

W. A. BARLOW.

KNOB-LATCH.

No. 189,013.

Patented April 3, 1877.

Fig. 1

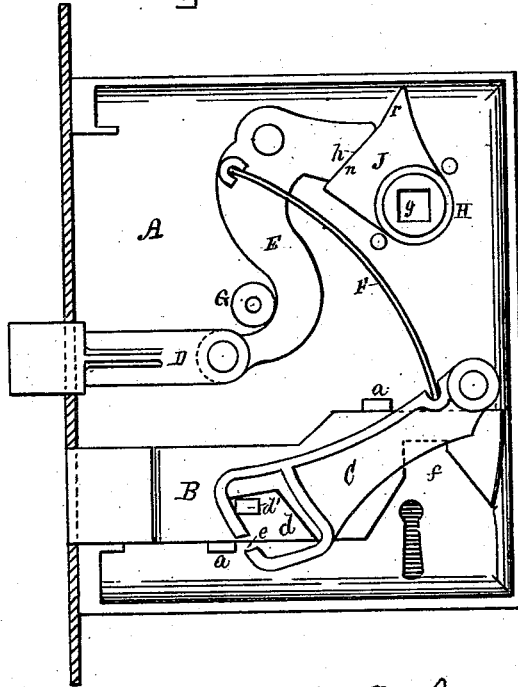
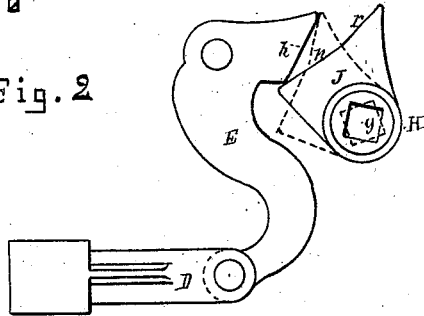


Fig. 2



WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIAM A. BARLOW, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN KNOB-LATCHES.

Specification forming part of Letters Patent No. **189,013**, dated April 3, 1877; application filed August 3, 1876.

To all whom it may concern:

Be it known that I, WILLIAM A. BARLOW, of Chicago, in the county of Cook and State of Illinois, have invented a new, useful, and Improved Combined Door Lock and Latch; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable others skilled in the art to which my invention appertains to make and use the same, reference being had to the accompanying drawing, forming part of this specification, in which—

Figure 1 represents a side elevation of a combined door lock and latch embodying my said invention, with the side of the case removed, showing the operating parts; and Fig. 2 represents a detail plan of the latch, latch-lever, and hub detached.

Like letters of reference indicate like parts.

My invention relates to that class of door locks and latches combined in one piece of mechanism; and consists in combining with the latch and latch-lever a novel-shaped hub, operated upon by the knob-spindle, whereby an equal amount of force is required, when applied to the door-knob, to move the hub in opposite directions to withdraw the latch, as will be more fully understood from the following description.

In the drawing, A represents the case, B the lock-bolt, and C the tumbler, all of which are arranged in the usual manner. D represents the latch-bolt, which passes through a mortise in the edge of the case, in the usual manner. E is the latch-lever, fulcrumed at its upper end to the wall of the case, and hinged at its lower end to the inner end of the latch, as shown. This lever is made in the form approximating the letter S, and its upper arm beveled to an angle of about fifty-five degrees to the plane of the rear edge of the case, as shown at *h*, Fig. 1. F is a curved spring, fitted at one end into a socket on the latch-lever, between its fulcrum and point of connection with the latch, and at the other end to a like socket in the tumbler-bar, near

its fulcrum, by which means the latch is forced outward, and the tumbler-bar downward, and held in position when not operated upon by the knob or key. G is a stop-pin, secured to the wall of the case, for limiting the outward movement of the latch. H is a hub journaled at its ends in the side walls of the case, and is provided with the mortise *g*, through which the knob-spindle passes in the usual manner. This hub is provided with an arm, J, projecting from its periphery, and extending to the end of the latch-lever, as shown in Fig. 1. The outer end of this arm is nearly twice the width of the beveled face of the latch-lever, against which it bears when the lever is at rest, and is so formed as to present two different angles, *n r*, the plane of *n* being parallel with the plane of the bevel on the lever when at rest, and the plane of *r* being inclined forward of the plane of the bevel on the lever, as shown.

By this arrangement of the arm having two bearing-surfaces of different angles, as shown, the knob, when turned in one direction, causes the shortest portion of the arm to act upon the shortest portion of the lever, and when turned in the opposite direction causes the longest portion of the arm to act upon the longest portion of the lever, thereby equalizing the leverage, and so that in moving the latch it will require the same amount of force applied to the knob to move the hub in opposite directions to withdraw the latch.

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

In combination with the latch-lever E, operating the latch, and beveled, as at *h*, the hub H, having the arm J, provided with the bearing-faces *n r*, arranged at different angles, and adjusted to act upon the lever, substantially as and for the purpose specified.

WILLIAM A. BARLOW.

Witnesses:

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N. H. SHERBURNE.