(No Model.)

H. J. ENGLAND.

SASH FASTENER.

No. 272,671. Patented Feb. 20, 1883.

Fig. 1.

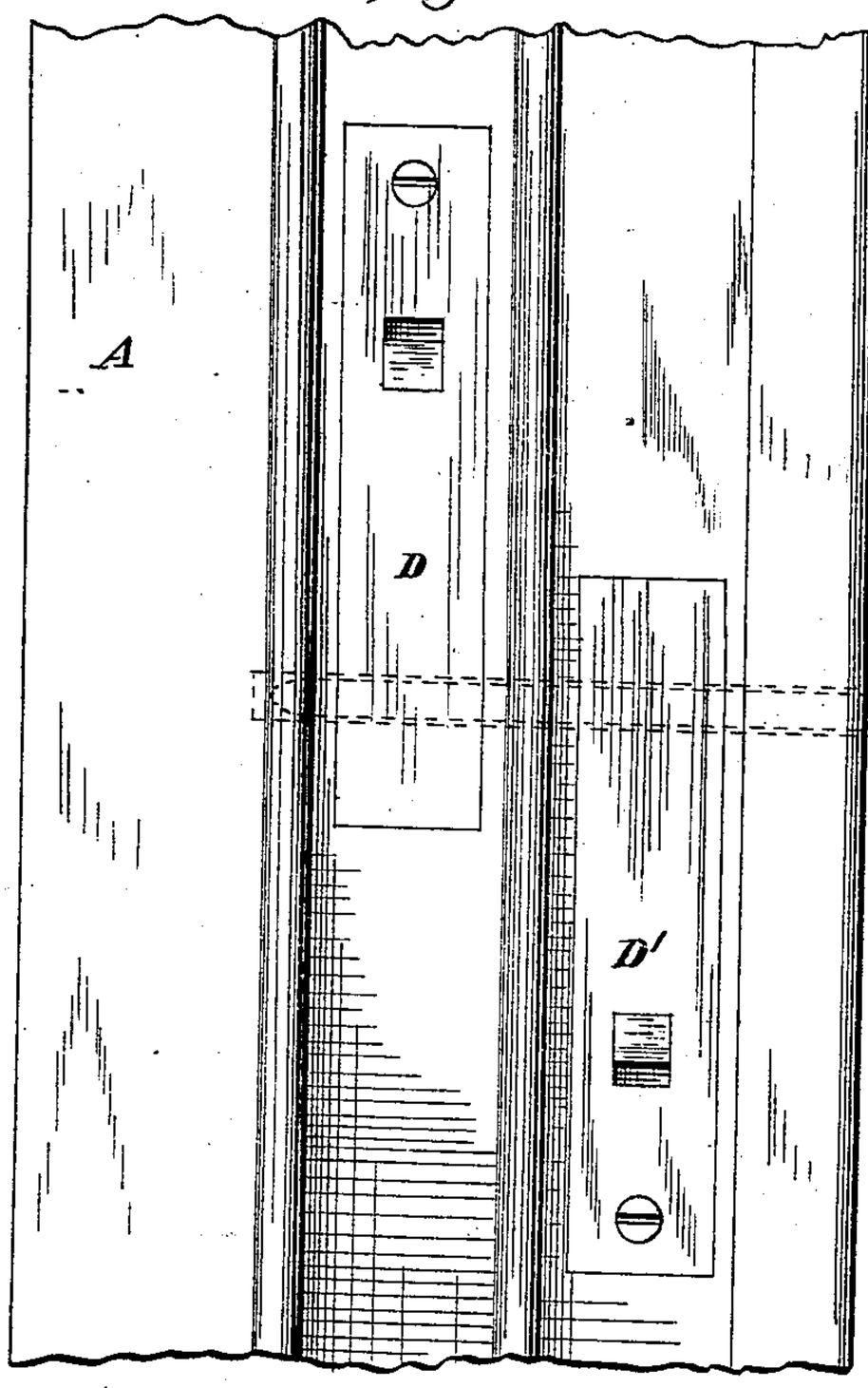


Fig. 2.

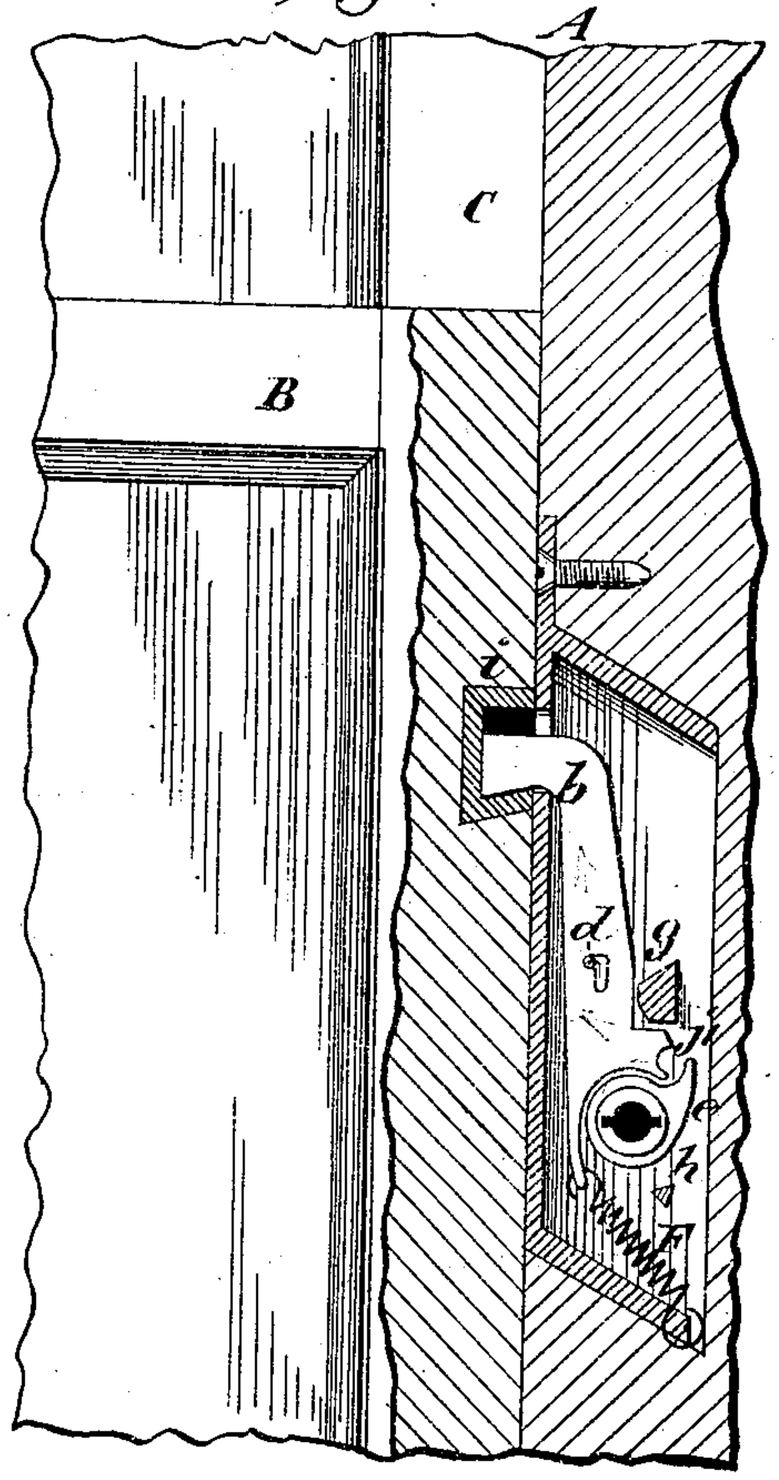


Fig. 3.

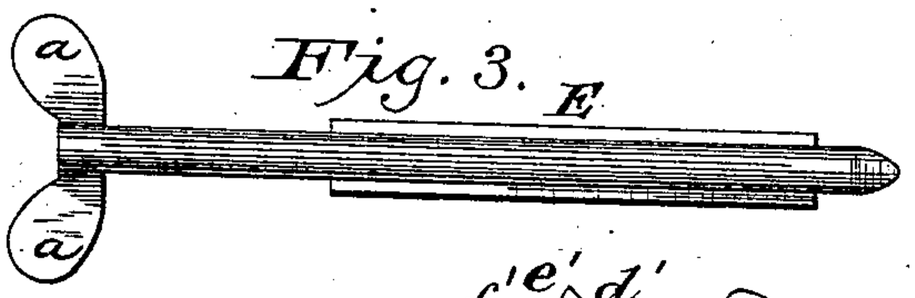


Fig. 4.

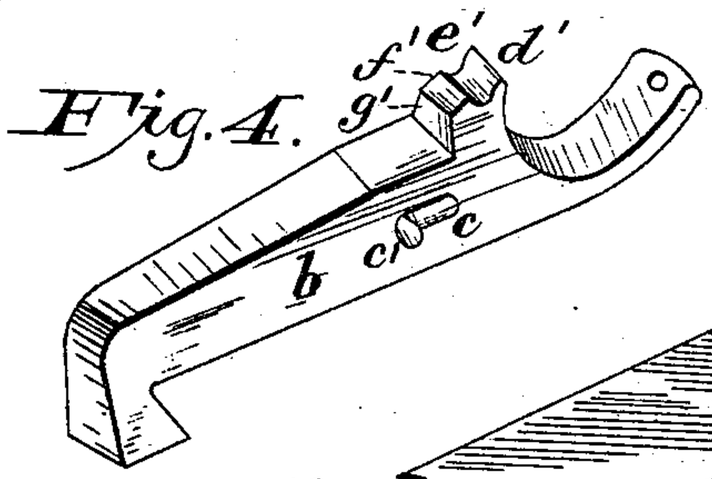


Fig. 5.

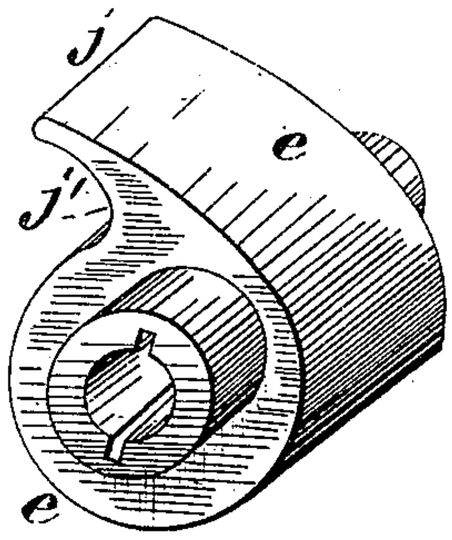
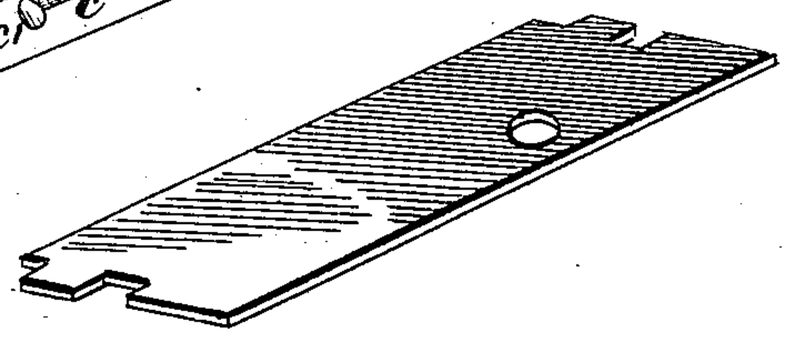


Fig. 6.



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Inventor:
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UNITED STATES PATENT OFFICE.

HENRY J. ENGLAND, OF FALLS CHURCH, VIRGINIA.

SASH-FASTENER.

SPECIFICATION forming part of Letters Patent No. 272,671, dated February 20, 1883.

Application filed December 20, 1882. (No model.)

To all whom it may concern:

Be it known that I, HENRY J. ENGLAND, a citizen of the United States, residing at Falls Church, in the county of Fairfax and State of Virginia, have invented certain new and useful Improvements in Sash-Fasteners; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings and the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to a certain class of sash-fasteners that lock and unlock the upper and lower sashes of house-windows, that will retain the window securely in place when closed, and will also retain them in place at any desired position when open for the purpose of ventilation; and it also relates to the operating of each fastener separately and independently by means of a single key that is removable at will by the operator, thereby preventing the windows from being raised or lowered without the "key."

The principal object of this invention is to prevent the slightest upward movement of the lower sash of a window without first operating the fastener—that is, when only one fastener is used in a window, and that on the lower sash.

Another object of my invention is to guard against the accidental displacement of the fasteners while the windows are locked.

Another object of my invention is to so construct my sash-fastener that the operating-key can be readily removed or inserted at the will of the operator, and that the sash-fastener cannot be operated without the key.

Another object of my invention is to provide a sash-fastener for the upper and lower sash of a window, each of which can be operated independently of the other by a single key inserted through both fasteners.

I attain these objects by means of the mechanism hereinafter more fully pointed out, and described in the specification and claims.

Figure 1 is a face view of the fasteners, with key inserted through the casing of the window, with the windows removed. Fig. 2 is a side view, partly in section, showing the window-sash locked, the fastener-case, and mechanism of the fastener. Fig. 3 is a view of the key used to operate the fastener. Fig. 4 is a detail view showing fastening-dog, and Fig. 5 is a detail view showing operating-cam. Fig. 6 is a detail view showing the removable side of the housing.

Similar letters refer to similar parts throughout the drawings.

A represents the right-hand upright of an ordinary window-frame, and B and C represent respectively lower and upper sash sliding thereon.

In the upright window-frame A two of my sash-fasteners are shown by face in position with the key passing through both fasteners to operate on the upper and lower sash, respectively, and are indicated by the letters D D′.

The key E in Fig. 1 is shown by dotted lines inserted in the casing and through the fasteners, by means of which either one of the fasteners can be operated independently of the other. This key is formed with thumb and finger rests *a a*, and with a shaft splined on the sides, or with a square, triangular, or other desirable form of shaft.

Fig. 2 represents the sash-fastener as inserted in the right-hand upright window frame or casing adjacent to and locked with the lower sash of the window. Its purpose is to hold the lower sash rigidly in place, to prevent levers or other devices from being inserted between the lower cross-rail of the sash and the window-sill to force the window up, and generally to prevent the window from being raised without first operating the fastener with the key.

My improved sash-fastener is constructed as follows: A metallic housing or casing is formed (preferably cast) of the shape shown by sectional view in Fig. 2, and having one side of the same removable, for the easy admission and removal of the operative parts of the device.

A fastening-dog, *b*, is formed of metal in the shape shown in Fig. 4, its outer end beveled on the under side, and at a point about two-thirds its length is pierced by an elongated slot, *c*. The outer and upper end of said slot terminates in a circular recess, *c*, formed to receive a pivot-pin, *d*, that extends from the sides of the casing or housing, and on which the dog *b* is

pivoted. The inner end of dog *b* is curved in the form of an arch, to loosely fit over the cam *e*, by which it is moved. The extreme inner end of the dog *b* is perforated to receive the end of a spring, *f*. The opposite end of the curve on the inner face of the dog *b* terminates in a sharp projection, *d'*. From this projection toward the outer end of the dog *b* a slightly-curved recess, *e'*, is formed. Beyond this recess an inclined projection, *f'*, is formed, terminating in a perpendicular face, *g*. The object of this peculiar formation is that the inner end of the dog *b* will fit to and register with the projections and formation of cam *e*, used to move the dog *b*. Cam *e* is formed of metal, with shoulders to fit perforated bearings in the sides of the casing or housing. Outside the bearings cam *e* is enlarged about two thirds its way in rounded form, the remaining third extending outward in the form of a curved lip, *j*, having a curved recess, *j'*, inward from the end of the same.

On each side of the housing, underneath the dog, and close to the straight face of the bevel on the same, is formed a stop, *g*, the purpose of which is to aid in holding the dog *b* securely in place when locked, and the outer end of said dog inserted in the sash of the window. A similar stop, *h*, is formed on the sides of the housing, to prevent the cam *e* from being displaced by any reverse movement. An aperture is formed through the face of the housing for the passage of the outer end of dog *b*.

Through a perforation on the inner end of dog *b* one end of a coiled or other form of spring is inserted, the opposite end of said spring being secured to the end of the casing or to a pin secured in the same. By means of said spring *f* the curved inner end of dog *b* is held against the outer face of the cam *e*, and constantly acts against the movement of said cam by pulling the inner end of the dog *b* against the cam and against the pivot-pin, forcing the outer end into the bushing in the sash.

The sash is provided with inwardly-beveled bushings *i*, of sufficient size to receive the outer end of dog *b* and permit of a longitudinal movement of said dog in the act of locking and unlocking the fastener.

The window-casing is perforated on a line with the aperture through the fastener for the reception of the key, and is protected on its outer face by a bushing or key-hole.

The operation of my device is as follows: When the device is used for the lower sash only, the bushing in the sash and the aperture in the face of the fastener-case are made to match and coincide exactly when the sash is closed, the spring *f*, acting on the dog *b* against the cam *e* and pivot-pin *d*, forces the outer end of the dog *b* into the bushings *i*, drawing the dog *b* down against the projection *g* and out to the pivot-pin *d*. The dog *b* is then held in place by the spring *f*, pivot-pin *d*, and projections *g*, and by means of the beveled formation of the bushing and the like formation of the projecting end of dog *b* the sash is securely locked, and cannot be moved upward without first unlocking the same with the key E. To unlock the fastener, insert the key E through perforation in window-casing into the cam *e* and turn to the left; the lip of the cam will engage with the curve and projection *e' d'*, force the dog against the under side of the pivot-pin, and retract the outer end of the dog from the sash-bushing by first raising the dog off from the projections *g* and off from the pivot-pin *d* until the pivot-pin *d* strikes the lower face of the slot *c*, when, by the further turning of the cam, the dog is moved in a longitudinal direction until the pivot-pin strikes the inner end of slot *c*, when the lip *j*, acting on the cavity *e'*, retracts the outer end of the dog within the housing or casing, when the sash can be readily moved.

When two fasteners are used jointly for one window, when desired to move both upper and lower sash for ventilation and the fasteners are placed to be operated by a single key, the position shown in Fig. 2 is reversed, as is the bushing in the sash. When operating the device one hand is placed on the sash to steady the same, while the other hand operates the key. The upper sash is slightly raised while the fastener is being operated by the key, the manner of operating the fastener being nearly the same in both cases.

Having described my invention, what I desire to secure by Letters Patent is—

1. The combination, with the sash having a socket formed in its edge, of the dog having the angular slot, the spring arranged to pull the inner end of said dog inwardly, and a cam arranged to force the lower end of said dog laterally and longitudinally against the tension of the spring, and to move the dog longitudinally and laterally, substantially as and for the purpose set forth.

2. The combination, with a dog having the intermediate angled slot, *c*, and the projection *d'*, having the curved recess *e'*, of the housing or casing having an aperture for the passage of the locking end of said dog, the pin *d*, extending through the angled slot, the spring arranged to force the lower end of the dog inwardly, and the cam having the lip arranged to play against the wall of said curved recess, substantially as and for the purpose set forth.

3. The combination, with the dog constructed as described and the spring for holding the same in its locking position, of the sash having a socket which allows lateral play to the end of the dog therein, and means for giving said dog simultaneous lateral and longitudinal movements, essentially as and for the purpose set forth.

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

HENRY J. ENGLAND.

Witnesses:
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D. P. HOLLOWAY.