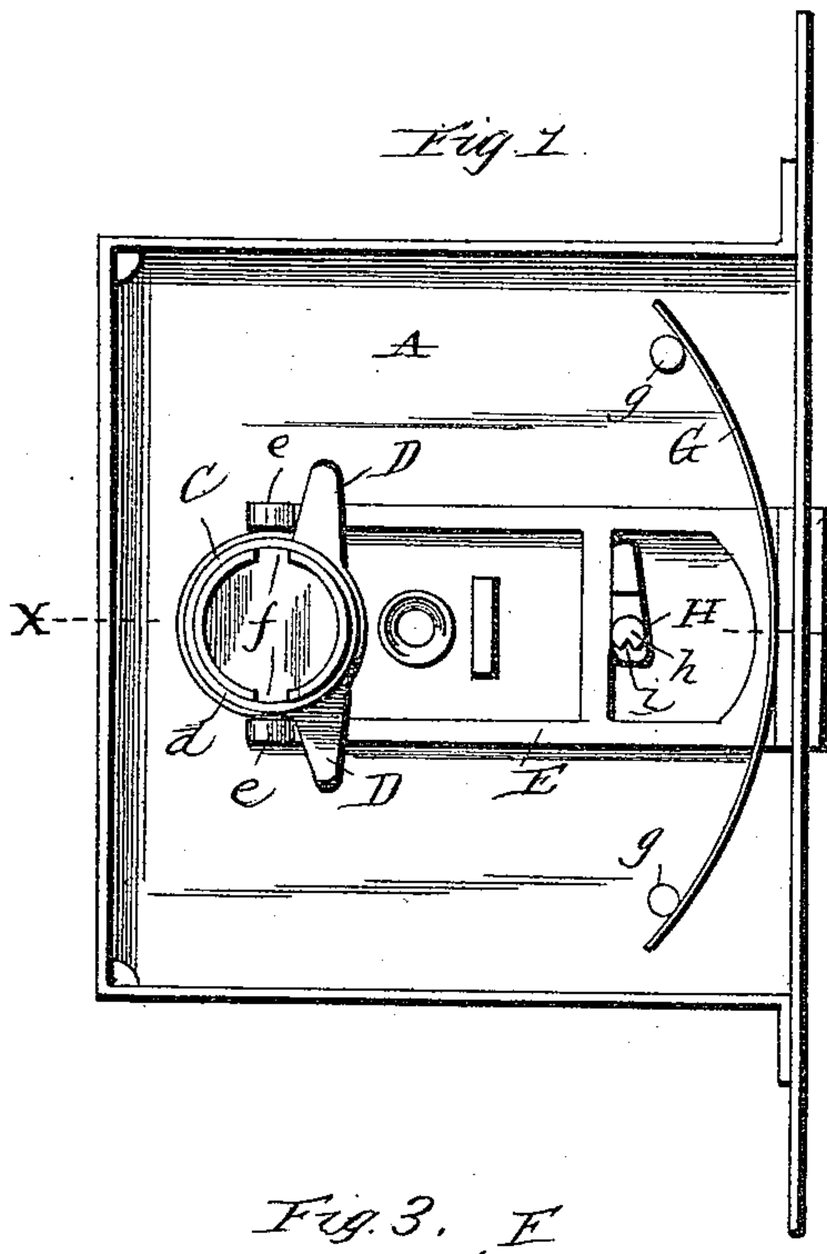
(Model.)

W. W. & F. P. PURSEL.

LOCK.

No. 440,280. Patented Nov. 11, 1890.

Fig. 1.



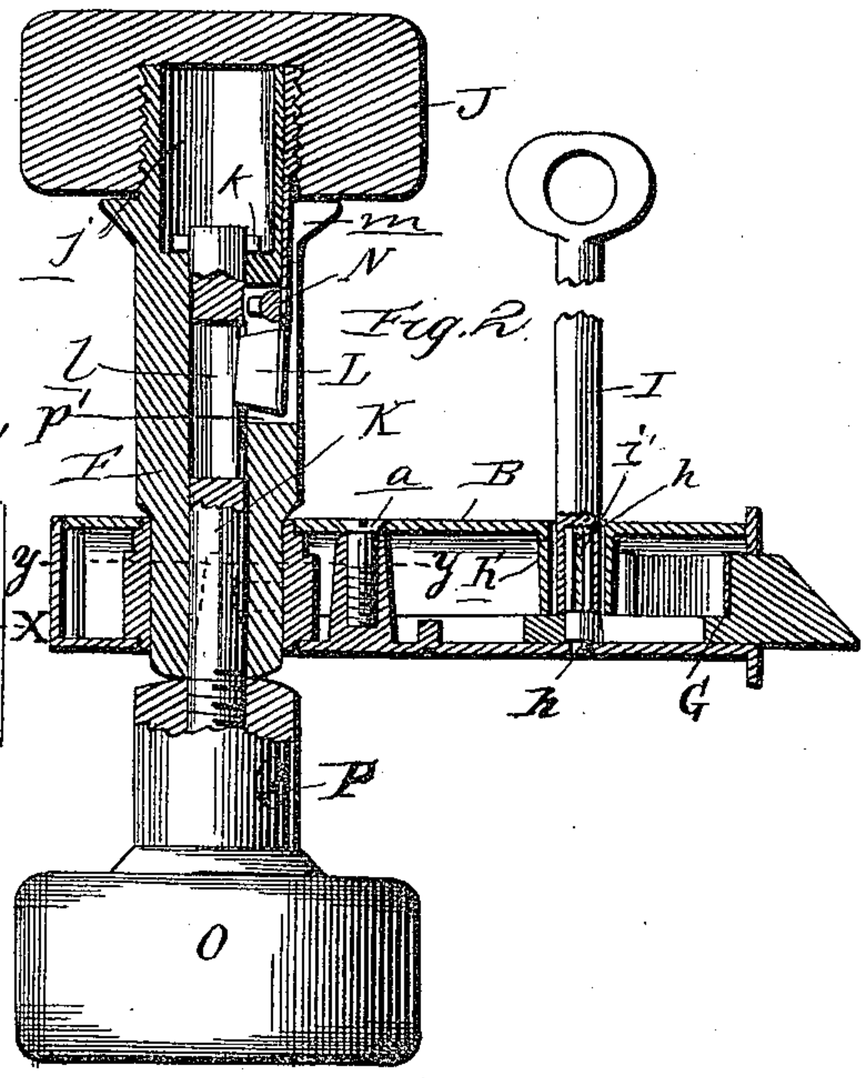
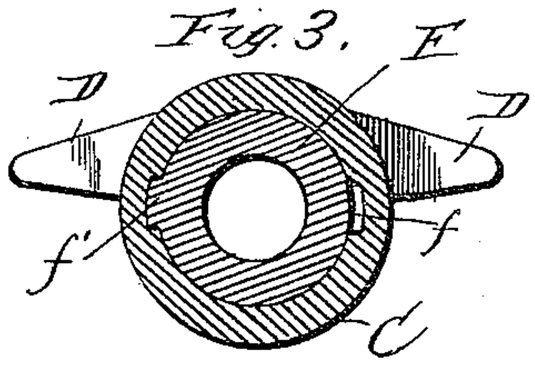


Fig. 2.

Fig. 3.



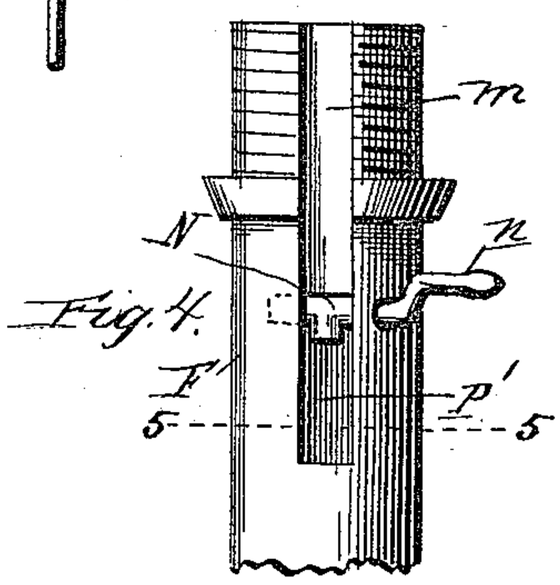


Fig. 4.

Fig. 5.

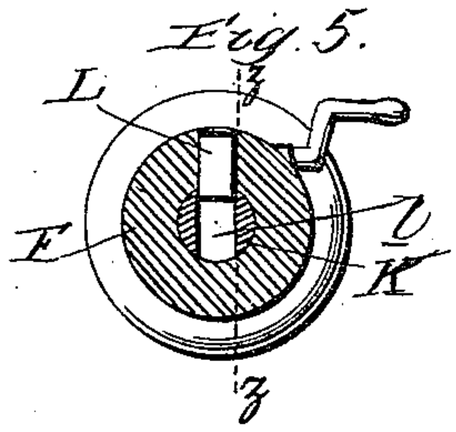
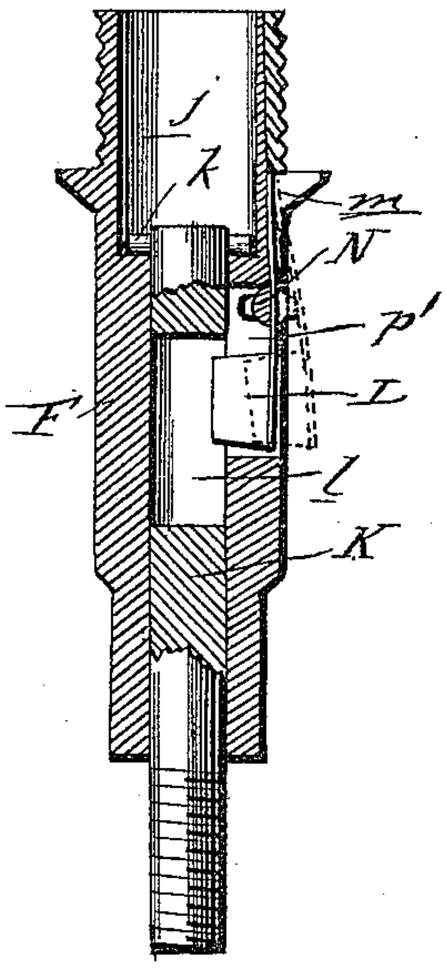


Fig. 6.



Witnesses
C. L. Reeder.
Van Buren Hillyard.

Inventor
William W. Pursel
Frank P. Pursel

By his Attorneys
R. S. & A. L. Lacey

UNITED STATES PATENT OFFICE.

WILLIAM W. PURSEL AND FRANK P. PURSEL, OF BERWICK, PENNSYLVANIA.

LOCK.

SPECIFICATION forming part of Letters Patent No. 440,280, dated November 11, 1890.

Application filed August 15, 1889. Serial No. 320,845. (Model.)

To all whom it may concern:

Be it known that we, WILLIAM W. PURSEL and FRANK P. PURSEL, citizens of the United States, residing at Berwick, in the county of Columbia and State of Pennsylvania, have invented certain new and useful Improvements in Door-Locks; and we do declare the following to be a full, clear, and exact description of the invention, such as 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.

This invention relates to a combined lock and latch, and has for its object to simplify and cheapen the construction of this class of devices, whereby they are rendered convenient to manage, readily accessible for repairs, and not liable to easily get out of repair.

The improvement consists of the novel features which will be hereinafter more particularly specified and claimed.

In the drawings, Figure 1 is a top plan view of the invention, the knob-spindle and the side of the case being removed to show clearly the internal construction. Fig. 2 is a cross-section on the line X X of Fig. 1, the knob-spindle being in position. Fig. 3 is a detail section through the knob-spindle and latch-tumbler on the line *y y* of Fig. 2. Fig. 4 is a detail view of the spindle, the catch being removed. Fig. 5 is a cross-section of the spindle on the line 5 5 of Fig. 4. Fig. 6 is a detail section of the spindle on the line *z z* of Fig. 5, showing the operation of the catch by dotted lines.

The case A is of ordinary construction, the removable side B being held in place by the screw *a*.

The latch-tumbler C is journaled in the sides of the case by the end rims or flanges *d*, and its arms D extend across the path of the hooked ends *e* of the latch-bolt E to engage with either hook *e* on turning the tumbler C and retract the said latch-bolt. The bore of the tumbler is circular and is provided with grooves *f* in its diametrically-opposite sides or equivalent device to effect a locking between the tumbler and the spindle F. In the present case the spindle is shown as having rib *f'*, which fits into one of the grooves *f* in the tumbler. Obviously the tumbler may be ribbed and the spindle grooved, the effect being the same. By having two grooves *f* the position of the spindle can be changed to adapt the lock for a right-hand or left-hand door, so that in the event of the knob being a crank it (the crank) can occupy a vertical position.

The flat spring G is curved out between its ends, which ends bear against the posts *g*, and the middle portion presses on the inner end of the latch-bolt head *g'*. The key-tumbler H is journaled by spindle *h* in the sides of the case. One end of the spindle is journaled in the tubular projection *h'* on the inner side of the removable side B. Room is left between the sides of the projection *h'* and the spindle *h* for the insertion of the key I, the key and spindle being so shaped in cross-section that a turning of the key will effect a turning of the tumbler. The spindle *h* has a longitudinal groove *i* in its side and the key I a corresponding rib *i'*.

The knob-spindle F is hollow and its outer end is threaded to screw into the knob J and the bore is enlarged at said end, as at *j*. The movable spindle K is inserted in the tubular spindle F, and is held therein by the pin *k*, which passes through its end. The slot or groove *l* in the spindle K is engaged by the catch L, which holds it from turning relative to the spindle F. This latch is fitted in a groove *m* in the side of the spindle, and is held in place by the knob J, its front end working through a slot P' in the said spindle. The shaft N', extended across the groove in and having a lateral enlargement on one side, is bent into a crank *n* at its outer end. By operating the crank *n* the catch L is thrown in and out of engagement with the spindle K, as required. The outer end of the spindle K is threaded, and the knob O, screwed thereon, is held by the screw P, which is screwed in the knob-shank and presses on the thread of said spindle. By screwing up the knob O the spindle can be adapted to doors of different thickness, and when the catch L is released from the spindle K the knob O, which is placed on the outside, can be turned without effecting an opening of the door. Under these conditions the lock can be opened from the outside by the use of the key only. When

the catch is in engagement with the spindle K, either knob J or O can be operated and the door will be opened.

What we claim, and desire to secure by Letters Patent of the United States, is—

1. A lock comprising the case A, having the posts *g g* and the inner tubular projection *h'*, the latch-bolt E, the curved flat spring G, pressing between its ends on the inner end of the latch-bolt head and having its ends bearing on the posts *g g*, the key-tumbler H, having its spindle journaled at one end in the said projection *h'* and its other end in the opposite side of the case, the tumbler C, having grooves *f*, and the spindle F, having interlocking rib *f'*, substantially as specified.

2. In a lock, the combination, with the tubular spindle F, having the enlarged bore *j*, the groove *m*, and the slot *p*, and the spindle K, inserted in the spindle F, and having the groove or slot *l*, and held therein by the pin *k*, of the catch placed in the groove *m*, and having its end working through the slot *p*, and the shaft N, having lateral projection, and having a crank on its outer end, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

WM. W. PURSEL.
FRANK P. PURSEL.

Witnesses:
W. E. SMITH,
A. W. LONG.