

D. M. LEONARD.

Combined Shutter-Workers and Blind-Operators.

No. 143,289.

Patented September 30, 1873.

Fig. 1.

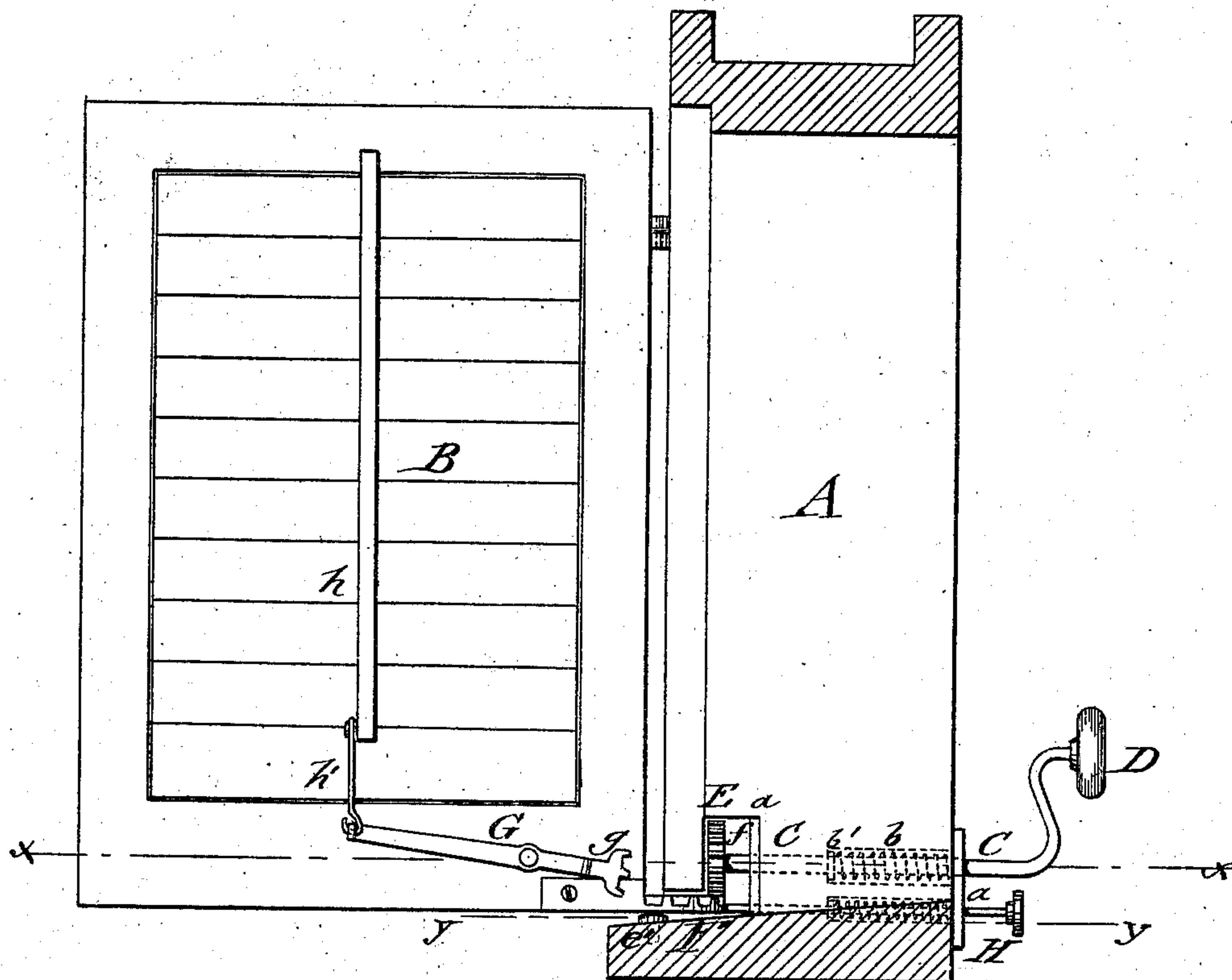


Fig. 2.

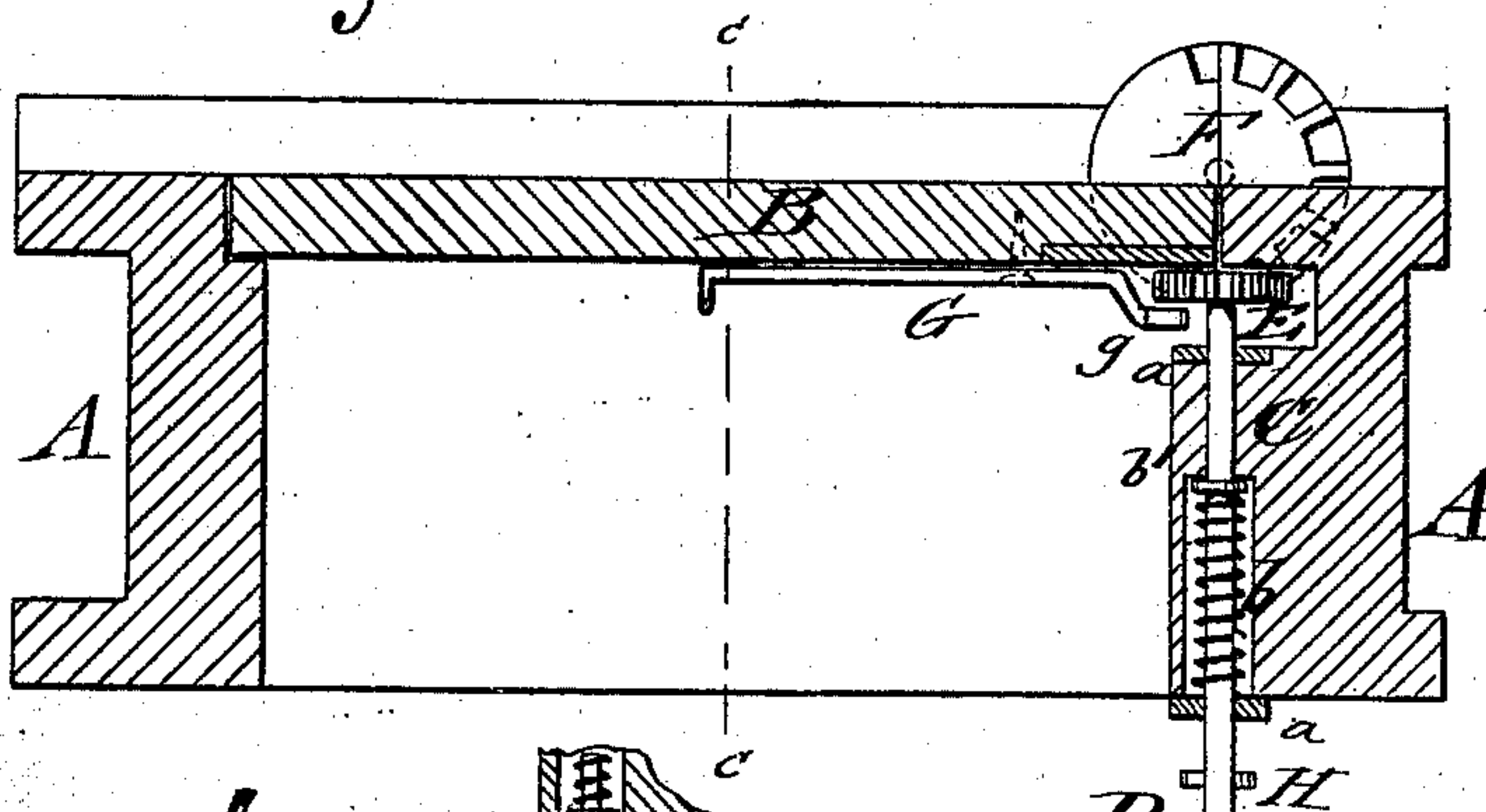
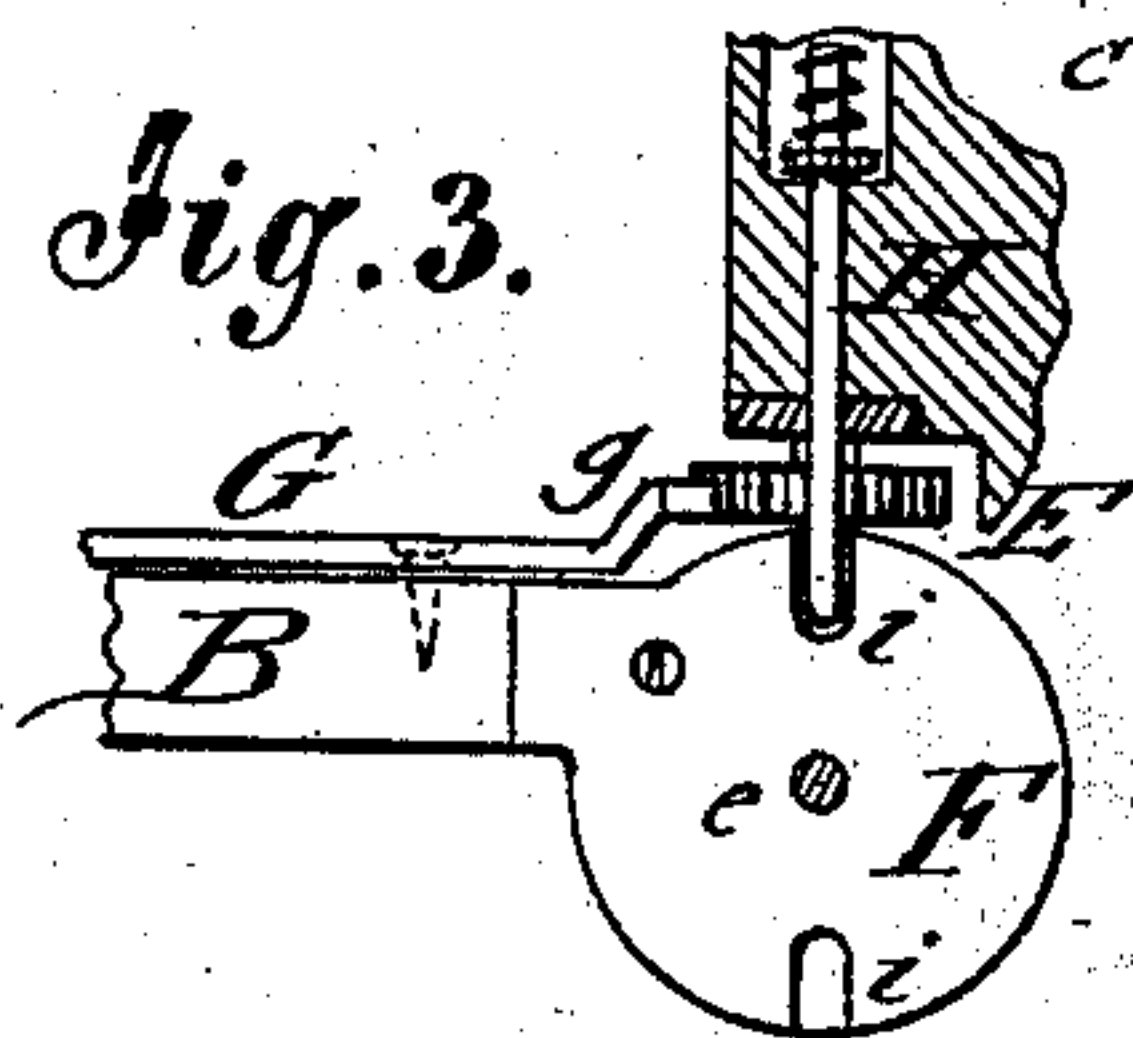


Fig. 3.



Witnesses:

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# UNITED STATES PATENT OFFICE.

DANIEL M. LEONARD, OF LA CROSSE, WISCONSIN.

IMPROVEMENT IN COMBINED SHUTTER-WORKERS AND BLIND-OPERATORS.

Specification forming part of Letters Patent No. **143,289**, dated September 30, 1873; application filed August 4, 1873.

*To all whom it may concern:*

Be it known that I, DANIEL M. LEONARD, of La Crosse, in the county of La Crosse and State of Wisconsin, have invented a new and Improved Shutter-Operator, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a side view of my improved shutter-operator, partly in section, on the line *c c*, Fig. 2; Fig. 2, a horizontal section of the same on the line *x x*, Fig. 1; and Fig. 3, a detail bottom view of the gear-wheel and stops, partly in section, on line *y y*, Fig. 1.

Similar letters of reference indicate corresponding parts.

The object of my invention is to provide a simple and convenient mechanism for operating, adjusting, and locking the window-shutters and blind-slats from the inside of the window.

In my invention a cog-wheel is keyed on a sliding shaft to be brought into engagement, alternately, with a toothed disk attached to the shutter, and toothed segmental lever connected with the blind-slats, whereby both the shutter and slats may be adjusted as desired.

In the drawing, A represents the window-frame; B, the shutter or blind, and C the crank-shaft, which is operated by handle D inside of the window, being arranged, preferably, near the window-sill. The crank-shaft C passes through a recess of frame A, held by inner and outer metallic guide-facings *a*, and is provided with a spiral spring, *b*, which acts on a shoulder, *b'*, of shaft C, and forces the same in an outward direction. A cog-wheel, E, is keyed to the end of shaft C, and meshes

into a notched or toothed disk, F, which is firmly applied to shutter B, and turns on its central pin *e* in recess or socket *e'* of the sill. By drawing crank-shaft C toward the inside, spring *b* is compressed and cog-wheel E placed out of gear with disk F, the side of frame A being sufficiently recessed at *f* for this purpose. The wheel E engages then in this position, on turning the crank-shaft C, the forward-projecting toothed segment *g* at the end of lever G, which is pivoted to the shutter B, connecting with its opposite end to the blind-slat rod *h* by hook *h'*, and setting thereby the slats into any position desired. On releasing the crank-shaft C, it engages disk F again, and opens or closes the shutter as the crank is turned. Two or more recesses, *i*, are applied at the bottom of disk F, which are engaged by spring-bolt H locking the shutter into closed or open position. The bolt H is placed parallel to and below crank-shaft C, and provided with a knob at the inside, by which bolt H is withdrawn and the shutter operated in either direction by crank C.

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

The combination of crank-shaft C and cog-wheel E, arranged in frame A, with toothed disk F, pivoted lever G, shutter B, and spring-bolt H, for operating, adjusting, and locking both the shutter and blind-slats, substantially as described.

DANIEL M. LEONARD.

Witnesses:

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