

A. ROSENBERG.
SHUTTER WORKER.

No. 510,446.

Patented Dec. 12, 1893.

Fig. 1.

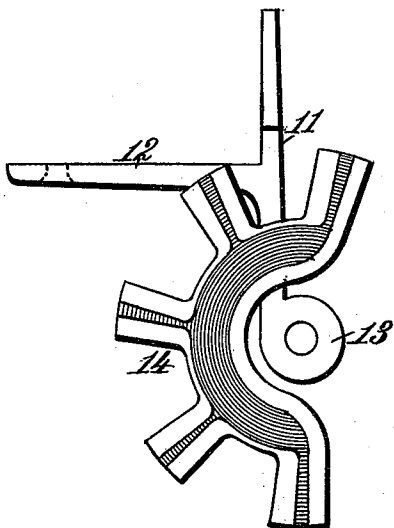


Fig. 2.

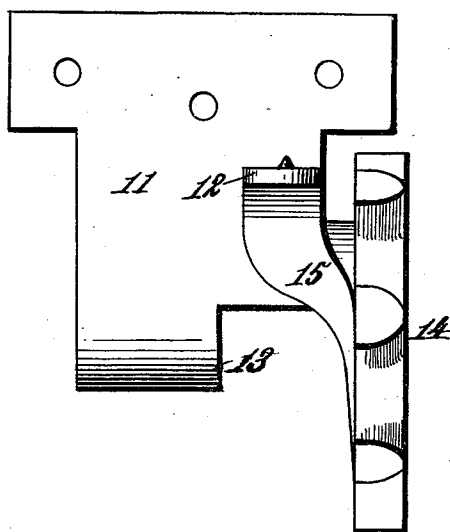


Fig. 3.

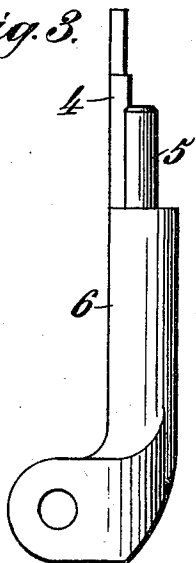


Fig. 4.

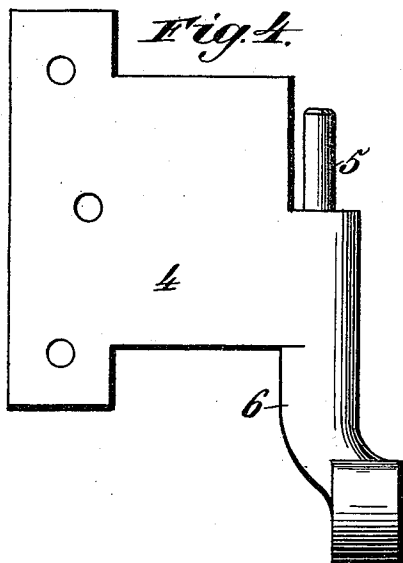


Fig. 5.

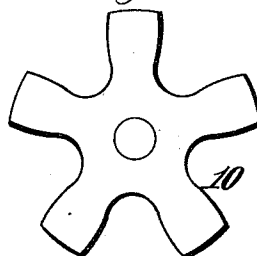
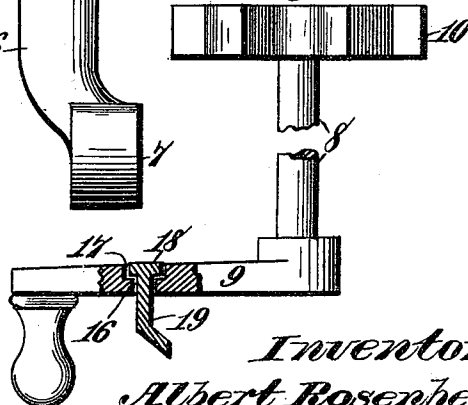


Fig. 6.



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(No Model.)

2 Sheets—Sheet 2.

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Fig. 7.

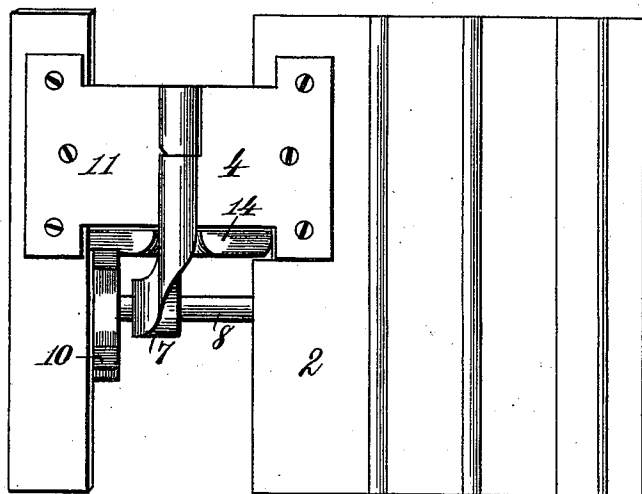


Fig. 8.

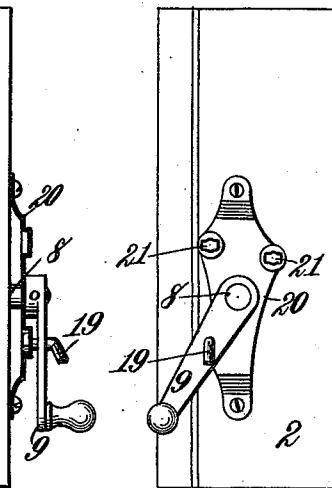
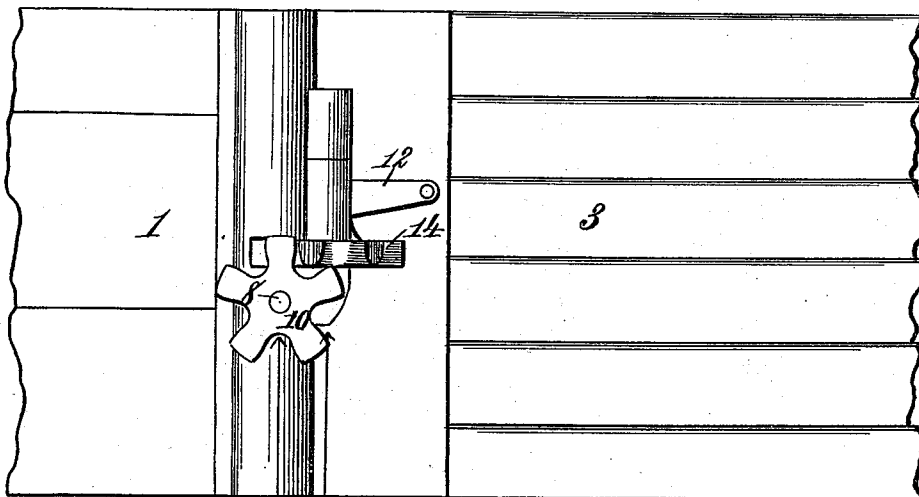


Fig. 9.



Witnesses. X Z
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UNITED STATES PATENT OFFICE.

ALBERT ROSENBERG, OF BALTIMORE, MARYLAND.

SHUTTER-WORKER.

SPECIFICATION forming part of Letters Patent No. 510,446, dated December 12, 1893.

Application filed December 16, 1891. Serial No. 415,237. (No model.)

To all whom it may concern:

Be it known that I, ALBERT ROSENBERG, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Shutter-Workers, of which the following is a specification.

This invention has for its object to provide a new and improved shutter worker, and it consists in the features of construction and the combination or arrangement of parts hereinafter described and claimed, reference being made to the accompanying drawings, in which—

15 Figure 1 is an under plan view of the upper or movable leaf of a butt-hinge provided with a toothed arc and forming part of my improved shutter-worker. Fig. 2 is a side view of the same. Fig. 3 is an edge view and Fig. 4
20 a side view of the lower or stationary leaf of the butt hinge. Fig. 5 is a face view of the toothed wheel for engaging and operating the toothed arc of the upper hinge-leaf. Fig. 6 is a view of the crank shaft with toothed wheel
25 and locking pin. Fig. 7 is a view of a portion of the interior of a window frame showing the position of the shutter-worker with the shutter locked open. Fig. 8 is an elevation of the locking device. Fig. 9 is an end view of the
30 shutter-worker as seen from the outside of a building when the shutter is closed.

Referring to the drawings, the numeral 1 designates a portion of the wall of a building; 2 a portion of a window frame and 3 a part of a
35 shutter or window blind.

The shutter-worker is connected with and operates the lower hinge of the shutter. The lower or stationary hinge-leaf 4, which is secured to the window frame as usual, is provided with the usual pintle 5 and with a depending arm 6 having its lower end curved outward away from and out of line with said
40 pintle. In the lower end of this arm 6 is a bearing 7 for a crank shaft 8 that is extended through the window frame 2 and into the interior of the building. On the inner end of this shaft 8 is a crank 9 and on the outer end of said shaft is secured a toothed wheel 10
45 through the rotation of which the shutter is opened and closed. The upper or movable hinge-leaf 11 is secured to the shutter 3 in the usual manner but is preferably provided with

a bracing arm 12 that is extended at a right angle to the main portion of the leaf in position to be secured to the outside of the shutter stile. This arm 12 gives additional
55 strength to the hinge and at the same time serves to press the shutter flush up against the sill when the shutter is closed. The upper hinge-leaf 11 is provided with the usual
60 socket 13 for engaging the pintle 5 of the lower leaf. On the lower part of the upper hinge-leaf is cast a toothed arc 14 with which the toothed wheel 10 is arranged to mesh. The toothed arc 14 is preferably strengthened
65 by a bracket 15 intermediate said arc and the main portion of the leaf and integral therewith.

As indicated by the lines X Z, Fig. 9, it will be seen that the center of rotation of the
70 toothed wheel 10 is out of line with the center of rotation of the toothed arc 14, thus adjusting the leverage in such a manner as to greatly facilitate the operation of the shutter-worker without straining its several parts.
75 This construction also permits ready removal of the shutter without unscrewing the hinge-leaves, and, further, it provides such an arrangement of the toothed wheel 10 that when the shutter is opened all the way it does not
80 strike against the brick wall, but is prevented from so doing by resting against the said toothed wheel, thereby avoiding the tendency to break off the hinge. This is a very important and desirable feature in this type of
85 shutter workers.

The crank 9 on the inner end of the shaft 8 is provided with a perforation 16 that is countersunk or provided with a recess 17 in its inner end to receive the laterally elongated head
90 18 of a pin 19 that is loosely supported in said perforation. To the inner side of the window frame 2 is secured a locking plate 20 provided at suitable points with slots 21 into which the head 20 of the pin 19 can be pressed. After
95 the window shutter has been opened or closed, or brought to any intermediate position by means of the shutter-worker, the head of the locking pin 19 can be pressed into one of the slots 21 and be partly turned therein to prevent its jarring or working out, and thus the
100 shutter can be easily and quickly locked in the desired position.

It will be observed that when the shutter is

closed and locked on the interior it cannot be
 5 pried up and lifted out of place, because while
 the shutter is in this position a portion of the
 toothed arc 14 on the upper leaf of the hinge
 10 is below the lower leaf, and by reason of the
 stout depending arm 6 on said lower hinge
 leaf any attempt at straining or bending the
 shaft of the wheel 10 will be prevented.

I am aware that it is common to operate
 10 window shutters from the interior of a build-
 ing by means of toothed gearing rotated by a
 crank shaft and, also, that locking devices
 have heretofore been provided for such mech-
 anism; but this I do not broadly claim.

15 What I claim as my invention is—

1. The combination of the lower stationary
 hinge leaf 4 having the pintle 5 and a depend-
 ing arm 6 provided with a journal bearing at
 its lower end, the upper movable hinge leaf
 20 11 having the pintle socket 13 and provided
 on its lower edge with a horizontally arranged
 toothed arc 14, a shaft 8 extended through the
 window frame and through the bearing of the
 said depending arm on the lower hinge leaf, a
 25 toothed wheel 10 secured to the outer end of
 said shaft in front of the said depending arm
 to strike the shutter when opened, and means

for operating the shaft and locking it in a
 fixed position, substantially as described.

2. The combination of the lower stationary 30
 hinge leaf 4 having the pintle 5 and a depend-
 ing arm 6 extended from below the pintle and
 having its lower end portion curved outwardly
 and provided with a journal bearing 7, the
 upper movable hinge leaf 11 having a pintle 35
 socket 13 and provided on its lower edge with a
 horizontally arranged toothed arc 14, the shaft
 8 extended through the window frame and
 through the journal bearing at the lower end
 of said depending arm, the toothed wheel 10 40
 secured to the outer end of said shaft in mesh
 with the toothed arc so that when the shutter
 is open it rests against said toothed wheel and
 is prevented from striking the wall of the
 building, the crank 9 for operating the said 45
 shaft, and means for locking the crank, sub-
 stantially as described.

In testimony whereof I affix my signature in
 presence of two witnesses.

ALBERT ROSENBERG.

Witnesses:

MICHAEL ROSENBERG,
 FRANK AUKENEY.