F. SLATTERY.

GATE LATCH.

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1,078,964. Patented Nov. 18, 1913.

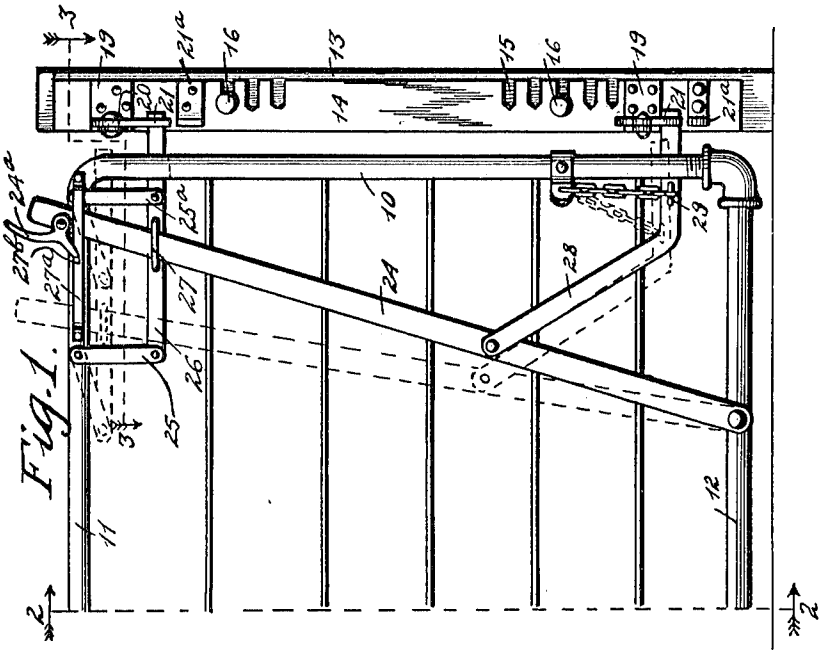


Fig. 1.

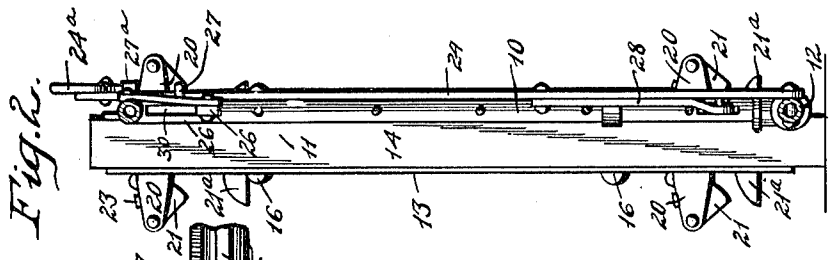


Fig. 2.

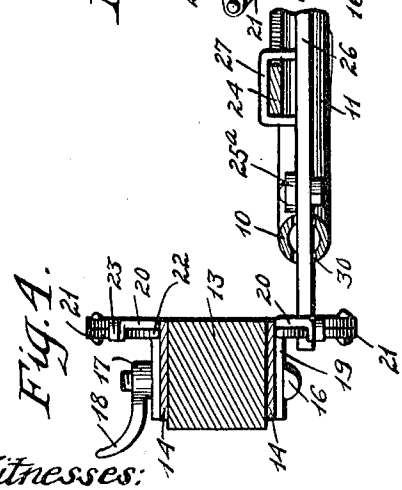


Fig. 4.

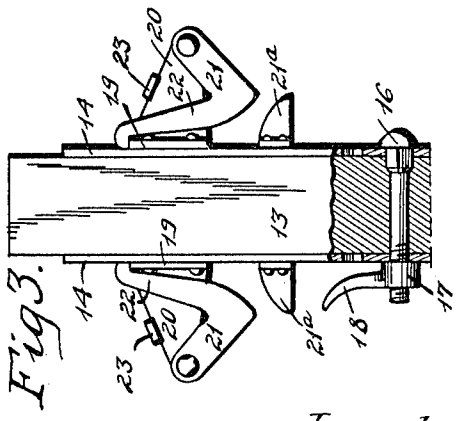


Fig. 3.

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FRANK SLATTERY, OF PERRY, IOWA.

GATE-LATCH.

1,078,964. Specification of Letters Patent. Patented Nov. 18, 1913.

Application filed June 17, 1912. Serial No. 704,433.

To all whom it may concern:

Be it known that I, FRANK SLATTERY, a citizen of the United States, residing at Perry, in the county of Dallas and State of Iowa, have invented a certain new and useful Gate-Latch, of which the following is a specification.

The object of my invention is to provide a gate latch of simple, durable and inexpensive construction which may be readily operated from either side of the gate.

A further object is to provide a gate latch having a member which tends at all times to automatically turn to position for locking the gate when closed.

A further object is to provide a gate latch which, when released, will permit a gate to swing in either direction.

A further object is to provide a gate latch which is adapted for securing the gate, both at the lower and the upper side of its free end, thereby preventing small animals from pushing the gate partially open at its lower side.

A further object is to provide a gate latch comprising members which automatically engage when the gate is moved to its closed position.

A further object is to provide a latch member designed to be detachably secured to a post, and so constructed and secured to the post that it may be adjusted vertically thereon to allow for sagging of the gate or other circumstances.

A further object is to provide a gate latch comprised of few and simple parts which are inexpensive in construction and not likely to get out of order, and easily repaired or replaced.

My invention consists in certain details, in the construction, arrangement and combination of the various parts of the device, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which:

Figure 1 shows a side elevation of the free end of a gate equipped with my improved latch. Fig. 2 shows a vertical, transverse, sectional view through the free end of a gate equipped with my latch taken on the line 2—2 of Fig. 1. Fig. 3 shows a horizontal, sectional view on the line 3—3 of Fig. 1. Fig. 4 shows a front view of part of a post equipped with my latch and latch holding plate, partly in section.

Referring to the accompanying drawings, I have used the reference numeral 10 to indicate an upright member at the free end of an ordinary hinged or swinging gate. The gate fabric may be of any desired material. As shown in the drawings the upright end member 10 and upper and lower horizontal members 11 and 12 are made of pipe. Adjacent to the free end of the gate in its closed position is a post 13.

My improved gate latch comprises a member or members designed to be secured to a post and a member designed to be secured to the gate proper. The members upon the post and gate may be interchanged but I preferably place them as herein described.

On opposite sides of the post 13, I provide detachable and adjustable plates 14, each of which is provided at suitable points with series of notches 15. The plates 14 are secured to the sides of the post 13 by means of bolts 16 which are received in the notches 15 and extend through the post. The heads of the bolts 16 engage the plates 14 on one side of the post and the other ends of the bolts are screw threaded and received in nuts 17 which are provided with handles 18.

As will readily be seen the plates 14 may be adjusted vertically on the post 13 by loosening the nuts 17 and raising and lowering the plates and placing them in position with the bolts 16 received in higher or lower notches than before.

At suitable points upon the plates 14 are secured catch members, each comprising a body which may be of any suitable form but which is shown in the drawing as a plate 19 secured to the plate 14 and provided with a right angled extension 20 slightly tapering in form from the plate 14 to its outer end. Pivoted to the outer end of the extension 20 is a pawl 21 which normally extends downwardly and toward the post 13 on each side thereof. Formed on the free end of each pawl 21 is a short arm 22 normally extending upwardly and toward the post 13 and designed when the pawl 21 is in its normal position to engage the plate 19 and limit the downward movement of said pawl 21. Lugs 23 are formed on the upper edges of the extensions 20 in position to engage the arms 22 when the pawls 21 are moved upwardly and to limit the upward movement of said pawls 21. The lugs 23 are so located on the extensions 20 as to permit the upward movement of the pawl 21 to a point where

the lower edges of said pawls are even with the lower edges of the extensions 20.

The construction of the pawls 21 and adjacent parts may be varied in many details but said pawls are preferably constructed with an inclined surface designed to engage the latch device, hereinafter described, as the gate is swung toward its closed position so that said latch device raises the pawl until the latch device is adjacent to the post 13 when the pawl is permitted to drop to its normal position.

Below each of the pawls 21 I provide lugs 21^a on the plates 14, having their upper edges inclined from their free ends upwardly and toward the plates 14 to cause the bar 26 and extension 29, hereinafter described, to move to proper position in engagement with the pawls 21.

On the free end of the gate, I provide a lever 24 which is pivoted at its lower end to a point near the lower side of the gate to swing in a vertical plane adjacent to the gate member 11. The form of the lever 24 may be varied. In the drawing, I have shown it as a bar.

Near the upper end of the lever 24, I pivotally secure to the horizontal member 12 of the gate a short arm 25 which normally hangs downwardly and is capable of pivotal movement in a vertical plane. At its lower end the arm 25 is pivoted to the rear end of an approximately horizontal bar 26, which extends forwardly to position to be engaged by the pawl 21 when the gate is closed as shown in Fig. 1. A short arm 25^a is pivoted to the member 11 of the gate and to the bar 26 parallel to and in front of the arm 25. On the bar 26 is a staple 27 through which is extended the lever 24. The staple 27 is of sufficient size to allow considerable play of the lever 24. On the member 11 is a guide loop 27^a to limit the lateral movement of the lever arm 24 with reference to the gate. In the upper surface of the loop 27^a is a notch 27^b. The lever 24 extends above the gate to position where it may be easily grasped by a person desiring to open or close the gate. On the upper end of the lever 24 is pivoted a pawl 24^a which, when the lever 24 is in position for holding the gate closed, drops into the notch 27^b. In its normal position the lever 24 is inclined upwardly and forwardly, as shown in Fig. 1.

When the lever 24 is moved rearwardly toward vertical position it is permitted to move for a sufficient distance to draw the bar 26 out of engagement with the catch member on the post 13. The loop 27^a is so located that as the lever 24 is moved farther toward vertical position it is engaged by said loop 27^a. The loop 27^a thus serves to limit the rearward movement of the lever 26. The loop 27^a is so placed that the lever cannot move rearwardly to vertical position, and the weight of the said lever 24 and the bar 26 and the tendency of the arms 25 and 25^a to drop to vertical position always tend to draw the lever 24 toward the free end of the gate.

Pivotally secured to the lever 24 near the lower end thereof is a bar 28 normally extending between the upright downwardly and forwardly and provided with an approximately horizontal forward extension 29 which, when the gate is closed, stands in position to be engaged by one of the pawls 21.

The bar 26 and the extension 29 are slidably mounted in slots 30 in the upright member 10. To lessen the friction of the extension 29 in the slot in the upright member 10, I provide a supporting chain 31 secured to the gate frame and to said extension.

In practical operation, when a gate equipped with my improved latch is closed, the bar 26 and extension 29 are engaged by the pawls 21 and are held between said pawls and the plates 14 above the lugs 21^a. The lever 24 is inclined upwardly and forwardly from its pivotal point at its lower end, as shown in Fig. 1. When it is desired to open the gate, the operator grasps the lever 24 and moves the said lever and the bar 26 and extension 29 away from the free end of the gate, or rearwardly. The bar 26 and extension 29 are withdrawn from their position between the pawls 21 and the plates 14 and as the rearward movement of the lever 24 toward vertical position is continued the loop 27^a engages the lever 24 and limits the rearward movement of the lever 24 past dead center. The gate can then be swung in either direction from the post 13.

When the grasp of the operator on the lever 24 is released, the force of gravity moves the lever 24 from its approximately upright or vertical position to a position inclined upwardly and forwardly, as shown in Fig. 1. The forward movement of the lever 24 is limited by the arm 25^a.

Should the gate sag, or when it is desired for any other reason to adjust the pawls 21 vertically, the plates 14 may be adjusted in the manner hereinbefore set forth.

It will be readily seen that my gate latch has numerous advantages. It is of extremely simple and inexpensive construction. It can be made of materials which are easily available. It is composed of few and simple parts which are easy to repair and replace. After the gate is opened, the movement of the parts toward position for latching the gate is automatic. The gate may be opened in either direction and automatically latched when closed. It is secured to the post 13 in two places, thus preventing strain on the

gate by pressure near the top or near the bottom and preventing the passage of small animals which might otherwise spring the gate out of alinement at the bottom. The latch members on the post 13 may be readily adjusted to allow for sagging of the gate.

I claim as my invention:

1. In a device of the class described, a swinging gate, a lever pivoted at its lower end to the said gate near the free end thereof and extending normally upwardly and forwardly, parallel arms pivoted to said gate on each side of said lever and extending downwardly, a substantially horizontal bar pivoted to said arms, means for securing said lever to said bar to permit said bar and lever to move in unison, a post, an automatic latch device on said post, and said bar being designed to engage said latch device when said gate is closed, and means for limiting the rearward movement of said lever.

2. In a device of the class described, the combination of a swinging gate with a lever pivoted at its lower end to the said gate near the free end thereof and extending normally upwardly and forwardly, a post, automatic latch devices on said post, parallel arms pivoted to said gate in the front and rear of said lever, a substantially horizontal bar pivoted to said arms, said bar being designed to engage one of said latch devices when said gate is closed, an arm pivoted near the lower end of said lever, a forward extension thereon designed to engage the other of said latch devices, means for limiting the rearward movement of said lever past the point where its weight tends to draw it forward, and to limit its forward movement.

3. In a device of the class described, the combination of a swinging gate with a lever pivoted at its lower end to the said gate near the free end thereof and extending normally upwardly and forwardly, a post, automatic latch devices on said post, parallel arms pivoted to said gate in the front and rear of said lever, a substantially horizontal bar pivoted to said arms, said bar being designed to engage one of said latch devices when said gate is closed, means arranged to limit the rearward movement of said lever past the point where its weight tends to draw it forward, an arm pivoted near the lower end of said lever, a forward extension thereon designed to engage the other of said latch devices, and a chain secured to said gate and said extension to support the latter.

4. In a device of the class described, the combination of a swinging gate having an upright member at its free end with a lever pivoted at its lower end to the said gate near the free end thereof and extending normally upwardly and forwardly, a post, automatic latch devices on said post, parallel arms pivoted to said gate in the front and rear of said lever, a substantially horizontal bar pivoted to said arms, said bar being designed to engage one of said latch devices when said gate is closed, an arm pivoted near the lower end of said lever, a forward extension thereon designed to engage the other of said latch devices, said parallel arms being arranged to limit the rearward movement of said lever past the point where its weight tends to draw it forward and to limit its forward movement, said horizontal bar and said arms being slidably mounted in slots in said upright member.

5. In a device of the class described, the combination of a swinging gate, with a lever pivoted at its lower end to the said gate near the free end thereof and extending normally upwardly and forwardly, a post, an automatic latch device on said post, a bar pivoted to said lever and extended forwardly therefrom, said bar being designed to engage said latch device when said gate is closed, and means for limiting the rearward movement of said lever past the point where its weight tends to draw it forward, said means comprising a guide loop on said gate, said loop being constructed with a notch in its upper surface, and a pawl pivoted to said lever and designed to enter said notch when said lever is at the forward position of its movement.

Des Moines, Iowa, Apr. 15, 1912.

FRANK SLATTERY.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."