June 6, 1961

F. MYERS

2,986,829

GATE LATCH

Filed April 30, 1959

FIG. 1

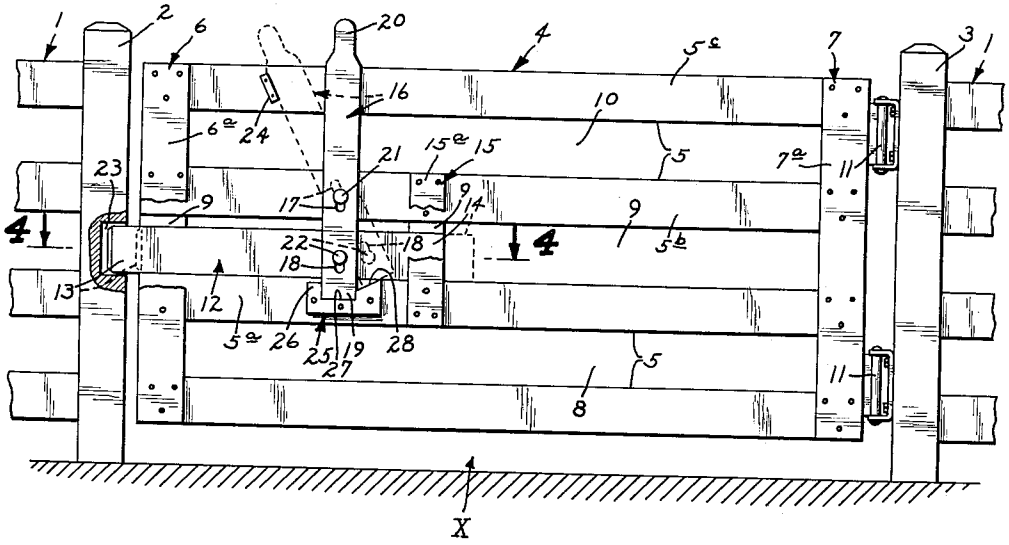


FIG. 2

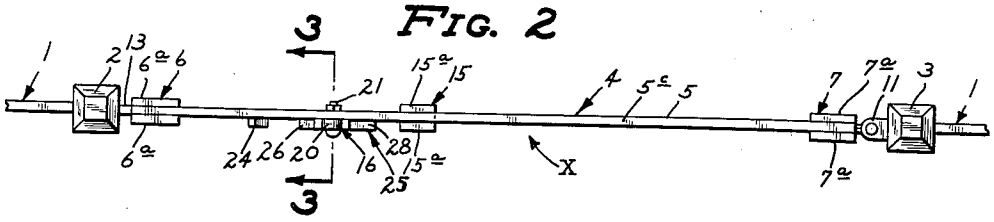


FIG. 3

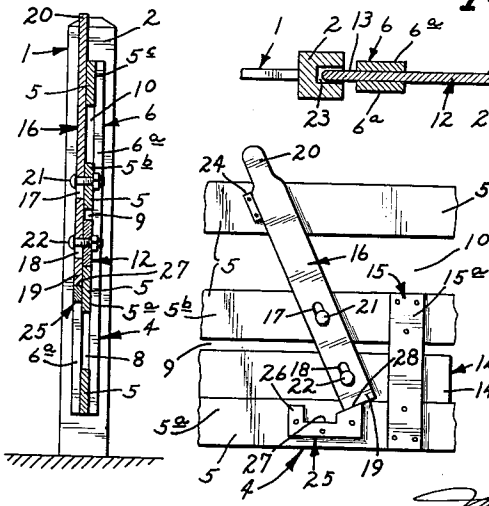


FIG. 4

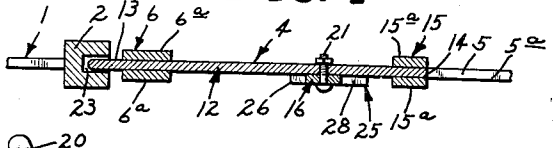


FIG. 5

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GATE LATCH

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2 Claims. (Cl. 39—28)

My invention relates generally to gates of the type used as barriers in agricultural areas and more particularly to novel, inexpensive and highly efficient latch mechanism therefor.

The primary object of my invention is the provision of a latch mechanism for farm type gates which may be readily constructed from available materials, which may be operated with a minimum application of force, which is positive in its action, and which is rugged and durable in construction.

The above and still further objects of my invention will become apparent from the following detailed specification, appended claims and attached drawings.

Referring to the drawings wherein like characters indicate like parts through the several views:

FIG. 1 is a view in side elevation of a conventional gate-equipped fence showing my novel latch mechanism, some parts being broken away and some parts shown in section;

FIG. 2 is a view in top plan of the structure of FIG. 1;

FIG. 3 is a view in vertical section as seen substantially from the line 3—3 of FIG. 2;

FIG. 4 is a fragmentary sectional view taken substantially on the line 4—4 of FIG. 1; and

FIG. 5 is a fragmentary view in elevation corresponding generally to the structure of FIG. 1, but showing a different position of some of the parts thereof.

Referring with greater particularity to the drawings, the numeral 1 indicates a conventional rail type fence having vertical, laterally spaced adjacent supporting posts 2 and 3 therein. The gate, identified in its entirety by the numeral 4, is likewise of conventional design and comprises vertically spaced generally parallel horizontal barrier elements 5 and vertically disposed connector bars 6 and 7 securing together the opposite ends of the barrier elements 5. Preferably and as shown, the vertical connector bars 6, 7 comprise laterally spaced matching bar sections 6*a* and 7*a* respectively which receive the opposite ends of the barrier elements 5 therebetween. This arrangement insures the sections 6*a*, 7*a* being spaced apart a distance equal to the thickness of the barrier elements 5, in the several spaces 8, 9, 10 therebetween, see particularly FIG. 3. As shown particularly in FIGS. 1 and 2, the connector bar 7 is pivotally secured to the gate post 3 for swinging movements about a vertical axis by means of conventional hinges 11, whereby to position the connector bar 6 in close proximity to the post 2 when the gate 4 is in an operative barrier-forming position transversely of a path X passing between the posts 2, 3.

My novel latch mechanism for the gate 4, above described, comprises an elongated latch bar 12 which is interposed between any given adjacent pairs of barrier elements 5 and is slidably supported by the lower one thereof as indicated at 5*a* for horizontal movements longitudinally of said barrier elements 5. The forward end portion 13 of the latch bar 12 is slidably received in the space 9 between the connector bars 6 for extending and retracting movements, whereas the opposite or rear end 14 thereof is slidably received between and guided by a guide member indicated in its entirety by the numeral 15 and comprising vertically disposed sections 15*a* which span the adjacent barriers 5 forming the space 9, and are secured to opposite faces of the opposite side surfaces of said barrier elements 5 by any suitable means.

An upstanding actuator lever 16 is provided with a pair

of spaced vertically extended slots 17 and 18, the latter of which is adjacent its lower end 19 and the former of which is intermediate the lower end 19 and the handle-forming upper end 20 thereof. A headed pivot pin 21 carried by the barrier element 5*b* projects loosely through the intermediate slot 17 in the actuator lever 16, whereas a similar headed pivot pin 22 carried by the intermediate portion of the latch bar 12 is slidably received within the slot 18. In this manner, limited raising and lowering movements, limited by the longitudinal dimensions of the slots 17, 18, may be imparted to the actuator lever, for a purpose which will be immediately hereinafter explained. However, in either its raised or lowered positions it will be noted that the handle-forming upper end 20 of the actuator lever 16 projects above the level of the uppermost barrier element 5*c* forming the gate 4.

It will be noted that the pivot defined by the pivot pin 21 and cooperating slot 17 is horizontally stationary, whereas the pivot defined by the pivot pin 22 and cooperating slot 18 moves in a horizontal plane as movement is imparted to the latch bar 12 as force is applied to the handle-forming upper end 20 of the actuator lever 16 between the limits of full and dotted lines as indicated in FIG. 1. In this manner, the forward end 13 of the latch bar 12 is extended, as shown in full lines and retracted as shown in dotted lines. When extended, the forward end 13 of the latch bar 12 is received within a recess or detent 23 in the gate post 2.

In order to limit retracting movements of the latch bar 12 beyond the dotted line position of FIG. 1, I provide a stop block 24, preferably and as shown on the barrier element 5*c*. On the other hand, in order to positively limit extending movements of the latch bar 12 beyond the full line position of FIG. 1, I provide a stop block 25 which, as shown, is secured to one side of the barrier element 5*a* in immediately underlying relationship to the lower end 19 of the actuator lever 16. The stop block 25 includes an upstanding stop lug 26 which engages the lower end portion 19 of the actuator lever 16 in both its raised and lowered positions. The stop block 25 also includes a central upwardly opening recess or notch 27, shown particularly in FIG. 5, and an inclined ramp portion 28. The notch 27, as shown in FIG. 1, receives the lower end 19 of the actuator lever 16 under the action of gravity when the actuator lever 16 is in the vertically disposed position of FIG. 1. This feature is of importance in that it prevents accidental movement of the latch bar 12 by force exerted by an animal or otherwise upon the handle-forming upper end 20 until the actuator lever 16 has been elevated sufficiently to remove the lower end 19 thereof from the notch 27. When retracting movements are being imparted to the latch bar 12, the lower end 19 of the actuator lever 16 engages and is supported by the inclined ramp portion 28 of the stop block 25, whereby, as above indicated, when the actuator lever 16 is again moved to its vertical latch bar extending position, the lower end 19 will again drop into the notch 27 under the action of gravity.

My invention has been thoroughly tested and found to be completely satisfactory for the accomplishment of the above objects, and while I have shown a preferred embodiment thereof, I wish it to be understood that same may be capable of modification without departure from the scope and spirit of the appended claims.

What I claim is:

1. A gate latch for use with gates of the type including vertically spaced generally parallel horizontal barrier elements, vertically disposed connector bars rigidly securing together the opposite ends of the barrier elements and hinge means carried by one of the vertically disposed connector bars for imparting swinging movements to the gate

about a vertical axis, said latch comprising an elongated latch bar interposed between an adjacent pair of the horizontally disposed barrier elements and slidably supported by the lower one thereof for horizontal movements longitudinally of the barrier elements, guide means for said latch bar including the other of the connector bars, an actuator lever for imparting extending and retracting movements to said latch bar on opposite sides of a vertical plane described by the longitudinally outer edge of the other connector bar, means pivotally securing the intermediate portion of said lever to the upper one of the adjacent barrier elements, means pivotally securing the lower end portion of said lever to the intermediate portion of said latch bar in generally underlying relationship to the pivotal connection thereof to the barrier element, and means associated with said actuator lever for positively limiting extending and retracting movements to said latch bar comprising a stop block carried by the lower of the adjacent barrier elements and engageable with the extreme lower end of said actuator lever to limit extending movements of said latch bar, and a stop

block carried by the uppermost of the barrier elements and limiting retracting movements of said latch bar.

2. The structure defined in claim 1 in which said lower stop block includes an upwardly opening notch snugly receiving the extreme lower end of said actuator lever under the action of gravity when said actuator lever is caused to assume a substantially vertical latch bar extending position, said lower stop block further including a segmental ramp for slidable engagement and support of the extreme lower end of said actuator lever during latch bar retracting movements and maintaining said actuator lever in its vertically raised position during such movements.

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