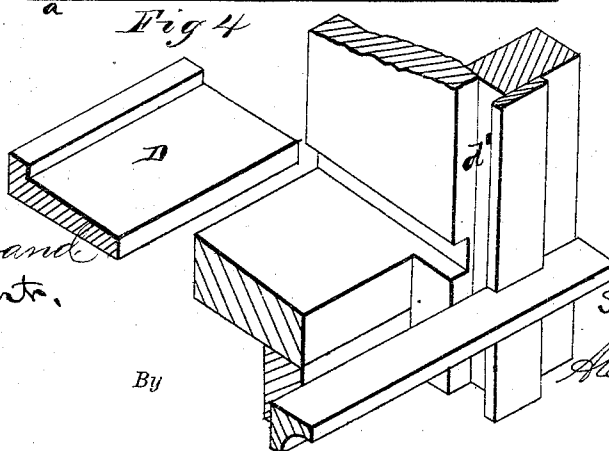
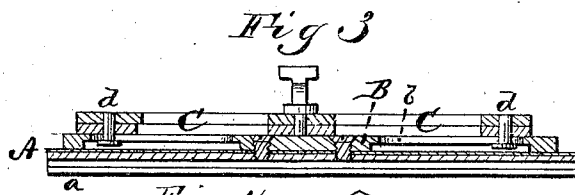
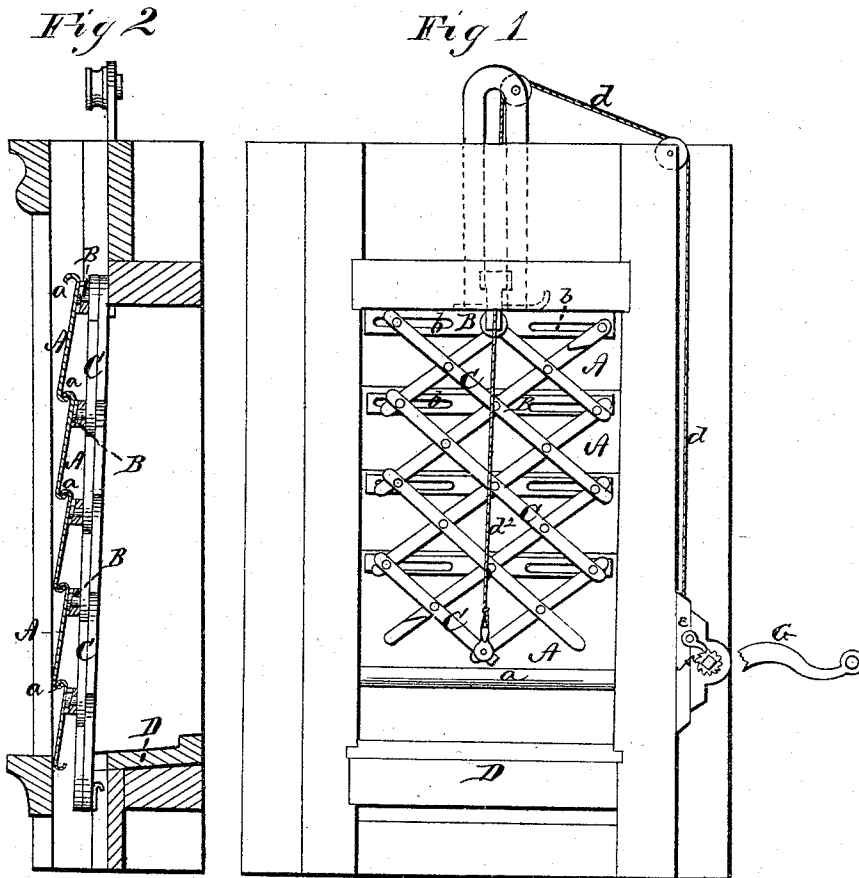


S. M. GILLETT, R. T. SILL & S. K. CRAWFORD.
Metallic Shutters.

No. 147,932.

Patented Feb. 24, 1874.



WITNESSES.
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UNITED STATES PATENT OFFICE.

SYLVANUS M. GILLET, ROBERT T. SILL, AND SAMUEL K. CRAWFORD,
OF WARSAW, MISSOURI.

IMPROVEMENT IN METALLIC SHUTTERS.

Specification forming part of Letters Patent No. **147,932**, dated February 24, 1874; application filed January 23, 1874.

To all whom it may concern:

Be it known that we, SYLVANUS M. GILLET, ROBERT T. SILL, and SAMUEL K. CRAWFORD, of Warsaw, in the county of Burton and in the State of Missouri, have invented certain new and useful Improvements in Shutters for Windows and Doors; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon, making a part of this specification.

The nature of our invention consists in the construction and arrangement of folding-shutters for windows and doors, as will be hereinafter more fully set forth.

In the accompanying drawing, Figure 1 is an inside view of a window-frame with our shutter, showing the same partly raised. Fig. 2 is a transverse vertical section of the same, showing the shutters closed. Fig. 3 is a horizontal section through the shutters; and Fig. 4 is a perspective view, showing a part of the window-frame with the movable sill.

The shutters are formed of a series of plates, A A, of wood or metal, provided at their top and bottom edges with curved flanges *a a*, of such shape that when the shutters are extended said flanges will lock together firmly and securely, as shown in Fig. 2. To each plate is secured a bar, B, provided with slots *b b*. In these slots work pins *d d*, which project from a series of jointed metal or wood bars, C C, arranged in the form usually known as lazy-tongs, and pivoted to the centers of the bars B B. The slots *b* in the bars B thus direct the lateral movement of the jointed bars forming the lazy-tongs. The shutter thus constructed may be attached to a window or door-frame, on the outer or inner side of the casing, in such a manner as to fold above, below, or at the sides, and kept in position by means of

stops or grooves *d'*, attached to or formed in the frame. The shutter is worked or operated by a wheel, pinion, and crank, G, with a rope or chain, *d'*, or their equivalents, attached to the upper or lower end of the lazy-tongs, according as the shutter is to be folded above, below, or at the sides, the rope or chain passing over sheaves or pulleys attached to the frame or building in such a way that the shutter can be operated from the inside. The shutter is held in any desired position by a pawl, *e*, and ratchet-wheel, *f*, in connection with the drum upon which the rope or chain is wound. When it is desired to fold the shutter below, we provide the window-frame with a movable or sliding sill, D, which covers a box or receptacle in the bottom of the frame. The sill D is drawn out to uncover said receptacle, when the shutter may be folded down into the same, after which the sill is placed in position again, keeping the shutter entirely out of sight.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination of the flanged plates A A, slotted bars B B, and lazy-tongs C, with pins *d d*, substantially as and for the purposes herein set forth.

2. The combination, with the flanged plates A A, slotted bars B B, and lazy-tongs C, of the wheel and crank G, rope or chain *d'*, pawl *e*, and ratchet-wheel *f*, all substantially as and for the purposes herein set forth.

In testimony that we claim the foregoing we have hereunto set our hands this 2d day of January, 1874.

SYLVANUS M. GILLET.
ROBERT T. SILL.
SAMUEL K. CRAWFORD.

Witnesses:

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