

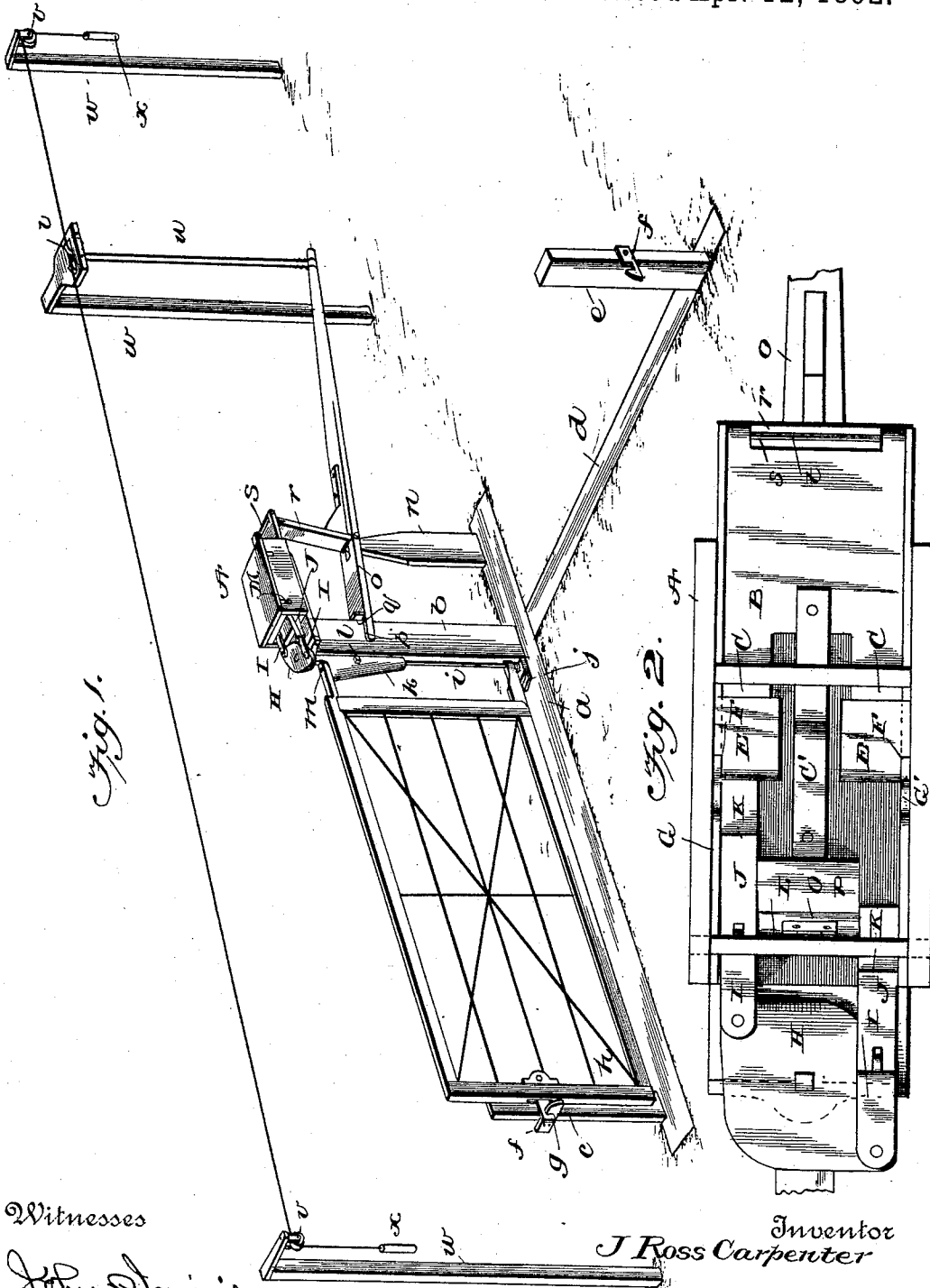
(No Model.)

J. R. CARPENTER.
GATE.

2 Sheets—Sheet 1.

No. 472,522.

Patented Apr. 12, 1892.



Witnesses

John Smilie
Mark Marcy

Inventor
J Ross Carpenter

By his Attorneys

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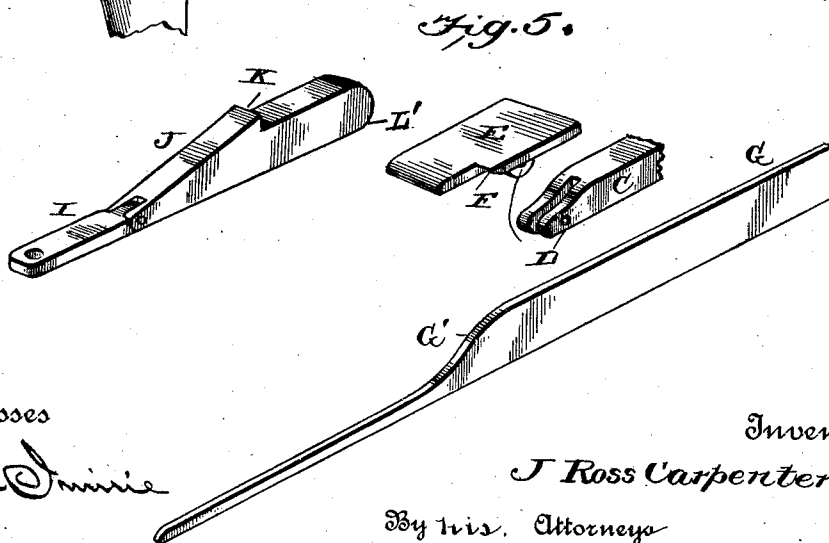
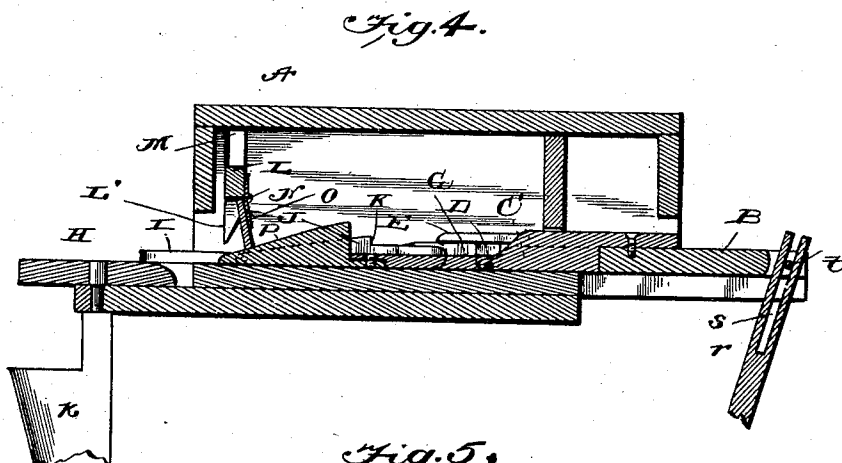
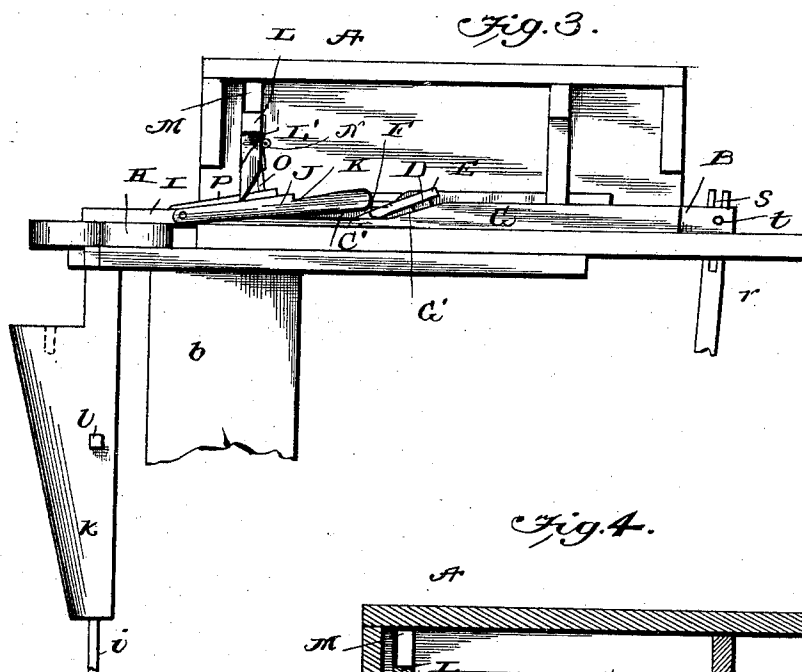
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2 Sheets—Sheet 2.

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Witnesses

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UNITED STATES PATENT OFFICE.

J. ROSS CARPENTER, OF MONMOUTH, ILLINOIS.

GATE.

SPECIFICATION forming part of Letters Patent No. 472,522, dated April 12, 1892.

Application filed January 11, 1892. Serial No. 417,661. (No model.)

To all whom it may concern:

Be it known that I, J. ROSS CARPENTER, a citizen of the United States, residing at Monmouth, in the county of Warren and State of Illinois, have invented certain new and useful Improvements in Gates; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to gates, and more especially to that class thereof known as "tilting gates;" and the object hereof is to provide a gate of improved construction adapted to be operated in advance of the approach of the person or team which is to pass therethrough, with devices to lock the gate open or closed and to prevent its locking during its opening or closing.

To this end the invention consists in the construction hereinafter more fully described and claimed, and as illustrated on the accompanying drawings, wherein—

Figure 1 is a general perspective view of the gate open, showing, also, all the operating devices. Fig. 2 is an enlarged plan view of the operating mechanism at the hinge, the cover of the casing being removed. Fig. 3 is a side elevation of said mechanism with the nearer side of the casing removed. Fig. 4 is a central longitudinal section thereof. Fig. 5 is a perspective detail of one latch, its tripper, and the track for the latter.

In this specification and drawings I have set forth the preferred embodiment of my invention, although I do not wish to be limited to the exact construction shown and described. The materials and sizes of parts are immaterial, and the invention is susceptible of a considerable degree of modification without departing from its spirit. The relative arrangement and proportion shown produce a gate which will operate, and I will therefore describe the same as illustrated in the drawings.

The letter *a* designates a sill standing alongside the roadway and supporting the hinge-post *b* and open latch-post *c*, and *d* is a cross-sill standing across the roadway and supporting the closed latch-post *e*. Each latch-post has a bevel-faced catch *f*, adapted to be engaged by the latch *g*, which is pivoted to the free edge of the gate *h*, as will be understood.

The gate is mounted pivotally on an upright rod *i*, stepped at its lower end, as at *j*, in the sill *a*, and its upper end mounted in an enlargement *k* by a set-screw *l*, the upper inner corner of the gate being pivoted on a pin *m* in the enlargement out of alignment with its lower pivot, as seen in Fig. 1, so that the gate may be tilted and caused to swing as is desirable. To detach the gate from the rod, the set-screw *l* is loosened and the enlargement lowered to disengage its pin *m* from the gate.

The hinge-post *b* supports a casing *A*, wherein is located the operating mechanism, constructed as follows: *B* is a block sliding in the outer end of the casing and having two fingers *C*, standing near the sides of the casing, and a central finger *C'*, and to the front end of each of the side fingers is pivoted at *D* a latch-lifter *E*, having a shoulder *F* at its outer side sliding on a track *G*, arranged along the side of the casing, the track having an incline *G'*, for a purpose to appear hereinafter.

H is a double lever secured to the upper end of the enlargement *k* above its bearing, and pivoted to the arms of this lever at diametrically-opposite points are rods *I*, to the rear end of each of which on a horizontal pivot is secured a latch *J*, having a shoulder *K* on its upper face.

L is a locking-bar standing across the casing and having two depending teeth *L'*, adapted to engage the shoulders *K* of the latches *J*. The sides of the casing have vertical slots *M*, wherein the ends of the bar *L* play, and to the bar at *N* between its teeth is hinged a wing *O*.

P is a lifter-block, having a beveled or inclined upper face, as shown in Fig. 4, and this block is carried by the central finger *C'* of the sliding block *B*, so as to work beneath the wing *O* and raise the lock as the sliding block moves forward.

A stub-post *n* is set in the ground near the hinge-post, and pivoted to said stub-post is a working lever *o*, whose inner end is forked at *p* and moves on the hinge-post beneath a stop *q*. Rising from this lever is an arm *r*, whose upper end is notched at *s*, so that it may pivotally embrace a transverse rod *t* in the rear end of the block *B*. Leading from the rear end of the lever are ropes *u*, which pass over pulleys *v*, supported by supplement-

tal posts *w*, and extend to handles *x* alongside the roadway at considerable distances from the gate, as seen in Fig. 1.

The operation of this improved gate is as follows: A pedestrian or driver approaching draws on one of the handles *x*, whereby the lever *o* is operated and the block B pushed in. The lifter-block P passes under the wing O and raises the lock L, so that its tooth L' no longer engages the shoulder K of one of the latches J. The end of the approaching latch-lifter then strikes the inner end of the inmost latch, and the latter being pushed forward turns the double lever H so that the enlargement *k* is given a quarter-revolution, and the upper pivot or hinge *m* of the gate is drawn away from the catch *f*. This tilts the gate, disengages its latch *g* from said catch *f*, and causes the gate to swing, as will be clear; but on reaching the other latch *f* the catch *g* engages therewith and locks the gate in its open position. As one latch J was moved outward the other was caused by the lever H to move inward, and the latch-lifter E opposite its inner end passed under such end by reason of the fact that the shoulder F of the lifter moved down the incline G' of the track G adjacent, so that the outer end of the lifter could pass beneath the inner end of the latch, which is beveled, as at L', for this purpose. On releasing the handle *x* the lever *o* falls by its weight, the block B returns to its normal position, and the inclined lifter-block P draws back under the pivoted wing O, so as to allow the opposite tooth L' to fall in front of the shoulder K of the other latch. This operation takes place as soon as the handle is released, and hence if the operator simply draws on said handle and immediately releases it the parts will be moved so as to cause the gate to swing open and will be locked in such position, thereby preventing the accidental catching of the parts to produce catching or clogging and prevent the desired movement of the gate. Hence if the handles *x* be quite remote from the gate a horseman at full speed can drive through this gate, simply operating the handle *x* to first open the gate and then the other handle to close it. It will be seen that the operating mechanism does not cause the positive opening or closing of the gate, but only tilts it to produce this operation automatically, and hence but little force is necessary on the handles *x*.

Having thus described my improved gate, what I claim as new therein is—

1. A hinge-post, a rod pivotally connected thereto, and a gate carried by the rod, combined with a double lever secured to the rod, latches pivotally connected with the arms of said lever, a sliding block adapted alternately to engage said latches and having a transverse rod at its rear end, and an operating-lever having an arm provided with a notch receiving said rod, substantially as described.

2. An upright rod turning in a support, a

gate carried by said rod, and a double lever at the upper end of the rod, combined with rods pivoted to the arms of the lever, latches connected by horizontal pivots with said rods, a sliding block having side fingers, and latch-lifters pivoted to said fingers, as and for the purpose set forth.

3. An upright rod turning in a support and carrying a gate, a double lever secured to said rod, and two latches pivotally connected with the arms of the lever and having their free ends beveled, in combination with a sliding block having fingers, latch-lifters pivoted to said fingers and having shoulders, and tracks on which the shoulders move, said tracks having inclines, as and for the purpose set forth.

4. A pivoted lever having a forked end, a hinge-post on which said fork slides, and a stop on the post, in combination with an arm rising from the pivot of the lever and fast on the latter, the upper end of the arm being notched, a casing, a block sliding therein and having a transverse rod seated in said notch, a swinging gate, and connections, substantially as described, between said block and gate, as and for the purpose set forth.

5. A pivoted double lever and a gate connected therewith, in combination with two latches pivotally connected with the arms of said lever and having shoulders, means for alternately pushing said latches, a movable locking-bar having teeth adapted to engage said shoulders when the latches are forward, and means for moving said bar at the instant the push commences, as and for the purpose set forth.

6. A centrally-pivoted double lever and a gate connected therewith, in combination with two latches pivotally connected with the arms of said lever and having shoulders on their upper faces, a vertically-moving locking-bar adapted to engage the shoulder of the latch which is forward, a lifter-block, and means for simultaneously moving said block and turning the lever, as and for the purpose set forth.

7. A centrally-pivoted double lever and a gate connected therewith, in combination with latches pivotally connected with the two arms of said lever and having shoulders in their upper faces, a sliding block having side arms adapted to engage said latches, and also a central finger provided with a lifter-block, a vertically-movable locking-bar adapted to engage the shoulder of the latch which is forward, and a wing hinged to said bar and adapted to be raised by the lifter-block when the latter is driven forward, as and for the purpose set forth.

8. A casing having side tracks with inclines therein, a longitudinally-movable block within said casing having two side and one central finger, latch-lifters pivoted to the side fingers and provided with shoulders traveling on the tracks, and a bevel-faced lifter-

block carried by the central finger, in combination with a transverse locking-bar whose ends move in vertical slots in the sides of the casing, two longitudinally-movable latches
5 having shoulders adapted to be engaged by said locking-bar when depressed, a wing hinged to this bar between the latches, a swinging gate, and connections, substantially as de-

scribed, between the latches and gate, as and for the purpose set forth. 10

In testimony whereof I affix my signature in presence of two witnesses.

J. ROSS CARPENTER.

Witnesses:

GEO. W. HICKMAN,
H. T. RUSSELL.