WILLIAM H. KING.

Improvement in Sash Holders.

No. 123,111. Patented Jan. 30, 1872.

Fig 1.

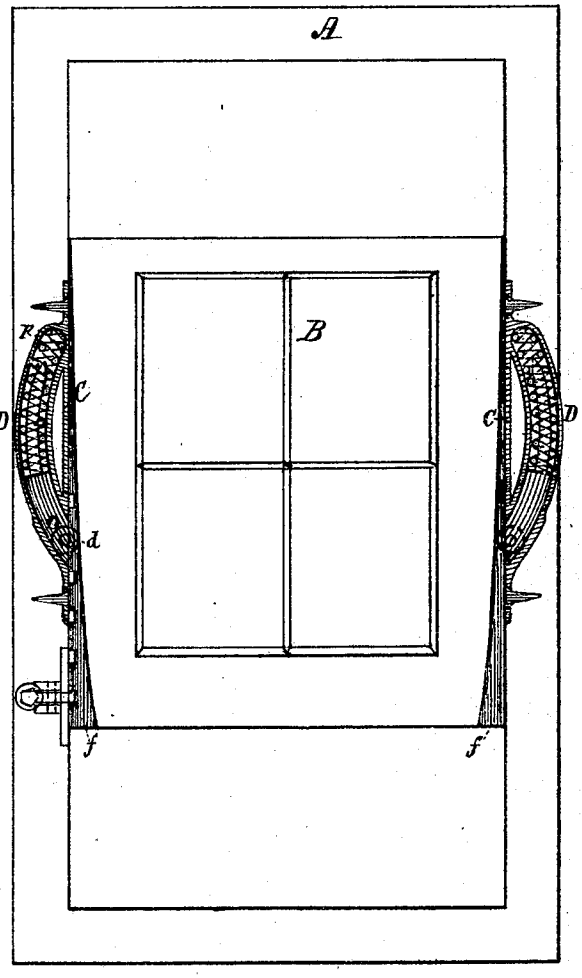


Fig 2.

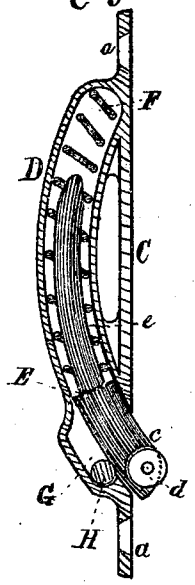


Fig 3.

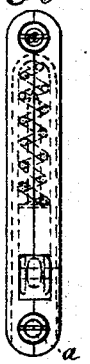


Fig 4.

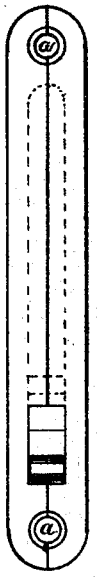
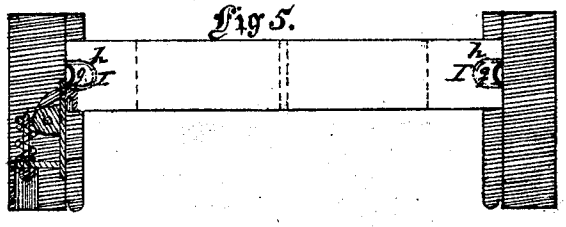


Fig 5.



Witnesses:
Parker H. Sweet, Jr.
Wm. Peyton.

Inventor:
W. Haskell King.
By James L. Norris
Atty.

UNITED STATES PATENT OFFICE.

W. HASKELL KING, OF NEWARK, NEW JERSEY.

IMPROVEMENT IN SASH-HOLDERS.

Specification forming part of Letters Patent No. 123,111, dated January 30, 1872.

To all whom it may concern:

Be it known that I, W. HASKELL KING, of Newark, in the county of Essex and State of New Jersey, have invented a new and useful Improvement in Sash-Lifters and Holders; and I do hereby declare the following to be a full, clear, and exact description thereof sufficient to enable others skilled in the art to make and use the same, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1 is a vertical section of the improved sash-lifter and holder. Fig. 2 is a vertical section of the case containing a friction-roller and operating-shaft. Fig. 3 is a front view of the same. Fig. 4 is a front view of the same, showing the anti-friction roller, the operating-shaft, and spring removed. Fig. 5 is a transverse section of a sash-frame, showing the formation of the guide-plate.

This invention is designed as an improvement upon the patent of W. Haskell King and Jared Rowland, dated February 21, 1871, No. 111,946, for an improvement in sash-holders; and to this end this present invention consists: First, in arranging within the jamb of a window-frame a metallic plate, which is provided or formed with a curved or elliptical socket to receive a curved bolt or shaft having a friction-wheel and a reacting spring, all of which act in connection with inclined surfaces on the sides of a sash in such a manner as to hold the same in any desired position, and at the same time assist in elevating the same—that is, to form a lifting power, whereby an upward movement is imparted to said sash. Second, the invention consists in forming a recess in the curved or elliptical socket within which is arranged an anti or other friction-roller, for a purpose hereinafter mentioned.

Similar letters of reference indicate corresponding parts in each figure.

The letter A designates the jamb of a window-frame, and B the sash, both of which are of the ordinary form and construction. C is a metallic face-plate, provided with holes *a a*, to receive screws, by which means the said plate is secured to the jamb. This plate is formed or provided with a curved or elliptical socket, D, within which is arranged a curved bolt or shaft, E, bearing on its front end or head *c*, and a friction-wheel, *d*, which operates on an incline formed or placed upon the sash B. A metallic or other suitable reacting spring, F, is arranged in the socket D, in the rear of the curved bolt or shaft E. This spring preferably surrounds the shank *e* of the bolt E, and has one end pressing against the shoulder of the head *c*, while the other end has its seat against the end of the socket D. This spring is thus arranged so that, owing to its tension, it will constantly press outward the curved bolt or shaft E, so that the friction-wheel *d* will operate upon or in a guide-groove of the inclined surfaces of the sash, by which means the sash will be retained in any desired position, the spring and bolt acting in connection with the inclines of the sash in such manner that it forms its own lifting or elevating power, and imparts to the sash an upward tendency—that is, the sash is elevated with less power than is required to lower it. The inclined surfaces of the sash are preferably covered with a metallic plate, I, which is formed with a guide-groove, *g*, corresponding with the guide-groove *h* of the sash.

By the employment of the grooved inclined metal plate a smooth surface is always present and wearing away of the wooden frame and, consequently, rough surfaces prevented.

To lessen the friction of the curved bolt or shafts in its inward and outward movements the socket D is formed with a recess, G, within which is arranged one or more anti-friction rollers, H, which are preferably placed loosely in the said recess, so as to have a rolling motion backward and forward. It is evident that a good result would also be produced if the roller was journaled or fixed within said recess.

By the construction given to the bolt and socket less space is required to apply the fixture in the jamb, and in operation the sash is always nicely counterbalanced by the action of the spring. The metal plate I is formed with a right-angled flange, clearly shown in Fig. 5, which is provided with a series of openings, within which shoots a bolt or catch to lock the sash in any desired position.

I have shown a peculiarly-constructed locking apparatus, for which I have made application for Letters Patent coeval with this present application.

Having thus described my invention, what I

claim as new, and desire to secure by Letters Patent, is—

1. The plate C, provided with the curved socket D, in combination with the curved bolt E, spring F, and friction-roller *d*, or its equivalent, operating in connection with the inclines of the sash, substantially as and for the purpose set forth.

2. In combination with the elements of the above, the recess G formed in the curved socket D, in combination with the friction-roller H, as and for the purpose set forth.

3. The inclines *f* of the sash, formed with the grooves *h*, in combination with the friction-roller *d*, curved bolt E, spring F, and socket D, with or without the recess G, and anti-friction roller H, substantially as and for the purpose set forth.

To the above I have signed my name this 16th day of December, A. D. 1871.

W. HASKELL KING.

Witnesses:

JAMES L. NORRIS,

WM. J. PEYTON.