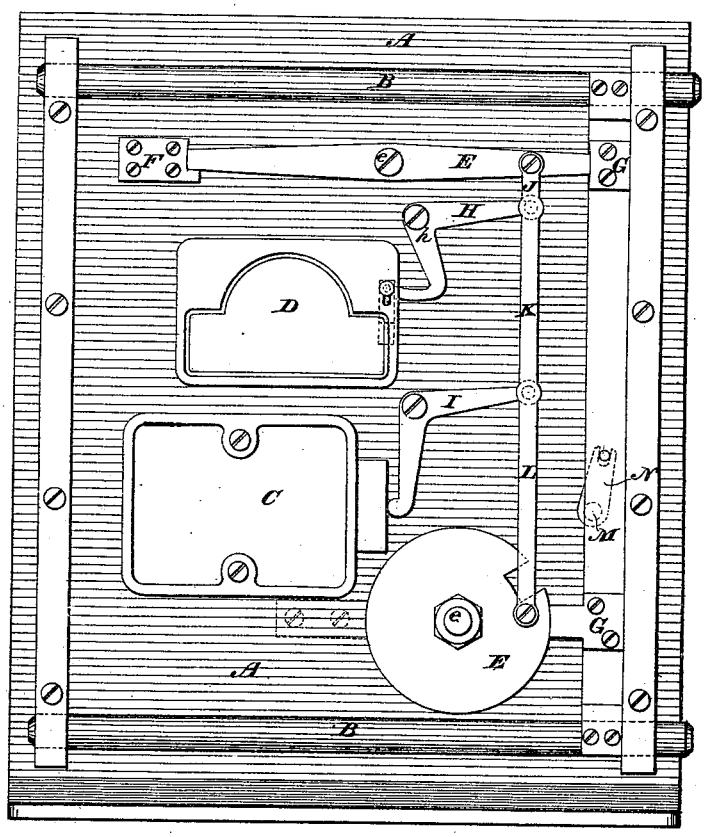
J. P. SIPP.

LOCKS FOR DOORS.

No. 180,663. Patented Aug. 1, 1876.



WITNESSES

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IMPROVEMENT IN LOCKS FOR DOORS.

Specification forming part of Letters Patent No. **180,663**, dated August 1, 1876; application filed June 15, 1876.

To all whom it may concern:

Be it known that I, JOHN PHILIP SIPP, of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Locking Mechanism; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The object of my invention is to provide a means of securing the heavy bolt-work of safe and vault doors by means of locks of any kind in such manner as to prevent any retractive pressure applied to the bolt-work in the effort to force it open from extending to the lock or locks by which it is guarded and controlled.

The manner in which I accomplish this result will be readily understood by reference to the accompanying drawing, in which A represents the door of a safe or vault, and B B the ordinary sliding bolt-work secured thereto. This bolt-work is operated from the outside of the door by means of the spindle M passing through the door, and having attached to its inner end the crank N, provided with a slot which engages with a pin in the string-bar of the bolt-work. C is a combination-lock of any approved construction; and D, a time-lock. Any of the well-known forms of time-lock can be readily adapted to my invention; but I prefer to use one having an aperture which is opened and closed by a sliding dog or block controlled by the time mechanism. E E are the dogs for preventing the retraction of the bolt-work. Each of the dogs E turns freely on its pivot *e*, and when in the locked position, as shown in the drawing, the rear end of the upper dog rests against the stump or block F, rigidly secured to the door A, and its forward end abuts against another block, G, bolted to the string-bar of the bolt-work. In this position it is evident that the upper dog E will prevent the retraction of the bolt-work B.

The lower dog is shown in circular form, with a recess to receive a tongue, G, of the bolt-work. With this form of dog the pivot alone may be relied on to resist retracting-force exerted on the bolt-work; but a stump may also be employed, if desired, as indicated in dotted lines. Attached to the upper one of the two dogs E E shown in the drawing is the link J, the other end of which is coupled to one arm of the bell-crank H, which turns on its pivot *h*, the other end of which crank is adapted to enter the bolt-cavity in the time-lock D. I is another bell-crank similarly arranged in connection with the combination-lock C, and united with the crank H by means of the link K, and connecting also with the lower dog E by means of the link L. These links may be made of one piece, in which case the slots in the bell-cranks for connecting them therewith must be elongated slightly.

When the several parts are in the position represented in the drawing, it will be seen that the dogs E E entirely prevent the retraction of the bolt-work B B. Assuming the time-lock to be unlocked, all that is necessary to release the bolt-work is to unlock the combination-lock C. As the bolt of this latter is retracted, the weight of the links J K L and of the other parts connected therewith, will cause the lower arm of the bell-crank I to follow it; and, as this crank rotates on its pivot, its outer end, acting through the links K and J, will cause a corresponding motion of the bell-crank H and dogs E E, which latter will thus be vibrated out of engagement with the blocks G G, thus leaving the bolt-work free to be retracted by means of the spindle M.

When it is desired to again lock the door, all that is needed is to throw the bolt-work, by means of the spindle, into the locked position, and then to lock the combination-lock C. The bolt of this lock, as it is thrown forward, will act on the bell-crank I, and through the latter will elevate the dogs E E into the locked position, so that they engage with the blocks G G, and will also restore the bell-crank H to the position shown in the drawing. The construction of the time-lock is such that, after the bell-crank H has assumed the position shown in the drawing, a suitable dog or other bolting device engages

with the lower end of the bell-crank H, either immediately upon the locking of the door or at a time determined by the clock-work, as may be preferred, and thus prevents the vibration of the bell-crank H until such time as such bolting device within the time-lock may be removed from engagement with the bell-crank H by the action of suitable clock-work.

From the foregoing description it will be evident that any retractive pressure applied upon the bolt-work B, either through the spindle M or otherwise, will be wholly opposed by the dogs E E, and that, under no circumstances, can such pressure be communicated to either the time-lock D or the combination-lock C, so that, while both locks exercise a controlling action upon the bolt-work, yet they are wholly removed from the effect of violence applied to said bolt-work in any manner in the effort to retract it.

I am aware that the combination of a time-lock, a non time-lock, and bolt-work have been in public use upon safe and vault doors, and that I do not claim as my invention; but

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The combination, with the sliding bolt-work of a safe or vault door, of one or more locks, the oscillating stops E E pivoted to said door, and engaging with the bolt-work, and the bell-cranks H I, engaging at one end with the bolting devices of the locks, and suitably connected at the other end with said stops, whereby retractive pressure applied to the bolt-work is wholly resisted by the stops, and can in no way be transmitted to the lock or locks.

In testimony that I claim the foregoing as my own I affix my signature in the presence of two witnesses.

JOHN PHILIP SIPP.

Witnesses:

WALTER FULLER,

GEORGE M. SMITH.