

(No Model.)

G. FORD.
GATE.

No. 480,085.

Patented Aug. 2, 1892.

Fig. 1.

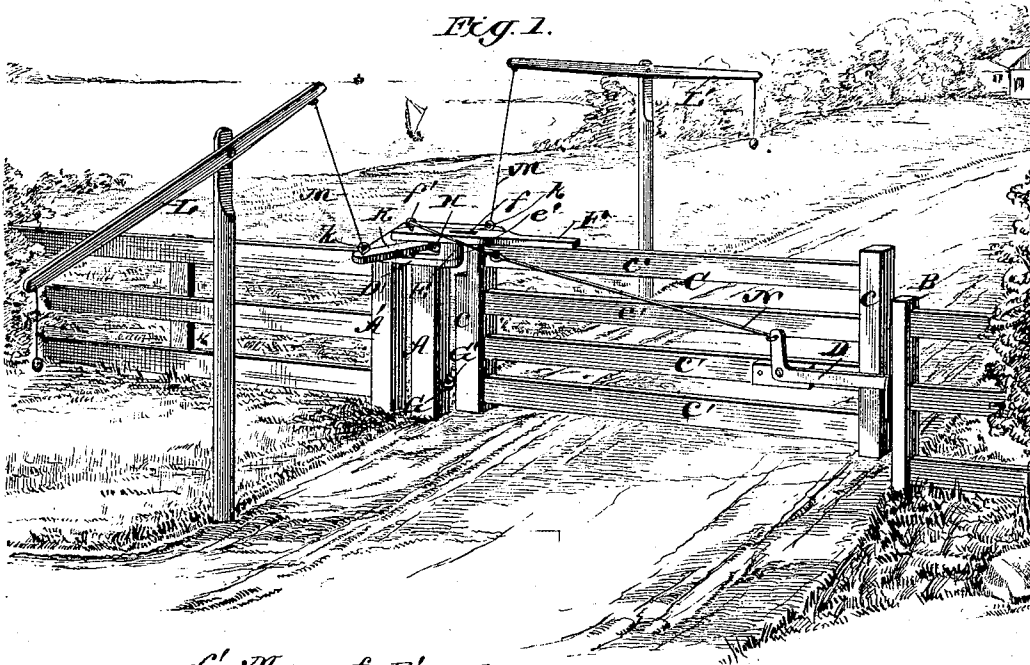


Fig. 2

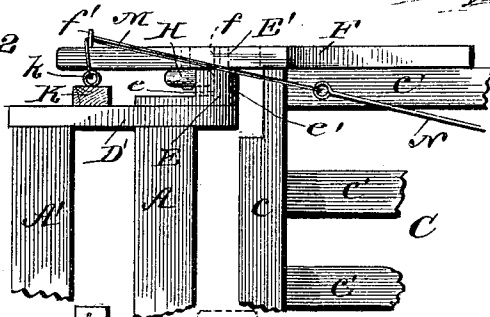


Fig. 4.

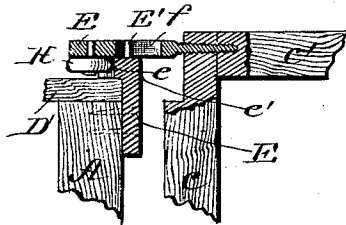
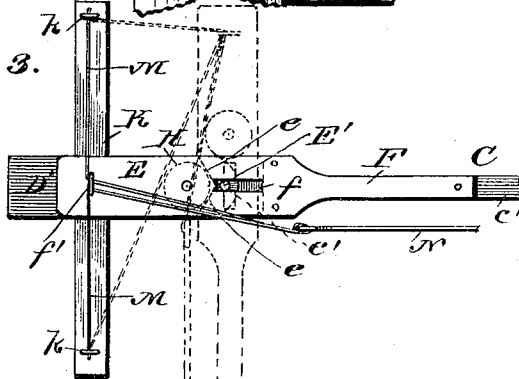


Fig. 3.



WITNESSES:

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GEORGE FORD, OF NEW HARMONY, INDIANA.

GATE.

SPECIFICATION forming part of Letters Patent No. 480,085, dated August 2, 1892.

Application filed November 19, 1891. Serial No. 412,390. (No model.)

To all whom it may concern:

Be it known that I, GEORGE FORD, residing at New Harmony, Posey county, and State of Indiana, have invented a new and useful Improvement in Gates, of which the following is a specification.

This invention relates generally to gates, and particularly to that class thereof known as "hand-lever openers."

10 The object of my invention is to provide certain improvements in this line whereby the gate may be opened and closed from one side by a single lever; and with this object in view my invention consists in the peculiar
15 construction of the several parts and their novel combination or arrangement, all of which will be fully described and claimed.

In the drawings forming a part of this specification, Figure 1 is a perspective view of my
20 improved gate. Fig. 2 is a detail side view of the hinge and adjacent parts. Fig. 3 is a top plan view of the same parts, and Fig. 4 is a detail sectional view of a somewhat modified construction.

25 In carrying out my invention I employ a hinge-post A and a latch-post B, and to said post A is hinged the gate C, which is constructed, as usual, of the end bars *c* and panel-bars *c'*. A vertically-vibrating latch D, in the
30 form of an elbow-lever, is pivoted to one of the panel-bars and operated in a manner hereinafter explained. A supplemental post A' is arranged to the rear of the hinge-post A, and connecting the upper ends of said posts
35 is a horizontal beam D', said beam projecting slightly forward beyond the hinge-post, as clearly shown. A block E is secured to the upper face of the beam D', upon the projecting end of the same, the rear face of said
40 block being concaved or notched at *e* for the purpose of holding the gate in a normally-closed position, while the forward face is convexed, as at *e'*, for purposes explained farther on.

45 A vertical pin E' is secured in the block E, said pin projecting upward from said block and forming the pintle of the upper hinge. A longitudinal bar or beam F is secured to the rear upper end of the gate C and projects
50 rearward over the block E and beam D', and said bar or beam F is provided with a longi-

tudinal slot *f*, which receives the pin or pintle E', and thus forms the eye of the upper hinge.

The lower hinge of the gate consists of a hook or pintle G, secured in the hinge-post, 55 and an eye G', secured in the end bar of the gate C, said hook and eye engaging each other, as shown, and the pintle G is so arranged that it is in vertical alignment with the pintle E'.

A roller H is mounted upon the underside 60 of the bar or beam F, said roller normally resting in or engaging the concavity or notch *e* on the block E, holding the gate in a normally-closed position and also maintaining it at the proper horizontal elevation.

65 A cross-beam K is secured to the horizontal beam D at right angles thereto, said beam K being adjacent to the rear end of the longitudinal bar or beam F and carrying guides or eyes *k* at its opposite ends. Levers L L' 70 are arranged at suitable distances on each side of the hinge-posts, the inner ends of said levers being connected with the rear end of the bar F by means of the cords M M, which pass through the guides *k* and are connected 75 with said bar or beam. In practice I usually arrange an eye *f'* upon the rear end of the bar F and pass the cords through said eye and connect them with a rod N, which connects with and operates the latch on the gate. 80 By this means I connect the cords with the rear end of bar and also provide means for operating the latch preparatory to swinging the gate. The latch, however, may be dispensed with, if desired, and the operating- 85 cords attached directly to the eye *f'*, as the roller resting in the concaved face of block E will hold the gate normally in a closed position. Any suitable form of keeper may be secured upon the latch-post in the path of 90 the latch, whereby the gate is locked while in a closed position.

The operation of the various parts is as follows: When the gate is closed, the latch will rest in its keeper and the roller or stop on the 95 bar will rest in the concavity of the block E. By pulling down on either lever the cord attached to said lever is drawn taut, the latch lifted, and as the force acts upon the rear end of the bar or beam F the forward end of the 100 gate is thrown away from the latch-post. As the gate thus turns on its pivots the roller or

stop travels upon the concaved face of the block, and as it moves toward the rear corner of said face the forward end of the gate is gradually elevated. When the roller or stop has turned the corner of the block, it continues to travel upon the convex side of the same, the weight of the gate serving to complete the operation. The longitudinal slot in the bar F permits the forward end of the gate to be elevated and lowered, and, if necessary, the upper rear face of the end post may be cut away to prevent contact with the block E. To close the gate, either lever may be operated, thus causing the roller or stop to travel upon the convex side until it turns the corner of the block, when the weight of the gate will cause said roller or stop to move into the concavity, thus bringing the gate to its closed position. By the peculiar arrangement of the bar F, cross-beam K, and attached guides the power is always transmitted at right angles to the end of bar, which is an important feature, as the operations of the gate are greatly facilitated. Instead of securing the block to the longitudinal beam D', the said block E may be secured directly to the hinge-post, and the bar F may be made in the form of an eye and screwed into the rear end post, as clearly shown in the modification.

30 Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a gate, the combination, with the hinge-post, of the block connected therewith and having a concaved rear face, the hinge-pin secured therein, the gate, the longitudinal bar or beam rigidly attached to the gate and having a longitudinal slot, the friction-roller upon

the under side of the bar or beam, the lower hinge, and the cords and levers connected with the bar or beam, substantially as shown and described.

2. In a gate, the combination, with the hinge-post, of the block having a concaved rear face and convex forward face, the vertical hinge-pin inserted in said block, the gate having a rigid rearwardly-projecting bar slotted longitudinally and carrying a roller rear of said slot and upon the under side of said bar, and the cords connected with the bar rear of the roller, substantially as shown and described.

3. In a gate, the combination, with a hinge-post, of a gate hinged thereto, the rigid rearwardly-projecting bar or beam slotted, as described, the vertical hinge-pin, the cross-beam adjacent the rear end of the bar or beam, guides carried at the ends of the cross-beam, the cords passed through said guides and connected with the bars or beams, and the lower hinge, substantially as shown and described.

4. The combination, with the hinge and supplemental posts, of the beam connecting the same, the block having the concave rear face and convex forward face, the vertical hinge-pin, the gate, the slotted bar or beam rigid with the gate, the friction-roller attached to the under side of the bar or beam, the lower hinge, the cross-beam, guides, ropes, and levers, all arranged substantially as shown and described.

GEORGE FORD.

Witnesses:

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