C. WALLER, Jr.
Gate-Latch.

No. 205,590. Patented July 2, 1878.

Fig. 1

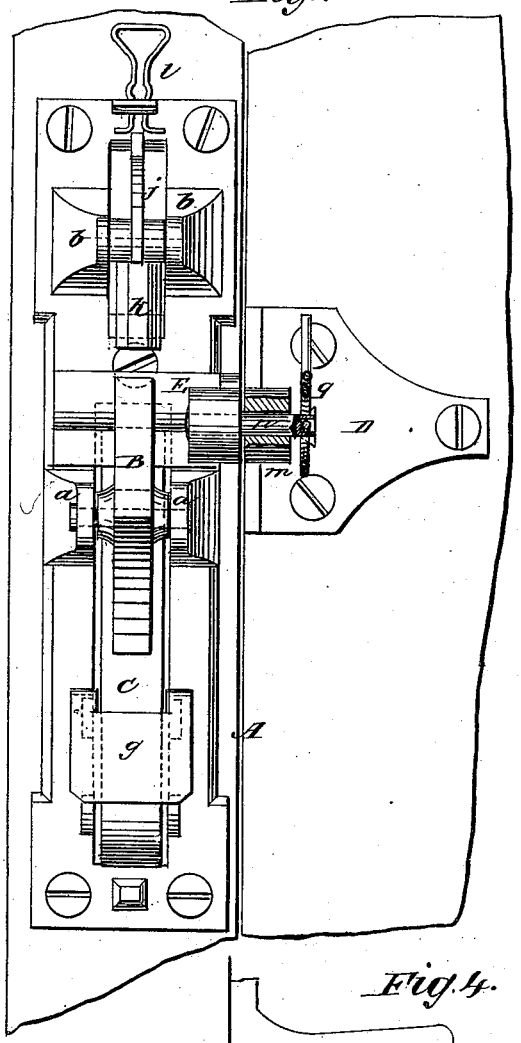


Fig. 2.

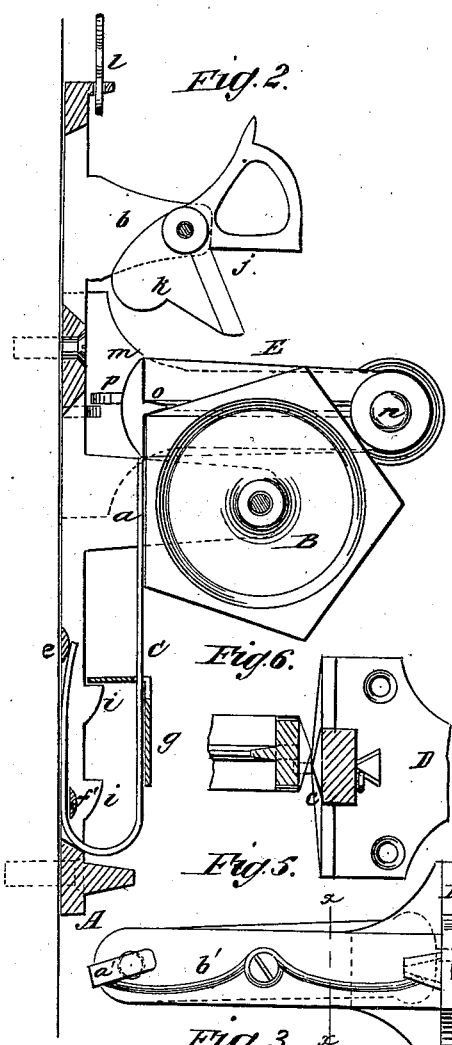


Fig. 6.

Fig. 5.

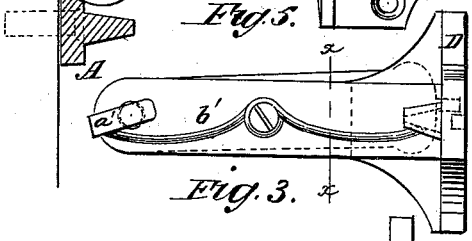


Fig. 3.

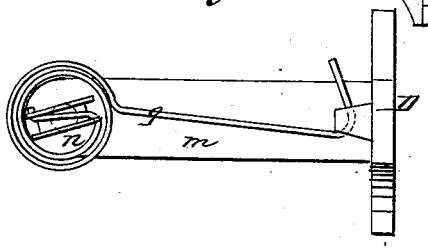
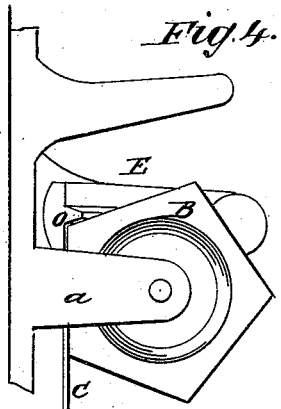


Fig. 4.



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UNITED STATES PATENT OFFICE.

CHARLES WALLER, JR., OF BARABOO, WISCONSIN.

IMPROVEMENT IN GATE-LATCHES.

Specification forming part of Letters Patent No. **205,590**, dated July 2, 1878; application filed May 23, 1878.

To all whom it may concern:

Be it known that I, CHARLES WALLER, JR., of Baraboo, in the county of Sauk and State of Wisconsin, have invented a new and Improved Door-Latch, of which the following is a specification:

Figure 1 is a side elevation, partly in section. Fig. 2 is a side elevation in section. Fig. 3 is a side view of a portion of the latch. Fig. 4 is a side view of a modified form of latch, and Fig. 5 is a detail view of a modified form of latch. Fig. 6 is a transverse section taken on line *x x* in Fig. 5.

Similar letters of reference indicate corresponding parts.

The object of my invention is to furnish a device by which a door may be fastened and yet opened under different degrees of force, depending on the adjustment of the latch, thus enabling a person to open and shut the door by merely pulling the door on one side or by pushing it on the other. It is also designed to answer the purpose of a lock.

In the drawing, A is the bed-plate, which is fastened to the casement of the door. From the face of this plate four ears, *a a* and *b b*, project at right angles. The ears *a a* are located on opposite edges of the plate A at or near the center of its length, and the ears *b b* project from the plate near its upper end.

Between the ears *a* a pentagonal plate, B, is placed on the pin *c*, that extends through the ears, and forms the pivot on which the plate turns.

The bed-plate A is slotted longitudinally between the ears *a b*, and bars *e f* extend across the slot for holding the flat spring C, which extends over the upper bar and under the lower one, and is bent upward, so as to press on the inner edge of the plate B.

The stiffness of the spring C is regulated by an apertured right-angled plate, *g*, which is placed upon it, and is supported at different points in the length of the spring by ribs *i*, that project from the face of the bed-plate.

By placing the plate *g* near the middle of the spring C the spring is stiffened, and by placing it near the fastening of the spring the spring is weakened or made more flexible. The object of this arrangement is to offer more or less resistance to the turning of the pentagonal plate, and by this means controlling the operation of the latch, so that more or less force will be required to open the door.

Above the plate B, and between the ears *b*, is pivoted a cam, *j*, which is provided with a counter-balance, K, that keeps it in a vertical position, except when the latch is operated or locked.

Above the cam *j* there is a spring key or detent, *l*, which engages the counter-weight of the cam, when the latch is locked, by means of the cam.

A plate, D, is secured to the door, and from it an arm, *m*, projects at right angles, for receiving the pivot *n* of the L-shaped latch E.

The right-angled end of the latch is capable of engaging the inner corner of the pentagonal plate B, and is provided with an internal rib, *o*, that strengthens it, and engages the inner and upper corner of the pentagonal plate, and prevents the said plate from turning without at the same time raising the latch. The downward motion of the latch is limited by ears *a*.

The latch E is forced downward into engagement with the pentagonal plate B by a spring, *q*, that is received in a slot in the end of the latch-pivot, and is fastened to a lug on the plate D; or the pivot of the latch may be provided with an arm, *a'*, as shown in Fig. 5, which is pressed by a spring, *b'*, that will act on either side of the arm, thereby admitting of the use of the latch with a right-hand or left-hand door. By this construction the latch may be turned through a complete revolution on its pivot without injury to the spring.

When the door is shut the latch E strikes the upwardly-inclined edge of the pentagonal plate, and is raised thereby. It then follows the downwardly-inclined edge, and finally engages the vertical edge, against which the flat spring C rests.

The opening of the door is effected by simply pulling or pushing it by means of the knob, when the pentagonal plate B will be turned against the pressure of the spring C by the engagement of the latch therewith, the latch being held down to the plate by the cam *k* until the revolution of plate is effected.

When the door is suddenly shut it is prevented from opening by recoil by the cam *j*, as it is inverted by the striking of the latch

against its counter-weight, and engages the latch, preventing it from escaping from the pentagonal plate, and thus preventing the turning of the said plate.

When it is desired to permanently lock the latch the cam *j* is inverted and locked by the spring key or detent *l*, so that it engages the latch and prevents it from raising. In the modification shown in Fig. 4 the cam is dispensed with.

In the transverse section, Fig. 5, a double inclined surface, *c'*, is shown, which is engaged by a similar surface on the back of the latch as the latch comes into engagement with the vertical edge of the plate B. The object of this device is to insure accuracy in the operation of the latch without the necessity of accurately fitting its pivot to the bearing in the bracket.

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

1. The combination of the pentagonal plate B, spring C, and latch E, substantially as herein shown and described.

2. The combination of the right-angled apertured plate *g* with the spring C, substantially as shown and described.

CHARLES WALLER, JR.

Witnesses:

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HENRY L. GRAY.