

S. OPPENHEIMER.

DOOR-LATCH.

No. 178,876.

Patented June 20, 1876.

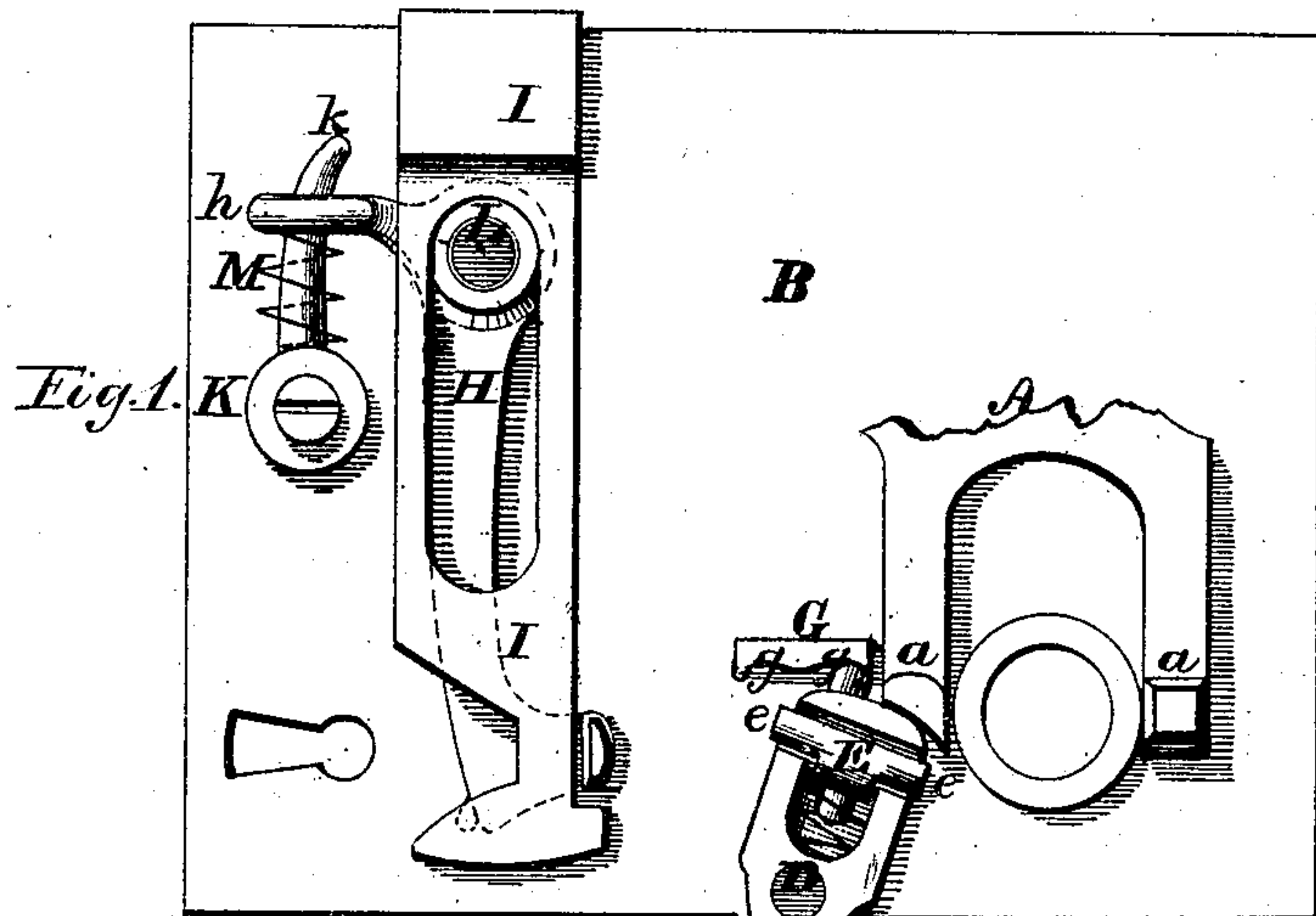


Fig. 2.

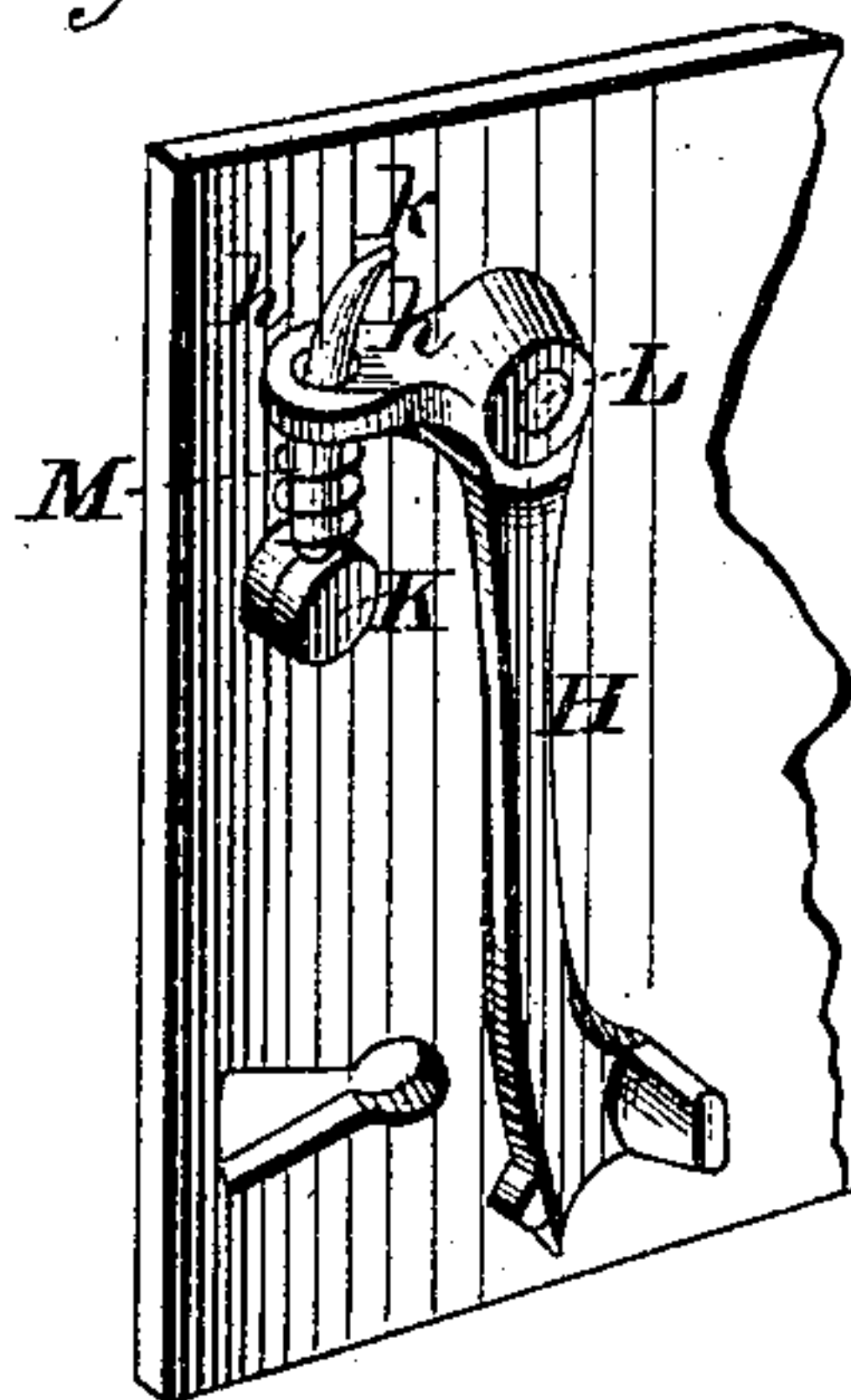


Fig. 5.

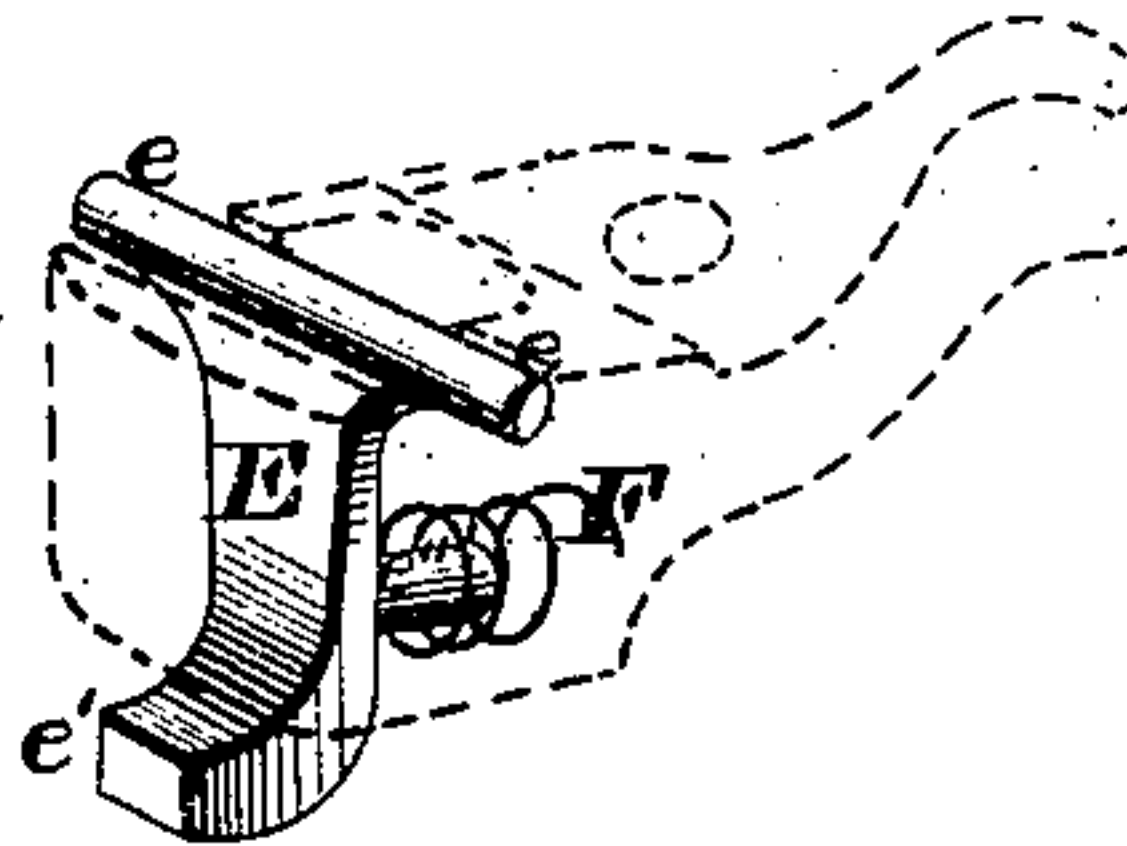


Fig. 4.

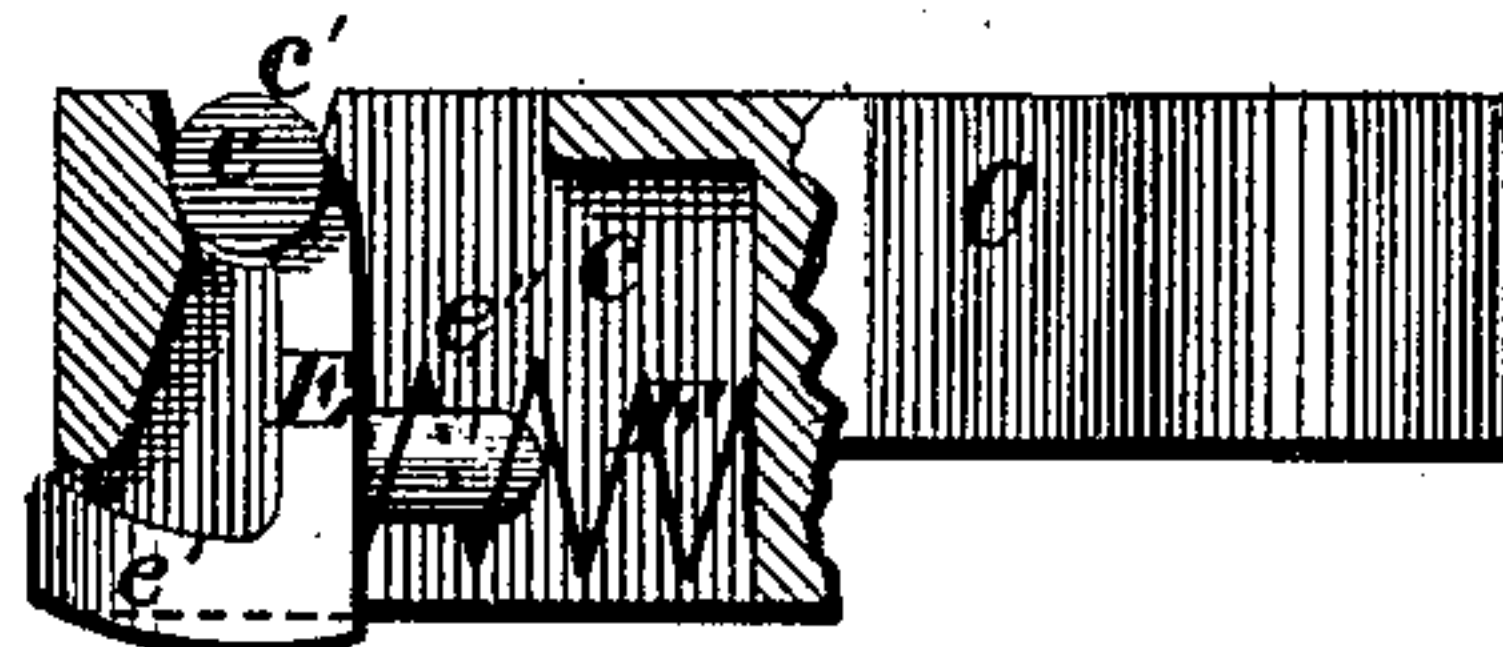
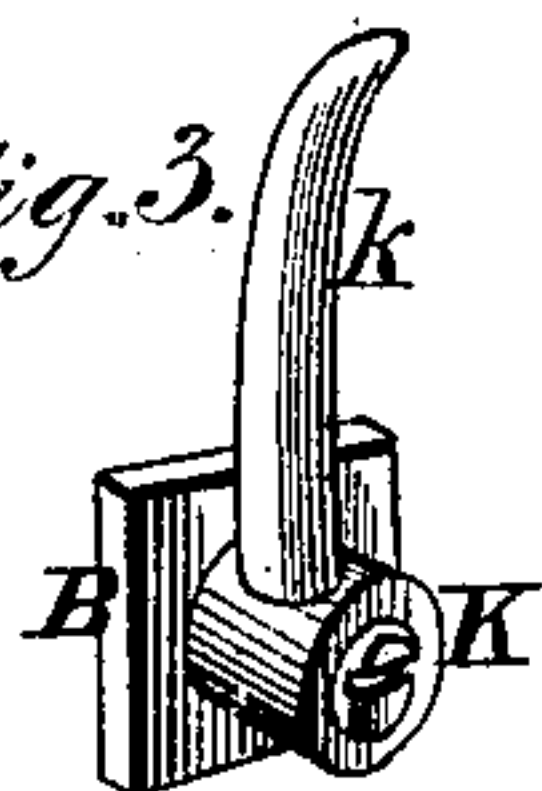


Fig. 3.



Attest:

Jas. E. Hutchinson.  
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Inventor:

S. Oppenheimer, by  
Prindle and Log, his Attys.



# UNITED STATES PATENT OFFICE.

SOLOMON OPPENHEIMER, OF NEWARK, NEW JERSEY.

## IMPROVEMENT IN DOOR-LATCHES.

Specification forming part of Letters Patent No. 178,876, dated June 20, 1876; application filed November 15, 1875.

*To all whom it may concern:*

Be it known that I, SOLOMON OPPENHEIMER, of Newark, in the county of Essex, and in the 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 the inner side of a lock containing my improvements. Fig. 2 is a perspective view of a tumbler and its spring separated from the bolt. Fig. 3 is a like view of the pivoted horn for holding said spring. Fig. 4 is an enlarged section of the cam-stopper and its lever, and Fig. 5 is a perspective view of said stopper, the dotted lines showing the shape and position of its lever.

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

The design of my invention is to increase the efficiency and thoroughness of operation of a door-lock; and it consists in the novel means employed for locking the latch in position, substantially as is hereinafter specified.

In the annexed drawings, A represents the forked end of a latch constructed in the usual manner, and so arranged within a lock as to span the knob-bar and move longitudinally a sufficient distance to cause the outer end of said latch to project to the desired distance, or to be withdrawn within the casing, all in the ordinary manner.

Pivoted upon the casing B, in rear and at one side of one of the forks *a* of the latch A, is a lever, C, which has the form shown by Figs. 1, 4, and 5, and is provided with a rectangular recess, *c*, that extends from its upper to its lower side, and from a point near its pivotal bearing D forward nearly to its front end. At the forward end of the recess *c* a half-round bearing, *c'*, is provided within the upper side of the lever C, which bearing receives two trunnions, *e* and *e'*, of a cam-block, E, that has the form shown in Figs. 4 and 5, and is contained within said recess. At the lower side of the front end the lever C is cut away so as to enable the curved arm *e'* of the cam-block E to pass outward from the recess *c*, the arrangement shown enabling said arm to be projected

from, or withdrawn into, said lever by the swinging of said block upon its trunnions. From a point below the vertical center of the block E a stud, *e''*, extends rearward from the rear side of the block E, and upon the same is placed a spiral spring, F, which extends between said blocks and the rear end of the recess *c*, and causes the former to maintain the position shown by Fig. 5, except when pressed inward, as seen in Fig. 4. Immediately in front of the pivoted lever C a lug, G, is secure to or upon the casing B, and upon its face, toward said bar, is provided with two semicircular depressions, *g* and *g*, either of which latter will receive the end of the projecting arm *e'* of the block E. If, now, the lever C be moved so as to bring the cam-arm *e'* into either depression *g* the operation of the spring F will cause the cam to lock said bar into such position, except when sufficient strength is exerted to force said arm inward until the elevation that separates said depressions has been passed, when said cam will again move forward and operate as a lock, as before. The shape of the end of the lug G farthest from the latch A prevents the cam-arm *e'* from passing outward from the corresponding depression *g*, while the lever C is turned in the opposite direction its end will pass in rear of and engage with the obliquely-cut end of one of the forks *a* of said latch, and operate as a stop to prevent the latter from being moved rearward.

The tumbler H of the bolt I is of usual shape, and at its pivotal end is provided with an arm, *h*, which extends downward, and has near its lower end a round opening, *h'*. Upon the plate B, below the tumbler H, is secured a stud, K, from which extends outward a horn-shaped arm, *k*, that passes through the opening *h'* of said tumbler, and, longitudinally, is formed upon a line which is concentric to the pivotal bearing L of the same, by which construction the arm *h* has perfect freedom of motion as said tumbler is raised or lowered by the operation of the key. A spring, M, for holding the engaging end of the tumbler H in engagement with the bolt I, is coiled spirally around the arm *k*, and extends between the stud K and the arm *h* of said tumbler. The advantage of this arrangement of parts is



found in the freedom of motion of the tumbler, the constant and direct action of the spring, and the certainty with which the latter maintains its position while the interior mechanism of the lock is being removed or replaced.

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

The means employed for locking in place the latch A *a a*, consisting of the lever C, provided with the recess *c* and bearing *c'*, the cam-block E, having the trunnions *e* and *e*,

curved arm *e'* and stud *e''*, the spring F, and the lug G, provided with the recesses *g* and *g*, said parts being combined to operate in the manner and for the purpose substantially as specified.

In testimony that I claim the foregoing, I have hereunto set my hand this 16th day of September, 1875.

SOLOMON OPPENHEIMER.

Witnesses:

H. C. HAZARD,  
WILLIAM FITCH.