Sept. 6, 1949. S. M. MONAT 2,481,329

SASH VENTILATING DEVICE

Filed Oct. 31, 1947

Fig. 1

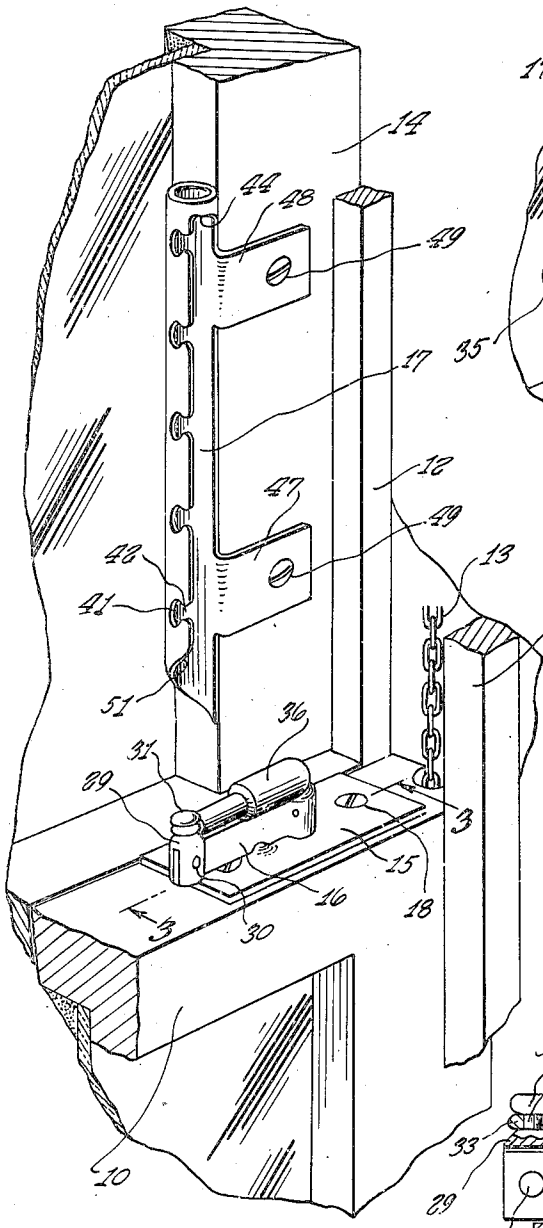


Fig. 2

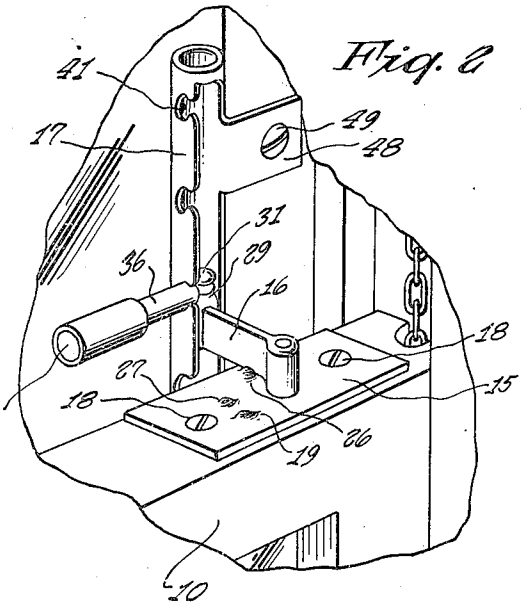


Fig. 4

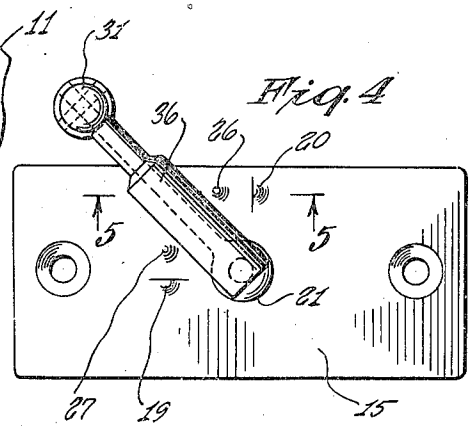


Fig. 3

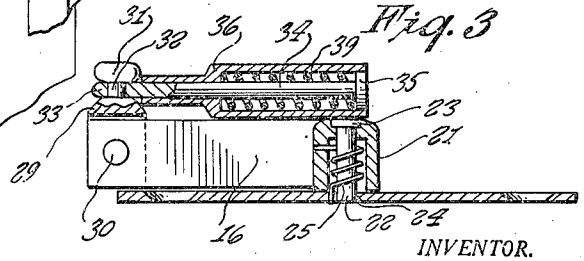
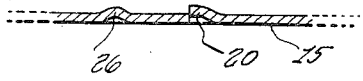


Fig. 5



INVENTOR.
SEYMOUR M. MONAT
BY
Saulsbury, Russell & Squire
ATTORNEYS

Patented Sept. 6, 1949

2,481,329

UNITED STATES PATENT OFFICE

2,481,329

SASH VENTILATING DEVICE

Seymour M. Monat, Brooklyn, N. Y.

Application October 31, 1947, Serial No. 783,393

6 Claims. (Cl. 292—202)

1

This invention relates to a sash ventilating lock.

It is an object of the present invention to provide a sash ventilating lock for locking together the upper and lower windows to prevent the full opening of the window to such an extent as to permit the passage therethrough of an intruder and wherein the one window will be locked against both up and down movement with respect to the other window with positive locking action in either one of the different positions to which the one window is set upon the other and wherein there is provided a second lock such that the maximum extent to which a window can be raised, regardless of whether or not a setting has been effected, is within such limit as to prevent one from passing through the window.

Other objects of the present invention are to provide a sash ventilating lock which will not mar the window or when used cause the sashes to be spread and which is so constructed as to prohibit one from prying apart the sashes in order to gain access to the lock and wherein the hands can be let free when raising the lower window.

Still other objects of the present invention are to provide a sash ventilating lock which is of simple construction, inexpensive to manufacture, easy to install on the sashes and efficient in operation.

For other objects and for a better understanding of the invention, reference may be had to the following detailed description taken in connection with the accompanying drawing, in which

Fig. 1 is a fragmentary perspective view of upper and lower window sashes with the ventilating lock of the present invention connected thereto but with the sashes in their fully closed position and with the operating parts of the lock out of engagement with one another.

Fig. 2 is a similar view to Fig. 1 but with the operating parts of the lock in engagement to retain the window sashes locked with one another.

Fig. 3 is a sectional view taken through the latch on the locking arm and viewed generally on line 3—3 of Fig. 1.

Fig. 4 is a top plan view of the locking arm swung upon its supporting plate.

Fig. 5 is a sectional view taken through the supporting plate for the locking arm showing the retaining projections or stops and the view being taken generally on line 5—5 of Fig. 4.

Referring now to the figures, 10 represents a lower window sash which is disposed between guide members 11 and 12 in the window frame

2

for sliding movement and to which is connected a chain 13 for connecting the sash to a sash weight. Also in the window frame is an upper sash 14 which is slidable up and down.

Upon the top edge of the lower window sash 10 there is mounted a base plate 15 having a pivot latch arm 16 which can be retained as shown in Fig. 1 to extend parallel to the top of the window sash 10 or which can be pivoted to a position as shown in Fig. 2 where it can have locking engagement with a slotted tube 17 on the upper sash 14.

The plate 15 is secured to the sash 10 by fastening screws 18. This plate has struck-up stop projections 19 and 20 to limit the angular movement of the arm 16. The arm 16 has a hub portion 21 which is fitted over a post 22 extending upwardly from the plate 15 and serving as the pivot for the arm. The post is extended through the hub 21 so that its head 23 entering the top of the hub will limit the upward displacement of the hub from the pin 22. The pin 22 is anchored to the plate 15 by welding as indicated at 24. Within the hub 21 is a coil spring 25 which is anchored to the plate and to the hub 21 and is biased to bring the arm 16 against the stop 20. Hub 21 fits loosely on pin 22. Spring 25 is interposed between the hub and the pin and will function to take up the play existing between the pin and the hub and still allow for the deflection of the arm when passing over projections 26 and 27 and to retain the arm beyond the projections.

If it is desired to raise the window free of the ventilating lock, the arm 16 is pivoted against the action of spring 25 to the position shown in Fig. 1 where it is held by a struck-up projection 27. The angular movement of the arm 16 in this direction is limited by a struck-up stop portion 19.

On the other end of the arm 16, there is pivotally connected a guiding stud 29 having a slot for receiving the end of the arm 16. A pin 30 pivotally connects the stud to the arm and sufficient play is provided to permit the stud 29 to pivot fore and aft in order to adapt itself to the tube 17. The stud is beveled on its lower end so that it will slide freely down the tube. The stud being rounded at the top, permits the stud to slide freely upwardly through the tube 17.

On the upper end of the stud is a rounded head portion 31 and a narrow portion 32 about which is extended an eye portion 33 of a rod 34 having a head formation 35 on its outer end, Fig. 3. On this rod 34 is a sleeve handle 36 containing a

spring 39 reacting against the head 35 of the rod 34 to urge the sleeve 36 toward the rounded head portion 31 of the stud and into engagement therewith. This sleeve handle 36 will enter any one of the several holes 41 in the tube 17 in such a manner as to prevent the sleeve handle 36 from being rotated without first pulling outwardly on the sleeve 36. The forward end of the sleeve 36 enters the hole 41 and is confined against movement toward the longitudinal opening of the tube 17 by a restricted opening 42. When the handle 36 has been pulled along the rod 34, the rod 34 can slide through the restricted slot 42.

The stud 29 is round so as to fit the tube 17 and is slidable upwardly through the tube to any one of the different holes 41. When once the rod and the sleeve 36 have been swung into a hole 41, the windows have been positively locked together. Any movement of one sash will cause the other sash to be moved with it. Accordingly it would be difficult for an intruder to gain access to the sleeve 36 and the rod 34 from the exterior of the window in such a manner as to release the rod and sleeve from the hole 41. The rod 34 can only be swung out of the hole 41 by pulling outwardly on the sleeve 36.

Since the arm 16 is biased toward a position in axial alignment with the tube 17, the stud 29 thereof will be automatically directed into the tube as the bottom sash is elevated or the upper sash is lowered and upon the head 31 of the stud being extended into the upper end of the tube and the sleeve 36 against the end of tube as at 44, the sash will be automatically locked together and the bottom sash will be prohibited from being elevated any further. Accordingly there is provided also a window lock for limiting the upward movement of the bottom sash whereby to prohibit the intruder from, at any time, entering the open sash.

If it is desired to raise the bottom sash to the full extent, the arm 16 is swung outwardly so that it will be retained by the upwardly pressed portion 27 of the plate 15 against the action of the spring 25 within the hub of the arm. However, normally the arm 16 is kept in the position shown in Fig. 2 with its stud 29 in alignment with the tube 17.

The tube 17 has projections 47 and 48 adapted to be extended over the face of the sash and secured thereto by fastening screws 49. The lower end of the tube has a cam surface 51 with which the sleeve 36 comes into contact as the bottom sash is raised and whereby the sleeve and rod 34 will be pivoted so that the same will be aligned with the tube opening automatically as the bottom sash is raised. The sleeve 36 is not set in any predetermined angular position upon the arm 16. The cam surface brings the sleeve into correct position for movement into the longitudinal slot of the tube. There is sufficient looseness in the connection of the stud 29 with the arm 16 and of the hub 21 with the plate 15 to permit the stud 29 to be easily accommodated by the tube 17. To fit the rod 34 and sleeve 36 into the holes 41, the sleeve 36 must be pulled outwardly along the rod against the action of the spring 39 in order that the rod 34 can be passed through the restricted space 42.

It should now be apparent that there has been provided a sash ventilating lock whereby the bottom sash can be raised without having to use one hand for setting or effecting the operation of the lock. The bottom sash will be raised by two

hands and automatically the arm 16 will be aligned with the tube 17 and when the bottom sash has been elevated to the desired level, sash weights will retain the sash in the desired position and with one hand sleeve 36 is pulled back and rod 34 is admitted through restricted opening 42 to hole 41. Sleeve 36 is then released and both sashes are thereby positively locked together.

It will also be apparent that the sashes in being locked to one another are not spread and cannot be pried apart by persons trying to enter the window by releasing the lock.

Should an intruder attempt to break the lock as by applying a wrecking bar and apply great force to the lock, this force will be resisted by screws which are extended at right angles to the direction of the force being applied. The screws 49 would have to be sheared from the sash 14. It is more difficult to remove screws from wood by shearing than by a direct axial pull as would be the case with the screws 18. Accordingly, with the arrangement, at no time whether a wrecking tool is applied either to the lower or upper sash, will a force be placed upon the screws 18 to tend to remove them from the sash.

The stud 29 slides freely in the tube 17 but its diameter is greater than the width of the longitudinal slot through which the rod 34 extends and hence it will be impossible for the stud 29 to be withdrawn through the longitudinal slot. The edges of the slot accordingly overlie the stud 29. If a wrecking bar is applied between the upper and lower sashes to attempt to spread the same, the stud will not therefore leave the tube 17. At this time the screws 18 are at right angles to the direction of force. Screws 49 may be pulled out, but this action is resisted by the engagement of the side edges of the sash with the guide members 11 and 12 of the window frame and consequently no damage will be effected.

It will be apparent that in order to release the sashes from one another, the windows must be first closed in order to release the locking parts. Inasmuch as the intruder would have to close the window in order to position the locking parts for release, access to the locking parts is accordingly interfered with.

While various changes may be made in the detail construction, it shall be understood that such changes shall be within the spirit and scope of the present invention as defined by the appended claims.

I claim:

1. A sash ventilating lock comprising a part adapted to be located on one of the sashes and another part adapted to be connected to the other of the sashes, the one part comprising a base plate, an arm pivoted at one end on the base plate adapted to be swung into a position in alignment with the part on the other sash, said part on the other sash comprising a tube having a slot extending longitudinally therealong and open at the bottom, said tube having a plurality of vertically spaced openings communicating with said slot, said arm of the one part having a stud on its free end adapted to be extended into the tube as the bottom sash is elevated, and a locking rod extending from the stud to be engaged with any one of said spaced openings throughout the length thereof to have positive locking engagement therewith.

2. A sash ventilating lock as defined in claim 1 and said base plate of the one part having stop portions for limiting the swinging movement of the arm and biasing means tending to urge and

maintain the arm against one of the stops so that its stud will be retained in alignment with the end of the tube part, and retaining means for maintaining the arm with its stud out of alignment with the tube at times against the action of the biasing means.

3. A sash ventilating lock as defined in claim 1 and each of the openings of the tube having a restricted entry space leading to the longitudinal slot, said rod being adapted to be swung through the restricted space of the opening, and a sleeve handle latch adjustable on the rod having a portion adapted to enter the opening and prevent the outward or return movement of the rod through the restricted space whereby to prevent the turning movement of the rod without first adjusting axially the sleeve handle.

4. A sash ventilating lock as defined in claim 1 and said tube part having openings providing the portions with which the locking rod on the arm may engage, said locking rod adapted to be swung in a horizontal plane about the stud on the arm, the lower end of the tube part having a cam surface adapted to be engaged by the rod whereby to force the rod into proper vertical alignment with the longitudinal slot of the tube part.

5. A sash ventilating lock as defined in claim 1 and said tube part being formed to have the upper end of the longitudinal slot thereof closed whereby to limit the opening movement of the bottom sash to a distance not sufficient to permit the entry of an intruder beneath or above the sashes.

6. A sash ventilating lock comprising a tube having a longitudinally extending slot, said tube having locking notches at different elevated positions along the longitudinal slot, projections on the tube extending laterally over the sash edge and adapted to receive screws extending into the sash in a direction normal to the direction of force required to raise and lower the sash, a second part comprising a plate adapted to be secured to the top edge of the other sash, an arm pivotally connected to the plate and adapted to be swung into a position to be received by the tube and extended through the longitudinal slot thereof, a stud on the outer end of the arm slidable through the tube, said stud being of a diameter greater than the width of the longitudinal slot of the tube whereby to prevent the removal of the stud from the slot by a force tending to spread the sash, and a locking arm on the stud adapted to be extended into the locking notches of the tube, said plate on the lower sash adapted to receive the screws which would extend in a direction such as to be acted upon by shear should force be applied between the sash to spread them.

SEYMOUR M. MONAT.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
825,616	Rosenberg	July 10, 1906
1,196,356	Hachmann	Aug. 29, 1916