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PATENTED SEPT. 3, 1907.

N. S. HILLYARD.  
SASH FASTENER AND TIGHTENER.

APPLICATION FILED MAR. 28, 1907.

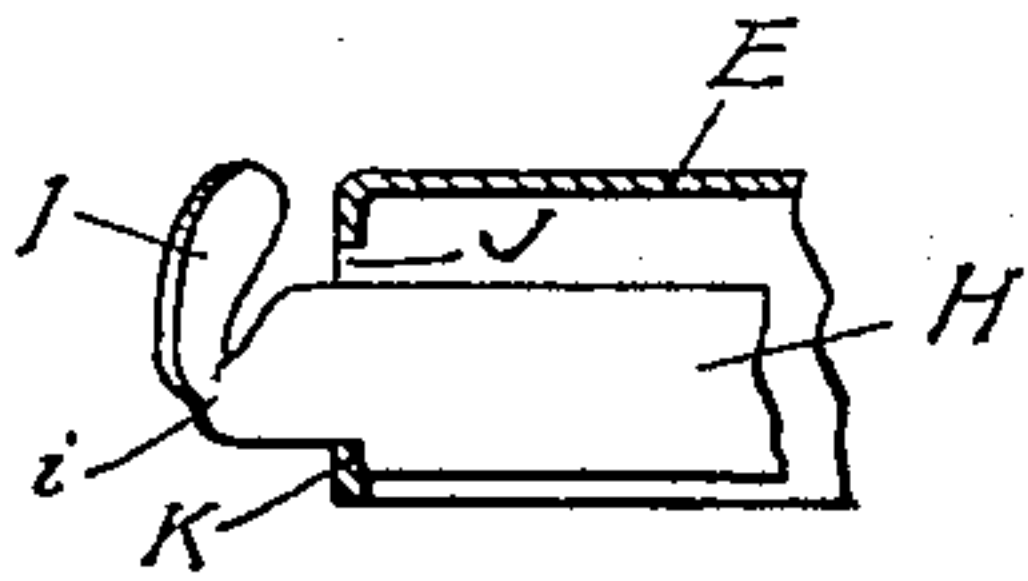


Fig. 7.



Fig. 5.



Fig. 4.

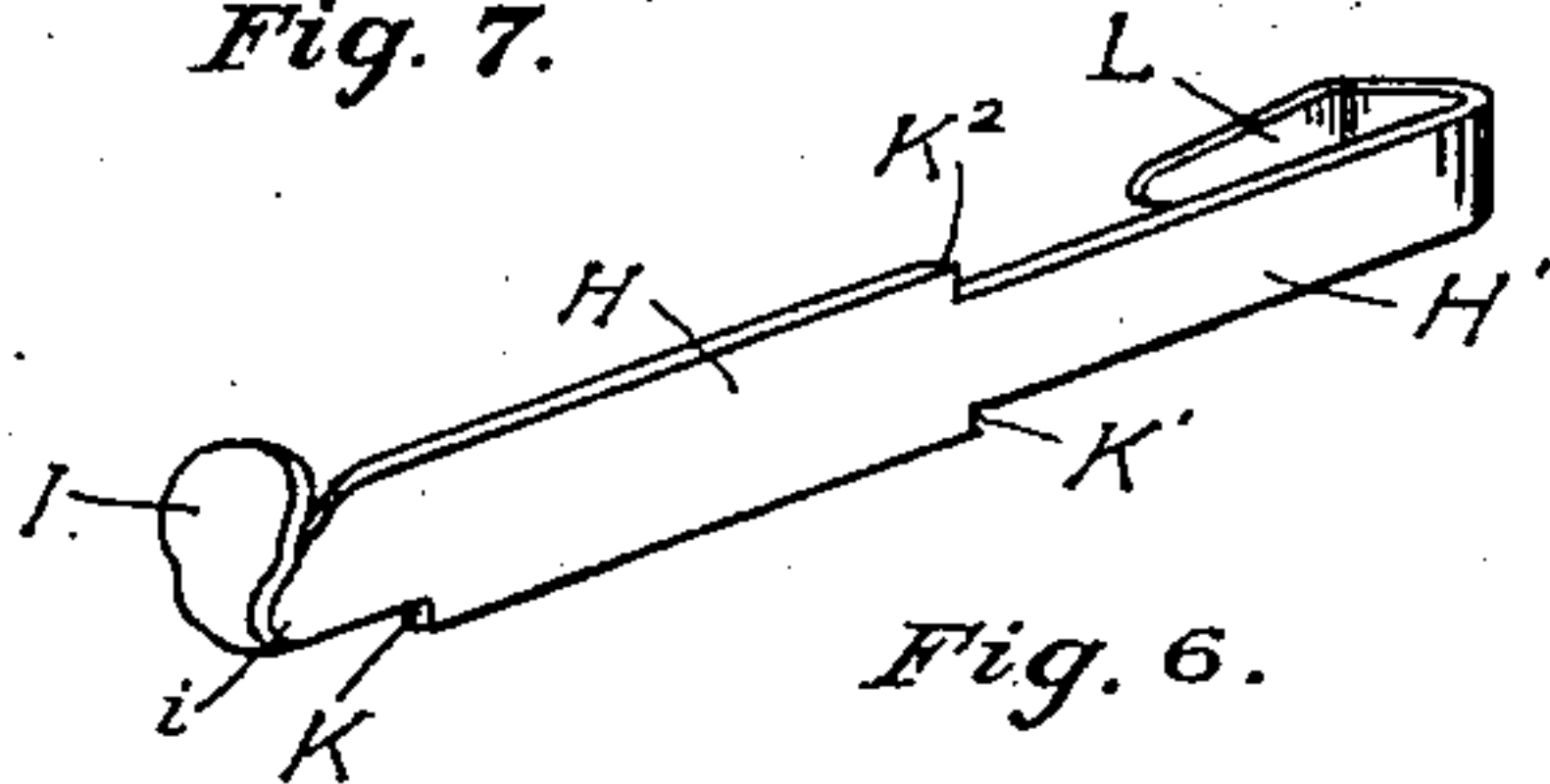


Fig. 6.

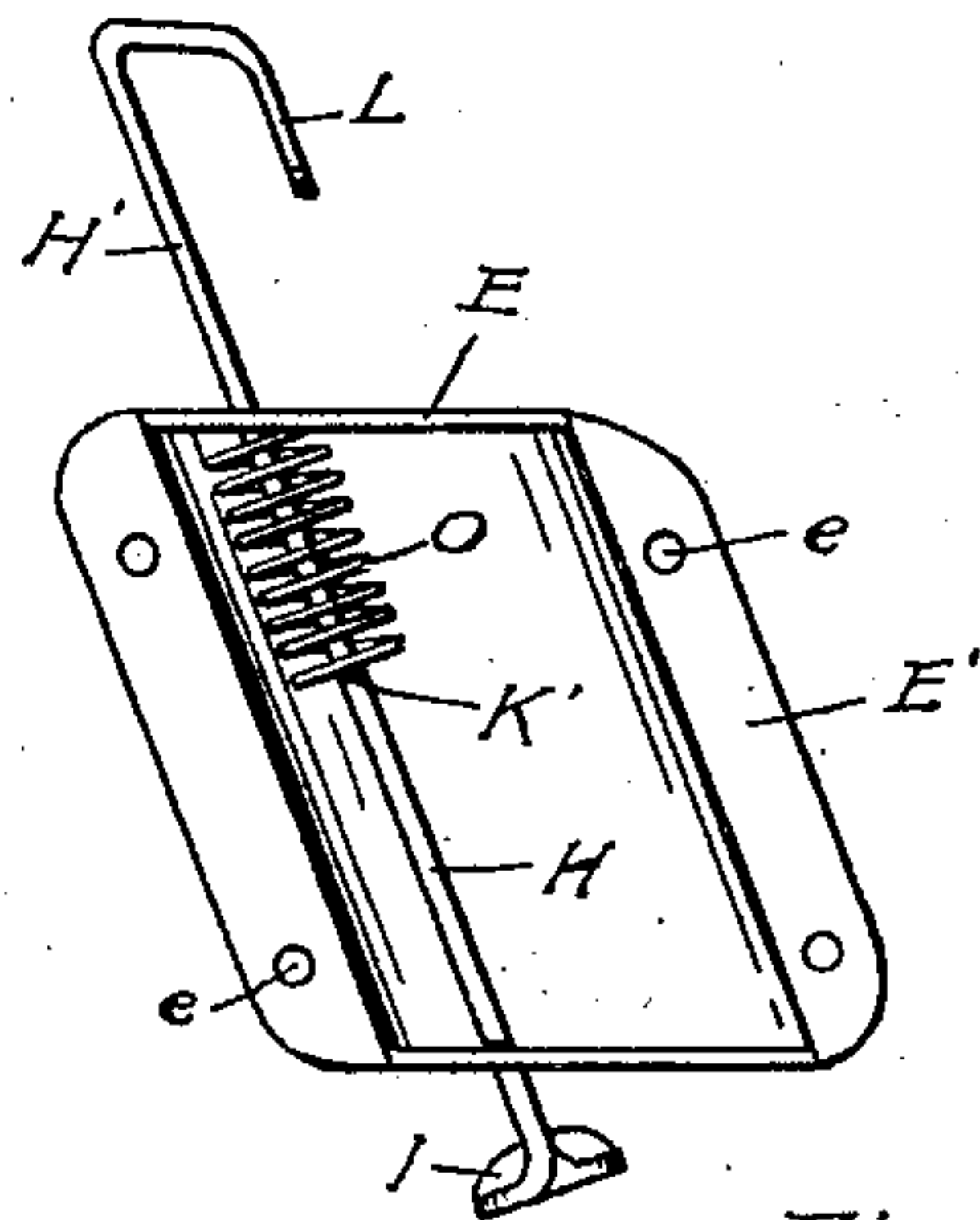


Fig. 3.

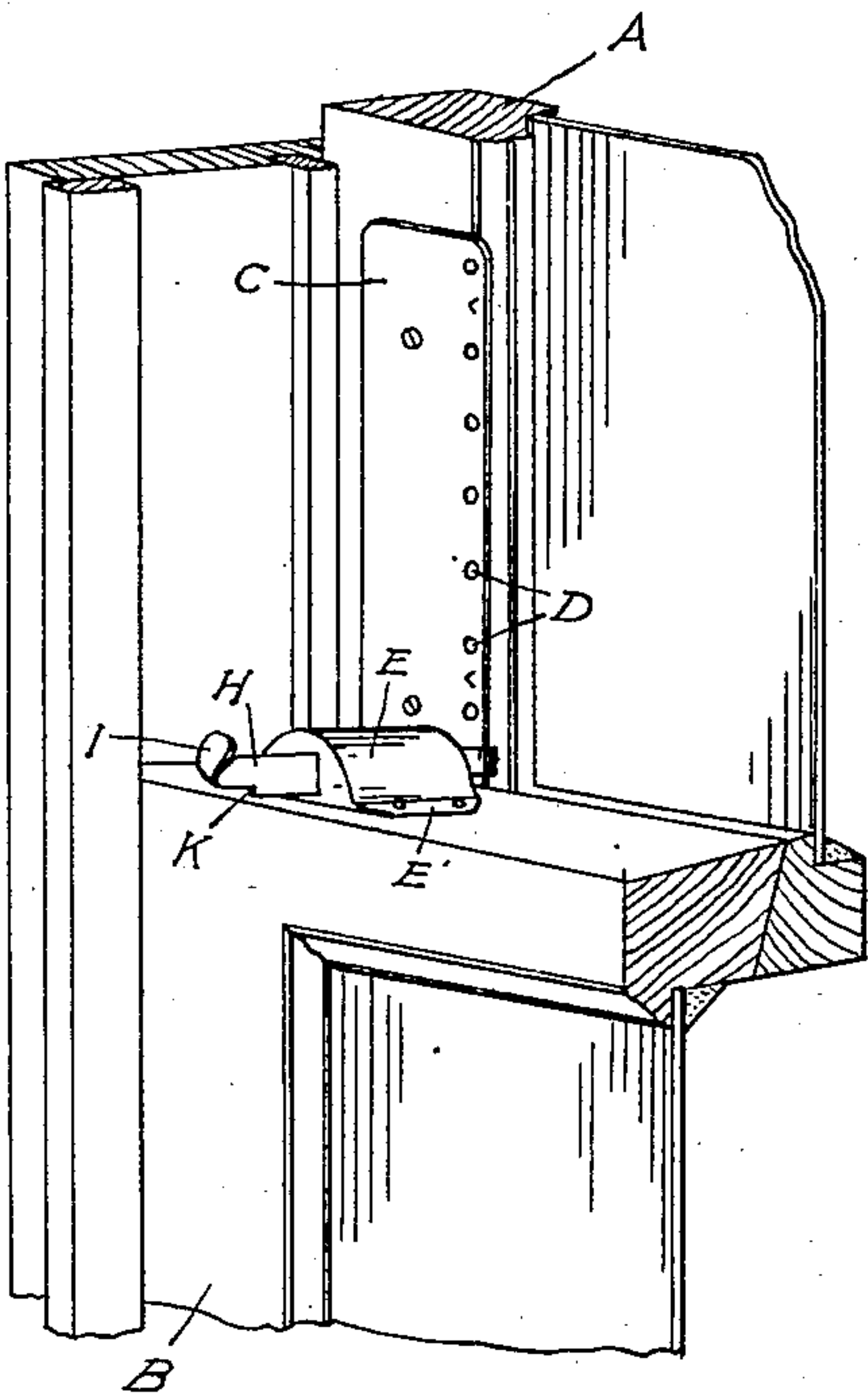


Fig. 1.

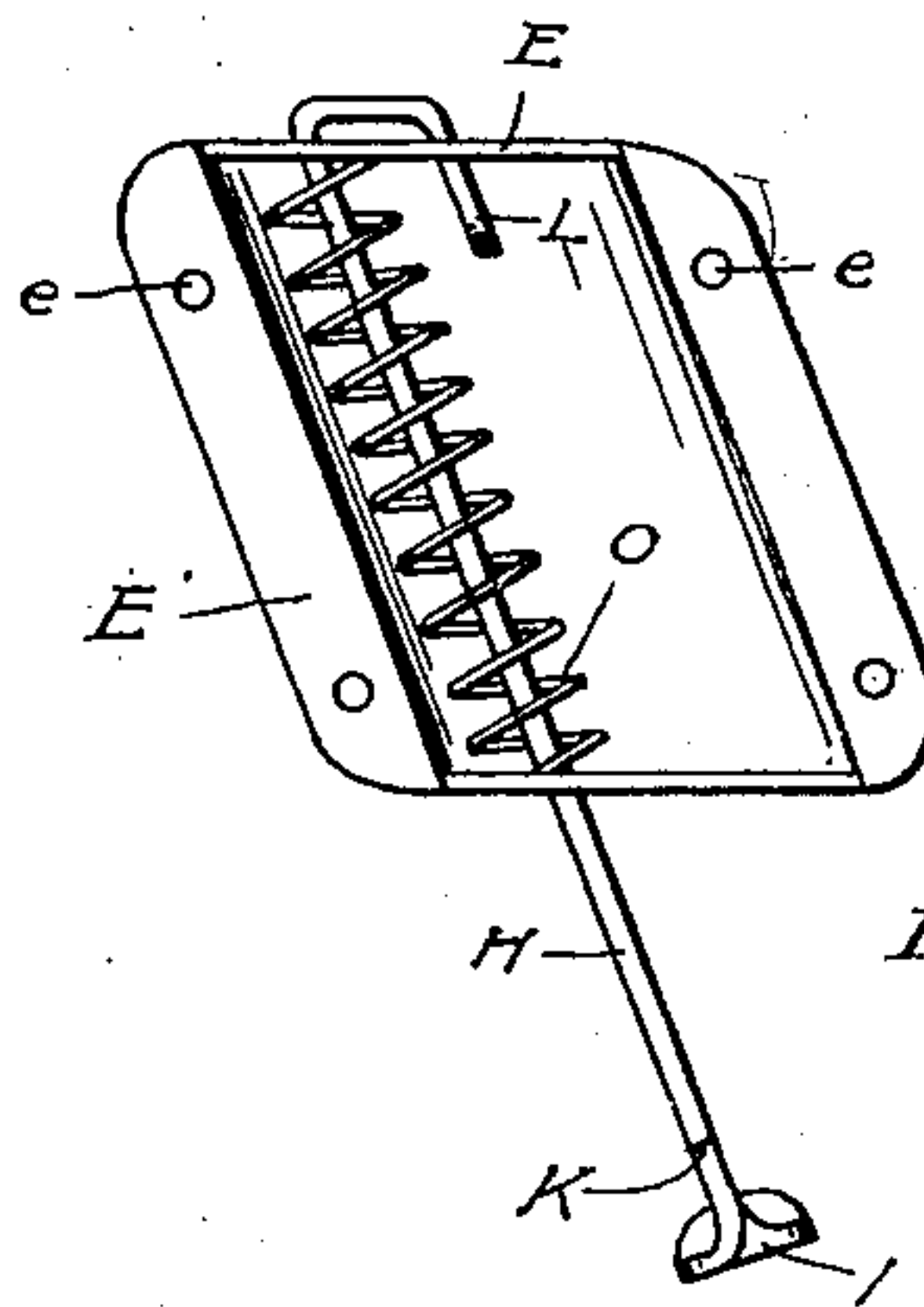


Fig. 2.

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## SASH FASTENER AND TIGHTENER.

No. 865,339.

Specification of Letters Patent.

Patented Sept. 3, 1907.

Application filed March 28, 1907. Serial No. 365,076.

*To all whom it may concern:*

Be it known that I, NEWTON S. HILLYARD, a citizen of the United States, residing at St. Joseph, in the county of Buchanan and State of Missouri, have invented certain new and useful Improvements in Sash Fasteners and Tighteners; and I do 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 to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in the class of window sash fasteners and tighteners upon which I was granted Letters Patent, No. 770,099, by the United States Patent Office on the 13th. day of December, 1904, in which ventilation at top or bottom of sashes, or simultaneously, may be had, that offers equal protection from burglars, whether the sashes are open or closed, and that tightens the sashes, when closed, to a degree that prevents the entrance of dust and air.

I accomplish my object by the mechanism hereinafter described and shown by the accompanying drawings, in which,

Figure 1 is a perspective of a sash lock and plate in position with a meeting-rail and stile of the lower and upper sashes of a window, broken away; Fig. 2 is a view of the underside of a lock case with a bolt and spring therein, shown in the position occupied when locked; Fig. 3 is a view of the same, the bolt and spring in the position occupied when unlocked; Fig. 4 is a front view of the lock case showing therein a vertical slot adapted to support the thumb piece end of the lock bolt; Fig. 5 is a rear view of the lock case showing two vertical slots, one to support the narrowed end of the bolt, the other to receive the reversed end of the bolt for locking the device; Fig. 6 is a detail perspective of the bolt, and Fig. 7 is a detail of the lock bolt in the position occupied when held automatically unlocked, its forward shoulder pressed into engagement with the front of the case just below the slot.

Similar letters refer to similar parts in the several views.

In my device A represents the upper and B the lower sash of a window, broken away.

C is a metal plate adapted to be attached to the face of a stile of the upper sash. D D— are perforations in the edge of said plate; this plate projects beyond the face of the inner edge of said stile, as shown in Fig. 1.

E is a lock case, preferably rhombiform, rigidly attached on the top of the meeting-rail of the lower sash on the same side of the window with plate C. Said case is provided with flanges E' E' and perforations e e, through which it may be fastened with screws or otherwise, on said meeting-rail.

H is the body of a lock bolt made from a flat strip of

metal, set edgewise, its lock end H' being of reduced size, as shown in Fig. 6. Its thumb piece I is bent upward and slightly backward from bottom to top. The narrowed lock end H' of the bolt is bent near its end first, to an oblique angle to conform to the slope of the rear end of the lock case, and second, backward on a line parallel with the shank of the bolt. The front of the case is provided with a vertical slot J corresponding in size and shape with the body of the lock bolt. The rear of the case is provided with slots J' and J<sup>2</sup>, the height of each being less than that of slot J. The body of said bolt at the bottom just back of neck i of the thumb piece is provided with a shoulder K; at its opposite end with a corresponding lower shoulder K' and an upper shoulder K<sup>2</sup>.

The body of the bolt operates through front slot J and the reduced or narrowed part of the bolt through slot J', the backwardly turned bolt end L of the lock bolt engaging with slot J<sup>2</sup> when the oblique angle of the bolt is in engagement with plate C. This bolt being flat and carried in slots of corresponding form and size, its movement is exact, and being without any revoluble movement, and its end L being flat and tapering and the apertures in plate C being of circular form, the automatic engagement with said apertures is at all times assured, regardless of the play of the sash, and when the sashes are closed their meeting-rails are drawn automatically to a horizontal with each other and any sag of the upper sash is wholly obviated.

A spiral spring O encircles part H' of the bolt; it is held in position at one end by the rear end of the lock case, and at the other end by shoulders K' and K<sup>2</sup>. The purpose of shoulder K is to allow the front end of said bolt when unlocked by a slight downward pressure on thumb piece I, to drop into engagement with the front of the lock case just below slot J, thus permitting the hand of the operator to be released while a sash is being raised or lowered. The flattened or rectangular shape of said bolt operating in slots of corresponding shape is essential to secure sure and instant automatic engagement with the perforations in plate C and with slot J<sup>2</sup>, and wholly overcomes the somewhat uncertain automatic engagement of a circular bolt caused by the revoluble motion incident to the form of such bolt swerving its end slightly to one side of the perforation. The steady movement of the bolt herein described together with its taper end render the locking movement absolutely certain.

What I claim and desire to obtain by Letters Patent, is

In an adjustable sash fastener and tightener the combination with a perforated plate attached on the face of a stile of an upper sash, of a lock case of rhomboidal form rigidly attached forward of said plate on the meeting-rail of a lower sash provided with a vertical slot in its front and two shorter vertical slots in its rear, a flat lock bolt set edgewise, adapted to travel through said front slot, and



its narrowed end adapted to travel in one of said rear slots, a shoulder on said bolt adapted to engage with the front of the case at the bottom of the front slot and automatically hold said bolt in unlocked position, upper and  
5 lower shoulders vertical with each other on said bolt and a spiral spring encircling said narrowed end of the bolt engaging said shoulders, the oblique angle in said narrowed end of the bolt, and the reverse taper end thereof, adapted to engage with the perforations in said plate and with the  
10 slots in the rear of the case, and a thumb piece bearing

toward the top slightly backward, to assist in carrying the front shoulder down into engagement with the case, substantially as shown and set forth.

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

NEWTON S. HILLYARD.

Witnesses:

EVANGELINE O. GIBBONS,  
JESSIE KELLY.