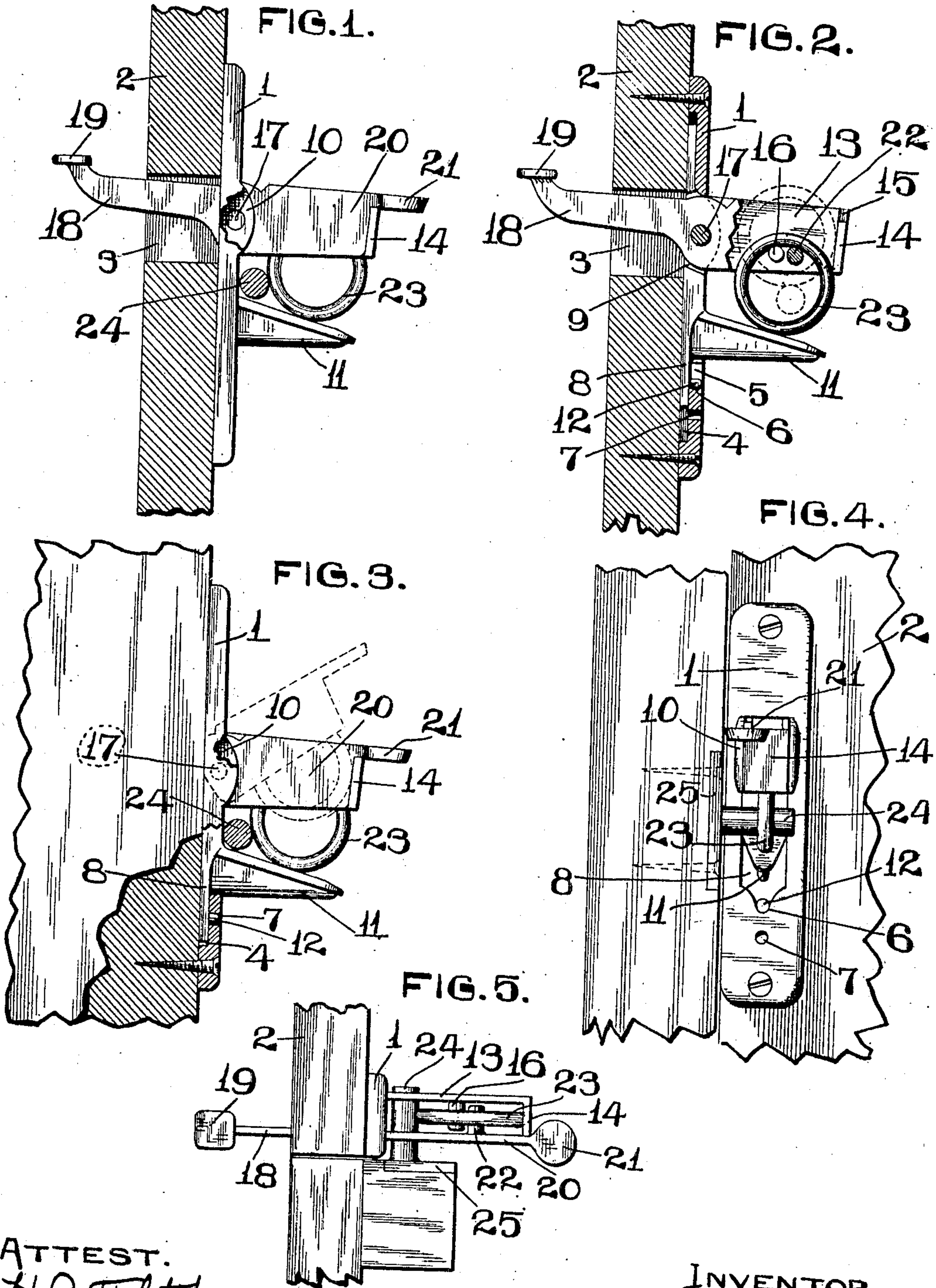


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PATENTED APR. 9, 1907.

T. E. HARNER.  
GATE LATCH.

APPLICATION FILED OCT. 31, 1905.



ATTEST.  
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# UNITED STATES PATENT OFFICE.

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## GATE-LATCH.

No. 849,680.

Specification of Letters Patent.

Patented April 9, 1907.

Application filed October 31, 1905. Serial No. 285,355.

*To all whom it may concern:*

Be it known that I, THOMAS E. HARNER, a citizen of the United States, and a resident of St. Louis, Missouri, have invented certain new and useful Improvements in Gate-Latches, of which the following is a specification containing a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to a gate-latch; and the object of my invention is to provide a simple, inexpensive, and efficient latch for gates or doors.

A further object of my invention is to provide a latch with an adjustable catching member that may be raised or lowered to accommodate the locking-pin with which said latch engages.

To the above purposes my invention consists in certain novel features of construction and arrangement of parts, which will be hereinafter set forth more clearly, pointed out in my claim, and illustrated in the accompanying drawings, in which—

Figure 1 is a vertical section taken through a portion of a door or gate with my improved latch applied thereto. Fig. 2 is a view analogous to Fig. 1 with a portion of the latch being shown in vertical section. Fig. 3 is a side elevation of a door or gate post with a modified form of my improved latch applied thereto. Fig. 4 is an elevation of the latch seen in Fig. 3. Fig. 5 is a plan view of the latch seen in Fig. 1.

Referring by numerals to the accompanying drawings, 1 designates a plate that is secured to the face of the door or gate 2 immediately over an aperture 3 therein. Formed in the rear side of this plate 1 is a recess 4, and formed through the plate is a vertically-arranged opening 5, provided at its lower end with a semicircular bearing 6, and formed in the plate 1 immediately below this bearing is an aperture 7.

8 indicates a vertically-adjustable plate that is positioned in the recess 4, and said plate is provided at a point near its center with a vertically-arranged slot 9. Formed integral with the front face of this plate 8 at the sides of the slot 9 is a pair of forwardly-projecting ears 10, that are transversely perforated. Formed integral with the front face of the plate 8 and projecting forwardly therefrom is an arm 11, the top face of which inclines downwardly from said plate 8 to the

outer end of said arm. Formed integral with the face of the plate 8 below the arm 11 is a forwardly-projecting pin 12, that is adapted to occupy either the bearing 6 or the aperture 7. Formed integral with and extending forwardly from the plate 8 to one side of the slot 9 therein is a horizontally-arranged arm 13, the forward end 14 of which extends laterally at right angles to said arm, and in the upper edge of the portion 14 is a notch 15. Formed integral with the inner face of the arm 13, adjacent the center thereof, is a lug 16, that projects in the same direction as does the portion 14.

Arranged in the perforations in the ears 10 is a pin 17, and pivotally mounted thereon is a lever 18, that extends rearwardly through the opening 3 and is provided on its extreme end with a plate 19. The portion 20 of the lever 18 that extends forwardly through the opening 9 is the same shape as is the plate 13, and said portion 20 is arranged directly opposite the plate 13 and parallel therewith. The forward end of the portion 20 normally rests against the end of the portion 14, and formed integral with the front end of said portion 20 is a plate 21, the rear end of which rests in the notch 15. Formed integral with and projecting laterally from the inside face of the portion 20 is a lug 22, that normally occupies a position adjacent and in front of the lug 16.

A ring 23 is arranged in the space between the plate 13 and the portion 20, which ring passes around the lugs 16 and 22 and normally rests upon the inclined top face of the arm 11.

The construction of the latch as just described is particularly adapted for doors and gates that are to be operated or unlatched from both sides, and where the latch is applied to a gate-post or door-frame the lever 18 is not made use of, and the portion 20 hinges at its rear end to the pin 17, arranged in the perforated ears 10. This latter construction is clearly illustrated in Figs. 3 and 4.

The pin 24, that is to be engaged by my improved latch, is preferably formed integral with a plate 25, that is fixed to the door or gate post when used in connection with the form of the latch seen in Figs. 1 and 2 or which is attached to the door or gate when used in connection with the latch seen in Figs. 3 and 4, which latter latch is secured to the door-frame or gate-post.

When a door or gate provided with the



latch, as seen in Figs. 1 and 2, is closed, the ring 23 will strike against the locking-pin 24, that is fixed to the door-frame or gate-post, and will be elevated, as shown by dotted lines 5 in Fig. 2, and when the door or gate is completely closed the ring 23 will be carried beyond the pin 24, and it will drop to its normal position upon the arm 11 in front of said pin 24. The parts being so positioned will very 10 effectually hold the gate or door closed until the ring 23 is elevated to a position above the plane occupied by the pin 24, which operation is accomplished by engaging the plate 21 and pulling upwardly on the same or engaging 15 the plate 19 and depressing the rear end of the lever 18. When this action takes place, the lug 22, carried by the portion 20, will engage the ring 23 and carry the same upwardly, and the gate or door is now free to 20 swing open. While the door or gate is closed the pin 24 engages against the rear side of the ring 23, and said ring at its front side engages against the lower end of the laterally-extending portion 14. The lug 16 prevents the ac- 25 cidental withdrawal of the ring 23 when the lever is tilted so that the lug 22 is moved into a position above the top of the arm 13.

The plate 8 is adjusted in the recess 4 by removing the plate 1 and moving said plate 8 30 upwardly or downwardly, as desired, and seating the lug 12 in either the bearing 6 or aperture 7. This adjustment is for the purpose of properly positioning the latching ring and arm 11 relative the locking-pin 24 should the

door or gate sag so as to carry said ring and 35 arm out of alinement with said locking-pin.

In the arrangement of the device as shown in Figs. 3 and 4 the latch is secured to the door-frame or gate-post, and the locking-pin 40 is carried by the door or gate, and this form of latch is only operated from one side.

A latch of my improved construction is very simple, strong, and durable, is applicable for use wherever an effective latch is de- 45 sired, is automatic in its closing or latching operation, and can be very easily released.

I claim—

A gate-latch, constructed with a plate, a second plate arranged for vertical adjust- 50 ment in the first-mentioned plate, an arm having an inclined top surface integral with and projecting outwardly from the adjustable plate, a housing carried by the adjustable plate, a locking-ring arranged in said housing and normally resting on the inclined 55 surface of the arm, a lug integral with the housing and projecting through the ring, a lever fulcrumed on the adjustable plate opposite the housing, and a lug integral with said lever and extending through the ring; 60 substantially as specified.

In testimony whereof I have signed my name to this specification in presence of two subscribing witnesses.

THOMAS E. HARNER.

Witnesses:

M. P. SMITH,

E. M. HARRINGTON.