

(Model.)

A. F. EVERS.
SHUTTER WORKER.

No. 345,221.

Patented July 6, 1886.

Fig. 1.

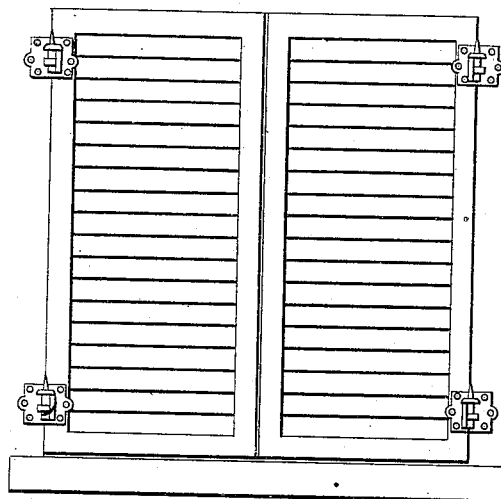


Fig. 2.

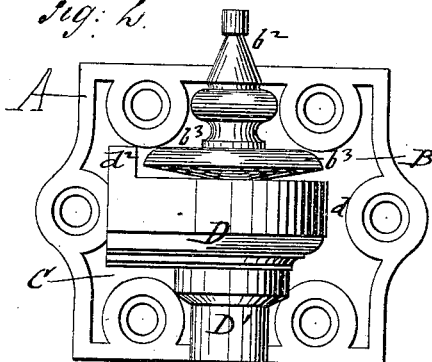


Fig. 3.

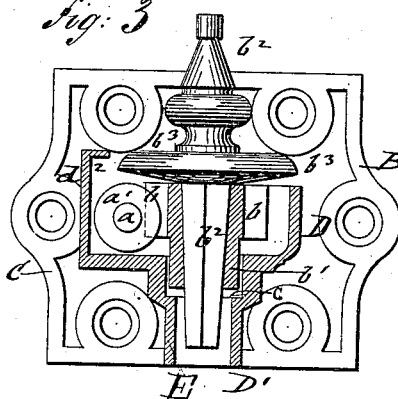


Fig. 4.

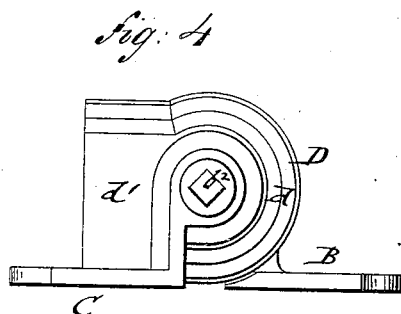
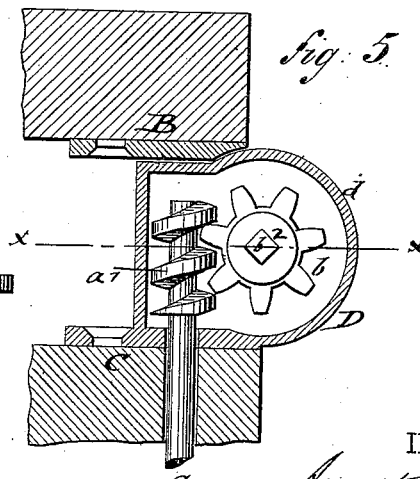


Fig. 5.



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UNITED STATES PATENT OFFICE.

AUGUST F. EVERS, OF CLEVELAND, OHIO.

SHUTTER-WORKER.

SPECIFICATION forming part of Letters Patent No. 345,221, dated July 6, 1886.

Application filed September 6, 1884. Serial No. 142,366. (Model.)

To all whom it may concern:

Be it known that I, AUGUST F. EVERS, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Shutter-Hinges, of which the following is a specification.

This invention has reference to an improved shutter-hinge of that class which is worked by a crank-spindle and worm-gear mechanism from the inside of the room.

In the accompanying drawings, Figure 1 represents a front elevation of a window-shutter with my improved hoods for the hinges. Fig. 2 is a front view of my improved hood for shutter-hinges; Fig. 3, a vertical section on line *x x*, Fig. 5; Fig. 4, a bottom view, and Fig. 5 a horizontal section, of the same.

Similar letters of reference indicate corresponding parts.

A in the drawings represents a shutter-hinge of that class which is operated from the inside of a room, and which is connected with a crank-spindle, *a*, that carries at its outer end a worm, *a'*, that is inclosed in a box or hood, D. This inclosing box or hood is provided at its lower end with a shouldered socket, E.

The worm *a'* is not provided with the usual journal at its outer end, the end being perfectly smooth and not confined in any socket, thus permitting a longitudinal movement of the spindle and worm, to facilitate the breaking up of any ice which might form in the box. This is a very important fact, when we consider that it is almost impossible to make the box so tight that no water will lodge therein and freeze. There is another advantage in having the outer end of the worm free, which is, that it does not require to be accurately fitted to the gear, but readily adjusts itself thereto, whereby economy of manufacture is secured.

The worm *a'* engages a gear-wheel, *b*, that is fitted by a sleeve or hub, *b'*, having a conically-tapering central opening of square cross-section to a pintle, *b''*, that is also made of tapering shape and square cross-section, so that the sleeve or hub *b'* of the gear-wheel *b* is

secured firmly thereto. The lower end of the sleeve *b'* rests upon an interior shoulder, *c''*, of the inclosing box or hood D, and is made longer than the larger socket, in which it rests, as shown in Fig. 3, so that any dust or grit that might collect in the box does not impede the motion of the gear *b*. The movable leaf of the hinge turns upon the shoulder *c''*, and is guided longitudinally by the socket E.

The pintle *b''* is provided above the gear-wheel *b* with an annular collar, *b'''*, and cast integral with the movable leaf B, that is attached to the shutter. The other leaf, C, of the shutter-hinge is attached to the window-casing and cast integral with a hood, D, that is formed at one side with a semicircular part, *d*, which extends around and incloses the gear-wheel *b*, and at the other side with a rectangular box-shaped portion, *d'*, that extends around the worm *a'*, as shown clearly in Fig. 3. The square portion *d'* is provided at its upper edge with an inwardly-extending guard-flange or nose, *d''*.

The tapering sleeve fitted to the tapering pintle secures strength and durability and prevents wobbling or rattling.

The hood D protects the operating parts of the hinge against interference by rain and frost, so that the same can be operated with equal facility in all seasons.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a shutter-hinge, the combination of a fixed leaf provided with an inclosing-box having a socket at its lower end, a spindle extending into said box and provided with a worm, a movable leaf provided with a square tapered pintle and with a covering-flange at the upper end thereof, and a removable gear within said box, meshing with said worm, provided with a square tapered sleeve, into which said tapered pintle is closely fitted, substantially as described.

2. In a shutter-hinge, the combination of a fixed leaf provided with an inclosing-box having an inwardly-projecting flange at the upper end and a shouldered socket at its lower end, a spindle extending into said box,

provided with a worm, said spindle and worm
being longitudinally adjustable, a movable
leaf provided with a square tapering pintle
and a covering-flange at the upper end there-
5 of, and a removable gear within said box,
meshing with said worm and provided with
a hub, an annular shoulder, and a tapering
central opening for containing said pintle,
substantially as described.

In testimony that I claim the foregoing as my 10
invention I have signed my name in presence
of two subscribing witnesses.

AUGUST F. EVERS.

Witnesses:

CAROLINE BRINKER,
CHARLES J. COBELLI.