C. B. HOPKINS & J. A. JOHNSTON.

WINDOW-SHUTTERS.

No. 188,908. Patented March 27, 1877.

Fig. 1.

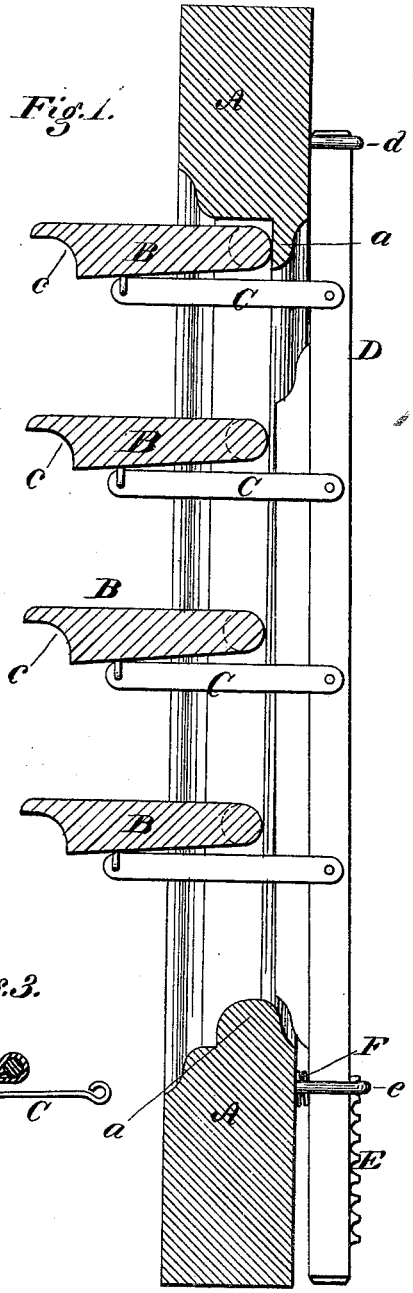


Fig. 2.

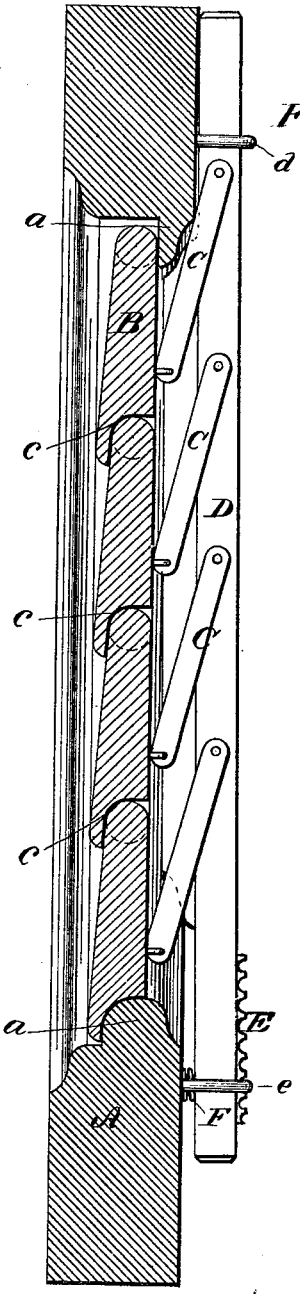


Fig. 3.

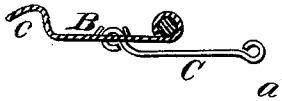
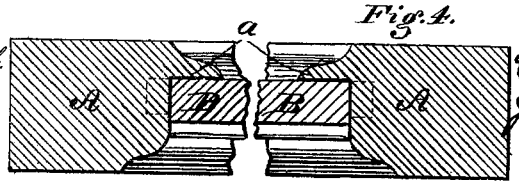


Fig. 4.



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UNITED STATES PATENT OFFICE

CHARLES B. HOPKINS AND JAMES A. JOHNSTON, OF TOPEKA, KANSAS.

IMPROVEMENT IN WINDOW-SHUTTERS.

Specification forming part of Letters Patent No. **188,908**, dated March 27, 1877; application filed March 13, 1877.

To all whom it may concern:

Be it known that we, CHARLES B. HOPKINS and JAMES A. JOHNSTON, of Topeka, in the county of Shawnee and State of Kansas, have invented certain Improvements in Window-Shutters, of which the following is a specification:

Our invention relates to movable-slat blinds; and consists in a novel construction and arrangement of the slats and the frame to secure the entire exclusion of light when the blind is closed, in a peculiar manner of arranging and operating the slats, and in a peculiar manner of constructing the slats of sheet metal, as hereinafter described.

Figure 1 represents a vertical section of my blind with the slats open; Fig. 2, a similar view with the slats closed; Fig. 3, a cross-section of one of the metal slats with its operating-link attached; Fig. 4, a transverse section of the blind.

A represents the frame of the blind, constructed as shown, with a flange or shoulder, *a*, around its interior, to fit over the ends of all the slats, and the edges also of the top and bottom slats, to assist in excluding the light. B B represent the parallel slats, having journals or trunnions formed on their ends at the inner or rear edge, instead of in the middle, as usual, and having said journals mounted in the frame close to the flange *a*, so that when the slats are turned down they shut closely against the flange, as shown in Figs. 2 and 4, thereby preventing the entrance of light past the ends of the slats, or past the upper and lower edges of the top and bottom slats.

Each slat has its free edge recessed and shaped to fit snugly over the back edge of the next slat, as shown at *c*, Figs. 1 and 2, so that when the slats are closed they fit together and lap over each other in such manner as to prevent the entrance of light between them. C C represent a series of links, pivoted one to each of the slats, and all pivoted at their opposite ends to a sliding vertical bar, D, the movement of which serves to open or close all the slats simultaneously.

The bar D is mounted at its upper end in a staple, *d*, and at its lower end in a staple, *e*, both attached to the frame A. The lower staple *e* is made of such length as to permit the bar to play or move therein to and from the frame, and the lower end of the bar provided with a rack-plate, E, which engages with the staple, to hold the bar from moving endwise, and thereby secure the slats of the blind in position.

A spring, F, is mounted in the frame under the end of the bar D, for the purpose of pushing the same outward, and causing the plate E to engage with the staple.

In order to adjust the slats, it is only necessary to push the end of the bar D toward the frame, and then move it endwise, the spring causing it to lock automatically when released.

When the slats are closed, their overlapping edges and the overlapping flange on the frame prevent the entrance of a single ray of light, and also prevent the introduction by burglars or others of instruments for unlocking the blind.

The bar and rack, arranged as shown, permit the ready adjustment of the slats in any position desired, prevent them from working out of position, and prevent the rattling and jarring common to blinds of the ordinary construction.

The slats may be made of wood, as shown in Figs. 1 and 2, or of sheet metal, as shown in Fig. 3, the metal slat consisting simply of a plate of proper size, having one edge curled into a tubular form, to receive a wire or other journal, and the other edge curved and adapted to fit over the rear edge of the adjacent slat.

When the metal slat is used the links may be made of wire, with their ends curled and inserted through the same; or the slat may have its inner face provided with an ear or eye to receive the link.

Having thus described our invention, what we claim is—

1. In combination with the frame A, having the continuous internal flange or shoulder *a*, the overlapping slats B, provided with the recessed lower edges *c*, and pivoted at their upper edges to the frame in front of the flange, as shown, whereby the ends of the

slats are permitted to lap their full width against the flange, in order to wholly exclude the light.

2. In combination with the slats B, pivoted at one edge, as shown, the links C and sliding bar D.

3. The combination of the frame A, pivoted slats B, links C, sliding bar D, mounted in guides *d e*, and provided with the notched plate E, and spring F, seated under the bar, as shown.

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