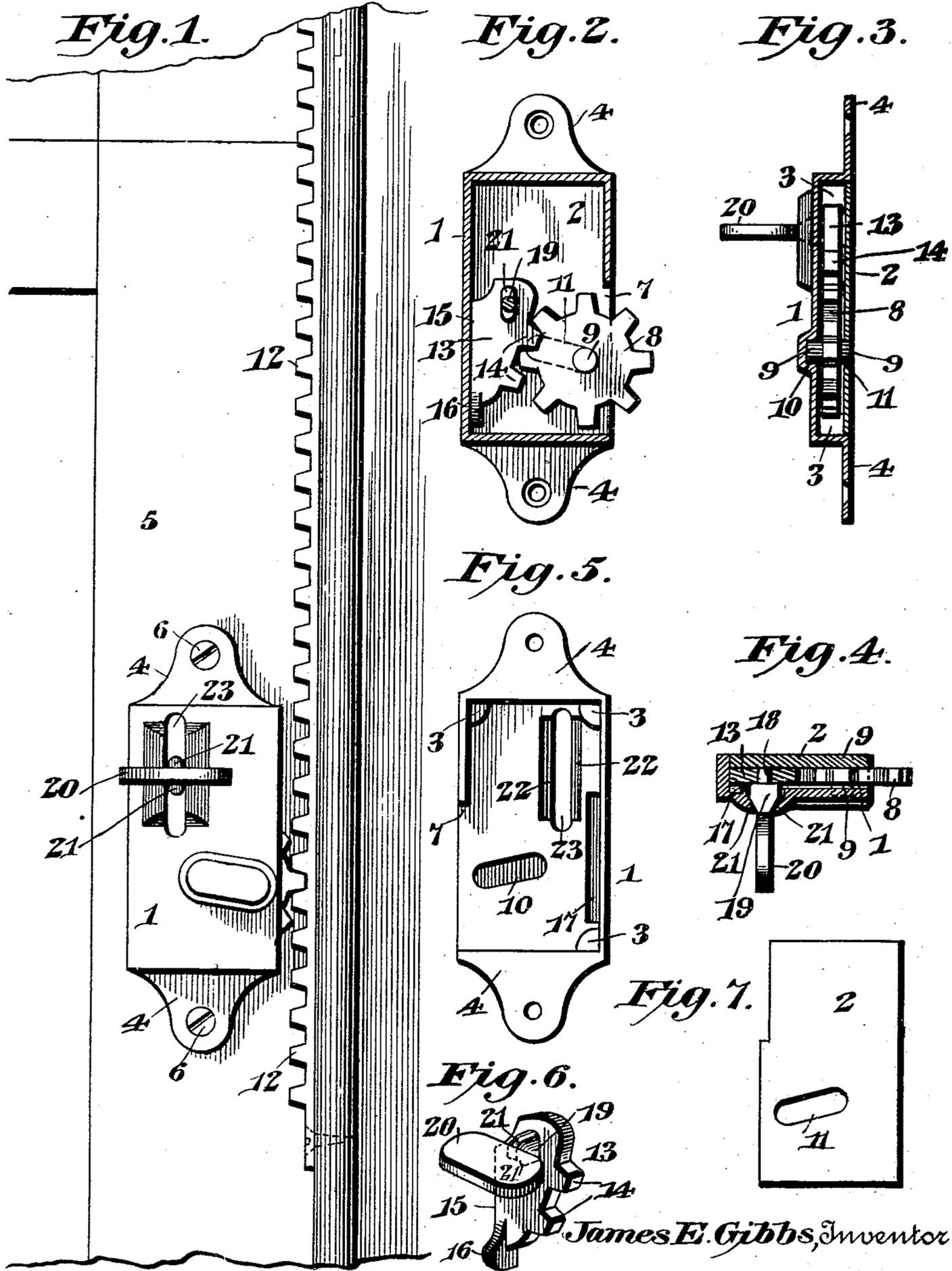


J. E. GIBBS.  
SASH FASTENER.

APPLICATION FILED MAR. 4, 1903.

NO MODEL.



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# UNITED STATES PATENT OFFICE.

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## SASH-FASTENER.

SPECIFICATION forming part of Letters Patent No. 733,640, dated July 14, 1903.

Application filed March 4, 1903. Serial No. 146,169. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES EDWIN GIBBS, a citizen of the United States, residing at Bridgewater, in the county of Rockingham and State of Virginia, have invented a new and useful Sash-Fastener, of which the following is a specification.

The invention relates to improvements in sash-fasteners.

The object of the present invention is to improve the construction of sash-fasteners and to provide a simple, inexpensive, and efficient device of great strength and durability adapted to be readily applied to a sash and capable of operating effectively whether a sash be loose or tight.

A further object of the invention is to provide a sash-fastener of this character adapted to permit a sash to be raised freely and capable of operating automatically to lock a sash against downward movement, whereby the same is held at any desired adjustment and is prevented from falling.

Furthermore, the invention has for its object to provide a sash-fastener which may be readily arranged to lock a sash against either upward or downward movement.

With these and other objects in view the invention consists in the novel construction and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended, it being understood that changes in the form, proportion, and minor details of construction may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is an elevation of a sash-fastener constructed in accordance with this invention and shown applied to a portion of a window. Fig. 2 is a vertical sectional view of the sash-fastener. Fig. 3 is a vertical sectional view taken at right angles to Fig. 2. Fig. 4 is a horizontal sectional view. Fig. 5 is a detail view of the body portion of the casing. Fig. 6 is a detail perspective view of the toothed locking device. Fig.

7 is a detail view of the back plate of the casing.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a lock-casing of oblong shape consisting, preferably, of a body portion and a removable back plate 2, fitted within the body portion and supported by corner-lugs 3. The body portion of the casing is provided at the top and bottom with perforated ears or flanges 4 for the reception of screws or other suitable fastening devices for securing the casing to a window-sash 5. The fastening devices 6 may be utilized for retaining the parts in position when the sash-fastener is in use; but the back plate may be detachably or otherwise secured to the body portion of the casing in any suitable manner, as will be readily understood. The casing is provided at the outer edge with a slot or opening 7, through which a gear-wheel 8 extends, and the said gear-wheel is provided with suitable projecting hub portions or trunnions 9, which are arranged in inclined ways 10 and 11 of the front and back plate of the casing. The ways incline downwardly toward a rack 12, with which the gear-wheel meshes, the gear-wheel being normally maintained in mesh with the rack by gravity, whereby it is adapted to adjust itself automatically to the rack to enable the sash-fastener to operate on tight and loose sashes. The inclined way 10, which is located at the inner face of the front plate of the casing, preferably consists of a groove or recess, and the said front plate may be provided with a protuberance or projecting portion at its exterior. The rear plate is preferably provided with an inclined slot to form the guide or way 11, and it presents a flat outer face to the sash and has its outer face flush with the adjacent faces of the perforated flanges or ears. The gear-wheel is maintained in engagement with the rack 12 by means of a vertically-movable approximately wedge-shaped locking device 13, tapering toward the bottom and guided in the casing and provided with an approxi-

mately inclined edge having a plurality of spur-teeth 14 to mesh with the gear-wheel, whereby when the sash is moved downwardly the rotation of the gear-wheel, which is continuously in engagement with the locking device, will carry the latter downwardly. The downward movement of the locking device forces the gear-wheel tightly in engagement with the rack-bar and prevents the gear-wheel from rotating, whereby the sash is securely held against downward movement and is firmly supported at the desired adjustment. The upward movement of the sash rotates the gear-wheel in the reverse direction and automatically releases the locking device, when the latter is free to move. The toothed locking device, which may be guided in any desired manner, has a straight vertical edge fitted against the inner side wall of the casing, and the lower end of the locking device is provided with a projection or flange 16, which fits in a longitudinal groove 17 of the inner face of the front wall of the lock-casing. The groove 17 forms a guide or way for the toothed locking device, which is also connected with a stem or pivot of a catch 19. The stem or pivot 18 is arranged in a perforation of the toothed locking device at the upper end thereof, and the catch, which is provided with an exterior thumb-piece or grip 20, has opposite shoulders 21, slightly sloping, as shown, and adapted to engage inclined walls 22 of the front wall of the lock-casing. The inclined walls are located at opposite sides of a vertical slot 23 and are formed by undercutting the edges of the plate at the slot, as shown, the plate being enlarged to provide sufficient material thereat. The wedge-shaped catch 19 is adapted to be arranged longitudinally of the slot to permit the toothed locking device to move freely, as indicated in Fig. 3 of the drawings; but when it is desired to lock the sash against upward and downward movement the wedge-shaped catch 19 is turned transversely of the vertical slot, as indicated in Fig. 4, whereby the wedge-shaped catch is forced inwardly and is adapted to clamp the toothed locking devices against the rear plate of the lock-casing. The inclined edges of the lock-casing and the sloped shoulders of the catch form cams or wedges for forcing the locking device against the lock-casing. When the catch is arranged longitudinally of the vertical slot, as shown in Fig. 3, the sash is adapted to be raised freely, but will be held against downward movement by the automatic operation of the sash-fastener. The rack consists of a toothed bar secured to the window-frame, as clearly shown in Fig. 1.

What I claim is—

1. A device of the class described, comprising a rack, a gear meshing with the rack and capable of inward and outward movement, and a toothed locking device meshing with the gear-wheel and arranged to lock the same

automatically when a sash is moved downwardly and adapted to release the gear-wheel when the sash is moved upwardly, substantially as described.

2. A device of the class described comprising a gear, a rack, a toothed locking device normally meshing with the gear and arranged to lock the same automatically to prevent a sash from moving downwardly, and means for locking the said device against movement, substantially as described.

3. A device of the class described comprising a rack, a gear capable of inward and outward movement, a toothed locking device normally engaging the gear and capable of upward and downward movement, and a catch for holding the locking device against movement, substantially as described.

4. A device of the class described comprising a casing, a rack, a gear-wheel meshing with the rack and capable of inward and outward movement, a toothed locking device arranged within the casing and engaging the gear-wheel, a catch arranged to engage the casing and the locking device, one of the parts forming a wedge, whereby the locking device is clamped against movement in either direction, substantially as described.

5. A device of the class described comprising a rack, a casing, a rotary gear guided in the casing and having a limited outward and inward movement, and a toothed locking device meshing with the gear and having an upward and downward movement, substantially as described.

6. A device of the class described comprising a casing having a slot or opening and provided thereat with an inclined edge, a gear-wheel, a locking device movably mounted in the casing and engaging the gear-wheel, and a catch connected with the locking device and arranged to engage the inclined edge of the casing, whereby the locking device is clamped against movement, substantially as described.

7. A device of the class described comprising a casing having an opening and provided at opposite sides thereof with inclined edges, a gear-wheel, a locking device arranged to engage the gear-wheel and a catch pivotally connected with the locking device and operating in the slot or opening of the casing and provided with shoulders arranged to be turned into and out of engagement with the said inclined edges, substantially as described.

8. A device of the class described comprising a casing having an opening and provided with inclined guides, a gear-wheel journaled in the guides and capable of inward and outward movement, a toothed locking device meshing with the gear-wheel, and a catch connected with the locking device and operating in the opening of the casing and provided with means for engaging the latter, whereby the locking device will be held against movement, substantially as described.

9. A device of the class described comprising a casing having a groove, a gear-wheel mounted in the casing and having a limited inward and outward movement, a toothed locking device meshing with the gear and provided with a projection guided in the said groove, and means for operating the locking device, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JAMES EDWIN GIBBS.

Witnesses:

NELLE WHITMORE,  
S. G. DINKEL.