Aug. 1, 1933. J. A. RICCELLI 1,920,669

LOCK FOR WINDOW SASHES AND DOORS

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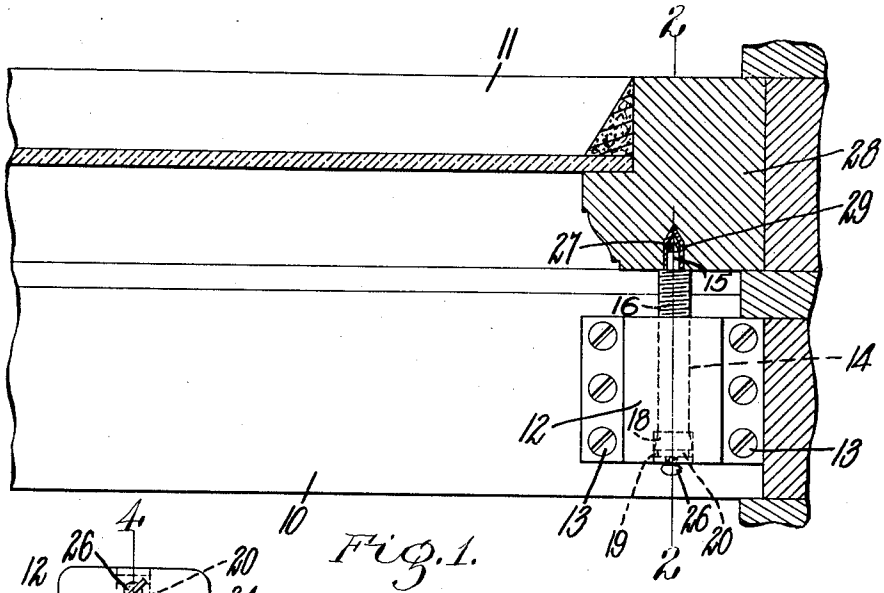


Fig. 1.

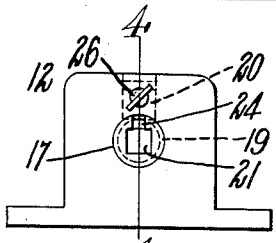


Fig. 3.

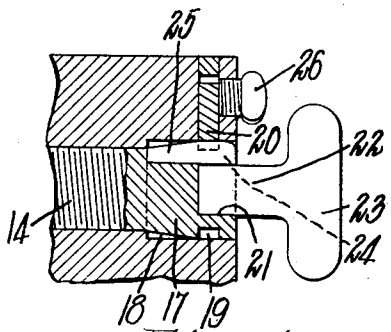


Fig. 4.

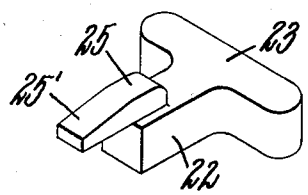


Fig. 5.

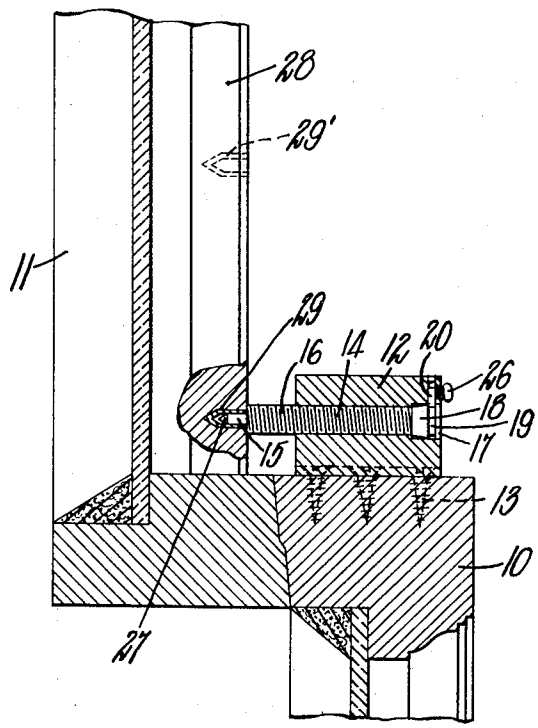


Fig. 2.

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LOCK FOR WINDOW SASHES AND DOORS

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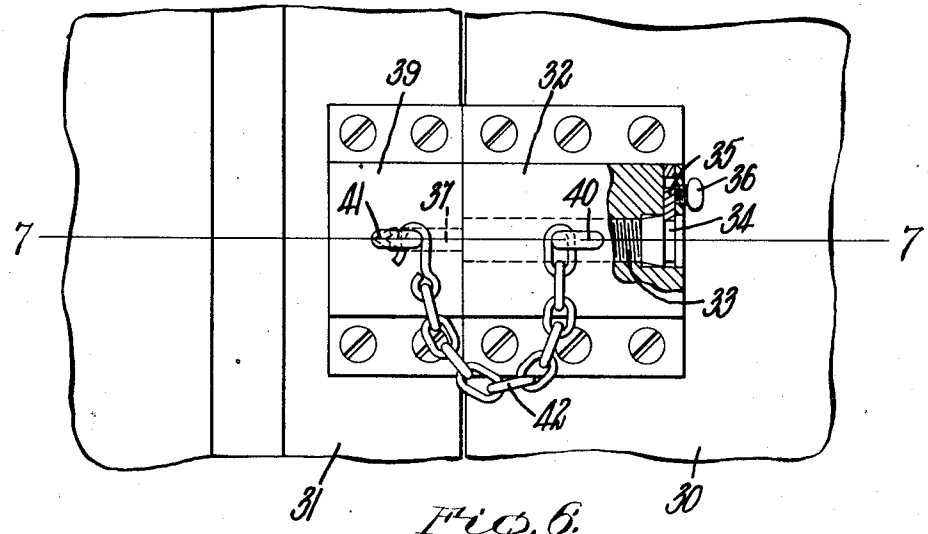


Fig. 6.

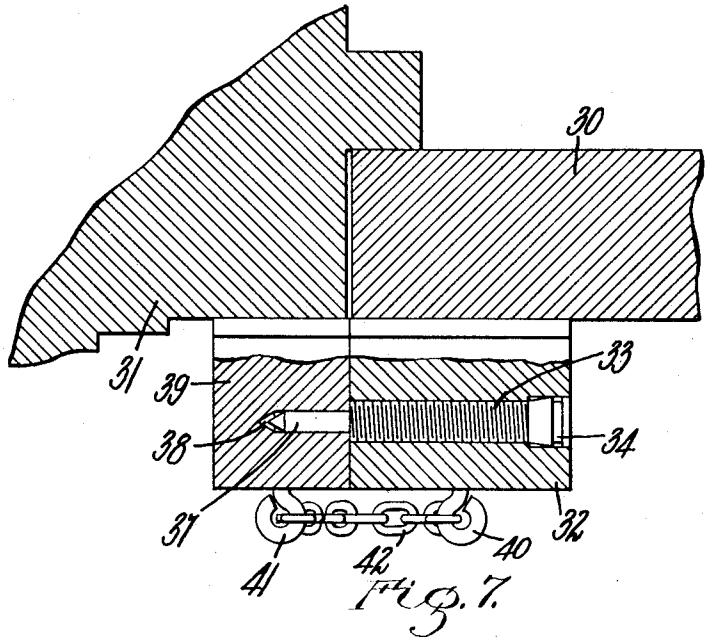


Fig. 7.

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UNITED STATES PATENT OFFICE

1,920,669

LOCK FOR WINDOW SASHES AND DOORS

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Application July 8, 1932. Serial No. 621,327

3 Claims. (Cl. 292—251)

This invention relates to an improved lock for window sashes and for doors, one object of the invention being to provide a lock for window sashes which will lock the sashes together when they are both closed, or which will lock them together when they are partly open.

Another object of the invention is to provide a lock of the character set forth which can only be operated by a special key, so that even if the window pane were to be broken the lock could not be manipulated by the burglar without the special key.

The invention consists in a lock for window sashes or doors of the character set forth in the following specification and particularly pointed out in the claims.

Referring to the drawings:—

Fig. 1 is a plan view broken away and partly shown in section illustrating the lock as applied to an upper and lower window sash.

Fig. 2 is a sectional elevation taken on line 2—2, Fig. 1.

Fig. 3 is a front elevation of that portion of the lock which is attached to the lower window sash or to the door.

Fig. 4 is an enlarged sectional elevation taken on line 4—4, Fig. 3, with a special key inserted in the lock.

Fig. 5 is a perspective view of the special key.

Fig. 6 is a front elevation of a portion of a door and door frame illustrating my improved lock attached thereto.

Fig. 7 is a sectional plan taken on line 7—7, Fig. 6.

Like numerals refer to like parts throughout the several views of the drawings.

In the drawings, Figs. 1 to 5 inclusive, 10 is the lower sash of a window and 11 the upper sash. 12 is a bracket fastened by screws 13 to the lower sash. A locking screw 14 has screw-threaded engagement with the bracket 12 and its forward end portion 15 is preferably not screw threaded and is of less diameter than the screw-threaded portion 16 of the screw 14. The rearward portion 17 of the screw 14 is tapered outwardly at 18 from the screw-threaded portion 16, whereby the diameter of the rearward end portion of the screw is enlarged and an annular groove 19 is provided in the periphery of the rearward end portion 17 of the screw.

A stop 20 is vertically positioned in the bracket 12 and is slidably positioned therein, the said stop being mounted in the bracket immediately above the rearward end portion 17 of the screw 14 when the screw is in the advanced and locking position illustrated in Figs. 1, 2 and 4, and the stop 20 will drop into the annular groove 19 and thus lock the screw against longitudinal movement in the bracket when the key is removed.

The rearward end portion 17 of the screw has a rectangular recess 21 therein to receive the rectangular portion 22 of a special key 23, whereby the screw 14 may be rotated by said key. The rearward end portion 17 of the screw 14 is also provided with a slot 24 which extends across the annular groove 19 and is adapted to receive a projection 25 on the key 23, so that by inserting the key in the recess 21 the projection 25 on the key will at the same time enter the slot 24 and engage the lower end of the stop 20 forcing it up out of the annular groove so that the key can then be turned to rotate the screw 14.

The outer edge of the projection 25 on the key 23 is bevelled at 25' so that when the key is inserted in the slot 24 the outer edge of the key will be flush with the tapered rearward end portion 17 of the screw 14.

The stop 20 may be locked in the position illustrated in Fig. 4, that is, removed from the annular groove 19, or it may drop down and be locked in said annular groove, by means of a set screw 26, that is, assuming the stop 20 to be in its lower position and projecting into the annular groove 19, then it may be locked in that position by tightening the set screw 26 which has screw-threaded engagement with the bracket 12, or the screw 26 may be loosened, the key 23 inserted in the rearward end of the screw, whereupon the projection 25 will push the stop 20 upwardly out of the annular groove 19 and the set screw can then again be tightened to lock said stop in its upward position as in Fig. 4.

The reduced forward end portion 15 of the screw 14 is pointed at 27 and may be utilized by the rotation of said screw 14 to bore holes at different distances in the side member 28 of the sash 11. A sleeve 29 may be driven into the hole previously bored by the screw in the side member 28 of the sash by turning the screw to advance the same by means of the key 23, the diameter of the bore of the sleeve being less than the diameter of the screw-threaded portion of the screw and slightly greater than the diameter of said forward end portion 15.

In Fig. 2 the sashes are shown locked together in this manner and in said figure another sleeve 29' is shown above the sleeve 29, so that the screw 14 can be turned backwardly by means of the key 23 to disengage it from the sleeve 29, and then the lower sash can be moved up-

wardly or the upper sash can be moved downwardly until the reduced end portion 15 of the screw is in alignment with the bore of the sleeve 29 and then the screw 14 can be advanced and the sashes locked together when partly open.

In Figs. 6 and 7 my improved lock is illustrated as attached to a door and door casing, and referring to these figures 30 represents a portion of a door and 31 a portion of a door casing. A bracket 32 is fastened to the door 30 and this bracket has a screw 33 therein which is substantially the same as the screw 14 illustrated in Figs. 1, 2, 3 and 4, the same being provided with an annular groove 34 and a locking stop 35 and set screw 36 and a reduced forward portion 37. In all respects the screw is the same as hereinbefore described, but is shown projecting into another hole 38 in another bracket 39 which is fastened to the door casing 31. It is evident, however, that the bracket 32 may be fastened to the lower sash of a window and the bracket 39 to the upper sash and perform the same function of locking the sashes as is performed by said brackets and the screw 33 in locking the door to the casing. When used on a door, the bracket 32 is preferably provided with an eye 40 and the bracket 39 with an eye 41, whereby a chain 42 can be utilized to connect said eyes and thus allow the door to be partly opened in a well-known manner.

When the two brackets 32 and 39 are used for the purpose of locking window sashes, they are positioned between the vertical members of the sashes, that is, the bracket 39 is fastened to the lower rail of the upper sash between the vertical side members and the bracket 32 is fastened to the upper rail of the lower sash with the screw 33 in alignment with the hole 38 in the bracket 39. Then the screw is operated to cause the reduced end thereof to enter the bracket 39 and is locked in advanced position the same as hereinbefore described in relation to the embodiment of my invention illustrated in Figs. 1, 2, 3 and 4.

The general operation of the devices hereinbefore specifically and to a considerable extent in general described is as follows:— In the form of the invention illustrated in Figs. 1 to 5 inclusive, assuming the sleeves 29 and 29' to have been inserted in the side member 28 of the upper sash 11 and it is desired to lock the sashes in closed position as illustrated in Fig. 2, then the screw 14 is advanced by means of the key 23 to the position illustrated in Figs. 1, 2 and 4, the set screw 26 is loosened during the movement of the screw 14 from its retracted position to its forward position, and when the screw has been sufficiently far advanced to bring the annular groove 19 into alignment with the stop 20 then the stop will drop into the annular groove, when the key 23 is removed and the set screw 26 may then be tightened.

To unlock the window, the key 23 is inserted in the screw 14, the rectangular portion 22 projecting into the rectangular recess 21 in the end of the screw 14 and the projecting portion 25 of the key operating to push the stop upwardly out of the annular groove, the set screw 26 having been loosened meantime to enable this to be done. Then the screw is rotated by the key to retract the same and withdraw the end portion 15 from the sleeve 29, whereupon the lower window sash 10 can be moved upwardly or the upper window sash 11 can be moved downwardly to any desired position, but if desired to lock the sashes when partly open, then one of the sashes is moved until the reduced forward portion of the screw 14 aligns with the bore of the sleeve 29', whereupon the screw 14 is advanced by means of the key 23 and locked in advanced position by the stop 20 and by the set screw 26 as hereinbefore described.

The operation of locking the door is exactly similar to that of locking the window, that is, the screw 33 is advanced by means of the special key until its reduced portion 37 enters the hole 38 in the bracket 39.

Assuming the screw 14 to be in its retracted position and the sashes unlocked and the set screw 26 loosened so that the bottom edge of the said stop 20 rests upon the periphery of the screw-threaded portion 16 of the screw 14, then the tapered portion 18 of the screw and the tapered or bevelled upper edge 25' of the projection 25 on the key will engage the outer edge of the stop as the screw is advanced toward locking position and will force the stop upwardly to the position illustrated in Fig. 4. Then when the key 23 is removed the stop will drop into the annular groove 19 in the enlarged rearward portion 14 of the screw where it may be rigidly locked in position by the set screw 26.

I claim:

1. A window sash and door lock having, in combination, a bracket adapted to be fastened to the lower sash of a window or to a door, a locking screw having screw-threaded engagement with said bracket, said screw having an annular groove in its periphery, a stop slidably mounted in said bracket above said screw and adapted to enter said annular groove when the screw is in an advanced position and lock it against longitudinal movement, and means having screw-threaded engagement with said bracket to lock said stop in said annular groove.

2. A window sash and door lock having, in combination, a bracket adapted to be fastened to the lower sash of a window or to a door, a locking screw having screw-threaded engagement with said bracket, said screw having an annular groove in its periphery, a stop slidably mounted in said bracket above said screw and adapted to enter said annular groove when the screw is in an advanced position and lock it against longitudinal movement, and means to lock said stop against movement in said bracket.

3. A window sash and door lock having, in combination, a bracket adapted to be fastened to the lower sash of a window or to a door, a locking screw having screw-threaded engagement with said bracket, said screw having an annular groove in its periphery, a stop slidably mounted in said bracket above said screw and adapted to enter said annular groove when the screw is in an advanced position and lock it against longitudinal movement, and a set screw having screw-threaded engagement with said bracket and positioned to engage said stop and lock it against movement in said bracket.

JOSEPH A. RICCELLI.