

S. L. RALPH & G. W. ROACH.
WINDOW SASH.

No. 498,991.

Patented June 6, 1893.

Fig. 1.

Fig. 6.

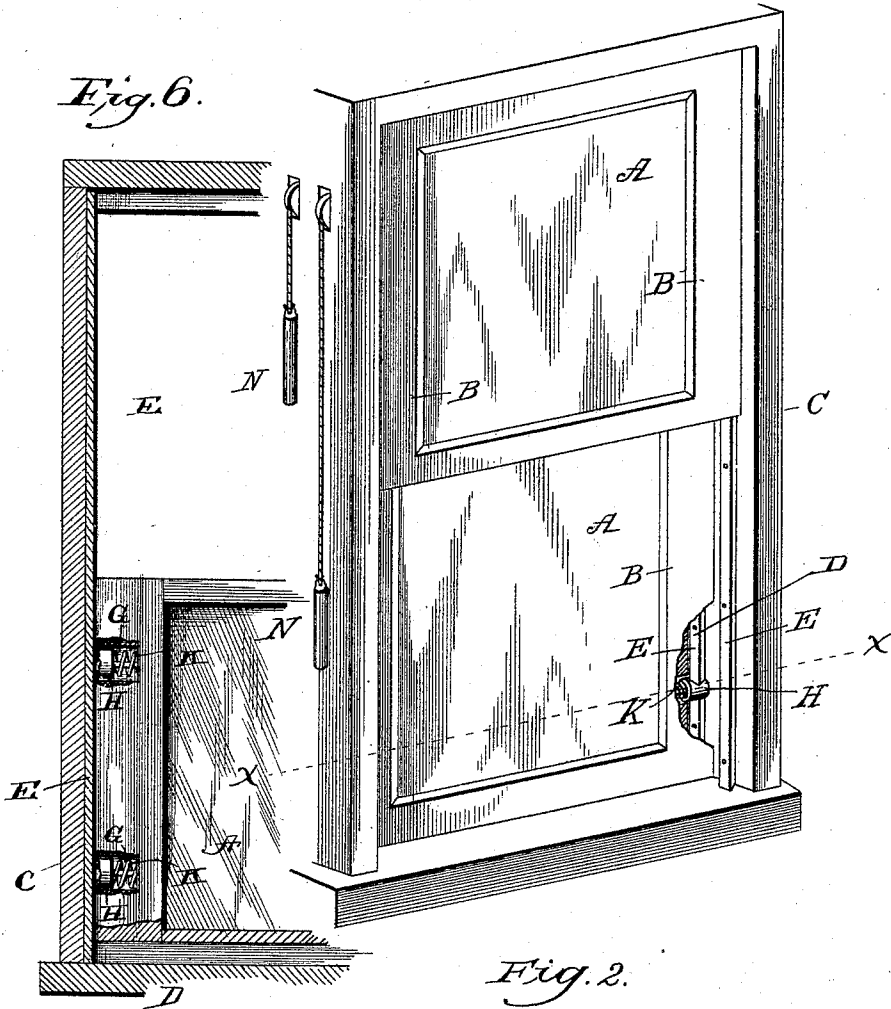
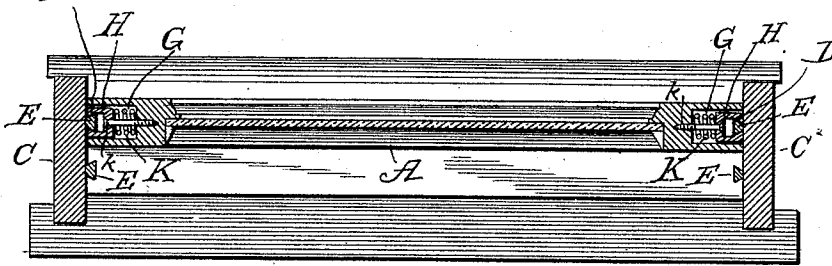


Fig. 2.



Witnesses

Wm. A. Schornborn.

[Handwritten signature]

Inventors

S. L. Ralph and

By their Attorneys, George W. Roach.

[Handwritten signature]

(No Model.)

2 Sheets—Sheet 2.

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Fig. 3.

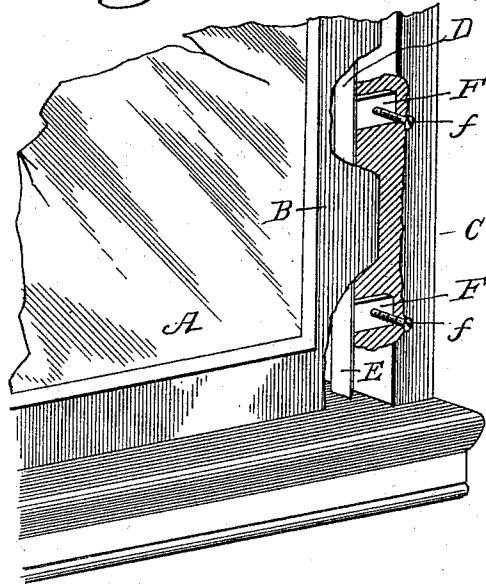


Fig. 4.

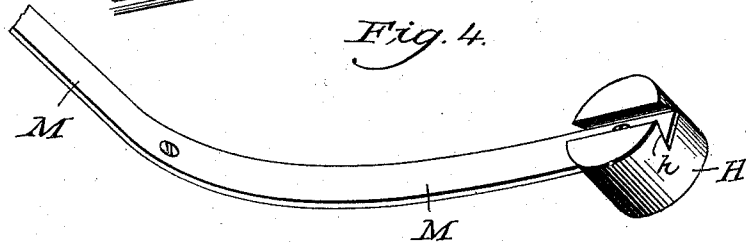
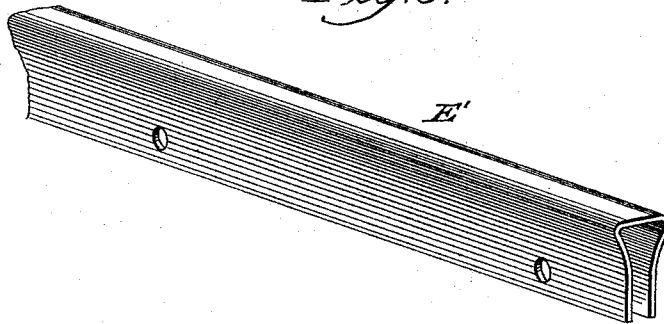


Fig. 5.



Witnesses

Wm. A. Schoenborn.

[Signature]

Inventors

S. L. Ralph and

George W. Roach.

Chas. Snow & Co.

UNITED STATES PATENT OFFICE.

SIDNEY L. RALPH AND GEORGE W. ROACH, OF ABILENE, TEXAS; SAID
ROACH ASSIGNOR TO SAID RALPH.

WINDOW-SASH.

SPECIFICATION forming part of Letters Patent No. 498,991, dated June 6, 1893.

Application filed July 8, 1892. Serial No. 439,407. (No model.)

To all whom it may concern:

Be it known that we, SIDNEY L. RALPH and GEORGE W. ROACH, citizens of the United States, residing at Abilene, in the county of Taylor and State of Texas, have invented a new and useful Window-Sash, of which the following is a specification.

Our invention relates to improvements in window sashes, and has for its object to provide means for securing a sash in its frame whereby it is capable of free movement, and at the same time is dust-proof, wind-proof, rain-proof, and snow-proof.

Furthermore, it is our object to provide means for securing a sash in its frame whereby rattling is prevented.

Furthermore, it is our object to provide means for securing a sash in its frame whereby counter-balancing weights may be used or omitted as desired, thus adapting our improvement to be applied to windows of all kinds, such as those of buildings, railway and street cars, &c.

Furthermore, it is our object to provide means for securing a sash in its frame whereby its displacement from the outside is impossible, thus making it measurably burglar-proof.

The construction of our improved sash is fully described in the following description, and the novel features thereof are particularly pointed out in the claims.

In the drawings: Figure 1 is a perspective view of a window, the sashes of which are provided with our improvements. Fig. 2 is a transverse horizontal sectional view, taken on line $x-x$ of Fig. 1. Fig. 3 is a front view of the inside of the frame, partly broken away. Fig. 4 is a detail view of one of the friction buttons attached to the end of a leaf spring, the latter being housed in a groove or channel in the edge of the sash. Fig. 5 shows a slightly modified form of guiding-strip for the sashes. Fig. 6 is a longitudinal section, showing top and bottom strips.

A represents the frame of the window-sash, the side-bars B B of which bear at their edges against the vertical sides of the casing, C. The side bars of the sash are provided with longitudinal grooves, or channels, D, to fit over the guiding-strips, E which are secured

vertically to the sides of the casing. These guiding strips are dove-tailed in section, being secured to the frame with their narrower sides in contact therewith and their broader sides projecting. These strips may be secured to the surface of the sides of the casing, by screws passing therethrough and engaging the casing, in the ordinary manner, but we prefer to attach them in such a manner that they may not be removed from the outside, and therefore we provide each strip with a series of apertured ears, F F, which project into and lie upon the inner edge of the side of the casing, and are engaged by screws, *ff*, the heads of which will be covered and protected by the moldings, when applied.

In sockets, G G, which are formed in the sides of the sash frame, are fitted the friction-buttons, H H, having in their outer ends or faces the dovetailed recesses, or channels *h h*, to fit and slide upon the guiding strips. In rear of these buttons are arranged coiled springs, K K, as shown in Figs. 2 and 3, to press the buttons outwardly against the strips. The buttons are held in place in their sockets by guide-screws, *k k*, which extend through axial perforations in the buttons and engage the sash. By operating said screw the button may be adjusted to project the desired distance beyond the outer edge of the sash, when released.

In Fig. 4 a different manner of securing the friction buttons is shown, consisting in attaching them to the extremities of leaf-springs, M M, which are arranged in the bottoms of the grooves in the sides of the sash.

The modified form of guiding strip E' which is shown in Fig. 5 is hollow, being formed of sheet metal, and is attached to the frame in the same manner as described in connection with the form of strip illustrated in Figs. 2 and 3. A solid metal strip made in substantially the same manner, may be employed. Also, a counter-balancing weight, as indicated in Fig. 1, at N, may be used in connection with our improvement, or may be omitted at will. The pressure of the friction buttons upon the guiding strips is sufficient to sustain the weight of an ordinary sash without the assistance of the weight, thus adapting the improvement for application to rail-

way car windows. The bottom rail of the sash is provided with a channel or groove similar to that which is formed in the edge of the side rail, and the bottom, or sill of the casing is provided with a strip, similar to that which is attached to the side of the frame; the same being true of the top of the upper sash and the top of the frame.

It will be seen that the construction above described does away with the necessity of a parting strip between the sashes.

Changes in form, proportion and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of our invention.

Having thus described our invention, what we claim, and desire to secure by Letters Patent of the United States, is—

1. A window sash provided at its side edges with spring-actuated buttons, in combination with dovetailed guiding strips secured to the casing and fitting in corresponding notches in said buttons, substantially as specified.

2. A window sash provided in its side edges with grooves or channels, and spring-actuated friction buttons arranged in sockets in the side edges, in combination with dovetailed

guiding-strips secured to the sides of the casing and adapted to engage dovetailed notches in the faces of the buttons, substantially as specified.

3. The combination with the spring-actuated friction buttons carried by a sash and provided with notches in their outer faces, of guiding-strips adapted to be secured to the sides of the casing and provided with perforated ears, substantially as specified.

4. The combination with a sash, of friction buttons fitting in sockets therein, springs connected to said buttons, and screws extending through the buttons and engaging the sash, and the dove-tailed guiding strips attached vertically to the sides of the casing and adapted to fit and operate in similarly shaped notches in the ends of the said buttons, substantially as specified.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

SIDNEY L. RALPH.
GEO. W. ROACH.

Witnesses:

J. A. PRATT,
P. M. DE VITT.