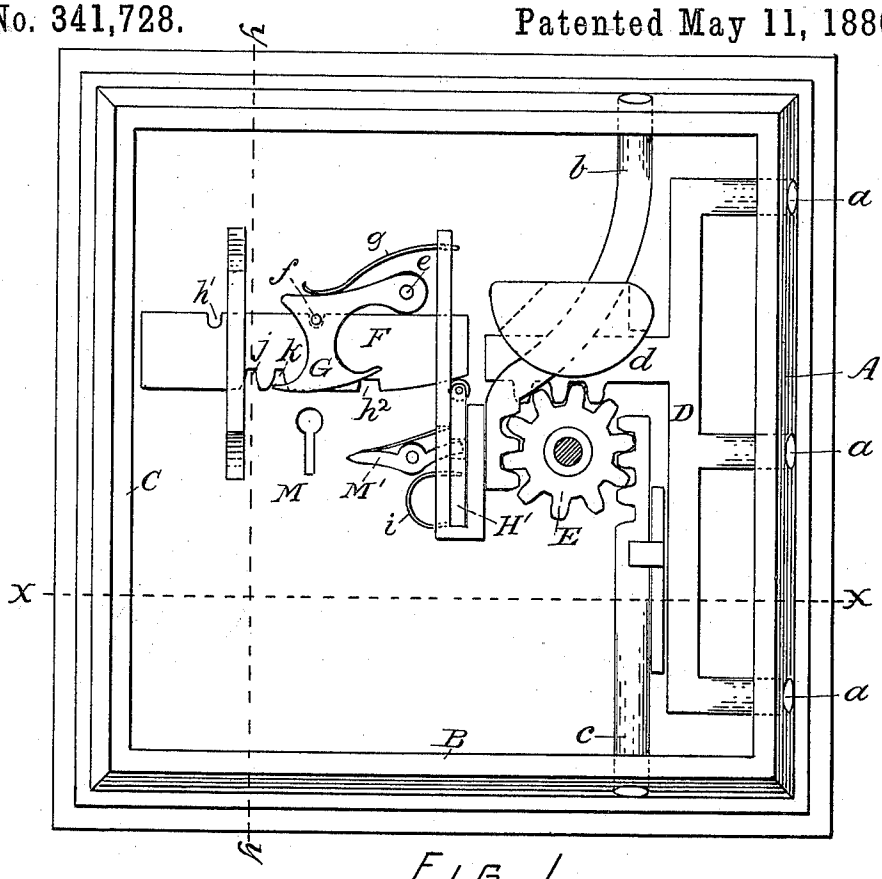
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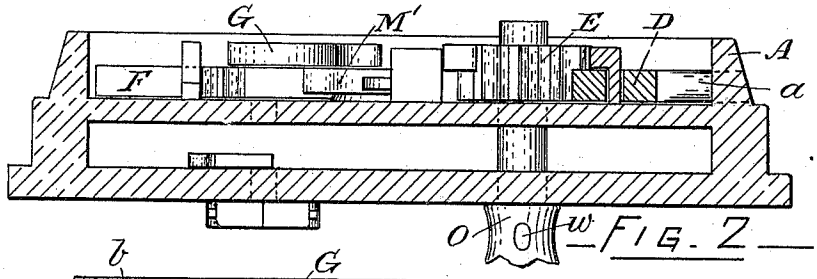
U. CARON.

DOOR LOCK.

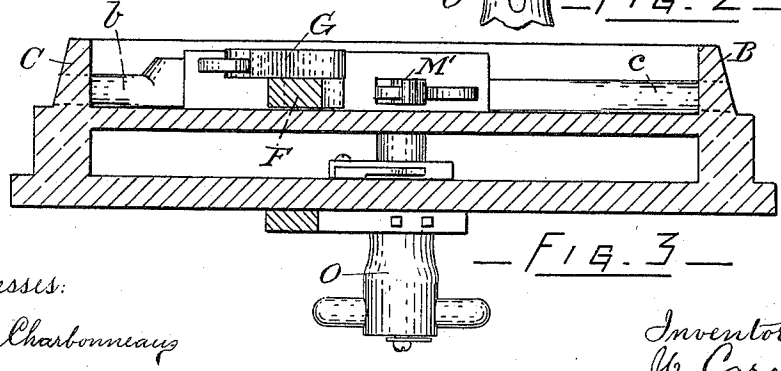
No. 341,728. Patented May 11, 1886.



— FIG. 1 —



— FIG. 2 —



— FIG. 3 —

Witnesses:
Alfred Charbonneau
W. C. Dunn

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N. PETERS. Photo-Lithographer, Washington, D. C.

(Model.)

2 Sheets—Sheet 2.

U. CARON.

DOOR LOCK.

No. 341,728. Patented May 11, 1886.

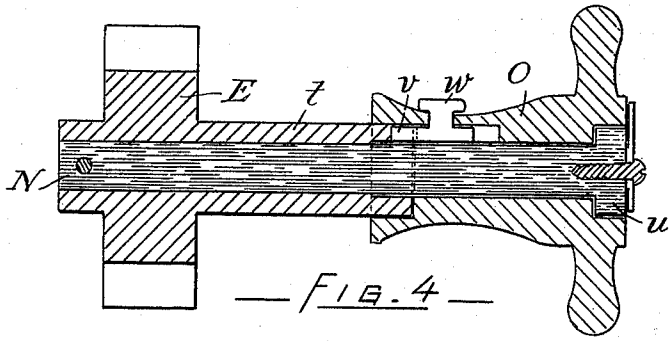


FIG. 4

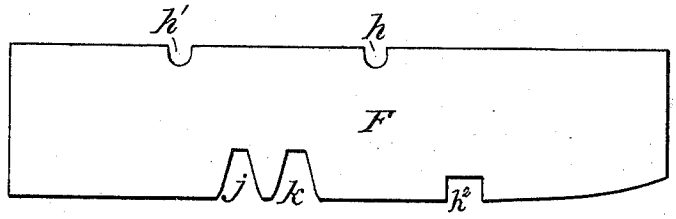


FIG. 5

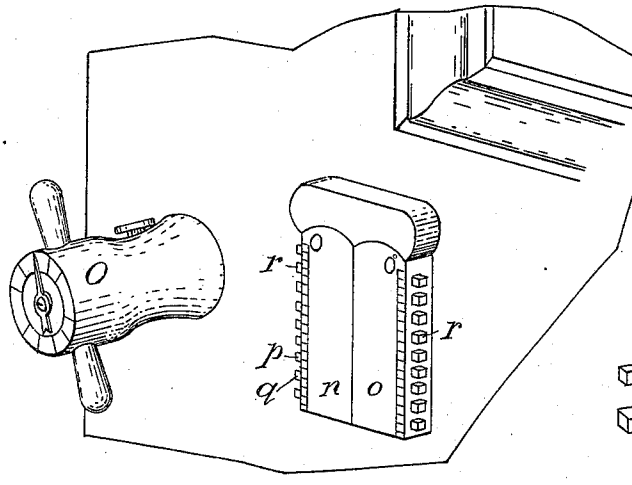
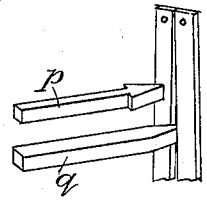


FIG. 6



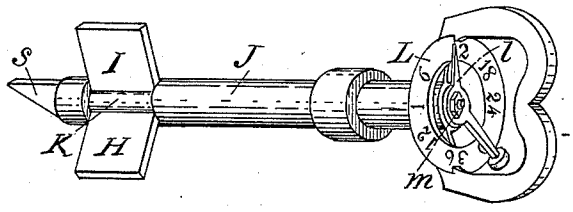


FIG. 7

Witnesses:
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UNITED STATES PATENT OFFICE.

ULRIC CARON, OF ST. THOMAS DE PIERREVILLE, QUEBEC, CANADA.

DOOR-LOCK.

SPECIFICATION forming part of Letters Patent No. 341,728, dated May 11, 1886.

Application filed April 30, 1885. Serial No. 163,944. (Model.) Patented in Canada November 28, 1884, No. 20,655.

To all whom it may concern:

Be it known that I, ULRIC CARON, a citizen of Canada, residing at St. Thomas de Pierreville, in the county of Yamaska, in the Province of Quebec, Canada, have invented certain new and useful Improvements in Door-Locks, (partly patented in Canada under No. 20,655, bearing date November 28, 1884,) of which the following is a specification.

My invention is embodied in the peculiarly-constructed lock herein shown and described; and it consists, partly, in the key and the connection of the lock-knobs to their shanks, and partly in the internal mechanism of the lock, all of which is fully hereinafter described, reference being had to the annexed drawings, in which—

Figure 1 is an elevation of the interior of the lock, showing the operation of the key and bolts. Fig. 2 is a section on line *x x*, Fig. 1. Fig. 3 is a section on line *y y*, same figure. Fig. 4 is a longitudinal section of the shank of the latch knob or handle. Fig. 5 is a face view of the holding-bar hereinafter described. Fig. 6 is a part outside view of a door having my improved lock, showing pieces covering the key-hole and the knob. Fig. 7 is a perspective view of the key.

The lock here shown developes the principle of throwing locking-bolts out in different directions, so as to project into several of the sides of the door-frame, by means of gear-wheel and racks, as herein shown and described.

A represents the front side, B the bottom side, and C the rear side, of the lock-case.

a a a are a series of locking-bolts, which may be projected outward from the lock into suitable recesses formed to receive them in the jamb of the door.

b is a locking-bolt arranged to slide upward into the door-lintel, and *c* is a similar bolt, to be thrown downward into the door-sill.

The bolts *a* are connected by the bar D, to which is attached the inwardly-projecting arm *d*. On the edge of this arm, as also on the inner portions of the locking-bolts *b* and *c*, toothed racks are formed to mesh into a gear-wheel, E, which is keyed or otherwise secured on the shank of the door knobs or handles, so that all of the locking-bolts *a*, *b*, and *c*, unless otherwise prevented, may be moved simultaneously inward or outward by turning the door-knobs.

F is a holding-bar movable endwise in suitable guides, and is for the purpose of holding the locking-bolts out when the door is locked.

G is a tumbler overlying the bar F, pivoted at *e* to the plate of the lock, and provided with an inwardly-projecting lug, *f*, the use of which is to hold the holding-bar, either inward or outward, as it is thrown by the spring *g* into either of the notches *h h'* in the bar. When in its outward position the holding-bar is also held from moving by the bolt H', which slides in a vertical channel, and is held up into the recess h^2 in the holding-bar F by the spring *i*.

j and *k* are two wards formed in the holding-bar to take in the wings of the key, which I will now describe, and which forms an important part of my invention.

The key is provided with two wings, H and I, the wing H being fixed, while the wing I is movable. The stem of the key is made in two parts—the hollow stem J, on which the wing H is formed, and the inside stem, K, on which the wing I is formed, and which turns loosely inside the stem J. An opening is made in the hollow stem J, through which the wing I protrudes. It is made wide enough to allow the wing to swing around sufficiently for the purpose for which it is intended. The stem K extends for a short distance out of the stem J, and has the arm *l* secured on its end by the nut *m*. This arm sweeps over the circular graduated scale L, which is fixed transversely in the key, as shown, for the purpose hereinafter stated.

The cover of the key-hole M on the outside of the door is made in the two pieces *n* and *o*, which are pivoted to the door in their outer and upper corners, as shown. They close and are locked together by the arrow-headed bolt *p*, which is fixed in the half-cover *n*, entering between two spring-jaws in the half-cover *o*, where it is held until released by pressing the wedge-pointed bolt *q* between the same two jaws. A series of knobs, *r*, similar in appearance to the end of the bolt

q is shown on the outside of the half-covers n and o, for the purpose of disguising the real means of opening the covers. In a small chamber between the casing of the lock and the door a small slide is held by a spring to cover the key-hole, so that an ordinary key cannot be inserted.

In locking the door the operation of this lock is as follows: First, the knob is turned so as to throw all the locking-bolts out. The key is then inserted in the key-hole. The wedge s, on the end of the key, entering at the side, moves the slide above mentioned aside. The key is then turned around so that the wing H, by pressing against the foot of the tumbler G, lifts the lug f out of the notch h, and the wing H, pressing against the inner face of the ward k, moves the holding-bar outward until it comes against the inner end of the arm d, which, with all the locking-bolts, has previously been thrown forward by turniug the gear-wheel by the knob or handle, as above-described. The lug f then drops into the notch h', and at the same time the vertical bolt H′ is moved by the spring i up into the recess h^2, so that the holding-bar is thereby further held from moving back.

In unlocking the door the key is first inserted in the key-hole. The wings are then opened by turning the arm l around to the proper point, as indicated on the circular scale L. The key is then turned so that the wing I, by raising the tumber G, lifts the lug f out of the notch h' in the holding-bar. In the meantime the wing H, by raising the outer end of the lever M′, has drawn the vertical bolt H′ down out of the recess h^2. The holding-bar is then thrown back by the continued pressure of the wings of the key against the inner sides of the wards j and k until the lug f falls into the notch h. The locking-bolts a, b, and c may then be all drawn back into the lock by simply turning the door-knob.

Another important feature of my invention is the connection of the door or lock knobs with their shanks, which is as follows: The gear-wheel E, above mentioned, is fixed rigidly on a sleeve, t, in which the knob-shank N is firmly secured. O is the socket of the knob or handle, and through which the shank N passes, and which is prevented from falling off said shank by the enlargement u. v is a slide-bolt working in the socket O and connected with the button w on the outside of the socket, so that it may be moved by it into or out of a notch formed in the end of the sleeve t. The object of this is that the door-knob may be made to turn the shank or revolve independently on it, as desired.

Having thus described my improved lock, what I claim as my invention is—

1. In a lock, in combination with the locking-bolts, a holding-bar, F, provided with notches and movable endwise in suitable guides, the pivoted tumbler provided with the inwardly-projecting lug adapted to engage said notches, and to hold the holding-bar, and the spring for throwing the said projecting lug of the tumbler into the notches of the bar F, substantially as and for the purpose described.

2. The holding-bar F, provided with a recess, h^2, in combination with the bolt H′, sliding in a vertical channel, and the spring i, whereby the holding-bar, when in its outward position, is held from moving, substantially as described.

3. In a door-lock, the key in two parts, consisting of the hollow stem J and the inside stem, K, and provided with two wings, H and I, H being fixed upon the said stem J and I movable with the inside stem, K, the arm l, secured to the stem K, in combination with a graduated pivoted tumbler and holding-bar, whereby when the arm of the key is turned to the proper point the tumbler is raised out of the holding-bar, substantially as described.

Signed at St. Thomas de Pierreville this 6th day of March, 1885.

ULRIC CARON.

In presence of—
EDOUARD ROUILLARD, Fils,
W. C. BOUCHER.