

(No Model.)

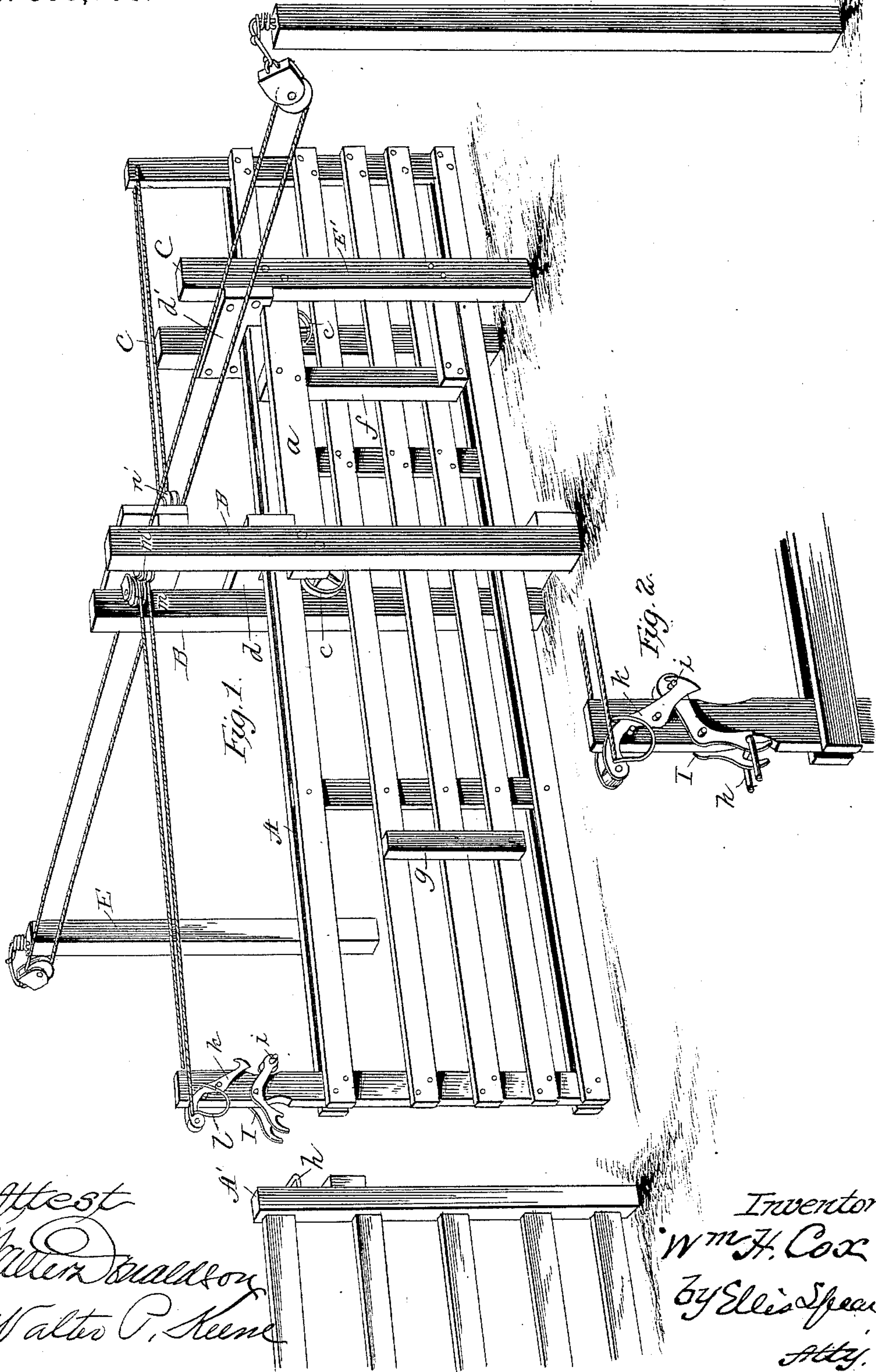
2 Sheets—Sheet 1.

W. H. COX.

GATE.

No. 398,706.

Patented Feb. 26, 1889.



Attest
Walter P. Keene

Inventor
Wm H. Cox
by Ellis Spear
Atty.

(No Model.)

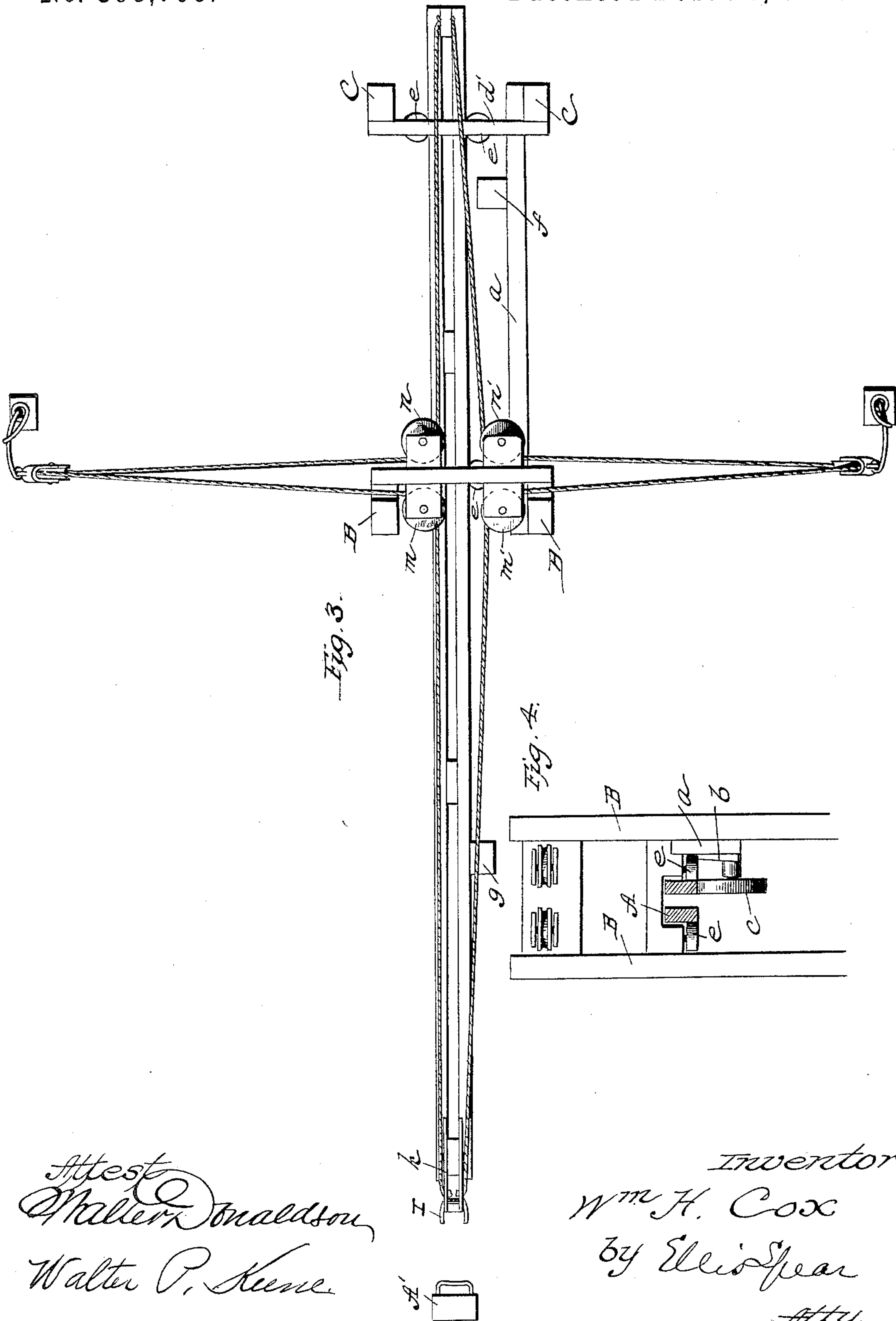
2 Sheets—Sheet 2.

W. H. COX.

GATE.

No. 398,706.

Patented Feb. 26, 1889.



Attest
Walter P. Keene
Walter P. Keene

Inventor
Wm H. Cox
by Ellis Spear
Atty.

UNITED STATES PATENT OFFICE.

WILLIAM H. COX, OF VIRDEN, ILLINOIS.

GATE.

SPECIFICATION forming part of Letters Patent No. 398,706, dated February 26, 1889.

Application filed November 8, 1888. Serial No. 290,276. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. COX, of Virden, in the county of Macoupin and State of Illinois, have invented a new and useful Improvement in Gates; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention is an improved sliding gate, and is designed for use in connection with overhead operating-ropes, by means of which the gate may be manipulated from a carriage or by a horseman from a position within the carriage or upon the horse.

The object of the invention is to provide an automatic latch for securing the gate in its closed position, so as to prevent it from rolling back, and also to have its latch under the control of the operating-ropes, so that by drawing upon the ropes to open the gate the latch will be lifted and the gate allowed to open under the movement imparted to the rope.

In the drawings, Figure 1 presents a perspective view of the gate, and Fig. 2 is a detail view enlarged of the latch and its operating connections. Fig. 3 is a plan view. Fig. 4 is a detail view.

In the drawings the gate is shown at A, and is composed of slats with double rails at top and bottom to add to the strength of the structure. It will be understood, however, that the gate may be made in any way or of any material found most suitable. The post A' is arranged upon one side of the roadway, directly in line with the movement of the gate, and upon the other side of the roadway I arrange two posts, B B, the space between the posts A' and B indicating the roadway which is closed by the gate. In rear of the posts B B, I arrange two posts, C C, and the gate moves and is supported in the space between the members of the pairs. On one side the posts B and C are connected by a brace or connecting-piece, *a*, and secured to this piece, or to the post, as may be preferred, are brackets *b b*, which support wheels or pulleys *c c*, one of these pulleys being arranged at or near the post B and the other at or near the post C. These pulleys project into the space between the pairs of posts, and the gate is supported upon them by the under part of

the top rail upon one side resting upon their peripheries. These pulleys have long bearings in their supporting-brackets, and allow the gate to move freely and noiselessly back and forth. Instead of two wheels, more may be used, if found desirable. The posts B B and also the posts C C are connected and braced laterally across the opening between them by means of the braces *d d'*, and these braces are cut away at their central portions, so as to allow the top rails of the gate to enter within the cut-away portions. Small bearing-rollers *e e* are supported on the under faces of the braces on each side, with their peripheries bearing against the rails of the gate, thus holding the gate steady, preventing any displacement, and at the same time preventing any undue friction against stationary parts of the supporting-frame.

In order to limit the rearward movement of the gate, I provide a vertical piece, *f*, secured to the supporting-frame on one side, with which a like piece, *g*, on the gate comes in contact in the extreme rearward movement of the gate, and thus brings it to a stop.

The post A' has upon its face a staple, *h*, with which the ends of a bifurcated latch, *i*, engage when the gate is closed, this engagement being automatic, as will be described. The latch consists of a double bell-crank lever pivoted upon an extension of the front stile of the gate. One part of the lever passes on one side of the post and the other on the other side, and these parts are connected in rear of the post, this connection being sufficiently heavy to overbalance the front ends and to keep them elevated under normal conditions. The weighted part of the latch has pins *i* extending from each side, and directly above the latch is a hooked lever, *k*, also double and pivoted to the upper extension of the front post, with its arms passing upon either side of the post. This lever has its ends connected, however, upon the front, and its hooked ends extend to the rear and are adapted, under the conditions hereinafter named, to engage with the pins *i* of the latch and hold the latch with its rear end elevated and its front end depressed, thus holding it locked to the staple of the post A. A light spring, *l*, bears against the front end of the

lever *k*, thus tending to throw its front end outward and its rear lower end upward. It will thus be seen that the latch normally has its front end elevated by means of its weighted rear end, and in this position the hooked front ends of the latch are in a plane above the line of the staple. As the gate is closed, the front ends of the arms of the latch bear against the face of the post, and by reason of the angular shape of the latch, and also on account of the front ends being slightly curved, the hooked ends of the latch are depressed behind the staple, which thus elevates the rear end, and the effect of this is to cause the pins *i i* to travel over the rounded faces of the arms of the lever *k*, forcing them inward against the pressure of the spring until the pins *i i* are engaged by the hooks on the said arms. In this position the hooked ends of the latch are behind the staple, and as the weighted rear end is engaged by the hooked ends of the lever *k* the gate is securely locked and can only be opened by releasing the weighted end of the latch from the hooked lever *k*. It is obvious that this may be done by hand directly by simply pushing back the hooked lever *k* and throwing the gate open, so as to release it from the staple; but I have provided means for performing this operation from a carriage or other vehicle or from the back of a horse.

I provide operating-cords, which are connected to the front end of the hooked lever *k*, and from that point of connection the cords extend rearward in line with the gate and above the same, passing around pulleys *m m'*, supported in horizontal position, one cord passing around its pulley to a supporting-post on one side of the gate and the other cord passing around its pulley to a supporting-post on the other side of the gate. These supporting-posts are arranged at one side of the roadway a suitable distance from the gate, so as to permit of the approach of a team and the manipulation of the operating-ropes from the vehicle. These posts are shown at E E. Coiled springs are securely fastened to their upper ends, and to the ends of these springs are secured pulleys, which are held under tension by the springs, and thus always keep the operating-ropes taut. After passing through these pulleys the ropes extend to horizontally-arranged pulleys *n n'*, and from thence the ropes are connected to an extension of the rear post of the gate. It will thus be seen that when the gate is locked and it is desired to operate it from a carriage or other vehicle the operator has but to pull upon the upper rope, which, being connected to the forward end of the lever *k*, will draw the

same to the rear against the pressure of its spring and at the same time move the gate outward from the post A'. The counter-balance of the latch will then fall by its own weight, which will unfasten the gate, and a continued pull upon the rope will open the gate. After the vehicle has passed through it is only necessary to grasp the under rope of the pair upon the opposite side, and, without stopping the moving vehicle, the pulling upon this rope will close the gate, which will automatically lock, as hereinbefore explained.

I claim as my invention—

1. In combination, the sliding gate, the fastening on the gate-post, a latch pivoted on the gate and having a weight on its end to hold the latch normally out of engagement with the fastening, and a holder on the gate arranged to engage with the latch when the same engages with the fastening to counteract the force of the weight, substantially as described.

2. In combination with a sliding gate, a suitable fastening device on the gate-post, a gravity-latch on the gate, and a hooked lever for holding the same in locked position, substantially as described.

3. In combination with a sliding gate, a fastening device on the gate-post, a pivoted latch of angular form, having its front end hooked and its rear end weighted, and a hooked lever under spring-tension above the same, the latch and lever being adapted to co-operate and automatically lock the gate in place, substantially as described.

4. In combination with the sliding gate, an automatically-operating latch, a hooked lever for holding said latch in locked position, and operating-cords therefrom to supporting-posts on the side of the road, substantially as described.

5. In combination with a sliding gate, locking means consisting of a pivoted latch having hooked front ends rounded on the upper side and weighted rear end having projecting pins, a pivoted lever having hooked lower end and rounded faces adapted to co-operate with the pins on the weighted end of the latch, and operating-cords extending from the upper end of the hooked lever to supporting-posts on the side of the road, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM H. COX.

Witnesses:

BALFOUR COWEN,
HENRY C. BRADLEY.