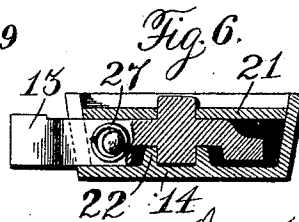
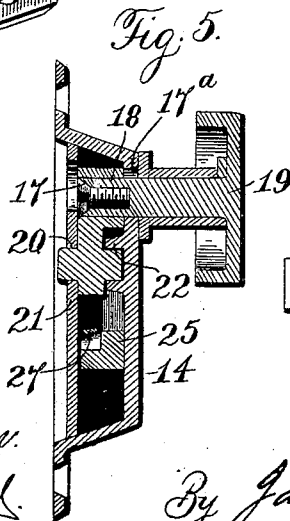
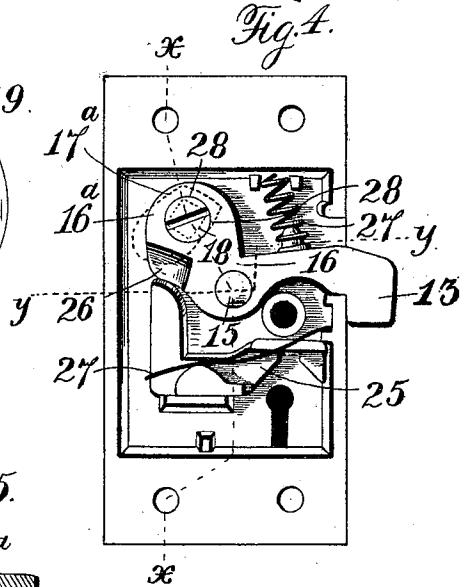
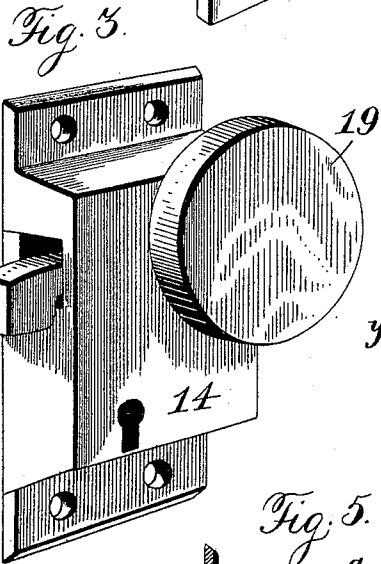
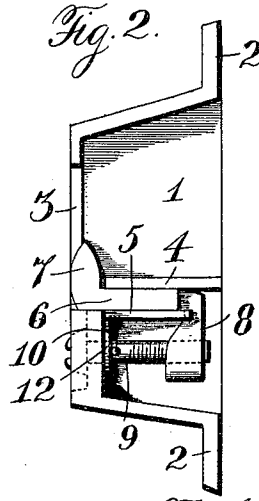
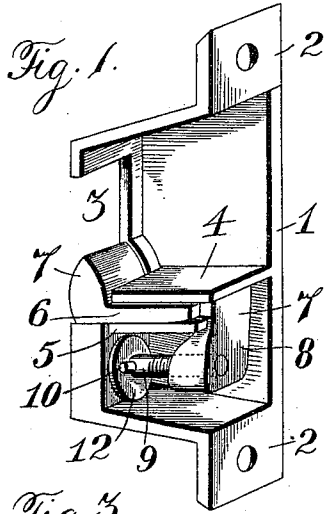


(Model.)

J. K. CLARK.
LATCH.

No. 480,171.

Patented Aug. 2, 1892.



Witnesses:
Jas. Hutchinson.
J. A. Rutherford.

Inventor:
John K. Clark,
By James L. Norris,
Attorney.

UNITED STATES PATENT OFFICE.

JOHN K. CLARK, OF BUFFALO, NEW YORK, ASSIGNOR, BY MESNE ASSIGNMENTS, TO MARY K. CLARK, OF SAME PLACE.

LATCH.

SPECIFICATION forming part of Letters Patent No. 480,171, dated August 2, 1892.

Application filed April 7, 1891. Serial No. 388,022. (Model.)

To all whom it may concern:

Be it known that I, JOHN K. CLARK, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Door-Latches, of which the following is a specification.

This invention has for its object to provide a novel, efficient, and economical latch-lock; and it consists in the features of construction and the combination or arrangement of devices hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1 is a perspective view of a striker for a door-latch. Fig. 2 is a side elevation looking at the interior thereof. Fig. 3 is a perspective view looking at the exterior of the improved rim-lock. Fig. 4 is an inside plan view of the rim-lock, omitting the detachable back plate. Fig. 5 is a vertical sectional view taken on the line *x x*, Fig. 4, with the back plate in position; and Fig. 6 is a horizontal sectional view taken on the line *y y*, Fig. 4.

In the drawings the numeral 1 indicates a striker-frame having lugs 2 for attaching it to a door-frame. The striker-frame is provided with an opening 3 and parallel guides 4 and 5, between which is arranged to slide the horizontal shank 6 of a catch-plate 7. The shank of the catch-plate is constructed with an arm 8, in screw-threaded engagement with a rotating screw 9, held against longitudinal movement by a pin 10. These elements are not essential features of my present invention; but they are preferably provided, so that if the door shrinks the catch-plate can be adjusted inward toward the door-frame, and thus properly engage the door-latch for the purpose of securing perfect closure of the door to exclude the external atmosphere and prevent the escape of cold air from within.

The door-latch 13 is shown as arranged in the casing 14 of a rim latch-lock adapted to be screwed to the outside of a door, and this latch is in the form of a bell-crank, with trunnions 15 cast integral therewith at its angle 16. The rear extremity of the latch rises upwardly, as at 16^a, and is formed with an angular orifice 17, extending transversely therethrough

for engaging the angular shank 18 of a handle or knob 19. The trunnions of the catch-plate are respectively journaled in an orifice 20 in the back plate 21 and in a boss 22, cast integral with the casing 14 of the rim latch-lock. A spiral or other suitable spring 28 is arranged between the upper side of the latch and the top wall of the latch-casing for the purpose of pressing the latch downward and holding it in position to engage the catch-plate

The latch-casing is provided with a suitable slot 17^a at a point opposite the angular orifice in the latch 7, and the angular shank 18 of the handle or knob 19 is adapted to move in this slot for the purpose of swinging the latch upon its trunnions. The angular shank of the handle or knob passes through a sleeve 24, interposed between the latch-casing 14 and the inside of the handle or knob in such manner as to maintain the latter in proper position relatively to the latch-casing.

The latch is adapted to be locked in its normal position through the medium of a sliding lock-bolt 25, sliding horizontally in the lower portion of the latch-casing and having at one extremity an upwardly-projecting arm, which is adapted to be moved into a position directly beneath the portion 26 of the rear extremity of the latch, so that such rear extremity cannot be moved downward for the purpose of lifting the acting face of the latch from engagement with the catch-plate. The horizontal sliding lock-bolt is adapted to be adjusted by means of a suitable key and is acted upon by a leaf-spring 27 to hold it from accidental displacement when in its locked or unlocked position.

An important feature of this construction resides in the fact that the handle or knob is rigidly attached to the latch; but at the same time instead of being an integral part of the latch it is a separate and independent part rigidly connecting with the latch. The object of this construction is to enable the latch to be constructed of ordinary cast-iron or other suitable metal, while the handle or knob can be formed of bronze, brass, or other more costly metal of different pattern and ornamented in any manner suitable for the conditions desired.

The angular shank of the handle or knob is held in rigid connection with the latch through the medium of a metal screw 28, which passes into a screw-threaded orifice formed in the angular shank in such manner that the head of the screw bears against the inside of the latch, for which purpose the latch is preferably countersunk to receive the head of the metal screw.

By my invention I entirely avoid the presence of a rotary hub for actuating the latch and economize in the construction of bronze or brass locks by enabling the latch to be formed of cast-iron or similar metal, while the handle or knob can be made of more costly metal and ornamented in any desired manner, while at the same time the connection between the handle or knob is rigid, so that a simple downward pressure on the handle or knob serves to lift the latch from engagement with the catch-plate.

In ordinary latch-locks the latch is pivoted in the latch-case through the medium of a separate pivot-pin passing through an orifice in the latch. In my invention the trunnions are cast integral with the latch. Therefore the latter is strengthened instead of weakened, while the cost of manufacture is materially reduced.

I do not claim the catch-plate and devices for holding the same in a fixed position after

adjustment, as these features do not constitute my invention.

Having thus described my invention, what I claim is—

1. The combination, with a striker, of a latch-casing having a slot, a latch pivoted between its ends in the casing and having its rear extremity provided with an angular transverse orifice, and a handle or knob formed as a separate piece from the latch and having an angular shank secured in the angular orifice of such latch, substantially as described.

2. The combination, with a striker, of a latch-casing having a slot, a latch pivoted between its ends within the casing and having its rear extremity provided with an angular orifice in coincidence with the slot in the casing, a handle or knob having an angular shank extending through the angular orifice in the latch, and a screw entering the shank of the handle or knob to rigidly attach the latter to the latch, substantially as described.

In testimony whereof I have hereunto set my hand and affixed my seal in presence of two subscribing witnesses.

JOHN K. CLARK. [L. S.]

Witnesses:

KIMBALL V. CLARK,
ALBERT HENNINGHAM.