(Model.)

W. D. HUGHES.

DOOR LOCK.

No. 286,614. Patented Oct. 16, 1883.

Fig. 1.

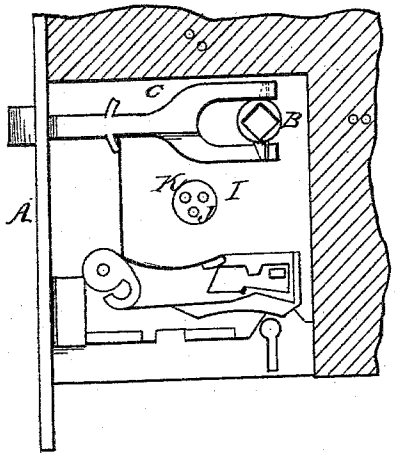


Fig. 2.

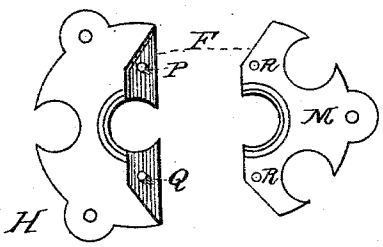


Fig. 3.

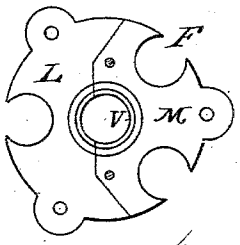


Fig. 4.

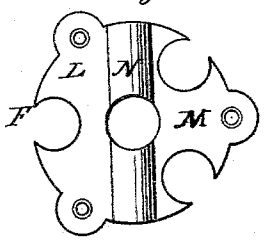


Fig. 6.



Fig. 5.

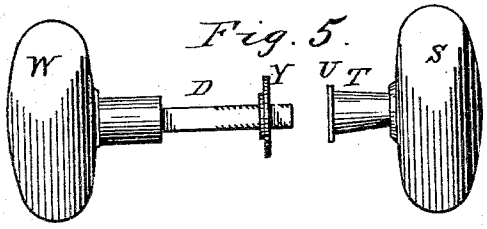
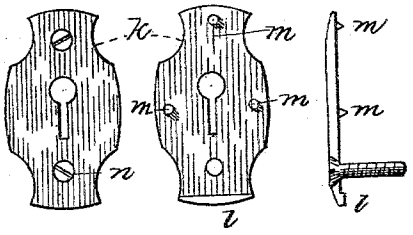


Fig. 7.



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UNITED STATES PATENT OFFICE.

WILLIAM D. HUGHES, OF WASHINGTON, DISTRICT OF COLUMBIA.

DOOR-LOCK.

SPECIFICATION forming part of Letters Patent No. 286,614, dated October 16, 1883.

Application filed August 24, 1882. (Model.)

To all whom it may concern:

Be it known that I, WILLIAM D. HUGHES, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Door-Locks and their Accompaniments, of which invention the following is a specification, reference being had therein to the accompanying drawings.

The object of my invention is to furnish a door lock or latch and its attachments, the same to be simple in construction, convenient to apply to a door, cheap to manufacture, and free from liability to derangement.

In the drawings, Figure 1 represents an interior view of a mortise-lock and a section of door. The view shows the construction of the lock and the locations of the rosette-screws in the door and in the lock. Fig. 2 represents an under side view of my improved rosette, made of two parts, the parts being detached. Fig. 3 represents the under side of the rosette, the parts being united. Fig. 4 is a face view of my improved rosette, the parts being united and complete. Fig. 5 represents a knob-spindle, with a knob upon one end and the other end threaded. Fig. 6 represents the threaded washer for holding the threaded knob-spindle and one of the knobs in place. Fig. 7 represents my improved escutcheon, front and rear views.

The rosettes and the knobs are securable to the door and to the lock A, as hereinafter specified. The rosettes are circular, but of sufficient diameter to enable two of the screws of each rosette to take hold in the full thickness of the door at least a half-inch outside the mortise made for the lock. The diameter of the rosettes is such as to give the mechanic control of the screws when the knobs are in position upon the door. Therefore the rosettes and the knobs may be put on with the greatest facility. The third screw-hole of each rosette is so located as to correspond with a screw-hole in the stud K in the lock A. These screw-holes—one from each side of the door—are marked I J. The rosettes being artistically designed, they do not look large, nor does it take much metal to make them, notwithstanding that it is necessary for them to be three inches in diameter. The lock-plates are threaded as well as the stud K. Therefore the bearings of each rosette-screw are the full thickness of the lock. The screw-holes in the rosette and those in the stud K are so arranged that the rosette-screws pass near to but do not encounter each other in the door or in the lock. Therefore screws the full depth of the door may be used. The rosette-screws clamp the rosettes, the door, and the lock together, whereby a mortise lock or latch may be securely put on the thinnest door.

The improvement is applicable to locks in general. All that is required is that the central stud be such as to hold the two rosette-screws. No space will be sacrificed by a slight enlargement of the stud, as there is more or less vacant space about the central studs in locks. The improvement may be successfully applied to the smallest locks manufactured. No change whatever in construction is required.

The rosette F is made of parts L and M. The part L has a bead, N, under which is a rabbet or recess, O, which receives the part M. There are pins P and Q on part L, which enter holes R R in part M, making the joint secure, and the bead overlapping renders the union of the parts invisible. The object in making the rosette F of two parts is to utilize it in holding the knob S upon the door. The parts of the rosette are united upon the knob-shank T before applying the rosette to the door. This is facilitated by the knob-shank being tapered, the smaller taper extending to the knob S, at which point the parts are united upon the knob-shank. By means of the tapered knob-shank the rosette F fits accurately in place. A flange, U, upon the knob-shank T fits in recess V in the rosette F, whereby the rosette holds the knob S in place upon the spindle D. The knob W is immovably secured upon the unthreaded end of the spindle D, and said knob and spindle are adjustably held in place by the threaded washer Y being screwed upon the spindle. The thread is on the corners of the spindle only. Therefore the square mortise in the shank of the knob S fits upon the spindle. The threaded washer bears upon a thin plate which is countersunk in the door. The hole in this plate is such as to admit a boss upon the threaded washer Y extending the thread-space in the washer. A suitable shoulder on the shank of the knob W would obviate the use of a plate to protect the door

from the friction of that knob-shank. The recess in the rosette F gives place to the threaded washer Y. The manner of attaching the rosettes and the knobs is the same in case of a rim-lock or a mortise-lock, save that in case of a rim-lock the rosette-screws enter the door only, the wood being ample to hold them.

To practicably and permanently secure the escutcheon for the key-hole upon the door is a matter next in importance to the rosettes. In case of mortise-locks the same difficulties present themselves. I provide the escutcheon K with a small boss, L, at its lower end under side, and pointed pins M M, and a single screw-hole close to and above said boss, whereby the escutcheon may be held firmly upon the door by one long screw entering the solid wood below the lock. The boss, by the leverage which it furnishes, forces the upper end of the escutcheon against the door. Therefore the power of the long screw bears upon the entire escutcheon and the pins keep the plate permanently in place. When the escutcheon is put in place upon the door, the boss will be imperceptible. The pressure upon it will embed it in the door. An imitation of a screw is put in the upper end of the escutcheon, the object being to give the plate proportion. For rim-locks this escutcheon will be labor-saving.

Economy in the use of lumber—a consequence of its advanced price—has caused builders to make thin doors. The thin doors make it impossible to secure rosettes over mortise-locks, there being no hold for the screws. Various devices have been presented, each with a view to remedy the difficulty. One of these devices is rosettes of great length, securable above and below the lock. These large rosettes are expensive, particularly when made of fine metal, and when made of coarse metal they are unsightly; and efforts have been made to attach the rosettes solely to the lock. Difficulties beset this method. The rosette-screws and the studs necessary to receive so many screws occupy much space in the lock-case. This forms an impediment to the construction and to the workings of the lock or latch. Apart from other complications, it becomes a problem to direct screws so as to reach the several screw-holes in the lock. My invention presents many advantages which cannot be had in any other way yet presented. By my method rosettes of the most pleasing designs, and at the same time inexpensive, can be practically and permanently secured in place, it matters not how thin the door may be, and the knobs are secured upon the door by the rosettes. The full thickness of the solid door is availed of for four of the rosette-screws, two from each side of the door, and the third screw of each rosette takes secure hold in the central stud of the lock. The screws entering the lock where they do cause no impediment whatever. No advantages are sacrificed in lieu of the many advantages which I present. My invention is an acceptable medium between the extremes hereinbefore mentioned. It is free from complications, it is strong and durable, easy of application, and it is inexpensive,

Having described my invention, what I claim as new, and desire to have secured to me by Letters Patent, is—

1. The rosette F, made of parts L and M, the part L having a bead, N, under which is a rabbet or recess, O, which receives the part M, and pins P and Q, which enter holes R R in part M, making the joint secure, and the overlapping beads rendering the union of the parts invisible, as set forth.

2. In combination with a mortise lock or latch having threaded holes in its plates and central stud corresponding, a circular rosette or rosettes, each adapted to have one of its screw-holes to correspond with the screw-hole in the lock, and two other holes suitable to contain screws which enter the door outside the mortise made for the lock, whereby the said rosettes are clamped to the solid wood of the door and to the lock, as set forth.

3. In combination, the rosette F, made of two parts, the threaded knob-spindle D, with the knob W immovably attached to its unthreaded end, the knob S, with the collar U upon its shank, and the threaded washer Y, said knob-spindle and the knob W being adjustably held in place by the threaded washers upon said spindle, the knob S fitted to said spindle and secured in place thereon by the rosette F, holding the collar upon the shank of said knob, as set forth.

4. In combination, the mortise-lock A, the rosette F, made of two parts and secured jointly to the door and to the lock, the knob-spindle D, and the knob S, with the collar U upon its shank, whereby the rosette holds said knob in place upon the spindle, as set forth.

5. The tapered knob-shank T, combined with the rosette F, made of two parts, the smaller portion of said taper corresponding with the openings in the parts of the rosette for the reception of the knob-shank, whereby the parts of the rosette form a complete circle about said knob-shank when united, as set forth.

6. The escutcheon K, provided on its under side with pointed pins M M, a boss, L, at its lower end under side, and a single screw-hole near to and above said boss, whereby the escutcheon may be held firmly upon the door by one long screw entering below the lock, as set forth.

In testimony that I claim the above as my invention witness my hand this 21st day of August, A. D. 1882.

WILLIAM D. HUGHES.

Witnesses:

H. A. DANIELS,

WM. BURRIS.