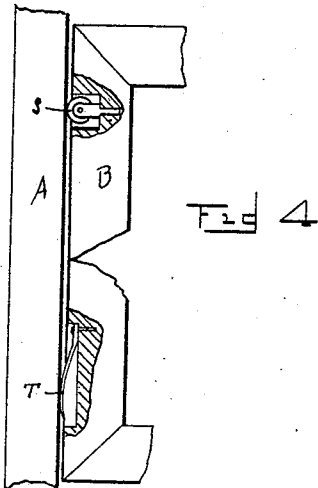
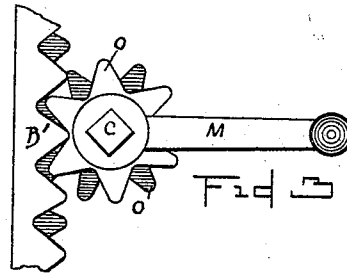
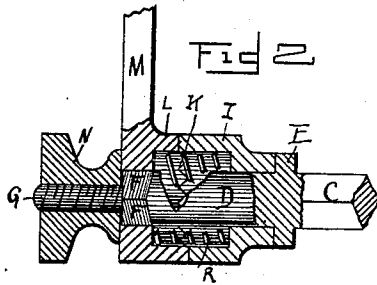
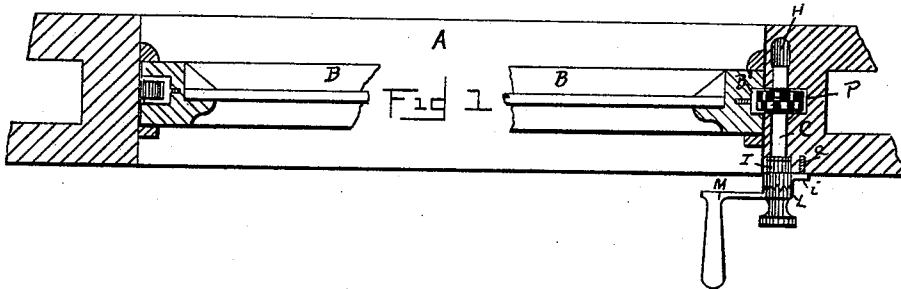


(No Model.)

J. M. YOUNGER.
SASH BALANCE AND LOCK.

No. 541,521.

Patented June 25, 1895.



WITNESSES:

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JOSHUA M. YOUNGER, OF SLOAN, IOWA.

SASH BALANCE AND LOCK.

SPECIFICATION forming part of Letters Patent No. 541,521, dated June 25, 1895.

Application filed January 25, 1895. Serial No. 536,286. (No model.)

To all whom it may concern:

Be it known that I, JOSHUA M. YOUNGER, residing at Sloan, in the county of Woodby and State of Iowa, have invented certain useful Improvements in Sash Balances and Locks; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention has relation to a new and novel sash lock and lift, the object being to provide a device that shall be so arranged that a woman or child can operate the same.

In the accompanying drawings, Figure 1 shows a sectional view of a window provided with my improvement. Fig. 2 shows a sectional view, with parts broken away, of the main stem of my window-lift. Fig. 3 shows a detached detail of the duplex-rack pinions, while Fig. 4 shows the arrangement of the counterbalancing spring and pulley.

A, represents the window frame, within which the window, B, is secured in position, as is shown. Upon one side, I provide the window with the duplex rack, B', positioned the full length of the side of the window frame proper, which rack is secured by any suitable means. Working adjoining the rack, B', is a shafting, C, which shafting, C, is square, excepting at the forward portion, where I provide the cylindrical portion, D, together with a cylindrical collar, E, terminating in the square portion, F, and finally terminating in a screw, G, as is shown in Fig. 2. This shafting, C, works, in the rear, within an ordinary thimble, H, which is driven into the window frame, A, and forms a suitable bearing for this shaft, C.

Secured within the forward portion of the window frame, A, is a collar, I, secured by means of an ear, *i*, and screw, *a*, so that this collar is fixed to the window. After the shaft, C, has been inserted through an opening made to receive the same, I adjust this collar, I, so as to movably lock the shaft, C. This collar, I, is provided, in front, with a serrated edge, K, which serrations have a corresponding set of serrations within the hollow boss, L, of the

operating crank, M, as is shown both in Figs. 1 and 2. This collar, I, is also hollow and is adapted to partially engage the cylindrical portion, B, of the shaft, C, while the crank, M, engages the square portion, F, of said shaft; said handle being held upon said shaft by means of the thumb screw, N. At a suitable point, this shaft, C, is provided with a duplex pinion, O, which works within the duplex rack, B', as is shown in Fig. 3. This pinion works loose upon the square portion of the shaft, C, and in the window I provide an opening, P, adapted to accommodate this duplex pinion O. In adjusting this device it is simply necessary to fit the duplex pinion within the duplex rack and then insert the bar, C, in which position the pinion will be locked, as it cannot be moved laterally.

Working within the hollow crank boss, L, and the collar, I, is an ordinary coil spring, R, which exerts a pressure against the crank, M, so that when said thumb screw, N, is released said crank works outward. In operating this device it is simply necessary to turn the crank, M, to raise the window, previously, however, having unthreaded the nut, N, so that the spring, R, forces the crank from within the serrations within the collar, I, when the shaft, C, can be readily turned to raise the window. As soon as a proper distance has been reached, the thumb screw, N, is threaded on its stem so that the serrations within the boss, L, and collar, I, lock, being held by means of the nut, N. To release the window, it is simply necessary to unthread the thumb screw N, when the spring again forces the crank outward, so that the shaft can be turned to lower the window.

To counterbalance the window, B, I provide the roll, S, above, upon the opposite side of the window, together with the spring, T, both fitted within suitable openings within the window, B.

Now, having thus described my said invention, what I claim as new, and desire to secure by United States Letters Patent, is—

1. In a sash lock and lift, the combination of the following instrumentalities to-wit: a duplex rack adapted to be secured to the window proper, a shaft, a duplex pinion loosely and adjustably mounted upon said shaft and

locking within said duplex rack, and means for operating said shaft, all substantially as and for the purpose set forth.

2. In a sash lock and lift, the combination
5 with the window frame and sash of the following instrumentalities to-wit: a duplex rack secured to said sash, a duplex pinion adjustable upon said shaft and meshing with
10 said duplex rack, a locking head upon said shaft, and a crank adjustably and detachably locking upon said head, all substantially as
and for the purpose set forth.

3. In a sash lock and lift, the combination
15 with the window frame and sash of the following instrumentalities to-wit: the duplex rack B', the shafting c, provided with the collar E, the cylindrical portion D, the square

portion F, and terminating in the screw G, the collar I, secured to the window frame and provided with a serrated head, an operating
20 crank m, provided with the serrated hollow boss l, said crank m, engaging the square portion f, of said shaft, the duplex pinion first mounted upon said shaft c, and meshing with
said duplex rack B', the spring r, working
25 within the boss l, the collar I, and the set screw n, all arranged substantially as and for the purpose set forth.

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

JOSHUA M. YOUNGER.

Witnesses:

W. D. BUCKLEY,
A. E. GRAVELLE.