

Oct. 8, 1940.

J. P. WEAGANT

2,217,035

SASH HOLDER

Filed Nov. 3, 1939

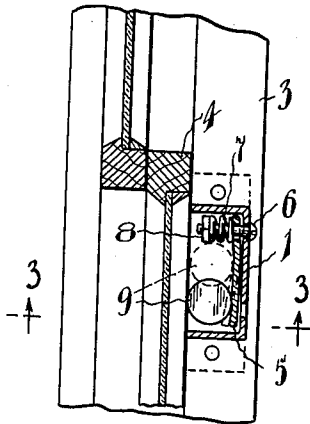


FIG. 2.

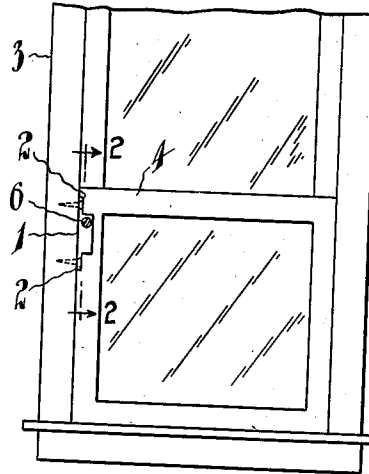


FIG. 1.

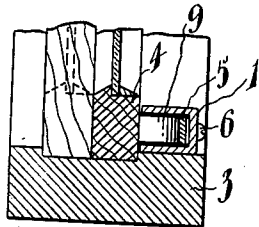


FIG. 3.

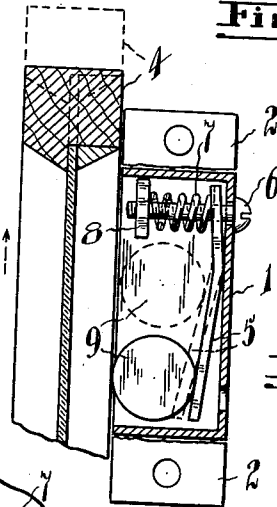


FIG. 4.

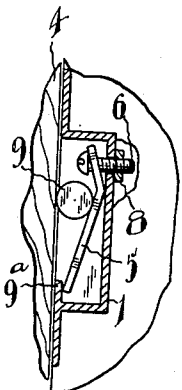


FIG. 6.

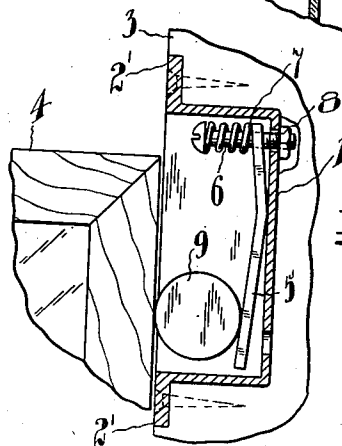


FIG. 5.

Inventor
J. P. Weagant
by *J. Edw. Mayhew* ATTORNEY

UNITED STATES PATENT OFFICE

2,217,035

SASH HOLDER

John Parker Weagant, Owen Sound, Ontario,
Canada

Application November 3, 1939, Serial No. 302,688

4 Claims. (Cl. 292-73)

This invention relates to sash holders, and the object of the invention is to devise a simple and effective sash holder which will normally hold the sash in a raised position but will permit the sash to be lowered by the application of downward pressure.

Counterbalancing weights supported by cords running over rollers are commonly used to retain window sashes in raised position, but these are expensive and are not readily applied to window frames not specially constructed for the purpose. Numerous sash holders have been devised with the object of devising something cheaper and more convenient and something which may be applied to the sash or frame without difficulty. Previously known constructions have been complicated, expensive, unsightly or ineffective, having no positive means of placing the roller in a wedging position whereas the roller in my invention moves into wedging position by the positive action of gravity.

Other types also use a small pin or axle running in very thin narrow journals which will soon either break off or wear out completely. My invention eliminates these objectionable features which enable it to be used indefinitely without signs of wear, and is simple, inexpensive, unobjectionable in appearance, and readily applied to any window.

According to this invention a roller is mounted in a vertical channel and is adapted to roll in engagement with a sash between said sash and a downwardly and outwardly extending depressible wedging member in the channel, said member being bent intermediate its ends and fulcrumed on the bottom of the channel whereby when the sash is moved upwardly the roller will roll freely, and when it is moved downwardly the roller will be wedged between the sash and the depressible member.

The invention is hereinafter more particularly described and is illustrated in the annexed drawing in which

Fig. 1 is a front elevation of part of a window and window frame showing the sash holder applied thereto;

Fig. 2 a vertical cross section on the line 2-2 in Fig. 1, with the side of the casing of the sash holder broken away;

Fig. 3 a horizontal cross section of the sash and frame on the line 3-3 of Fig. 2;

Fig. 4 an enlarged vertical section of the sash holder showing the position of the roller in full lines when the window is pulled down, and in dotted lines in the holding position;

Fig. 5 an enlarged vertical section of a modified form of sash holder; and

Fig. 6 a vertical section of a further modification of the sash holder.

In the drawing corresponding numerals in the different figures refer to corresponding parts.

The sash holder comprises a rectangular metal casing 1 open at one side and having brackets 2 extending from the ends thereof adjacent one of the sides, said brackets having apertures therein adapted to receive a screw or nail for securing the sash holder to a window frame 3. The sash holder is mounted on the side of the frame near the top of the sash 4 with its open side facing the sash, but sufficiently spaced therefrom to permit free movement of the sash up and down relative to the frame and the sash holder.

A flat metal leaf 5 of substantially the width of the channel formed by the casing 1 of the sash holder, and of substantially the same length of said channel is mounted therein by means of a bolt 6 which passes through one of the sides of the casing 1. Mounted on the bolt 6 is a coil spring 7 which is held thereon by means of a nut 8. The sides of the nut bear against the sides of the casing 1 so that it will not rotate, and the compression of the spring may be varied by turning the screw 6 which passes freely through the hole in the casing 1 and through a hole in the end of the leaf 5.

The leaf 5 is bent at a point between its ends but adjacent to the end thereof through which the bolt 6 passes, and said leaf is adapted to rock or pivot on the line of bend, the bottom of the channel against which the leaf bears acting as a fulcrum and there being sufficient play or looseness between the bolt and the hole in the leaf to permit the rocking movement of the leaf relative to the bolt. The end of the leaf through which the bolt 6 passes normally lies flat against the side of the casing 1, that is to say against the bottom of the channel formed by said casing, whereas the other end extends outwardly at an angle from the bottom of the channel.

A roller 9 which is substantially the length of the width of the casing is adapted to roll up and down in the casing in engagement with the leaf 5. The roller is of such size that when it is in the end of the casing adjacent the nut 6, which is the upper end of the casing when the sash holder is mounted on a window frame, the roller is held entirely within the casing and will roll freely therein, as, for instance, if the sash is raised. If, however, the sash drops or is pulled down the roller will be wedged between the sash

and the sloping part of the leaf 5 and will stop the further downward movement of the sash by pressing the sash into frictional engagement with the frame. The bolt 6 may be turned so as to adjust the pressure of the spring 7 sufficiently that the leaf 5 will not pivot or will pivot only slightly under the wedging action of the roller induced by the downward movement of the sash caused by gravity. If, however, additional downward pressure is applied, as for instance the pressure of the hand of a person who wishes to close the window, the wedging action on the roller will cause the leaf 5 to rock or pivot on the line where it is bent, that is on the line of junction between the part which normally lies flat against the bottom of the channel and the part which normally extends outwardly at an angle from the bottom of the channel, against the pressure of the spring 17, until the roller and leaf adopt the position illustrated in full lines in Fig. 4, with the short part normally vertical and extending outwardly at an angle from the bottom of the channel and the longer normally diagonal end part compressed into a position substantially parallel with the bottom of the channel, thus substantially eliminating the wedging effect and permitting the roller to rotate only subject to the friction caused by the pressure of the spring, which however is not sufficient to prevent the window from being pulled down, since the spring pressure has been so arranged and adjusted. It will be observed that the bottom of the channel acts as a fulcrum on which the leaf rocks.

If desired the sash holder may be morticed in the frame so that it will bear against the edge of the sash, as illustrated in Fig. 5. In this case the brackets 2' correspond to the brackets 2 in the other figures, but they extend from the ends of the casing 1 at the front thereof so as to secure the casing in the mortice or groove formed therefor in the frame. Likewise in this modification the head of the screw 6 is inside the casing in the position where the nut is shown in the other views, and the nut is located behind the casing in the position in which the head of the screw is shown in the other views, although preferably the bolt 6 will be screwed into a threaded hole in the bottom wall of the casing itself. The sash holder will be located so that the upper end thereof will extend above the top of the sash when the sash is in its lowermost position, so that the bolt 6 may readily be turned by means of a screw driver to adjust the tension of the spring without removing the sash.

A further modification of the sash holder of the type which may be morticed in the frame is shown in Fig. 6. It will be noted that the coil spring 7 as shown in Figs. 1-5 is omitted in this construction. The leaf 5 is bent at a point between its ends, said point being practically adjacent to the end of the leaf through which the bolt 6 passes. The head of said bolt 6 engages directly the surface of the short end of the leaf 5 wherein the leaf per se acts as a spring fulcrum along the line of junction between the two bent portions of the leaf and having the same action on the roller 9 when the sash is raised and lowered as hereinbefore mentioned. The tension of the leaf when acting as a spring may be increased or decreased by merely adjusting the bolt 6. A further variation in this type of sash holder is the stop 9^a, which is an upward

projection of the lower bracket 2, such stop preventing the leaf 5 from engaging the sash when the leaf is under high tension.

What I claim as my invention is:

1. In a sash holder, the combination of a roller; an open sided casing forming a channel in which the roller is adapted to roll in engagement with a sash; a flat leaf in the channel behind the roller, bent intermediate its ends, one end part thereof normally lying flat against the bottom of the channel and having a hole therein and the other end part thereof extending outwardly from the bottom of the channel, the line of junction between the two parts engaging the bottom of the channel which acts as a fulcrum on which the leaf is adapted to rock; a pin carried by the casing, provided with an abutment and extending through the hole, there being sufficient play between the pin and the hole to permit rocking of the leaf and a coil spring mounted on the pin and bearing against the leaf and abutment.

2. In a sash holder, the combination of a roller; an open sided casing forming a channel in which the roller is adapted to roll in engagement with a sash; a flat leaf in the channel behind the roller, bent intermediate its ends, one end part thereof normally lying flat against the bottom of the channel and having a hole therein and the other end part thereof extending outwardly from the bottom of the channel, the line of junction between the two parts engaging the bottom of the channel which acts as a fulcrum on which the leaf is adapted to rock; a pin carried by the casing and extending through the hole in the leaf, there being sufficient play between the pin and the hole to permit rocking of the leaf, a coil spring mounted on the pin and bearing against the leaf; and means for adjusting the tension of the spring.

3. In a sash holder, the combination of a roller; an open sided casing forming a channel in which the roller is adapted to roll in engagement with a sash; a flat leaf in the channel behind the roller, bent intermediate its ends, one end part thereof normally lying flat against the bottom of the channel and having a hole therein and the other end part thereof extending outwardly from the bottom of the channel, the line of junction between the two parts engaging the bottom of the channel which acts as a fulcrum on which the leaf is adapted to rock; a bolt extending through the casing and through the hole in the leaf, there being sufficient play between the bolt and the hole to permit rocking of the leaf, a coil spring mounted on the bolt; and a nut on the bolt, the coil spring engaging the leaf and the nut.

4. In a sash holder, the combination of a roller; an open sided casing forming a channel in which the roller is adapted to roll in engagement with a sash; a spring leaf in the channel behind the roller bent intermediate its ends and having a hole in one end thereof, the line of junction between the two parts engaging the bottom of the channel which acts as a fulcrum on which the leaf is adapted to rock; and a headed adjustment screw extending through the hole in the leaf and threaded into the casing to increase or decrease the pressure on the roller when in its holding position, there being sufficient play between the screw and the hole to permit rocking of the leaf.

JOHN PARKER WEAGANT.