No. 780,261. PATENTED JAN. 17, 1905.

J. J. BELL & H. V. WYMAN.

SHUTTER WORKER.

APPLICATION FILED SEPT. 30, 1904.

Fig. 1.

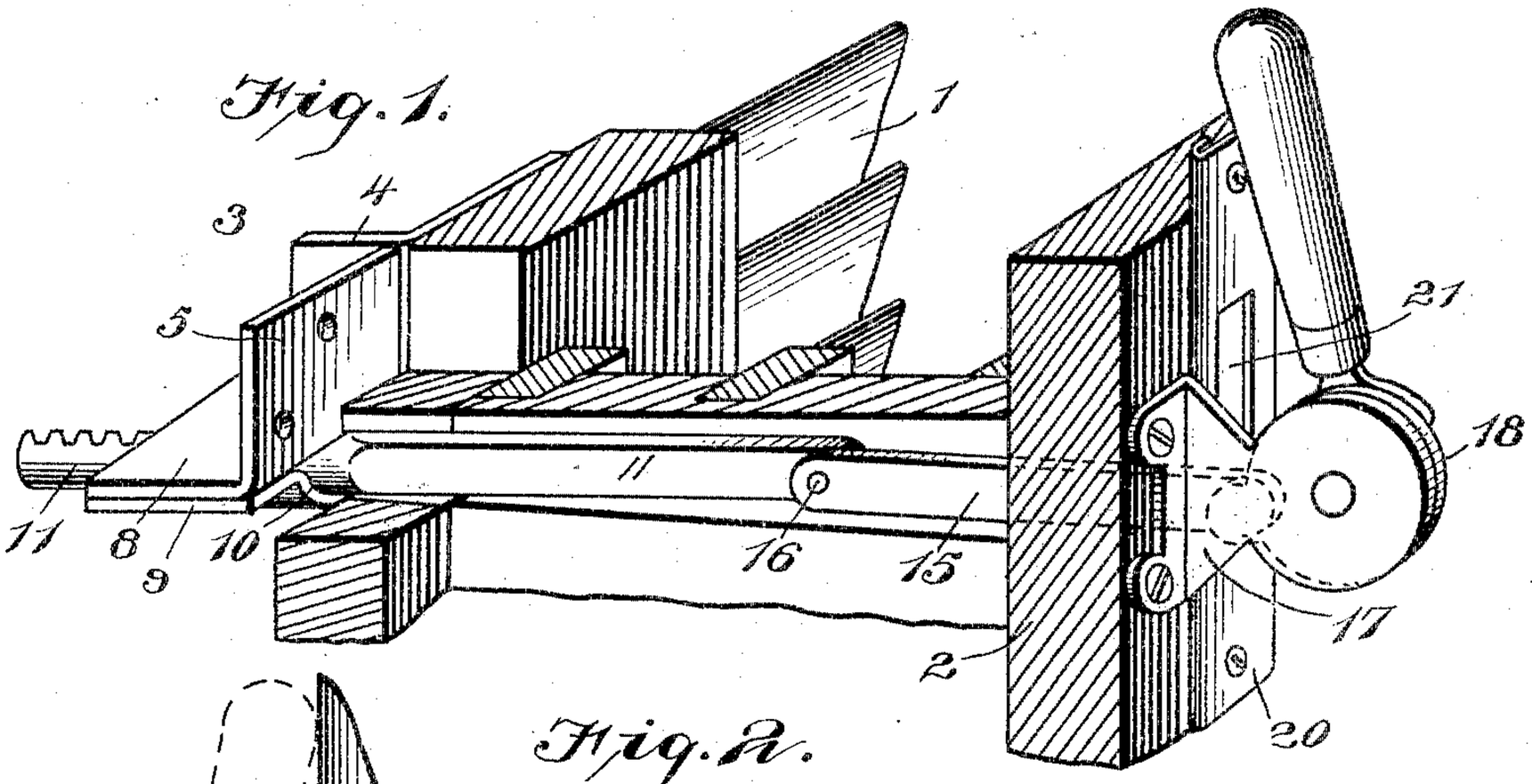


Fig. 2.

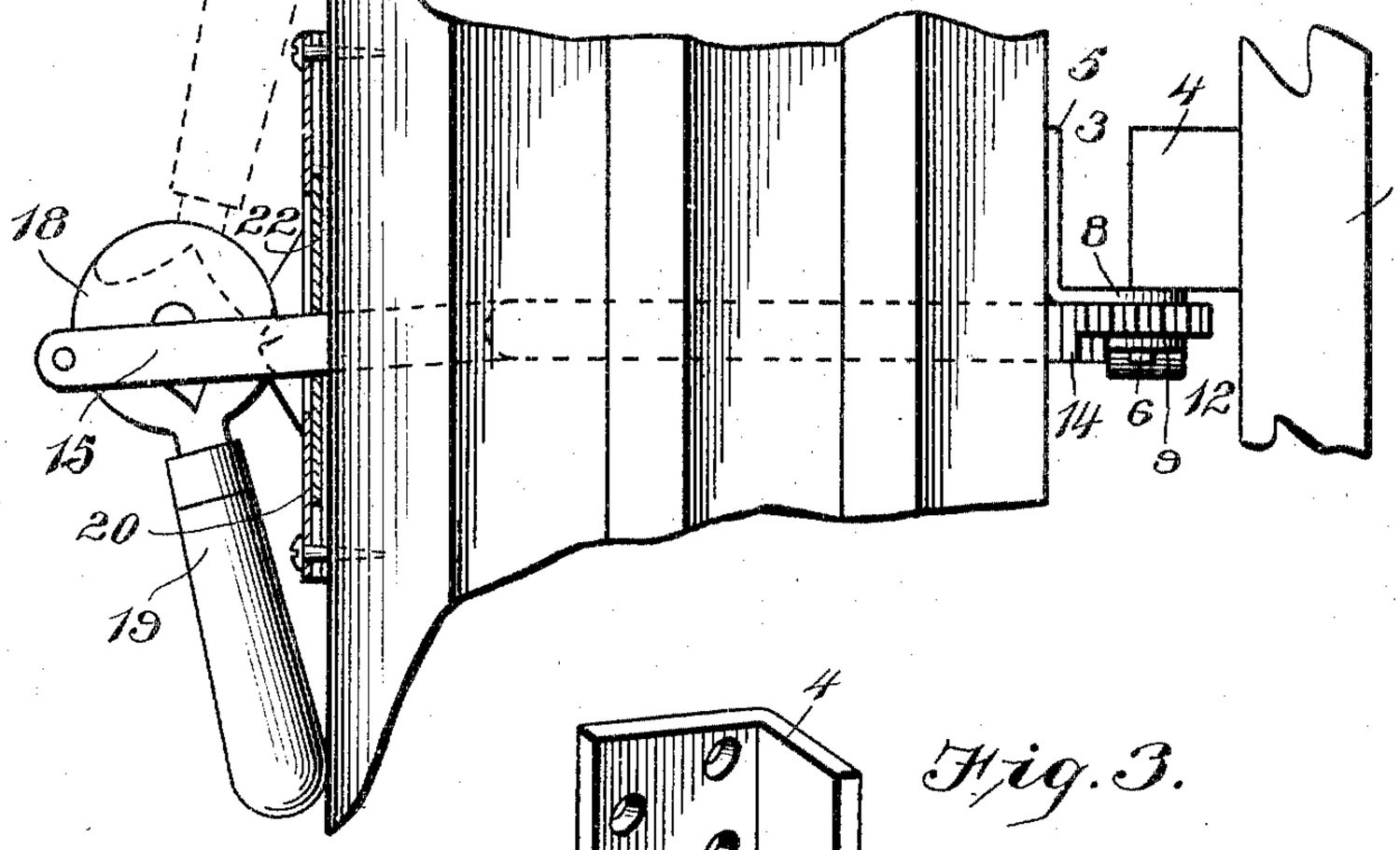
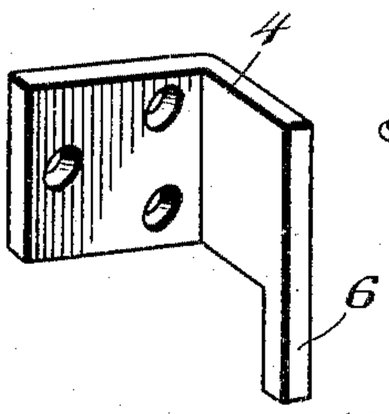


Fig. 3.



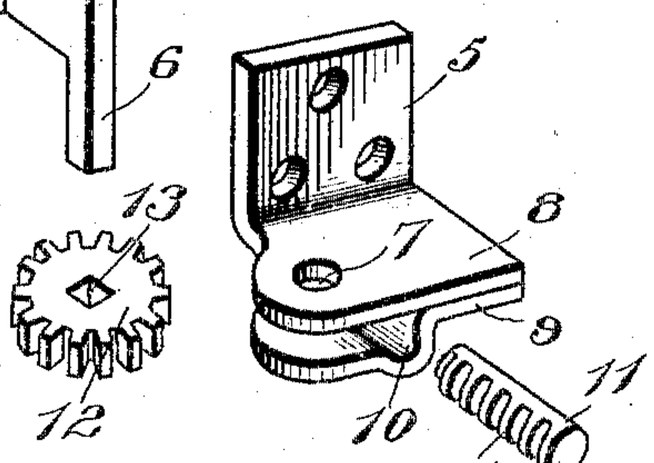
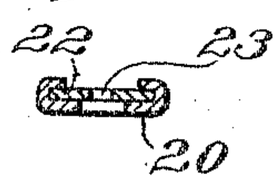


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN J. BELL AND HUGH V. WYMAN, OF AIKEN, SOUTH CAROLINA.

SHUTTER-WORKER.

SPECIFICATION forming part of Letters Patent No. 780,261, dated January 17, 1905.

Application filed September 30, 1904. Serial No. 226,657.

To all whom it may concern:

Be it known that we, JOHN J. BELL and HUGH V. WYMAN, citizens of the United States, residing at Aiken, in the county of Aiken and State of South Carolina, have invented certain new and useful Improvements in Shutter-Workers; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

Our invention relates to shutter-workers, and has for its object to provide a device of this class which will easily and effectually operate a shutter to open or close the same and lock the shutter in an open or closed position.

With this object in view our invention consists in the novel means of operating the shutter and also in the means provided for preventing air from entering the room through the opening in the window-frame, through which opening the shutter-worker extends.

Our invention also consists in certain other novel features of construction and in combinations of parts, which will first be fully described and afterward specifically pointed out in the appended claims.

Referring to the accompanying drawings, Figure 1 is a perspective view, partly in section, showing shutter-worker in position and shutter closed. Fig. 2 is a fragmentary view showing operating-handle in lowered position, in which position shutter is opened. Fig. 3 is a view showing shutter-hinge in detail and end of operating-rod. Fig. 4 is a horizontal section through inside sliding plate and casing.

Like numerals of reference indicate the same parts throughout the several figures, in which.

1 indicates the shutter, and 2 the inside window-frame.

3 indicates the hinge, which comprises the stationary section 5, said movable section 4 being provided with a vertical post 6, adapted to enter a perforation 7 in the flange 8 of the stationary section 5. Below said flange 8 is a plate 9 secured thereto, said plate being provided with a substantially semicircular groove 10, in which the sliding bar 11 operates. The vertical post 6 of the movable section 4 is preferably square in cross-section and the pinion-wheel 12 is provided with a central square opening 13, through which said post extends, said pinion being carried in the stationary section 5 between the flange 8 and the under plate 9, as shown in Fig. 2, the vertical post 6 passing through the perforation 7 in the flange 8 of the hinge-section 5 and also passing through the pinion 12.

The sliding rod 11 is provided with a rack 14 and is connected to an operating-rod 15 at 16, as shown in Fig. 1, said operating-rod extending through the window-frame 2, as shown.

Secured to the window-frame is a bracket 17, to which a disk or crank 18 is vertically pivoted, and either formed on said disk or connected thereto is a handle 19. Pivoted to said disk, near the periphery thereof, is the operating-rod 15, the whole being so arranged that when the handle 19 is at its highest or lowest position the operating link or rod is beyond the center thereof, and any movement of said link or rod is prevented for the reason that the handle has reached its limit of swing. Thus the shutter is effectually locked.

Secured on the face of the frame 2 is a casing 20, provided with a vertical slot 21, through which the operating-link 15 extends, and carried in said casing is a sliding plate 22, provided with an opening 23 therein, through which the said operating-link snugly extends.

Having thus fully described our invention, its operation is as follows: The sliding rod 11 engages the pinion 12, which operates the movable hinge member 4, to which the shutter is screwed, the said sliding rod 11 being operated by throwing the handle 19 up or down, as shown in Figs. 1 and 2. The movement of the sliding rod 11 must of course be perfectly horizontal, while the movement of the operating-link 15 is horizontal and vertical, owing to its connection with the disk 18. It is therefore necessary that a slot be provided in the casing to allow for this vertical movement, and in order to cover this slot and prevent air from entering from the

outside the small casing 20 is provided, which carries a sliding plate 22, and as the operating-link 15 moves vertically the said sliding plate also moves, thus covering the slot in the casing and providing a tight arrangement, which is simple and inexpensive.

Having thus described our invention, we do not wish to be understood as limiting ourselves to the exact construction as herein set forth, as various slight changes may be made therein which would fall within the limit and scope of our invention, and we consider ourselves clearly entitled to all such changes and modifications.

What we claim as our invention, and desire to secure by Letters Patent of the United States, is—

1. In a shutter-worker, the combination with the hinge of a shutter of a pinion on said hinge, a sliding rack-bar adapted to engage said pinion, an operating-link connected to said sliding bar, a bracket associated with said operating-link, a crank and handle carried by said bracket, to which crank the said operating-link is connected; the whole arranged whereby the said operating-link is carried beyond the center of said crank to lock the shutter when the same is open or closed, substantially as described.

2. In a shutter-worker, the combination of a sliding rod and means operated thereby for working a shutter, an operating-link connected to said sliding rod and extending within the interior of the room, a vertically-sliding plate secured on the inner side of the casing through which said operating-link extends, and means for actuating said sliding link, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

JOHN J. BELL.
HUGH V. WYMAN.

Witnesses:
C. HUGH DUFFY,
D. E. WYMAN.