W. BUECHLEY & T. THORN.

Sash-Fastener.

No. 161,655. Patented April 6, 1875.

Fig. 1.

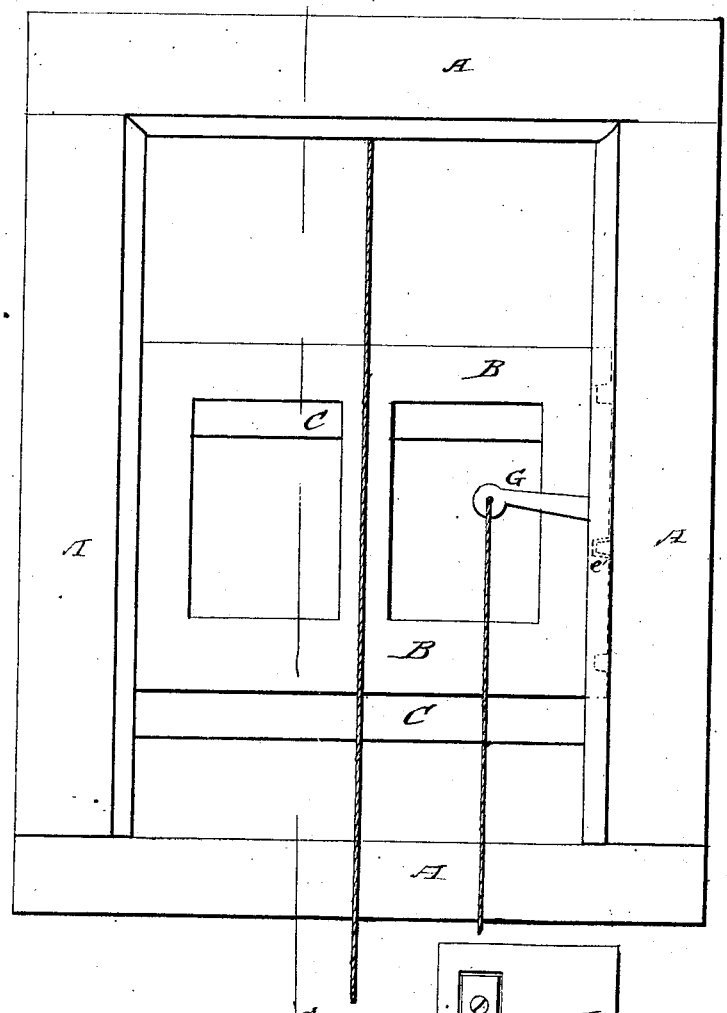


Fig. 2.

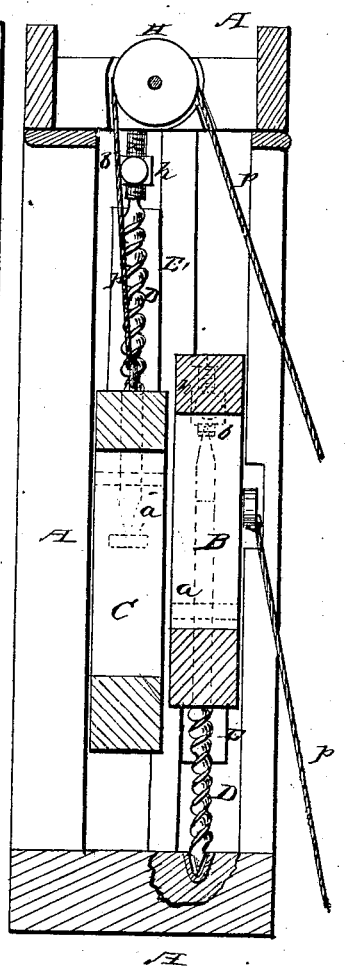
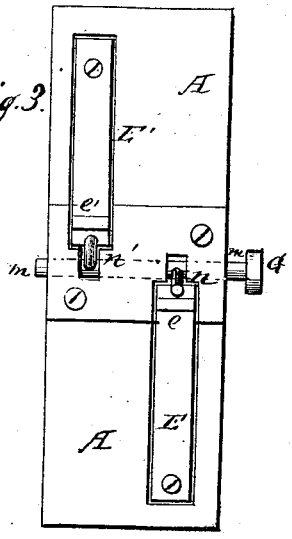


Fig. 3.



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UNITED STATES PATENT OFFICE.

WILLIAM BUECHLEY AND THEODORE THORN, OF POTTSVILLE, PA.

IMPROVEMENT IN SASH-FASTENERS.

Specification forming part of Letters Patent No. **161,655**, dated April 6, 1875; application filed March 15, 1875.

To all whom it may concern:

Be it known that we, WILLIAM BUECHLEY and THEODORE THORN, of Pottsville, in the county of Schuylkill and State of Pennsylvania, have invented certain new and useful Improvements in Sash-Locks; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings and to the letters of reference marked thereon, which form a part of this specification.

The nature of our invention consists in the novel construction and arrangement of a friction spring-lock for locking the sash, the spring having lugs and being operated by a shaft provided with a crank, and arms, as will be hereinafter more fully set forth.

In the annexed drawing, Figure 1 is a side elevation. Fig. 2 is a central vertical section, showing the means I preferably employ for raising and lowering the sash; and Fig. 3 is an interior face-view of my locking device, showing the springs, lugs, crank-shaft, and arms in position.

A represents an ordinary window-frame; B, the lower sash; and C, the upper sash. In the sill of the window-frame A, on each side, is inserted a step, *a*, hid within the sill. In each step *a* rests the lower end of a vertical screw, D, said end of the screw passing through a hole in the top of the sill, so as to rest in the step. The screw-rod D passes up through a vertical groove made in the edge of the vertical side rail of the lower sash B, and the upper end of the screw is pointed, and has its bearing in the lower recessed end of a set-screw, *b*, which is passed through a nut, *h*, secured to the side rail of the window-frame A. In the groove in the sash, near the lower end, is a nut, *d*, through which the screw-rod D passes, and the groove is made large enough for the sash to pass over the nut *h* and set-screw *b*. The screws or screw-rods D have short curves, and might more properly be called spiral or twisted.

It will readily be seen that, by means of the nuts *d d*, when the sash B is raised, the spiral rods D D revolve on their pivots *a* and *b*. By this means the ascent of the sash is relieved of nearly all its friction, besides relieving itself of its own dead weight, as the least upward movement causes the rods to revolve. The natural movement of the two combined is to climb up on its short curve, which actually causes the sash to rise as easily as if it was evenly balanced by weights.

To prevent the sash from falling too fast, and to lock the same, we use a spring friction-lock of our own invention, consisting of two springs, E E′, arranged in the side rail of the window-frame, and provided at their inner ends, respectively, with lugs *e e′*. The lug *e* on the spring E bears against the edge of the lower sash B, while the lug *e′* on the spring E′ bears against the sash C. The upper sash C is placed upon screw or twisted rods in similar manner to those of the lower sash. The springs E E′ force their respective lugs against the edges of the sash with sufficient pressure to prevent them from falling down, and at suitable intervals in the sash are made recesses, into which the lugs are forced by their springs, and thereby locking the sash. They are unlocked by means of a horizontal shaft, *m*, provided with a crank or knob, G, on its outer end, and with two arms, *n n′*, to operate on the ends of the springs and press the same away from the sash.

In the top rail of the window-frame is a pulley, H, over which passes a cord, *p*, attached to the upper sash C, and hanging down in front of the same, by means of which said sash can easily be operated. This is particularly intended for churches or other buildings, where the windows are too high to be reached from the floor.

Having thus fully described our invention, as well as the means we preferably employ for raising and lowering the sash, what we claim as new, and desire to secure by Letters Patent, is—

The combination, with the recessed window-sash B C, of the springs E E′, having lugs *e e′*, and the shaft *m*, provided with crank G and arms *n n′*, substantially as and for the purposes herein set forth.

In testimony that we claim the foregoing as our own, we affix our signature in presence of two witnesses.

WILLIAM BUECHLEY.
THEODORE THORN.

Witnesses:
ALBIN F. DAY,
DANIEL WILLIAMS.