W. P. McCOBB.

SHUTTER-WORKERS.

No. 187,474. Patented Feb. 20, 1877.

Fig. 1.

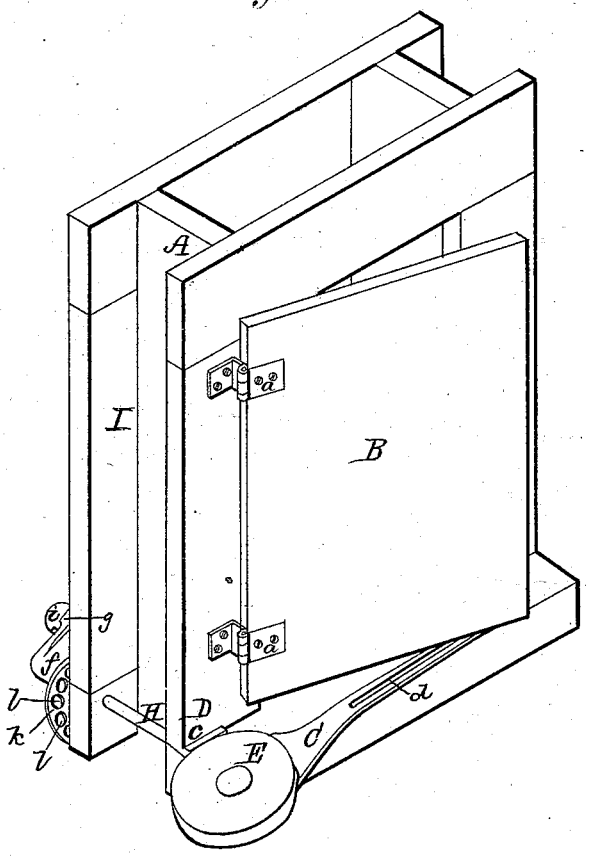
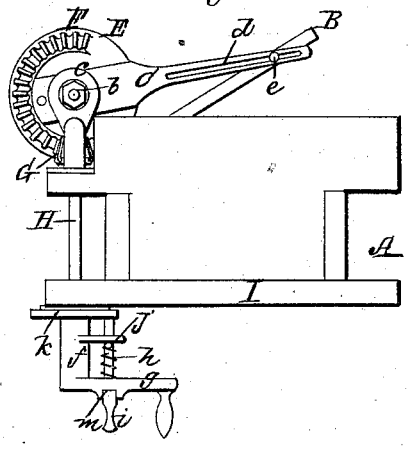


Fig. 2.



Witnesses.

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UNITED STATES PATENT OFFICE

WILLIAM P. McCOBB, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN SHUTTER-WORKERS.

Specification forming part of Letters Patent No. 187,474, dated February 20, 1877; application filed January 17, 1877.

To all whom it may concern:

Be it known that I, WILLIAM P. McCOBB, of Boston, Suffolk county, Massachusetts, have invented new and useful Improvements in Shutter-Working Devices, of which the following is a specification:

This invention relates to means for operating shutters or blinds from the interior of a building or an apartment; and consists in the novel arrangement and construction of a slotted swinging arm or lever and its double-locking devices, pivoted at its base to the exterior of the building, and operated by a pinion, which engages a segmental toothed rack created upon its under side, the free end of the lever being swiveled in a suitable manner to or near the edge of the shutter most remote from the hinges of the latter, while the pinion is secured to the outer end of a shaft which extends through the window-frame into the interior of the building, and is operated in any suitable manner, all as hereinafter more fully described and definitely claimed.

The drawings accompanying this specification represent, in Figure 1, a perspective view, and in Fig. 2 an under-side view, of a device embodying my improvement.

In these drawings, A represents a window-frame of ordinary construction, and B a shutter combined therewith in the customary manner, the hinges of the shutter being shown at *a a*. Immediately below the shutter B, and somewhat outside of its hinges, I dispose a slotted horizontal lever or arm, C, which has near its end a pendent pivot, *b*, that is supported in a shelf or bracket, *c*, secured to the outside or casing D of the window-frame. The base of the arm C is a circular plate or shield, E, of which the pivot is the center and turning-point, and upon the under side of such plate, and near its perimeter, I cast a segmental toothed rack, F, with which a beveled pinion, G, engages, this pinion being affixed to the outer end of a horizontal shaft, H, which extends through the window-frame, and into the interior of the building or an apartment. The free end of the arm or lever C is slotted or furcated, as shown at *d*, and straddles a pin, *e*, depending from the under side of the shutter B, and near the edge of the latter most remote from its hinges *a*.

It will be seen that an outward movement of the arm C upon its fulcrum, by the instrumentality of the pinion, has the effect of opening the shutter, and vice versa.

The plate or shield E constitutes a cap or shield to protect the rack and pinion and the pivot of the arm B from corrosion and injury by the elements, and from becoming inoperative by reason of ice or snow.

As one means by which the arm C may be turned upon its pivot in the act of opening or closing the shutter, and by which the shutter may be locked in any desired position, I have shown in the accompanying drawings the following device, which will be found effectual, though I do not confine myself to it, as various other methods may be adopted for effecting a like result: To the inner end of the pinion-shaft H I affix a hub, *f*, whose extreme outer end terminates in a crank, *g*, while in connection with this hub and crank I employ a spring-bolt, *h*, whose outer end passes through the crank, and terminates in a thumb-piece or button, *i*, while the inner end of such bolt passes through a spur, *j*, cast upon the hub *f*. To the inside of the window-frame or its casing I, I secure a circular disk, *k*, which, near its periphery, is perforated with a concentric row of holes, *l l*, &c., this row of holes being coincident with the bolt *h*, and each hole being of a size to easily receive the inner end of such bolt. The button *i* operates in conjunction with a notched spur, *m*, cast upon the outside of the crank *g*, the button, when in one position, entering the notch, and permitting the inner end of the bolt *h* to enter one of the holes *l*, and thereby lock the pinion G, and consequently the shutter B, in any desired position. When the button *i* spans the notch the inner end of the bolt *h* is out of engagement with any of the holes *l*.

In the accompanying drawings I have represented the operating-arm C as disposed below the shutter B; but it is obvious that it may be placed to one side of the latter, and operate upon it at any desired point.

My device will be found highly effective, durable, and not liable to be disarranged or rendered inoperative by rains or snows and ice. It enables a shutter to be wholly or partially opened or closed from the interior of a

building or apartment without necessity of opening a window—a feature which will commend itself to every one.

In lieu of operating the button *i* as herein explained, it may be formed with an inclined plane or cam, to operate with a similar incline upon the lever *g*.

I claim as my invention, and desire to secure by Letters Patent of the United States, the following:

1. The combination, with the window-frame A and shutter B, of the slotted swinging arm C, pivoted to the window-frame, and provided with its segmental rack F and shield-plate E, the outer end of such arm being swiveled in a suitable manner to the shutter, and its motions controlled by the pinion, the whole operating substantially as and for purposes stated.

2. In combination with the arm C and shutter B, and their adjuncts, the operating and double-locking device herein described, consisting of the hub *f*, crank *g*, with its notched spur *m*, bolt *h*, with its button *i*, and perforated disk *k*, the whole being in manner and operating as herein described.

WM. P. McCOBB.

Witnesses:
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W. E. BOARDMAN.