No. 839,030. PATENTED DEC. 18, 1906.

G. L. PREACHER.

SHUTTER OPERATING DEVICE.

APPLICATION FILED JUNE 9, 1906.

2 SHEETS—SHEET 1.

Fig. 1.

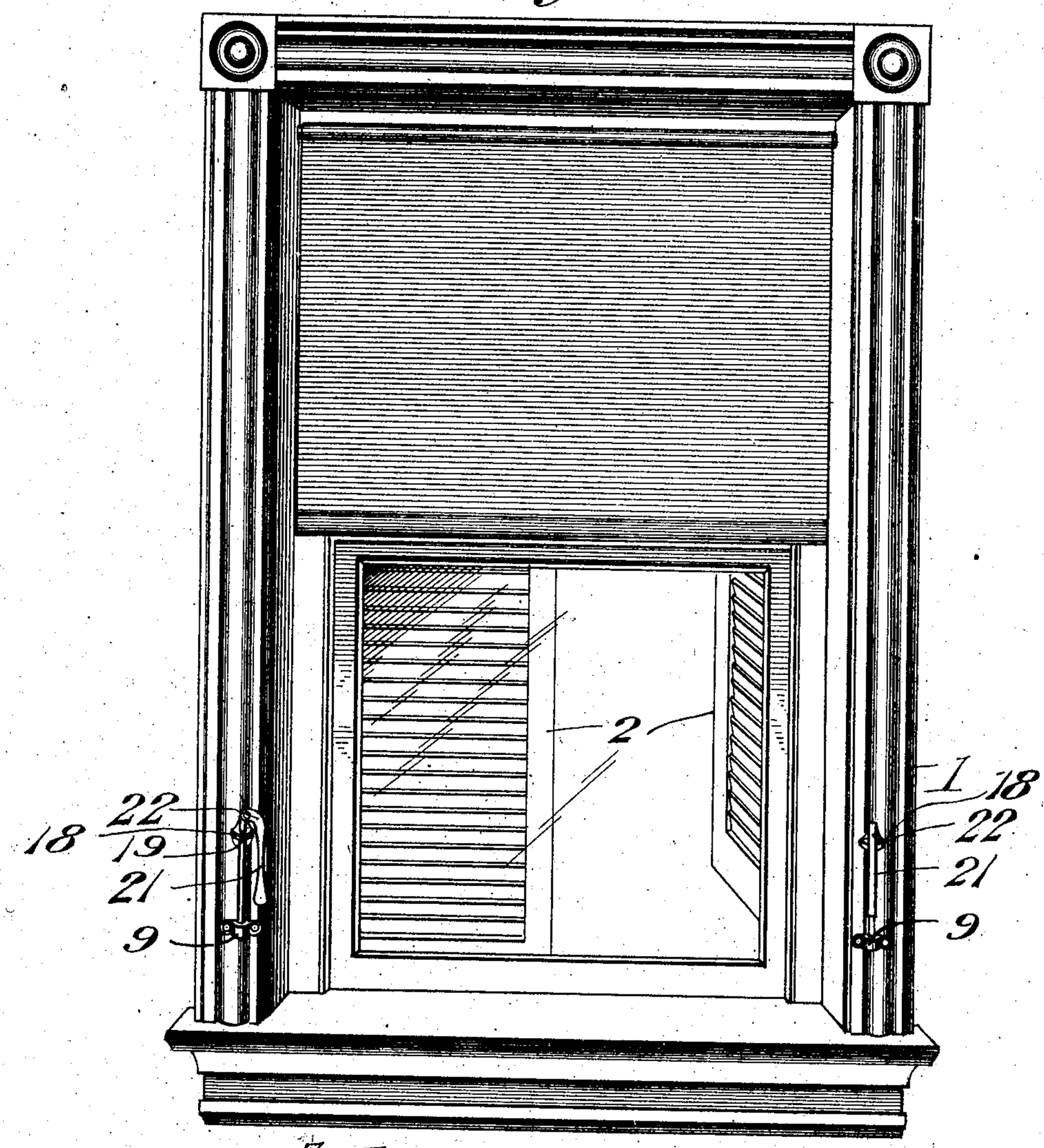



Fig. 6

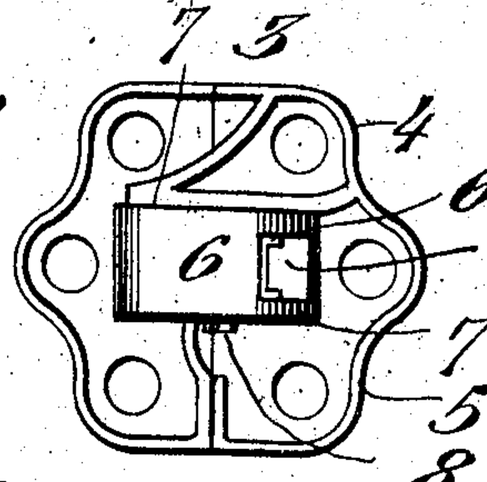
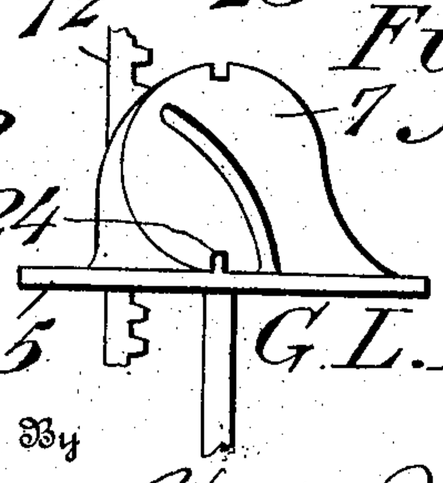



Fig. 7.




Witnesses

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2 SHEETS—SHEET 2.

Fig. 2.

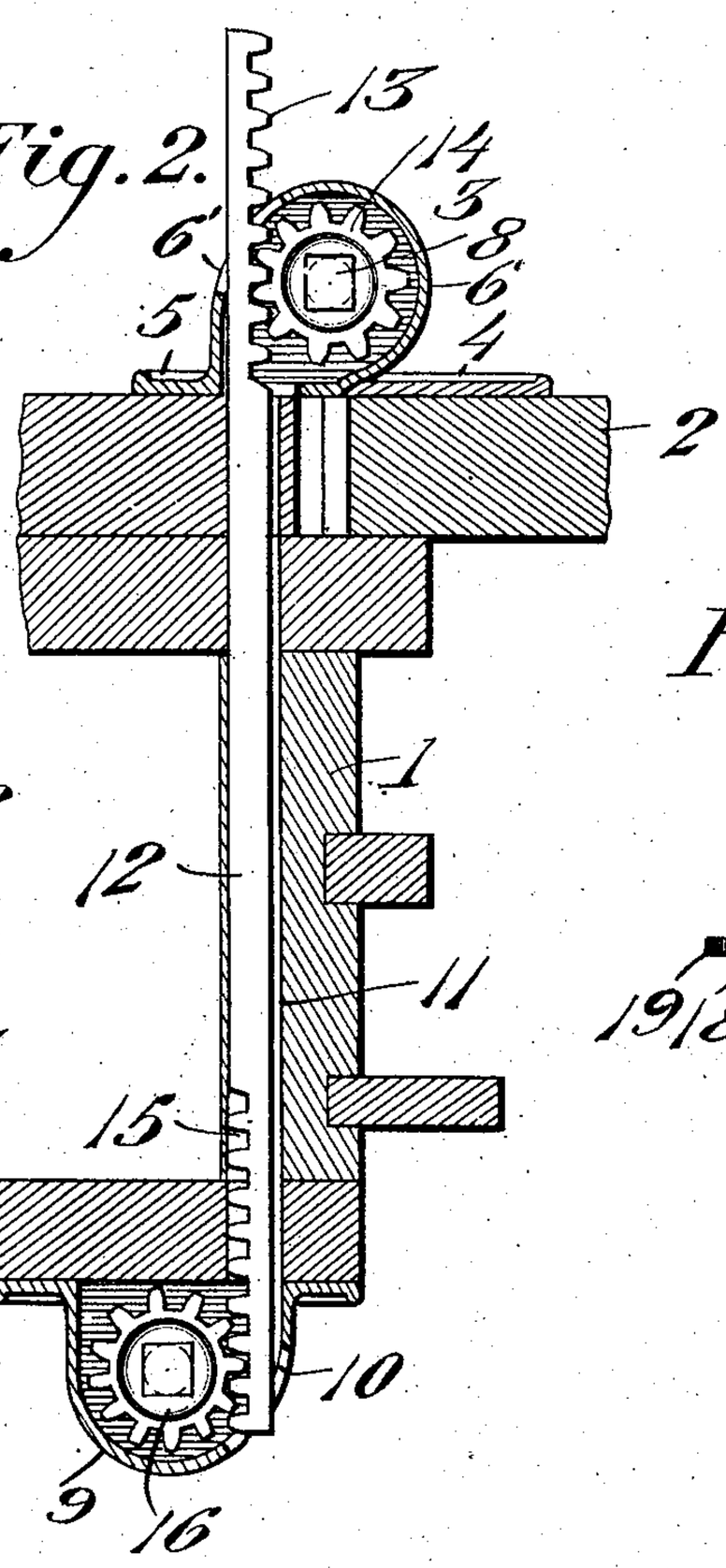



Fig. 3.

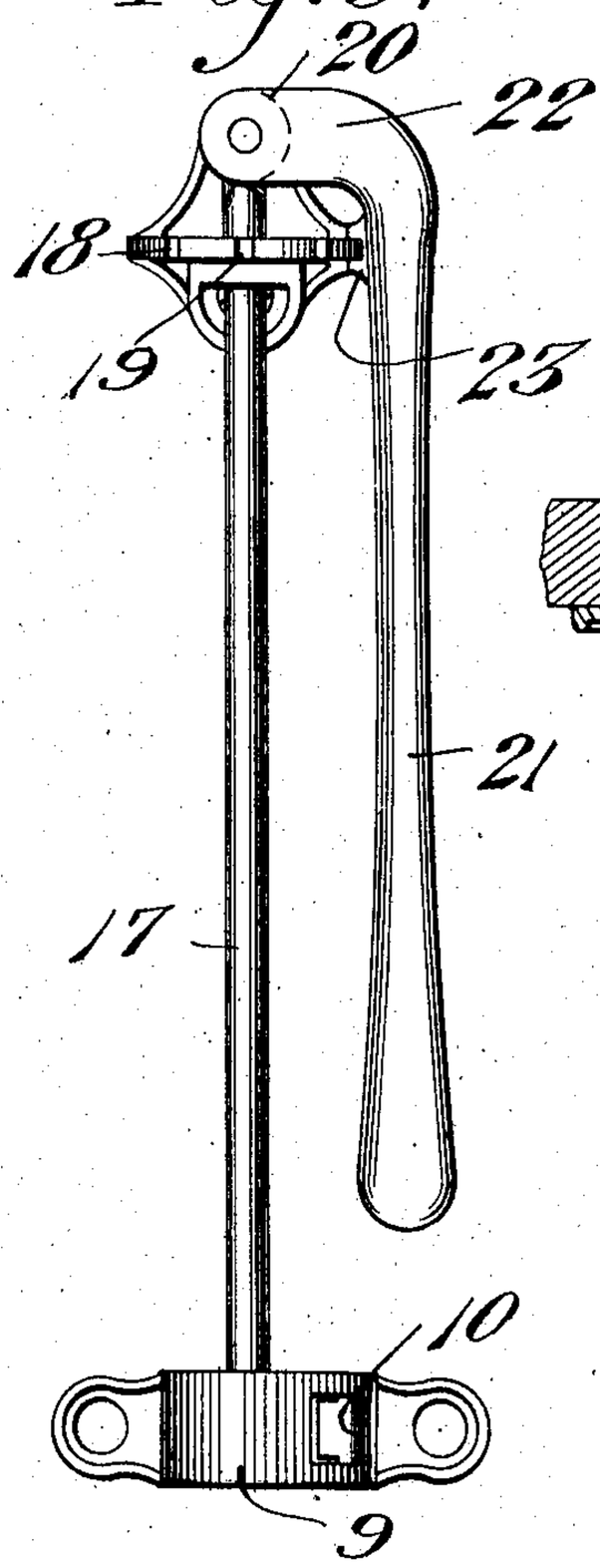



Fig. 4.

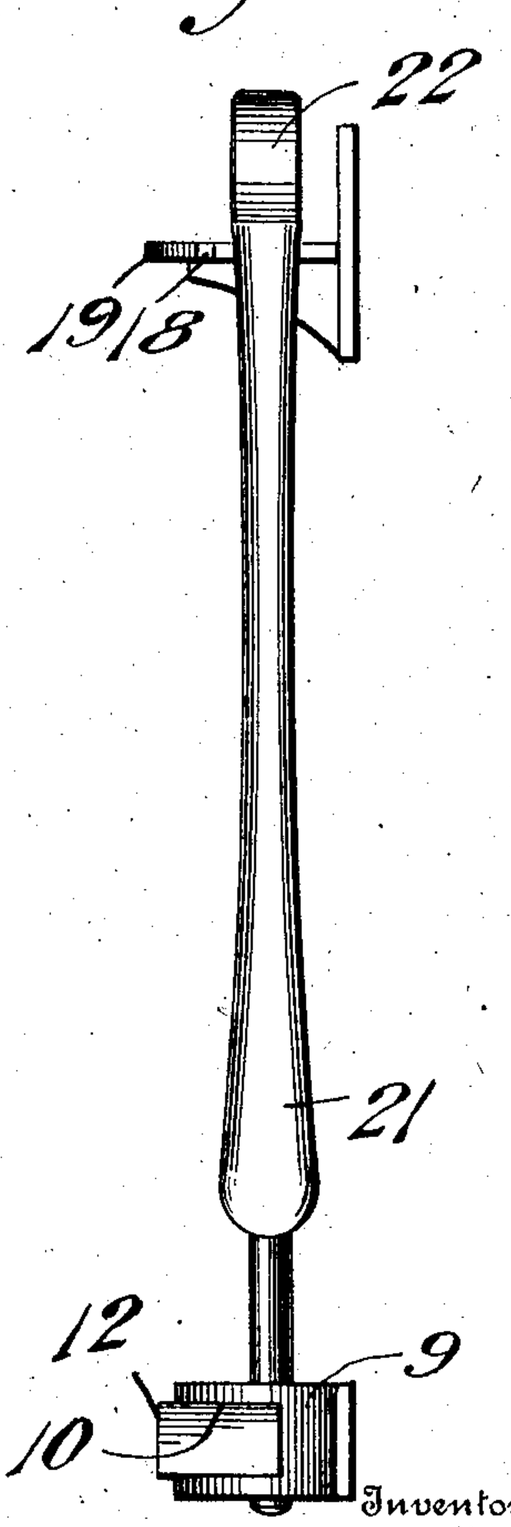
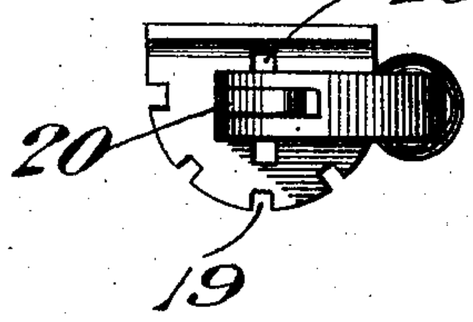



Fig. 5




Witnesses

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# UNITED STATES PATENT OFFICE.

GEOFFERY LLOYD PREACHER, OF AUGUSTA, GEORGIA, ASSIGNOR OF ONE-HALF TO ARTHUR E. HOLMAN, OF PITTSBURG, PENNSYLVANIA.

## SHUTTER-OPERATING DEVICE.

No. 839,030. Specification of Letters Patent. Patented Dec. 18, 1906.

Application filed June 9, 1906. Serial No. 321,024.

*To all whom it may concern:*

Be it known that I, GEOFFERY LLOYD PREACHER, a citizen of the United States of America, residing at Augusta, in the county of Richmond and State of Georgia, have invented new and useful Improvements in Shutter-Operating Devices, of which the following is a specification.

This invention relates to shutter-operating devices adapted for use in operating window-blinds, and has for its objects to produce a comparatively simple device of this character which may be inexpensively installed for use, one whereby the shutter may be conveniently moved to open or closed position, and this without passing to the outside of the building or opening the window, and one whereby the shutter may be securely locked either in open or closed position or in an intermediate position.

With these and other objects in view the invention comprises the novel features of construction and combination of parts more fully hereinafter described.

In the accompanying drawings, Figure 1 is an interior perspective view of a window having its shutters or blinds equipped with operating mechanism embodying the invention. Fig. 2 is a horizontal section through the window-frame, taken on a line centrally and longitudinally of the rack-bar. Fig. 3 is a front elevation of the inner vertical shaft and its operating-handle. Fig. 4 is a side elevation of the same. Fig. 5 is a top plan view of the same. Fig. 6 is an elevation of a pair of the hinge members. Fig. 7 is a top plan view of the same.

Referring to the drawings, 1 designates a window frame or casing provided with outside blinds or shutters 2, pivotally hung to the casing by means of upper hinges of suitable form and lower hinges 3, each comprising a hinge member 4, adapted for attachment to the shutter, and a member or leaf 5, fixed to the casing and provided with a hollow box or drum 6 of substantially circular form in cross-section and having its walls pierced to form a horizontal guide opening or way 6, there being formed on the leaf 4 a horizontal bearing portion or web 7, adapted to bear on the upper wall of the casing 6 and having a fixed pintle 8, extended vertically downward through suitable bearing-openings in the upper and lower walls of the latter.

Attached to the inner face of the frame 1 is a box or casing 9, corresponding to the casing 6 and provided with a horizontal guide-opening 10, disposed in alinement with the inner end of a transverse opening or passage 11, formed through the frame 1 and alining at its outer end with the opening 6′ and forming, in conjunction with the openings 6′ and 10, a continuous passage-way or guide in which is arranged a longitudinally-movable actuating member or bar 12, provided at its outer end with rack-teeth 13, in mesh with a pinion 14, housed within the casing 6, and at its inner end with oppositely-disposed rack-teeth 15, in mesh with a pinion 16, housed within the casing 9, whereby the pinion 6 when rotated in one direction will impart longitudinal movement to the bar 12 and rotate the pinion 14 in a reverse direction.

The pinion 14 is fixed upon and for rotation with the hinge-pintle 8, while pinion 16 is fixed upon the lower end of a vertical rotary shaft 17, having bearing at its lower end in the casing 9 and at its upper end in a horizontal bearing member or bracket 18 of substantially semicircular form having its edge provided with a series of notches or seats 19, arranged at appropriately-spaced intervals, there being pivoted on the upper end of the shaft, which is flattened to form a head 20, an operating and locking lever or handle 21, which normally stands in a vertical position and has its upper end angularly bent, as at 22, to overlie the bearing 18, while formed on the inner side of the lever at a point adjacent its upper end is an engaging portion or lug 23, adapted to seat in any one of the notches 19 for locking the shaft 17 against rotation.

The hinge-leaf 5 has formed thereon an outwardly-projecting lug 24, adapted to override the web 7 for preventing disengagement of the pintle 8 with the casing 6, while formed in the web 7 is a notch 25, which when brought into register with the lug 24 permits of the pintle being lifted out of the casing to unhang the shutter. The bearing 18 is provided with a diametrically-disposed slot 26, through which the flattened head 20 of the shaft may pass to permit of engagement of the shaft to the bearing.

In practice, supposing the parts to be in the position illustrated in Fig. 2 and with the shutter closed, the handle 21 will stand in the

position shown in Figs. 3 and 4, with the engaging portion 23 seated in one of the notches 19 for locking the shaft 17 against rotation and the shutter in closed position. Under these conditions when it is desired to open the shutter the handle 21 is swung upwardly for freeing the portion 23 from the notch, whereupon the handle may be swung for rotating the shaft 17 from right to left, thereby moving the bar 12 in the direction indicated by the arrow in Fig. 2 and causing a rotation of the pinion 14 from left to right, thus moving the shutter to open position. For again closing the shutter the shaft 17 will be rotated from left to right, thus reversing the movement of the other parts, as will be readily understood. It is to be particularly noted that under this construction the shutter may be readily opened or closed from the inside of the apartment, and this without opening the window, and, furthermore, that by the provision of the series of notches 19 the shutter may be locked either in open or closed position or in an intermediate position.

It will be understood that the device is applicable to and adapted for use with any form of shutter or blind for opening or closing the same from the interior of the building, and, further, that if found needful or desirable the hinge members may be supplied with ball-bearings for relieving friction and facilitating operation of the parts.

Having thus described the invention, what I claim is—

1. In a device of the class described, a window-frame provided with a transverse passage-way, a shutter for said window, a hinge pivotally connecting the shutter with the frame and comprising a pair of members, one of which is provided with a pintle, a pinion fixed upon and for rotating said pintle, a shaft journaled at the inside of the frame and provided with a pinion, an actuating element mounted for longitudinal movement in the guideway and having teeth in mesh with said pinions, means for operating the shaft and means for locking the latter against movement.

2. In a device of the class described, a window frame and shutter, a hinge member fixed to the frame, a second hinge member fixed to the shutter and having a pintle rotatably mounted in the first-named member, a shaft journaled at the inside of the frame and provided with a pivoted operating-handle, pinions fixed respectively on said shaft and pintle, a rack-bar extended through the frame and having two sets of reversely-disposed teeth in mesh with the respective pinions and means for locking the shaft against rotation.

3. In a device of the class described, a window frame and shutter, a hinge member fixed to the frame and provided with a casing, a second hinge member fixed to the shutter and having a pintle extended through said casing, a pinion housed within the latter and fixed upon the pintle, a casing attached to the inside of the frame, a rotary operating-shaft extended through the last-named casing, a pinion fixed on said shaft within the casing, a longitudinally-movable rack-bar extended through the frame and having reversely-disposed teeth in mesh with the respective pinions, a bearing-plate for the shaft provided with a series of notches and an operating-handle pivoted to the shaft and having an engaging portion adapted to seat in any one of the notches for locking the shaft against rotation.

In testimony whereof I affix my signature in presence of two witnesses.

GEOFFERY LLOYD PREACHER.

Witnesses:
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CLAUDE P. BACON.