

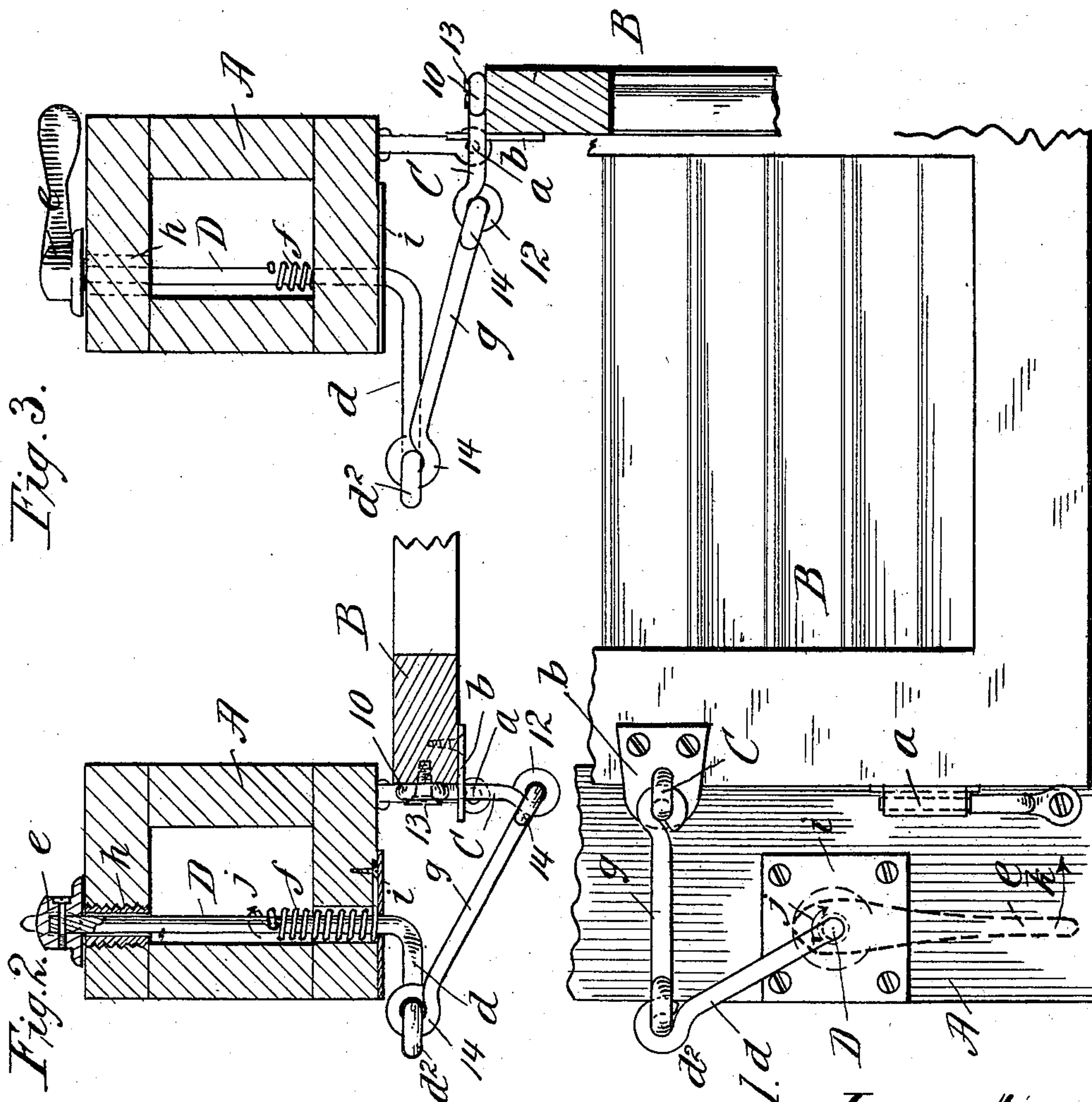
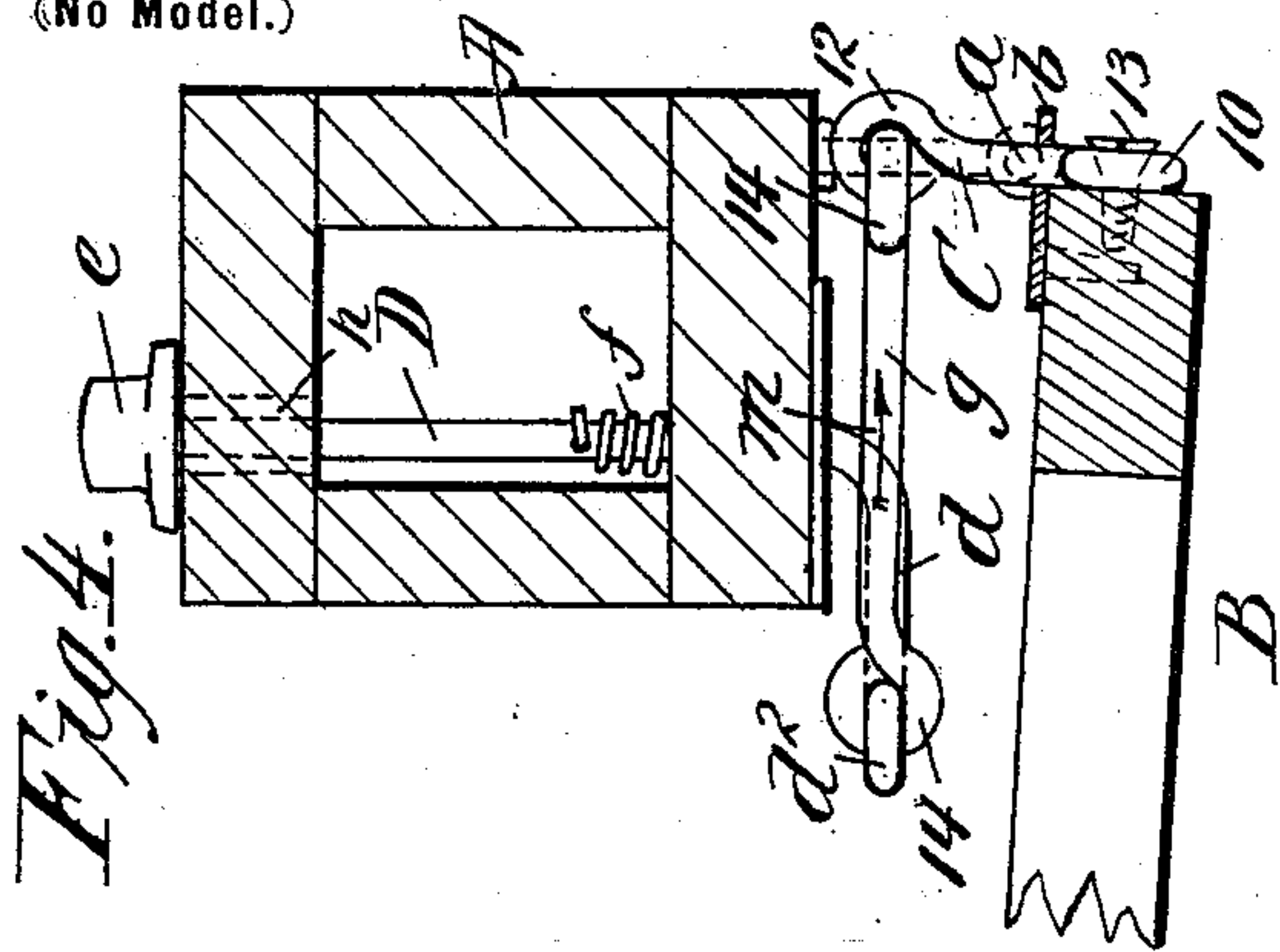
No. 610,418.

Patented Sept. 6, 1898.

H. SUESSENGUTH, JR.
SHUTTER WORKER.

(Application filed June 1, 1898.)

(No Model.)



Witnesses:

M. A. Campbell.

R. M. Bellows,

Fig. 1.
Inventor,
Henry Suessenguth, Jr.
by
Wm. A. Bellows, Atty.

UNITED STATES PATENT OFFICE.

HENRY SUESSENGUTH, JR., OF HOLYOKE, MASSACHUSETTS.

SHUTTER-WORKER.

SPECIFICATION forming part of Letters Patent No. 610,418, dated September 6, 1898.

Application filed June 1, 1898. Serial No. 682,288. (No model.)

To all whom it may concern:

Be it known that I, HENRY SUESSENGUTH, Jr., a citizen of the United States of America, and a resident of Holyoke, in the county of Hampden and State of Massachusetts, have invented certain new and useful Improvements in Shutter-Workers, of which the following is a full, clear, and exact description.

This invention relates to improvements in shutter-workers of a class in which the window blind or shutter is operated to be swung open or closed from the inside of the house.

The object of the invention is to devise means for the purpose indicated which shall be simple, effective, cheap, durable, and not likely to become deranged and one in which the shutter-operating means serve as holders or fasteners for the shutters, doing away with the necessity of catches therefor.

The invention consists in the construction and combination of parts, all substantially as will hereinafter fully appear, and be set forth in the claims.

Reference is to be had to the accompanying drawings, in which the construction and arrangement of the parts are illustrated, and in which—

Figure 1 is a front view externally of the window-casing and shutter mounted thereon with the operating devices therefor, the shutter being in its closed position. Fig. 2 is a plan and partial horizontal sectional view of Fig. 1. Fig. 3 is a view similar to Fig. 2, but showing the shutter in its half-open position, Fig. 4 being a similar plan view, but in the positions assumed by the parts when the shutter is thrown into its opened position.

Similar characters of reference indicate corresponding parts in all of the views.

In the drawings, A represents a one-side portion of the window-casing, having hinged at the outside thereof in the usual manner at *a* the blind or shutter B. The blind at its inner edge has rigidly secured thereto and extended beyond the plane of the outer side of the blind when regarded as closed a comparatively short lug or lever-like extension C. This, as shown, is advantageously constituted by a single length of comparatively heavy wire having eyes 10 12 formed at its opposite ends, the inner end eye receiving therethrough

the shank of the fastening-screw 13, the head of which bears and clamps the eye-formed end of the lug against the inner edge of the blind.

The metallic plate *b*, secured on the outer face of the blind by screws, has its extremity projected beyond the inner blind edge, and through a perforation in this projecting part the intermediate portion of the lever or lug C is passed with a close fit, the action of this plate serving to stiffen the lever and prevent the leverage action thereof so straining its screw connection with the blind edge as to loosen it and impair its rigidity and durability for action.

D represents a rock-shaft horizontally mounted in the window-casing, having at its outer end the lever-arm *d*, provided at its end with the eye *d*². The plane of swinging motion of the lever *d* is parallel with the vertical plane of the outer side of the house or the window-casing thereof. The plane of swinging movement of the lug or lever C is a horizontal one, about and substantially radial to an axis coincident with the line of the blind-hinge center. At the inner side of the window-casing the rock-shaft D has affixed at its end the operating-lever handle *e* or like device.

A spiral spring *f*, of a comparatively stiff character, is coiled around the rock-shaft, one end thereof being secured to the rock-shaft, while the other end thereof is anchored to the window-casing or to a fixture thereof, all whereby this spring exerts a retracting and rotational tendency at all times on the rock-shaft in the direction indicated by the arrow *j* in Fig. 1, the swinging movement of the rock-shaft lever *d* as imparted thereto by the lever-handle *e* being always against the resistance of this spring.

g represents a link, the end eyes 14 14 thereof having interlocking engagements with the end-formed eyes 12 and *d*² of the shutter-lug C and rock-shaft lever *d*.

Assuming that the parts are in the positions shown in Figs. 1 and 2 and the rock-shaft is swung by pressure on the inner end handle-lever *e* thereof in the direction of the arrow *k*, Fig. 1, against the force of the spring *f*, the outer end lever swinging toward or to the position indicated in Fig. 3 exerts a lev-

erage and pulling action through the link on the lug C to rotate the blind to the extent of bringing the same to stand about perpendicular to the side of the house or midway between its open and closed positions, as seen in said Fig. 3, this occurring when the line of the link *g* has its position about in line toward the axis of the blind edge, at which time the parts may be regarded as at about the dead-center, a situation in which rotating pressure on the rock-shaft lever can result in no further blind-swinging effect.

In the operation of the rock-shaft its oscillation will be given thereto by a quick pressure on the lever-handle *e* sufficient to bring the blind to the perpendicular position midway between being opened and closed positions, and just at the instant before the parts come to the dead-center, as explained, and indicated substantially by Fig. 3, the pressure on the lever *e* by the hand is released, the momentum given to the blind to bring it to the said position of Fig. 3 carrying it past such position, the remainder of the movement to throw the blind back open and against the side of the house being under the retractile force of the spring applied to the rock-shaft, the link now having an end thrust in the direction of arrow *m*, Fig. 4.

The blind being swung into its open position, as shown in Fig. 4, precisely the same rocking movement is imparted to the rock-shaft through its handle-lever *e*, the rocking motion of the rock-shaft to swing the blind open when closed or to swing the blind closed when open being always in the same direction and as indicated by arrow *k*, Fig. 1.

The rock-shaft in its mounting in and through the window-casing is shown as provided with a tubular externally-screw-threaded bushing-sleeve *h*, which screws into the inner part of the window-casing, while a plate *i*, screwed on the outer side of the window-casing, constitutes suitably and simply a metallic resisting wear by the partial rotary motions of the rock-shaft.

The lever-handle *e* is detachably secured by the set-screw to the inner end of the rock-shaft.

The rock-shaft and its lever extension *d*, with the end-formed eye *d*², may be advantageously made of a single length of sufficiently heavy wire, the link *g* and the lever or lug member C also being formed of similar wire, so that with these three wire-formed parts and the spring the shutter-worker only additionally requires the inner lever-handle, the bushing tube or sleeve *h* and bearing-plate *i*, and the strengthening or resistance plate *b* for the blind.

Of course, if desired, the parts D *d* *g* C of the shutter-worker may be constructed of different material than heavy wire, although this is believed to be the cheapest and most durable and has been found entirely suitable.

Having thus described my invention, what

I claim, and desire to secure by Letters Patent, is—

1. The combination with the window-casing provided with a horizontal rock-shaft having at its outer end a lever-arm *d* adapted to swing in a vertical plane parallel with the outer side of the building, and provided at its inner end with a means for rocking it, of the hinged blind having at its inner edge the lever or lug C horizontally projecting substantially radially from the axis of the blind-hinge, the link *g* connecting the lever-arm and said part C, and a retracting-spring against the force of which said rock-shaft is oscillated, all whereby the opened or closed blind may, by the rocking motion manually imparted to the shaft in a given direction against the force of its spring, swing the blind to, and slightly past its position at right angles to the side of the building, the reaction of the spring through said connecting parts then completing the movements of the blind to the position the reverse of that which it originally occupied, substantially as described.

2. The combination with the window-casing provided with a horizontal rock-shaft having at its outer end a lever-arm *d* adapted to swing in a vertical plane parallel with the other side of the building, and provided at its inner end with a means for rocking it, of the hinged blind having secured at its inner edge the fixed eye-provided lever or lug C horizontally projecting substantially radially from the axis of the blind-hinge at right angles beyond the face of the blind, the plate *b* secured on the face of the blind through which an intermediate part of said lug C extends, the link *g* connecting the lever-arm and said part C and a retracting-spring against the force of which said rock-shaft is oscillated, all whereby the opened or closed blind may, by a rocking motion manually imparted to the shaft in a direction against the force of its spring, swing the blind, to, and by the momentum slightly past, its position at right angles to the outer side of the building, the reaction of the spring through said connecting parts, then completing the movement of the blind to the position the reverse of that which it originally occupied, substantially as described.

3. The combination with the window-casing having a shaft D mounted for a rocking motion therein, and extended from the inside to the outside thereof, and provided at its outer end with a lever extension terminating in an eye *d*², all integrally constituted by bent portions of the rock-shaft, and a retracting-spring applied to said rock-shaft, against the force of which the shaft has its rocking motion, of the hinged blind, the lever or lug C provided at its end with the eyes 10 and 12, the one 10 lying against the edge of the blind and having a confining-screw 13, whereby it is rigidly affixed to the blind, and said lever being extended beyond the face of

the blind, the plate *b* secured on the face of
the blind, and projected beyond the edge,
and serving as a steadying means for the said
lever-like part C, which projects through said
5 plate, and the link *g* having the end eyes 14,
14, respectively engaging the eye *d*² of the
rock-shaft lever, and the eye 12 of said part

C, all arranged for operation, substantially
as shown and explained.

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Witnesses:

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