Aug. 21, 1956 A. R. DEMINGS 2,759,752

GATE LATCH UNIT

Filed Feb. 4, 1955

Fig. 1

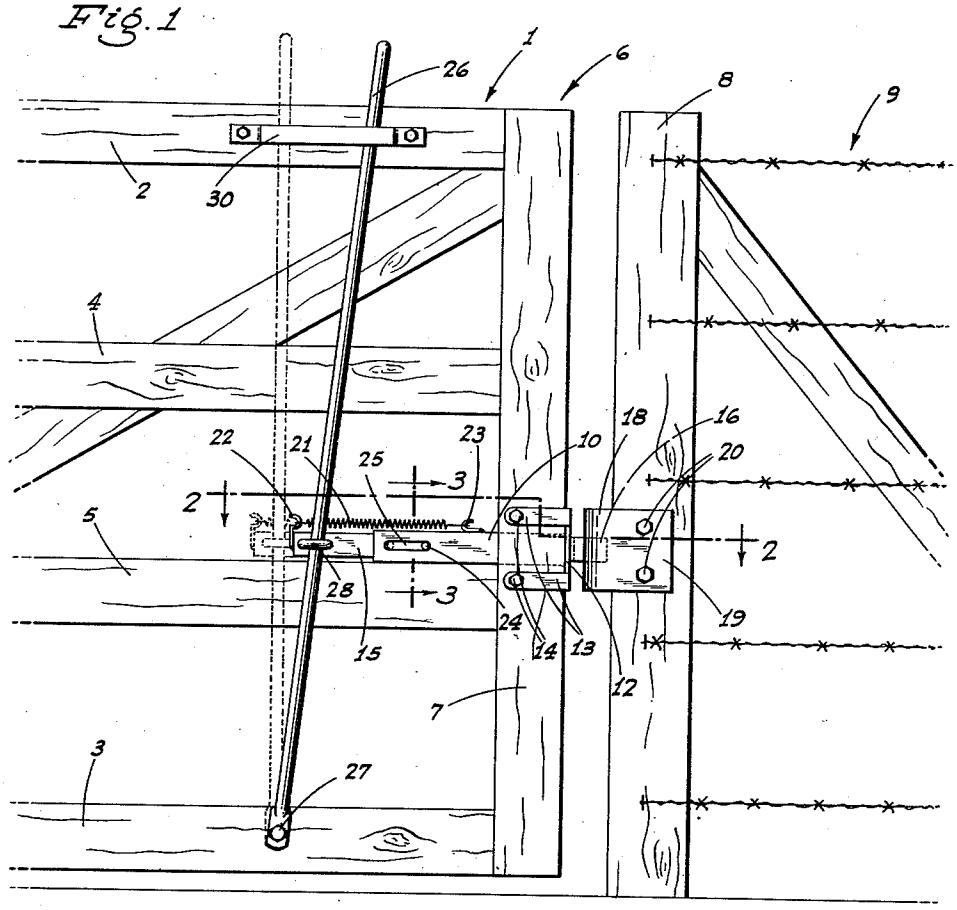


Fig. 2

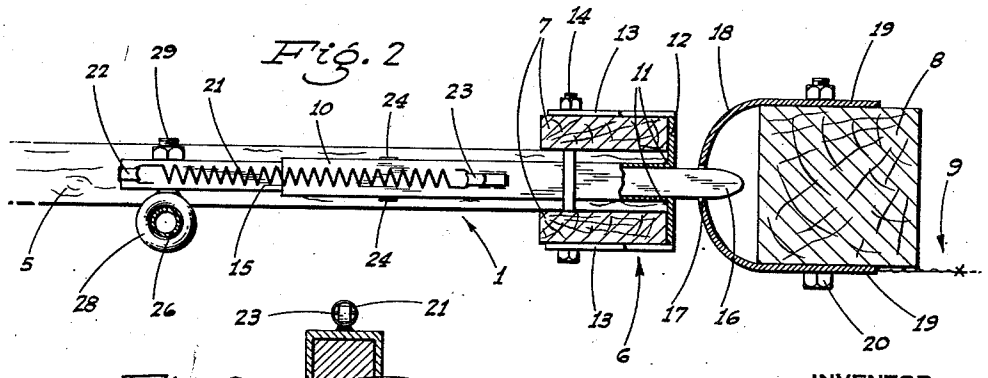
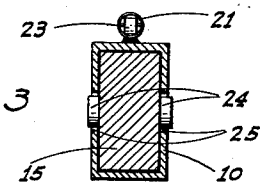


Fig. 3



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GATE LATCH UNIT

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1 Claim. (Cl. 292—337)

This invention relates to, and it is a major object to provide, an improved gate latch unit; such unit being especially designed—but not limited—for use on farm road gates or the like.

Another important object of this invention is to provide a gate latch unit which is easy to manually release; the latch reengaging automatically upon return of the gate from open to closed position.

An additional object of the invention is to provide a gate latch unit which can be readily installed on conventional gates, and without any structural alteration thereof.

A further object of the invention is to provide a gate latch unit, of sliding latch bar type, which is constructed entirely of metal; such gate latch unit being smooth and positive in operation and does not bind or otherwise malfunction as sometimes occurs in certain gate latches wherein the parts are of wood and thus subject to undue wear, as well as swelling or warping resulting from being wet.

It is also an object of the invention to provide a gate latch unit which is designed for ease and economy of manufacture.

Still another object of the invention is to provide a practical, reliable, and durable gate latch unit, and one which will be exceedingly effective for the purpose for which it is designed.

These objects are accomplished by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claim.

In the drawings:

Fig. 1 is a fragmentary elevation of the outer end portion of a gate, together with an adjacent portion of a fence; the gate latch unit being shown as mounted for use and with the latch bar engaged.

Fig. 2 is an enlarged fragmentary sectional plan view on line 2—2 of Fig. 1.

Fig. 3 is an enlarged fragmentary transverse sectional elevation on line 3—3 of Fig. 1.

Referring now more particularly to the drawings, and to the characters of reference marked thereon, the novel gate latch unit is especially designed—though not limited—for use on a gate, indicated generally at 1, which is of the type constructed from wooden parts.

The gate 1 includes, as usual, a top rail 2, a bottom rail 3, intermediate rails 4 and 5, and—at the outer end of the gate—an end post, indicated generally at 6. The end post 6 is formed of transversely spaced, vertical end boards or uprights 7, between which the adjacent ends of the rails 2, 3, 4, and 5 project in secured relation.

When the gate 1 is in closed position it is disposed with the end post 6 in alinement with but clear of an adjacent end post 8 of a fence, indicated in part at 9.

The gate latch unit, which is the subject of the present invention, comprises the following:

An elongated tubular housing 10, rectangular in cross section, is disposed on the upper edge of one of the

intermediate rails, here the rail 5; the forward portion of the housing 6 extending between the vertical end boards 7, with the outer end of said housing substantially flush with the outer edge of the post 6.

At its outer end the housing 10 is fixed, as by welding 11, to and opens through a vertical face plate 12 which abuts in flush engagement with the outer edge of the end post 6.

The face plate 12 is substantially the same width as said end post 6, and such plate is formed on each side with a pair of vertically spaced, inwardly projecting side flanges or fingers 13 which lie in matching engagement against the outside of the vertical end boards 7. The fingers 13 are connected to the end post 6 by cross bolts 14. With this arrangement the housing 10 is fixed in its position on the gate 1.

A sliding latch bar 15 is disposed in matching engagement in the housing 10 and projects beyond both ends of the latter; the outwardly projecting end of said bar defining a latch 16 which is tapered at the sides toward the free end.

The latch 16 normally projects through a central opening 17 in a combination strike and latch plate 18 secured to the end post 8 of fence 9. The plate 18 extends transversely from side to side of said end post 8, and being rounded in the direction of the post 6; i. e., the outer face of said plate 18 is exteriorly convex. At the ends thereof the plate 18 is formed with attachment flanges 19 which bear against opposite ends of the post 8, being secured thereto by cross bolts 20.

The sliding latch bar 15, including the latch 16, is normally yieldably urged outwardly in the manner as will hereinafter appear, and when the gate 1 moves from an open to a closed position the tapered latch 16 rides the plate 18 on one side or the other and then falls through the opening 17, whereby the gate latch unit is engaged; effectively holding the gate closed.

The sliding latch bar 15 is normally but yieldably urged outwardly or advanced by a longitudinal tension spring 21 connected between upstanding hooks 22 and 23 on the rear end of said bar 15, and on the housing 10, respectively.

The sliding latch bar 15 is limited in its extent of advance under the action of spring 21 by opposed bosses 24 which project laterally outwardly from the sides of said bar 15; such bosses running in motion limiting slots 25 formed in opposite sides of said housing 10.

A suitable fitting may be applied to the housing 10, intermediate its ends, for the purpose of introducing a lubricant into said housing and to the end that the latch bar 5 slides freely therein at all times.

To open the gate 1 the latch bar 15 and its latch 16 are manually retracted until the latter clears the plate 18; this being accomplished as follows:

A vertical elongated hand lever 26 is transversely pivoted at its lower end, as at 27, to the bottom rail 3; the lever thence extending upwardly in loose-play relation through an eye 28 secured to the inner end portion of the bar 15 by means of an eye bolt 29.

The lever 26, being of substantial length, projects upwardly from the eye 28 to an upper end termination above the top rail 2; such lever being disposed within the confines of a longitudinal guide 30 fixed on the top rail 2.

To open the gate 1, the hand lever 26 is merely swung rearwardly or inwardly from its full line position to its dotted line position, as in Fig. 1, which results in sliding of the latch bar 15, including the latch 16, inwardly a distance sufficient that such latch 16 clears the plate 18, whereupon the gate is free to be swung open.

When the gate is returned to its closed position the latch reengages in the opening 17 of plate 18, under the

influence of tension spring **21**, which also swings the hand lever **26** forwardly to its normal or starting position.

From the foregoing description it will be readily seen that there has been produced such a device as will substantially fulfill the objects of the invention, as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviations therefrom may be resorted to as do not form a departure from the spirit of the invention, as defined by the appended claim.

Having thus described the invention, the following is claimed as new and useful, and upon which Letters Patent are desired:

In a gate latch, a horizontal housing for a slidable latch bar, said housing being adapted to project between the transversely spaced uprights of a gate, a face plate of greater transverse and vertical dimensions than the housing rigid with the outer end thereof, and fingers on the sides of and integral with the plate projecting back along the housing and spaced apart to lap and engage the outer face of the uprights above and below the plane of the housing; said fingers being orificed to receive securing bolts therethrough.

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