

J. R. PAYSON.

SASH-HOLDER.

No. 171,695.

Patented Jan. 4, 1876.

Fig. 1

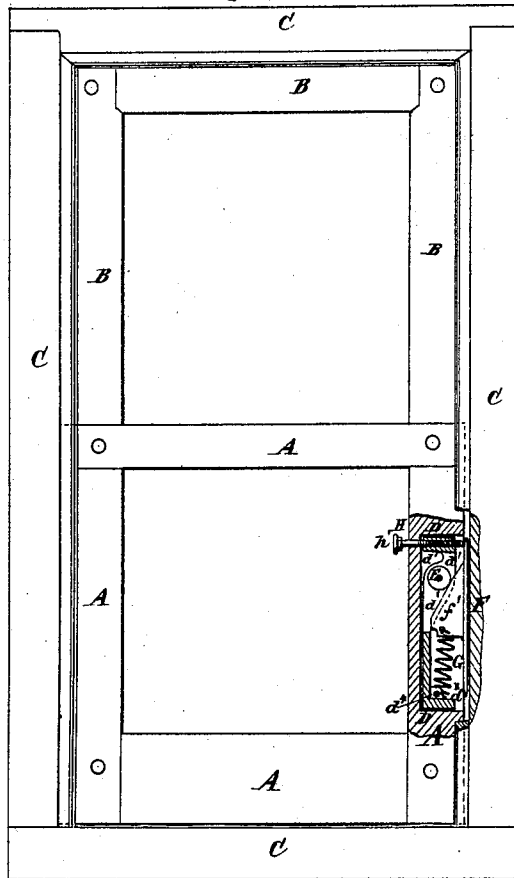


Fig. 2

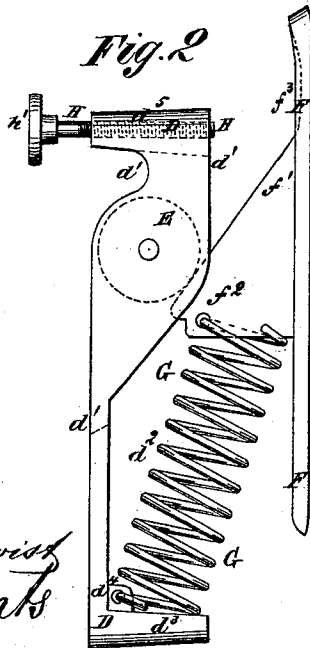
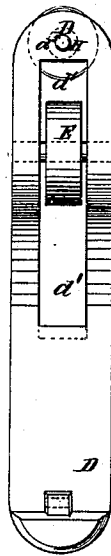


Fig. 3



WITNESSES:

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JOSEPH R. PAYSON, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN SASH-HOLDERS.

Specification forming part of Letters Patent No. **171,695**, dated January 4, 1876; application filed December 4, 1875.

CASE A.

To all whom it may concern:

Be it known that I, JOSEPH R. PAYSON, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Window-Sash Supporters, of which the following is a specification:

Figure 1 is a sectional view of my improved device, shown as applied to a window, part of the sash and casing being broken away. Fig. 2 is a detail side view of the device. Fig. 3 is a front view of the box.

Similar letters of reference indicate corresponding parts.

The object of the invention is to improve the construction of the sash-supporter, for which Letters Patent No. 70,604 were granted to me November 5, 1867.

The invention consists in forming upon the back of the friction-plate a thin projection, inclined at an angle of forty degrees or thereabout, which enters an elongated slot in the box, where it bears upon and traverses a roller pivoted in the box, its single point of bearing upon the face of the roller being below the center of axis of the roller, by which means the movements of the sash are made smoother, the angle of the incline is prevented from being changed by any variation in the setting of the box, the action of the friction-plate is rendered more sensitive and powerful, less liable to obstruction by paint, rust, or other cause, and is prevented from sticking or wedging too tightly, as, in case of any undue pressure upon it, it is relieved by the edge of the inclined projection reacting downward and inward upon the face of the roller against the pressure of the spring, overcoming the same.

The invention further consists in combining with the roller, spring, and friction-plate a bed-box, rounded at the ends to facilitate its insertion in a similarly-formed mortise in the edge of the sash, and having formed in its upper end an elongated slot or opening, in which the roller is pivoted, the sides of which serve as a guide to the thin edge of inclined projection; and at its lower end a bed for the spring, with sides cut away, to decrease its width and weight, and prevent the spring from rubbing against metal surface and causing noise, and having at its lower end a seat

for the lower end of the spring, and a lug to which it is fastened, the upper end of the spring being fastened in a similar manner to the lower end of the inclined projection of the friction-plate, thus connecting together the box, spring, and friction-plate, without impeding the action of the spring or plate; and the invention still further consists in combining with the box, roller, spring, inclined projection, and friction-plate a thumb-screw inserted in the upper end of the box, with the point of the screw working upon the inclined surface of a recess formed in the rear side of the upper end of the friction-plate, sloping in an opposite direction to that of the inclined projection, the pressure of the point of the screw upon said second inclined surface having the effect to force the friction-plate against the window-casing in an upward direction, and to force the edge of the inclined projection upward and outward upon the face of the roller, thus wedging the friction-plate tightly, and locking the sash in any desired position, the thumb-piece of the screw projecting inside of the sash-stile and over the face of the glass.

A is the lower sash. B is the upper sash, and C is the casing of a window. D is a box with rounded ends, which is fastened by driving it into a similarly-formed mortise in the side edge of the window-sash, thus avoiding the necessity of squaring out the ends of the mortise and of using screws. The upper part of box D has formed in it an elongated slot, d^1 , in which is pivoted a wheel or roller, E, which is made as large in diameter as the depth of the box D will permit. The forward lower part of the box D contains a recess or bed, d^2 , for the spring G, and is cut away at the sides. The lower end of the box D has formed upon it a projecting seat, d^3 , against which the lower end of the spring G rests, and is fastened by passing through a hole in lug d^4 formed upon seat d^3 . F is a friction-plate, the face of which is made perfectly flat and smooth, and the ends of which are rounded and the edges beveled, so that it may bear squarely against the casing C without indenting, gouging, or scraping the surface of the same. Upon the rear side of the friction-plate F is formed a thin inclined projection, f^1 ,

the incline of which is at an angle of forty degrees, or thereabout, to the face of the friction-plate. The lower end of the inclined projection f^1 rests upon the upper end of the spring G, and has formed in it a hole, f^2 , in which the upper end of the spring is fastened, thus connecting the box D, the spring G, and the friction-plate F together. The edge of the inclined projection f^1 is made of such a thickness that it will enter the slot d^1 of the box D, where it bears and moves inward and outward, in the line of the incline, upon the face of the roller E in box D, and has but a single point of bearing upon said roller, which point is below the center of its axis. This makes the friction-plate F more sensitive and powerful in its direct action upon the casing C, and at the same time prevents it from sticking or wedging too tightly by causing it to react in case of any undue pressure. H is a thumb-screw, which works in a threaded screw-hole, d^5 , formed in the upper end of the box D. When turned forward the point of the screw presses upon the inclined surface of a recess, f^3 , formed in the rear upper end of the friction-plate F, the angle of the incline sloping in a direction opposite to that of the projection f^1 . The pressure of the screw H upon the face of the incline f^3 forces the friction-plate F against the casing C in an upward direction, and thus wedges the friction-plate and fastens the sash. The thumb-piece h' of screw H projects inside of the sash-stile and over the face of the glass in a convenient position for operating.

With this construction and arrangement the device is reduced to so compact a form that it may be inserted in the edge of the thinnest

sash without weakening the stile, and concealed from view, except as to the thumb-piece of the screw, in which position it exerts a uniform pressure upon the casing of the window-frame throughout the scope of the movement of the sash. The pressure of the friction-plate is much greater in the downward movement of the sash than it is in the upward movement, but in both is automatic, the sash being simply pushed upward or pulled downward by the hand, and are supported in any desired position by friction only. The locking or unlocking of the sash is accomplished by turning the thumb-screw. The device is constructed of any suitable metal.

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

1. The combination of the inclined projection f^1 and the roller E with the friction-plate F and the spring G, substantially as herein shown and described.

2. The combination of the box D, having its lower forward part cut away in such manner as to leave a seat, d^2 , for the spring G, with the said spring G, the roller E, and the inclined projection f^1 of the friction-plate F, substantially as herein shown and described.

3. The combination of the thumb-screw H and the screw-hole d^5 of box D with the inclined surface f^3 and the inclined projection f^1 of the friction-plate F, roller E, and spring G, substantially as herein shown and described.

JOSEPH R. PAYSON.

Witnesses:

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