

United States Patent Office.

CHARLES KANZLER AND ALBERT NEGA, OF ST. LOUIS, MISSOURI.

Letters Patent No. 97,648, dated December 7, 1869.

IMPROVED SASH-BALANCE.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that we, CHARLES KANZLER and ALBERT NEGA, of St. Louis, in the county of St. Louis, State of Missouri, have made certain new and useful Improvements in Window-Frames and Sashes; and we do hereby declare that the following is a full and true account thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

This invention relates to the method of connecting window-sashes with frames, and supporting the same therein.

To enable those herein skilled to make and use our said invention, we will now more fully describe the same, referring herein to the accompanying

Figure 1 as a sectional elevation; to

Figure 2 as a front view of the frame; to

Figure 3 as a detail side view of the sash; and to

Figure 4 as a detail view of the rope-attachment.

We form the frame A in the general manner now usual, with the weight-boxes B at sides thereof.

The sashes C slide between the strips, *a a'*, in the manner usual, and the same are suspended by ropes, *c*, passing over pulleys D, and balanced by weights E.

In order that the sashes C may be put in place, without disturbing the main strips *a'*, and especially the side strips *a*, and be removed similarly, we arrange, near the bottom of the side frame, the removable piece A'. Said piece is bevelled at upper and lower ends to fit the surrounding frame, and is held in position, partly by its confinement between the end strips *a*, partly by its projection above and to the side of the sash-stile, and lastly, by a slide, F, the sliding bolt *f* whereof passes into a proper mortise in the frame A.

Said piece, A¹, is formed of two parts, A² and A³, connected by the side-straps *a*², the upper part, A², being hinged at the joint-bolt or screw securing the straps *a*².

The operator, by pressing up the bolt *f*, is enabled to draw out the part A³, (the sashes C being raised,) and then the entire piece A¹ is drawn out of its position. The sashes C are then lowered, and by moving the same laterally back into the mortise, formed by the removal of the piece A¹, the opposite stile may then be swung out clear of the side strip of the frame, and thus the sashes may be lifted out of the frame.

In order that the sashes thus removed may be released from the ropes *c*, we have arranged to lock the said ropes, so that, upon disconnection of the ropes, the weights E may not drop and draw the ropes out of reach of the operator.

Above the pulleys D we arrange the slide D¹, operated by the knob or finger *d*.

In the rear of the slide D¹, a spring, *d*¹, acts, pressing the same forward.

The front plate of the pulley-housing D², has the projections *d*², so that the operator, in pressing the knob *d* back, brings the mortises at its sides in vertical plane, so that said knob may pass through between the projections *d*², thus bringing the slide D¹ down upon the ropes *c*, and retaining the same against the action of the weights, the springs *d*¹ acting, in the mean time, to press the slide D¹ and knob *d* forward, so that the projections *d*² prevent the slide D¹ from rising.

The ropes *c* being thus secured, they may be disconnected from the sash-stiles, and to facilitate this operation, we arrange a tie-plate, G, in the rear face of the sash-stile, secured by proper screws thereto.

Said plate has a circular mortise, *g*, which connects with a slot, *g'*. Said slot grows narrower toward its upper end, and the rope *c* being knotted at its end *c'*, being passed into the mortise *g*, will draw up in the slot *g'*, the knot falling back of the face-plate G, and being prevented from disengagement by the projecting sides thereof. By simply drawing the rope downwardly, the disengagement is achieved.

The sash, being thus removed, may be cleansed or repaired, and then again easily inserted.

We do not claim all the devices thus described; neither is it necessary that the general arrangement of the rope-attachment or sash-construction be the one heretofore described; but the parts here desired to be claimed as our invention, are as follows:

The rope-lock D¹ *d d*¹ *d*², arranged and combined with the pulley D and rope *c*, substantially as and for the purpose set forth.

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Witnesses:

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