Aug. 30, 1927. 1,640,394

E. CROWLEY

GATE LATCH

Filed March 20, 1925

Fig. 1

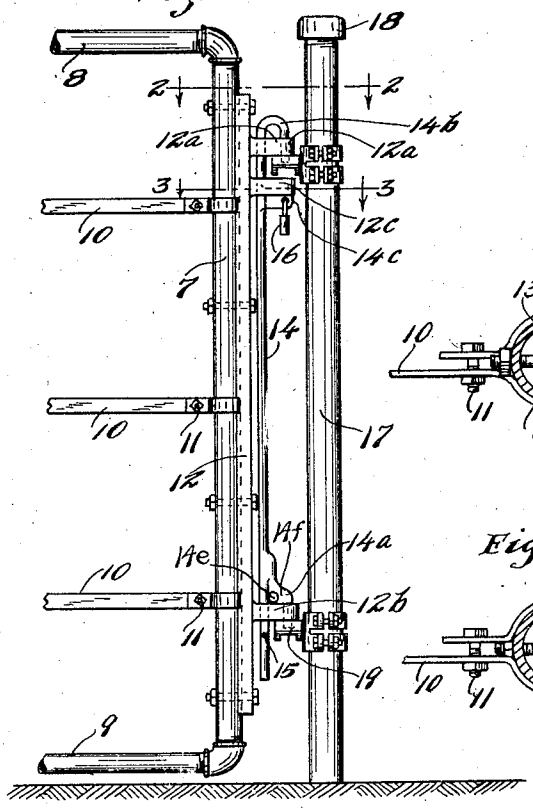


Fig. 2

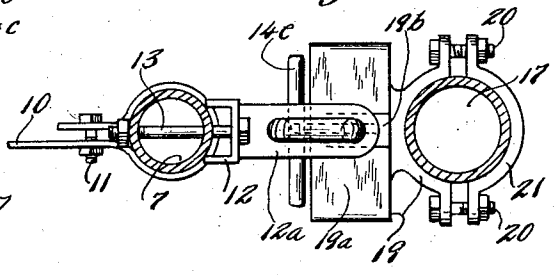


Fig. 3.

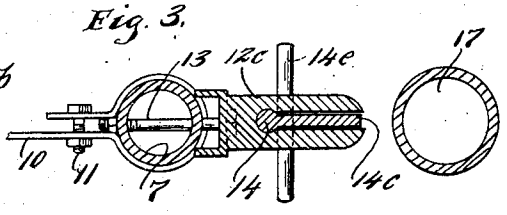


Fig. 6

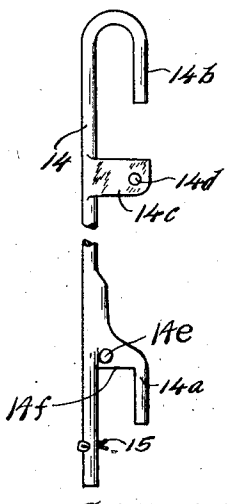


Fig. 4

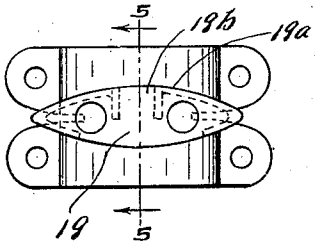
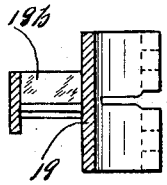


Fig. 5



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UNITED STATES PATENT OFFICE.

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GATE LATCH.

Application filed March 20, 1925. Serial No. 16,996.

This invention relates to a latching and locking means for a swinging member such as a door or gate, and while the invention may be variously applied, it is shown and illustrated as a gate latch.

It is an object of this invention to provide such a latching means which is of simple construction and efficient in operation and which will hold the gate against twisting stress or movement out of its normal plane.

It is a further object of the invention to provide a latching means comprising spaced keepers secured to a stationary member which are engaged by a latching member carried by and movable on the gate.

It is a further object of the invention to provide a gate holding means comprising a stationary member having secured thereon spaced keepers adapted to be easily adjusted and held in various positions on said member, together with a latching means on the gate comprising a rod movable vertically or transversely of the gate having portions adapted to engage and be received in said keepers.

It is a further object of the invention to provide a device as set forth in the preceding paragraph, the gate also carrying lugs projecting therefrom adapted to pass and be disposed above said keepers, said rod being guided in said lugs.

It is still another object of the invention to provide a gate latching means comprising a keeper adapted to be engaged by a movable member carried by the gate, said gate also having a lug disposed below said keeper in which a portion of said member is guided, which portion is adapted to receive a locking means to lock said member in position with said gate latched.

These and other objects and advantages of the invention will be fully set forth in the following description made in connection with the accompanying drawings in which like reference characters refer to the same parts throughout the different views, and in which,

Fig. 1 is a view in side elevation of the end portion of the gate having the invention applied thereto;

Fig. 2 is a horizontal section taken on the line 2—2 of Fig. 1, as indicated by the arrows;

Fig. 3 is a horizontal section taken on the line 3—3 of Fig. 1, as indicated by the arrows;

Fig. 4 is a view in front elevation of one of the keeper portions;

Fig. 5 is a vertical section taken on the line 5—5 of Fig. 4; and

Fig. 6 is a detail view of a latching member, Figs. 2 and 6 being shown on an enlarged scale.

Referring to the drawings, a swinging member in the form of a gate is shown comprising a vertical end member 7, and the top and bottom members 8 and 9, respectively, secured to member 7. While the swinging member or gate may be made in any desired way, in the embodiment of the invention illustrated, the members 7, 8 and 9 are shown as made of tubing or piping connected at the corners by standard elbows. The gate also has longitudinal spaced members 10 shown in the form of metal strips extending longitudinally thereof parallel to the members 8 and 9 and extending around the member 7 and clamped thereto by headed and nutted bolts 11. The member 7 has extending along its outer side or the end portion of the gate a bracket 12. This bracket has its inner portion of channel shape, the edges of the flanges of said channel abutting the member 7 and the member 12 is secured to the member 7 by spaced headed and nutted bolts 13 passing through said channel-shaped portion and diametrically through the member 7. The member 12 has projecting therefrom at spaced points adjacent the top and bottom of the gate, lugs 12^a and 12^b. The lugs 12^a and 12^b are provided with spaced apertures and a latching member 14, illustrated as a round rod, extends through the apertures in the lugs 12 and 12^b which are nearest to member 7. The upper end of rod 14 is reversely bent, as shown at 14^b and has its terminal portion extending down through the outer aperture in the lug 12^a. Adjacent the lower lug 12^b the rod 14 has an offset portion 14^a therein extending parallel to the main portion of the rod and which is received in the outer aperture in the lug 12^b. The lower end of the reversely bent portion 14^b and the lower end of the portion 14^a are adapted normally to project somewhat below the lower side of the lugs 12^a and 12^b, the portion 14^a being formed with a handle 14^e adapted to engage the upper surface of lug 12^b and also act as a stop to hold the rod 14 in its normal position. Said rod also has a stop means which, in the embodiment of the invention illustrated, is shown as a cotter

pin 15 extending therethrough below the lug 12^b and which limits its upward movement, it being understood that rod 14 is slidable in lugs 12^a and 12^b. A lug 12^c also projects from member 12 a short distance below lug 12^a and this lug 12^c is provided with a slot at its outer portion in which slides a plate-like extension 14^c formed on the rod 14, as clearly shown in Fig. 3. The extension 14^c is provided with an aperture 14^d adjacent its lower outer corner adapted to receive the bail of a locking means shown as a padlock 16.

To hold the gate in closed position, a stationary member 17 is provided illustrated as a post formed of a tube or pipe having a cap 18 on its upper end. Secured to post 17 are spaced keepers 19. Each keeper is provided with a semi-cylindrical portion adapted to extend partially around the post 17 and be connected by headed and nutted bolts 20 to a semi-cylindrical clamping sleeve 21 fitting about the opposite side of post 17. The keepers 19 have adjacent the gate a surface 19^a which slopes downward at each side of a central vertical open-bottom recess 19^b. The keeper also has a convex surface 19^c on its lower side, the surfaces 19^a and 19^c meeting at the ends in substantially a point forming an approximately diamond shaped member. This diamond-shaped portion of the keeper is in the form of a hollow shell having openings in its bottom and sides to lighten the same. The gate will be hinged at its end opposite the end 7, and as the gate swings to closed position, the lower ends of the portions 14^b and 14^a will strike the surface 19^a and will ride and move upward on the same until coming over the recess 19^b, when the said portions, with the member 14, will descend and engage in said recesses. The gate is then in latched and closed position. The parts are so adjusted that the lugs 12^a and 12^b will also engage the surface 19^a as the gate comes to closed position. When it is desired to open the gate, the member 14 is raised by the handle 14^e so that portions 14^a and 14^b are withdrawn from their keepers and the gate is then free to be swung open. The rod 14 is guided in the lugs 12^a and 12^b as well as in the lug 12^c. If it is desired to lock the gate in closed position, a lock, such as shown at 16, will be inserted in the aperture 14^d and if it is then attempted to raise rod 14 the lock will strike the lower surface of the lug 12^c so that portions 14^a and 14^b cannot be lifted from the recesses 19^b in the keepers. The gate cannot be lifted bodily to remove rod 14 from the keepers, as lug 12^c will engage upper keeper 19. The gate is thus locked securely in closed position. It will be noted that the lock 16 is disposed in an open space and centrally of the end member 7 and post 17 so that the lock is readily accessible to be unlocked from either side of the gate. The keepers 19 can be quickly adjusted and secured in fixed position on post 17. It is often necessary and desirable to raise the gate and this can be done very quickly by adjusting said keepers 19. In some places in the winter, snow and ice accumulate so that it is necessary to raise the gate several inches in order to pass over the accumulated snow and ice. With applicant's structure this can very easily and quickly be done.

From the above description it is seen that applicant has provided a very simple and efficient gate holding, latching and locking means. By having the keepers disposed adjacent the top and bottom of the gate, any tendency of the gate to twist or warp out of its plane effectively is prevented. The twisting shock and strain, due to the closing of the gate when only one keeper is used, is also eliminated by the spaced keepers. The walls of recess 19^b extending transversely of the plane of the gate make it impossible to move the keeper out of engaging position with the latches 14^b and 14^a by outward movement of post 17. Such outward movement might occur by springing movement of said post or by parties attempting to open the gate when locked. The parts of the device are quite few and are of simple and rugged construction and the device is adapted for use on very large and heavy gates as well as those of lighter construction. The device has been amply demonstrated in actual practice and found to be very successful and efficient.

It will, of course, be understood, that various changes may be made in the form, details, arrangement and proportions of the parts without departing from the scope of applicant's invention, which generally stated, consists in a device capable of carrying out the objects above set forth and in the novel parts and combinations of parts disclosed and defined in the appended claims.

What is claimed is:

1. A latching means for a swinging member, such as a gate, having in combination, a stationary member having upper and lower keepers thereon, a member carried by said gate guided for vertical movement thereon having portions adapted, respectively, to engage and seat in said keepers, said gate having spaced means adapted, respectively, to pass and be disposed above said keepers, said member being movable and guided in said means.

2. A latching means for a swinging member such as a gate having in combination, a stationary member having upper and lower keepers thereon, means for holding said keepers in various vertical positions on said member, a vertically movable member

carried by said gate and guided thereon having portions adapted, respectively, to engage and seat in said keepers, said gate having spaced means adapted to be disposed adjacent said keepers when the gate is in closed position, said vertically movable member being movable in said means.

3. A latching means for a swinging member such as a gate having in combination, a stationary member having upper and lower keepers thereon, said keepers having a central recess and a surface sloping downwardly and laterally therefrom, a vertically movable rod carried by said swinging member having downwardly extending portions spaced therefrom adapted respectively to ride on said surface in a swinging movement of said swinging member and drop into said recesses, said swinging member having spaced lugs projecting therefrom adapted to pass and be disposed above said keepers, said lugs having apertures in which said downwardly extending portions of said rod are guided.

4. A latching and locking means for a swinging member having in combination, a stationary member having spaced keepers thereon, each having a central recess and a surface sloping downwardly at each side thereof in a direction substantially at right angles to the normal closed movement of said swinging member, a vertically movable member carried by and guided by said swinging member having portions adapted, respectively, to ride on said surface and drop into said recesses, said swinging member having lugs adapted to pass over said keepers, each having a plurality of apertures therethrough through which said vertically movable member and said portions thereof pass and are guided.

5. A latching means for a swinging member, such as a gate, having in combination, a stationary member having upper and lower keepers thereon, a member carried by said gate guided for vertical movement thereon having portions adapted, respectively, to engage and seat in said keepers, said gate having spaced means adapted, respectively, to pass and be disposed above said keepers, and form supports for said gate, means for preventing lifting movement of said member to prevent its removal from said keepers, and means for preventing lifting movement of said gate to remove said member from said keepers.

6. The structure set forth in claim 4, said swinging member also having a lug thereon adapted to pass and be disposed under one of said keepers, said vertically movable member having a portion guided in said last mentioned lug and adapted to receive a locking means when said vertically movable member is seated in the recess in said keeper whereby said locking means will engage the underside of said last mentioned lug and said vertically movable member cannot be disengaged from said keeper.

7. A latching means for a swinging member, such as a gate, having in combination, a stationary member having upper and lower keepers thereon, and a member carried by said gate guided for vertical movement thereon having portions adapted, respectively, to engage and seat in said keepers, said gate having spaced means adapted, respectively, to pass and be disposed above said keepers respectively, said means forming supports for said gate when in closed position.

8. A latching and locking means for a swinging member such as a gate having in combination, a stationary keeper having a central vertically extending recess therein and a surface sloping downward at each side thereof, a vertically movable member carried by said gate adapted to ride on said surface and drop into said recess, said recess having a vertical wall in its side adjacent the gate whereby said keeper cannot be disengaged by movement away from said gate.

9. A latching means for a swinging member such as a gate, having in combination, a stationary member having upper and lower keepers thereon having seats, a member carried by said gate guided for vertical movement thereon having vertically spaced portions adapted, respectively, to engage the seat in said keepers, said gate having spaced means adapted to pass and be disposed above and below said upper keeper and having a member adapted to pass and be disposed above said lower keeper, said means disposed above said keepers forming supports for the gate when in closed position, and said means below said upper keeper preventing lifting movement of said gate.

10. A latching and locking means for a member such as a gate swinging about a vertical axis, having in combination, a stationary keeper having a central vertically extending recess therein, convex surfaces at each side of said recess respectively curving downwardly and outwardly from the top thereof, a vertically movable member carried by said gate adapted to ride on said surfaces and drop into said recess and spaced lugs carried by said gate adapted to pass and be disposed respectively above and below said keeper, said vertically movable member being guided for vertical movement in one of said lugs.

11. A latching and locking means for a member such as a gate swinging about a vertical axis having in combination, a stationary keeper having a central vertically extending recess therein, convex surfaces at each side of said recess respectively curving downwardly and outwardly from the top

thereof, a vertically movable member carried by said gate adapted to ride on said surfaces and drop into said recess, and spaced lugs carried by said gate adapted to pass and be disposed respectively above and below said keeper, said movable member having a flat portion guided for vertical movement in the lower one of said lugs, said portion having an aperture therethrough adapted to receive a locking means whereby said locking means will engage the lower side of said lower lug and prevent raising of said movable member to disengage the same from said keeper.

12. A latching and locking means for a member such as a gate swinging about a vertical axis having in combination, a stationary keeper having a central vertically extending recess therein, convex surfaces at each side of said recess respectively curving downwardly and outwardly from the top thereof, a vertically movable member carried by said gate having an outer portion adapted to slide on said surfaces and drop into said recess, and vertically spaced lugs carried by said gate adapted to pass and be disposed respectively above and below said keeper, the upper one of said lugs having spaced apertures therethrough, said portion of said movable keeper being movable and guided in one of said apertures, said movable member also having a portion remote from said keeper passing through and guided in the other of said apertures and also guided in said lower lug.

In testimony whereof I affix my signature.

EDWIN CROWLEY.