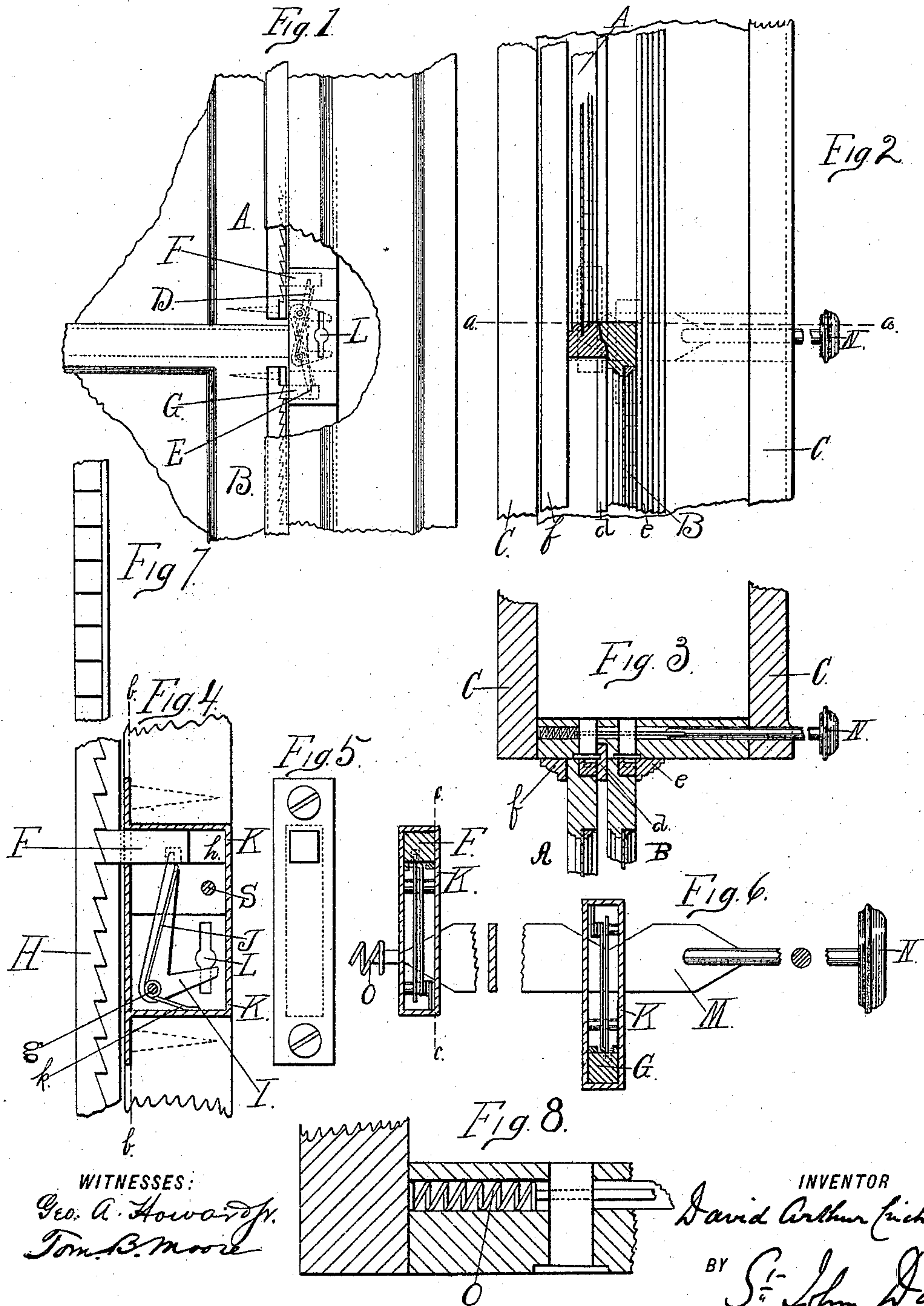


(No Model.)

D. A. CRICHTON.
SASH FASTENER.

No. 540,150.

Patented May 28, 1895.



WITNESSES:
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SASH-FASTENER.

SPECIFICATION forming part of Letters Patent No. 540,150, dated May 28, 1895.

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To all whom it may concern:

Be it known that I, DAVID ARTHUR CRICHTON, a subject of the Queen of Great Britain and Ireland, and a resident of Los Angeles, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Locks or Fastenings for Window-Sashes and Sliding Doors, the same being applicable for other purposes, of which the following is a full, clear, and exact description or specification, reference being had to the accompanying sheet of drawings, forming a part hereof.

My invention relates to an apparatus for fastening the sliding sashes of windows or sliding doors or other analogous sliding appliances.

The object of the invention is to provide an improved sash lock simple, durable and effective in construction and operated by an improved form of key.

On the annexed sheet of drawings, Figure 1 is an inside elevation of a portion of a window and window-casing, with a portion of the woodwork broken away and showing my improved locking apparatus applied thereto. Fig. 2 is a side elevation of the same, showing the window sashes and glass in section. Fig. 3 is a horizontal section of the same on the line *aa*, Fig. 2. Fig. 4 is a vertical section on the line *cc*, Fig. 6, full size, showing the casing and lock in its place therein, the sliding bolt of the lock, also the operating-lever, spring, and ratchet-bar. Fig. 5 is a front elevation of the lock, full size, showing the end of the bolt for engaging with the ratchet-teeth. Fig. 6 is a section, full size, of two of the side locks in the relative positions which they occupy in the window-casing; also showing the key which passes through both locks. Fig. 7 is a front elevation of a portion of the ratchet-bar shown in side elevation, Fig. 4. Fig. 8 is a detail hereinafter referred to.

In Figs. 1, 2 and 3, the upper sash frame is marked A and the lower sash frame is marked B. The sash frames are of ordinary construction and fitted to slide in the casings as though in the usual manner, being kept apart the requisite distance by the parting strip *d* and held in their places by the sash strips *e* and *f*, as shown in Figs. 2 and 3.

The lock for controlling the opening of the upper sash is marked D and the lock for controlling the opening of the under sash is marked E. Both locks are of the same construction, which construction is shown more particularly in Figs. 4, 5 and 6. The lock which controls the upper sash is placed with its movable bolt F uppermost, and the lock which controls the lower sash is placed with its movable bolt G lowermost.

As shown at Figs. 4 and 6, the lock is constructed with one of its side plates removable and this is held to the body of the lock by the screws *g* passing through the side plate and entering corresponding screw holes in the opposite side plate, so that when tightened, these screws hold the two parts of the lock casing together.

In the upper part of the lock casing as shown at Fig. 4, there is situated a rectangular transverse way or recess *h* open at the outer end and inner side for receiving the bolt, which is the bolt marked F in Fig. 1; and in the case of the lock in the inverted position shown at G in the lower sash in Fig. 1, this recess *h* for receiving the bolt is in the lower part of the lock casing. The outer end of these bolts as shown more particularly by bolt F in Fig. 4 is inclined to correspond with the shape of the teeth of the ratchet bar H, and in its normal condition, protrudes in and engages with that tooth of the ratchet bar nearest to it, as shown at Figs. 1 and 4.

In that end of the lock casing K opposite to the end which contains the sliding bolts F or G, a bell crank lever I is pivoted. This bell crank lever is carried upon one of the screws *g* which holds the parts of the lock casing together, as shown more particularly in Fig. 4.

The upper end of the longer arm of the bell crank lever I enters a socket in the bolts F or G as shown at Figs. 4 and 6 and a spring J is also held in place by the screw *g* passing through the coil thereof. The lower arm of the spring J, rests upon the bottom part *k* of the lock casing, and the upper part of the spring J rests against the upper or longer arm of the bell crank lever I, and the spring J being compressed by its bottom part *k* bearing upon the casing and its upper part against

the bell crank lever, at all times causes the bolts F or G to be forced outward into the locked position as shown at Figs. 1 and 4.

Each lock casing K has a hole L formed in it circular at the center and a parallel slot extending vertically upward and downward as shown at Figs. 1, 2 and 4. A hole of this shape is also constructed so as to extend right through the window casing as shown more particularly at Fig. 2, so that the pushing key M may be inserted through the opening in the casing and passed right into the two locks of the upper and under sashes as shown more particularly in Fig. 6.

The inner part of the pushing key, which is shown full size in Fig. 6, consists of a flat strip of metal which is inserted through the hole in the casing and passes right into each lock of the upper and under casing respectively.

The innermost end of the pushing key M is formed with its inner end inclined upward, and that part of the pushing key M which enters the lock of the lower sash is formed with a corresponding incline upon its upper side. These two inclined portions of the pushing key M bear upon the short arm of each bell crank lever I, so that as the finger or hand is pressed upon the knob N, the inclined planes press upon the short arms of the bell crank levers in such manner as to pull the long arms backward or inward, and simultaneously therewith to withdraw the bolts F and G from the ratchet teeth in the upper and lower sashes. When the bolts F and G are thus withdrawn, the sashes are free to be raised or lowered to any desired position and are maintained in that position so that the upper sash shall not be lowered below that position nor the lower sash raised above that position when the pressure of the finger or hand on the knob end is withdrawn, which allows the bolts F and G to return to the locked position.

For the purpose of enabling the pushing key M to be returned to its normal position, a spiral spring O is placed in a recess in the casing, which being compressed in the act of pushing the key M inward to withdraw the bolts, reacts and pushes the key M backward instantly that the pressure of the finger or hand upon the knob N is withdrawn.

Although I have, on the annexed sheet of drawings, shown my sash or sliding door locking apparatus as applied for locking an upper

and under sash by means of the said locks being fixed in the window casings and the ratchet bar fixed in the sash frames, yet I desire it to be understood that the relative positions of the locks and the ratchet bars may be reversed, that is to say, the locks may each be placed respectively in the upper and under sash frames, and the ratchet bars may be respectively fixed in the window casings. When these locks are placed in the sash frames and the ratchet bars in the window casings, it follows that the locks cannot be operated simultaneously as in the manner hereinbefore described with reference to my invention, as shown upon the accompanying sheet of drawings; but in such case the said locks are operated independently of each other. It is also to be understood that in place of applying the two locks as hereinbefore described, for locking the two sashes of a window or the two halves of a double sliding door, one of such locks with its corresponding ratchet bar and operating key may be used for locking such single sash or door.

Having now described the nature of my said invention and the manner of carrying the same into practical effect, I desire to observe that what I claim as the invention to be secured to me by Letters Patent is as follows:

1. The combination of a sash having an edge rack, a case in the window frame having a sliding spring held bolt to engage the rack, means, substantially as described, for withdrawing the bolt, the case and window frame having a key opening, an expansive spring at the inner end of said opening, and a sliding key provided with inclined edges to act on said bolt, and controlling means, substantially as described.

2. The sash lock comprising a case, a spring held bolt therein, the bell crank lever fulcrumed therein with one arm engaging the bolt to throw the same, the case provided with an opening opposite the short arm of said lever, and the sliding key having an inclined edge to engage said short arm and swing the bell crank lever, substantially as described.

In testimony whereof I have hereunto set my signature in presence of two subscribing witnesses.

DAVID ARTHUR CRICHTON.

Witnesses:

S. J. DAY,
GEO. A. HOWARD, Jr.