

(No Model.)

L. C. SMITH.
SASH FASTENER.

No. 567,620.

Patented Sept. 15, 1896.

Fig. 1.

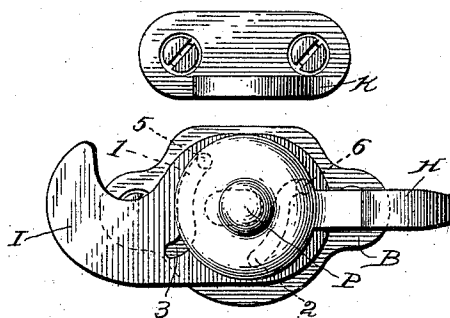


Fig. 2.

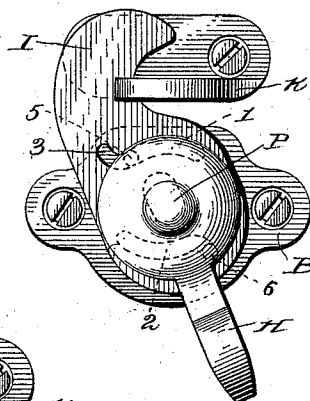


Fig. 3.

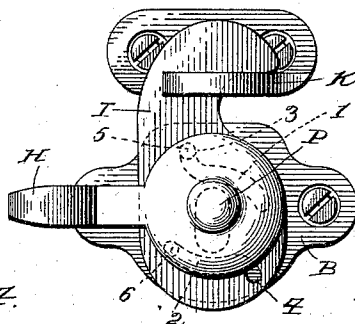


Fig. 4.

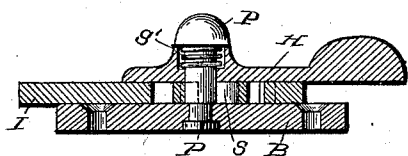


Fig. 5.

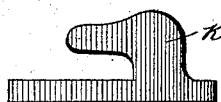


Fig. 6.

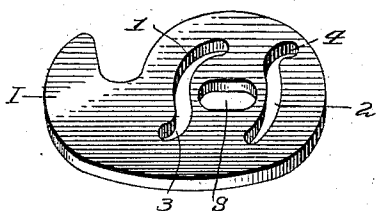


Fig. 7.

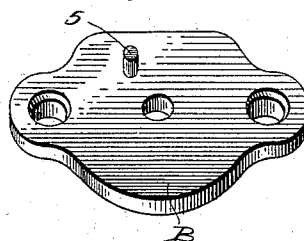
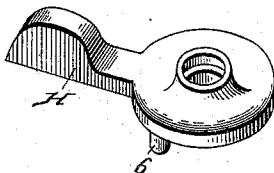


Fig. 8.



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UNITED STATES PATENT OFFICE.

LESTER C. SMITH, OF STAMFORD, CONNECTICUT, ASSIGNOR TO THE YALE
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SASH-FASTENER.

SPECIFICATION forming part of Letters Patent No. 567,620, dated September 15, 1896.
Application filed December 7, 1895. Serial No. 571,413. (No model.)

To all whom it may concern:

Be it known that I, LESTER C. SMITH, a citizen of the United States, residing at Stamford, county of Fairfield, State of Connecticut, have invented certain new and useful Improvements in Sash-Fasteners, of which the following is a specification.

The subject of this invention is a fastener for the meeting-rails of window-sashes, and relates to those devices which employ a base-plate, a hook, and a handle, all connected together by a central pin, permitting independent movement by which the hook is rotated by the handle, so as to turn it into and out of engagement with the customary keeper upon the upper sash and after the engagement to move the hook longitudinally to draw the meeting-rails securely together and lock the hook, so as to prevent its retraction by a knife-blade applied from the outside. The hook, which is interposed between the base-plate and handle, has a longitudinal opening, which permits its movement relatively to the base-plate in straining the meeting-rails together after engagement with the keeper and relaxing this strain prior to disengagement.

My invention consists in novel features of construction, to be hereinafter fully described, and particularly pointed out in the claim.

All the slots are formed in the hook, which adds to convenience of manufacture, and the base and handle simply have each a controlling-stud, thus simplifying the construction over devices heretofore used. To effect the proper movement of the hook, it is provided with two peculiarly shaped slots in front and rear of the elongated pin-opening, one of which slots works upon a stationary stud on the base-plate, and has a cam or an offset for engagement with the stud to cause the hook to move longitudinally to strain the meeting-rails together, a continued movement of the handle locking the hook, as hereinafter described. The other slot receives an operating-stud which projects downwardly from the handle-plate, adapting the handle to impart the swinging movements to the hook, and also terminating in a cam or an offset, which coöperates with the corresponding part of the opposite slot to impart the longitudinal movements to the hook when it is engaged

with the keeper to strain the rails together after locking or to release them in preparation for unlocking, as hereinafter described.

In order to make the device in its simple form, with a pair of slots in the hook and a single pair of studs located, respectively, on the base and handle, each slot is made for a portion of its length concentric with the opposite end of the elongated pivot-hole, and terminates at one end in a cam.

In the accompanying drawings, Figure 1 is a plan view of the fastener in unlocked position. Fig 2 is a plan view of the same in an intermediate position which is assumed during locking or unlocking. Fig. 3 is a plan view of the same in locked position. Fig. 4 is a vertical section taken on line 3 3 of Fig. 1. Fig. 5 is an elevation of the keeper. Fig. 6 is a perspective view of the base-plate. Fig. 7 is a perspective view of the locking-hook. Fig. 8 is a perspective view of the operating-handle.

B represents the base-plate, which is secured upon the top rail of the lower sash.

I represents the locking-hook, adapted to turn on the base-plate B.

H represents the operating-handle, pivoted to the base-plate by a pin P, which passes through a longitudinal elongated opening S in the hook L.

K represents the keeper, which is secured upon the bottom rail of the upper sash. A spiral spring s' is preferably interposed between the pivoted head P and the handle H, occupying a socket in the handle and pressing down upon the handle, so as to produce friction between the parts, but this is not essential to the invention.

The distinctive features of my improvement by which the required movement of the hook is effected consists of a pair of slots 1 2 in the hook, each having a portion of its length concentric with the distant end of the elongated pin-opening and terminating in a cam or an offset 3 4, so that in locking they first cause swinging movement of the handle and hook together, then compel the longitudinal movement of the hook to strain the meeting-rails together, and then permit an independent swinging of the handle into locking position, and perform said move-

ments in reverse order in unlocking; a stud 5 projecting upward from the base-plate B within the slot 1, and a stud 6 projecting downward from the handle-plate H into the slot 2.

The operation of my device is as follows: In the unlocking position, Fig. 1, the handle-stud 6 is in the offset 4, from which it cannot escape except by longitudinal movement of the hook; but the base-stud 5 is in the portion of groove 1 concentric to the end of the pin-opening, and will not now permit the said longitudinal movement. The handle and hook are therefore compelled to swing together on pin P until cam 3 reaches stud 5. At that time not only can the hook move longitudinally, but upon reaching the position shown in Fig. 2 cam 3 substantially arrests the swinging movement and the two cams compel longitudinal movement of hook I. Said longitudinal movement draws the meeting-rails together and brings pin P to the opposite end of pin-opening S, after which the handle continues its movement independently and causes stud 6 to travel in the concentric portion of slot 2 when the parts are in position shown by Fig. 3. While the parts are thus disposed, stud 5 is in offset 3, and by engagement with the abrupt wall of said offset opposes any attempt to move hook I until reverse longitudinal movement is imparted to said hook, which can only be done by first swinging back handle H until its stud 6 reaches cam 4. In other words, while cam 3 is engaged by fixed stud 5 the hook cannot move except in a direction longitudinal, and stud 6 at the end of slot 2 prevents said longitudinal movement. To release the lock, it is simply necessary to turn back the handle through its independent movement until stud 6 reaches cam 4, when said cams cooperate to move the hook outward to position of Fig. 2, and the stud then stands in engagement with

its cam, so that the two movable parts then swing back together to unlocked position. (Shown in Fig. 1.)

From the foregoing description it will be observed that the construction, while completely effective, is very simple and comprises but three parts, secured together by a pivotal pin, and that the controlling relation between the parts is established by the use of only two slots and a single stud cooperating with each slot. The offsets are radial to the respective centers of slots and their studs alternately enter their respective offsets, and each stud while in its slot keeps the other stud in its offset, so that the controlling relation between each stud and its slot is maintained until the other stud completes its movement in the other slot. There is likewise an advantage in having the offsets rounded or cam-like, as they are thereby adapted to produce the longitudinal movement of the hook without additional connection.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

A sash-fastener comprising the base and handle with interposed hook and the pivotal pin; said hook formed with enlarged pin-opening and a pair of slots concentric with the respective ends of the pin-opening and terminating in oppositely-extending cams or offsets; and said base and handle being provided each with a stud located to work in the slots, to alternately enter their respective offsets and to be each held therein by the other stud while moving in the concentric portion of its slot, all substantially as and for the purposes set forth.

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