(No Model.)

D. SCOTT.

SWINGING GATE.

No. 389,413. Patented Sept. 11, 1888.

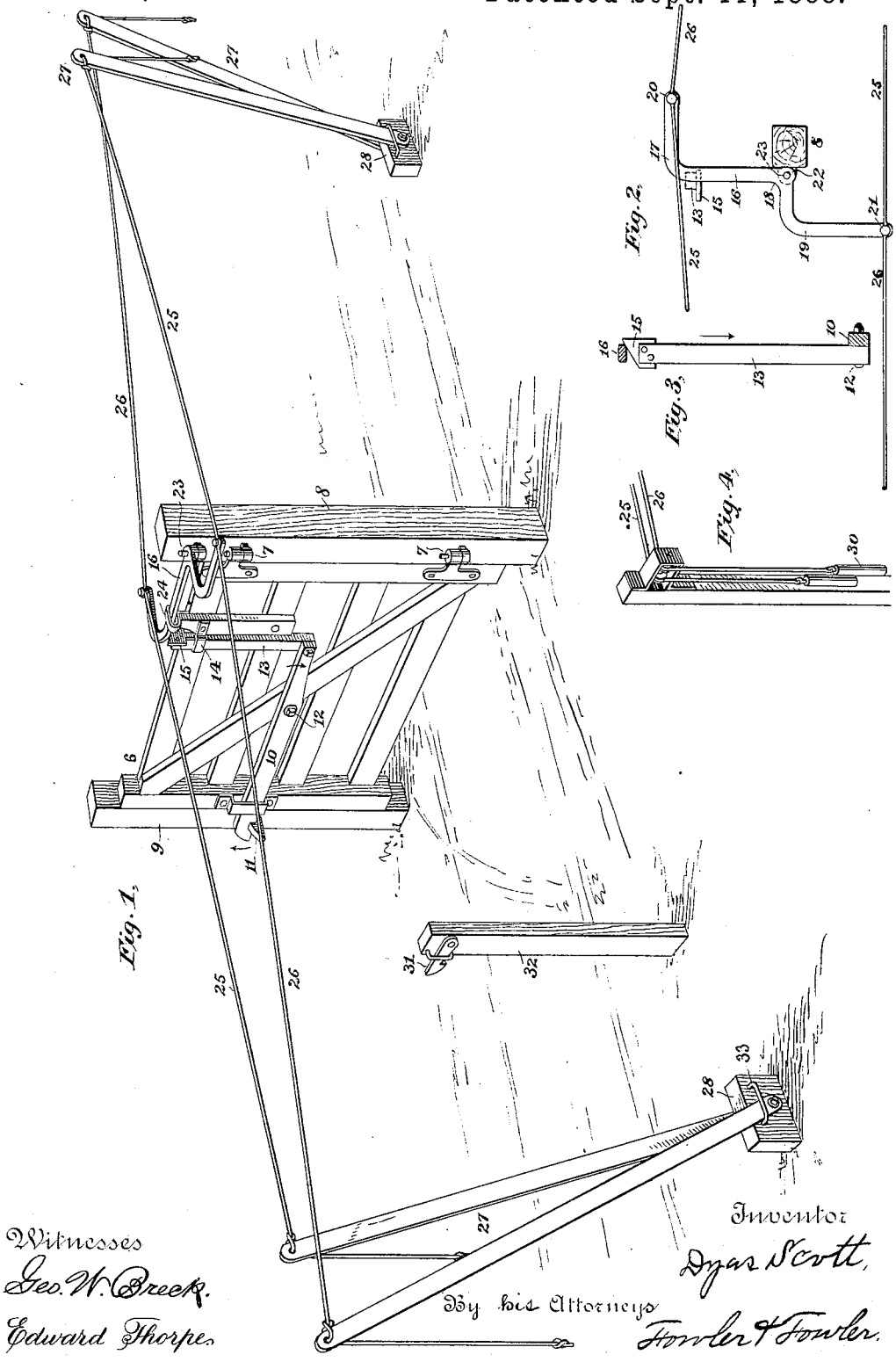

Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Witnesses
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UNITED STATES PATENT OFFICE.

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SWINGING GATE.

SPECIFICATION forming part of Letters Patent No. 389,413, dated September 11, 1888.

Application filed May 2, 1888. Serial No. 272,561. (No model.)

To all whom it may concern:

Be it known that I, DYAS SCOTT, a citizen of the United States, and a resident of Brown county, State of Ohio, have invented certain new and useful Improvements in Swinging Gates, of which the following is a specification.

My invention relates to a swinging gate having the locking latch-bar thereof provided with a cam-headed reciprocating latch-rod, which is engaged and operated by a horizontally-disposed operating angle-lever, from which run connections—such as pull cords or cables—to points remote from the gate, so that the gate may be opened or closed by manipulating the pull-connections at such points, the gate also being provided with a gravity locking device, which is tripped so as to lock the gate when the latter is moved into full open position, the disengagement of such gravity device being effected by the initial movements of the angle-lever through means of the pull-cords when the same are drawn upon to close the gate.

The objects of my invention are to provide a swinging gate which can be constructed of a comparatively few simple parts having such positive and easy actions that the gate may be quickly and readily opened and closed by a person on horseback or seated in a vehicle and at a distance from the gate without dismounting, and which, when desired, may be maintained securely in open position, so that, for instance, the wind cannot accidentally close it.

In order that my invention may be fully understood, I have illustrated the same in the accompanying drawings, and will proceed to describe the invention with reference thereto.

In the accompanying drawings, Figure 1 is a perspective view of my improved swinging gate shown in closed position. Fig. 2 is a detached plan view of the operating angle-lever shown in its relative position to the hinge-post and latch-rod as represented in Fig. 1. Fig. 3 is a detached detail view of the latch-bar and rod and the angle-lever, the bar and lever being in section. This figure shows the several parts in the relative positions assumed thereby when the gate is swung wide open, so that the dog or gravity locking device may engage the latch-bar, as hereinafter described. Fig. 4 is a detached partial view of another form of means for sustaining the pull-cords in convenient positions at distant points from the gate, so that they may be readily grasped by the operator.

In the said drawings like numbers of reference designate corresponding and like parts throughout.

Referring to the drawings, 6 designates a swinging gate swung on hinges 7 7, which are attached between the same and the hinge-post 8; and 9 is the latch-post. These posts are set firmly in the ground in upright positions.

The latch-bar 10 of the gate engages the fixed latch lug or projection 11 on the latch-post, and this bar is pivoted to the gate at 12, and to its inner end is pivoted the foot of the vertically-reciprocating latch-rod 13, which moves through the guide 14 on the gate and has its head formed cam-like or inclined at 15. Since the latch-rod will generally be made of wood, it will be found necessary to provide the head thereof with a plate of metal or any other suitable hard material to withstand the wear that the same is constantly subjected to.

In the present construction I have armed the head of the rod with a vertically-disposed plate having its upper edge inclined to afford the requisite cam-surface for the operating-lever to slide over. The tendency of the latch-bar is to remain in the lowest position, as shown in Fig. 1, with the connected latch-rod elevated.

The head of the latch-rod 13 is engaged by the peculiar-shaped angle-lever 16, which is a crooked bar formed with three angles, 17 18 19, lying in the same plane. The respective ends of the angle lever are provided with attaching-studs 20 21, respectively, and between the angles 17 and 19 is formed a swivel-eye, 22, for receiving the pintle 23, which is fixed upon the hinge-post. The shank of the angle-lever near angle 17 thereof passes through the stop 24, attached to the gate, and has a limited lateral play between the sides of the same. This stop has also the function of a guide, although it is obvious that in place of the tube-like stop two upright pins could as well be used to take the place of the same, since the essential office of the stop-piece shown is to limit the lateral throw in both directions of the angle-lever as the same is moved on its swivel. To the stud 20 of the lever is attached the opening pull-cord 25, and

to the stud 21 thereof is connected the closing pull-cord 26. I have shown these pull-cords 25 and 26, respectively, as duplicated at each side of the gate, and their proper connections are at once obvious. The pull-cords extend to remote points from the gate, where they are supported in convenient overhead positions upon the standards 27 27, of which I show two forms. In Fig. 1, (the preferred form,) the standards are hinged at their lower ends to the bed-pieces 28 28, which are set in the ground and carry the staples 33 33, which serve to limit the hinged standards in their vibrations in an evident manner. To the upper ends of the standards are attached the pull-cords 25 and 26, respectively, which hang down in handy positions to be seized by a person afoot or mounted. In Fig. 4 the standard 27 is supposed to be anchored in the ground in fixed position, and upon the head of the same are arranged a pair of sheaves, over which pass the pull cords, to the ends of which are attached counterbalancing-weights 30 30, to keep the cords taut and to render the operation of the gate easier. If desired, similar weights may be attached to the pull-cords on the pivoted standards. The pull-cords may be made of any suitable flexible material, such as rope or wire.

The inner end of the angle-lever is disposed near the gate, while the outer end thereof projects outward near the hinge-post. It is evident that this lever must be bent somewhat as I have shown in order to gain the requisite leverage to operate the gate. Instead, however, of forming it as shown, it may be made approximately F-shaped, which will be found to answer the requirements.

The operation of the gate may be described as follows: In closed position the angle-lever 16 is in such position as to allow the latch-rod to assume its highest elevated point. By drawing upon either of the opening pull-cords 25 25 the lever is turned on its swivel and forced over the head of the latch-rod 13, thereby depressing the same and elevating the outer end of the latch-bar 10 out of engagement with the lug 11, so that the gate may be swung open. A continued pull upon the cord 25 will now swing the gate open by virtue of the lever bearing against the stop 24. The gate may then be closed by drawing upon either of the pull-cords 26 26, which will move the lever in the reverse way.

In order to hold the gate open against accidental closing, I have provided the gravity latch or dog 31, which is pivoted upon the stationary stand 32. This dog has a limited downward movement, and is arranged so as to be tripped by the latch-bar when the gate is opened wide and only when the bar has its outer end elevated, which position is assumed thereby when the gate is opened by virtue of the angle-lever then engaging the high part of the cam-surface of the latch-rod and depressing the same, as shown in Fig. 3. Thus the gate may be automatically locked in open position by the dog, from which the latch-bar may be disengaged in closing the gate by pulling upon one of the cords 26 26, which will obviously cause the lever to move off the high part of the head of the latch-rod 13 and allow the latch-bar to clear the dog.

My improvements may be readily fixed to gates of almost any ordinary form without necessitating much, if any, alteration therein.

Having thus described my improvements in swinging gates, what I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with a swinging gate having a locking latch-bar, of a reciprocating latch-rod pivoted to the latch-bar, a swiveled operating angle-lever, such as 16, rocking laterally and engaging the rod and a stop on the gate for the lever, and flexible connections attached to the respective ends of the lever and extending to distant points, from whence the gate may be operated, substantially as described.

2. In a gate of the class described, the combination, with a swinging gate having a locking latch-bar, of a vertically-reciprocating latch-rod pivoted to the latch-bar and having a cam-like head, a swiveled lever rocking laterally and engaging the head of the rod, and a stop on the gate for the lever, and pull-connections for the lever, substantially as described.

3. The combination, with a swinging gate having a locking latch-bar, of a movable latch-rod having a cam-like head and pivoted to the latch-bar and provided with a guide, a crooked angle-lever swiveled to a fixed point near the gate and rocking laterally and engaging the latch-rod and a stop on the gate for the lever, and pull-cords attached to the respective ends of the lever, substantially as described.

4. In a gate of the class described, the combination, with the gate having a locking latch-bar, and a gravity-dog engaging such latch-bar when the gate is swung open, of a movable latch-rod pivoted to the latch-bar and a swiveled operating angle-lever rocking laterally and engaging the latch-rod when opening the gate, and also engaging the latch-rod when closing the gate, and acting at such time to disengage the said dog and bar, substantially as described, and for the purpose set forth.

5. In a gate of the class described, in combination, the swinging gate 6, provided with the pivoted latch-bar 10 for locking the gate, the reciprocating latch-rod 13, pivoted by its lower end to one end of the bar 10 and provided with a cam at its upper end, the swiveled lever 16, formed with angles 17 18 19 and suitably mounted near the gate, a stop fixed upon the gate and engaged by the angle-lever in opening and closing the gate, and the pull-cords 25 26, attached to the respective ends of the angle-lever and carried to remote points from the gate, where they are provided with suitable supports for elevating them, substantially as and for the purpose set forth.

6. In a gate of the class described, in combination, the swinging gate 6, hung upon the post 7 and provided with the pivoted latch-bar 10 for locking the gate, the vertically-reciprocating latch-rod 13, pivoted by its foot to one end of the latch-bar and provided at its head with a cam, 15, the guide 14 for the latch-rod, the angle-lever 16, formed with the angles 17 18 19 and swiveled near its center of length upon a pintle, 23, the stop 24, located upon the gate and engaged by the angle-lever, and the pull-cords 25 26, attached to the respective ends of the angle-lever and extending to points remote from the gate, where they are supported in elevated position by the standards 27 27, respectively, substantially as and for the purpose set forth.

7. In a gate of the class described, the combination, with a swinging gate provided with a pivoted latch-bar for locking the gate, and a reciprocating latch-rod pivoted to the latch-bar and provided with a cam-like head, the swiveled angle-lever 16, engaging the head of the latch-rod, and a stop fixed on the gate to limit the throw of said lever, and the pull-cords attached to the respective ends of the angle-lever for operating the same, of the post 32, located near by the gate, and provided with a gravity-dog, 31, appropriate to be engaged by the latch-bar of the gate when the latter is swung into open position, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 26th day of April, 1888.

DYAS SCOTT.

Witnesses:
WILLIAM C. DIETRICH,
WILLIAM M. CLEPHANE.