

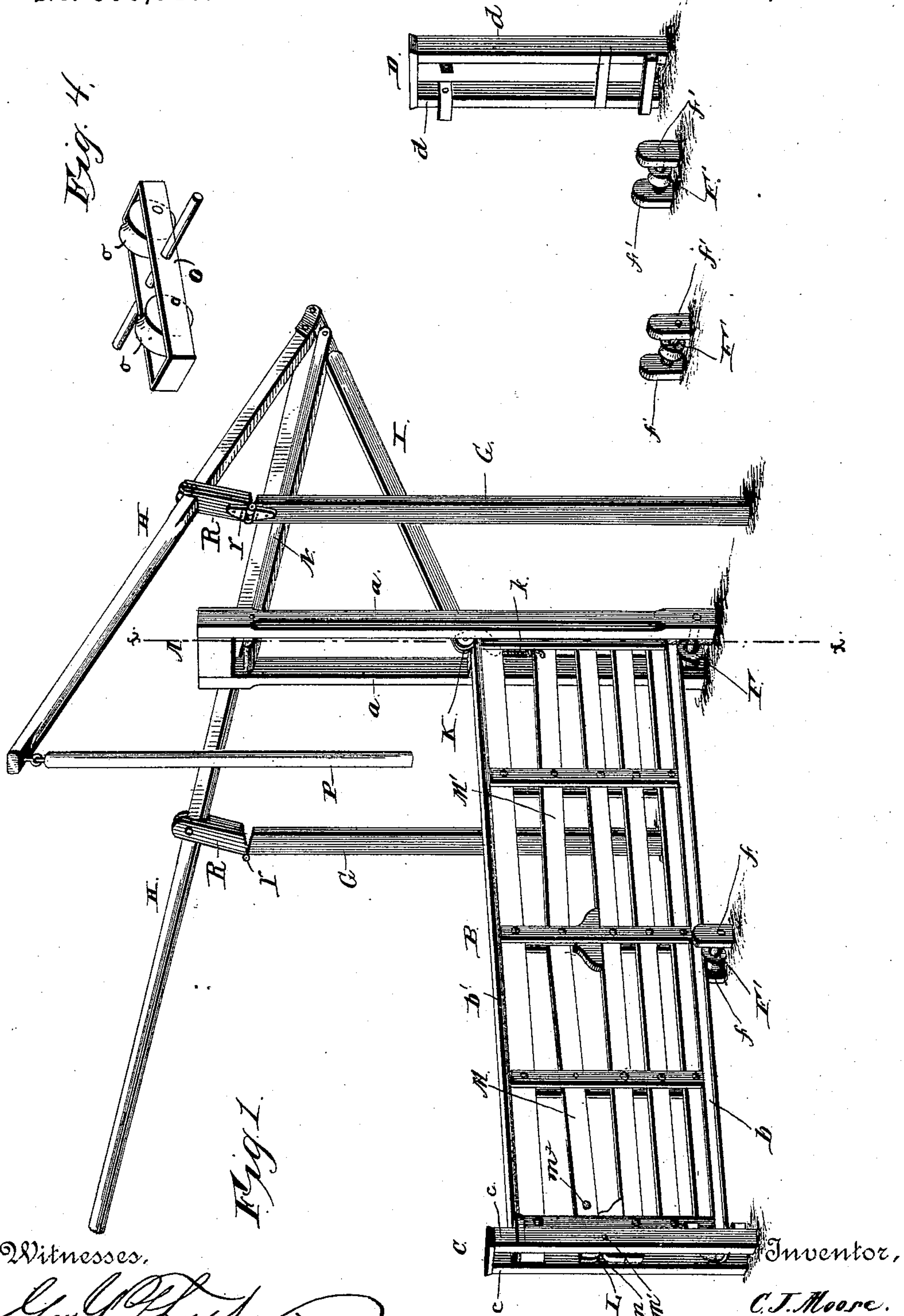
(No Model.)

2 Sheets—Sheet 1.

C. J. MOORE.
GATE.

No. 396,046.

Patented Jan. 8, 1889.



Witnesses,

Geo. P. Hooper,
W. C. Doyle.

By *his* Attorneys,

C. J. Moore.
C. J. Moore.

UNITED STATES PATENT OFFICE.

CANTNELL J. MOORE, OF WEBSTER, IOWA, ASSIGNOR OF ONE-HALF TO
MANVILLE D. JOHNSON, OF SAME PLACE.

GATE.

SPECIFICATION forming part of Letters Patent No. 396,046, dated January 8, 1889.

Application filed September 20, 1888. Serial No. 285,898. (No model.)

To all whom it may concern:

Be it known that I, CANTNELL J. MOORE, a citizen of the United States, residing at Webster, in the county of Keokuk and State of Iowa, have invented a new and useful Improvement in Gates, of which the following is a specification.

The object of this invention is to provide a simple, cheap, durable, and easily-operated gate of the character which is operated from a vehicle or horseback; and it consists in a certain novel construction and combination of devices, fully described hereinafter, in connection with the accompanying drawings, and specifically pointed out in the appended claims.

In the drawings, Figure 1 is a perspective view of a gate embodying my improvements. Fig. 2 is a side view, partly in section, of the same. Fig. 3 is a vertical sectional view on the line *xx* of Fig. 1. Fig. 4 is a detail view of a modification. Fig. 5 is a detail view of a portion of a modified form of the main post.

Referring by letter to the drawings, A designates the main post, which consists of the parallel vertical uprights *a a*, between which the gate B slides.

C designates the latch-post, against which the end of the gate bears when it is closed, and D designates the rear post, against which the rear end of the gate strikes when it is opened.

The bottom of the gate is provided with a runner, *b*, to the lower side of which is attached the track E, preferably of metal, which is guided in peripheral grooves in the anti-friction rollers *F F'*. The central roller, *F*, is arranged between the lower ends of the uprights *a a* and the rollers *F' F'*, which are arranged below the level of the roller *F*, and are disposed between the central or main post and the latch and rear posts, respectively. Guide-blocks *f f* and *f' f'* are arranged on opposite sides of these rollers to hold the runner in position and prevent the track from leaving the grooves in the rollers; also, the extremities of the track are turned up to enable it to pass into the groove of a roller without catching or rendering the operation of the gate difficult. The latch-post is formed by the parallel ver-

tical uprights *c c*, which are set a short distance apart, thereby forming a vertical slot, and the rear post is similarly formed of the uprights *d d*, which are set apart to form a slot, and the ends of the horizontal rails of the gate, including the track and runner, are tapered at their ends, to enable them to pass into the said slots.

The gate is provided at its top with a cap rail or strip, *b*, which is also adapted to fit snugly at its ends in the said slots, and to enable the said rail to enter the slots readily its ends are tapered and guide ears or projections *c' c'* and *d' d'* are arranged on opposite sides of the slots.

To the upper ends of the standards *G G*, which are arranged, respectively, on opposite sides of the gate, are connected intermediate points of the operating-levers *H H*, which are connected at their ends to the gate by means of the swing-bar *I*. Instead, however, of connecting the said bar directly to the rear end of the gate, it is connected to one arm of the bell-crank or angle lever *K*, which is pivoted to the gate.

L represents the latch, which consists of the levers *M M'*, pivoted at intermediate points to the gate and pivoted together at their adjacent ends, whereby when the rear or free end of the rear lever, *M'*, is raised the front or free end of the front lever, *M*, will also be raised, and vice versa. The free end of the front lever is provided at its lower edge with a notch, *m*, which automatically engages over a transverse bar, *m'*, arranged in the slot of the latch-post. The front lever is also provided near its free end with the knobs *m² m²*, to enable the latch to be operated by a person standing near the gate.

The free end of the rear lever, *M'*, is connected to the free arm of the bell-crank or angle lever by means of the cord or wire *k*, whereby when the free ends of the operating-levers are drawn by the operator the latch will be operated and released from the catch-bar *m'*, and the gate will then be drawn back.

N represents a link which is connected at one end to the main post near its top, and is forked or bifurcated at its free end and pivoted to the upper end of the swinging bar *I*.

The object of this link is to guide the movement of the operating-levers and the swinging bar, and prevent the upward pull on the latter from raising the rear end of the gate.

5 The operation of the improved gate will be readily understood from the foregoing description without further enlarging on the same herein.

When the gate is opened, the downward pull on the operating-lever is designed to throw the gate slightly beyond the center, so that the rear end will overbalance the front end and cause the rear end to bear on the grooved rollers F' , which are arranged between the main post and the rear post. In this position the gate is inclined downward toward its rear end, and therefore its weight will cause it to continue its rearward motion until it is entirely open. When the gate is closed, a similar action takes place. The downward movement of the operating-levers causes the gate to be closed far enough to cause its front end to bear on the rollers between the main post and the latch-post, and then as the gate is inclined it will close automatically.

To enable the gate to be more readily overbalanced when in a position half-way between the open and closed positions, I provide a simple device (shown in Fig. 4) in which two grooved rollers, o o , are mounted in a frame, O , which is pivoted at its center between the uprights a a . It will be seen that the slightest difference of weight between the front and rear ends of the gate will cause this device to tip and throw the gate in the desired direction. Further, I also provide the ends of the operating-levers with depending loose handles P P , which may be used to push the free ends of the said levers upward to force the gate into its closed or open position after the latter has passed the center.

Q Q represent anti-friction rollers arranged on the uprights a a , respectively, on opposite sides of the cap-rail b , whereby the top of the gate is guided and prevented from lateral play.

The means which I employ for connecting the intermediate points of the operating-levers to the upper ends of the standards are

as follows: Rigid blocks R R are secured to the under sides of the levers a , and are connected at their lower ends to the upper ends of the standards by the strap-hinges r r . The advantage in this construction is that the swinging blocks give greater power to the levers and there is no liability of straining the swinging bar.

It will be understood that I do not limit myself to the number of rollers used, as I may use three, four, or more.

Fig. 5 of the drawings shows the lower end of the main post when it is made from a single timber, with a longitudinal slot cut therein. In this case, instead of forming the guide-blocks a' a' separate and attaching them to the sides of the post, as shown in Fig. 3, they are formed integral with the post.

Having thus described the invention, I claim—

1. The combination, with the latch-post provided with a suitable latch-bar, m' , and the gate adapted to close against the said post, of the latch mounted on the gate and comprising the levers M and M' , connected together at their adjacent ends, the free end of the lever M being provided in its lower edge with a notch, m , adapted to engage the said latch-bar, the operating-levers, and the bell-crank or angle lever K , having one of its arms connected by the cord or wire k to the free end of the lever M' , and having its other arm connected to the ends of the operating-levers by means of the swinging bar I , substantially as and for the purpose specified.

2. The combination, with the main post, of the roller F , arranged at its lower end, the rollers F' F' , arranged on opposite sides of the main post below the plane of the roller F , the gate provided at its lower edge with a track sliding on the said rollers, and operating means, substantially as specified, for the purpose set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses

CANTNELL J. MOORE.

Witnesses:

D. C. RICHMAN,
EMMA E. SAWYER.