(No Model.)

W. D. LAWRENCE.

SASH LOCK.

No. 533,474. Patented Feb. 5, 1895.

Fig 1.

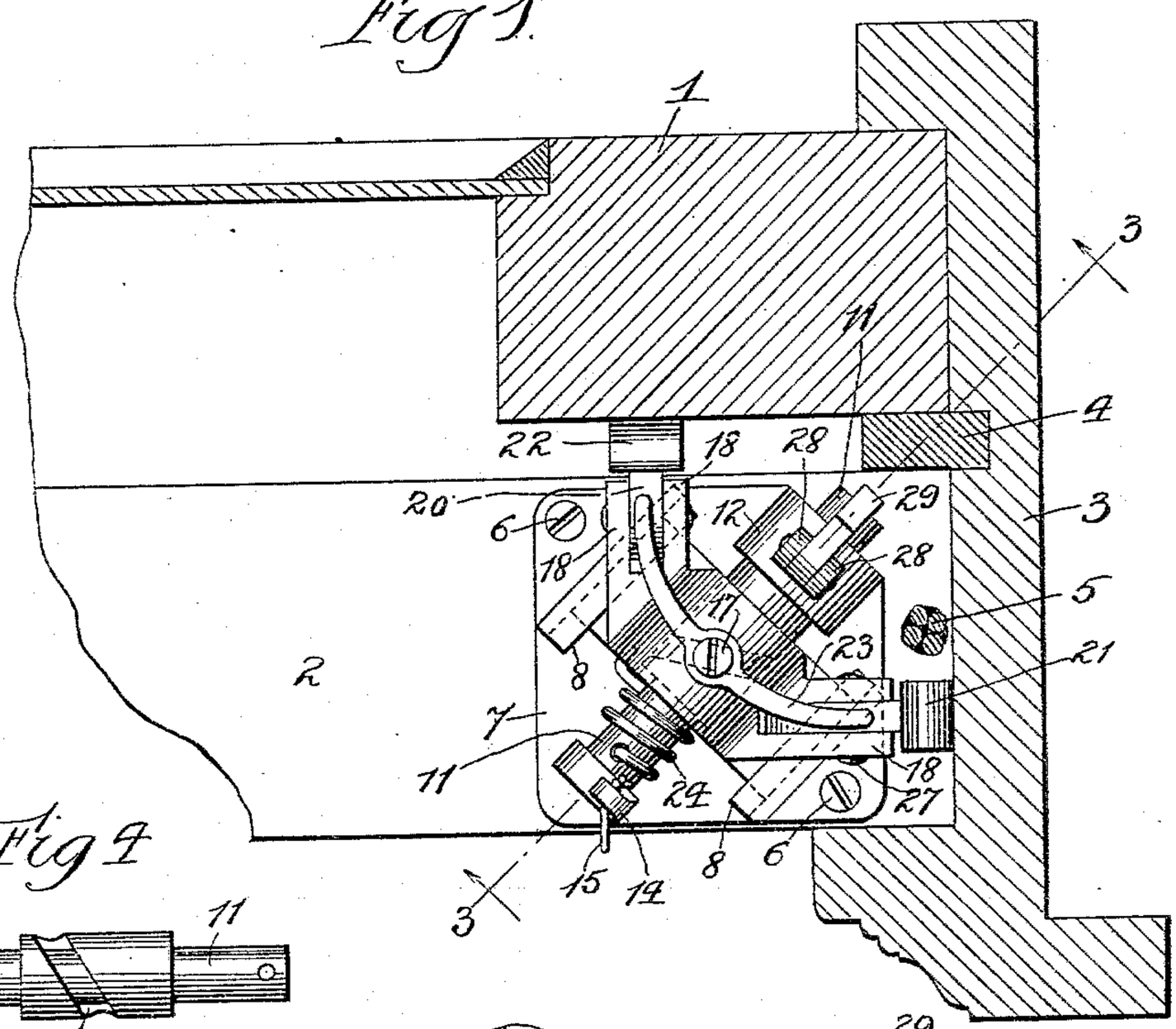


Fig 4

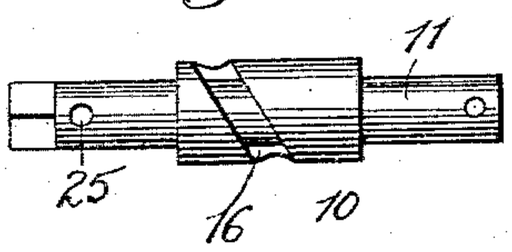
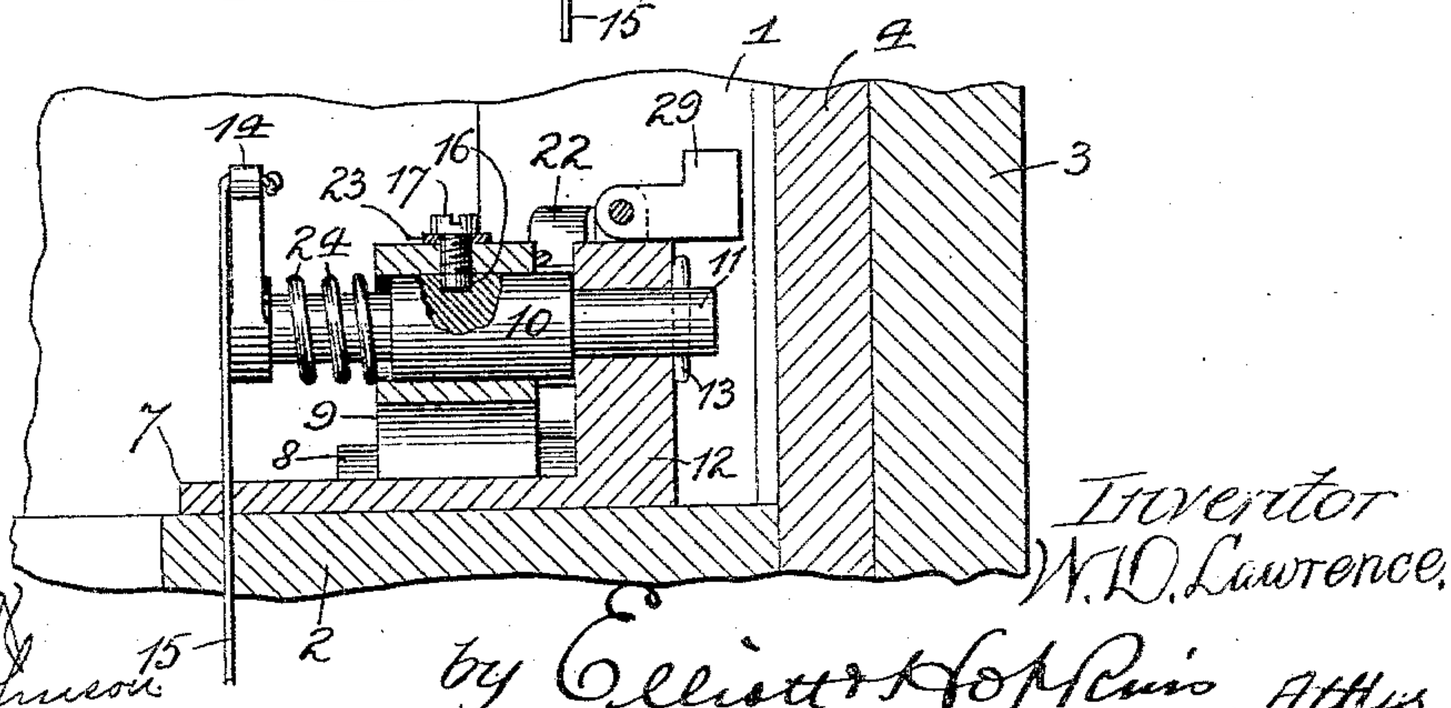


Fig 2.

Fig 3.



Witnesses
Wm. F. Hemming
Edna B. Johnson

Inventor
W. D. Lawrence,
by Elliott & Hopkins Attys

UNITED STATES PATENT OFFICE.

WILLARD D. LAWRENCE, OF CHICAGO, ILLINOIS.

SASH-LOCK.

SPECIFICATION forming part of Letters Patent No. 533,474, dated February 5, 1895.

Application filed April 9, 1894. Serial No. 506,790. (No model.)

To all whom it may concern:

Be it known that I, WILLARD D. LAWRENCE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Sash-Locks, of which the following is a full, clear, and exact specification.

My invention relates to that class of locks or latches employed for locking window sashes against clandestine opening, and it has more especial reference to those designed for holding the sash at any desired extent of opening.

The especial object of my invention is to lock the upper and lower sashes together at any desired position with relation to each other; whereby the lower sash can neither be pushed farther up when the window is open from the bottom, nor the upper sash pulled farther down when open from the top; thus preventing any one from increasing the window-opening from the outside.

The object of my invention is to provide improved means for locking the sashes together and also to the window frame, whereby the position of neither sash can be altered from the outside with reference to the frame.

With these ends in view my invention consists in certain features of novelty in the construction, combination and arrangement of parts hereinafter more fully described with reference to the accompanying drawings and particularly pointed out in the claims.

In the said drawings, Figure 1 is a plan view of an improved sash lock embodying my invention, showing the window frame and the upper sash in section. Fig. 2 is a side elevation thereof, the window frame being in vertical section. Fig. 3 is a sectional view taken on the line 3—3, Fig. 1, and Fig. 4 is a detail view of a shaft hereinafter explained.

Like signs of reference indicate like parts throughout the several views.

In carrying out my invention I preferably secure the lock itself to the lower sash, and provide it with two deflectable clogs or other equivalent devices which are so arranged as to bear against the upper sash and the window frame respectively in such a manner that the movement produced in attempting to move either sash in either direction will cause the clogs to bind, the clogs being so mounted as to be capable of receding from the parts against which they bear for permitting the sashes to be moved when certain mechanism hereinafter described, is actuated.

I will now particularly describe the example of my invention which is shown in the drawings in which 1, 2, represent the upper and lower sashes respectively; 3, the window frame, and 4 the ordinary parting strip arranged between the sashes, 5 being the sash rope.

Secured to the upper side of the lower sash in any suitable manner as by means of screws 6, is a base-plate 7 upon which is formed two parallel salient flanges 8. Engaging under these flanges and resting upon the plate 7 so as to slide back and forth is a sliding block 9 provided with a horizontal bore or passage through which passes the enlarged portion 10 of a shaft 11. The rear end of the shaft 11 passes through a standard 12 formed on or secured to the base-plate 7, and is held against longitudinal movement in such standard in one direction by the end of the enlargement 10 and in the other direction by a pin or equivalent device 13. The outer end of the shaft 11 is squared or otherwise prepared for the reception of a crank-arm 14 to which a depending cord 15 may be attached, so that a downward pull on the cord will cause a partial rotation of the shaft. It is desired that this rotation of the shaft shall impart the necessary movement to the block 9 for withdrawing the clogs from against the sash and frame; and in order that such rotation may accomplish this movement I provide the enlargement 10 with an oblique groove or channel 16 which is equivalent of a cam or screw and in which engages a depending pin or screw 17 passing through the upper side of the block 9. Thus it will be seen that as the shaft 11 is rotated in one direction one side of the groove 16 will act upon the pin 17 and force the block 9 in one direction while a reverse movement of the shaft will force such block in the opposite direction.

Formed on or secured to the block 9 on each side is a pair of ears or a bifurcated arm 18, and in these arms are pivoted respectively the shanks 19, 20, of two clogs or shoes 21, 22, which are adapted to come against the vertical member of the upper sash and the

window frame respectively. The faces of these shoes or clogs are formed on the arc of a circle or slightly rounded, but such arc is of course struck on a radius considerably longer than the distance from the pivotal point of the shank to the periphery of the the clog, whereby the movement of the sash will cause the clog to rotate on its pivot and the greater the movement the greater will be the binding effect of the clog.

The deflectable clogs 21, 22, have their axes of deflection arranged substantially at right angles to each other while the guide flanges 8 on the base-plate 7 and the shaft 11 are so arranged that the movement of the block 9 will be at an angle of substantially forty-five degrees with reference to the direction of the arms 18 so that when the block 9 is moved toward the window the clogs will be simultaneously brought into contact with the parts against which they are intended to bear; and when moved in the opposite direction will simultaneously release such parts. In order that the clogs may not drop down when withdrawn from contact with the sash and frame, and yet at the same time may be very sensitive to the slightest tendency to cause their deflection by frictional contact with the sash and frame, I act upon the upper edges of their shanks directly over their pivotal points with a delicate spring 23 which may be formed in one piece as shown in Fig. 1, and held in place by the same screw, 17, which constitutes a lug for engagement in the groove 16. By this arrangement it will be seen that the clogs will remain normally in a horizontal position so that when their faces are forced into contact with the sash and frame, they will touch at that point on their peripheries which is the shortest distance from their pivotal points.

In order that the clogs may remain normally in contact with the sash and the frame with sufficient pressure to create the requisite friction when either sash is moved for causing the rotation of the clogs on their pivots, I provide a spring 24 which may be sleeved upon the shaft with its one end engaging in a suitable socket in the block 9 as shown in dotted lines in Fig. 1, and its other end engaging in a perforation 25 in the shaft 11, the coiling of the spring being such that the downward movement of the arm 14 will tend to unwind it, such movement at the same time causing the withdrawal of the clogs. When the arm 14 is released the reaction of the spring 24 will not only elevate such arm and rotate the shaft to its normal position, causing the groove 16 to act on the lug 17, and force the clogs into engagement, but the reaction of the spring lengthwise of its coil will also assist in driving the block 9 toward the window.

Either or both of the shanks 19, 20 of the clogs may be provided with a number of perforations 26 for the passage of the pivotal screws 27 which constitute the axes of the clogs, whereby the clogs may be adjusted for adapting the device to sashes of various widths.

In order that the clogs may be held out of engagement when it is desired, at such times for instance as when the windows are being washed, &c., I provide a stop or dog which, when the block 9 has been withdrawn, may be caused to engage with such block and hold it in its withdrawn position. A convenient way of accomplishing this is to provide the upper side of the standard 12 with a number of ears 28 in which the aforesaid dog 29 is pivoted, so that when desired it may be thrown over upon the block 9 in such a manner that when the block has been withdrawn to a certain extent the end of the dog 29 will engage with its inner edge. When the dog is not in use it may be thrown back out of the way, as shown in the drawings.

Having thus described my invention, what I claim as new therein, and desire to secure by Letters Patent, is—

1. The combination of two deflectable clogs so arranged as to bear in contrary directions, a cam for advancing and retracting said clogs and a spring for actuating said cam in one direction, substantially as set forth.

2. The combination of a base-plate, a sliding block supported on said plate, deflectable clogs pivoted to said block, and means for advancing and retracting said block, substantially as set forth.

3. As a new and useful article of manufacture, a pair of deflectable clogs whose axes of deflection are arranged at an angle to each other, in combination with means for advancing and withdrawing said clogs, and means for holding said clogs against downward deflection, when withdrawn, substantially as set forth.

4. The combination with the window frame and sashes, of a lock secured to one of said sashes and having means for engagement with the other sash and the frame, a shaft provided with a cam for withdrawing said means from engagement with the sash and frame, a spring for rotating said shaft in one direction and also bearing toward said means for forcing the same into engagement with the sash and frame, substantially as set forth.

5. The combination of a sliding block, clogs pivoted to said block, a shaft passing through said block and having a cam groove, a stud on said block engaging in said groove, a spring coiled on said shaft and connected therewith at one end and bearing against said block at its other end, and means for rotating said shaft, substantially as set forth.

6. A sash lock having two deflectable clogs whose axes of deflection are arranged at an angle to each other, means for advancing and withdrawing said clogs and springs bearing upon said clogs for holding them against deflection when withdrawn, substantially as set forth.

WILLARD D. LAWRENCE.

Witnesses:
F. A. HOPKINS,
EDNA B. JOHNSON.