Nov. 30, 1954 L. B. WATTS 2,695,804

WINDOW LOCKING AND ANTIRATTLING DEVICE

Filed April 28, 1952

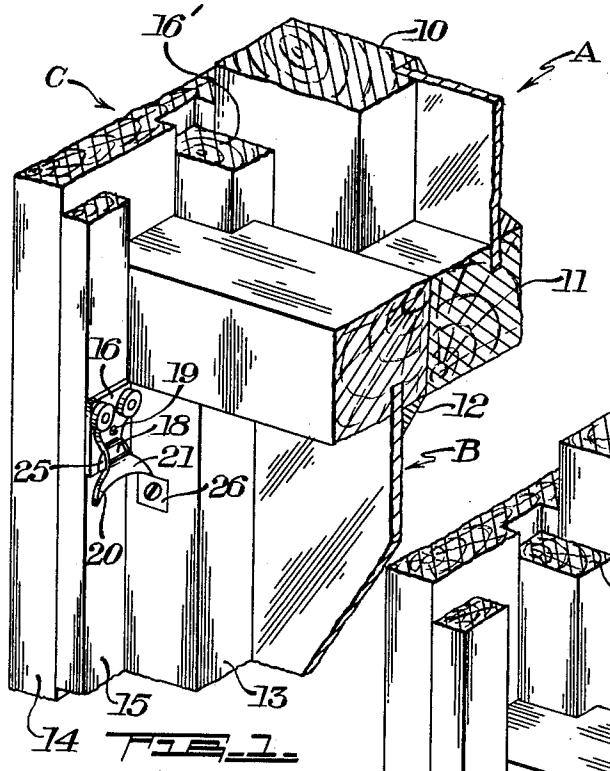


FIG. 1.

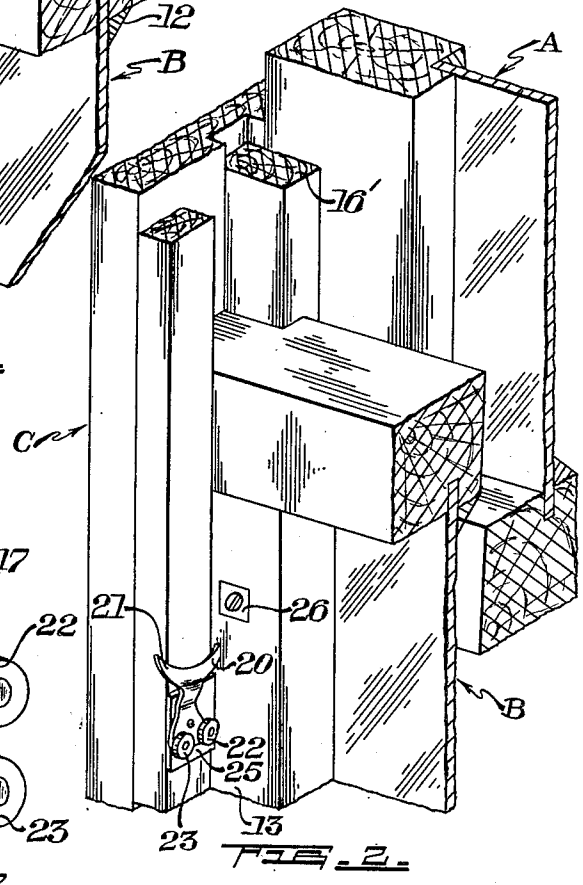


FIG. 2.

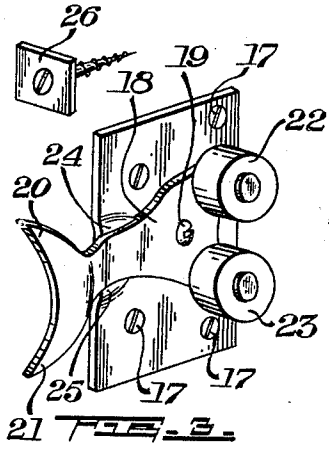


FIG. 3.

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2,695,804

Patented Nov. 30, 1954

2,695,804

WINDOW LOCKING AND ANTIRATTLING DEVICE

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Application April 28, 1952, Serial No. 284,793

3 Claims. (Cl. 292—213)

The present invention relates to a simple device for locking a loosely fitted window sash which is vertically slidable in a window casing. The device also prevents rattling of the window sash with respect to its casing.

The windows of many cottages, cabins, and low-cost houses are not counter-balanced, and often merely consist of a stationary upper section and a movable lower sash which is mounted for vertical sliding in the window casing. Since the slidable sash is usually quite loosely fitted in the window casing, some precautions must be taken against rattling of the window in its casing; and since the sash is not counter-balanced, some means is required for holding the window up when it has been opened. The device of my invention fulfills both these functions, and additionally serves to lock the window in its fully closed position, thus eliminating the need for any additional locking means.

My invention broadly resides in a device for locking in an open or in the closed position and for preventing rattling of, whether open or closed, a window sash which is vertically slidable in a window casing, the said device comprising a plate securable in said casing adjacent one of the stiles of said slidable sash; an arm pivotally mounted on said plate at a point intermediate the ends of the arm, one of the ends of said arm being bifurcated to form a pair of prongs; and a pair of rollers formed of resilient material rotatably mounted upon said arm at the end opposite said prongs, said rollers being disposed adjacent opposite corners of the end of the arm.

In the accompanying drawings which illustrate one embodiment of the invention:

Figure 1 is a view of the window locking and antirattling device of my invention showing the device holding the slidable sash of the window in the locking-closed position;

Figure 2 is a view somewhat similar to Figure 1, but shows the device holding the window in the locking-open position;

Figure 3 is a perspective view of the device on an enlarged scale.

The Figures 1 and 2 show a part of a conventional window of the type mentioned in the second paragraph of this specification. While the parts shown will be immediately recognized by those skilled in the building and carpentry arts, they will be briefly referred to here so that the point of application of the device of my invention will be made clear to all. Reference character A generally indicates the stationary upper section of the window, and reference character B the vertically slidable lower section of the window, while reference character C has been applied to the window casing.

The stile **10** and the meeting rail **11** of upper section A, and the meeting rail **12** and stile **13** of the slidable lower section B, may be noted in the drawings. In the case of the window casing C, the frame **14**, stop **15**, and parting bead **16'** all appear. All the elements so far mentioned in connection with the drawings are of quite conventional construction and therefore need not be described in detail.

Rigidly secured to stop **15** of window casing C is a generally rectangular plate **16**. The plate is secured to the stop by means of a plurality of screws **17**. An arm **18** is pivotally mounted on plate **16** at a point **19** intermediate the ends of the arm. The arm **18** is swingable in a plane generally parallel to the major plane of plate **16**. One of the ends of arm **18** is bifurcated to provide a pair of prongs which have been labelled **20** and **21**.

Rollers **22** and **23** are rotatably mounted upon said arm at the end opposite the prongs **20** and **21**, and disposed adjacent opposite corners of the said end of the arm.

Arm **18** may be placed in the neutral position in which it is horizontally disposed, with each of its rollers **22** and **23** out of contact with the stile **13**. While the arm is in this position, the lower window section B may be raised and lowered without interference from the device of the invention. To hold the arm **18** in the neutral position, I prefer to provide a pair of projections **24** and **25** adjacent the vertical edge of plate **16** remote from stile **13**. These projections are arranged to bear against opposite sides of arm **18** at a point intermediate its ends, and thus bias said arm to maintain the neutral position. Later on in this specification, and in the accompanying claims, I use the terms "uppermost" and "lowermost" in connection with the prongs and the rollers. In so doing I refer to the relative positions occupied by these elements when the arm **18** is in the neutral position just described.

Arm **18** may be swung upwardly through some 90° from the neutral horizontal position to a "locking-open" position, in which the raised sash is held open by the uppermost prong **20** bearing against stile **13** (see Figure 2). Prong **20** is resiliently held in tight engagement with the sash when in the locking-open position by the uppermost roller **22**, since the resilient material thereof is distorted by pressure against the sash during achievement of said locking-open position.

Arm **18** is downwardly swingable through some 90° from the neutral horizontal position to a "locking-closed" position in which the lower section B is held closed by the lowermost prong **21** bearing against the stile **13**, prong **21** being held in tight engagement with stile **13** by the lowermost roller **23**, whose resilient material is distorted by pressure against stile **13** during the achievement of said locking-closed position.

In connection with the locking-closed of the lower window section B, I prefer to rigidly secure a plate **26** to the face of stile **13** at a point just below the point of contact of prong **21** with stile **13**, when the device is in the locking-closed position. It will be appreciated that with a plate, bar, or the like, located as just described, if any attempt is made to open the closed and locked window from the outside, this attempt will be thwarted by the fact that the plate **26** will jam against lowermost prong **21**. Since further upward prying of the window from the outside can only be accomplished when accompanied by rotation of arm **18** in an anticlockwise direction, as viewed in Figure 1, it will be realized that further opening of the window will be ruled out, unless the force applied is sufficiently great to actually break the locking device.

I recommend that the rollers **22** and **23** should not be freely rotatably mounted with respect to the arm **18**. I prefer to so mount the rollers that considerable friction, or some other force, must be overcome when turning the rollers. I have found that where there is considerable resistance to turning of the roller **22**, there is less tendency for prong **20** to dig into the wood of the stile **13** when the device is in the locking-open position. The fact that the locking device forces the stile **13** into firm frictional contact with the parting strip **16** also serves to reduce any tendency the prong **20** may have to dig into the stile **13**.

I do not recommend the use of the locking device of my invention in connection with heavy, slidable window units. Exceptionally heavy windows are, in any event, usually counter-balanced. However, if for some reason, it was desired to use the device of the invention for the locking of a heavy window, a plurality of bars or plates, such as plate **26**, could be secured at vertically spaced intervals on the face of stile **13**, and prong **20** could be brought to bear against the lower edge of a plate or bar selected to give the desired degree of opening of the window.

What I claim as my invention is:

1. A device for locking in an open or in the closed position, and for preventing rattling of, whether open or closed, a window sash which is vertically slidable in a window casing, said device comprising a generally rectangular plate adapted to be rigidly secured to one of

the vertical walls of said casing adjacent one of the stiles of said slidable sash; an arm pivotally mounted on said plate at a point intermediate the ends of the arm, said arm being swingable in a plane generally parallel to the major plane of said plate, one of the ends of said arm being bifurcated to form a pair of prongs; and a pair of rollers formed of resilient material rotatably mounted upon said arm at the end opposite said prongs, said rollers being disposed adjacent the opposite corners of their end of the arm, the distances between each of the rollers and the point of pivotal mounting of said arm being such that one of said rollers will be forced in contact with said one stile, and the resilient material of the roller distorted by such contact, whenever said arm is swung through any appreciable angle from a neutral horizontal position, in which both rollers are adjacent but out of contact with said sash; said arm being upwardly swingable through some 90 degrees from said neutral position to a locking-open position in which the raised sash is held open by the uppermost prong bearing thereagainst, the said prong being resiliently held in tight engagement with the sash by the uppermost roller whose resilient material is distorted by pressure against the sash during the achievement of said locking-open position; said arm being downwardly swingable through some 90 degrees from said neutral horizontal position to a locking-closed position in which

the sash is held closed by the lowermost prong bearing against said stile, the said prong being held in tight engagement with the stile by the lowermost roller whose resilient material is distorted by pressure against said stile during achievement of said locking-closed position.

2. A device as defined in claim 1, and including a pair of projections adjacent the vertical edge of said plate remote from said slidable sash, said projections being arranged to bear against opposite sides of said arm at a point intermediate its ends and hold said arm in said neutral position.

3. A device as defined in claim 1, and including a plate rigidly secured to the face of said stile at a point just below the point of contact of said lowermost prong with said stile when in the locking-closed position, whereby any attempt made to open the closed window from without will be thwarted by jamming of said second plate against said lowermost prong.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
1,097,228	Holland	May 19, 1914
1,358,611	Black	Nov. 9, 1920
1,841,890	Hannon	Jan. 19, 1932