(No Model.)

R. K. BROWN.

SASH HOLDER.

No. 491,763. Patented Feb. 14, 1893.

Fig. 1.

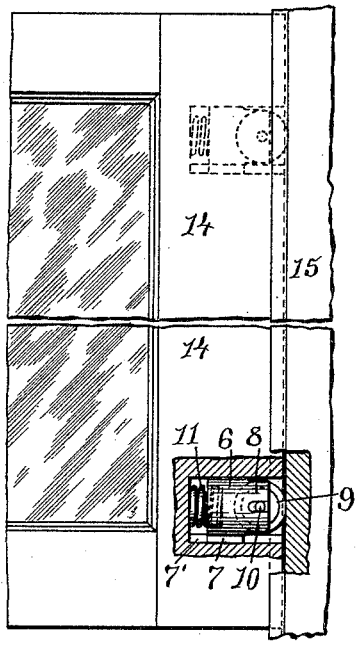


Fig. 2.

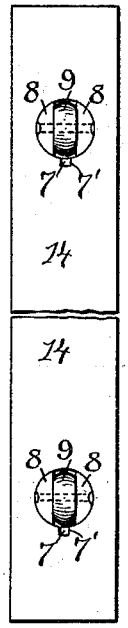


Fig. 3.

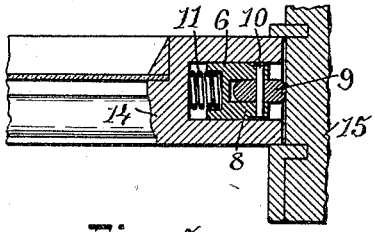


Fig. 4.

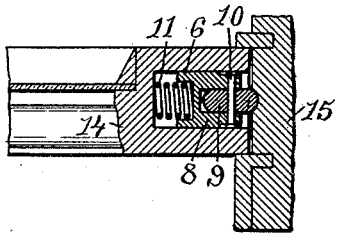
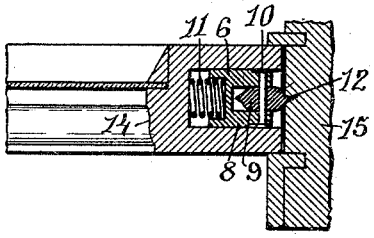


Fig. 5.



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UNITED STATES PATENT OFFICE.

ROBERT K. BROWN, OF WHITINSVILLE, MASSACHUSETTS.

SASH-HOLDER.

SPECIFICATION forming part of Letters Patent No. 491,763, dated February 14, 1893.

Application filed June 15, 1892. Serial No. 436,763. (No model.)

To all whom it may concern:

Be it known that I, ROBERT K. BROWN, of Whitinsville, in the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Window-Sashes; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

This invention has reference to an improvement in window-sashes and is applicable also to sliding panels, doors and similar articles.

The invention consists in the peculiar and novel construction of rollers more fully set forth hereinafter.

Window-sashes, doors, and other structures made of wood and constructed to slide in ways, or casings, shrink more or less in the course of time, become loose, are liable to rattle, cause considerable friction, and are liable to bind.

The object of this invention is to provide window-sashes and similar sliding structures with rollers constructed to adjust themselves automatically, so that, while the friction is reduced, they will hold the sash, or door, firmly and prevent rattling.

Figure 1 is a view of part of the upper and lower portions of a window-sash and frame shown partly in section. Fig. 2 is an edge view of the upper and lower part of a window-sash provided with my improved rollers. Fig. 3 is a sectional view of one side of a window-sash and part of the frame, showing the improved anti-friction roller inserted in the sash. Fig. 4 is a sectional view of one side of a window-sash provided with my improved roller and part of the frame provided with a groove in which the roller travels. Fig. 5 is a sectional view of one side of a window-sash, provided with a modified form of my improved roller, having a central annular fin which enters the wood of the frame.

Similar numbers of reference indicate corresponding parts in all the figures.

In the drawings 6 indicates a cylindrical piece of metal provided at one side with the projection, or feather, 7; one end of this piece of metal 6 is slotted so as to form the two brackets 8 between which the roller 9, journaled in the brackets 8, is placed,—the roller 9 may turn on the shaft 10, or with the same, in the bearings formed in the brackets 8,—the opposite end of the cylindrical-piece 6 is cupped out to receive the spiral-spring 11. The roller 9 is usually provided with a rounded tread, or face, which may roll on the plane surface of the frame, as is shown in Fig. 3, or in a groove, as is shown in Fig. 4. In the modified form I provide the roller with the annular projecting-fin so that the roller may cut a groove into the frame or may enter such a groove, as is shown in Fig. 5. The stile 14 is represented as the vertical stile of a window-sash, and 15 as the vertical side of a window-frame; these may, however, be the upper and the lower parts of a horizontally-sliding window, door, or other structure.

I will now more fully describe the method of using my improved rollers on a window-sash for use on which they are especially adapted, although they may be used in exactly the same manner on other sliding structures. Into each outer edge of the two vertical stiles 14 of the window-sash, preferably near each end, as shown in Fig. 1, I bore a hole into which the cylindrical piece 6 may be inserted, preferably with a loose fit, and cut a slot 7′ adapted to receive the projection 7 so as to hold the cylindrical-piece 6 in the desired position to permit the rollers 9 to travel in a straight path whether a groove is formed in the frame or not. Into the four holes so prepared, I insert my improved rollers, in the manner shown in the drawings, so that the spring 11 bears on the wood in the end of the hole. The sash is now inserted into the frame and to do this the springs 11 are compressed,—the resiliency of the springs 11 forces the rollers 9 against the side-frames on which they roll in raising or lowering the sash. On examining the drawings it will be seen that the springs 11 bear against the wood at the end of the hole near the inner side of the stile, it is, therefore, evident that, as the sash is sustained by the springs and rollers, the shrinking of the stiles of the sash will not affect the operation of the same transversely, while, with springs of sufficient resiliency, the sash is held firmly and is not liable to rattle. If a groove is formed in the frame, as is shown in Figs. 4 and 5, the sash will be even more firmly held against rattling by the rollers, while at the same time the sash can be raised and low-

ered more easily than it can when the rollers are not used.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:—

The combination with the window-sash or similar article and the frame provided with a longitudinal groove, of the cylindrical piece 6 provided at one end with the bracket 8, the spring 11, and the roller 9, having a convex thread, adapted to enter the groove in the window-frame and to hold the sash to prevent rattling, as described.

In witness whereof I have hereunto set my hand.

ROBERT K. BROWN.

Witnesses:
JOSEPH A. MILLER,
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