Oct. 10, 1950 H. K. TABLER 2,525,187

GATE LATCH

Original Filed May 18, 1945 2 Sheets-Sheet 1

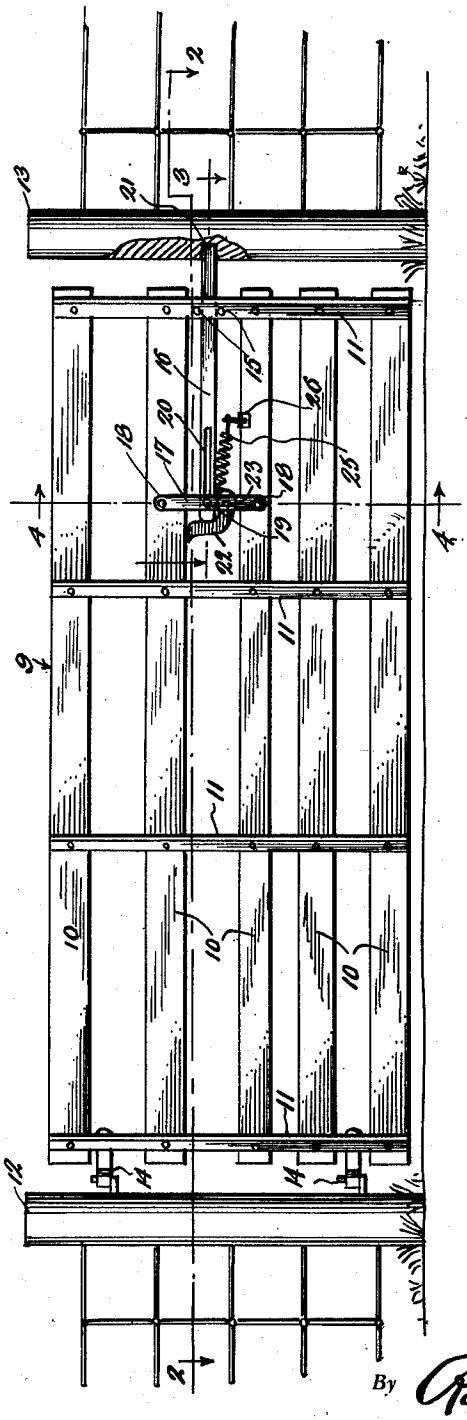


Fig. 1.

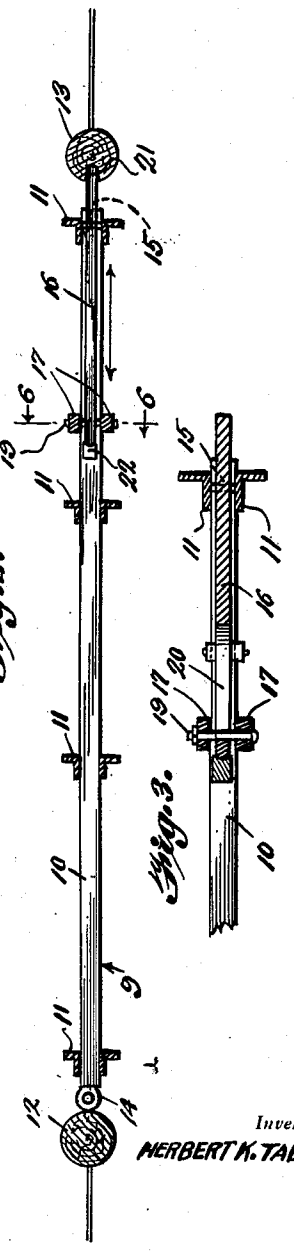


Fig. 2.

Fig. 3.

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Fig. 4.

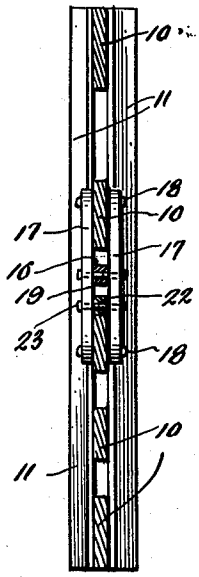


Fig. 5.

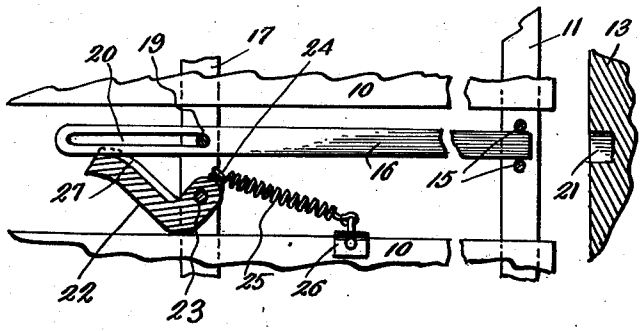


Fig. 6.

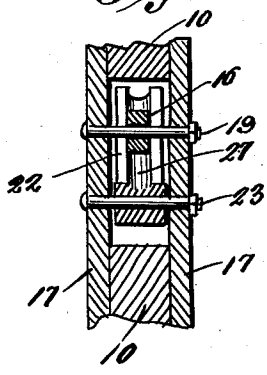
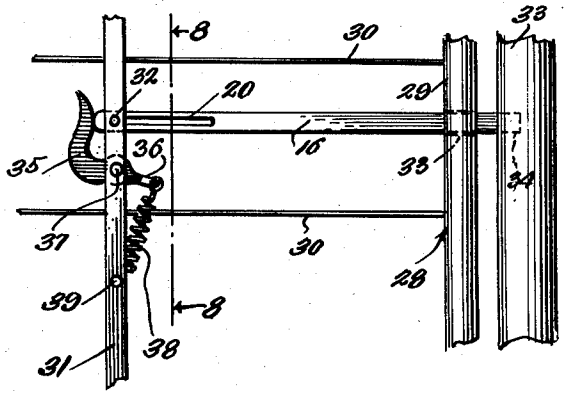


Fig. 7.



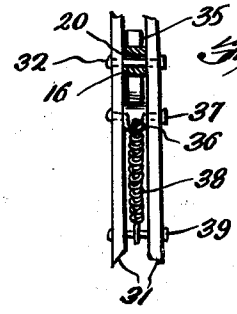


Fig. 8.

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Patented Oct. 10, 1950 2,525,187

UNITED STATES PATENT OFFICE

2,525,187

GATE LATCH

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Original application May 18, 1945, Serial No. 594,509, now Patent No. 2,469,019, dated May 3, 1949. Divided and this application June 24, 1946, Serial No. 678,940

1 Claim. (Cl. 292—153)

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This invention relates to improvements in gate latches and more particularly to farm gates, especially of the type disclosed in my co-pending application entitled Gates, filed May 18, 1945, and bearing Serial No. 594,509, now Patent No. 2,469,019, issued May 3, 1949, of which this application constitutes a division.

A primary object of the present invention is to provide a safety latch which will prevent cattle from accidentally unlatching and opening the gate by rubbing against the latch.

A further object of the invention is to provide a latch of simple and practical construction, which is durable and strong, efficient and reliable in operation, relatively inexpensive to manufacture and otherwise well adapted for the purposes for which the same is intended.

Other objects and advantages of the invention will hereinafter become more fully apparent from the following description of the drawings, which illustrate preferred embodiments thereof, and wherein:

Figure 1 is a side elevational view of a farm gate of the type disclosed in my co-pending application, previously referred to, and with the preferred embodiment of the latch applied thereto and shown in a position for retaining the gate in a closed position;

Figure 2 is a horizontal sectional view thereof taken substantially along a plane as indicated by the line 2—2 of Figure 1;

Figure 3 is an enlarged fragmentary horizontal sectional view taken substantially along a plane as indicated by the line 3—3 of Figure 1;

Figure 4 is a transverse vertical sectional view taken substantially along a plane as indicated by the line 4—4 of Figure 1;

Figure 5 is a fragmentary side elevational view, partly in vertical section showing the latch in an open position;

Figure 6 is an enlarged transverse sectional view taken substantially along a plane as indicated by the line 6—6 of Figure 2;

Figure 7 is a fragmentary side elevational view of a slightly modified form of the latch, and

Figure 8 is a transverse sectional view thereof, taken substantially along a plane as indicated by the line 8—8 of Figure 7.

Referring more specifically to the drawings, for the purpose of illustrating the invention, hereinafter to be described, a conventional type of farm gate, designated generally 9 is illustrated in Figure 1 and includes a plurality of spaced superposed horizontal rails 10 which are connected in spaced apart relationship at a plurality of points by transverse, vertical bars 11. The

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gate 9 is adapted to be disposed between spaced gate posts 12 and 13 and is swingably connected at one end thereof by conventional hinges 14 to the post 12 and by means of which the gate 9 is supported in a vertical plane for swinging movement in a horizontal plane, all as clearly illustrated in Figure 1.

As best seen in Figure 2, the transverse bars 11 are preferably disposed in pairs on opposite sides of the rails 10 and the bars 11, located at the free end of the gate 9 and between two of the rails 10 mount a pair of vertically spaced pins 15, as best seen in Figure 5 which form a guide for a reciprocally mounted latch bar 16, one end of which is reciprocally disposed therebetween. A pair of vertically disposed bars 17 are arranged on opposite sides of the rails 10, disposed above and below the latch bar 16 and are secured to said rails, adjacent their ends, by fastenings 18. A bolt or pin 19, as best seen in Figure 3, extends between the bars 17, intermediate of their ends and between said aforementioned rails 10 and through an elongated longitudinally disposed slot 20 in the latch bar 16 and which is located adjacent the opposite, inner end thereof.

The post 13 is provided with an inwardly facing socket or recess 21 forming a keeper for receiving the outer end of the latch bar 16 when the latter is in a projected position, as seen in Figures 1 and 2. A latch lever 22 is pivotally mounted adjacent one end thereof beneath the latch bar 16 and between the bars 17 on a pivot pin 23 which extends through the bars 17. The upper edge of the pivoted end of the latch lever 22 is provided with a hook shaped extension 24, as best seen in Figure 5, which engages one end of a contractile coiled spring 25, the opposite end of which is anchored to a bracket 26 secured to the rail 10, which is disposed below the latch bar 16 and between the latch lever 22 and the free end of the gate 9. The latch 22 is curved upwardly intermediate of its ends so that the upper free end portion thereof will bear against the inner end of the latch bar 16, when the latter is in a projected position in engagement with the keeper 21. The spring 25 acts to turn the latch lever 22 in a clockwise direction, as seen in Figure 1, for yieldably bearing against the rear end of the latch bar 16 to resiliently retain it in an operative position in engagement with keeper 21. As best seen in Figures 5 and 6, the inner side of the latch lever 22 is provided with a longitudinal groove 27 for bearing engagement with the latch bar 16.

From the foregoing it will be readily obvious

that the latch bar 16 can be manually retracted for retracting the outer end thereof out of engagement with the keeper 21 to permit opening of the gate 9. The latch bar 16 is retracted against the action of the spring 25 due to the fact that the retraction thereof forces the latch lever 22 to swing downwardly on its pivot 23 out of the path of movement of the latch bar and so that the rear end thereof can pass over the free end of the latch lever, as illustrated in Figure 5. With the free end of the latch lever 22 disposed beneath the rear end of the latch bar 16 the groove 27 thereof will bear against the under side of the latch bar and will be frictionally held in engagement therewith by the pull of the spring 25 for frictionally retaining the latch bar 16 in a retracted, inoperative position, as seen in Figure 5. The latch bar 16 can be returned to an operative position by manual movement thereof in the opposite direction, and as said latch bar approaches its outermost position, the upper end of the latch lever 22 will move into a position behind the inner end of the latch bar for urging it to a fully projected position.

A slightly modified form of the invention is illustrated in Figures 7 and 8 and which is especially adapted for use on wire gates. A portion of such gate, designated generally 28 is illustrated in Figures 7 and 8 and includes a portion of a tubular metal gate frame 29 across the opening of which is stretched a plurality of strands of wire, two of which are indicated at 30. The gate 29 also includes a pair of laterally spaced uprights 31 having a pin 32 extending therethrough for slidably engaging the slot 20 of the latch bar 16. The latch bar 16 is guided adjacent its opposite end by being reciprocally disposed in an opening 33 of the upright 29. The gate 28 may be hingedly mounted in the same manner as the gate 9 and the post 33 thereof, corresponding to the post 13 is provided with an inwardly opening recess or socket 34 forming a keeper for receiving the outer end of the latch bar 16, in the same manner and for the same purpose as the keeper 21. The latch structure of Figures 7 and 8 includes a latch lever 35 which may be of substantially the same shape as the latch lever 22 but which differs therefrom in that in lieu of the hook 24, the latch lever 35 is provided with an eye extension 36 which projects from the pivoted end thereof. The pivoted, lower end of the latch lever 35 is disposed between the bars 31 and in pivotal engagement with a pin 37 which extends therethrough. A contractile

spring 38 is connected at one end to the eye 36 and is connected at its opposite end to an anchor pin 39 which is mounted in the bars 31, below the lever 35. The groove in the inner side of the lever 22 may, if desired, be omitted from the lever 35, as illustrated.

The lever 35 operates in connection with the latch bar 16 of the gate 28 in the same manner and for the same purpose as the latch lever 22, and as the operation of the latch bar 16 of the gate 28 is the same as that of the latch bar of the gate 9, a further description of the operation of the gate latch shown in Figures 7 and 8 is considered unnecessary.

Various modifications and changes are contemplated and may obviously be resorted to without departing from the spirit and scope of the invention as hereinafter defined by the appended claim.

I claim:

A gate latch comprising a latch bar adapted to be slidably mounted on a gate, a lever having right angularly disposed ends, one of said ends being pivoted to the gate, and spring means connected to the gate and lever and rocking the lever in a direction to urge the other end thereof toward the latch bar, the inner edge of said last mentioned end of the lever engaging an end of the latch bar when the other end of the latch bar is in a projected, latching position, said first mentioned end of the latch bar being rounded, the distance between the pivot of the lever and the apex of the lever ends being less than the distance from the apex to the point of engagement of the last mentioned lever end with the first mentioned rounded end of the latch bar, said last mentioned end of the lever being held by the spring means in engagement with a longitudinal edge of the latch bar, when the latch bar is in a retracted position, for frictionally retaining the latch bar in a retracted position.

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