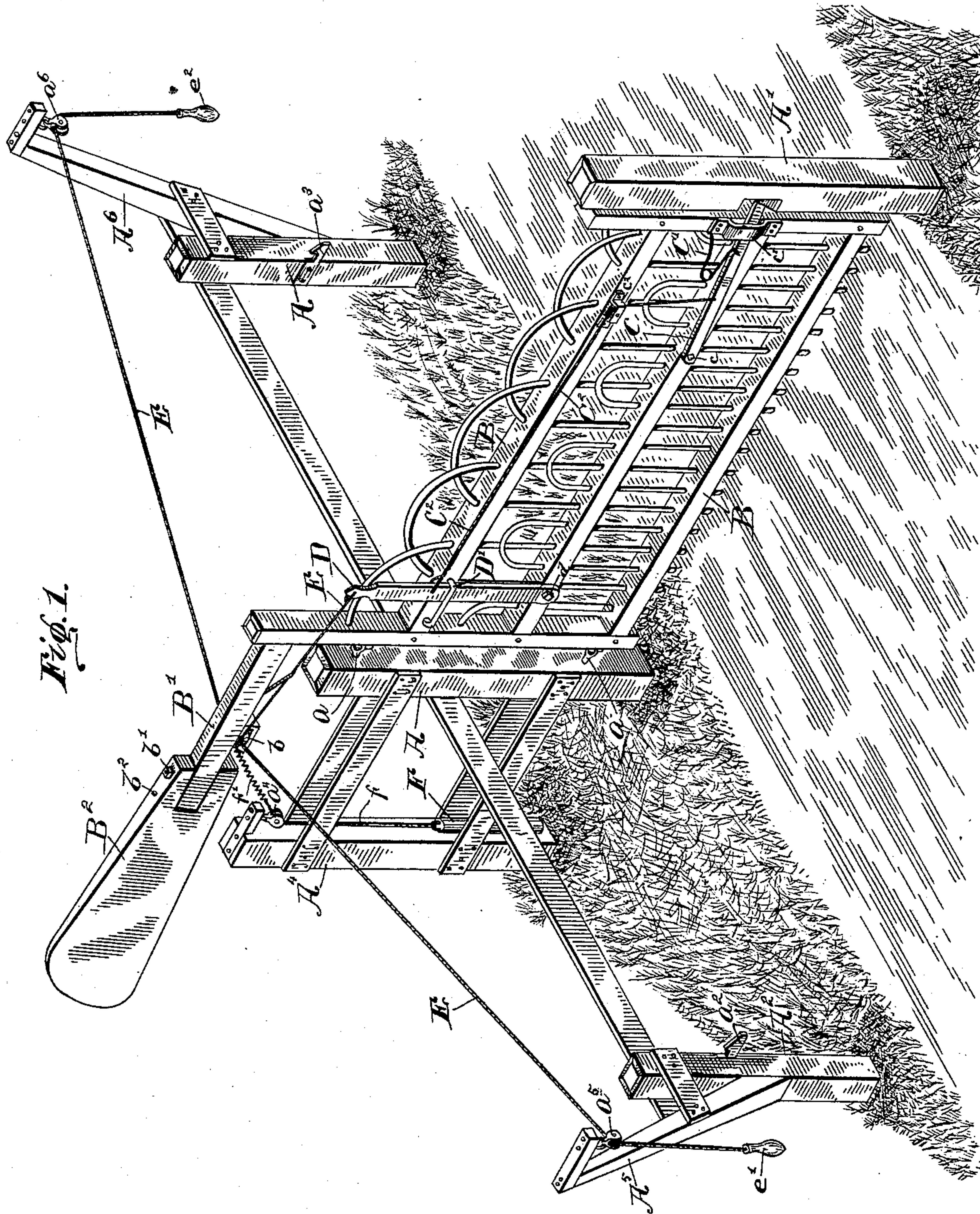
2 Sheets—Sheet 1.

A. J. HINKLE.

GATE.

No. 393,906.

Patented Dec. 4, 1888.



WITNESSES.

G. W. H. Brown.  
J. D. Wood.

INVENTOR.

per Andrew J. Hinkle,  
by E. W. Bradford.  
ATTORNEYS.

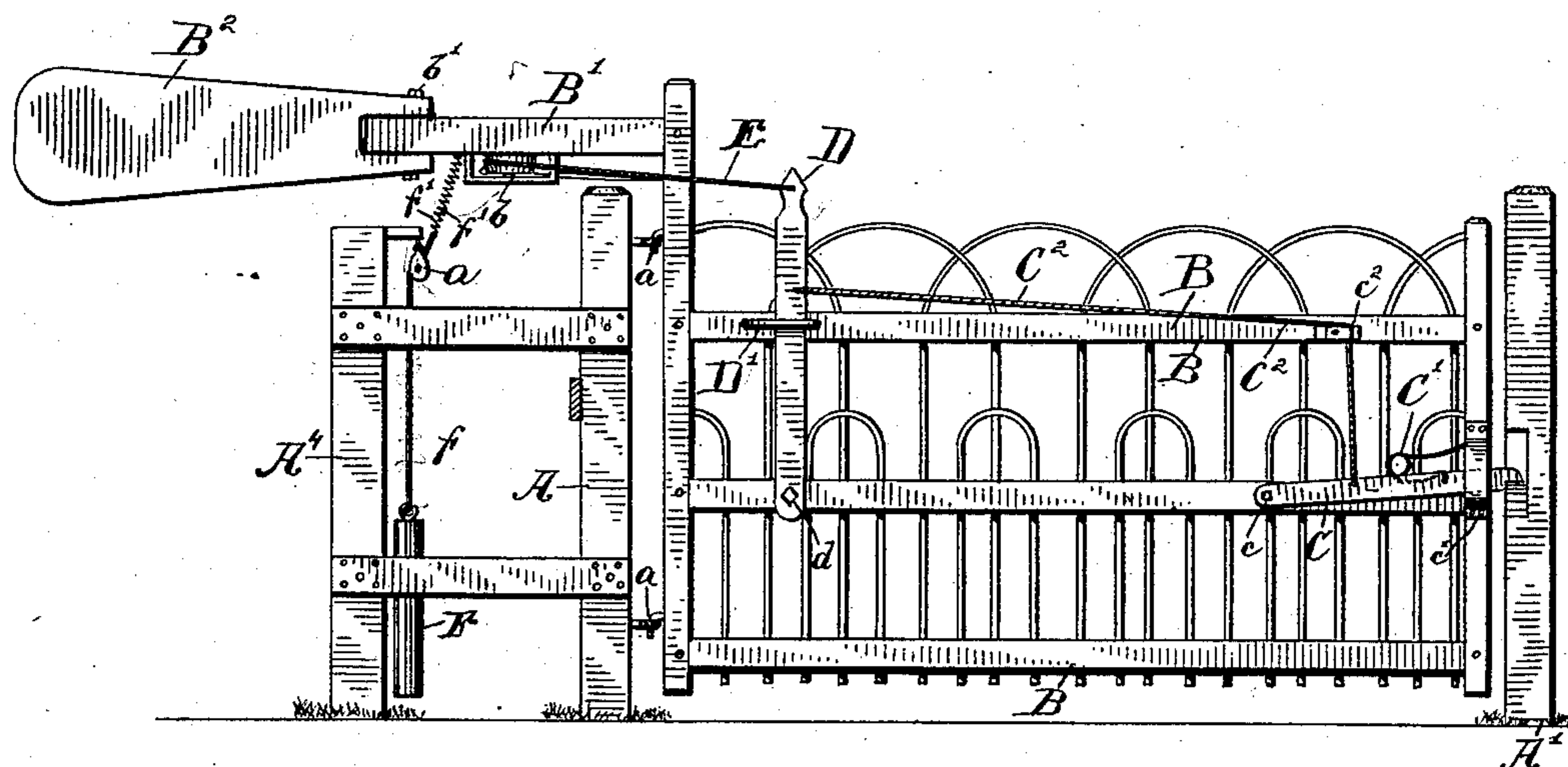


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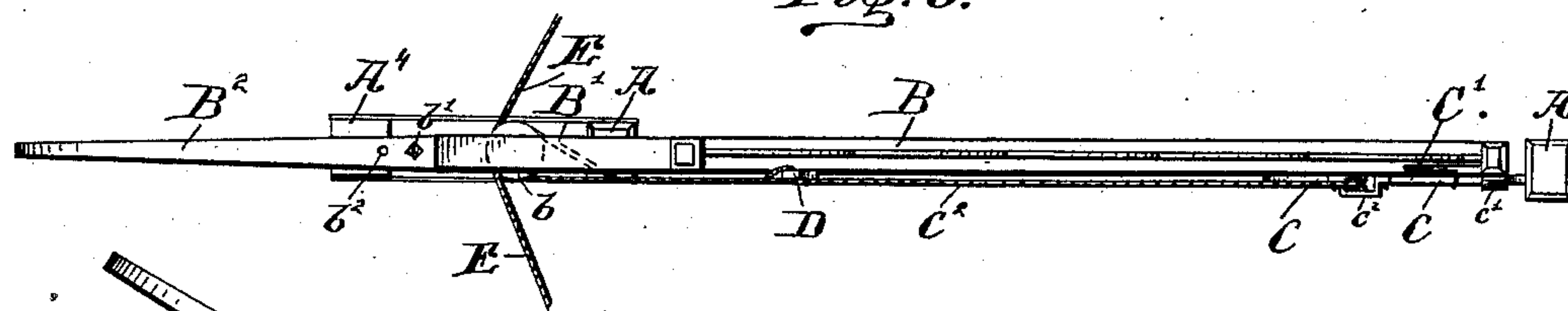
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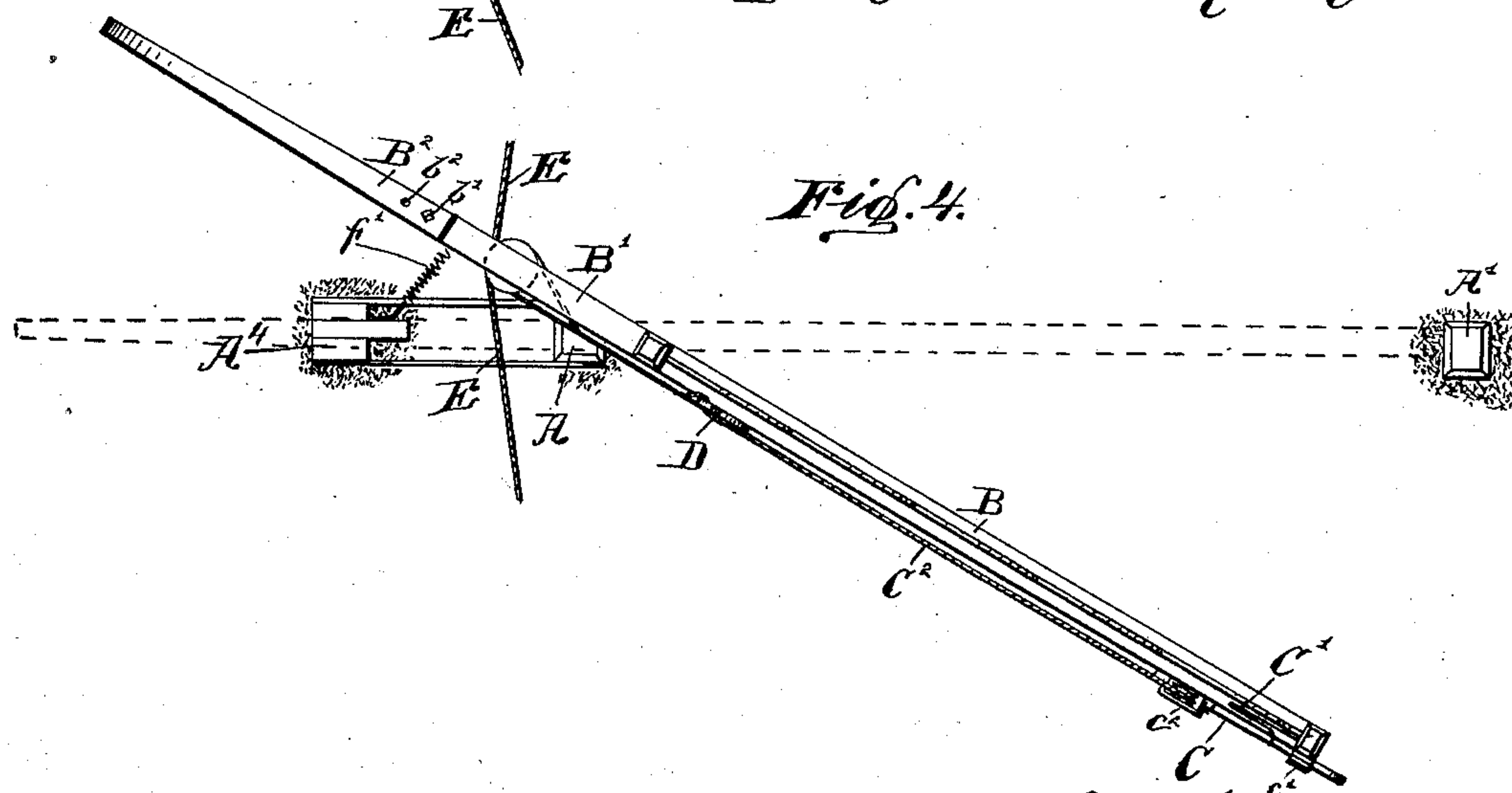
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



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# UNITED STATES PATENT OFFICE.

ANDREW JEFFERSON HINKLE, OF LADOGA, INDIANA.

## GATE.

SPECIFICATION forming part of Letters Patent No. 393,906, dated December 4, 1888.

Application filed May 5, 1888. Serial No. 272,883. (No model.)

*To all whom it may concern:*

Be it known that I, ANDREW JEFFERSON HINKLE, a citizen of the United States, residing at Ladoga, in the county of Montgomery and State of Indiana, have invented certain new and useful Improvements in Gates, of which the following is a specification.

My invention consists in certain improvements in that class of gates sometimes designated "automatic gates," whereby with a simple and inexpensive construction an effective operation is secured, all as will be hereinafter more particularly described and claimed.

Referring to the accompanying drawings, which are made a part hereof, and on which similar letters of reference indicate similar parts, Figure 1 is a perspective view of a gate embodying my said invention; Fig. 2, a side elevation of the same; Fig. 3, a top or plan view of that portion embodying most of the working parts, and Fig. 4 a similar view when the gate is partly opened.

In said drawings, the portions marked A, A', A<sup>2</sup>, A<sup>3</sup>, and A<sup>4</sup> represent the several posts used in connection with my improved gate; B, the frame-work of the gate; C, the latch thereto; D, a lever for operating said latch; E, the pull-cords by which the latch and gate are operated, and F a weight by which the gate, after being released from the catches which hold it open, is automatically closed.

The post A supports the gate by means of hinges *a*, in the ordinary manner, as will be readily understood by an inspection of the drawings. The post A' carries the catch for the latch for the gate, which may be any ordinary catch suitable for the purpose. The posts A<sup>2</sup> and A<sup>3</sup> extend up to a suitable height and carry the catches *a*<sup>2</sup> and *a*<sup>3</sup>, by which the gate is held in open position. They are also preferably provided with arms A<sup>5</sup> and A<sup>6</sup>, which extend out at something of an angle and have cross-arms upon their upper ends, to which are secured the pulleys *a*<sup>5</sup> and *a*<sup>6</sup>, through which the pull-cords E run. The posts themselves might be continued to a suitable height and these pulleys secured directly thereto or to cross-arms thereon; but the inclined arms are preferable, as a clear space is provided thereby, in which the handles *e*'

and *e*<sup>2</sup> on the pull-cords E may hang sufficiently distant from the structure to be conveniently grasped by the person desiring to operate the gate, it being obvious that if the handles *e*' and *e*<sup>2</sup> hung down close alongside the post it would not be convenient for a person in a vehicle to reach said handles from the position to which he could drive without danger of the vehicle colliding with the post. The post A<sup>4</sup> has attached thereto or to a projecting arm thereon a pulley, *a*<sup>4</sup>, through which the cord by which the weight F is suspended passes, as will be presently more fully described.

The gate B is in the main of any ordinary and well-known construction. It has an arm, B', which extends out from the upper end of its rear upright, and to this arm, upon the under side, is secured a housing, *b*', in which are sheaves over which the pull-cords E pass. Upon the outer end of this arm B' is secured a wing, B<sup>2</sup>, which serves as a wind-balance, so that when a strong wind is blowing the force thereof against the gate will be counterbalanced, and the weight F thus enabled to close the gate notwithstanding the force of the wind. This wing B<sup>2</sup> is preferably secured to the arm B' by a pivot-bolt, *b*', and a break-pin, *b*<sup>2</sup>, the latter of which, while sufficiently strong to hold the wing in its position during an ordinary wind, will break in case of a hurricane, which might otherwise injure or overthrow the gate.

The latch C is an ordinary gate-latch, pivoted to the frame of the gate by a pivot, *c*, and ordinarily held down into engaged position by the spring C'. Its movement is limited by a clip, *c*', through which it passes, and which is secured to the side of the gate. It is operated by a cord, C<sup>2</sup>, which is attached to the latch, passes up through a sheave, *c*<sup>2</sup>, and to the lever D.

The lever D is pivoted to the gate B by the pivot *d* at its lower end, and is secured thereto at a point farther up and its movement limited by a clip, D', secured to the gate. To its upper end is secured the end of the pull-cords E, by which it, and through it the latch E, is operated. The movement of this lever is limited by the clip D', and when it has reached the limit of its movement the pull-cords E



cease their operation upon the latch, and through the arm B' operate directly upon the gate, which is thereby swung around in one direction or the other, according to which one  
5 of the cords is pulled.

The pull-cords E are provided with handles  $e'$  and  $e^2$ , and pass, respectively, through the pulleys  $a^5$  and  $a^6$  and around the sheaves to a point where they unite, and thence to the upper end of the lever D. In operation, when  
10 the handle  $e^2$  is pulled, the gate is first unlatched and then swung around toward the post  $A^2$ . In practice it is intended to pull with considerable force, so that the latch will  
15 strike against and engage with the catch  $a^2$  on said post. After the gate is passed a slight pull on the handle  $e'$  will unlatch the latch from the catch  $a^2$ , when the weight F will cause the gate to swing shut without further  
20 attention on the part of the person operating it. When approaching the gate from the other direction, the handle  $e'$  is pulled, which unlatches the gate, as before, and then swings the gate around against the post  $A^3$ , when the  
25 latch will engage with the catch  $a^3$  on said post, and after passing the gate, by a slight pull on the handle  $e^2$ , the latch is disengaged, and, as before, the weight F causes the gate to swing shut.

The weight F is connected by means of a cord,  $f$ , to the arm B' on the gate at a point near where the housing  $b$  is secured thereto, and, as before described, and as will be readily understood, operates to pull the gate shut  
30 whenever it is opened without being secured open. Sometimes, and especially when the wing B<sup>2</sup> is omitted, the wind, if blowing in the proper direction, might hold the gate open notwithstanding the force of the weight, and  
35 I have therefore arranged to increase this force at the time of starting the movement by interposing the coiled spring  $f'$  between the pulley  $a^4$  and the arm B' on the gate. The cord  $f$ , which otherwise extends from said  
40 weight to said arm, is then made of just sufficient length so that the weight will just come against the under side of the pulley just before the gate reaches its extreme open position, and said spring is therefore drawn out  
45 somewhat and put in tension, so that as soon

as the gate is released from the fastening by which it is held open the tensile force of the spring will operate to start it toward its closed position, which movement is then continued  
55 by the force of the weight, as before explained.

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

1. The combination of the gate, the several posts thereto, the arm B', extending out from  
60 the rear post of said gate, the wing B<sup>2</sup>, mounted on the end of said arm and secured thereon by a pivot and break pin, the latch C, the lever D, a cord connecting said latch and said  
65 lever, a clip through which said lever passes and by which its movement is limited, pull-cords attached to the top of said lever and extending back around a bearing on the arm B' to suitable points, from which, through them,  
70 the latch and gate may be operated, and a weight connected to said arm B' by a cord and spring, arranged as described, all substantially as set forth.

2. The combination of a gate, pull-cords for unlatching and opening it, and a weight (connected thereto by a cord) for closing it, a  
75 spring being interposed between said cord and the arm on the gate to which the connection is made, and said cord being of that length that the weight will come against the  
80 pulley or point through which the cord passes just before the gate reaches its extreme open position, whereby the force of the spring is added to the weight in starting the gate to  
85 shut, substantially as set forth.

3. The combination of the gate, the posts, the arm B', extending out behind the point where said gate is hinged, and a wing secured to said arm B' by means of a pivot-pin and a  
90 break-pin, whereby injury to the gate is prevented in the case of an unusually heavy wind, all substantially as described, and for the purposes specified.

In witness whereof I have hereunto set my hand and seal, at Ladoga, Indiana, this 28th  
95 day of April, A. D. 1888.

ANDREW JEFFERSON HINKLE. [L. s.]

Witnesses:

JAS. C. KNOX,  
JOHN E. TALBOTT.