Feb. 27, 1923. 1,446,459.

J. HEPPLER.

WINDOW LOCK.

FILED APR. 21, 1921.

Fig. 3.

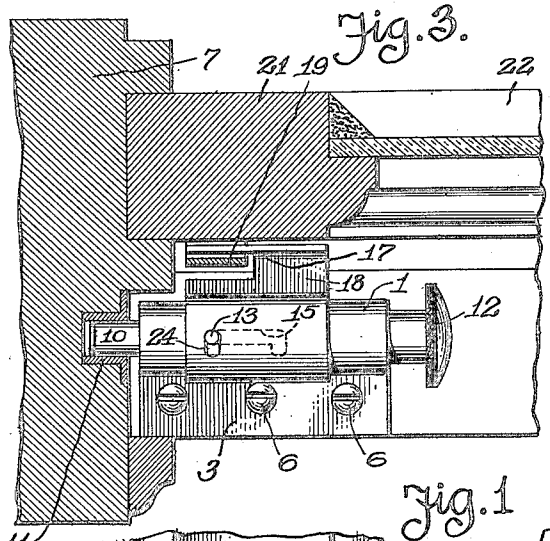


Fig. 4.

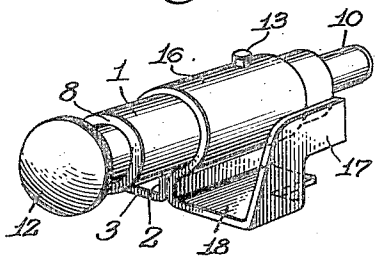


Fig. 1.

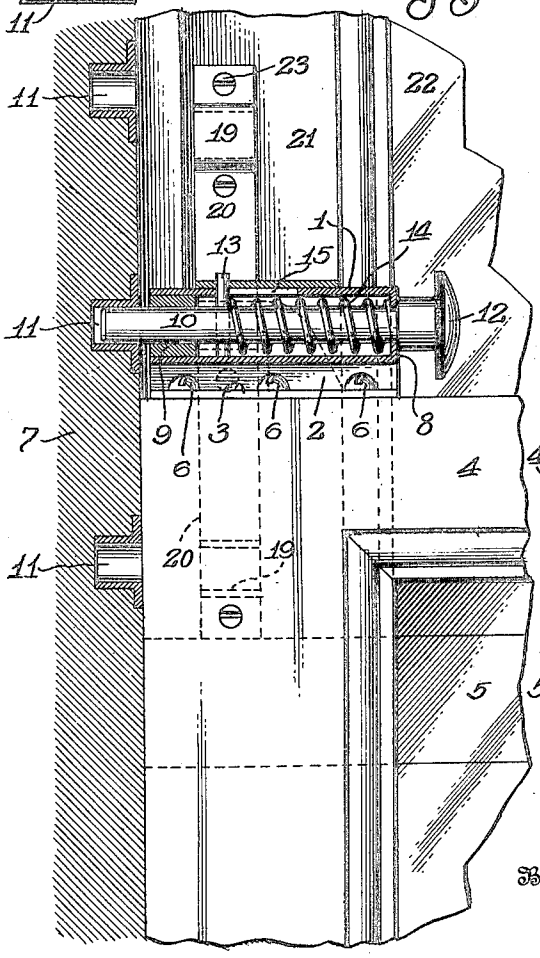
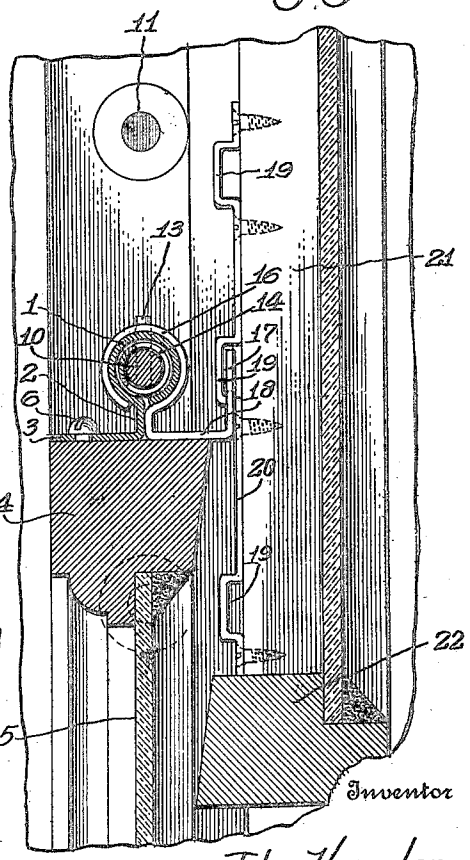


Fig. 2.



Inventor

John Heppler,

By Robert & Robert

Attorneys

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UNITED STATES PATENT OFFICE.

JOHN HEPPLER, OF HIGHLAND PARK, MICHIGAN.

WINDOW LOCK.

Application filed April 21, 1921. Serial No. 463,136.

To all whom it may concern:

Be it known that I, JOHN HEPPLER, a subject of the King of Great Britain, residing at Highland Park, Michigan, county of Wayne, and State of Michigan, have invented certain new and useful Improvements in Window Locks, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to window locks, and the primary object of my invention is to provide a simple and durable lock by which window sashes may be locked relative to each other and also relative to the window frame in which the sashes slide. Such a lock permits of either the lower or upper sash being opened and held relative to a window frame, or both sashes may be opened and fixed relative to the window frame, thus preventing the sashes being surreptitiously shifted by an unauthorized person.

Another object of my invention is to provide an inexpensive locking mechanism for window sashes and the construction of the mechanism permits of it being easily operated and readily installed, without any material changes in the usual window frame and sash construction.

A further object of my invention is to provide a lock mechanism embodying inner and outer bolt members articulated in a fashion which permits of said bolt members being simultaneously adjusted, one of said members securing a sash relative to the window frame and the other bolt member securing an adjacent sash relative to the lock carrying sash.

The above and other objects are attained by a construction that will be hereinafter described and then claimed, and reference will now be had to the drawing, wherein—

Figure 1 is a longitudinal sectional view of a lock showing a manner in which it connects the upper and lower sashes and holds said sashes relative to a window frame;

Fig. 2 is a vertical cross sectional view of the same;

Fig. 3 is a plan of the lock mechanism in the position shown in Figs. 1 and 2; and

Fig. 4 is a perspective view of the sash lock.

The lock mechanism comprises a cylindrical casing or barrel 1 which is formed from a single blank or piece of material bent to provide a web 2, and a lateral flange 3, said lateral flange being apertured so that it may be mounted on the lower sash 5 at the meeting rail 4, by screws 6 or other fastening means. The flange 3 is mounted on the lower sash 5 above one of the side rails thereof and adjacent the window frame 7 in which the lower sash 5 slides. The flange 3 supports the web 2 in a vertical position and consequently maintains the casing 1 elevated relative to the meeting rail 4.

The material at the inner end of the casing 1 is inbent to afford an end guide or abutment 8 and in the outer end of the casing 1 is mounted an end guide 9. The guides 8 and 9 support a reciprocable inner bolt member 10. The outer end of the inner bolt member 10 is slightly tapered or beveled and adapted to enter thimbles or sockets 11 mounted in the window frame 7, these thimbles or sockets being flush with the side of the window frame so as to not interfere with adjustment of the lower sash 4. The thimbles or sockets 11 are spaced apart so that the lower sash 5 may be locked relative to the frame 7 at desired elevations. In some instances the thimbles or sockets may be dispensed with and the window frame 7 provided with bored recesses to receive the end of the bolt 10.

The inner end of the bolt 10 has a suitable knob or handle 12 which may be gripped when it is desired to rock or slide the bolt 10 relative to the casing 1, said knob or handle serving as a stop against the guide or abutment 8 to limit the outward movement of the bolt 10.

Extending transversely of the bolt 10 is a pin 13 and encircling said bolt, between the pin 13 and the end abutment 8 is a coiled expansion spring 14. The expansive force of said spring is adapted to shift the bolt 10 to a locked position so that it will be necessary to pull outwardly on the knob or handle 12 when the bolt is to be retracted. In order that the bolt 10 may be set in a retracted or unlocked position, the casing 1 is provided with a bayonet shaped slot 15 through which the pin 13 extends, and by turning the bolt 10 so that the other end of the pin 13 engages the lateral or transverse portion of the slot 15, the spring 14 will be held under tension with the bolt 10 retracted.

Slidable on the casing 1 is the guide barrel portion 16 of an outer bolt member 17, said outer bolt member and said guide barrel 16 being made of a single piece of material bent to provide an intermediate lateral portion 18 somewhat similar to the web 2 and the flange

3 of the casing 1. The lateral portion 18 of the outer bolt member may slide on the meeting rail 4 and against the web 2, and with the outer bolt member 17 upstanding and overhanging the meeting rail 4 it is adapted to enter keepers 19 of a keeper strip 20 suitably connected to the side rail 21 of an upper sash 22. The keepers 19 are equally spaced throughout the length of the keeper strip 20 and said strip may be connected to the side rail 21 by screws 23 or other fastening means. The keeper strip may be of any length and positioned at any place on the side rail 21, so long as the outer bolt member 17 may enter one of the keepers 19 and connect the upper and lower sashes together, either so that both of said sashes may be adjusted in synchronism or connected so as to be locked by the inner bolt member 10 relative to the window frame 7.

By reference to Figs. 1 and 4, it will be noted that the pin 13 extends through the guide barrel portion 16 of the outer bolt member, consequently the inner and outer bolt members will be shifted in synchronism when the lock is adjusted. The pin 13 therefore, not only serves as an abutment for the expansion spring 14, but serves as a coupling member between the inner and outer bolt members. To avoid turning the outer bolt member 17, when the inner bolt member 10 is to be set in a retracted position, the guide member or portion 16 of the outer bolt member 17 may have a transverse slot 24 in which the outer end of the pin 13 is free to move without destroying the connection between the inner and outer bolt members for movement in synchronism.

What I claim is:—

1. A window lock adapted to simultaneously lock upper and lower sashes relative to each other and said sashes relative to a window frame, comprising a casing, an inner bolt member slidable in said casing adapted to engage the window frame, and an outer bolt member slidable on said casing to engage the other sash, said inner and outer bolt members being concentric of said casing and adjustable in synchronism.

2. A window lock as in claim 1, wherein said bolt members are slidable one about the other, and means associated with the inner bolt member holds both bolt members extended and in locked positions.

3. A window lock adapted to simultaneously lock upper and lower sashes relative to each other and said sashes relative to a window frame, comprising a casing adapted for attachment to the meeting rail of the lower sash, a frame engaging bolt in said casing, a sash engaging bolt on said casing, said bolts being about a common axis and reciprocable in like directions and means connecting said bolts so that the frame engaging bolt may shift the sash engaging bolt.

4. A window lock as in claim 3, characterized by said bolts being connected by means extending through a wall of said casing and permitting of said bolts being set in retracted positions.

5. A window lock as in claim 3, and means in said casing about the frame engaging bolt adapted to simultaneously extend both bolts for locking purposes.

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

JOHN HEPPLER.

Witnesses:

KARL H. BUTLER,

ANNA M. DORR.