G. C. Worth,

Latch,

No. 36,547. Patented Sept. 23, 1862.

Fig 3.

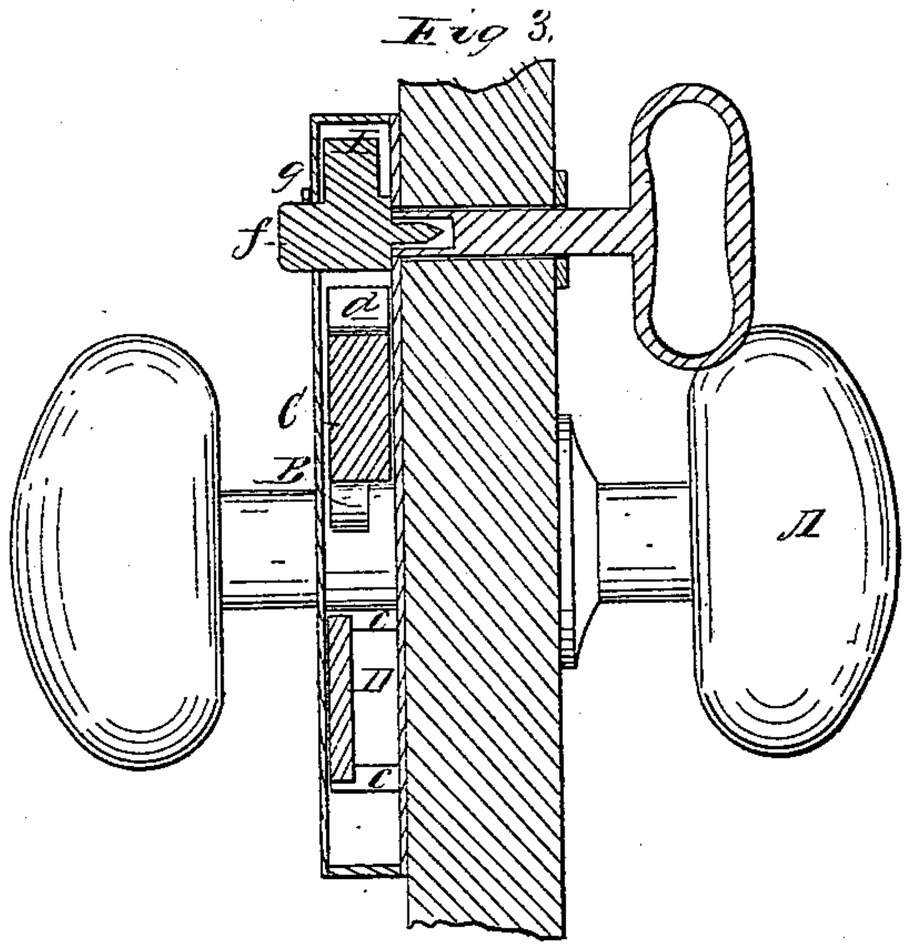



Fig 1

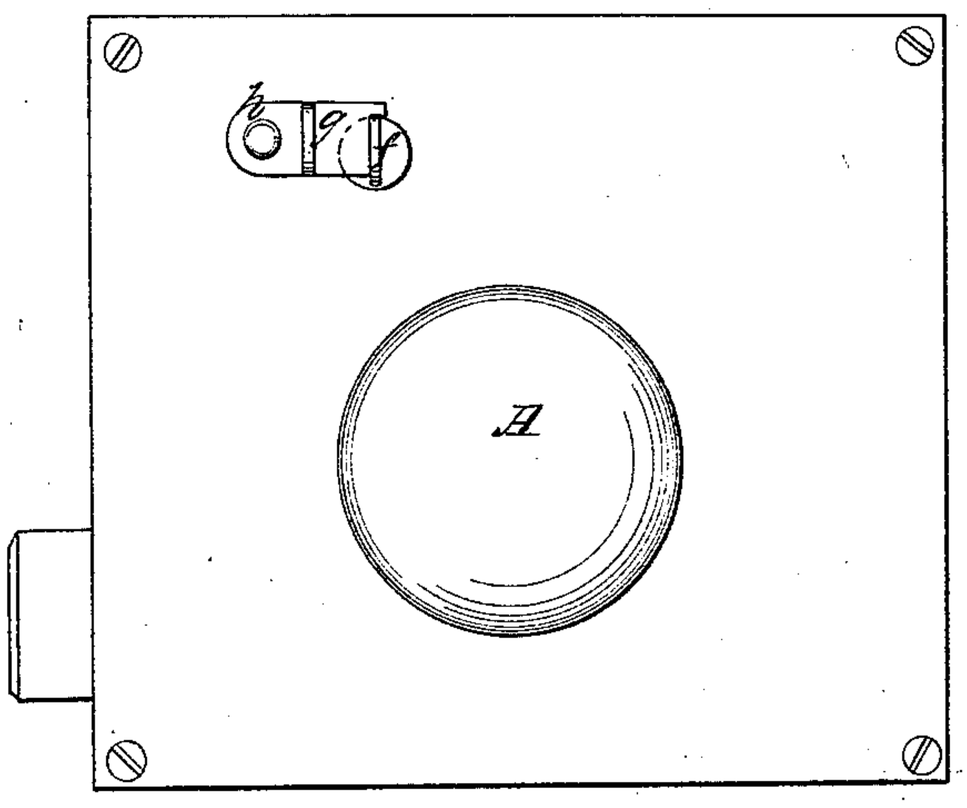
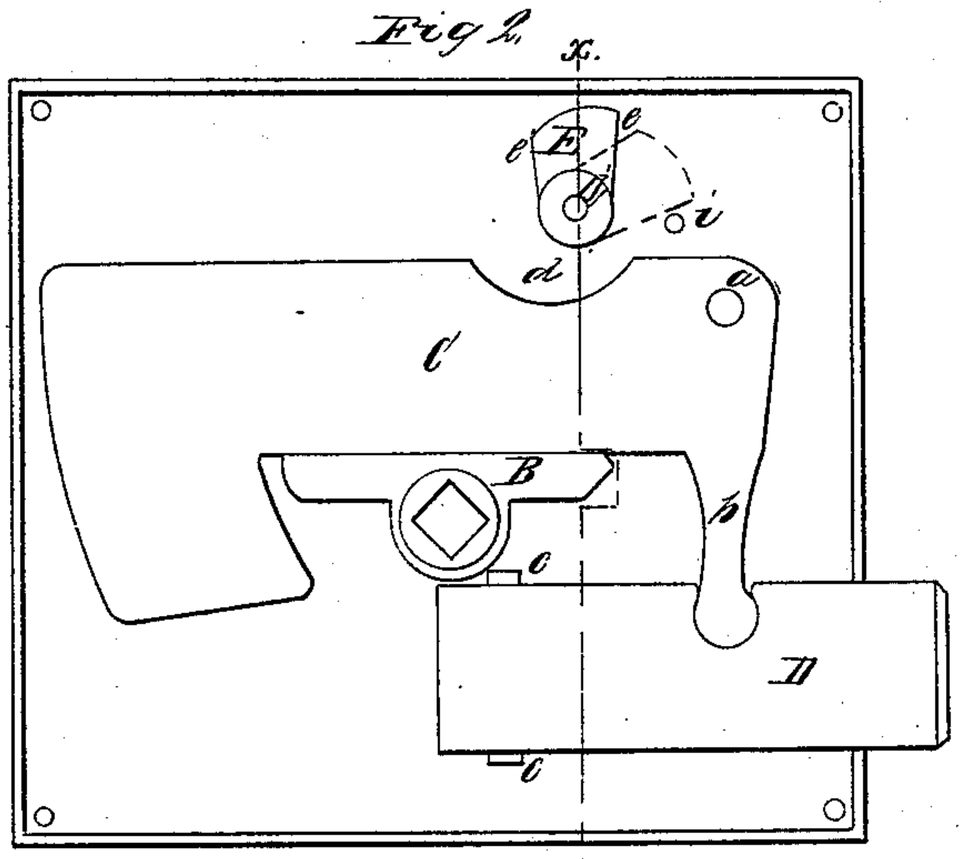



Fig 2.




Witnesses,
S P Pond
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Inventor.
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By his attorney
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# UNITED STATES PATENT OFFICE.

GUY C. WORTH, OF UPPER SANDUSKY, OHIO.

## IMPROVEMENT IN LOCKS.

Specification forming part of Letters Patent No. **36,547**, dated September 23, 1862.

*To all whom it may concern:*

Be it known that I, GUY C. WORTH, of Upper Sandusky, in the county of Wyandot and State of Ohio, have invented a Combined Lever Latch, Lock, and Bolt; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is an inner face view; Fig. 2, a front view, with the guard-plate removed; and Fig. 3 a vertical section through the line *x x* of Fig. 2.

The nature of my invention consists, first, in the combination of a weighted lever for operating the bolt or latch with a cam for locking the same; and, second, in the method devised by me for locking the said cam from the inside, so that the door cannot be opened from the outside even with the proper key.

Locks and latches have heretofore been contrived wherein the bolt has been thrown out and retained in that position by the action of a weight; but in all the plans of this nature with which I am acquainted the construction is complicated and costly to an extent which has prevented their introduction into general use, while in some of them the bolt necessarily travels in the arc of a circle.

It is my object to simplify this description of lock and latch; and to this end I have reduced the parts to the smallest possible number, and so combined them as to produce a very cheap yet efficient article, and one it is hardly possible to disarrange.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

The external form of my combined lever-latch, lock, and bolt is the usual rectangular one. Upon the square shank of the knob A is fixed the double-armed lever B, which is provided with a square socket to prevent its turning thereon. The weighted lever C, formed something like a bell-crank, rests upon the double-armed lever B, and is pivoted at *a*. The leg *b* of the weighted lever C extends down and enters loosely by a ball-and-socket or other flexible joint a notch in the upper edge of the bolt D in such a manner as to allow the said bolt to slide in a horizontal line between its guides *c c*. It will be seen from this description that the bolt D is thrust out of its case by the action of the weighted lever C and kept in that position, so that when the door is closing and the exterior end of the said bolt comes in contact with the lip of the catch it yields gradually and uniformly until it has passed, when the weighted lever thrusts it again forward into the catch. The door is opened by turning the knob A either to the right or left by the action of the double-armed lever B. This constitutes my improved lever-latch. It is converted into a lock by means of the quadrantal cam E, arranged over the weighted lever C, which last is provided on its upper edge with a concave seat, *d*. This cam is not an exact quadrant, (except when the lock is constructed as a Janus-faced one,) its radius *e* being greater than its radius *e'*, so that when it is turned down upon its seat with the key or with the thumb and finger it acts upon the weighted lever like a wedge and holds it closely upon the double-armed lever B and the bolt D firmly locked. The cam E is also provided with a thumb-piece or projection, *f*, extending through the inner face of the case, against which the latch or cam *g*, hinged at *h*, bears when it is let down. This holds the cam E from off its seat when desired, so that the bolt D cannot be accidentally locked; or by turning the cam E a half-circle down upon its seat the cam or latch *g* holds the bolt D securely locked, so that it cannot be picked or unlocked from the outside even with the proper key. If desired, a pin, *i*, may be inserted in one of the plates of the lock, against which the cam E may rest when the bolt D is unlocked, as represented in dotted lines.

The latch and lock may be made Janus-faced for right or left hand doors by simply turning over the quadrantal cam E end for end, and having the latch or cam *g* hinged by means of a screw instead of a rivet, so that it may be readily changed to the other side, or either side of the case. The key used by me is a simple pipe with a projection on its edge fitting into the cavity *j* in the cam E; but any other more complicated is equally applicable.

Having thus described my invention and pointed out the manner in which it operates,

what I claim therein as new, and desire to secure by Letters Patent of the United States, is—

1. The combination of the cam E and weighted lever C when constructed and arranged as set forth.

2. The latch or cam *g*, in combination with the cam E and its projection *f*, substantially as and for the purpose set forth.

GUY C. WORTH.

Witnesses:
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