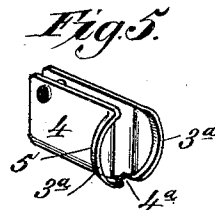
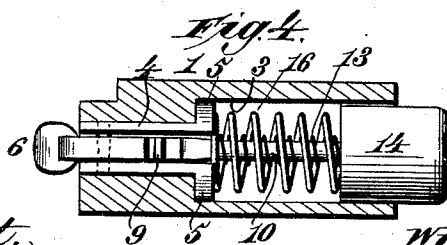
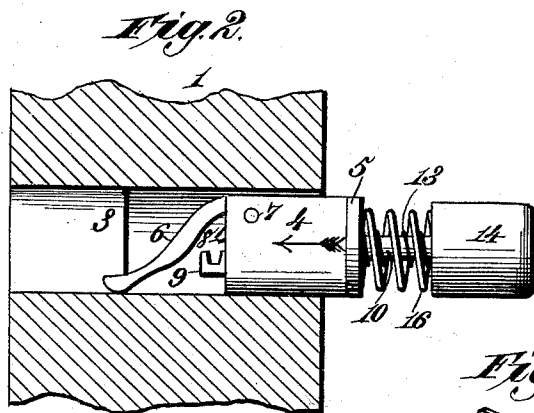
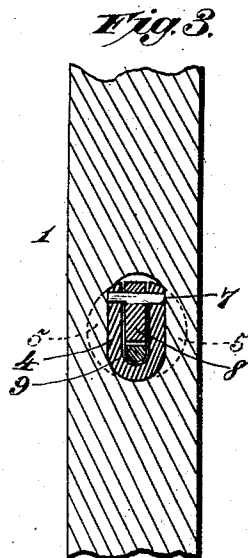
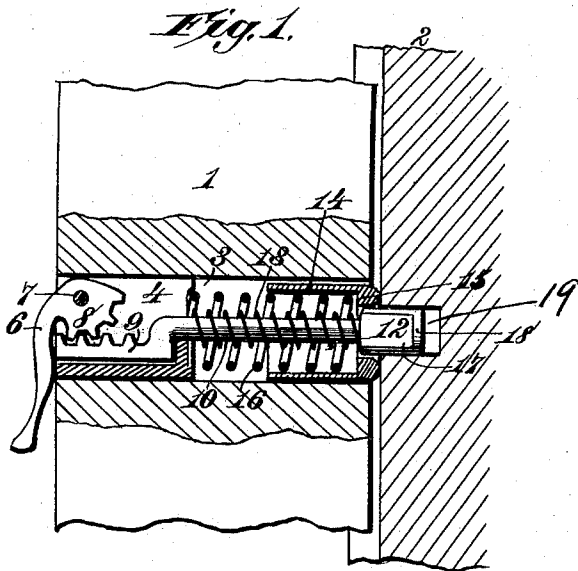


(No Model.)

W. H. KING.
SASH FASTENER.

No. 476,050.

Patented May 31, 1892.



Witnesses:
Robert Garrett.

Dennis Sumby.

Inventor:
William Haskell King.

By *James L. Norris.*

Atty.

UNITED STATES PATENT OFFICE.

WILLIAM HASKELL KING, OF NEW HAVEN, CONNECTICUT.

SASH-FASTENER.

SPECIFICATION forming part of Letters Patent No. 476,050, dated May 31, 1892.

Application filed January 6, 1892. Serial No. 417,186. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HASKELL KING, a citizen of the United States, residing at New Haven, in the county of New Haven and State of Connecticut, have invented new and useful Improvements in Sash-Locks, of which the following is a specification.

My invention relates to that type of sash locks and holders in which the sash is supported at any point by a spring-actuated plunger and is locked at certain established points by a separately-actuated bolt working within the plunger.

It is the purpose of my invention to provide simple, convenient, and durable means for operating the holding and locking devices, the construction being such that they may be easily applied to any form or pattern of sash upon either side and at any point, the attachment being readily made by any person without marring or defacing the wood.

It is my further purpose to so combine the spring-actuated holder with the independent spring-actuated bolt and with the operating-lever and housing within which the lever acts that the whole shall form a single device capable of being introduced within its seat in the sash without separating the parts and to provide an extremely cheap and effective fastening whereby the necessity for cords and weight in the ordinary "heft-window" is entirely avoided.

The invention consists in the novel features of construction and new combinations of parts hereinafter fully set forth, and definitely pointed out in the claims following this specification.

Referring to the accompanying drawings, Figure 1 is a front elevation, partly in section, of a portion of a sash and jamb, showing my invention applied. Fig. 2 is a view showing the manner of inserting the sash-lock in the sash-frame. Fig. 3 is a cross-section of the housing containing the operating-lever, pinion, and rack. Fig. 4 is a horizontal section taken centrally through the seat or recess in the sash-frame which receives the fastening. Fig. 5 is a view showing a preferred construction of the housing shown in Fig. 3.

In the said drawings, the reference-numeral 1 designates the sash-frame, and 2 denotes the jamb of the window, within which the sash

risers and falls, both being of any ordinary construction. In one of the outer sides of the sash-frame 1 is formed by means of any suitable instrumentality a circular opening, and in the corresponding inner side is formed a flattened or U-shaped opening of lesser diameter than the circular opening and communicating therewith, these two openings forming a seat 3. Lying within the flattened or U-shaped portion of the seat 3 in the sash-frame is a housing 4 of lesser diameter than the tubular plunger hereinafter described, consisting of a plate of metal or other material having substantially the form in cross-section of a letter U or its equivalent and provided at its forward end with curved flanges 5. In its open rearward end is pivotally mounted a lever 6, turning on a fulcrum-pin 7 and forming part of a segment gear or pinion 8. The pin 7 may be rigid with either the lever or the housing; or, if preferred, it may play axially in both. Entering the housing 4 at its forward end is a toothed rack 9, which meshes with a segmental pinion 8 and forms part of a spindle 10, which carries upon its end a locking-bolt 12. Encircling this spindle is a coiled spring 13, resting at one end against the housing and at the other end against the bolt 12, normally projecting the latter toward the jamb 2. Surrounding the spindle and bolt is a plunger 14, having upon its forward end an inwardly-turned flange 15, against which rests a strong spiral 16, coiled within the plunger, and which also abuts against the flanged end of the housing 4. The locking-bolt 12, which passes out of the flanged end of the plunger, is flattened upon two opposite sides, as shown at 17, leaving flanges 18 upon its end, and the opening in the end of the plunger through which the bolt passes is formed to correspond with the flattened portion of the bolt, whereby the retraction of the bolt after its end is brought flush, or substantially so, with the end of the plunger will carry the latter with it.

The tubular plunger 14 and the flanged end of the housing 4 are of substantially the same diameter and lie in the circular seat 3 in the sash-frame, said recess being of such size as to freely admit the parts, the circular opening 3 being cut from the outer edge of the sash-stile far enough so that when inserted in its place the flanges 5 of the housing will

rest against its end, while the housing lies in an oblong opening of suitable form, cut from the inner edge of the sash-stile into the end of the circular opening 3. When these two communicating openings are formed in the sash, the lock is inserted by simply raising the lever 6, as shown in Fig. 2, inserting the same in the outer end of the seat 3, and pushing it inward until the housing enters the oblong opening formed to receive it. As the parts reach their proper position the lever is thrown downward by the force of the springs and retains them in place.

I prefer to make the housing 4 in the form shown in Fig. 5, in which it consists of a single piece or plate cut and bent into the required form. At one end of the housing the material forming the flat parallel portions or walls of the housing is extended somewhat and curved at the ends to enable it to be bent laterally or at right angles, or nearly so, to the flat walls to form the flanges 5. To facilitate this construction a notch 4^a is cut in the end of the curved connecting-web of the housing. The semicircular edges of the flanges are turned or bent to form flanged edges 3^a, which serve to retain the end of the coiled spring 16.

When in position, the end of the plunger is thrown against the face of the jamb with such force as to securely hold the sash at any point or points desired. Openings 19 are formed of a size sufficient to admit the locking-bolt 12, and whenever in the movement of the sash the bolt is brought opposite one of these openings it springs therein and engages therewith, locking the window securely.

By simply raising the lever 6 the bolt is retracted until its flanged head is flush with and engages the end of the plunger, whereupon by a further rise of the lever the bolt retracts the plunger and all pressure produced by the strong steel spring 16 is removed from the jamb, thus permitting the sash to be raised and lowered.

The invention is extremely simple and inexpensive, is convenient and durable in operation, prevents the rattling of the window, and not only holds the sash at any point whatever, but locks it at all points where locking is desired. It avoids the necessity for cords and weights, thereby materially reducing the cost of construction, and is an effectual safeguard against the falling of the window and the consequent breaking of the glass and the danger of injuring children and others, since the lever is always thrown down automatically.

The device may be applied to top or bottom

sash and upon either right or left hand, and is equally applicable to any pattern of sash and jamb, old or new.

The locking device, in combination with the holder, resembles the invention shown in Letters Patent granted me the 4th day of February, 1879, No. 212,015, and I make no claim in this case to the devices shown in this patent.

Having thus described my invention, what I claim is—

1. A combined window-sash holder and lock consisting of a tubular plunger, a flattened or U-shaped housing of lesser diameter than the tubular plunger and formed at its end with a spring-seat, a spindle formed at its rear end with a rack lying in said housing and carrying a bolt at its front end, a lever fulcrumed in said housing and having a segmental pinion engaging said rack, a spring bearing at its front end against the tubular plunger and at its rear end in the seat formed in the housing, and a spring for operating the bolt independently of the tubular plunger, said spring bearing at its front end against said plunger and at its rear end in the seat formed in the housing, substantially as described.

2. The combination, with a window-sash formed with a cylindrical opening and a U-shaped opening of lesser diameter than the cylindrical opening and communicating therewith, of a flattened or U-shaped housing fitting the U-shaped opening in the window-sash, said housing formed at its end with a spring-seat, a tubular plunger working in the window-sash, a spindle formed at its rear end with a rack lying in said housing and carrying a bolt at its front end, a lever fulcrumed in said housing and having a segmental pinion engaging said rack, a spring bearing at its front end against the tubular plunger and at its rear end in the seat formed in the housing, and a spring for operating the bolt independently of the tubular plunger, said spring bearing at its front end against said plunger and at its rear end in the seat formed in the housing, substantially as described.

3. The housing consisting of a plate bent into two parallel walls, their ends bent laterally to form a seat for the spring 16, the edges of the laterally-bent portions being turned to form flanges, a separating-notch 4^a being formed in the curved web connecting the parallel walls, substantially as described.

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

WILLIAM HASKELL KING.

Witnesses:

JNO. R. SNOW,
C. F. BRYANT.