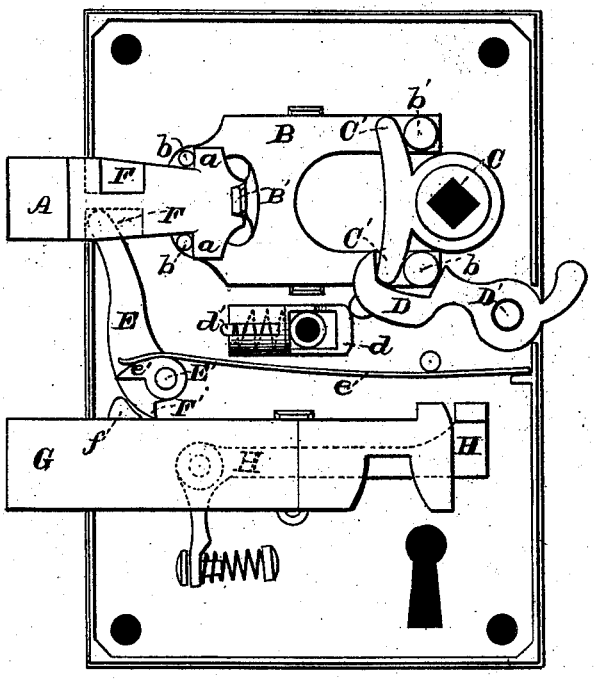
2 Sheets—Sheet 1.

# S. OPPENHEIMER.

## Latch and Lock Combined.

**No. 198,751.** **Patented Jan. 1, 1878.**

*Fig. 1.*




*Witnesses:*

Jas. E. Hutchinson

John R. Young

*Inventor.*

S. Oppenheimer, by

Prindle and Ly his Attys

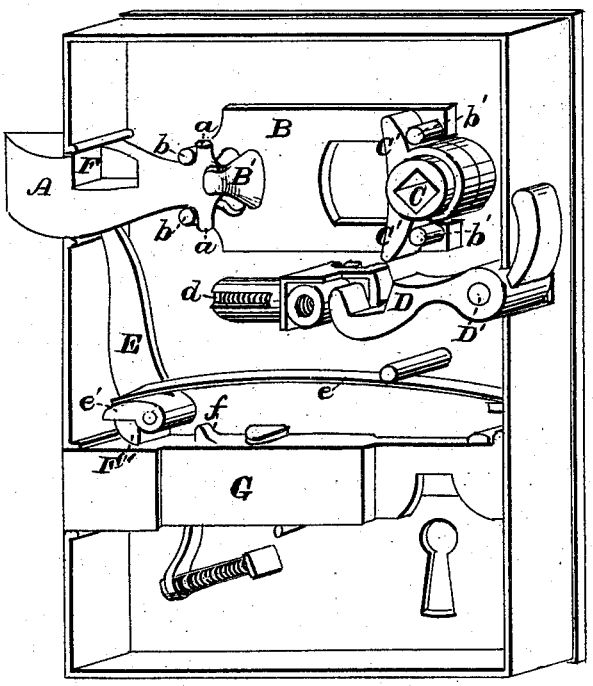
2 Sheets—Sheet 2.

# S. OPPENHEIMER.

## Latch and Lock Combined.

**No. 198,751.** **Patented Jan. 1, 1878.**

*Fig. 2.*




*Witnesses.*

Jas. E. Hutchinson

John R. Young

*Inventor.*

S. Oppenheimer, by

Prindle and Lovejoy his Attys

# UNITED STATES PATENT OFFICE.

SOLOMON OPPENHEIMER, OF NEWARK, NEW JERSEY.

## IMPROVEMENT IN LATCH AND LOCK COMBINED.

Specification forming part of Letters Patent No. **198,751**, dated January 1, 1878; application filed December 3, 1877.

*To all whom it may concern:*

Be it known that I, SOLOMON OPPENHEIMER, of Newark, county of Essex, State of New Jersey, have invented certain new and useful Improvements in Locks; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a plan view of my improved reversible door latch and lock with the plate or cap removed; and Fig. 2 is a perspective view of the same, both views showing all the parts of the latch and lock in detail.

Letters of like name and kind refer to like parts in each of the figures.

The design of my invention is to produce a door lock and latch that may with equal facility be applied to a door opening either to the right or left, easily operated, and in which the locking-bolt cannot be forced backward by a key or any other instrument from the outside of the door; and it consists, principally, in the means employed to render the latch reversible, substantially as and for the purpose hereinafter shown and set forth.

It consists, further, in the means employed for securing the latch and arbor in such a position that they cannot be moved except by a person inside the door, substantially as and for the purpose hereinafter shown and described.

It consists, finally, in the means provided for combining the latch-bolt and locking-bolt in such a manner as to form a double locking arrangement, substantially as and for the purpose hereinafter shown, described, and set forth.

In the annexed drawings, A represents a knob or latch bolt, the projecting or outer end of which is shaped in the usual manner. Upon the inner end of said knob or latch bolt A are provided two lugs or ears, *a* and *a*, which, together with the shank of the former, form a T-head, which serves as a means of connecting it with and attaching it to the follower or sliding plate B. A post, B′, having an overhanging cap, and two posts or pins, *b* and *b*, are fastened to and secured upon the follower or sliding plate B, the office of which, in connection with the lugs or ears *a* and *a*, is to furnish the means for connecting the knob or latch bolt A with the follower or sliding plate B. The shank and lugs or ears *a* and *a* that form the T-piece upon the inner end of the knob or latch bolt A are constructed central with the body or outer end of the same, and by this means the latch-bolt is enabled to be reversed, and applied to doors opening either to the right or left.

The follower or sliding plate B is provided with a yoke, to and upon the ends of which are fastened and secured two posts, *b′* and *b′*, the office of which latter is, in connection with the arms of the arbor C, to afford the means whereby the knob or latch bolt A may be operated by the knob.

In order to increase the efficiency of the lock and add to its security a dog, D, has been provided, which is firmly secured in position by being pivoted to the post D′ in such a manner as to enable it to be swiveled upon said post. Upon the inner end of said dog there is provided a clamp or pair of jaws of sufficient width to enable the same to clasp one arm of the arbor C and one of the posts *b′*, and upon the outer end, and projecting through the rim of the lock, is formed a short handle, by means of which latter the dog D is thrown into or out of engagement with the arm of the arbor C and post *b′* of the yoke.

The dog D is maintained in position when either on or off by means of a brake, *d*, which consists of an oblong frame and a cylinder combined. The cylinder contains a coil-spring within it, by means of which latter the brake *d* is constantly forced against the dog D. For the purpose of securing the brake *d* in position, and the correct operation of the spring, a backing post or pin, *d′*, is provided, and the cylinder is grooved vertically to correspond with said pin, and longitudinally to correspond with the length of the coil-spring.

By this arrangement it will be seen that when the brake is in position the oblong frame encircles the center-post of the lock, and the groove of the cylinder impinges upon the backing post or pin *d′*, thus insuring the action of the brake.

The latch-bolt A is thrown outward by means of a lever, E, the lower end of which is pivoted to and upon a post, E′, and which receives its

pressure from a flat spring, *e*, impinging upon a cam, *e'*, that is formed upon the hub or lower end of said lever. Recesses F and F are formed in opposite sides of the latch A, for the reception of the upper end of the lever E, and the latter, impinging upon the forward wall of the lower recess, tends to throw the latch A outward. The lever E is provided at its lower end with a pawl, F', the office of which is, in connection with a lug, *f*, that is provided upon the upper side of the locking-bolt G, to form such a complete obstruction as shall prevent the locking-bolt from being thrown inward, and the door unlocked by means of a key or any other instrument when the same is used from the outside of the door.

The locking-bolt G is preferably constructed in the form of a trough, in order to add to its strength, and to afford sufficient room for the guard H to be placed underneath said locking-bolt.

As thus constructed, the lock and reversible latch is completed, and its operation is as follows: When it is desired to lock the door the locking-bolt G is thrown forward by means of the key, in the usual manner, and the lug *f* at the same time passes under the pawl F'. When the locking-bolt has been thrown forward sufficiently far the pawl F' drops behind the lug *f*, and thus the locking-bolt is firmly held in position by means of said pawl and lug, and, as will be seen, no key or other instrument will avail or can be made to throw or unlock the bolt from the outside without first turning the knob, and by this means throwing the pawl F' out of engagement with the lug *f*, and this is effectually prevented by throwing the dog D on, as is clearly shown in Fig. 1. To unlock the door the dog D is thrown off, the knob turned, throwing the latch-bolt inward, and, while held in this position, the key will perform its proper function and throw the locking-bolt G inward.

It will be seen that this arrangement not only forms a perfect "dead-lock," but a double lock, because, as it is impossible to turn the knob from the outside after the door has been locked and the dog thrown on, the knob latch or bolt offers just as much resistance as the locking-bolt does.

It is believed that this lock possesses the advantages of security, simplicity, and durability, and that the reversible latch will be appreciated by users.

Having thus fully set forth the nature and merits of my invention, what I claim as new is—

1. In combination with the reversible latch or knob bolt A, the upright post B', provided with the overhanging cap and placed upon the follower or sliding plate B, and the pins *b* and *b*, arranged and constructed substantially as and for the purpose shown and described.

2. The dog D, in combination with the arm C' of the arbor C and the yoke of the follower or sliding plate B, whereby the arbor and yoke are held together and prevented from moving, substantially as and for the purpose shown and described.

3. The pawl F' upon the lever E, in combination with the lug *f* upon the locking-bolt G and the latch-bolt A, whereby the locking-bolt is prevented from being forced inward until the latch-bolt is withdrawn, substantially as and for the purpose shown and described.

SOLOMON OPPENHEIMER.

Attest:
THEODORE N. LOGAN,
JOSEPH S. SEARING.