No. 849,072. PATENTED APR. 2, 1907.

F. E. JEFFERS.

VENTILATING WINDOW SASH LOCK.

APPLICATION FILED APR. 4, 1906.

Fig. 1

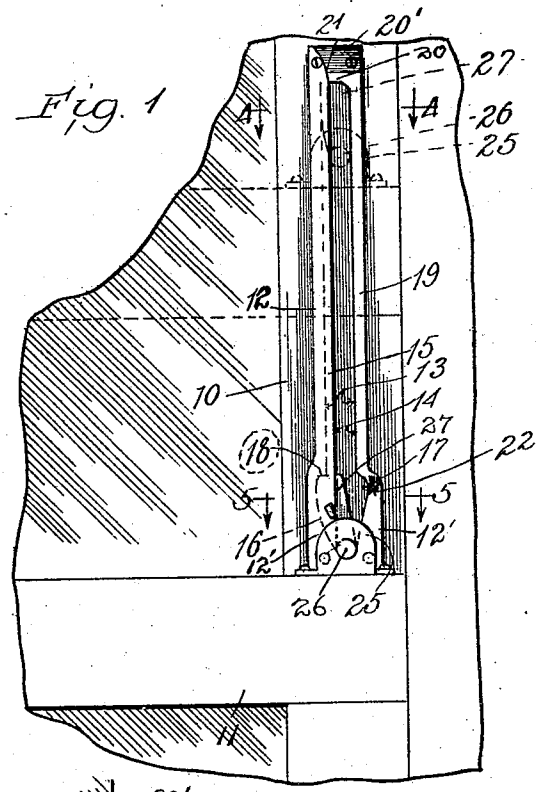


Fig. 2

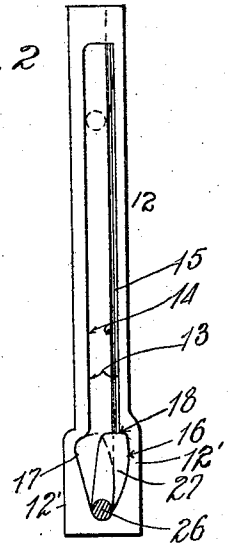


Fig. 4.

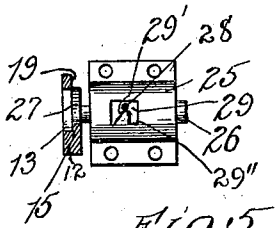


Fig. 5

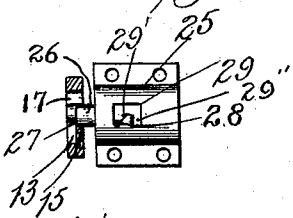


Fig. 6

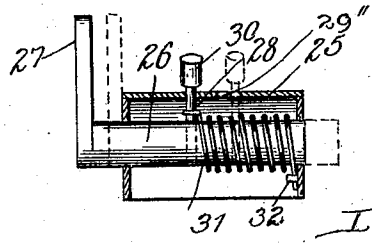
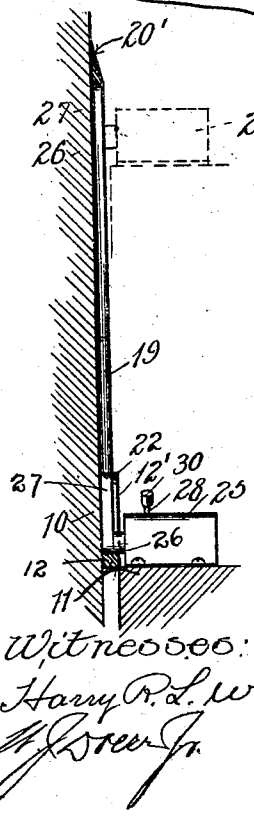


Fig. 3



Witnesses:
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UNITED STATES PATENT OFFICE.

FRANK EUGENE JEFFERS, OF CHICAGO, ILLINOIS.

VENTILATING WINDOW-SASH LOCK.

No. 849,072. Specification of Letters Patent. Patented April 2, 1907.

Application filed April 4, 1906. Serial No. 309,751.

To all whom it may concern:

Be it known that I, FRANK EUGENE JEFFERS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Ventilating Window-Sash Locks, of which the following is a specification.

My invention relates to improvements in ventilating window-sash locks, and has among its salient objects to provide a device of the character described which it is practically impossible to so operate from the exterior of the window as to permit the free opening of the window.

Other salient objects are to provide a device of the character described which is simple in construction, certain and efficient in operation, which may be easily manipulated from the interior of the building to set the device in operative or inoperative condition at pleasure, and which will automatically operate to lock the window whenever the window is moved from open or partly-open to closed position.

Other and further objects of my invention will best become apparent from the following description, taken in conjunction with the accompanying drawings, wherein—

Figure 1 is an elevation of my improved device in full lines, showing the parts in locked relation at one extreme position and in dotted lines showing the parts in the opposite extreme of position. Fig. 2 is a reversed view of the guide and latch member. Fig. 3 is a transverse vertical section through the parts. Fig. 4 is a horizontal section on line 4 4 of Fig. 1. Fig. 5 is a transverse section on line 5 5 of Fig. 1, and Fig. 6 is a sectional detail of the bolt mechanism.

Throughout the drawings like numerals of reference refer always to like parts.

In the drawings, 10 indicates in general the upper sash of a window, and 11 the lower sash. To a vertical side bar of the upper sash 10 is secured the member which I may generally term the "guide-plate," constituting one of the elements of the device, and to the top of the transverse top rail of the lower sash is secured what I may generally term the "bolt member" of the device. The guide-plate (generally indicated at 12) comprises a plate widened at its lower end, as at 12′, and provided in its under surface (by which I mean that surface which abuts against the side bar of the frame 10 when the guide is in use) a recess 13 of suitable width, with which communicates a slot 14 generally of less width than the recess 13, so there is left along one edge of the recess 13 an overhanging lip 15. At its lower end the recess 13 is laterally enlarged in both directions, as shown at 16 and 17, the widened portion 12′ of the guide accommodating such wide portions of the recess. The slot 14 is also widened at its lower end to conform with the edge of the widened portion 17; but the lip 15 extends past and overlies the enlargement 16 of the recess 13.

18 indicates a shoulder formed at the juncture of the wider and narrower portions 16 and 13 of the recess.

The outer surface of the guide is cut away, as indicated at 19, along the edge of the plate opposite the lip 15 to approximately the level of the under edge of said lip 15, and at its upper end the cut-away portion 19 extends laterally across the top to the line of the edge of lip 15, as shown at 20, the portion 20′ being beveled off longitudinally to meet the under edge of the plate and the end of the higher portion of the plate being inclined, as at 21, as best shown in Fig. 1. At its lower end the cut-away portion 19 terminates in a shoulder 22, preferably inclined to meet the enlargement 17 at an angle.

The bolt member comprises a casing 25, wherein is mounted for reciprocation and oscillation a bolt 26, projecting at one end beyond the casing and carrying a head or latch member 27. Said head is of substantially the width of the recess 13 and is of proper configuration for insertion in the opening afforded by the enlarged portion 17 of the slot 14, so that when inserted through the enlarged opening it may be slid in the recess 13, but may not be directly withdrawn on account of its engagement under lip 15.

28 indicates a stem projecting from the bolt 26 through a slot 29 in the top of the bolt-casing 25 and preferably provided with a handle or finger-piece 30. The slot 29 is shaped to provide a substantially straight longitudinal portion at its ends communicating with transverse slot portions for purposes to be described. The longitudinal portion of the slot communicates with the transverse portion at the end toward the upper window-sash by an incline 29′, and the transverse portion 29″ at the other end of the longitudinal slot 29 is relatively extended lengthwise of the bolt-axis for purposes

which will be hereafter described. Within the casing is a spring 31, preferably coiled about the bolt 26 and at its opposite ends engaging, respectively, the stem 28 and a lug 32 upon the casing 25, so that it tends constantly to rotate the bolt in such direction as to throw the stem 28 into either of the transverse end portions of the slot in the top of the casing and tends also to force the bolt always to its forward limit of movement.

The operation of my device is as follows: When the device is in use, the latch 27, pressed both outward and rotatively by the spring 31, interfits in the recess 13, its stem 26 passing through the slot 14. In such position the lip 15 prevents the withdrawal of the latch or head of the bolt from engagement with the plate, while the solid upper end of the plate prevents the relative movement of the upper and lower sash to any degree further than that illustrated in dotted lines in Fig. 1. If now the lower sash be drawn down or upper sash raised, the bolt is thereby carried downward relative to the plate and the head of latch 27 lowered in relation to the plate until it reaches the level of the shoulder 18. Here the spring tension is rotatively exerted and throws the head of the bolt over into the recess 16, so that it latches beneath the shoulder 18 and prevents the lower sash from being raised or the upper sash from being lowered. In this position, further, the lip 15 still prevents the head of the bolt from being moved axially of the bolt out of the enlargement 16. From this position, however, the bolt may be rotated toward the right by proper movement of the finger-piece 30, and when the head 27 registers at the aperture 17 the bolt may be withdrawn by movement of the stem 28 longitudinally of the slot 29 to its rearmost position, when the head or latch will be retracted beyond the guide-plate 12, and in retracted position it may be retained by turning the stem 28 into the rearmost lateral recess 29″ of the slot in the shell 25, so that the lower sash may be fully raised or the upper sash lowered. The width or axial extent of recess 29″, however, allows the latch to be pressed upon the surface of the higher side of the plate, so that when the latch has been raised clear above the plate the head thereof is thrown rotarily by spring 31 to overlie somewhat the incline 21. Now when the window is lowered the latch strikes the incline 21 and is turned against the tension of spring 31 until its left-hand edge rides on the edge of lip 15 and the stem 28 is thrown into the longitudinal slot 29, so that when the sashes are positioned to close the window the latch or head 27 automatically slips through opening 17 and into latching engagement with shoulder 18. Thus the lower sash may be raised to any desired height or upper sash lowered without interference with the window-lock; but upon the reclosing of the window the lock automatically restores itself to operative position. If by chance the latch is freed to move forward to its full extent while the window is wide open, the latch works automatically when the window is closed, the bevel 20′ of the plate forcing the latch back to ride on the part 19 and inclines 21 of the plate and 29′ of the bolt-casing slot, giving the bolt its proper rotary motion for the purpose.

While I have herein described in detail a specific embodiment of my invention, it will be apparent that changes in the construction might be made without departure from the spirit and scope of my invention.

Having described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In combination with the upper and lower sash of a window, of a guide-plate upon one sash, having a slot therein laterally enlarged at its lower end to form a shoulder, and a bolt member upon the other sash comprising a bolt mounted for reciprocation and rotation, and having an eccentrically-disposed head adapted to interfit in the slot or engage the shoulder in the enlargement thereof, and means constantly tending to force said bolt longitudinally in a direction to engage said slot, and rotarily in a direction to engage the shoulder.

2. In a device of the character described, a plate adapted for connection with one sash of a window, said plate having therein a recess, and a slot of less width than the recess communicating with said recess, said recess and slot having on one side coincident enlargements, and a bolt member adapted to be secured to the other sash member, comprising a casing, a bolt mounted to slide and rotate in said casing, a latch without the casing carried by and movable with said bolt, shaped for introduction through the coincident enlargements of the slot and recess, and adapted to slide in said recess, and a spring normally tending to press the latch into the recess and laterally toward the side thereof away from the enlargement, whereby said spring tends to normally prevent the withdrawal of the bolt.

3. In a device of the character described, the combination of a guide-plate having a guiding-slot, a recess wider than the slot below said slot, an enlargement in the slot, to permit the withdrawal of a bolt-head, the sliding bolt having a head for engaging the recess, and means tending constantly to move said bolt longitudinally and rotatively in directions to cause or maintain the locking engagement of its head with the guide-plate recess.

4. In a device of the character described, the combination of a guide-plate having a guiding-slot, a recess wider than the slot

below said slot, an enlargement in the slot to permit the withdrawal of the bolt-head, a sliding bolt having a head for engaging the recess, means tending constantly to move said bolt longitudinally and rotatively in directions to cause or maintain the locking engagement of its head with the guide-plate recess, and means for guiding said bolt and timing its sliding and rotative movements in proper relation to each other.

5. In a device of the character described, the plate 12, having recess 13, slot 14, enlargements 16 and 17, and the cut-away portions 19 and 20, in combination with a bolt member comprising a casing 25 having therein the slot 29, a bolt 26 with a head 27, the spring 31 and the handle 30, all arranged substantially as described.

In testimony whereof I hereunto set my hand in the presence of two witnesses.

FRANK EUGENE JEFFERS.

In presence of—
GEO. T. MAY, Jr.,
MARY F. ALLEN.