

No. 844,907.

PATENTED FEB. 19, 1907.

J. B. AIKIN.
SURE CATCH LATCH FOR DOORS, &c.
APPLICATION FILED JUNE 28, 1906.

2 SHEETS—SHEET 1.

Fig. 1.

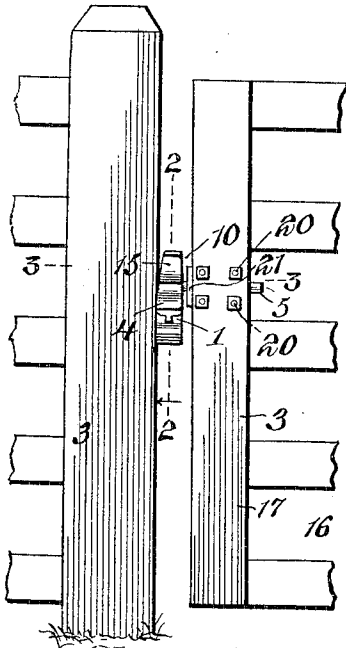


Fig. 2.

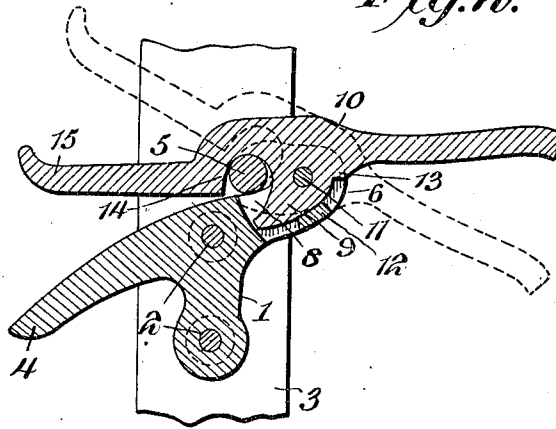


Fig. 4.

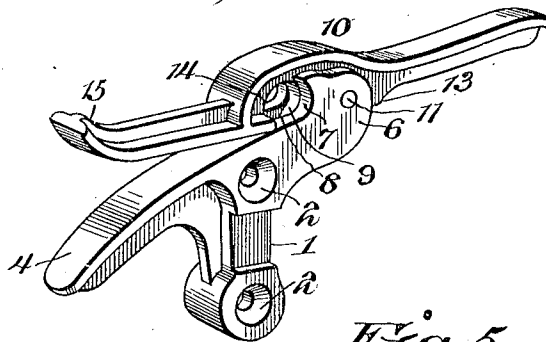


Fig. 5.

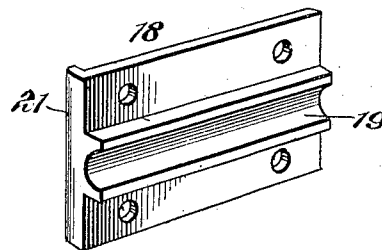
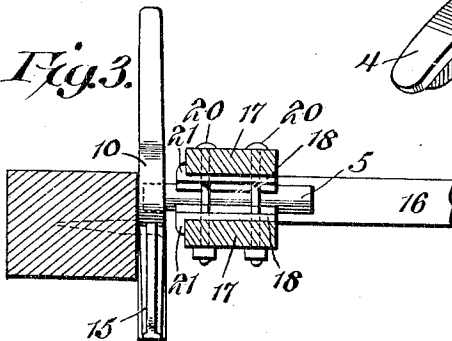


Fig. 3.



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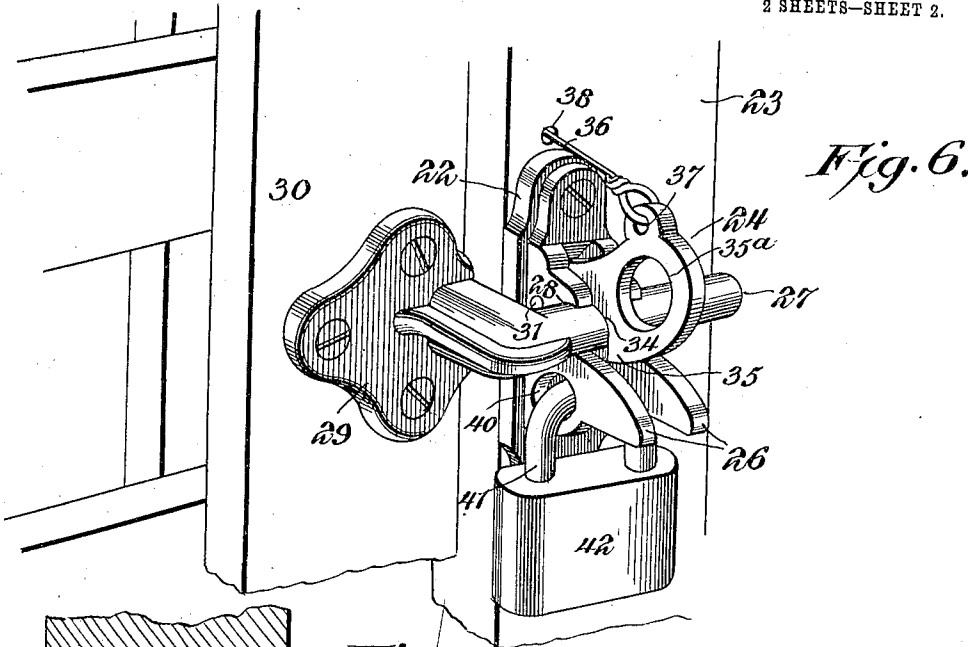
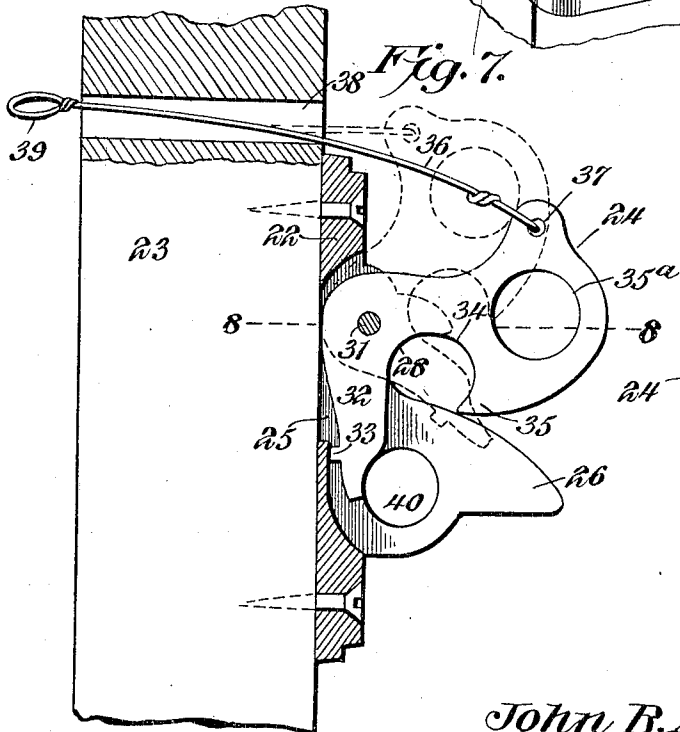
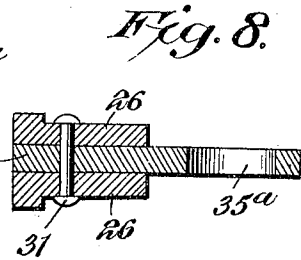
Witnesses
Howard D. Orr.
J. F. Riley

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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

JOHN B. AIKIN, OF BLOOMINGTON, OHIO.

SURE-CATCH LATCH FOR DOORS, &c.

No. 844,907.

Specification of Letters Patent.

Patented Feb. 19, 1907.

Application filed June 28, 1906. Serial No. 323,925.

To all whom it may concern:

Be it known that I, JOHN B. AIKIN, a citizen of the United States, residing at Bloomington, in the county of Clinton and State of Ohio, have invented a new and useful Sure-Catch Latch for Doors, Gates, &c., of which the following is a specification.

The invention relates to improvements in latches.

The object of the present invention is to improve the construction of latches and to provide a simple, inexpensive, and efficient latch adapted for use on farm-gates, yard-gates, barn-doors, outbuildings, &c., and capable of supporting the free end of a gate or door when the same is closed, whereby such gate or door will be prevented from settling or sagging.

A further object of the invention is to provide a latch of this character which when a door or gate is quickly closed or slammed will positively lock the same and prevent any accidental rebound of the gate or door.

Another object of the invention is to provide a gate-latch which when operated to unfasten a gate or door will serve to start the opening movement of the same, and thereby obviate the necessity of holding the latch in its unlocked position with one hand and simultaneously opening the gate or door with the other hand.

The invention also has for its object to provide a latch which will be adapted to receive the shackle of a padlock for positively locking a gate or door.

With these and other objects in view the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended, it being understood that various changes in the form, proportion, size, and minor details of construction within the scope of the claims may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is an elevation of a latch constructed in accordance with this invention and shown applied to a large farm-gate. Fig. 2 is a vertical sectional view on the line 2 2 of Fig. 1. Fig. 3 is a horizontal sectional view taken substantially on the line 3 3 of Fig. 1. Fig. 4 is a perspective view of the latch shown in Fig. 1. Fig. 5 is a detail perspective view of one of the plates for clamping the adjustable gate member.

Fig. 6 is a perspective view of a latch designed for use on small gates, doors, and the like and adapted to receive a padlock for locking the gate or door. Fig. 7 is a vertical sectional view of the same. Fig. 8 is a horizontal sectional view taken substantially on the line 8 8 of Fig. 7.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates the body of a latch which is designed for use on large farm-gates. The body 1, which is constructed of cast-iron or other suitable material, is substantially T-shaped and consists of a lower vertical portion and an inclined upper portion which extends from the opposite sides of the upper end of the vertical portion. The vertical portion of the body is provided with suitable countersunk perforations 2, designed to receive large screws or other suitable fastening devices for securing the latch to a latch-post 3.

The lower half of the inclined upper portion of the body forms an inclined guiding-arm 4, having a smooth upper face and adapted to guide a gate member 5 into the latch. The upper half 6 of the inclined portion of the body projects upward to form a stop and is provided with a recess 7, adapted to receive the gate member 5 and forming an overhanging engaging portion to prevent any upward movement of the gate member. The upwardly-projecting portion 6 is longitudinally slotted or bifurcated to provide an opening 8 to receive a depending prong or arm 9 of a pivoted member 10. The depending prong or arm is provided with a perforation for the reception of a rivet 11, which forms the pivot for the member 10 and which pierces the sides of the upwardly-projecting portion 6 of the body. The pivoted member extends in advance and in rear of the upwardly-projecting portion 6 of the body, and either the rearwardly-extending portion may be swung downward or the forwardly-extending portion swung upward to release the gate member. The slotted or bifurcated portion 6 is provided at the bottom of the opening 8 with a solid connecting portion 12, which forms a stop for limiting the swing of the pivoted member in one direction, the said pivoted member being provided at the inner end of its rearwardly-extending arm with a shoulder 13 for engaging the bottom portion 12.

When the pivoted latch member is swung upward, as illustrated in dotted lines in Fig. 2 of the drawings, the depending prong or arm 9 is carried upwardly and projects into the recess 7 and lies in the path of the gate member 5 and is adapted to be engaged by the same, whereby the pivoted latch member will be swung downward into engagement with the latch member and will hold the same securely in its closed position to prevent the gate from rebounding when quickly closed or slammed. The pivoted latch member is provided at the front edge of the depending prong or arm with a recess, forming a hook or engaging portion 14, which swings downward and engages over the gate member. The front arm 15 of the pivoted latch member is arranged in an approximately horizontal position when the latch is closed, and it is disposed at an angle to the inclined guiding-arm 4, the space between the arms 4 and 15 tapering downwardly, as clearly shown in Fig. 2 of the drawings. The gate member is adapted to readily enter the said space, and in the closing movement of the gate it will lift the pivoted latch member and engage the prong or arm and then swing the latch member downward into engagement with it.

The latch is interposed between the latch-post 3 and the end of the gate 16 when the latter is closed, as clearly shown in Fig. 1 of the drawings. The gate member, which consists of a rod or pin, forms a projecting stud and is adjustably mounted between the front end bars 17 of the gate to enable it to be moved inwardly or outwardly, so that it will properly pass into the latch. The gate member is secured between the bars 17 by means of a pair of clamping plates or members 18, having matching grooves 19, conforming to the configuration of the rod or pin and formed in projecting horizontally-disposed portions or enlargements of the plates. The clamping-plates 18 are secured between the bars 17 by means of bolts 20, arranged in pairs and located above and below the rod or pin. The front or outer ends of the plates 18 are provided with laterally-extending flanges 21, which fit against the outer edges of the bars 17, as clearly shown in Fig. 3 of the drawings.

In Figs. 6 to 8, inclusive, of the drawings is illustrated another form of the latch which is designed particularly for use on small yard-gates, barn-doors, outbuildings, and the like. This form of latch is provided with a body portion 22, adapted to be secured by screws or other suitable fastening devices to one of the side faces of a latch-post 23 and having a slot or bifurcation for the reception of a pivoted latch member 24. The slot or bifurcation extends through the intermediate portion of the body to provide an enlarged opening 25, and it forms a pair of projecting

guiding-arms 26, which have inclined upper edges for guiding a gate member 27 into the latch. The body portion at the inner ends of the arms 26 projects above the same and is provided with opposite recesses 28, adapted to receive the gate member 27 and forming overhanging portions to prevent any upward movement of the gate member.

The gate member 27, which forms a projecting stud, consists of a substantially L-shaped projecting portion and an attachment-plate 29, which is secured by screws or other suitable fastening devices to one of the side faces of a gate 30. The L-shaped projecting portion extends horizontally from the attachment-plate, and the engaging portion thereof is adapted to extend across the latch when the gate is closed, as clearly illustrated in Fig. 6 of the drawings. The engaging portion or stud is disposed horizontally and is arranged in spaced relation with the side faces of the gate or door to which it is secured.

The latch member, which is mounted on a horizontal pivot 31, is approximately L-shaped, and it has a depending prong or arm 32, which extends between the guiding-arms 26 and which operates similar to the depending prong or arm of the latch shown in Figs. 1 to 5, inclusive. The depending prong or arm projects into or in advance of the recess 28 and is arranged in the path of the gate member when the pivoted latch member is swung upward to the position illustrated in dotted lines of Fig. 7 of the drawings, and the said prong or arm 32 is adapted to be engaged by the gate member 27, whereby the latch member is swung downwardly and is caused to hook over the gate member 27. The depending prong or arm is provided at its inner or rear edge with a projection 33, arranged to engage the body of the latch at the back of the recess or bifurcation to limit the swing of the pivoted latch member in one direction.

The body portion of the pivoted latch member extends outwardly from the pivot 31 in substantially a horizontal position when the latch is closed, and it is provided at its lower edge with a recess 34, forming a hook 35 for engaging over the gate member. The projecting body portion of the latch member is provided with an opening 35^a to enable it to be conveniently grasped, and in order to enable the latch to be operated from the opposite side of the gate or door a wire 36 or other suitable operating device is employed. The wire, which is secured in a perforation 37 of the projecting portion of the latch member, extends through an opening 38 of the latch-post and is provided with a loop 39 or other suitable means for enabling it to be readily grasped. When the operating-wire 38 is pulled, the pivoted latch member will be swung upwardly for opening the gate or door.

In order to enable a gate or door to be locked, the guiding-arms 26 of the body of the latch is enlarged and is provided with transversely-aligned openings 40, located in advance of the lower end of the depending prong or arm 32 and adapted to receive the shackle 41 of a padlock 42. The shackle 41 extends across the space between the arms 26 and confines the pivoted latch member in engagement with the gate member.

It will be seen that the latch in both its forms is exceedingly simple and inexpensive in construction, that it is positive and reliable in operation, and that its operation does not depend on the employment of springs. Also it will be clear that when a gate or door is slammed or quickly closed it will be held and prevented from rebounding and that it will be impossible for any domestic animal to root or lift the gate upward and unlatch the same, as the upwardly-extending portion of the body of the latch projects over the gate member and forms an overhanging portion which holds the gate member against upward movement. Furthermore, it will be apparent that the adjustable gate member is adapted to be moved inwardly and outwardly to compensate for any change in the position of the gate-post, so that it will properly enter the latch.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a latch of the class described, the combination with a gate member, of a body provided with a projecting guiding portion having an inclined upper edge, said body being extended upward at the inner end of the guiding portion and having a recess thereat forming an overhanging portion extending over the gate member and forming a stop for holding the said gate member against upward movement, and a movable latch member pivoted to the said body and provided with an engaging portion or hook located above the said guiding portion and at a point in advance of the said overhanging portion.

2. In a latch of the class described, the combination with a gate member, of a body provided with a projecting guiding portion having an inclined upper edge, said body being extended upward at the inner end of the guiding portion and provided with a recess forming an overhanging portion, and a movable latch member pivoted to the body and provided with an engaging portion or hook, and having a depending portion or arm lying in rear and below the gate member when the

latch member is in its locked position, and extending into the said recess and arranged in the path of the gate member when the latch member is raised.

3. In a latch of the class described, the combination with a gate member, of a body, a movable latch member pivoted to the body and provided with an engaging portion and having a depending arm or prong lying below and in rear of the gate member when the latch member is in its locked position and adapted to engage the gate member for opening a gate or door when the latch member is raised, said depending arm or prong being also adapted to project into the path of the gate member when the latch member is in the latter position.

4. In a latch of the class described, the combination with a body, and a movable latch member, of an adjustable gate member, and clamping plates or members arranged to engage the gate member.

5. In a latch of the class described, the combination with a body, and a movable latch member, of an adjustable gate member, and a pair of clamping-plates having inner groove engaging portions receiving and clamping the gate member.

6. In a latch of the class described, the combination with a body, and a movable latch member, of a pair of clamping plates or members designed to be arranged between the end bars of a gate, an adjustable gate member arranged between and clamped by the said plates or members, and fastening means for securing the plates or members to the gate and for holding them in engagement with the gate member.

7. In a latch of the class described, the combination with a body, and a movable latch member, of a pair of clamping plates or members designed to be arranged between the end bars of a gate and provided with flanges for engaging the same, said plates or members being also provided at their inner faces with projecting grooved portions, an adjustable gate member fitted in and engaged by the grooved portions of the plates or members, and fastening means for securing the plates or members to the gate and for holding them in engagement with the gate member.

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

JOHN B. AIKIN.

Witnesses:

HUGH BELL,
WALTER H. DAKIN.

It is hereby certified that in Letters Patent No. 844,907, granted February 19, 1907, upon the application of John B. Aikin, of Bloomington, Ohio, for an improvement in "Sure-Catch Latches for Doors, &c.," an error occurs in the printed specification requiring correction, as follows: In line 85, page 3, the word "groove" should read *grooved*; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 5th day of March, A. D., 1907.

[SEAL.]

F. I. ALLEN,
Commissioner of Patents.