No. 865,090. PATENTED SEPT. 3, 1907.

L. R. EDDY.

SASH LOCK.

APPLICATION FILED MAY 16, 1907.

Fig. 1.

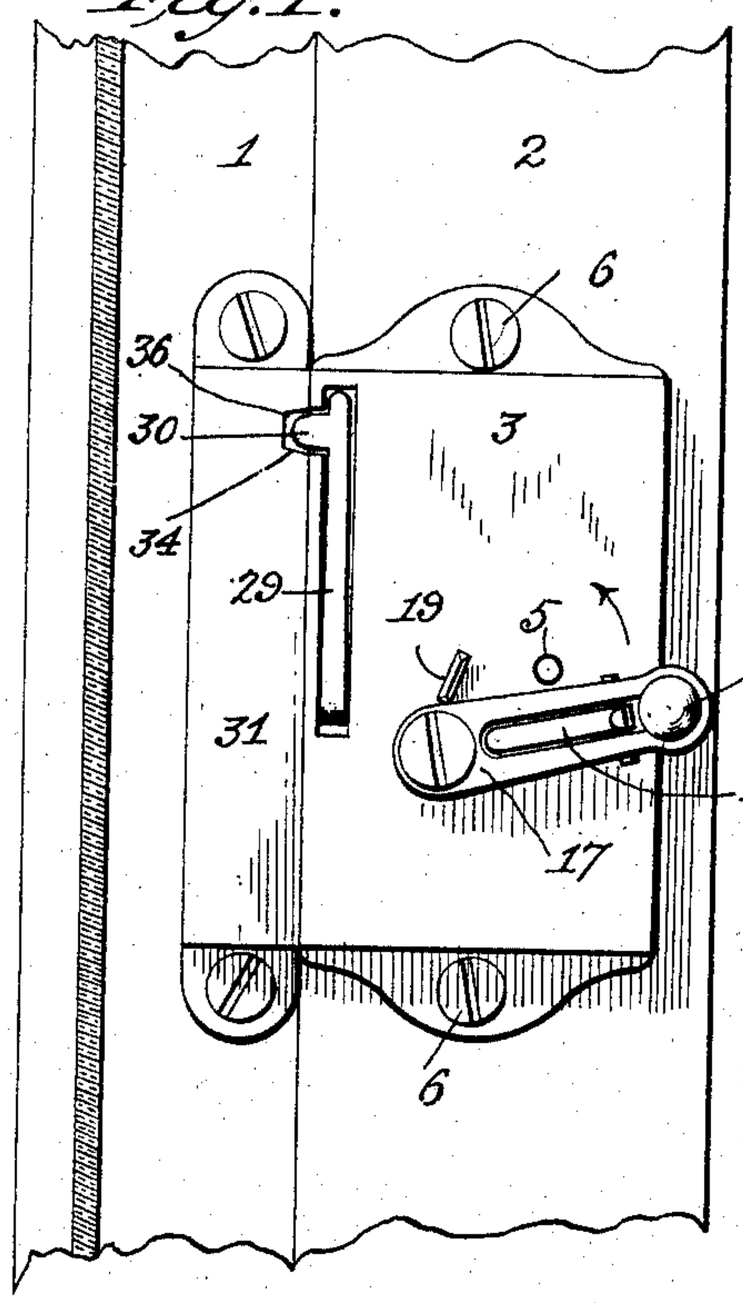

Fig. 2.

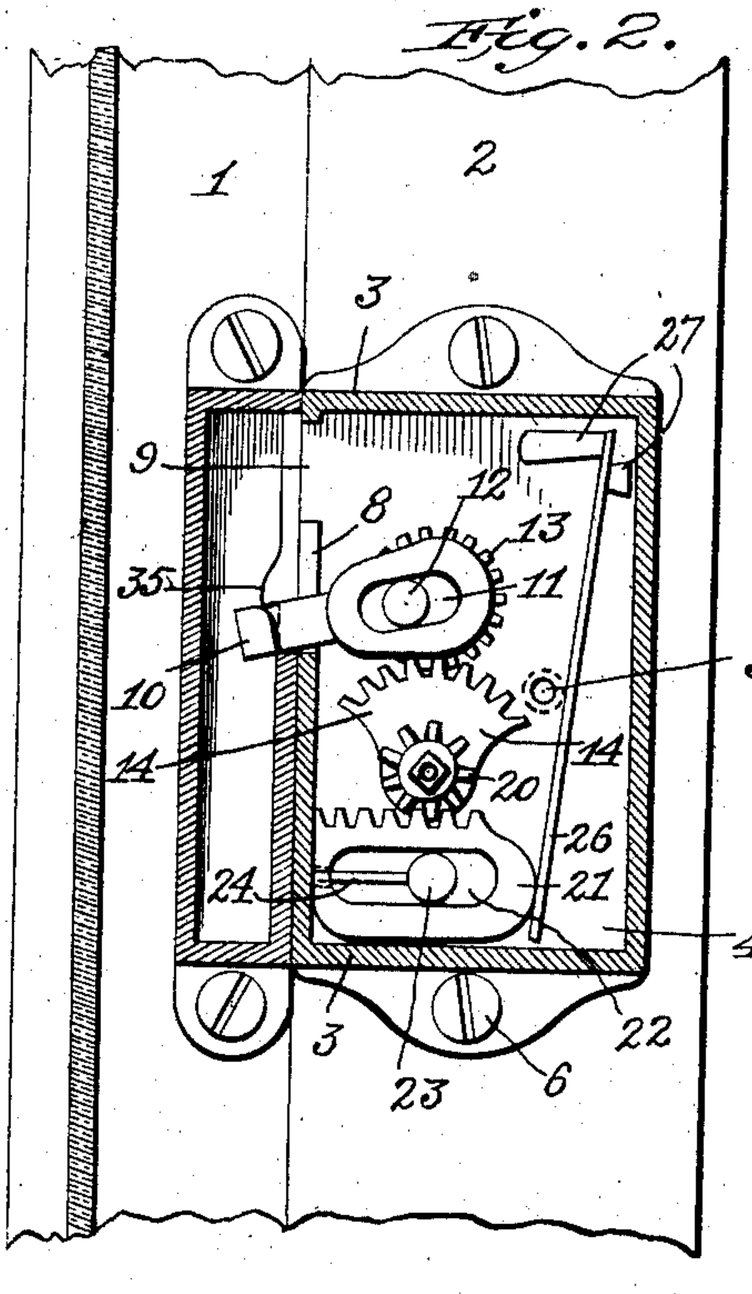

Fig. 3.

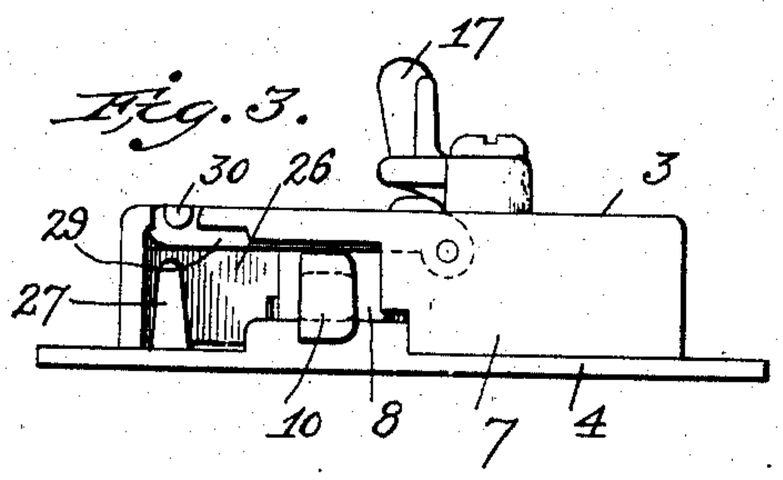

Fig. 4.

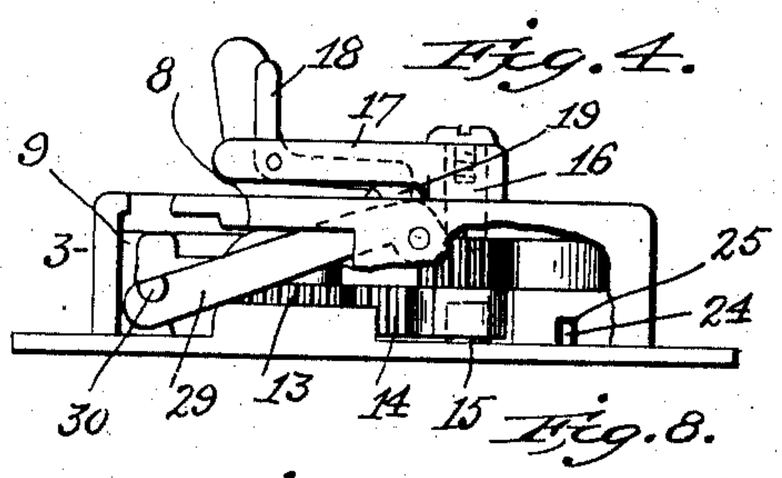

Fig. 5.

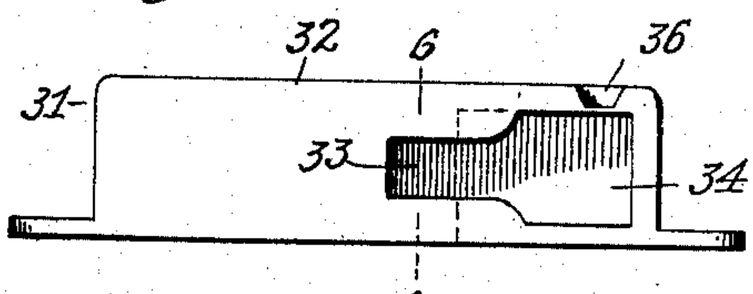

Fig. 6.

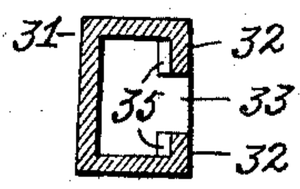

Fig. 7.

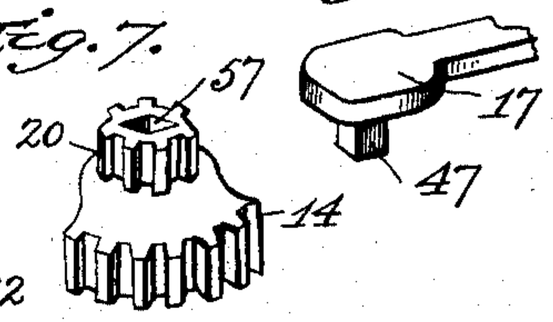

Fig. 8.

Witnesses

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SASH-LOCK.

No. 865,090. Specification of Letters Patent. Patented Sept. 3, 1907.

Application filed May 16, 1907. Serial No. 373,971.

To all whom it may concern:

Be it known that I, LAWRENCE R. EDDY, a citizen of the United States, and a resident of Elizabeth, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Sash-Locks, of which the following is a full, clear, and exact description, such as will enable those skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawing, forming part of this specification.

This invention relates to improvements in sash-locks of that description which are mounted on the meeting-rails of the sashes whereby the window can be locked to prevent the opening of the same from the exterior.

It consists in the novel construction, combination and arrangement of parts, such as will be hereinafter fully described, pointed out in the appended claims and illustrated in the accompanying drawings.

In the drawings, in which similar reference characters designate corresponding parts, Figure 1 is a plan view of a device embodying the invention. Fig. 2 is a horizontal sectional view. Fig. 3 is a side elevation of the main locking mechanism, showing the bolt in an advanced position. Fig. 4 is a similar view, with the casing partly broken away, showing the bolt in a retracted position. Fig. 5 is a side elevation of the casing that receives the head of the bolt. Fig. 6 is a cross sectional view on the line 6—6 of Fig. 5. Figs. 7 and 8 are detail perspective views showing a modification of the operating handle.

The meeting rails 1 and 2, respectively, of the upper and lower sashes of the window are of the usual construction. On the rail 2 is the casing comprising the main shell 3 and the base 4 secured thereto by the screw 5. The casing is secured to the rail by the screws 6. In the face 7 of the casing is the opening 8 having an enlargement 9 at one end. Through this opening projects the bolt 10 when the latter is in a locked position. The outer end of the bolt is enlarged to form a head. The body of the bolt is provided with an elongated bearing 11 registering with the pivot 12. This bearing 11 is of sufficient length to permit the bolt to be moved outwardly and inwardly during the locking and unlocking operations.

Means for advancing and retracting the bolt 10 are provided. On the under side of the body of the bolt is the gear 13 with which meshes the gear-segment 14 journaled on the lug 15 projecting from the base 4 of the casing. The teeth of the gear-segment and of the gear are of considerable length and also the radius of the arc of the gear-segment is of considerable length so that the teeth will remain in engagement during the in-and-out movements of the bolt. By turning the gear-segment one way or the other the bolt is either advanced or retracted.

On the gear-segment 14 concentric with the lug 15 is the post 16 projecting through the top of the shell 3. On this post is secured the handle 17 by means of which the gear-segment is turned. Pivoted in the handle is the dog 18 adapted to engage the stop 19 on the top of the shell. The dog operates to hold the handle to prevent the turning of the gear-segment.

On the gear-segment 14 concentric with its bearing is the pinion 20 engaging the rack-block 21. The latter has an elongated slot 22 registering with the pin 23 projecting upwardly from the base 4 and is movable longitudinally thereon. The rack-block is guided in its longitudinal movement by the tongue 24 engaging the groove 25 in the end of the rack-block. This tongue permits the rack-block to travel back and forth in a straight line and prevents it from turning on the pin 23.

Pressing against the inner end of the rack-block is the spring 26 held by the studs 27. This spring presses the rack-block towards the face 7 of the casing. In doing so it normally operates the intervening mechanism to throw the bolt in an advanced or locking position. In the casing immediately back of the face 7 is pivoted the latch 29 which, when in a lowered position, extends across the opening 8, 9 and serves to hold the bolt within the casing against the action of the spring 26. On the free end of this latch is the lip 30 projecting beyond the face 7 which is cut away to receive it.

On the top of the meeting rail 1 of the upper sash is the casing 31 having a face 32 to fit the face 7 of the shell 3. In the face 32 is the opening 33 with the enlargement 34 to correspond with the opening 8 and enlargement 9 of the face 7. Inside of the casing 31 are the cam-lugs 35 adjacent to the edges of opening 33. In the top of the casing 31 is the socket 36 to receive the lip 30 of the latch 29.

The operation of the device is as follows: When the locking members are engaged they are shown as represented in Fig. 2 of the drawings. The bolt 10 extends from the shell 3 into the casing 31 with the shank of the same passing through the reduced openings 8 and 33 and with the head of the bolt back of the cam-lugs 35 in the casing 31. The cam-lugs hold the bolt so that it cannot be moved by the insertion of a blade between the meeting-rails. To unlock the window the handle 17 is turned in the direction indicated by the arrow in Fig. 1. This movement of the handle turns the pinion 20 to move the rack-block 21 against the action of the spring 26 and also turns the segment-gear 14. The latter meshing with the gear 13 turns the bolt on the pivot 12 towards the enlargements 9 and 34 of the openings 8 and 33, respectively. As the bolt is turned the bevel faces on the head ride on the cam-lugs 35 and the bolt moves outwardly so that the head passes the cam-lugs. This outward movement of the bolt is permitted by the elongated bearing 11 on the pivot 12. As the bolt is turned its head passes through the enlargements 9 and

34 clear of the casing 31 into the shell 3. When this is done the sashes can be separated and the window opened. As the meeting rails separate the latch 29 drops across the opening 8, 9, as shown in Fig. 4, and then the handle 17 can be released. On the release of the handle the spring 26 tends to throw the bolt forward again, but this action is prevented by the latch 29. On closing the window, when the meeting-rails come together the sockets 36 engages the lip 30 and thereby the latch 29 is raised to free the bolt and to permit the spring 26 to act to throw the bolt forward into engagement with the other locking member.

It is to be observed that in the unlocking operation, ordinarily the handle 17 is only turned far enough to retract the bolt. Should it be desired to secure the bolt in an unlocked position the handle is turned far enough for the dog 18 to engage the stop 19. This will hold the locking mechanism against the action of the spring until the dog is released from the stop.

In Figs. 7 and 8 a modification of the handle 17 is shown. Here it is provided with a square base 47 to fit the square socket 57 in the top of the pinion 20. By means of this construction the handle can be removed when desired.

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

1. In a sash-lock, the bolt provided with an elongated bearing, a gear on said bolt, a gear-segment engaging said gear, a pinion on said gear-segment, a rack-block engaging said pinion, and means for moving said rack-block to operate said bolt.

2. In a sash-lock, the bolt provided with an elongated bearing, a pivot for said bearing, a gear on said bolt, a gear-segment engaging said gear, a pinion on said gear-segment, a rack-block engaging said pinion, a spring pressing said rack-block to normally advance the bolt, and means for turning said gear-segment against the action of said spring to retract the bolt.

3. In a sash-lock, the bolt provided with an elongated bearing, a pivot for said bearing, a gear on said bolt, a gear-segment engaging said gear, a pinion on said gear-segment, a rack-block engaging said pinion, a spring pressing said rack-block to normally advance the bolt, a pivoted latch to hold the bolt against the action of said spring, and means for moving the latch to free the bolt.

4. In a sash-lock, the meeting-rails of a window, a casing on one of said meeting-rails, a spring-pressed bolt movably mounted in said casing normally projecting from the same, a latch pivoted to said casing and operating to hold said bolt within its casing, and a second casing on the other meeting-rail to receive the head of the bolt and operating to move said latch to release the bolt when the meeting rails come together.

5. In a sash-lock, the meeting-rails of a window, a casing on one of the meeting rails, a spring-pressed bolt movably mounted in said casing normally projecting from the same, a latch pivoted to said casing to hold said bolt in a retracted position, a lip projecting from said latch, and a second casing on the other meeting-rail to engage the head of the bolt when advanced provided with a socket to engage said lip to move the latch to release the bolt when the meeting-rails come together.

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

LAWRENCE R. EDDY.

Witnesses:
JOHN P. WINANS,
GUSTAV A. VETT.