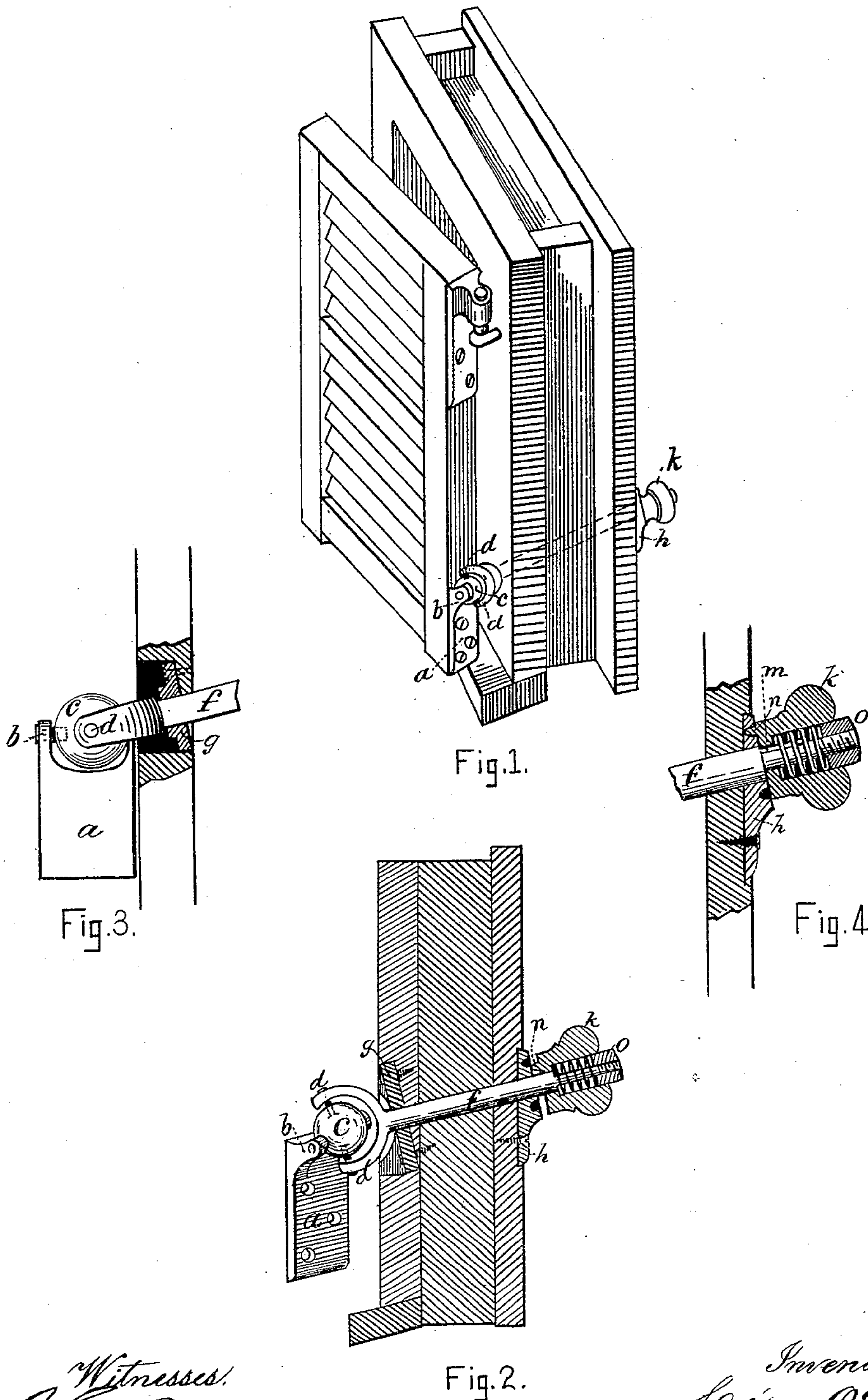


(No Model.)

L. O. DION.  
SHUTTER WORKER.

No. 265,308.

Patented Oct. 3, 1882.



Witnesses:  
J. E. Vorr.  
Wm. B. Smith.

Inventor:  
Leon O. Dion  
per Stephen Moore  
Atty



# UNITED STATES PATENT OFFICE.

LÉON O. DION, OF NATICK, ASSIGNOR TO GEORGE S. TROWBRIDGE, TRUSTEE,  
OF NEWTON, MASSACHUSETTS.

## SHUTTER-WORKER.

SPECIFICATION forming part of Letters Patent No. 265,308, dated October 3, 1882.

Application filed June 24, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, LÉON O. DION, of Natick, in the county of Middlesex and State of Massachusetts, have invented a new and useful  
5 Improvement in Window-Blind Operators, of which the following is a specification.

My invention relates to that class of window-blind operators by which outside window-blinds may be opened or closed from the inside  
10 of the house without opening the window-sash; and the object of my invention is to provide a simple, cheap, and effectual means for thus operating the blind and securing it in any desired position.

15 My invention consists in attaching to the frame of the blind, in line with the hinges thereof, or, if desired, in place of one of the hinges, a forked plate, the two projecting arms of which are connected to the two arms of a  
20 forked rod passing through the window-casing to the inside thereof by a double swiveled joint, known in mechanics as a "universal joint," so that by rotating the said rod by means of a knob or crank attached thereto on  
25 the inside of the window-casing the blind will be swung to any desired extent, all as more particularly set forth hereinafter.

In the drawings, Figure 1 represents a window casing and blind provided with my invention; Fig. 2, a vertical section of the same;  
30 and Figs. 3 and 4, enlarged views of the outer and inner ends, respectively, of the operating-rod, showing its attachments.

In carrying out my invention I make and  
35 attach to the stile of the blind (usually in place of the lower hinge thereof) a metallic plate, *a*, from which project two arms, *b b*, which form bearings, between which is hung, by pivots resting therein, the plate of metal *c*.  
40 This is shown in the drawings as globular, but may be of any desired form adapted to support two pairs of pivots at right angles to each other, as it forms, with the two pairs of arms in which it is pivoted, the well-known  
45 universal joint. At right angles to the line passing through the pivots resting in the bearings *b b* the plate *c* carries two other pivots resting in bearings in the arms *d d*, said arms springing from the rod *f*, which passes diagonally

50 nally upward through the window-casing to the inside of the same, having bearings *g* and *h* attached respectively to the outside and inside of the casing. Upon the inner projecting end of this rod *f* is a knob, *k*, so attached as to allow of a slight movement longitudinally  
55 thereon, but prevented from rotating independently by a feather, *m*, upon the rod, which enters a corresponding slot in the knob.

It will be seen that by turning the knob *k* the rod *f*, with its forked ends *d d*, carrying the  
60 pivots of the plate *c*, will be also turned, thus causing the plate *a* attached to the blind to turn, carrying the blind with it.

It will also be evident that were the rod *f* placed at right angles to the casing, instead of  
65 diagonally, the four pivots upon the piece *c* would, when the blind was at a right angle with the window, be all in a plane at right angles to the rod *f*, and consequently it would be impossible by applying force to the rod *f*  
70 to rotate it and move the blind; but by inclining the rod at an angle, as shown, the rod may be rotated and the blind moved from any position.

Instead of the end of rod *f* and plate *a* being  
75 bifurcated, as shown, so as to inclose the plate *C*, the plate *C* might be bifurcated so as to inclose them, (the rod *f* and plate *a*,) provided they are each pivoted to the plate *C*, the  
80 axes of the pivotal joints being each substantially at a right angle to the other.

In order to fasten the blind in any desired position, the plate *h* has several holes, into which a projecting pin, *n*, on the end of the knob is adapted to enter. The knob is cham-  
85 bered out so as to contain a spring, (see Figs. 2 and 3,) which constantly presses it upon the plate *h*, being compressed between the end wall of the chamber and a nut, *o*, on the rod. The holes in the plate *h* are so placed relatively  
90 to the pin *n* that when the blind is closed the pin rests in one of such holes, and when open to its full extent in another. Other holes may be made to hold it in intermediate positions.

In order to operate the blind it is only necessary to pull the knob away from the plate *h*  
95 a sufficient distance to release the pin *n* from its hole, when it may be rotated until the pin

drops into another hole and holds the blind in its new position.

In place of the knob *k*, a crank or wheel may be used to turn the rod, and other obvious means to fasten it in position; and I make no claim to the special locking device herein shown as my invention; neither do I claim anything shown in United States Patent No. 193,311, dated July 24, 1877.

10 I claim—

In a window-blind operator, a rotating rod passing diagonally through the window-casing

to the inside thereof, and having its outer end pivoted to a plate of metal, which plate has also pivoted to it another plate which is rigidly attached to the blind, the pivotal axis of the last-mentioned plate being substantially at a right angle to the pivotal axis connecting the rod and plate first mentioned, all arranged and to operate substantially as herein set forth.

15 LÉON O. DION.

Witnesses:

STEPHEN MOORE,  
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