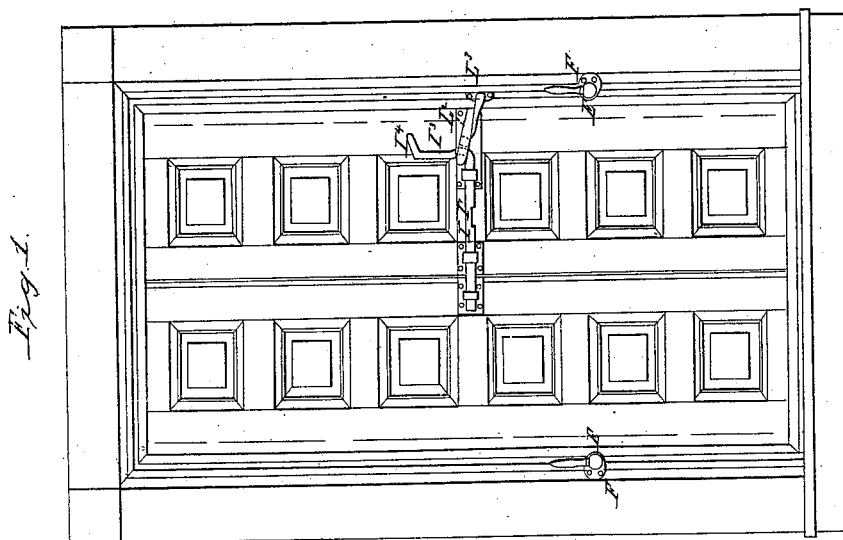
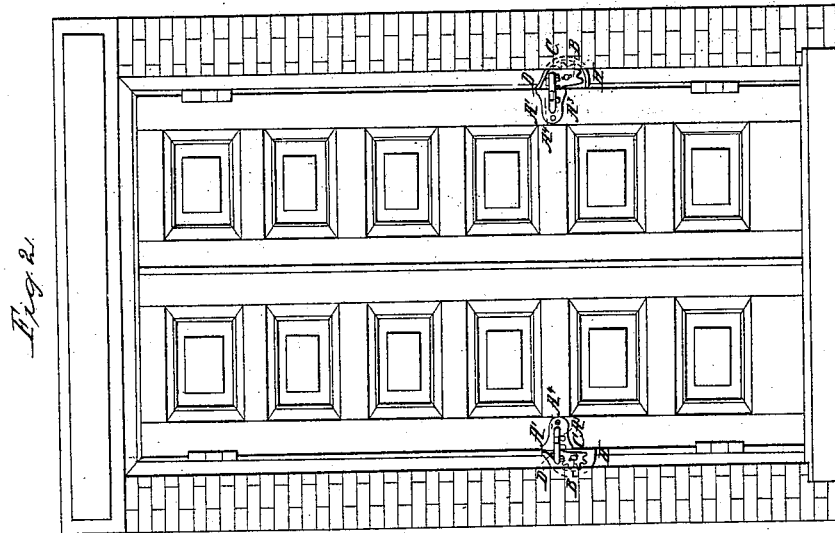
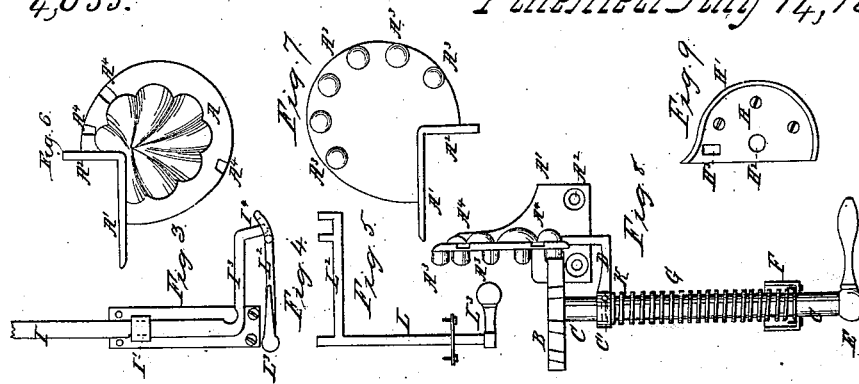


*S. Lichtenthaeler,*

*Shutter Worker.*

*N<sup>o</sup> 4,633.*

*Patented July 14, 1846.*



# UNITED STATES PATENT OFFICE.

SAML. LICHTENTHAELER, OF LITITZ, PENNSYLVANIA.

## WINDOW-BLIND FASTENING, &c.

Specification of Letters Patent No. 4,633, dated July 14, 1846.

*To all whom it may concern:*

Be it known that I, SAML. LICHTENTHAELER, of Lititz, Lancaster county, State of Pennsylvania, have invented a new and useful apparatus for opening and shutting and holding firmly in any position desired bolting and unbolting outside window shutters without raising the sash, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

Figure 1 is an elevation from the window as seen from the inside showing the shutters closed and the apparatus locked, the dotted lines representing the sash. Fig. 2 is an elevation showing the outside of the shutters as seen from the outside of the building. Fig. 3 is a plan of the bolt detached from the shutter. Fig. 4 is an edge view of the branched key or lever for moving the bolt. Fig. 5 is a plan of ditto. Fig. 6 is a top view of the plate containing a segment row of cogs and notches to admit a right angled bolt, and having two flanges at right angles for fastening said plate to the edge of the shutter or blind ornamented on top with a leaf or flower or otherwise, the cogs not being visible. Fig. 7 is a view of the under side of ditto, showing the spherical cogs. Fig. 8 is a plan of the apparatus showing an edge view of the aforesaid cogged plate and a pinion in gear with said cogs as in the act of turning the shutter or blind, and a plan of the shaft that runs horizontally through the window frame, and of the lever or handle for turning said shaft and a right angled bolt attached to said shaft for entering into the notches into the plate for holding the shutter or blind at the angle required and of a spiral spring around said shaft for throwing the pinion out of gear with the cogs and the right angled bolt into one of the notches and a section of a box in which the shaft turns and in which the end of said spiral spring is confined, the other end of the spring bearing against the right angled bolt. Fig. 9 is a plan of rimmed case forming the outer bearing of the shaft C.

A is the plate with right angled flanges A<sup>1</sup> A<sup>2</sup> fastened to the back of the shutter or blind, having spiral cogs A<sup>3</sup> on the under side for the teeth of a vertical segment cog wheel B to act against to open, or close, or bow, the shutter, and notches or cavities A<sup>4</sup> in the upper side of said plate to admit the right angled bolt. This plate is made of

cast iron, or any suitable material, and of any desired size and weight, leaving apertures in the flanges to admit bolts or screws by which it is to be fastened to the shutter. It is also ornamented on top as seen in Fig. 6, or it may be made plain.

B is a cogged segment wheel fastened on the end of a horizontal shaft for gearing into the cogs of the aforesaid plate A for moving the shutter on its axis. This segment of cogs may be made one, two, or three thirds of a circle as desired according to the position in which it is to be used.

C is the shaft to which this segment cog wheel is fastened. It is made of iron or other suitable material and of any required length and diameter, having an annular groove C' around its circumference to admit the key K that secures the right angled bolt D to it. It is provided with a knob E or handle for turning it and a box or bearing F fastened to the window frame in which it turns and a spiral or other spring G coiled around it between the bolt D and box F for throwing the cog wheel B out of gear and the cogged plate A, and the right angled plate bolt D into gear with it when the shutter is required to be held in any desired position. When the shutter is required to be turned the shaft C must be drawn inward which brings the teeth of the cog wheel B into the spaces between the teeth of the plate A and at the same time contracts the spiral spring G and draws the right angled bolt D out of gear with the plate A leaving the latter at liberty to be turned with the shutter to which it is attached by simply turning the shaft C. The shutter being turned to the position desired and one of the notches A<sup>4</sup> in the plate A being brought on a line with the bolt D the shaft is liberated when the spiral spring G in again extending itself will throw the shaft C outward with the bolt attached thereto, and the bolt D into the notches A<sup>4</sup> and the cog wheel B out of gear with the plate A. The shutter or blind will then be held firmly in the position it has been made to assume by the aforesaid operation of the bolt D.

The box F or bearing of shaft C may be made in the form of a curtain knob, the shaft C running through to receive a handle which may form part of the aforesaid knob. It is secured to the window frame by small screws or other fastenings.

In order to form a permanent bearing for

the shaft C on the outer edge of the frame, and also a durable box for the bolt D to slide in, a metallic rimmed plate H Figs. 2 and 9 is screwed, or bolted, or otherwise fastened to the frame perforated at H<sup>2</sup> for the shaft C and at H<sup>3</sup> for the bolt D and forming a segmental case to receive the cog wheel B and a segment of the plate A snugly at the back of the shutter and of a size a little greater than that of the cog wheel B so that the latter can turn freely therein, without touching the rim, which rim is marked H' in Figs. 2 and 9.

I is the sliding bolt made in the usual manner except on its lower edge in which there is made a notch I' to allow it to drop over one of the staples by which it is secured.

I<sup>3</sup> is the arm of the bolt by which it is moved.

I<sup>4</sup> is a curved wrist of the arm of the bolt by which it is raised from the staple by the branched key hereafter described.

L is a horizontal axle combined with a branched arm L<sup>2</sup> forming a key for moving the bolt, said axle passing through an opening in the frame containing a knob I<sup>3</sup>, by which it is turned to the right or the left for throwing the bolt I to the right or left. This branched arm L<sup>2</sup> is made to act on the bolt by simply turning the axle L without the necessity of raising the sash.

Although only one set of the apparatus for opening and closing the shutter has been described as connected to and combined with the shutter it will be evident that there must be a set of the apparatus applied to each outside shutter or blind in a manner similar to that above described.

The axle may be passed through and the cogged plates, or wheels, or segments, operated in a space in the sill of the window, the cogged plate being connected to the shutter by a spindle, or other suitable means and by having a line, or other shaft running longitudinally in or below the sill and proper gearing both shutters may be operated simultaneously by turning one knob.

What I claim as my invention and desire to secure by Letters Patent is—

The principle of operating and shutting and holding firmly in any desired position from the inside of the room, outside window shutters or blinds by the before described combination of the shaft C cogged wheel B bolt D spring G and cogged plate A constructed, arranged and operated in the manner and for the purpose set forth.

SAMUEL LICHTENTHAELER.

Witnesses:

WM. P. ELLIOT,  
T. C. DONN.