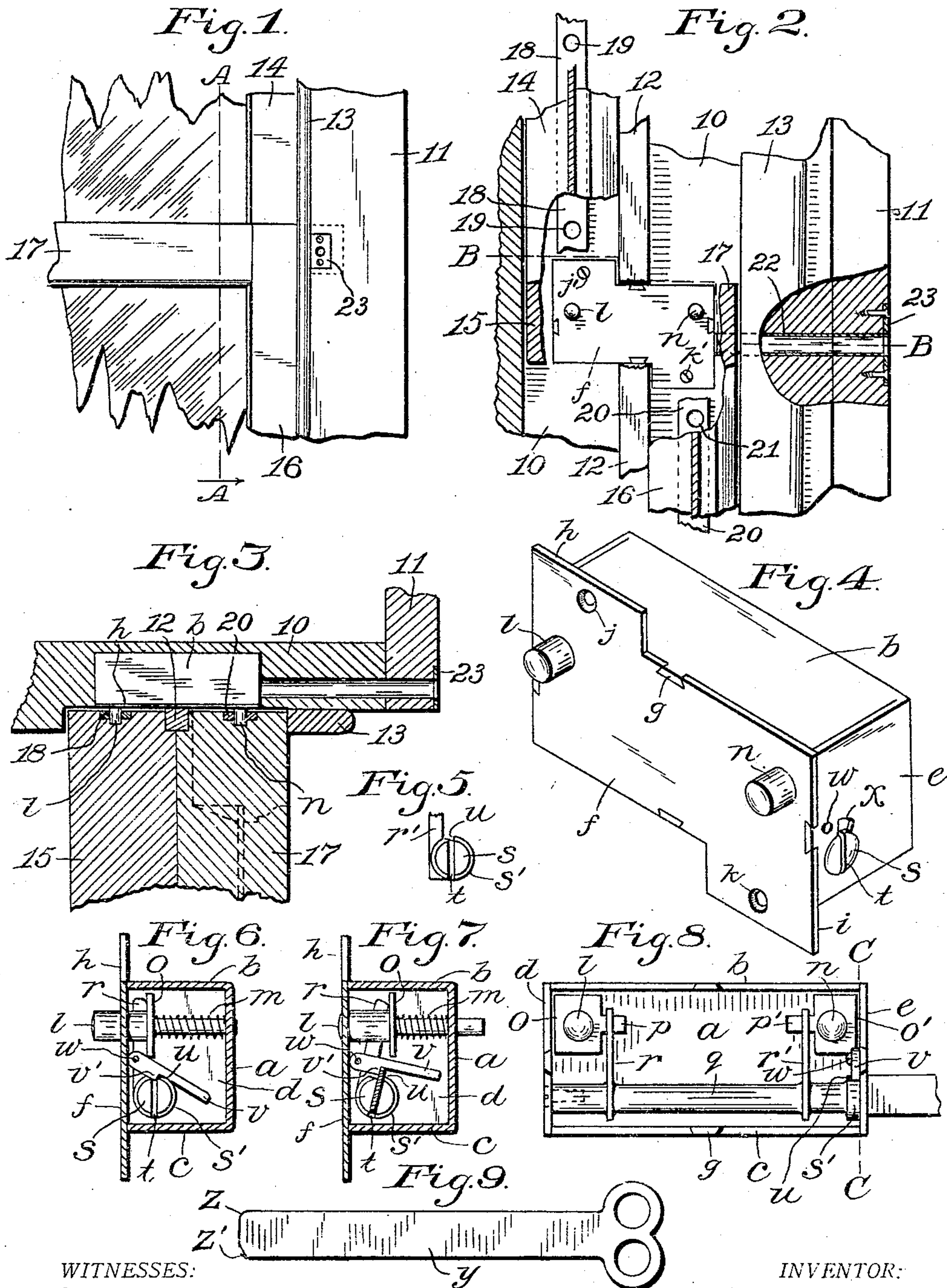


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PATENTED DEC. 31, 1907.

W. LIPPS.
DUPLEX SASH LOCK.

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DUPLEX SASH-LOCK.

No. 875,360.

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To all whom it may concern:

Be it known that I, WILLIAM LIPPS, a citizen of the United States, residing at Shelbyville, in the county of Shelby and State of Indiana, have invented certain new and useful Improvements in Duplex Sash-Locks; and I do declare the following to be a full, clear, and exact description of the invention, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to locks for window sashes that are adapted to lock both the upper sash and the lower sash of a window in any desired position independently, either open more or less or closed, and so that they will be secured to the window frame, a further object being to provide a duplex sash lock which may be manufactured at relatively small cost and be effective, durable and economical in use, a still further object being to provide a sash lock which may be hidden and therefore not accessible to be tampered with, and which can be operated only by means of a suitable key.

The invention consists in a duplex sash lock having novel lock bolts and arranged in a novel manner, and in the combination and arrangement of the lock with a pair of window sashes, and also the invention consists in the novel parts and combinations and arrangements of parts as hereinafter particularly described and pointed out in the appended claims.

Referring to the drawings Figure 1 is a fragmentary front elevation of a pair of window sashes and frame indicating the position in which the improved lock is mounted in the frame; Fig. 2, a fragmentary sectional elevation approximately on the line A A in Fig. 1 and broken away at different planes to expose the sash lock; Fig. 3, a fragmentary horizontal sectional view approximately on the line B B in Fig. 2; Fig. 4, a perspective view of the lock; Fig. 5, an end view of the rock shaft that is employed in the lock; Fig. 6 and Fig. 7, transverse sectional views on the line C C in Fig. 8, one view showing the mechanism in normal position, and the other one showing the lock bolts withdrawn as when a sash is released; Fig. 8, a front view of the lock with the front plate of the case omitted; and, Fig. 9, a side view of the key whereby the lock may be operated.

Similar reference characters in the various

figures of the drawings designate corresponding elements or features.

In construction the lock comprises a back *a*; a top and a bottom *b* and *c* respectively, which are formed integral with the back, and ends *d* and *e* also formed integral with the back, all from a single piece of sheet metal; a front *f* is secured to the top and bottom and also to the sides by suitable means such as dove tail tenons *g*, to complete a supporting case of the lock, the front having projections *h* and *i* in which are screw holes *j* and *k* respectively, for securing the lock in the window frame. The case is box-shaped and designed to be placed with its major axis horizontal so that one end of the case may extend behind the upper sash, and the opposite end behind the lower sash. In one end of the case a sliding lock bolt *l* is mounted in the front *f* and back *a* and normally projects through the front, being so held by a spring *m* in the case that is seated against the back *a*. In the other end of the case a similar lock bolt *n* is mounted in the same manner so as to project through the front *f*, and either lock bolt may be held in a retracted position independently of the other one. Each lock bolt has a guide flange *o* or *o'* which is rectangular in plan and stands opposite to the top and either end *d* or *e* so as to contact therewith and thereby prevent rotation of the lock bolts. Each bolt lock has a lateral projection *p* or *p'* extending from the flange of the lock bolt, for withdrawing the same or retracting it.

A rock shaft *q* is suitably journaled in the ends *d* and *e* of the case and is provided with two arms *r* and *r'* that extend upwardly and engage the projections *p* and *p'*, between them and the front *f*, so that both of the lock bolts may be retracted simultaneously and so held when desired. The rock shaft has one end formed as a key head *s* to receive a key and which serves as a journal for the shaft in the end *e* and the key head comprises also a collar *s'* that engages the inner side of the end *e*. The key head has a transverse slot *t* extending inward slightly beyond the collar *s'*, and the collar has a notch *u* in the outer face thereof to receive a pawl *v* having a shoulder *v'* to drop into the notch and prevent rotation of the rock shaft in one direction, the slot being adapted to receive the key for the operation of the mechanism. The pawl is mounted on a pivot *w* that is attached to the end *e*, there

being a slot x in the end e to clear the key and permit of a slight rotative movement of the rock shaft when the key is inserted in the slot t . The key y comprises a flat bar having rounded corners z and z' , the key being slightly broader than the diameter of the part s of the key head so that when the key is pushed horizontally into the slot t the rounded corner that may be uppermost will push up the pawl v , and then after turning the key the pawl will drop after the key passes the shoulder v' , and the shoulder will prevent the key and also the rock-shaft from turning back as in Fig. 7, therefore holding the lock bolts in retracted positions. If the key then be withdrawn the pawl will drop to its normal position as in Fig. 6 and permit the lock bolts to protrude through the front f to their normal positions.

The proper position in which to place the lock is in a mortise in the frame 10 of the window with the face of the front f flush with the front face of the frame against which the sashes are designed to slide.

In the drawings 11 designates the facing that is attached to the frame 10, 12 being the dividing guide strip between the upper and the lower sash, and 13 the inner guide strip that is attached to the frame 10.

14 designates the upper sash and 15 the lower rail thereof, 16 designating the lower sash and 17 the upper rail thereof. The bottom of the lock case is in the same plane as the bottom of the rail 15 of the upper sash, and the top of the case is in the same plane as the top of the upper rail 17 of the lower sash, so that the lock bolt l will be hidden behind the upper sash and the lock bolt n will be hidden behind the lower sash, each sash having any desired number of holes to receive the lock bolts. Preferably the upper sash is provided with a metal facing strip 18 having holes 19 to receive the lock bolt l , and the lower sash has a similar strip 20 having holes 21 to receive the lock bolt n .

It will be understood that the strip 12 extends across the front f of the lock case and the lock is secured in position by means of screws j' and k' which, however, do not sustain the strains which may be put upon the lock in an effort to forcibly move either sash, since the lock case cannot be dislodged by such forcible effort because it is fitted securely in a mortise in the frame as above-mentioned. A guide tube 22 is provided which extends through the facing 11 and into the window frame 10, the outer end being preferably provided with an escutcheon plate 23 that is secured to the facing 11.

In practical use the key is to be inserted into the guide tube 22 and into the slot t and slightly turned, which operation will withdraw or retract both of the lock bolts, and

then either one of the sashes may be moved nearly to the position in which it may be desired to be placed, after which the key may be withdrawn, and if then the sash be moved slightly up or down, one of the holes 19 or 21 will receive the lock bolt and securely hold the sash against further movement, while the other lock bolt will return into the hole from which it may have been withdrawn, if the sash having such a hole has not been moved, and of course both sashes may be moved when the lock bolts are retracted.

Having thus described the invention, what is claimed as new is—

1. A duplex sash-lock including a case, two spring-pressed lock-bolts mounted in the case and having each a guide to engage the case and having also a projection, a rock-shaft journaled in the case and having also two arms engaging the projections to retract the lock-bolts, one end of the rock-shaft having a slot therein and also a notch in the peripheral face thereof, a pawl pivoted in the case and normally extending into the notch, and a key to enter the slot and lift the pawl for turning the rock-shaft, the pawl engaging the key when turned and preventing the returning of the rock-shaft.

2. The combination with a window frame and two sashes mounted slidably in the frame and having holes to receive lock-bolts, of a duplex sash-lock set into the frame and covered by the two sashes, the sash-lock having two spring-pressed retractable lock-bolts to enter the holes of the sashes, a rock-shaft journaled suitably and having a key-slot in an end thereof for retracting the two lock-bolts, a pawl for engaging a key when in the key-slot to hold the lock-bolts when retracted, a keyway extending from the slotted end of the rock-shaft through the frame, and a key to enter the key-slot for turning the rock-shaft and to be engaged by the pawl.

3. In a duplex sash-lock, the combination of a case comprising a back, and a top and a bottom, and also two ends, a front secured to the top and bottom and also to the ends, a pair of lock-bolts mounted movably in the back and the front and having each a guide flange that is rectangular in plan, each flange having a projection thereon, and a rock-shaft journaled in the ends of the case and having arms thereon extending between the front of the case and the projections of the lock-bolts and engaging the projections.

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

WILLIAM LIPPS.

Witnesses:

S. W. WORDEN,
ANDERVILLE SHAW.