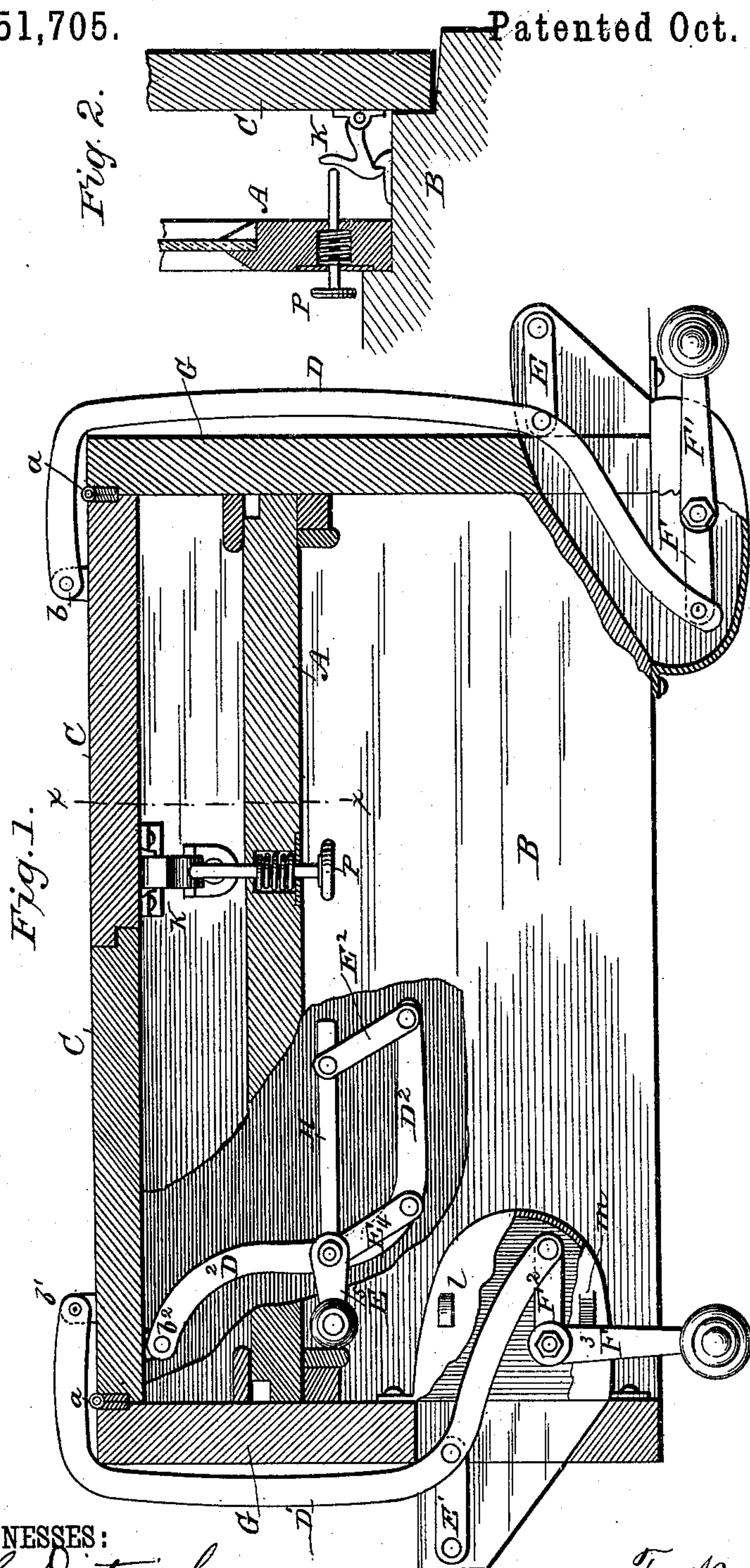


(No Model.)

T. N. LUPTON.  
SHUTTER WORKER.

No. 351,705.

Patented Oct. 26, 1886.



**WITNESSES:**

WITNESSES:  
Fred G. Dieterich  
Edw. W. Byrum.

INVENTOR:

T. N. Lupton  
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ATTORNEYS.



# UNITED STATES PATENT OFFICE.

THOMAS N. LUPTON, OF WINCHESTER, VIRGINIA.

## SHUTTER-WORKER.

SPECIFICATION forming part of Letters Patent No. 351,705, dated October 26, 1886.

Application filed April 30, 1886. Serial No. 200,728. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS N. LUPTON, of Winchester, in the county of Frederick and State of Virginia, have invented a new and useful Improvement in Shutter-Workers, of which the following is a specification.

My invention relates to means for working the shutters of a window from the inside without the necessity of hoisting the sash; and it consists in the peculiar combination of a parallel-motioned bar with the guide links or arms and the operating-handle, as hereinafter fully described.

Figure 1 is a horizontal section through the lower part of the window, showing several forms of the invention; and Fig. 2 is a vertical section through the line *x x*.

A represents the window-sash, B the sill, C C the shutters, and G the frame, of any ordinary window, in connection with which I have shown three forms of my invention.

Referring to the form on the right, D is a curved metal bar, which is jointed at *b* to the shutter at a certain distance from the hinge *a* of the shutter. This bar extends through the wall or frame to the interior of the room, and is jointed to a swinging link, E, which is exactly the same length as the distance from the point *b* to the hinge *a*. At the inner end of this curved bar it is jointed to a crank-arm, F, rigidly fixed to the pivoted crank-handle F', which crank-arm F is also of the same length as the link E, or distance from points *a* to *b*. These connections of the bar D cause it to have always a parallel motion, or rather a motion about the link and arm E and F as radii, that causes it to move as the bar of a parallel ruler, and to successively occupy different parallel positions, in which motion the point *b* moves around the hinge-point *a* of the shutter with the same curve as that of links E and arm F, which causes a rotary adjustment of arm F by crank-handle F' to open or close the shutter C.

On the left is shown a somewhat modified arrangement, in which the crank-handle F<sup>3</sup> and rigid arm F<sup>2</sup> are at right angles and mounted on the window-sill, while in the middle is still another modification, in which the curved parallel-motioned bar D<sup>2</sup> is jointed at *b*<sup>2</sup> to the inside of the shutter and the link E<sup>2</sup> is at the end of the bar, while the crank-arm and rigidly-connected handle E<sup>4</sup> E<sup>3</sup> are fulcrumed to the fixed bar H and the rigid arm E<sup>4</sup> is jointed to the bar D<sup>2</sup> between its ends.

To lock the shutter open a lug, *l*, is made to engage with the crank-handle and lock it when adjusted to the open position, and a similar lug, *m*, is made to lock the crank when the shutter is closed. For additional security, also, in locking the shutter closed, the usual gravity-catch, K, is made to hook over a lug on the window-sill, and is raised therefrom (see Fig. 2) when the shutter is to be opened by a spring-seated push-bar, P, without the necessity of raising the window-sash.

Having thus described my invention, what I claim as new is--

1. A shutter-worker consisting of a curved parallel-motioned bar, combined with and jointed to a swinging link, a crank-arm of the same length as the link, and a handle for working the bar, substantially as shown and described.

2. The combination, with a shutter, of a curved parallel-motioned bar jointed to the shutter, a link of the same length as the distance from the axis of the shutter to the joint of bar D, the said link being jointed at one end to the bar and at its other end to a fixed center, and a pivoted crank-arm of the same length as the link, jointed to the bar and provided with a handle, substantially as shown and described.

THOMAS N. LUPTON.

Witnesses:

PHILIP W. BOYD,  
JOHN B. CHILES.