Aug. 22, 1933. H. B. HERDEG ET AL 1,923,146

COMBINATION ANTIRATTLE AND FASTENING DEVICE FOR WINDOW SASH

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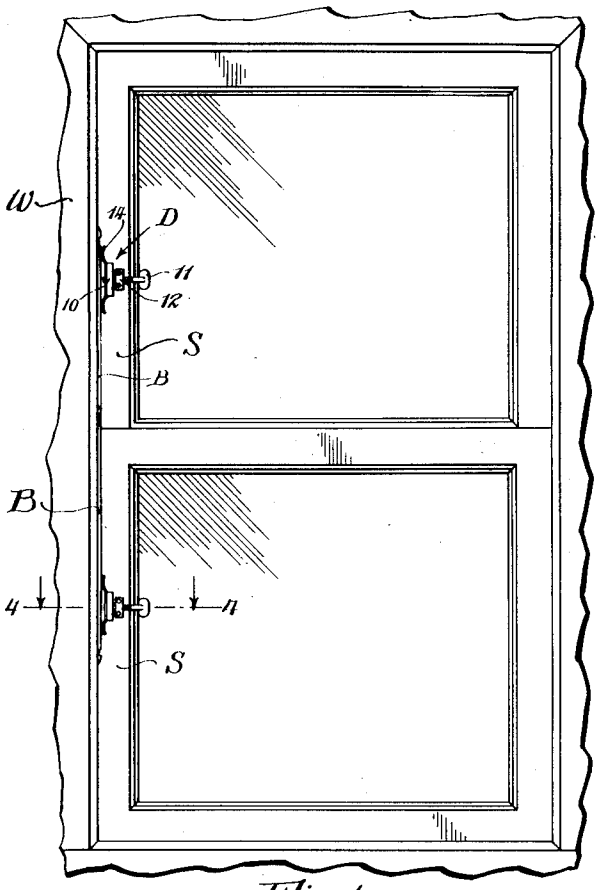


Fig. 1.

Fig. 2.

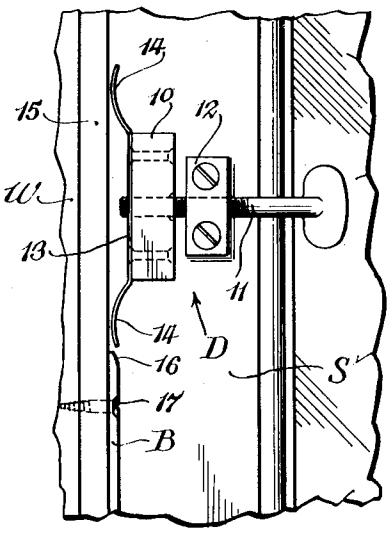


Fig. 3.

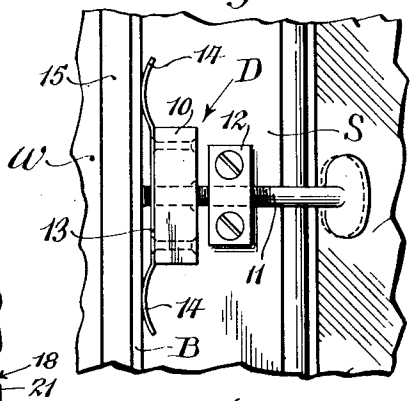


Fig. 4.

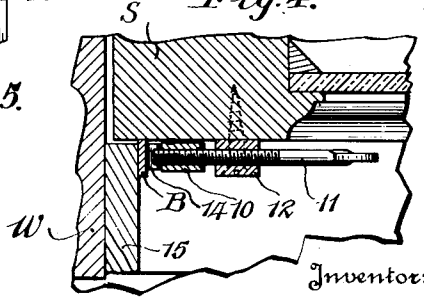


Fig. 5.

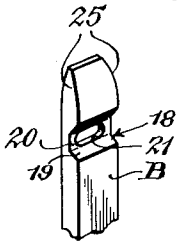


Fig. 6.

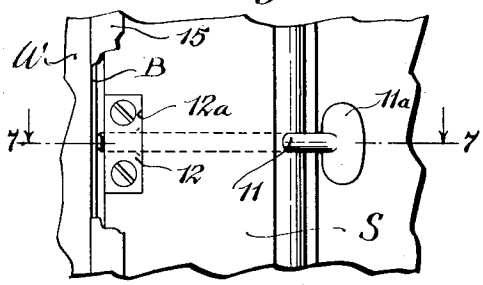
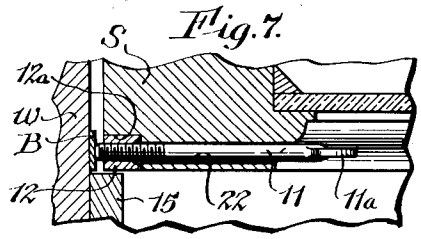


Fig. 7.



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COMBINATION ANTIRATTLE AND FASTENING DEVICE FOR WINDOW SASH

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Buffalo, N. Y.

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2 Claims. (Cl. 292—155)

This invention relates to a combination antirattle and fastening device for window sash.

One object of the invention is a device of this type which is capable of adjustment to meet various requirements presented by different installations and which, when adjusted to function in the manner desired, automatically compensates for changes, within a substantial range, of various factors or operating conditions peculiar to a particular installation, thereby insuring its operation effectively and continuously without the necessity of further attention.

A further object is a device of the type generally described which, in addition to preventing rattling of the sash, is also available as a lock to secure the sash in any position desired so that it cannot be accidentally or intentionally moved without first releasing said securing means.

A further object is a device which may be easily applied and which, when applied, may be adjusted to function either in its anti-rattle or locking capacities without possibility of distorting or marring of the sash.

The invention is illustrated in the accompanying drawing in which:

Figure 1 is a front view of a two-sash window, a device embodying the features of our invention being applied to each sash.

Figure 2 is a fragmentary view of one of the sashes in an open position and an adjacent part of the window casing, the device being shown in plan, illustrating one method by which the device may be conveniently applied.

Figure 3 is a view similar to Figure 2 showing the device in an operative position after its installation.

Figure 4 is a section taken along line 4—4 of Fig. 1.

Figure 5 is a fragmentary view in perspective of one end of the friction bar of the device.

Figure 6 is a modified form of the device.

Figure 7 is a section taken along line 7—7 of Fig. 6.

In the manufacture of window sash and their casings the latter, in order to facilitate assembly as received without additional fitting operations and in order to enable easy operation after assembly during variable weather conditions, are formed with sash guideways which are greater in width and thickness than the sash for which they are designed. Thus, after assembly there is considerable play of the sash in their guideways in the casings by virtue of which the sash may be vibrated either by wind or by the operation of vehicles or machines in the vicinity, thereby causing objectionable noises. As the manner in which the sash operate in the window casings is dependent to a material degree upon prevailing weather conditions it is practically impossible to eliminate such vibration by care in the design of the sash and casings.

The present invention, therefore, is concerned with a device for association with a window sash and its casing which will prevent objectionable vibration of the sash during variable weather conditions without the necessity of attention and without hindering to an objectionable degree the ease in which the sash may be moved throughout its range of movement.

As illustrated, the device comprises a unit assembly D carried by the sash S of the window and a co-operating friction bar B fixed to the window casing W.

The unit assembly D, as best shown in Figures 2 and 3 includes a block 10 carried upon the threaded end of thumbscrew 11, the latter being supported from the sash by a supporting block 12 suitably secured thereto. A metal strip 13 is secured to the block 10, the terminal portions thereof extending beyond the terminal portions of the block and being formed to provide resilient fingers 14. The latter, through the agency of the thumbscrew 11 and supporting block 12, are designed to resiliently engage the bar B, as shown in Figure 3, and urge the sash away from the side of the casing carrying the said bar against the end vertical face of the opposite guideway in the casing. Thus, the space which normally exists along both edges of the sash is eliminated and the opposite edge of the sash engages the opposite vertical end face of the casing guide along its entire extent. In other words, the sash, due to the influence of the fingers 14, is shifted bodily edgewise to such an extent as to eliminate the clearance along the opposite edge thereof.

In the application of the device to a window and sash of standard construction, the supporting block 12 is first secured to the sash of the window relative to the casing at a point which may be conveniently determined by holding the unit assembled in approximately the position it will occupy when in use.

The bar B may be of such a length as to engage the fingers 14 through the entire range of movement of the sash S or of such a length as to engage the said fingers through a determined extent of the said range of movement. In the embodiment of the invention illustrated in Figures 1 and 2, the bar B associated with the lower sash is designed to engage the fingers 14 from the

closed position of the sash to within a short distance of the upward limit of its range of movement. Hence, in this construction, the unit assembly D may be conveniently applied to the lower sash by first raising the latter to the full open position shown in Figure 2, in which position the said assembly may be secured to the sash at a point above the bar B.

After the supporting block 12 has been secured to the sash, the thumbscrew 11 is screwed through it while the threaded opening in the block 10 is held in alignment with its end, the fingers 14 being held a short distance away from the strip 15 to which the bar B is secured. Upon continued turning of the thumbscrew 11, the threaded end thereof enters the threaded opening in the block 10 and the latter is supported in the held position. While this is not necessary, it is desirable for reasons which will appear hereinafter to turn the thumbscrew 11 until the threaded end thereof extends entirely through the block 10 as shown. The end of the bar B is preferably beveled as at 16 so that as the sash S is moved downwardly, the fingers 14 ride up upon it, thereby urging the sash toward the opposite side of the window casing.

It will be understood, of course, that the initial position of the block 10 may be varied in order to vary the pressure with which the sash is brought to bear against the opposite side of the casing. Thus, it may be desirable in some installations to position the block 10 further away from the supporting block 12 while in other installations it may be desirable that the two blocks be closer together, this, of course, assuming that the block 12 occupies the same position in all instances.

It may be desirable that the bar B be of such a length that the fingers 14 of the device engage it through the entire range of movement of the sash. When this is the case, of course, the unit assembly D cannot be attached to the sash in the manner just described. In this case, the supporting block 12 having first been secured in the approximate position necessary, the block 10 is forced between it and the friction bar B, during which operation the fingers 14 may, and in most instances will, be placed under tension and the thumbscrew 11 is turned so that the threaded end thereof extends through the block 10 to the position shown in Fig. 3.

While the device may be arranged in any manner desired, it is preferred, for practical reasons, that the unit assembly D be secured to one side of the sash beyond its center in the direction of its movement when being opened. This is for the reason that the opposite corner of the sash, in the direction of its movement when being opened, will be initially forced and held firmly against the facing of its guideway so that as the sash is opened it is guided and urged bodily edgewise toward the opposite side of the casing from the side upon which the said device is secured. Thus, as shown in Figure 1 the unit assembly S of the lower sash is slightly above the center thereof while that of the upper sash is slightly below the center thereof.

It will be noted that the resilient fingers 14 tend to prevent edgewise movement of the sash and that because of the engagement of one entire edge thereof they also tend to prevent to a substantial extent vibration of the sash transversely of the plane which it occupies.

The extent to which the fingers function in the latter instance may not be sufficient in all installations and for this reason it is preferred that the bar B also serve to prevent vibratory movements of the sash in a direction transverse to the plane in which it is mounted. The bar B, therefore, as best shown in Figure 4 is initially installed so that the inner edge thereof engages the face of the sash and hence will take up such play as would permit vibratory movements of this character. The bar B is secured to the casing strip 15 by suitable screws 17. In order to enable securement of the bar in the position desired it is formed with transversely extending slots 18 having beveled sides 19 and flat bottoms 20. At the bottom of each slot 18 and extending through the bar, is a transversely extending elongated opening 21, the latter enabling lateral adjustment of the bar after it has been once secured to the strip 15. The heads of the screws fit within the slots 18 and hence they do not interfere with the desired operation of the fingers 14. It will thus be apparent that the unit assembly D of the device functions to prevent edgewise movement of the sash while the bar B is adapted to prevent bodily movement of the sash transversely of the plane occupied by it.

The construction thus far described has been concerned solely with the anti-rattle aspect of the invention. As previously mentioned, however, the device is also available to lock the sash in any desired position in its range of movement. When functioning as an anti-rattle device it will be noted that the threaded end of the thumbscrew 11 is directly opposite the bar B and only a short distance therefrom. Thus, as the sash is raised or lowered the said end will move along the face of the bar at a short distance from it. In order to lock the sash in any position it is only necessary to take a few turns on the thumbscrew whereupon its end may be made to engage the bar B with a force sufficient to prevent relative movement between the sash and the bar either accidentally or intentionally until the thumbscrew has been loosened.

In the embodiment illustrated in Figures 6 and 7, the block 10 and resilient fingers 14 carried thereby are eliminated and the bar B instead of being secured upon the outer face of the strip 15 is secured in the guideway of the sash behind the inner edge of the said strip. In this construction, the supporting block 12 is secured in a recess 12*a* formed in the outer corner of the sash and is substantially hidden from view by the strip 15. The thumbscrew 11 is mounted in an opening 22 formed in the sash so that with the exception of its head 11*a* it is entirely concealed.

In use, the thumbscrew 11 is adjusted so that its inner end lightly engages the face of the bar B. This construction while not so effective in eliminating all rattles as the embodiment heretofore described does eliminate them to a substantial degree and in addition is available at the same time to lock the sash at any desired point. Thus, in cases in which the sash with which it is associated is not often used and where economy is desired sash weights may be entirely eliminated, the sash being moved to the point desired and then locked in such position by the thumbscrew.

In order to avoid marring of the sash or casing of the window, the bar B may be beveled at each end as at 25 (Fig. 5) and the block 10 which carries the fingers 14 may be spaced a short distance from the side of the sash, as best shown in Figure 4.

The device works as effectively upon the upper sash as it does upon the lower one and does not interfere in any way with the operation of the latter. If the head of the thumbscrew of the upper sash is left in a position in which it projects into the path of the lower sash, it will be automatically turned by the lower sash, as the latter passes it, to a position out of the path of the lower sash. The device, when operating in either its anti-rattle or locking capacities, has the advantage that the applied pressure is in such a direction as to avoid distortion of the sash.

We claim as our invention:

1. A device of the character described including a body, a resilient member carried by said body which is adapted to resiliently engage the casing of the window with which the device is associated and means carried by the sash of the said window for adjustably supporting said body so that said resilient member engages said casing through a range of movement of the said sash to urge the latter edgewise against the opposite side of the casing, whereby to prevent objectionable vibratory movements of the said sash, said means including a thumbscrew upon which the said body is mounted, said thumbscrew being adjustable so that the end thereof extends through said body to engage said casing to lock said sash against movement.

2. A device of the character described including a body, a resilient member carried by said body which is adapted to resiliently engage the casing of the window with which the device is associated and means carried by the sash of said window for supporting said body so that said resilient member engages said casing through a range of movement of the sash to urge the latter edgewise against the opposite side of the casing, whereby to prevent objectionable vibratory movements of the said sash, said means including a threaded element upon which said body is mounted, said element being adjustable so that the end thereof extends through said body to engage said casing and thereby lock said sash against movement.

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