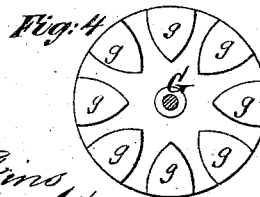
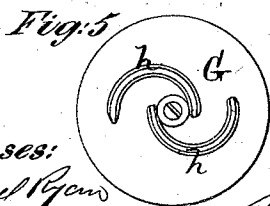
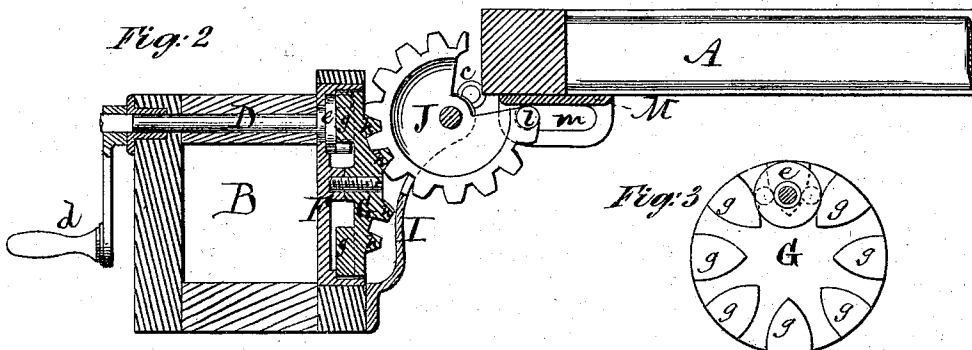
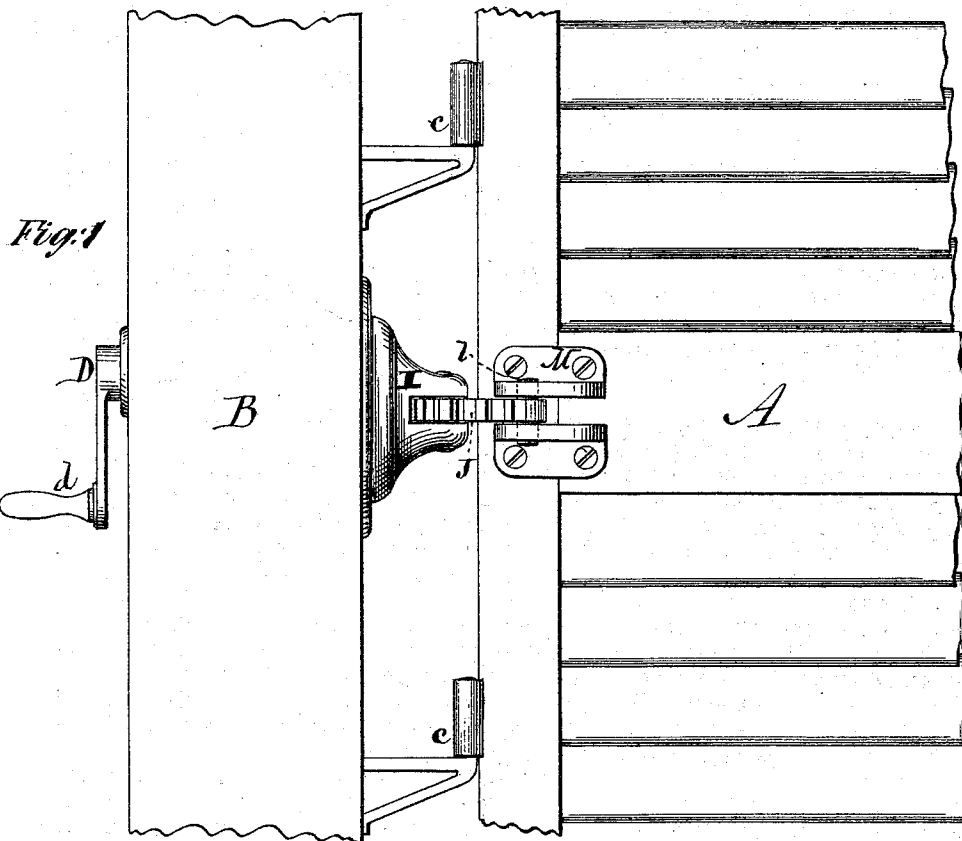


J. W. JEDKINS.
Shutter-Workers.

No. 152,641.

Patented June 30, 1874.



Witnesses:
Michael Ryan
Fred. Haynes

J. W. Jenkins
By his Attorneys
Brown & Allen

UNITED STATES PATENT OFFICE.

JAMES W. JEDKINS, OF MONMOUTH, MAINE.

IMPROVEMENT IN SHUTTER-WORKERS.

Specification forming part of Letters Patent No. **152,641**, dated June 30, 1874; application filed May 12, 1874.

To all whom it may concern:

Be it known that I, JAMES W. JEDKINS, of Monmouth, in the county of Kennebec and State of Maine, have invented an Improved Shutter-Operator, of which the following is a specification:

My invention relates to certain improvements in devices for opening and closing window-shutters from the inside, which devices may be applied to shutters of any ordinary description, independent of the hinges by which the shutters are attached to the window-frame.

This invention consists mainly of a shaft carrying a pinion, which operates upon a chambered plate having teeth and ribs of a peculiar construction, as hereinafter described, for operating window blinds or shutters. The invention consists further of a peculiar construction and combination of parts hereinafter described and claimed.

In the accompanying drawing, Figure 1 is a side elevation, showing my invention applied to a shutter. Fig. 2 is a transverse horizontal section. Figs. 3, 4, and 5 are detail views hereinafter referred to.

The shutter A is attached to the frame B by hinges *c* of any suitable construction. At the desired point between the hinges a hole is bored through the frame, through which passes a shaft, D, having a knob or crank-handle, *d*, on its inner end, and a crown-pin, *e*, on its outer end. Between the inner side of the pinion and the outer face of the frame B is a recess, in which is inserted a shallow circular box, F, in the center of which is journaled a circular plate, G, on the inner side of which are teeth *g*, (see Figs. 3 and 4,) for engagement with the pinion *e*, and on the outer side are spirally-curved ribs *h*, (see Fig. 5,) for engagement with a mutilated gear-wheel, J, which is journaled in a casing, I, screwed to the frame B outside of the box F and plate G. The pinion *e* and plate G are arranged to revolve in vertical planes, and

the gear J in a horizontal plane, or at right angles with said plate and pinion. The gear-wheel J is formed with a quadrantal opening, in which the corner of the side rail of the shutter A has room to play, as shown in Fig. 2. At one corner of the quadrantal opening is a pin or stud, *l*, projecting on each side and engaging with slots *m* in a plate, M, which is screwed to the outside of the shutter, as shown in Figs. 1 and 2. The outer side of the plate G is concave outside of its center, corresponding with the circumference of the gear J, so as to insure constant contact of the ribs *h* with the wheel J.

When the handle *d* is turned the pinion *e* revolves the plate G, and its curved ribs *h* engage with the gear-wheel J, so as to turn it, and by means of the pin *l* and slotted plate M to open or close the shutter according as the handle is turned to the right or left. By means of the slots *m* the plate M may be adjusted on the shutter to engage with the pin *l*, so that the invention may be readily applied to shutters already mounted, independently of the hinges.

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

1. The combination of the shaft D, pinion *e*, and chambered plate G having teeth *g* and curved ribs *h*, substantially as and for the purpose described.

2. The chambered plate G provided with teeth *g* and having its outer surface concave, and furnished with the curved ribs *h*, in combination with the mutilated gear-wheel J, as shown and described, for the purpose specified.

3. The plate M, formed with the slots *m*, in combination with the gear-wheel J, provided with the pin or stud *l*, substantially as shown and described.

JAMES W. JEDKINS.

Witnesses:

WM. G. BROWN,
WM. H. H. BROWN.