No. 627,750. Patented June 27, 1899.

C. E. HAPPY.

LATCH FOR GATES.

(Application filed Apr. 18, 1898.)

(No Model.)

FIG. 3.

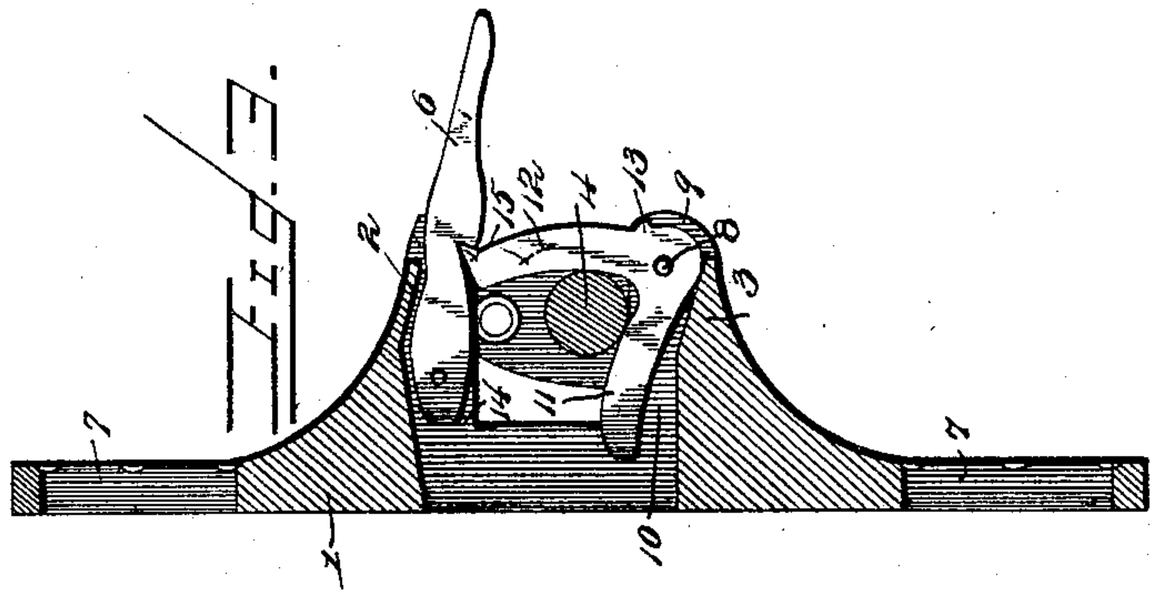


FIG. 4.

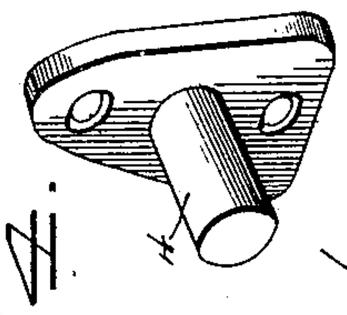


FIG. 2.

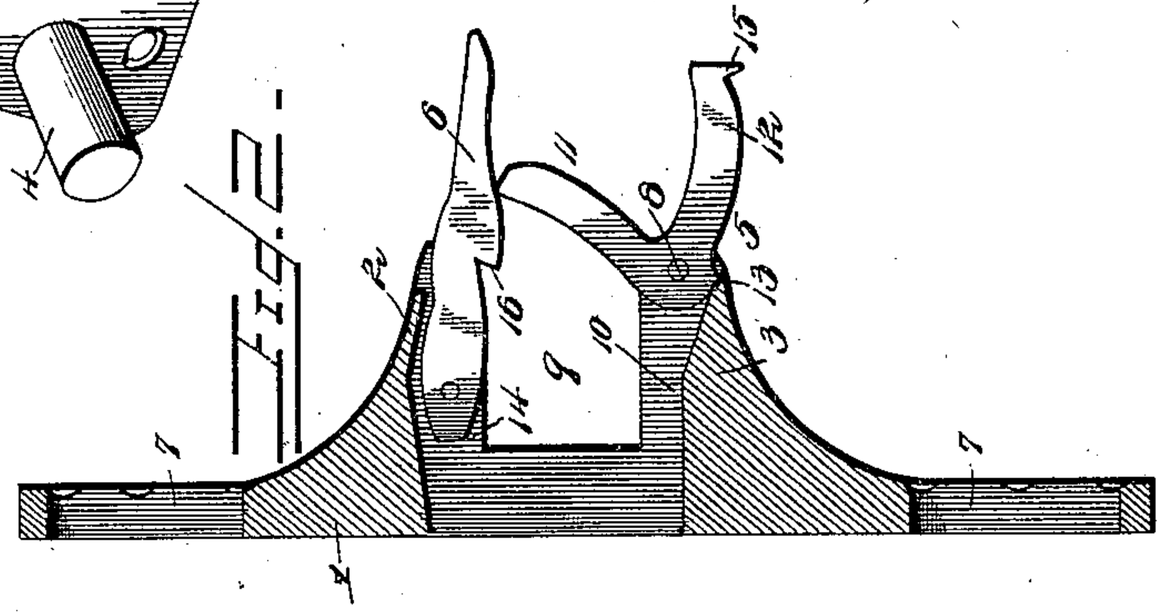
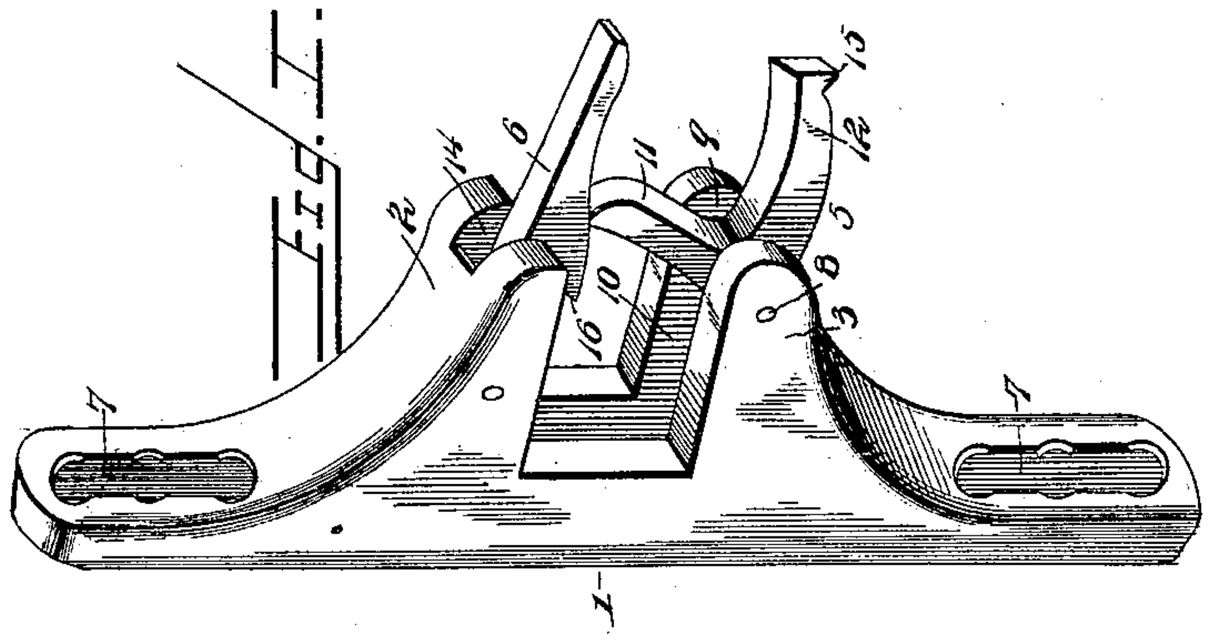


FIG. 1.



Witnesses
R. A. Shepard
J. F. J. Riley

Cameron E. Happy Inventor
By his Attorneys.
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UNITED STATES PATENT OFFICE.

CAMERON E. HAPPY, OF MAYFIELD, KENTUCKY, ASSIGNOR TO R. D. HAPPY, OF PADUCAH, KENTUCKY.

LATCH FOR GATES.

SPECIFICATION forming part of Letters Patent No. 627,750, dated June 27, 1899.

Application filed April 18, 1898. Serial No. 678,073. (No model.)

To all whom it may concern:

Be it known that I, CAMERON E. HAPPY, a citizen of the United States, residing at Mayfield, in the county of Graves and State of Kentucky, have invented a new and useful Latch for Gates, of which the following is a specification.

The invention relates to improvements in latches for gates.

The objects of the present invention are to improve the construction of latches for gates and to provide a simple, inexpensive, and efficient one which will be capable of automatic operation to lock a gate when the same is closed.

The invention consists in the construction and novel combination and arrangement of parts, as hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claim hereto appended.

In the drawings, Figure 1 is a perspective view of a latch constructed in accordance with this invention and shown arranged for automatic locking. Fig. 2 is a vertical sectional view of the same. Fig. 3 is a similar view showing the parts locked. Fig. 4 is a detail perspective view of the stud.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a casing disposed vertically and provided between its ends with outwardly-extending horizontal arms 2 and 3, forming a recess or opening between them for the reception of a stud 4, which is locked in the recess to retain a gate in its closed position by a bell-crank lever 5 and a locking-lever 6. The casing, which is designed to be mounted on a latch-post, is provided beyond the arms 2 and 3 with longitudinal slots 7, adapted for the reception of screws or other suitable fastening devices for securing the latch to a latch-post, and the slots are provided at intervals with opposite recesses, forming countersunk openings for the head of a screw, whereby the casing is rendered adjustable and is firmly secured at the desired adjustment, the recesses providing an interlocking connection between the casing and the fastening devices.

The bell-crank lever, which is fulcrumed at its angle on a transverse pivot 8, is mounted on the lower arm 3 at the bottom of the opening or recess 9, and the said arm 3 is provided with a longitudinal groove 10, which receives the inner arm 11 of the bell-crank lever when the parts are arranged as illustrated in Fig. 3 of the accompanying drawings. The recess or groove 10 of the lower arm extends entirely through the same, at the outer end thereof, to form a pair of ears and to enable the outer arm 12 of the bell-crank lever to swing downward to the position illustrated in Figs. 1 and 2 of the drawings, and the downward swing of the bell-crank lever is limited by a transverse rib or projection 13, arranged on the outer face of the arm 12, adjacent to the angle of the lever, and adapted to abut against the arm 3 at the outer terminal of the bottom wall of the groove 10. The inner arm 11 of the bell-crank lever when the latter is swung outward and downward is supported in an inclined position and extends across the mouth of the opening or recess 9 in position to be engaged by the stud 4 when the gate is closed, and as the gate swings to the stud contacts with the arm 11 in entering the recess 9, swinging the bell-crank lever on its pivot and carrying the outer arm upward.

When the bell-crank lever is at the limit of its inward movement, the outer arm 12 is disposed substantially vertical and extends across the mouth of the recess 9. It is retained in this position to confine the stud in the recess by a locking-lever 6, before referred to, and this locking-lever 6 is arranged in a groove 14 of the upper arm 2, the groove being cut through the outer end of the upper arm to the groove 10 of the lower arm to permit the lever 6 to swing upward to the desired extent. The outer end of the arm 12 is provided with a projection or tooth 15, which is adapted to engage a corresponding shoulder or projection 16 of the locking-lever 6, whereby the bell-crank lever is securely held against outward movement. The locking-lever 6 is pivoted at its inner end in the groove 14 of the upper wall of the recess or opening 9, and the tooth 15, which is substantially triangular, interlocks with the shoulder or projection 16, which has its engaging face ar-

ranged at a slight angle, as shown. This interlocking engagement prevents the lever 6 from being accidentally lifted by any vibration of the gate.

The lever 6 extends beyond the casing, and its outer portion forms a handle to enable it to be readily lifted out of engagement with the arm 12 of the bell-crank lever, and when the parts are arranged as illustrated in Figs. 1 and 2 they are adapted to engage the stud 4 automatically as the gate closes. The lever 6 rests upon the inner arm 11 of the bell-crank lever when the latter is swung outward and downward and assists in holding the same in such position.

The stud 4, which is preferably rounded, as shown, is formed integral with an attachment-plate and is adapted to be readily mounted on a gate.

The invention has the following advantages: The gate-latch is simple and comparatively inexpensive in construction, it possesses great strength and durability, and it is applicable to all kinds of swinging gates and the like. It is adapted to engage the gate automatically as the same closes, and the bell-crank lever cannot become accidentally disengaged from the locking-lever through any vibration of a gate or any outward pressure exerted by the same. It is adapted to resist any vertical pressure on a gate, so that the latter cannot be opened by stock.

Changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

What I claim is—

A device of the class described comprising a vertical casing provided between its ends with horizontal arms spaced apart to provide a recess and provided at their inner faces with longitudinal grooves, the bell-crank lever 5 fulcrumed at its angle at the outer end of the lower arm in the groove thereof, adapted to swing inward and outward and provided at the outer edge of its outer arm with a transverse rib or projection 13, said lever being provided at the terminal of its outer arm with the projection or tooth 15, and a horizontal locking-lever 6 pivoted at its inner end in the groove of the upper horizontal arm and supported by the inner arm of the bell-crank lever when the latter is swung outward, said lever 6 being provided at its lower edge with a shoulder located between the ends of the said lever 6 and arranged to be engaged by the tooth 15 of the outer arm of the bell-crank lever when the latter is in its closed position, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

CAMERON E. HAPPY.

Witnesses:
R. D. HAPPY,
HARRY GEORGE.