F. Henshaw,

Sash Holder.

No. 54,903. Patented May 22, 1866.

Fig. 1.

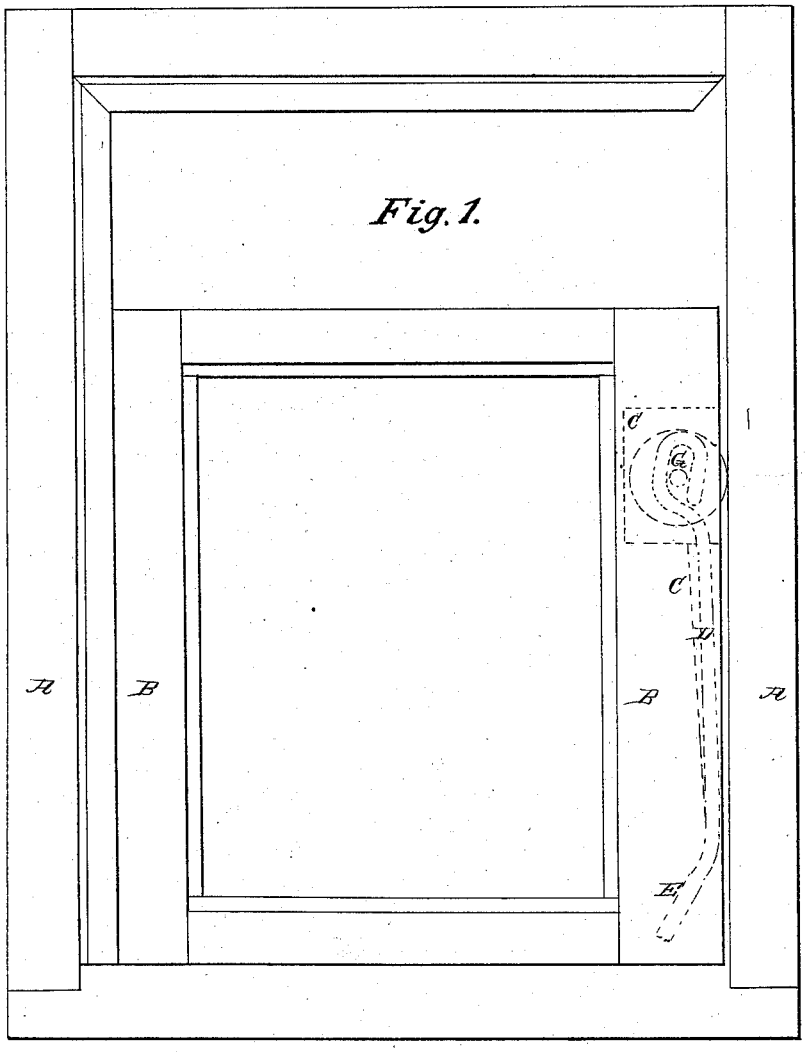


Fig. 4.

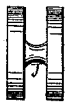


Fig. 2.

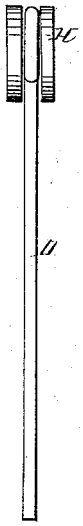
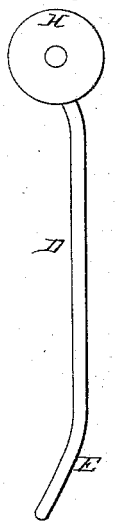


Fig. 3.



Witnesses.
Augustus Roberts
Walter Holt

Inventor.
Foster Henshaw
By his Atty—
J. Franklin Fuqua

UNITED STATES PATENT OFFICE.

FOSTER HENSHAW, OF WASHINGTON, DISTRICT OF COLUMBIA.

IMPROVEMENT IN WINDOW-SASH SPRINGS.

Specification forming part of Letters Patent No. **54,903**, dated May 22, 1866.

To all whom it may concern:

Be it known that I, FOSTER HENSHAW, of the city of Washington, District of Columbia, have invented new and useful Improvements in Window-Sash Springs; and I do hereby declare the following to be an exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

Figure 1 represents a window with the spring attached to the sash and the roller pressing against the window-frame. Fig. 2 shows an end view of the round spring and roller; Fig. 3, a side view of the spring and roller. Fig. 4 shows the shape of the roller in the center of its axis.

A represents the frame of the window; B, the window-sash; C, a mortise and groove in the side of the sash, in which the spring rests and operates; D, the spring, which is made of steel wire of sufficient thickness to support the weight of the sash. The lower end is bent, as seen at E, and inserted firmly in a correspondingly-shaped hole bored into the side of the sash. The upper end is bent to form a slot incline-shaped, as seen at G, the upper end inclining slightly outward, so that the window-sash in descending is held tighter to the frame than when being hoisted. The roller H, (pulley-shaped,) with a small center like an axle, operates in this slot G, the steel spring being bent around the axle, and the axle being narrower in the center, as seen at J, than at the sides, enables the roller to roll freely in the slot without catching or being stopped by friction, and as the sash descends the roller moves to the top of the incline slot G and bears harder against the frame A; but in ascending the roller moves to the lower end of the slot, and the spring is easier in its pressure.

I am aware that there are flat springs with stationary rollers attached to the sides of sash; but these I do not claim; but

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

The construction of the steel-wire spring, with its incline slot at top, in which the grooved axle of the roller operates and is combined, as herein described, and for the purposes set forth.

FOSTER HENSHAW.

Witnesses:

J. FRANKLIN REIGART,
JOHN S. HOLLINGSHEAD.