

No. 790,490.

PATENTED MAY 23, 1905.

H. ERNST.
AUTOMATIC VENTILATING WINDOW LOCK.
APPLICATION FILED JULY 2, 1904.

Fig. 1

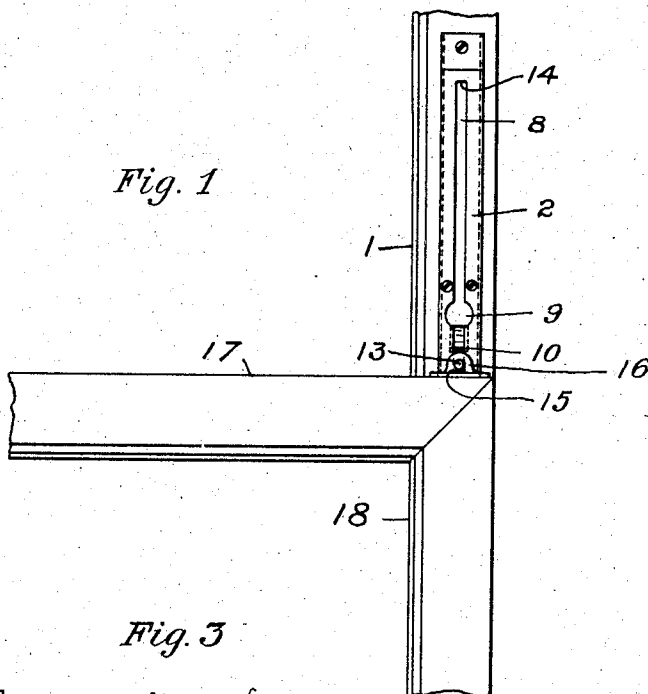


Fig. 2

Fig. 3

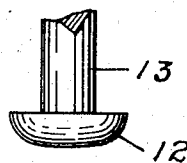
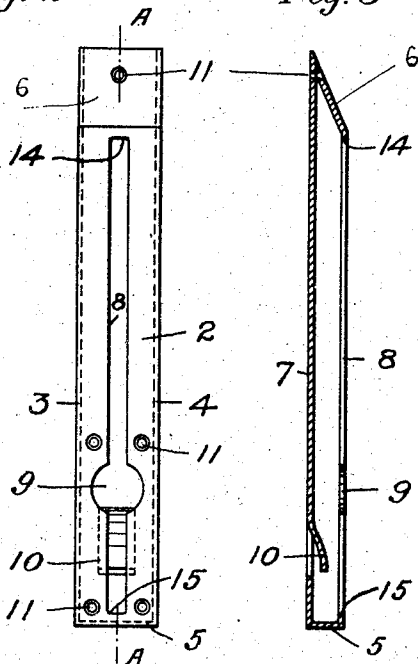


Fig. 4

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HENRY ERNST, OF CHICAGO, ILLINOIS.

AUTOMATIC VENTILATING WINDOW-LOCK.

SPECIFICATION forming part of Letters Patent No. 790,490, dated May 23, 1905.

Application filed July 2, 1904. Serial No. 215,197.

To all whom it may concern:

Be it known that I, HENRY ERNST, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Automatic Ventilating Window-Locks, of which the following is a specification.

The object of my invention is to produce an automatic ventilating window-lock which cannot be opened or easily tampered with from the outside whenever the sashes are locked together. Any other additional device may be used to prevent the opening or raising of the sashes without interfering with my invention or being a necessary part of it. I attain these objects by the device illustrated in the accompanying drawings, in which—

Figure 1 is a front view of an automatic ventilating window-lock embodying my invention, and the two parts of the device are fastened, respectively, to the upper and lower sashes of a window. Fig. 2 is a front view of my lock-plate. Fig. 3 is a vertical section on line A A of Fig. 2, and Fig. 4 is a side view showing the shape of the spring-bolt head which I am using in connection with my lock-plate.

Similar numbers refer to similar parts throughout the several views in the drawings. 1 represents the upper sash of a window, to which my lock-plate is screwed or otherwise fastened on.

2 is my lock-plate with edges bent over to form the sides 3 and 4 and lower end 5. The upper edge of my lock-plate is bent to a wedge shape 6. One of the sides, preferably the side 3, being larger, is bent over again in a direction parallel to the face of my lock-plate, thus forming the back 7 of my device. A slot 8 of suitable length is cut or formed lengthwise on the front or face of my device. This slot is cut larger in any convenient place, but in this particular instance near the lower end of the slot, as shown at 9. Formed out of the lower part of back 7 is a catch-piece 10. Screw-holes as means of fastening are shown at 11. The bolt-head has the general outline of a rivet-head, as shown at 12, Fig. 4. The bolt-shank nearest to the bolt-head is shown at 13. The upper edge of the slot is

14 and the lower edge 15. The spring-bolt casing 16 is fastened in the present instance to the upper cross-piece 17 of the lower sash 18.

My lock-plate just described could be made of any suitable material—such as cast-iron, brass, &c.—and has a groove cut or otherwise formed into it to suit the conformation of whatever bolt-head might be used or could be made with a separate back piece running the whole length of the lock-plate or only long enough to cover a certain part of it. After careful experiments and investigations I found it best and more convenient to form the whole lock-plate out of a single sheet of steel sufficiently thick and strong, cut the slot and its enlarged portion, cut screw-holes, form sides, ends, and back, and form catch all in one or more operations of a punch-press or other machine-tool of similar ability.

A differently-shaped bolt-head than the one shown in Fig. 4 could be used; but after trying a number of spring-bolts I decided to use the shape shown as being the most convenient and offering but little resistance to motion.

Previous to my invention other inventors have tried to produce the same results which I now obtain with my automatic ventilating window-lock. They have failed for various reasons. One device was open on the sides, and therefore useless, because it made it possible to insert a strip of metal between the two sashes and through the open sides of the device prevent the spring bolt, catch, or other means from engaging the lock-plate. I avoid this in my invention by providing sides and back to my lock-plate. Again, other inventors have devices which can be tampered with from the outside, due chiefly to the absence of a back plate, or if the latter is present is generally due to its weakness or smallness. In either case it is possible with the aid of a gimlet or awl and a bent nail to open the lock by disengaging or forcing out the spring-bolt head, catch, or whatever may be used to engage the lock. In my lock-plate the back part being an integral part of the former and being of the same strength cannot be forced aside easily nor pierced by ordinary means,

and therefore prevents any one from tampering with the bolt-head from the outside.

Referring to the drawings, it will be seen that my lock-plate is shown fastened to the lower end of the upper sash-bar. I do not wish to limit myself to that position of my device nor to the number of them used per window. The construction of my lock-plate is such that a spring-bolt casing might be placed on the window-frame and the lock-plate on any portion of either sash-bar without in the least affecting the efficiency of my invention.

Under peculiar conditions it may be found advantageous to have more than one slot to each lock-plate, or to have more than one enlarged portion of the slot, or, again, to have a combination of both. Therefore I do not wish to limit myself to any number of slots or enlarged portions of the slot or slots.

The *modus operandi* of my automatic ventilating window-lock will now be explained. The window being closed, the head of the spring-bolt is engaged in the lock-plate, the bolt-shank resting on the lower edge of the slot. To ventilate or slightly open the window, pull the spring-bolt backward, so that the bolt-head may clear the catch-piece, raise the lower sash, or lower the upper sash, releasing the spring-bolt after the head has passed the catch-piece, and continue the motion of either sash until the bolt-shank rests against the upper edge of the slot. In that position the lower sash cannot be raised any farther, neither can the upper sash be lowered, but leaving an open space too small to admit a human body, and therefore preventing any one from entering through the window.

The open space is large enough to admit a human arm; but that fact does not vitiate my invention, for it will be remembered that the bolt-head is inside the lock-plate, and to disengage it the bolt-head must be brought opposite the enlarged portion of the slot. In this position the open space is so small that not even a hand could pass through.

To close the window, bring either sash or both in their normal position.

In the above description it was assumed that only one ventilating-space was desired;

but it can readily be seen that both sashes might be moved until the bolt-shank rests against the upper edge of the slot. This would give a ventilating-space at both top and bottom of the window.

To open the window wide, pull the spring-bolt backward to clear the catch-piece, raise or lower one of the sashes, pulling the spring-bolt farther back to disengage the bolt-head when the latter is opposite the larger portion of the slot. Then continue the motion of the sash, letting the head of the bolt slide on the face of the lock-plate and sash-bar.

The act of closing the window will bring the bolt-head back to its engaged position in the slot. In closing either sash the bolt-head will slide over the wedge of the plate and when opposite the larger portion of the slot will move forward into its place and engage the lock-plate. A further motion of the sash will cause the bolt-head to slide over the catch-piece and then spring back into its normal position.

It is evident that no outsider could raise or move either sash when the window is closed, for the catch-piece prevents the spring-bolt from moving, and thus securely lock the window when the latter is closed. Should it be deemed more suitable or effective, this catch-piece could be replaced by a spring in a similar position or by a deep depression or hole formed in the back of my lock-plate.

Having now described my device, what I claim as my invention, and desire to secure by Letters Patent, is—

An automatic ventilating window-lock; comprising a lock-plate fastened to a window-sash; a slot cut lengthwise into the lock-plate, said slot being cut larger in a convenient position, to allow a bolt-head to enter the slot; the said lock-plate having its sides and ends closed, one of the ends forming a wedge; a catch-piece within the lock-plate; a spring-actuated bolt capable of entering and engaging the said lock-plate; all substantially as set forth and for the purpose specified.

HENRY ERNST.

Witnesses:

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