

(No Model.)

R. R. COWL.
SASH BALANCE.

No. 500,756

FIG. 1. Patented July 4, 1893.

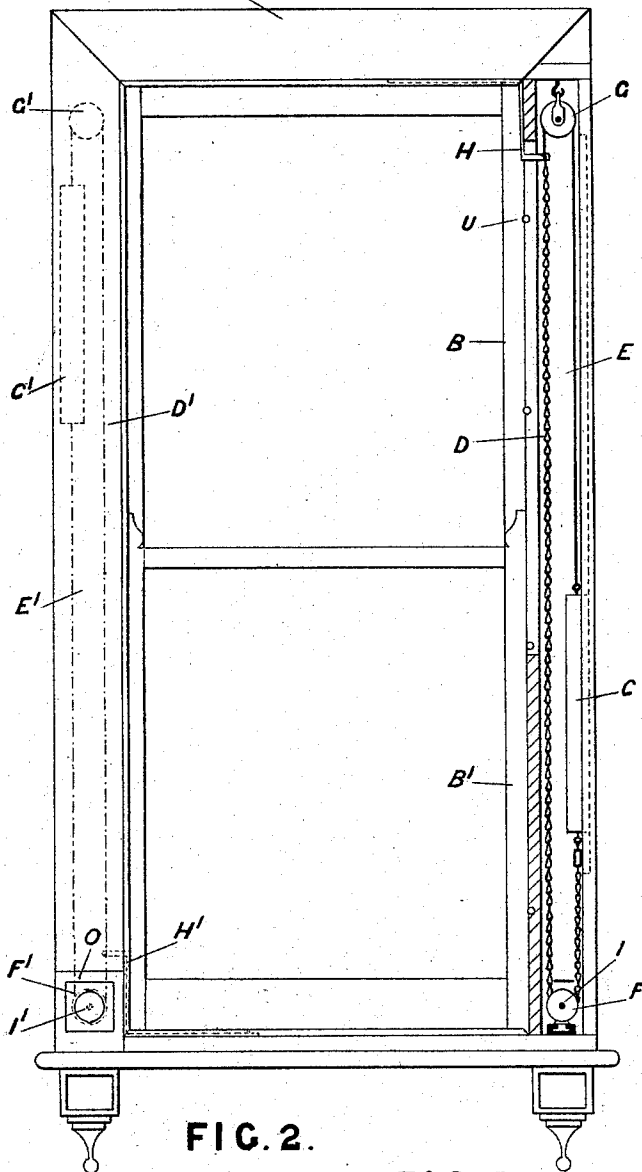


FIG. 2.

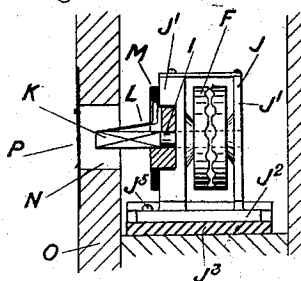


FIG. 3.

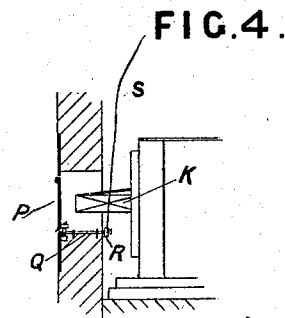
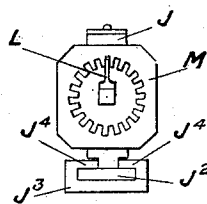


FIG.4.

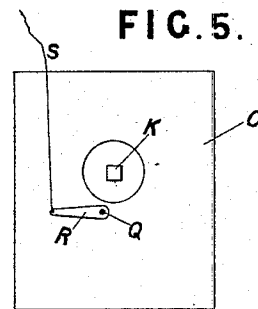


FIG. 5.

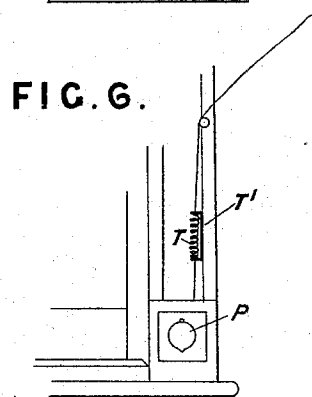


FIG. 6.

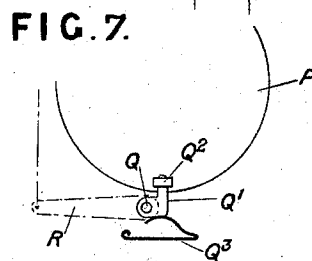


FIG. 7.

INVENTOR.

INVENTOR.
Robert D. Lowe

WITNESSES
M. D. Rowling
M. H. Embury

UNITED STATES PATENT OFFICE.

ROBERT R. COWL, OF SOUTH MELBOURNE, VICTORIA.

SASH-BALANCE.

SPECIFICATION forming part of Letters Patent No. 500,756, dated July 4, 1893.

Application filed January 28, 1893. Serial No. 459,935. (No model.) Patented in Victoria May 25, 1892, No. 9,670.

To all whom it may concern:

Be it known that I, ROBERT R. COWL, architect, a subject of the Queen of Great Britain and Ireland, residing at 4 Vincent Street, in the city of South Melbourne, in the Colony of Victoria, have invented a certain new and useful invention entitled a new or Improved Locking-Gear for Window-Sashes, (for which I have received Letters Patent in the Colony of Victoria, dated May 25, 1892, No. 9,670,) of which the following is a specification.

The object of my invention is to provide a lock whereby windows of dwelling houses, warehouses, banking institutions, and other such places may be rendered secure, against being opened from the outside by burglars or others who have no right to enter.

To operate my locking gear it is necessary to use a special form of key and another essential feature is the use and arrangement of a wire, secretly extended from the lock of the window to any part of a household so as to prevent the use of the aforesaid key for the purposes of either locking or unlocking the sashes, until such wire is first pulled to release a hinged door which covers a part of the lock that receives the key. There are two locks employed for each window, one for the upper sash and another for the lower one, so that either sash may be opened and locked in any portion of the frame, or they may be raised to any height from one inch upward, and there left, for the purpose of ventilation, and cannot be moved by any person until unlocked. But in order that my invention may be better understood I will now refer to the accompanying sheet of drawings which are to be taken as part of this specification and read therewith.

Figure 1, is an inside face elevation of a window frame provided with two sashes. Fig. 2, is an enlarged sectional view showing a fragment of the frame in which is fitted the locking gear for one sash. Fig. 3, is a front elevation of Fig. 2, but without the window frame. Figs. 4, 5, 6, and 7 illustrate detail views of the mechanism employed for fastening and unfastening a small door covering the aperture in the frame, into which the key is inserted to operate the locking gear.

Similar letters of reference indicate similar

or corresponding parts where they occur in the several views.

In the drawings (A) is an ordinary window box frame provided with two window sashes (B) and (B') which are balanced by means of two weights (C) and (C'), the former counterbalances the upper sash while the latter counterbalances the lower one. (D) and (D') are two endless belts arranged one in each of the boxes (E) and (E') of the said frame. The said belts consist each of two parts namely a chain (termed a solid link chain) and a steel cable rope, connected together so that the chain portions will engage the sheaves (F) and (F') while the cable engages the upper sheaves (G) and (G'). The said belts (D) and (D') connect with the weights (C) and (C') and are fastened to two brackets (H) and (H') secured to the respective sashes. Said sheaves (G) and (G') are suitably suspended from the upper portion of the boxes (E) and (E') while in the lower portion are the sheaves (F) and (F') secured to the horizontal spindles (I) and (I'). Each horizontal spindle (I) and (I') is carried by a frame (J) consisting of two bearings (j') and (j'') formed upon a suitable foot (J²). To facilitate the method of fixing the said frame, I arrange a base plate (J³) provided with guide strips (J⁴) and (J⁴'), which grasp the foot before mentioned laterally, while the binding screw (J⁵) prevents it from coming forward. The outer end (K) of each spindle (I) and (I') is made square, so that a square socket key may be fitted thereon to operate the lock. To one side of the square end portion of the said spindle is secured a flat spring pawl (L) which is capable of being engaged with, or disengaged from a toothed circular hole formed in the metal plate (M) secured to the said frame (J). An aperture (N) is made in the removable block (O) for the purpose of admitting the socketed key beforementioned to engage with the spindle (I). To each of the said blocks (O) is secured a metal plate which is provided with a hinged door (P) to cover the aperture (N). The said door can be either fastened or unfastened by means of a catch pin (Q), upon one end of which is a hook shaped projection (Q') to engage an eye (Q²) upon the door (P). The said catch is kept intact by the spring (Q³).

Upon the other end of said spindle is secured a lever arm (R) to which is connected a wire (S) that may be carried through the box in the window frame and secretly extended
5 to any desired part of the building.

(T) is a spiral spring arranged in the bracket, (T') secured to the frame (A) to keep the wire in tension. To allow the sashes working accurately and smoothly in the frame, so that
10 they will not jam or get loose by the swelling or shrinking of the woodwork, nor rattle or admit drafts in boisterous weather, there are suitably arranged, two india rubber anti-friction rollers similar to (U) in each side of
15 the two sashes. These rollers work in grooves formed in the guides or jambs of the frame. The said grooves may be faced with a metal strip whereby the wear will be equalized better than of a wood facing.

20 The method of operating my invention is as follows:—For the purpose of releasing the hinged door (P) the secretly laid wire (S) is first pulled, which action operates the lever arm (R) and at the same time gives a partial revolution to the catch pin (Q) and disengages the
25 hooked projection (Q') from the eye upon the door. To unlock the sash (B), it is only necessary to push a socket key upon the square end (K) of the spindle (I) until it depresses
30 the spring pawl (L) from the toothed hole of the plate (M). While the key is left upon the spindle (I) the latter carrying the sheave (F) may now be revolved thereby permitting the endless belt (D) with the weight to be
35 either raised or lowered to any position. In order to lock said sash the key is withdrawn from the said spindle during which action

the spring pawl (L) engages the toothed plate (M) and locks the said spindle (I) thereby preventing the endless belt (D) and sash (B) 40 from being moved. When the spindle (I) is revolved the endless belt (D) is carried by the sheaves (F) and (G) while the weight (C) counter balances the sash (B). It may be here explained that the same *modus operandi* 45 is carried out for the locking and unlocking of the other sash (B'). I wish it to be understood that the window cannot be opened from the inside until its secret wire is first pulled to release the door (P) and permit of the key 50 being used.

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

1. In combination, in a sash lock the sheave 55 and its spindle adapted to receive a key for operating the sheave, the toothed plate and the spring pawl engaging the same at its inner end and attached at its outer end to the outer end of the spindle to be pressed upon by the 60 key and thereby withdrawn from the toothed plate, substantially as described.

2. In combination, the sash, the weight and chain, the sheave with its frame, said frame having a foot J² and the grooved base plate 65 for receiving the said foot to permit adjustment of the frame, substantially as described.

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

ROBERT R. COWL.

Witnesses:

W. D. ROWLINGSON,
W. H. CUBLEY.