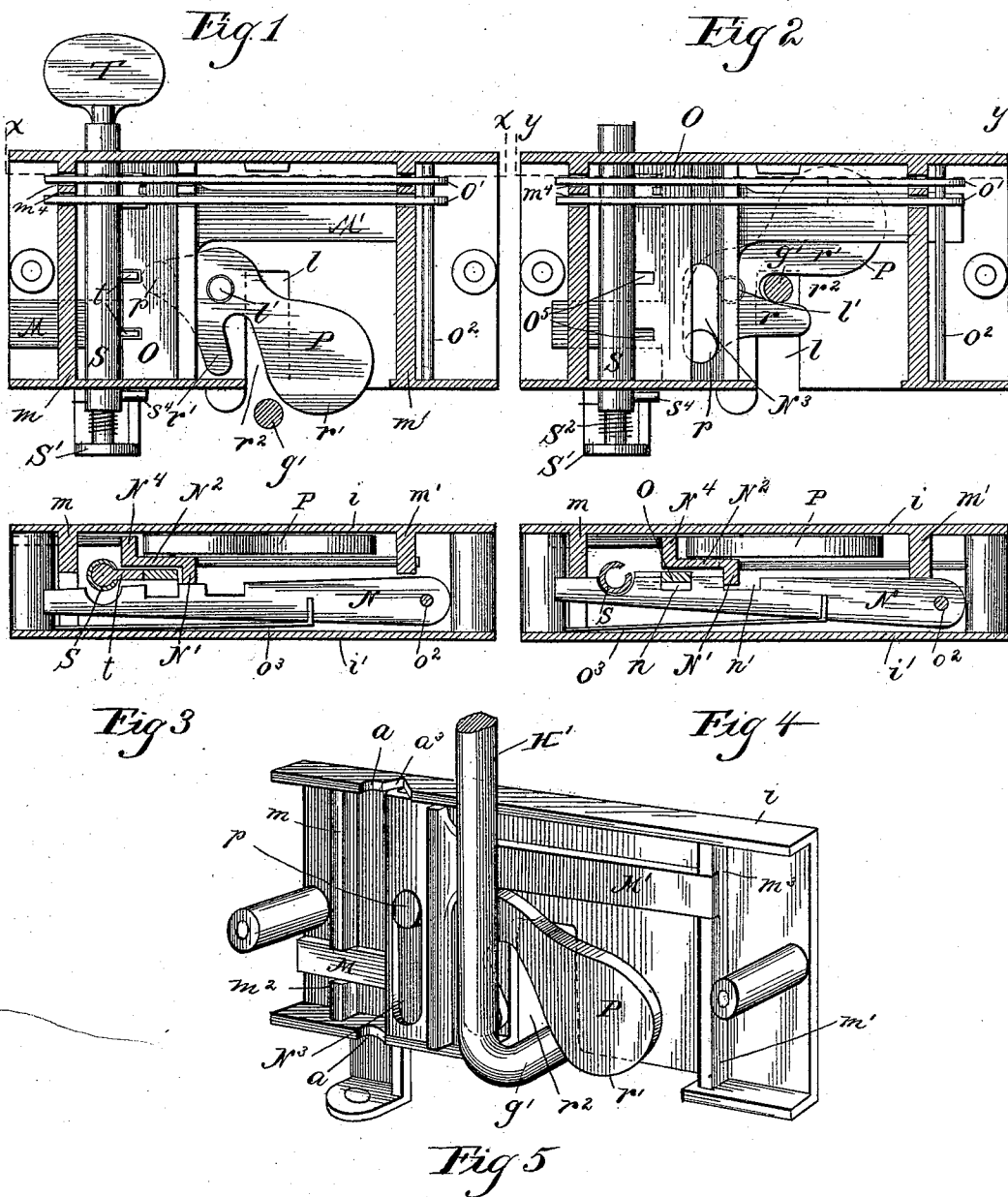


(No Model.)

H. WESTPHAL.
LOCK.

No. 532,506.

Patented Jan. 15, 1895.



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UNITED STATES PATENT OFFICE.

HENRY WESTPHAL, OF CHICAGO, ILLINOIS.

LOCK.

SPECIFICATION forming part of Letters Patent No. 532,506, dated January 15, 1895.

Application filed March 1, 1894. Serial No. 501,924. (No model.)

To all whom it may concern:

Be it known that I, HENRY WESTPHAL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Locks, of which the following is a specification.

This invention relates to improvements in locks, which can be used for various purposes, and consists in certain peculiarities of the construction and novel arrangements of the various parts thereof as will be hereinafter more fully set forth and specifically claimed.

In my application for Letters Patent for improvements in a combined hat and coat rack and receptacle for other articles, Serial No. 427,505, filed April 2, 1892, I have illustrated and fully described, but not claimed, the lock which is the subject matter of the present application, and have fully set forth its adaptability to such a device in the aforesaid application.

In order to enable others skilled in the art to which my invention pertains to make and use the same, I will now proceed to describe it, referring to the accompanying drawings, in which—

Figure 1, is a view in side elevation of my lock, with one of the plates of the casing removed, showing the key locked in. Fig. 2, is a similar view showing the position of the parts of the lock, when the key is removed. Fig. 3, is a plan sectional view, taken on line X, X, of Fig. 1. Fig. 4, is a like view, taken on line Y, Y, of Fig. 2. Fig. 5, is a perspective view, with one of the plates of the casing, the key-guide, stay and tumblers removed, and showing a portion of the operating rod in position to lift or operate the weighted cam or wheel of the lock, and Fig. 6, is a plan view of a portion of the top of the casing showing the key-hole.

Similar letters refer to like parts throughout the different views of the drawings.

The lock consists of a casing, composed of two plates *i*, *i'*, the plate *i*, being formed with a vertical slot *l*, near its middle which extends through the bottom of the casing as shown, and having on its inner surface close to each of its ends the ribs *m*, *m'*, both of which are formed with openings or recesses *m*², *m*³, in which the sliding bolts M, M', operate, and

are thereby guided in their backward and forward movements. The opening or recess *m*², is formed near the lower portion of the rib *m*, and the opening or recess *m*³, near the upper end of the rib *m'*. Near their upper portions, and on their surfaces, adjacent to the plate *i'*, each of the ribs *m*, and *m'*, are formed with recesses or mortises *m*⁴, for the reception and operation of the spring actuated tumblers N, which are formed with recesses *n*, *n'*, the former of which engages with the stay O, and the latter with the sliding rib or bead N', on the piece N², which unties the sliding bolts M, and M', and is preferably formed in cross-section, as shown in Figs. 3, and 4, with two projections N', and N⁴, at its edges, extending in opposite directions. The flat piece N², being provided near its lower portion, with a vertical slot N³, in which fits and operates a pin or lug *p*, on the bifurcated cam P, which cam is pivotally secured to the plate *i*, at a suitable point near the outer portion of the slot 1, therein, as shown at *U'*. This cam is made as clearly shown in Figs. 1, 2, and 5, with two prongs *r*, *r'*, which form an open slot or fork *r*², into which will engage the lug or pin *g'*, on the rod H'.

As shown in Figs. 1, 2, and 3, the tumblers N, are pivotally secured as at *o'*, on the rod *o*², having its bearings in the top and bottom of the casing, near the farther end from the key-guide, and are provided with springs *o*³, which are interposed between the tumblers, and the plate *i'*, and that they will be thus forced forward to engage with the bead or rib N' *m*, on the sliding piece N².

Near the rib *m*, the casing is provided in its top and bottom, with suitable circular openings *a*, through which is passed a split tube, or key-guide S, which has its bearings for its lower end in the depending bracket S', on the bottom of the lock casing. The lower end of the key-guide S, is provided with a spring *s*², which serves to revolve the key-guide, till the split therein, through which the projections *t*, on the key T, passes to engage with the tumblers, into alignment with the openings *a*³, therefor in the top of the casing, and is prevented from turning the guide too far by means of the lug or pin *s*⁴, secured thereto, which is so placed that it will strike the bracket S', which acts as a check.

The stay O, which is provided with a number of recesses o^5 , to correspond with the number of projections t , on the key T, is rigidly secured in a vertical position, and longitudinally with the lock-casing, between the bead N', and the key-guide, and between the tumblers and the piece N². This stay is employed to regulate the combination of the lock, for it is obvious that the projections t , on the key, must correspond in number and dimensions with the recesses in the stay, otherwise they would not pass through the same.

It is evident that the operating rod H', may be united or attached to any device that is desired to be locked, and that the projection g' , on the rod H', will extend into the slot l , of the plate i , of the lock, and will engage with the open slot r^2 , or fork between the prongs r , and r' , on the cam P, when the upward movement of the operating bar H', provided as before stated with the projection g' , engaging the prongs r , and r' , will cause the cam P, to be raised to the position indicated in Fig. 2, the movement of which cam, by means of its pin p , operating in the slot N³, of the plate N², will cause the sliding bolts M, M', and the bead N', which are connected to the plate N², or made integral therewith to be retracted to the position shown in Fig. 2, which operation removes the plate N², from interference with the projections on the shank of the key, and thus permits the key-guide S, to be partially revolved by means of the spring s^2 , till the projections of the key are in alignment with the opening a^3 , in the top of the casing, when, and not before the key may be withdrawn, and the operating rod H', will be securely locked in said position by reason of the engagement of the tumbler N, with the bead N'.

In order to release or unlock the operating arm H', it will be necessary to replace the key

in the key-guide, when by turning the same, its projections will engage the tumblers and will free them from engagement with the bead N', when by reason of the weight of the rod H', and cam P, they will be lowered as shown in Fig. 1, which operation will interpose the plate N², between the projections on the key shank, and the opening a^3 , in the top of the casing, and prevent the key being removed.

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

1. In a lock, the combination of the casing, with a sliding plate, a recessed stay, and tumblers to engage the plate, a key-guide and a forked cam to engage with and to extend and retract the sliding plate, substantially as described.

2. In a lock, the combination of the casing, with the sliding plate N², having the rib or bead N', the recessed stay O, and tumblers N, to engage the plate, the split-tube or key-guide S, having the spring s^2 , and the forked cam P, having the weighted prong r' , said cam engaging with and adapted to extend and retract the plate N², in its upward and downward movements, substantially as described.

3. In a lock, the combination of the casing, with the sliding plate N², having the rib or bead N', and the guide-way N³, for engagement with the cam P, the recessed stay O, and recessed tumblers N, to engage the plate, the split-tube or key-guide S, having the spring s^2 , and lug S⁴, and the forked cap P, having the pin p , to engage the plate N², by means of the guide-way N³, and adapted to extend and retract the plate in its upward and downward movements, substantially as described.

HENRY WESTPHAL.

Witnesses:

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