Dec. 11, 1951 S. E. THOMAS 2,577,930

GATE LATCH

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Fig. 1.

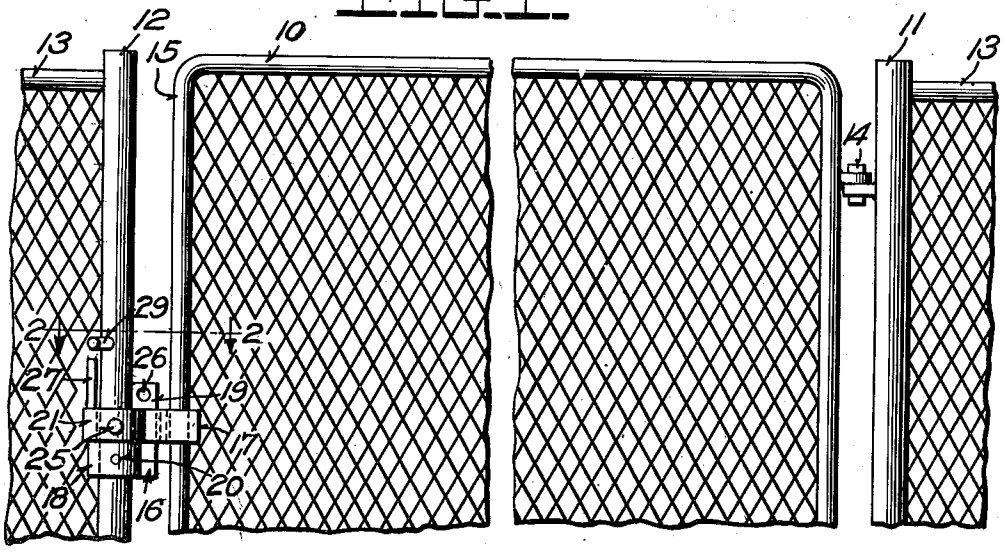


Fig. 2.

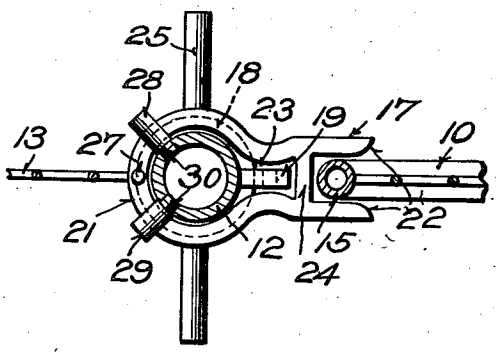


Fig. 4.

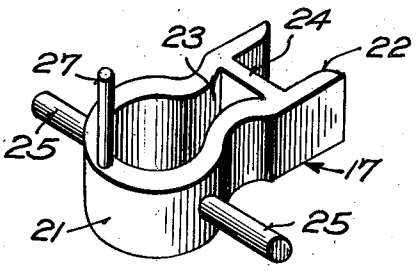


Fig. 3.

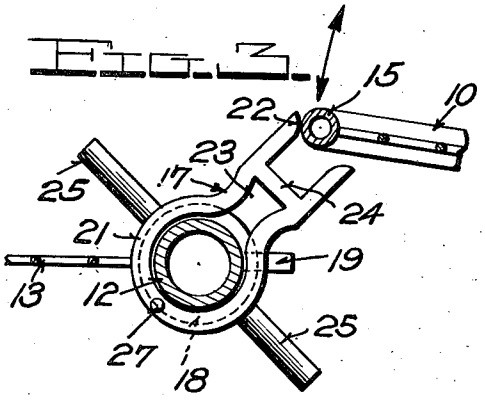
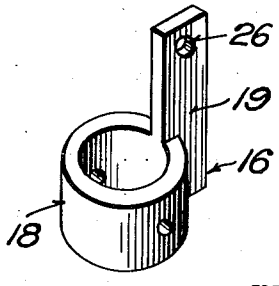


Fig. 5.



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GATE LATCH

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4 Claims. (Cl. 292—68)

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This invention relates to latching means for a swinging gate, such as a stock and yard gate which may swing to either side of the fence and which will automatically latch when moved to a closed position.

The principal object of the invention is to provide an improved gate latch of this character for application to a cylindrical metal gate post.

Another object of the invention is to provide a gate latch of the above mentioned character which is composed of few strong, durable and relatively inexpensive parts, and which cannot be opened by animals but is easily released by hand.

A further object of the invention is to so construct the device that the gate latch may be easily secured in its latching position by a pad lock.

The above and other objects and advantages will be apparent from the following detailed description of the present preferred embodiment of the invention in connection with the accompanying drawing, in which,

Fig. 1 is a side elevation of the upper portion of a conventional form of fence and gate, showing the application of the invention,

Fig. 2 is a detail section taken on line 2—2 of Fig. 1 looking in the direction of the arrows,

Fig. 3 is a view similar to Fig. 2 but showing the latch in one of its gate releasing positions,

Fig. 4 is a perspective view of the swinging latch member, and

Fig. 5 is a perspective view of the stationary latch member.

Referring more in detail to the drawing 10 denotes a gate arranged between posts 11 and 12 in a fence 13. The gate is supported from post 11 by suitable hinges 14 to swing to either side of the fence. The improved latch is mounted on the gate post 12 to coact with the vertical end bar 15 of the gate as seen in Fig. 1 in which the gate is latched in its closed position. It is to be understood that the fence and the gate may take various forms according to the intended uses.

The gate latching means comprises a fixed latch member 16 fixed to post 12 and a coacting movable latch member 17 slidably and rotatably mounted on a cylindrical portion of post 12 and normally supported on the member 16 as shown in Fig. 1. The stationary member preferably comprises a cylindrical sleeve 18 and an upright locking arm 19. The sleeve may be welded or otherwise secured on the post but as shown in Fig. 5 it has diametrical openings to receive a fastening pin, bolt or the like 20. The arm 19 is in the form of a flat plate having its lower end

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welded or otherwise secured to the sleeve so that the arm will be disposed radially of and close to the post 12.

The movable latch member 17 comprises an elongated body having at one end a substantially cylindrical hub portion 21 to loosely receive post 12 and at its other end a forked portion 22 to receive the end bar 15 of the gate. The intermediate portion of member 17 is formed with a vertical slot or opening 23 to loosely receive the locking arm or plate 19. The member 17 may be cast or molded in one piece or it may be formed by bending a heavy strip of metal to the desired shape and welding a cross bar 24 between its bent portions. If desired suitable handles 25 may be provided on its opposite sides.

The height of the locking arm 19 above the flat upper edge of sleeve 18 is greater than the height of the cylindrical portion 21 of the movable latch member so that when the latter rests on sleeve 18 as seen in Fig. 1 the upper end of the arm projects above said member. The projecting end of the arm is preferably formed with an opening 26 to receive the shackle of a pad lock (not shown) and thus permit the gate to be locked in its closed position.

It will be apparent that so long as the latch member 17 is in its lowered position with the arm 19 projecting through it, the gate cannot swing open, but when said member is slid upwardly on the post to a point above the top of the arm 19, a push on the gate in either direction will cause the member 17 to rotate on the post so that the gate end bar may leave the forked or bifurcated end of the latch, as will be understood on reference to Fig. 3. When the forked end 22 of the latch swings in either direction from its latching position, the member 17 will rest on and be supported by the top of the arm 19, as will be understood on reference to Fig. 3.

It is desirable that the movable latch 17 remain in its angled position shown in Fig. 3 so that when the gate again swings to its closed position it will pick up the latch and swing it back to the position of Fig. 1, whereupon the latch will drop down over the locking arm and automatically latch the gate in closed position. I therefore provide coacting stop means on the post and the latch. As shown a vertical stop pin 27 projects upwardly from the hub portion 21 for coaction with a pair of radial and circumferentially spaced stop pins 28 and 29 provided on post 12. These pins may be welded to the post or may be provided with screw threaded ends 30 for engagement with tapped openings in the post.

These pins are so positioned that one or the other will be engaged by the pin 27 according to the direction of opening movement of the gate. The pins 28 and 29 also serve as stops to limit the upwardly sliding movement of the latch 17 when the latter has been lifted slightly above the top of arm 19.

It is believed the operation of the device and many of its advantages will be apparent from the foregoing. It may be noted however that by mounting the latch on the gate post, no pivot pins or parts subject to wear are necessary, and the use of a keeper plate secured by bolts, rivets, etc. is rendered unnecessary. The parts may be applied to the post at the factory or on the job, and are strong, durable and relatively inexpensive. Even though the gate has a single latch which may be easily opened by hand, there is no likelihood of the gate being opened by animals. The latch is adapted for yard gates as well as for stock enclosures or industrial fencing. The construction is also such that the gate may be quickly and conveniently secured closed by a pad lock.

From the foregoing, taken in connection with the accompanying drawing, it will be seen that novel and advantageous provision has been made for carrying out the objects of the invention, and while preferences have been disclosed, attention is invited to the possibility of making variations within the scope of the invention as claimed.

I claim:

1. A gate latch for mounting on a post having a cylindrical portion, said latch comprising a movable latch member of elongated form having at one end a fork to receive the end bar of a gate and at its other end a substantially cylindrical portion adapted to be slidably and rotatably mounted on the cylindrical portion of said post, the intermediate portion of said member having a vertical slot, a stationary latch member including a cylindrical sleeve adapted to surround and to be fixed to said post for normally supporting said movable latch member, said stationary latch member also including a vertically disposed locking arm having its lower end fixed to said sleeve and its upper end extending through and above said slot when said movable member is supported on said sleeve, the projecting end of said arm having an opening to receive the shackle of a pad lock, said movable member being upwardly slidable to a position above the top of said arm whereby said movable member may be rotated while being supported on said arm, and coacting means on said post and said movable member to limit the upward movement of the latter and its rotary movement when it rests upon the top of said arm.

2. A gate latch for mounting on a post having a cylindrical portion, said latch comprising a stationary latch member adapted to be fixed to said post, said member including a cylindrical sleeve having a flat top and a locking arm projecting upwardly from the top of said sleeve and disposed close to and parallel with the cylindrical portion of said post, a coacting movable latch member adapted to surround the cylindrical portion of said post and to be slidably and rotatably mounted thereon, said movable member having at one end a forked portion to receive the end bar of a gate and at its other end a substantially cylindrical hub portion to surround the post and normally rest on the flat top of said sleeve, said movable member having in its intermediate portion a vertical slot to receive said locking arm to prevent rotary movement of said movable member when its hub rests on said sleeve, said movable member being vertically slidable to clear the top of said arm and permit rotary movement of the movable member when the latter is supported on the top of said arm and means to limit the extent of the rotary movement of said movable member when it is supported on said arm.

3. The structure of claim 2 in which said means includes an upright stop pin on the hub portion of said movable member to coact with circumferentially spaced radial stop pins carried by said post, said last mentioned pins also limiting the upward movement of said movable member on said post.

4. The structure of claim 2 in which the top of said locking arm projects above the slotted portion of said movable member when the latter rests on the sleeve of said stationary member, the projecting portion of said arm having an opening to receive the shackle of a padlock.

SAMUEL EDGAR THOMAS.

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