

S. H. WHEELER.
Latch.

No. 229,347.

Patented June 29, 1880.

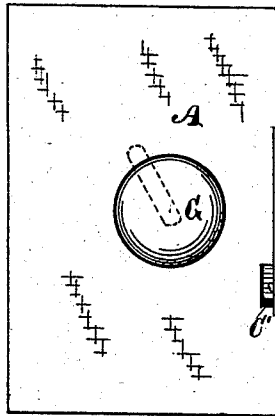


Fig. 1.

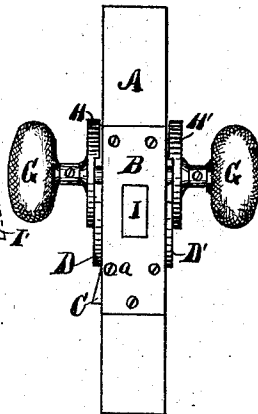


Fig. 2.

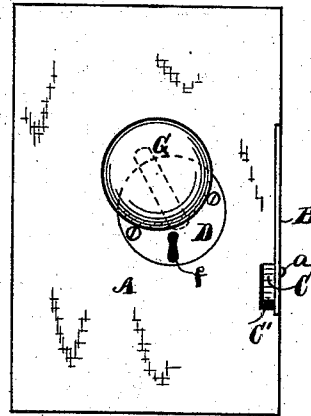


Fig. 3.

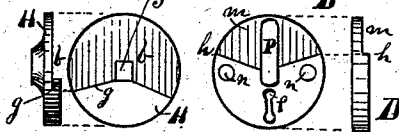


Fig. 4.

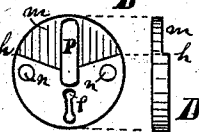


Fig. 5.

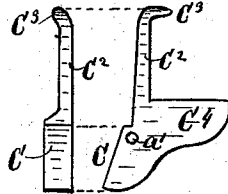


Fig. 10.

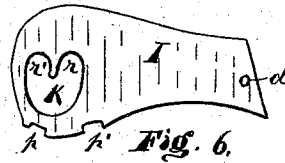


Fig. 6.

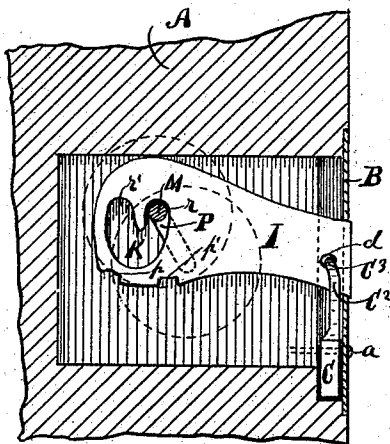


Fig. 7.

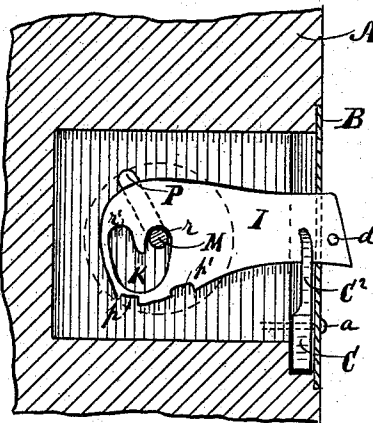


Fig. 8.

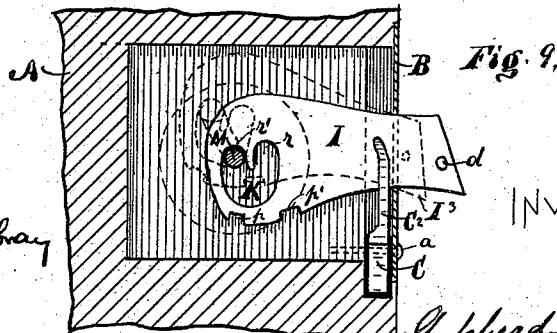


Fig. 9.

WITNESSES:
William E. Mowbray
J. L. Fobes

INVENTOR.

Shepherd H. Wheeler

UNITED STATES PATENT OFFICE.

SHEPHERD H. WHEELER, OF PERU, INDIANA.

LATCH.

SPECIFICATION forming part of Letters Patent No. 229,347, dated June 29, 1880.

Application filed February 10, 1880.

To all whom it may concern:

Be it known that I, SHEPHERD H. WHEELER, of the city of Peru, county of Miami, and State of Indiana, have invented a new and useful Improvement in Door-Latches, of which the following is a specification.

The nature of this invention relates to the construction of knob-latches of the class that are actuated by the weight of some of the parts, so as to dispense with the need of springs; and it consists of the combination of devices hereinafter described and claimed.

The accompanying drawings form a part of this specification.

The letters of reference in the drawings denote the parts indicated by similar letters in the specification.

Figure 1 of the drawings shows a side view of the door and the position of the knob when the door is latched or locked. Fig. 3 shows the same view of the door as Fig. 1, and shows the position of the knobs when the knobs are elevated and the latch drawn back. Fig. 2 is a front-edge view of Fig. 3. Fig. 4 shows an edge view and the form of the inner face of the rose-plates. Fig. 5 shows the edge and form of the outer face of the bearing-plates. Fig. 6 shows a side view of the latch. Fig. 7 is a section of the door, and shows the position of the latch-dog and spindle when the latch is drawn back, as in Figs. 2 and 3. Fig. 8 shows the same parts as Fig. 7, with the dog disengaged and the door latched, as in Fig. 1. Fig. 9 shows the position of the latch and spindle when the door is locked. Fig. 10 shows a side and edge view of the dog.

The door A is constructed, hinged, cased, and provided with a keeper to receive the outer end of the latch (in latching and locking the door) in the usual form of making and hanging doors, and need not be described here.

B represents a plate attached to the front edge of the door, as shown in Fig. 2. This plate supports the outer end of the latch I. This latch is inserted into a mortise and provided with the heart-shaped slot K at the rear end. In this slot the knob-spindle M works, and when the latch I is used as a latch only the spindle M works in the front end of the slot K, as seen in Fig. 8; but when the latch is used as a locking-bolt the spindle works in the rear end of the slot, as seen in Fig. 9.

C represents a dog. This dog is set in the corner of the door under the plate B, and pivoted to the door by means of the screw *a* through the plate B. This dog has a prong, C³, to engage with the hole *d* in the latch, and is set so that when the prong C³ drops into the hole *d* the lower end of the dog will project slightly beyond the face of the door, as seen at C in Fig. 2. A heavy projection on the dog at C⁴ causes the prong to press inward against the latch at all times when the lower end of the dog is free to swing.

D D are the bearing-plates of the spindle. One is placed on the inside of the door and the other is placed directly opposite, on the outside of the door, and both are provided on their outer surfaces with the shoulders *h h*. *f* represents a key-hole through the lower edge of one of these plates, and P represents a slot extending from the center to near the upper edge of both. This slot holds and guides the spindle M, and is set with its upper end inclined from the front edge of the door, so as to cause the latch I to draw back as the spindle passes up the inclined slots.

H H represent the rose-plates, the outer faces of which are formed in the usual form of rose-plates used on knob-spindles; but their inner faces are provided with the shoulders *g g*. These shoulders conform to the shoulders *h h* on the plates D D. All that part of the spindle M between the rose-plates is formed round; but in the rose-plates and knobs the spindle is square, as is the usual form of knob-spindles.

A square hole, J, in the plates H H fits the square part of the spindle, and causes the rose-plates to turn as the knobs are turned. Now, as the shoulders *h h* and *g g* are in close contact when the latch is in the position shown in Fig. 1, the spindle will move upward and backward, and draw the latch in on turning the knobs in either direction, and as the prong C³ on the dog C is constantly pressing against the latch I, it will drop into the hole *d* as soon as the latch is sufficiently drawn in to allow the door to open, in which position the latch will be held by the dog as long as the door stands open, or until the latch is released by pressing the lower end of the dog. Now, as nearly all doors shut against a permanent stop, and as the dog C is pivoted in the corner of

the door that strikes the stop when the door is closed, the projecting end of the dog will come in contact with the stop, pressing it inward and throwing its upper end outward, thus disengaging the prong C^3 from the hole d in the latch, when the latch will shoot out, impelled by the weight of the knobs and spindle, and enter the keeper and hold the door latched.

10 The ordinary keeper for mortise-latches is suitable for this latch, and need not be shown nor described further here.

To lock this device the knobs are turned so as to show the key-hole in the plate D. After 15 introducing the key the knobs are allowed to drop. This brings the latch I within reach of the key, which will engage with the notches p in the latch and lift the latch so as to throw the projection in the upper side of the slot K 20 over the spindle M, and thus lock or unlock the door, as may be desired.

Having thus fully described my invention, what I claim is—

1. In a knob-latch, the combination of dog 25 C, having prong C^3 , projection C^4 , pivot a , and latch I, having hole d , as shown.

2. The combination of plate B, plates D D, having shoulders $h h$ and slot P, plates H H, having shoulders $g g$ and square hole J, knobs G, spindle M, and latch I, having slot K, substantially as and for the purposes set forth. 30

3. In combination, the plate B, plates D D, having key-hole f , plates H H, knobs G, latch I, having notches $p p$ and slot K, and spindle M, as shown and described. 35

4. In combination, the plate B, plates D D, having shoulders $h h$ and slot P, plates H H, having shoulders $g g$ and square hole J, knobs G, spindle M, latch I, having hole d and slot K, dog C, having prong C^3 , projection C^4 , and 40 pivot a , when constructed, arranged, and combined as hereinbefore set forth.

5. The combination of plate B, plates D D, having shoulders $h h$ and slot P, plates H H, having shoulders $g g$ and square hole J, knobs 45 G, spindle M, and latch I, having hole d and slot K, as and for the purposes set forth.

SHEPHERD H. WHEELER.

Witnesses:

WILLIAM E. MOWBRAY,
F. L. FOBES.