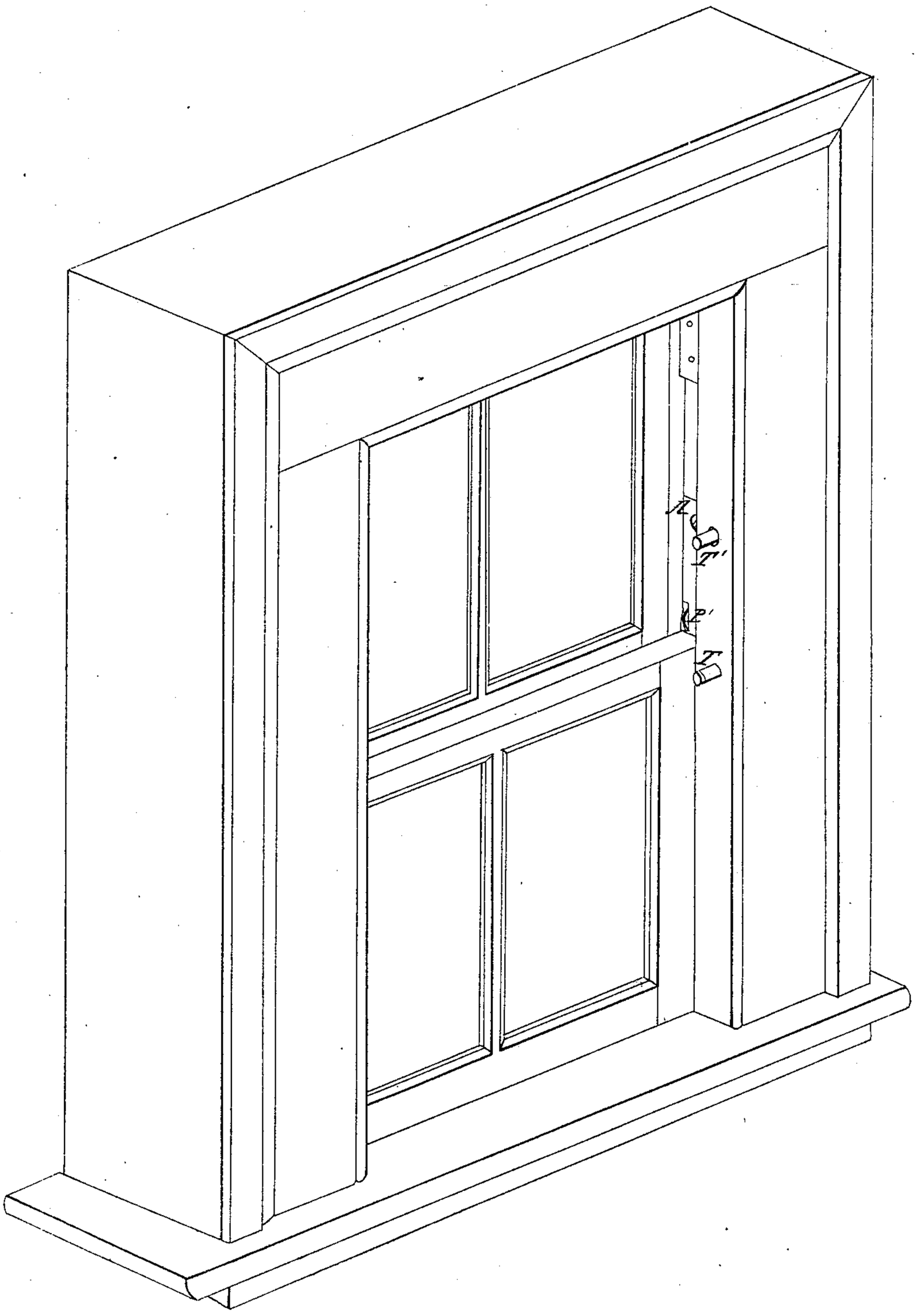
2 Sheets. Sheet 1.

W. B. Barnard,

Sash Balance.

No. 7,155. Patented Mar. 12, 1850.



2 Sheets. Sheet 2.

W. B. Barnard,

Sash Balance.

No. 7,155. Patented Mar. 12, 1850.

Fig. 2.

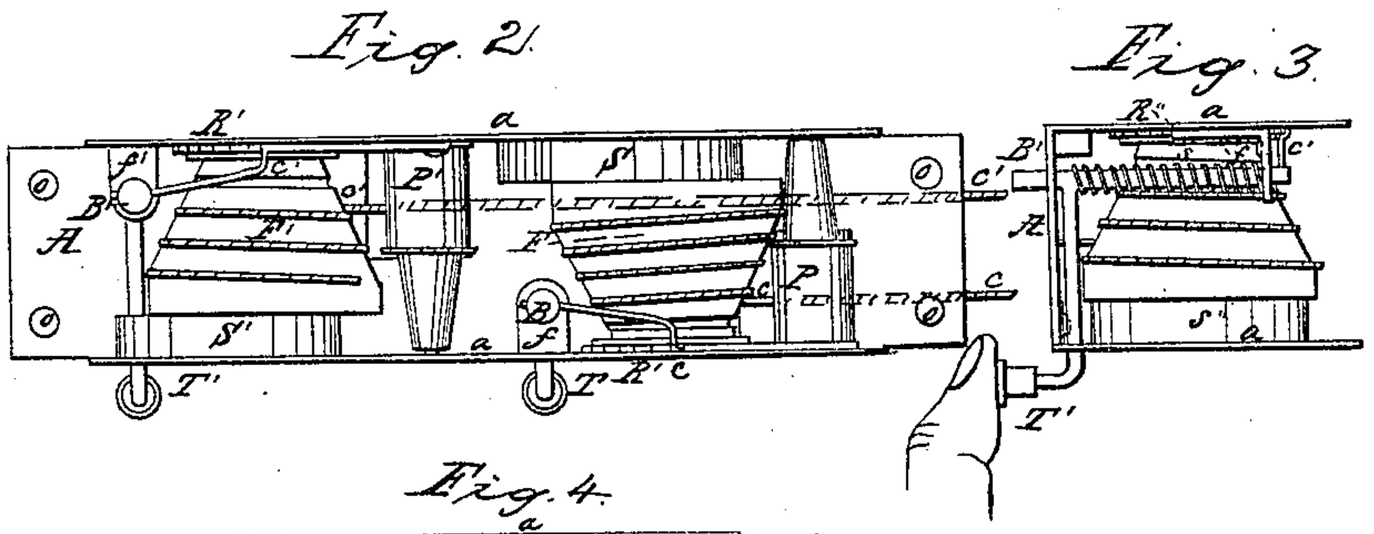
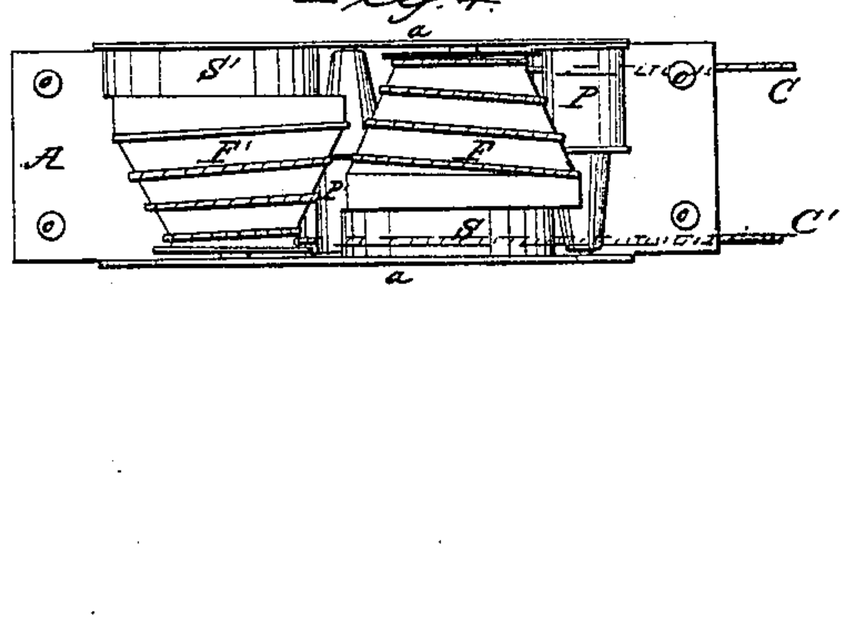


Fig. 3.

Fig. 4.



UNITED STATES PATENT OFFICE.

WM. B. BARNARD, OF BRISTOL, CONNECTICUT.

SPIRAL-SPRING SASH-STOPPER.

Specification of Letters Patent No. 7,155, dated March 12, 1850.

To all whom it may concern:

Be it known that I, WILLIAM B. BARNARD, of Bristol, Hartford county, and State of Connecticut, have invented a new and useful Sash Suspender and Fastener, and that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which make part of this specification.

My sash suspender instead of a weight consists of a coil spring and fuse placed in a convenient part of the window frame, one spring and fuse being placed on each side of each sash to be raised. Around the fuse is wound a cord to one end of which is attached the sash to be raised, and the other end is connected with the larger end of the fuse. When the sash is drawn down the cord is unwound from the fuse and the spring is wound or coiled up. The force of the spring is more than sufficient to suspend the sash in every position and consequently the fuse is furnished with a ratchet and click which serves to prevent the sash from being drawn up when it is desirable to keep it down, and to hold it in any intermediate position between closed and wide open. With the click for holding the ratchet and fuse in a fixed position, is connected a bolt operated by a thumb piece. This bolt when at liberty is kept out by a spring and projects from the sliding groove of the window frame into holes formed along the edge of the sash. A hole in the upper part of the lower sash when entered by the bolt serves to fasten that sash down, and a hole in the lower part of the upper sash entered by the bolt of that sash keeps the sash fastened up, so that no one can open either sash from the outside when the window has been fully closed.

Figure 1, represents a window, furnished with my suspender and fastener. The thumb pieces T and T′ being visible together with one of the friction rollers P′ by which the cord is guided from the inside of the box which contains the spring to the channel in the sash, in which its outer end is fastened. A is the outer plate of the box. The thumb pieces, bolts, ratchets and clicks are in general placed only in the springs on one side of the windows, but in case of need they may be used in those of both sides. Fig. 2 is a rear view of a spring furnished with the ratchets R and R′ with the clicks *c* and *c′*, the fastening bolts B and B′ and the thumb pieces T and T′, and adapted to be placed in the window frame on the right side of the window as seen in Fig. 1. S is the coiled spring, F the fuse and C the cord for sustaining the right hand side of the lower sash; and S′ is the spring, F′, the fuse and C′ the cord for sustaining the right hand side of the upper sash. A, is a metallic plate constituting the front of the box in which the spring is fixed, and *a*, *a*, are the side pieces which sustain the axes of the fuses F and F′. P and P′ are pulleys over which pass the respective cords C and C′. *f* and *f′* are projections from the side plates *a*, *a*, through which play the rear ends of the bolts B and B′, that operate the clicks *c* and *c′*, while the front end of each of said bolts serves to fasten its appropriate sash. Fig. 4 exhibits the rear view of a pair of springs without the thumb pieces, bolts clicks and ratchets for fastening, and intended to be placed on the left side of a window. The letters in this figure represent the parts corresponding with those seen in Fig. 2.

Fig. 3 exhibits a top view of a right hand spring, as the same is represented in Fig. 2. In addition to the parts exhibited in the latter figure, there is also seen in Fig. 3, the spiral spring *s* placed around the bolt B′, to push it forward, and for setting the click *c′* into the teeth of the ratchet R′. The operation of the springs is as follows: The sash being supposed to be drawn down and the bolt B′ being thrown out into a hole in the side of the sash the thumb or finger is applied to T′ the bolt B′ is pushed in compressing the spiral *s* and releasing at the same instant the click *c′* from its notch on the ratchet R′. The window sash then rises to its position in the upper part of the frame and on withdrawing the finger from T, the bolt again projects beyond the frame and fastens the sash up. To lower it again the thumb of the right hand is applied to T′ (Fig. 1,) and the left hand is employed in pulling down the sash to the extent desired. Taking the right hand from T′ before letting go of the sash with the left, the click *c* falls into its place and prevents the spring from again raising the sash until released as before. The operation of raising and lowering the lower sash is precisely similar to that of raising and lowering the upper

and it differs from the ordinary method of raising the lower sash of a window inasmuch as no lifting of the sash is required when my springs are used.

The arrangement of the two springs which operate on the upper and lower sashes is shown in Figs. 1 and 2 to be such that a single hand of the operator may simultaneously control the ascent of both the upper and the lower sashes.

The pulleys P and P′ deflect the cords but slightly from the right line and are much superior to the pulleys heretofore used with sash weights, over which the cord must bend constantly so far as to form a complete semicircle, thus interposing much resistance from rigidity and rapidly wearing out the cord.

What I claim as my invention and desire to secure by Letters Patent is—

The combination with the ratchet and click or any well known equivalent therefor, to arrest the action of the sash elevator, of the spring bolt (B) for fastening the sash thereby giving double security against any disturbance of the position of the sash, substantially in the manner and for the purposes herein set forth.

WM. B. BARNARD.

Witnesses:
J. A. Wells,
Anna K. Wells.