

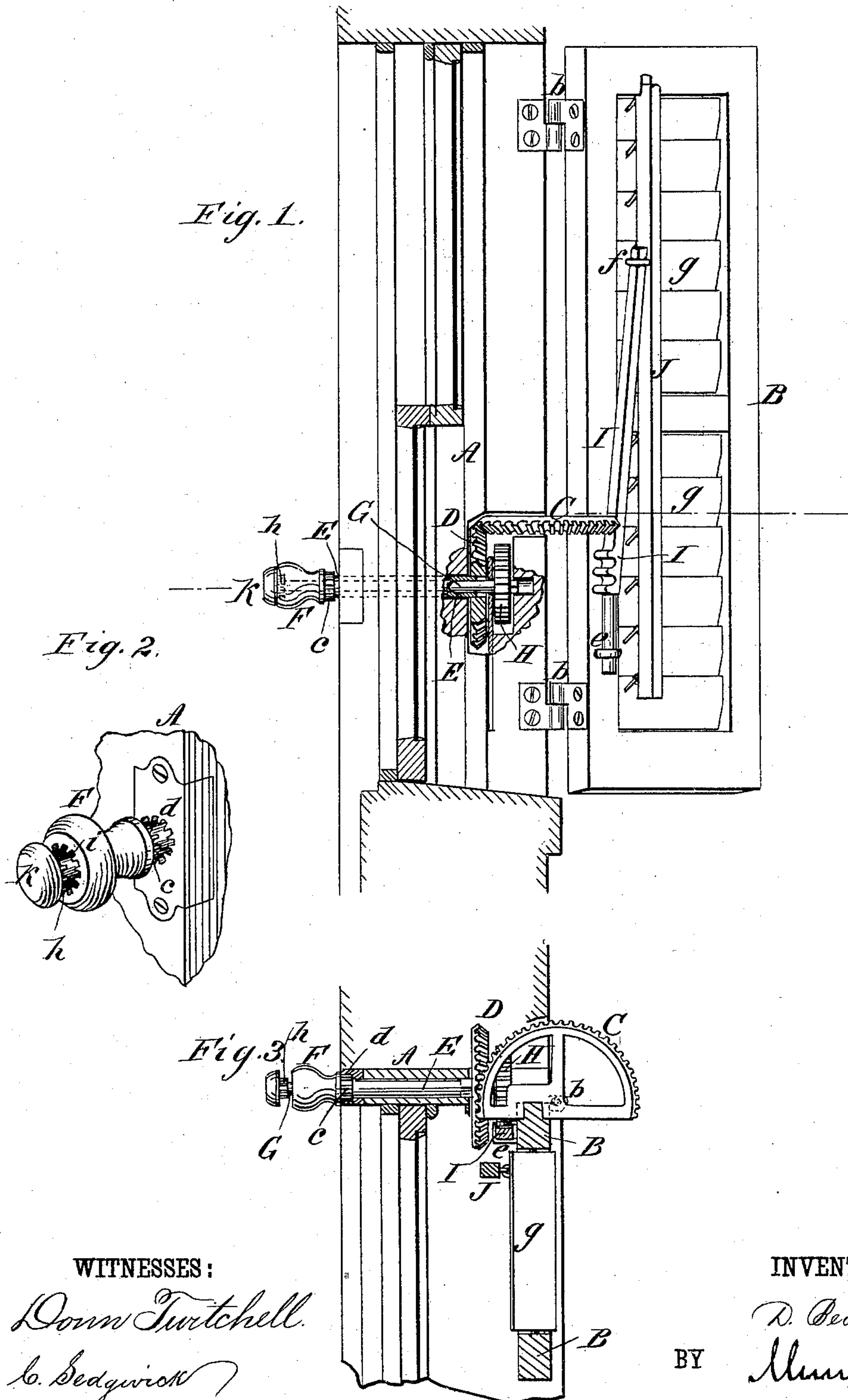
(Model.)

D. BEAL.

COMBINED SHUTTER WORKER AND BLIND SLAT OPERATOR.

No. 277,663.

Patented May 15, 1883.



WITNESSES :

Down Tutchell.
C. Sedgwick

INVENTOR:

BY *D. Deal*
Miner & Co
ATTORNEYS.

UNITED STATES PATENT OFFICE.

DAVID BEAL, OF DOYLESTOWN, OHIO.

COMBINED SHUTTER-WORKER AND BLIND-SLAT OPERATOR.

SPECIFICATION forming part of Letters Patent No. 277,663, dated May 15, 1883.

Application filed September 21, 1882. (Model.)

To all whom it may concern:

Be it known that I, DAVID BEAL, of Doylestown, in the county of Wayne and State of Ohio, have invented a new and useful Improvement in Shutter-Workers and Blind-Slat Operators, of which the following is a full, clear, and exact description.

This invention relates to improvements in a combined shutter-worker and blind-slat operator which is capable of manipulation from the interior of a window.

The invention consists in certain combinations of parts or devices, including a pair of concentrically-arranged sliding shafts with knobs and clutches for controlling the same, wheels on the outer ends of the shafts, and a toothed sector on the shutter, and sliding toothed rack connected with the bar that controls the slats, whereby accordingly as said knobs are pushed in or out and turned provision is made in a very simple and efficient manner for opening and closing the shutter, and for locking it in any desired position, also for adjusting and locking the slats, substantially as hereinafter described.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is an inside face view of a shutter hinged to a window-frame with my improved combined shutter-worker and blind-slat operator applied. Fig. 2 is a view in perspective of the knob and clutch devices for actuating and locking the shutter and its slats, and Fig. 3 a horizontal section in line with the operating-shafts of the device.

A indicates a window-frame, and B a slatted shutter hinged thereto, as at *b b*.

C is the toothed sector for opening and closing the shutter, and to the hinged portion of which it is attached.

D is a bevel-wheel arranged within the frame A and engaging with the toothed sector C for actuating said sector and its attached shutter. This wheel D is fitted loosely on a square outer end of a hollow sliding shaft, E, so as to turn with said shaft and to allow of the longitudinal movement of the shaft within it. Said shaft E, which is the shutter-operating one, passes through the window-frame A

to the inner side thereof, and is manipulated from the interior of a window by a knob, F, fast on the inside end of said shaft. This knob is constructed on its inner face to form or has combined with it a many-toothed or other suitable clutch, *c*, which, when the shaft E is pushed inward, engages with a corresponding clutch, *d*, in the window-frame, and serves to hold the shutter locked either in an open position or when closed, or at any intermediate point. When said shaft E is drawn outward by its knob F, so as to disengage the clutches *c* and *d*, then it is at liberty to be turned by its knob F to rotate the wheel D for the purpose of opening or closing the shutter, as required.

Arranged to project concentrically within and through the hollow shaft E is another longitudinally-sliding shaft, G, capable of rotation within the shaft E, and having on its one end a pinion, H, which, when the shutter B is closed, engages with a rack-rod, I, capable of an oblique sliding motion up and down within keepers *e f*, fast, respectively, to the inside face of the shutter-frame and to the bar J, by which the slats *g* of the shutter are turned or opened and closed. To thus operate the slats the shaft G is first drawn outward by a knob, K, fast on the inside end of said shaft, and is then turned as required. The knob K is situated externally of the outside face of the shutter-operating knob F, and is formed on its inner face or combined with a many-toothed clutch, *h*, which, when the shaft G is pushed inward, engages with a corresponding clutch, *i*, in the knob F, and serves to lock the slats in the position in which they have been turned—that is, either fully or partly open or closed.

The pinion H may either be fitted on the shaft G in a similar manner to the fit of the wheel D on the shaft E, or it may be held on its shaft by a radially-arranged screw to allow of its sliding as well as turning with said shaft, and to provide by taking out said screw and drawing out the shafts for the removal of the gearing, when required.

Supposing the shutter to be closed, then by drawing out the knob K far enough to release the clutches *h i*, and turning said knob, the slats *g* are adjusted into any position that may

be required, after which the knob K is pushed back to lock the slats in their set position. To open the shutter or blind, it is only necessary to pull on the knob F and turn it in the proper direction, and when the blind has been opened to its required extent it is locked by pushing back the knob F, so as to engage the clutches *c d*.

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

1. The combination, with the blind or shutter B, slats *g*, and operating-bar J, of the rack-rod I, having its upper end attached to the bar J, and its lower end fitted loosely in a keeper attached to the blind or shutter, the

pinion H, and the operating-shaft G, substantially as shown and described.

2. The combination, with the hinged and slatted blind B and window-frame A, of the toothed sector C, the wheel D, with its sliding shaft E, knob F, and clutches *c d*, the shaft G, arranged to turn and longitudinally slide within the shaft E, the pinion H, the knob K, the clutches *h i*, the sliding rack-rod I, and the slat-operating bar J, essentially as and for the purposes herein set forth.

DAVID BEAL.

Witnesses:

A. HILBURT,
F. GEORGE.