

J. BONSTALL.  
Shutter-Worker.

No. 160,255.

Patented March 2, 1875.

Fig. 1.

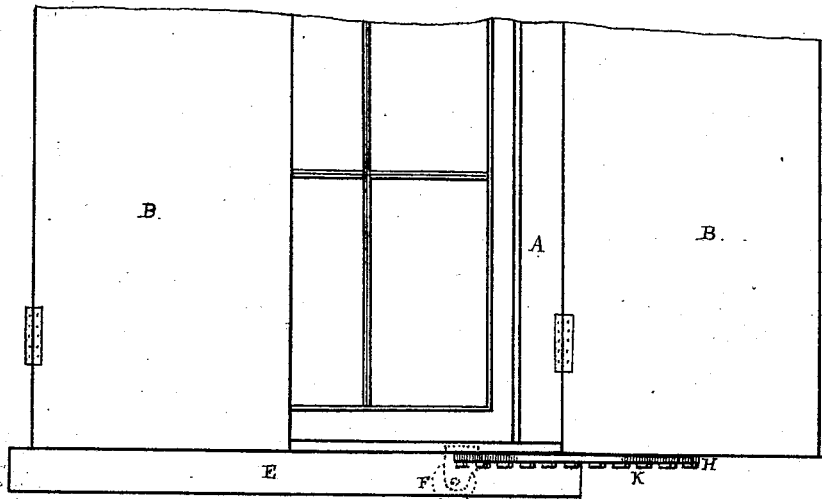
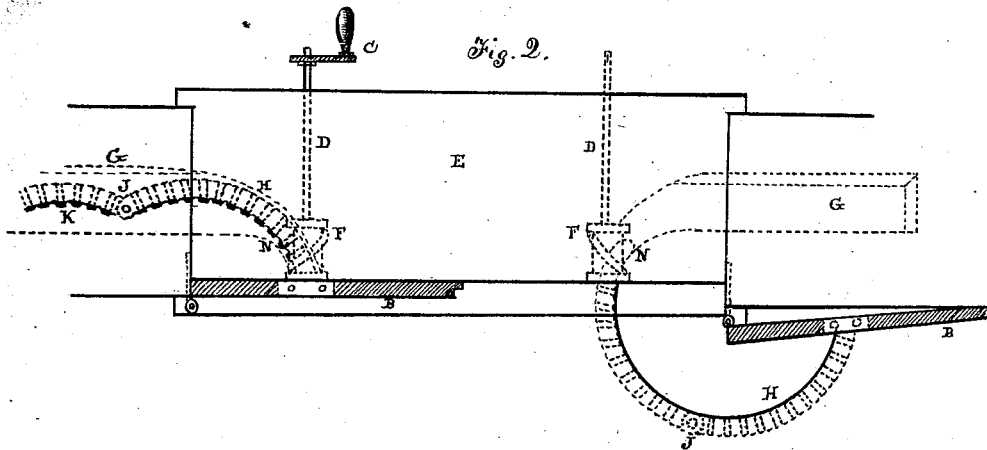


Fig. 2.



WITNESSES

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## IMPROVEMENT IN SHUTTER-WORKERS.

Specification forming part of Letters Patent No. **160,255**, dated March 2, 1875; application filed September 25, 1874.

*To all whom it may concern:*

Be it known that I, JONATHAN BONSALL, of the city of Philadelphia and State of Pennsylvania, have invented an Improved Shutter-Worker; and I do hereby declare the following to be an exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification, in which—

Figure 1 represents a front view of the window with one shutter closed and the other shutter as held open by the rack. Fig. 2 is a top view of the same, exhibiting the rack open and the jointed ends extended in the bed-plate in the sill of the window.

My invention consists in the novel construction and combination of the flanged bed-plate with its operating circular hinged or jointed rack, endless screw, and crank-shaft, as will be hereafter more fully explained.

A represents the frame of the window, in the lower side or sill of which the shutter-worker is set and operates. B B represent the shutters; C, the crank-handle, which is intended to be a movable handle, so as to be detached whenever required. This crank-handle is operated on the inside of the window, having its shaft D extending nearly through the sill E, and likewise having an endless screw, F, attached to its extremity. G is a metallic bed-plate or box, fitted lengthwise into the window-sill, with one end curved and open, and under which opening, at N, the endless screw F works, so as to gear into the teeth K on the lower side of the circular hinged or jointed rack H, as an opening and closing device.

The plate G has flanged sides, turned upward as guards to preserve the proper direction and operation of the circular jointed rack H, as the rack moves within and upon the plate with the opening and closing of the shutters B B, one end of the rack being permanently fastened to the lower side of the shutter by screws. The rack H is of a circular shape, having a joint or hinge, J, near its center, and its teeth K on the lower side; or the teeth may be, if required, on the edge of the circular plate H. The joint or hinge J enables the rack to move and accommodate itself horizontally and lengthwise through and along its bed-plate G, and its circular shape allows the one-half of the rack, that is fastened to the center of the lower side of the shutter, to move in a curve with the opening or closing of the shutter, or to hold the shutter fast at any angle required when open, while all the parts of the shutter-worker fit into the sill E, perfectly free from the effects of the weather, and the necessity of raising the sash is obviated.

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

An improved shutter-worker, consisting of the flanged plate G, secured within the window-sill, the circular hinged or jointed rack H, attached at one end to the shutter, the endless screw F, and the crank-shaft C D, all constructed, arranged, and operating substantially as described and shown, for the purpose set forth.

JONATHAN BONSALL.

Witnesses:

J. F. REIGART,  
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