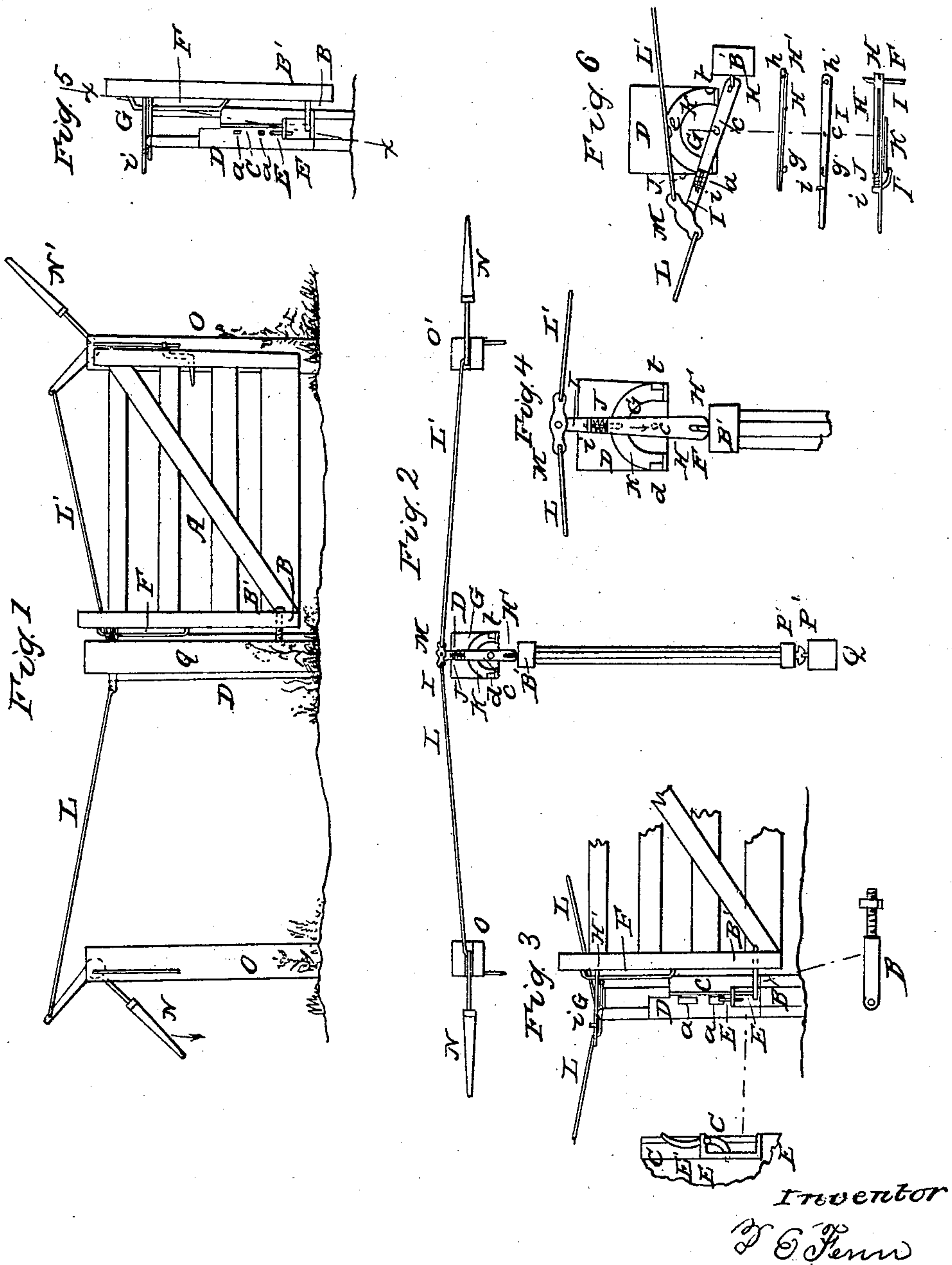


D. E. FENN.

Gate.

No. 16,791.

Patented March 10, 1857.



UNITED STATES PATENT OFFICE.

DENNIS E. FENN, OF TALLMADGE, OHIO.

DEVICE FOR RAISING OR LOWERING FARM-GATES TO ALLOW THEM TO OPEN OVER OBSTACLES.

Specification of Letters Patent No. 16,791, dated March 10, 1857.

To all whom it may concern:

Be it known that I, D. E. FENN, of Tallmadge, in the county of Summit and State of Ohio, have invented a new and Improved
5 Method of Operating Gates; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, in which—

10 Figure 1 is a view of the gate thrown wide open, showing the post upon which it is hung partly concealed by the post against which the gate shuts, and also the two posts
15 against which the gate swings when thrown wide open. In Fig. 1 are also shown the levers and rods by which the gate is opened and closed. Fig. 2, a top view of the gate and its appendages. Fig. 3, a view of the
20 post to which the gate is hung. Fig. 4, an enlarged top sectional view of the apparatus for opening and closing the gate. Fig. 5, a side view of the same, and Fig. 6, an enlarged section showing the position of the gate, when open, as in Fig. 1.

25 The gate A, Fig. 1, is constructed in the ordinary manner, that part of the lower hinge that is attached to the gate, consists of a bar B, passing through the upright part B' of the gate, this part B, is also
30 shown in detached section, Fig. 3. The outer end of the bar B, is perforated with a round hole, through which the stationary part of the lower hinge passes. This consists of a round rod C, attached at both ends
35 to the face of the mainpost D. A metallic slide E, is placed upon the rod C, this slides up and down on the rod C, carrying with it the hinge bar B, and can be secured at any point of elevation by a catch E', which fits
40 into notches a, in the post D. The articulation of this lower hinge, is close to the surface of the post D, the object of which will be hereafter shown. The upper hinge is constructed in a similar manner, the rod F,
45 corresponding to the rod C, being attached to the upright B', instead of being attached to the post as is the case with the lower hinge.

The rod F is seen in Figs. 1, 3, and 5.
50 The object of this arrangement is, to allow the whole gate to slide up and down, so as to become clear of obstruction from snow drifts in winter, and also to allow the passage of small animals from one field to another, while larger ones are retained. In

order to effect this, however, that part of the upper hinge, which is attached to the post D, must be stationary, so far as relates to its vertical position. This part of the upper hinge is seen at G, in Figs. 2, 3, 4, 5, and
60 6; and consists in part of two pieces H, and I, Fig. 6, the piece I, being attached to the top of the post by a pin or fulcrum at c. That part of the hinge marked I, rests upon a semicircular plate K, Figs. 2, 4, and 6,
65 having three notches seen at d, e, f, Figs. 4 and 6, the use of which will be hereafter explained. From the bottom of the piece I, extends an arm or brace I', Fig. 6, which passes under the plate K, this prevents the
70 gate from sagging, and the pieces H and I, from raising.

The piece H, Fig. 6, rests upon the piece I, the stud g passing through the slot g', and the rod F, Figs. 1, 3, 5, passing through
75 the elongated slot h, and hole h', Fig. 6. By this arrangement, namely, attaching the rod C, to the post, and the rod F, to the upright part of the gate, the other parts of the hinge being constructed as described, the
80 gate can be moved up or down at pleasure for the purpose specified.

At J, Figs. 4, 5, and 6, is seen a coiled spring, which encircles the end of the rod H, Fig. 6. This spring rests against a stud
85 i projecting upward from the piece I. The pressure of the spring J, against the stud i, and against the shoulder upon the piece H, tends to press the piece H in the direction of the arrow Fig. 4, thus keeping the stud g,
90 in contact with the disk K, and thus causing it to slip into the notches, d, e, f, whenever that part of the hinge marked G, rotates upon the pin c, Fig. 6. It will be seen that this part of the hinge G, is composed of the
95 pieces H and I, as before described. It will also be seen that the point of articulation in the upper and lower hinges, are not vertical to each other, but that they always occupy a position, relatively to each other, of such
100 a character, as to cause the gate to open or shut, by the force of its own gravity, depending upon the position of the upper hinge, thus, if the gate is to be thrown open, as seen in Fig. 1, the axis of motion is in the
105 direction of the dotted line X X in Fig. 5, thus causing the gate to swing from its position in Fig. 4, to that indicated in Fig. 6. This change of position of the part of the hinge G, is effected by means of the rods L, 110

L', which connect with the upper hinge at M, by an articulating joint, and with the bent levers N, N', which are attached to the posts O, O'.

5 In Fig. 2, the gate is represented as being closed, the catch P resting upon the rod P', upon the post Q. Now it follows, that if the bent lever N, Fig. 2, is depressed in the direction of the arrow Fig. 1, the hinge
10 G, as a whole, will be caused to turn upon its center or pin, *c*, from *e*, to *d*, Fig. 4, thus changing the center of gravity of the gate, from Fig. 4, to that seen in Fig. 6, when it will swing around against the post O'.

15 When the hinge G is brought suddenly around from *e* to *d* the stud *g* upon the piece H, suddenly slips into the notch *d*, where it is retained by the force of the spring J, but the moment the gate strikes against the post
20 C, the piece H is crowded back, by means of the end H'' coming in contact with the upright part of the gate B', there being an elongated slot *h*, in the piece H, at the end, through which the rod F passes which al-
25 lows the piece H, to slide in and out of the notches. This movement carries the stud *g*, out of the notch *d*, so that a fall upon the bent lever N' will close the gate.

When the gate closes upon the post Q, the
30 hinge G, being brought around from its position in Fig. 6, to the position shown in

Fig. 4, it is first arrested at its proper position to close the gate, by the stud *g*, slipping into the notch *e*, but if this should remain in that position, a fall upon the lever
35 N, or N', would not change the relative positions of the two hinges, but when the gate closes, the upright piece B, crowds back the piece H, and releases the stud *g*, from the notch *e*. The circular form of the end of
40 the piece H, allows the piece to slide in the direction of the arrow Fig. 4, as soon as the upright B' is turned in either direction. The principle of operation being the same in
45 opening and closing the gate in either way, and the gate will operate with the same ease, whether it is raised by the side catch E, or not.

What I claim as my improvement, and desire to secure by Letters Patent, is—

1. The section H, with the slot *h*, spring J, stud *g*, section I, arm I' and the notched plate K, when arranged and operating substantially as herein before described for the
55 purpose set forth.

2. I claim also, the slide E, and pawl E', when combined in the manner and for the purpose set forth.

D. E. FENN.

Witnesses:

L. C. WALTON,
I. W. WALTON.