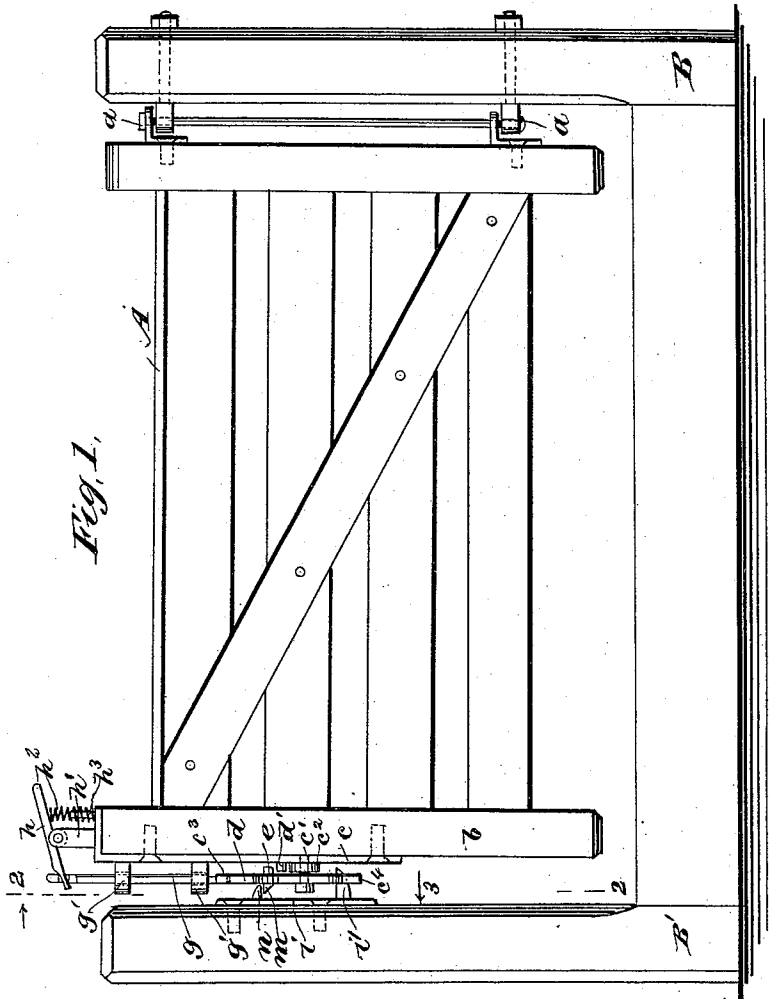
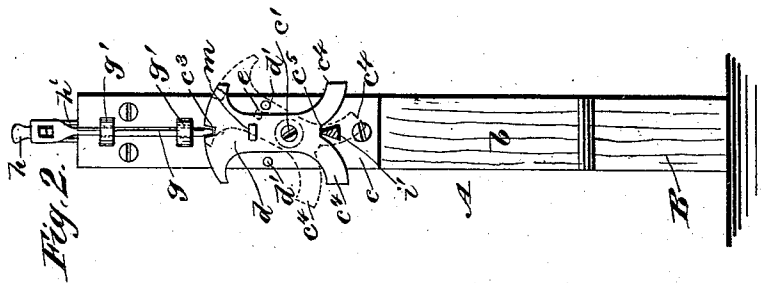


(No Model.)

P. T. RAPSON.
GATE LATCH.

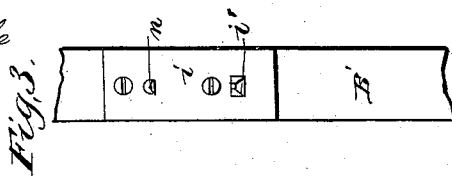
No. 487,077.

Patented Nov. 29, 1892.



WITNESSES:

F. McArdle
C. Sedgwick



INVENTOR

P. T. Rapson
BY *Munn & Co*

ATTORNEYS.

UNITED STATES PATENT OFFICE.

PHILIP T. RAPSON, OF BAD AXE, MICHIGAN.

GATE-LATCH.

SPECIFICATION forming part of Letters Patent No. 487,077, dated November 29, 1892.

Application filed April 26, 1892. Serial No. 430,775. (No model.)

To all whom it may concern:

Be it known that I, PHILIP T. RAPSON, of Bad Axe, in the county of Huron and State of Michigan, have invented a new and useful Gate-Latch, of which the following is a full, clear, and exact description.

This invention relates to an improved fastening for fence-gates, and has for its object to provide a simple, novel, and efficient device of the character indicated which will be self-locking, permit the gate to be swung toward either side of the fence, and that when in closed adjustment will relieve the hinges of the gate from strain.

To these ends my invention consists in the peculiar construction and combinations of parts, as is hereinafter described and claimed.

Reference is to be made to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side view of a gate and fence-post with the improvement in place adjusted to lock the gate. Fig. 2 is a transverse section on the line 2 2 in Fig. 1; and Fig. 3 is a side view of a broken portion of one post and the latching-plate of the gate-fastening secured on it, viewed in the direction of arrow 3 in Fig. 1.

A represents a fence-gate of any approved construction, and B B' posts that are the side bounds of an aperture in a fence (not shown) that the gate is designed to guard. The gate A is hinged to the post B with hinges *a*, preferably constructed to allow said gate to swing in either direction laterally. Upon the side bar *b* of the gate A which is nearest to the latching-post B' a back plate *c* for the gate-fastening mechanism is secured, which plate is bent at the upper end to allow it to extend from the edge face of the bar *b* over and upon the top of the same. At a suitable distance below the top of the back plate *c* a locking-plate *d* is pivoted on it, as at *c'*, and held away, as shown in Fig. 1, by a washer *c''* or by similar means. The upper edge of the locking-plate *d* is curved to form an arc, of which the pivot *c'* is the radial center, and on a vertical line above this center a locking-notch *c'''* is formed in this arched edge. Preferably the side edges of the locking-plate *d* are scalloped to reduce the width of the plate

named, and at the lower end outwardly-curved limbs *c''''* are formed, which have arched lower edges that join on the vertical center line of the locking-plate, so that a lower locking-notch *c'''''* is thus produced, as shown in Fig. 2. At a proper point between the upper locking-notch *c'''* and the pivot *c'*, and in vertical alignment therewith, a stud *e* is projected from the rear of the locking-plate toward the back plate *c*, which stud will strike upon either of the two pins *d'*, that are projected from the back plate near its side edges when the locking-plate is rocked, thereby limiting its vibratory movement. Above the locking-plate *d* a slide-bolt *g* is vertically and loosely supported by the staple-loops *g'*, through which it passes, said staple-loops being projected from the back plate *c* in vertical alignment at the transverse center of said plate. The lower end of the slide-bolt *g* is fitted to interlock with the notch *c'''* of the locking-plate *d*, its upper end portion projecting above the top of the gate side bar *b* sufficiently to permit the loose engagement therewith of the tripping-lever *h*, which latter is pivoted upon an upright standard *h'*, there being a spring *h''* supported by a pin *h'''* projecting from the back plate *c*, so as to engage the top of said spring with the tripping-lever and normally depress the slide-bolt. Upon the adjacent face of the fence-post B' a latch-plate *i* is secured, whereon a latching-limb *i'* is formed or secured, so as to project at a right angle therefrom and toward the locking-plate *d* when the gate A is closed. The limb *i'* is shaped to adapt it to enter and fit the lower locking-notch *c'''''* of the locking-plate *d* when the gate is in closed adjustment, the latch-plate *i* being relatively located to permit such an engagement of parts, and for the efficient operation of the device it is essential that the contact of the limb *i'* with the notch *c'''''* shall slightly raise the gate, and thus dispose a part of its weight upon the limb *i'*, relieving the hinges *a* of sagging strain. From the side of the locking-plate *d* that is nearest to the latch-plate *i* when the gate A is closed an ear *m* is projected, which ear will range directly below a stop-pin *n* on the latch-plate *i*, the disposition of these projections serving to prevent the gate A from being lifted or released until the slide-bolt *g* is raised.

In service it will be seen that the release of the slide-bolt is accomplished by depressing the free end of the lever h and compressing the spring h^2 , and a lateral swinging movement of the gate A in either direction will cause the locking-limb i' to impinge on the curved lower edge of a limb c^4 and rock the plate d correspondingly, as indicated by dotted lines in Fig. 2, so that the limb i' will be released from locked engagement with said plate, the lateral vibration of the plate d being checked by a contact of the stud e with one of the check-pins d' , as shown in Fig. 2.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. A gate-latch comprising a back-plate secured to the end rail of the gate and having detent-pins projecting therefrom, a locking-plate pivoted on the back plate having an arched top edge formed with a center notch, two oppositely-curved limbs at its lower edge, also formed with a center notch, a check-stud at the rear adapted to engage the pins on the back plate, and an ear on its front face, a bolt mounted to slide above the locking-plate, a spring-pressed lever adapted to trip said bolt, a latch-plate secured to a fence-post opposite the locking-plate on the gate, having a latching-limb thereon and a stud projecting above said limb and adapted to engage the ear on the locking-plate, substantially as described.

2. The combination, with a gate supported to swing and a lock-plate secured to the end

rail of the gate, and having detent-pins projecting therefrom, of a locking-plate pivoted on the back plate, having an arched top edge formed with a center notch, two oppositely-curved limbs at its lower edge formed with a center notch, a check-stud at its rear adapted to engage the pins on the back plate, and an ear on its front face, and a bolt mounted to slide above the locking-plate, and a spring-pressed lever adapted to trip said bolt, substantially as described.

3. The combination, with a gate supported to swing and a lock-plate secured to the end rail of the gate and having detent-pins projecting therefrom, of a locking-plate pivoted on the back plate, having an arched top edge formed with a center notch, two oppositely-curved limbs at its lower edge formed with a center notch, a check-stud at its rear adapted to engage the pins on the back plate, and an ear on its front face, and a bolt mounted to slide above the locking-plate, a spring-pressed lever pivoted on a standard on the gate end rail b and loosely engaging the upper end of the slide-bolt, and a latch-plate secured to a fence-post opposite the locking-plate on the gate, having a latching-limb thereon and a stud projecting above said limb and adapted to engage the ear on the locking-plate, substantially as described.

PHILIP T. RAPSON.

Witnesses:

A. J. BURNETT,
EDWIN WATKINS.