

UNITED STATES PATENT OFFICE.

CHARLES J. SCHIRER AND THADDEUS W. CROSS, OF BOSTON, MASSACHUSETTS.

WINDOW-SASH.

Specification of Letters Patent No. 3,963, dated March 21, 1845.

To all whom it may concern:

Be it known that we, CHARLES J. SCHIRER and THADDEUS W. CROSS, both of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in House-Windows, and that the following description, taken in connection with the accompanying drawings, hereinafter referred to, forms a full and exact specification of the same, wherein we have set forth the nature and principles of our said improvement by which our invention may be distinguished from others of a similar class, together with such parts or combination as we claim and desire to have secured to us by Letters Patent.

Our improvement is in the ordinary sliding double sash window, and consists in arranging each sash in a frame so as to turn on its center or vertical axis, while the frames slide in the grooves of the boxing in the ordinary way. This improvement therefore combines all the advantages which belong either to the ordinary sash or the "French" window while it avoids the evils which result from the use of either.

The "French" window, it is well known, is quite expensive, while at the same time, it is exceedingly difficult to make it watertight, and both the "French" and common sash-window must be open, (and so admit the external air to the room), during the whole time occupied in cleansing their exterior surfaces, the latter kind requiring the application of the ordinary stand or window apparatus, which is exceedingly clumsy and sometimes dangerous. All these evils, as before suggested are entirely obviated by our improvements.

The figures of the accompanying plate of drawings represent our improved arrangement of window sashes.

Figure 1, is a front view. Fig. 2, is a longitudinal vertical section taken in the plane of the line A B Fig. 1. Fig. 3, is a horizontal section taken in the plane of the line C, D, Fig. 1, and Fig. 4, is a detail view of one of the sashes in its sliding frame disconnected from the boxing of the window and partly open.

a a a, Figs. 1 and 3 is the inner, and *b b b* the outer casing of the window.

c—d, Figs. 1, 2 and 3, is the stool or sill of the same, the inner part *c* being horizontal and a little above the level of the outer part *d*, which latter part is properly

inclined or beveled to shed the drippings from the sashes.

e e e are the inner beads and *f f f* the dividing beads, (so called) which are fastened to the stiles *g, g*, on each side of the window and form the grooves in which the frames of the sashes slide up and down, the stiles *g g* being fastened to the boxing *h h h* in the ordinary way.

i i i—i i i represent the two rectangular frames in which the upper and lower sashes are set, these frames being hung with proper weights and cords like the ordinary sashes. The sashes *k k k—k k k* are secured in these frames by means of pins or screws *l—l* passing through said frames and working in proper steps or sockets formed in the top and bottom of the sashes in the line of the centers or axes of the same as shown in Fig. 2. The sashes *k k k*, &c., and their frames *i i i* &c., are formed with apposite and corresponding rabbets on their vertical sides as shown in the horizontal section Fig. 3, at *m, m* so as to make the joints tight on these sides. The bottom of the upper and the top of the lower-sash and frame, break joints as shown at Fig. 2, at *n—n* by having the opening or crack between the frame and sash of the former pass below that of the latter when the window is closed. The top of the upper and the bottom of the lower sash and frame break joints respectively with the exterior casing *b b b* and stool or sill *c d* of the window in the ordinary way; and all the parts of the window are rendered watertight by the arrangement above specified.

By inspection of Fig. 2, it will be seen that the space *o* between the top of the frame of the upper sash and the lower side of the cap-piece of the boxing *h h* is considerable whereas ordinarily the faces of the parts specified fit closely. This extra space it will be seen allows the upper sash and frame to be thrown up into the position shown by the red lines in Fig. 2; then by raising the lower frame a very little, so that the bottom of its sash will clear the top face of the part *c* of the stool *c d* of the window, the said sash may be turned on its center or axis, and its exterior face brought toward the inside of the room for the purpose of being cleaned or, setting a light of glass; or it may be placed in any angular position (see Fig. 4,) in order to direct a current of air into the room if desired. The upper sash may be brought down and turned and

cleansed in precisely the same manner if desired, by repeating the operation above described.

5 The increased expense of a window with our improvement added is but very small, while the advantages which will result from its adoption, and which have been hereinbefore enumerated are correspondingly great, rendering the cleansing of the win-
10 dows a very light part of the duty of the house domestics in lieu of a work to be performed by those who set themselves apart for the business.

15 Having thus described our improvement we shall state our claim as follows:

What we claim as our invention and desire to have secured to us by Letters Patent is—

20 The arranging of the upper and lower turning sashes of a window in sliding

frames, substantially in the manner hereinbefore described, so that they may be turned on their centers or axes for the purposes stated, the space at the top of the boxing being formed to allow the frames &c., to be 25 pushed up as herein above described in order to effect the aforementioned turning of the sashes, the whole arrangement and operation being substantially as hereinbefore set forth.

In testimony that the foregoing is a true 30 description of our said invention and improvement we have hereto set our signatures this second day of January in the year eighteen hundred and forty five.

C. J. SCHIRER.
THADS. W. CROSS.

Witnesses:

EZRA LINCOLN, Jr.,
NAT D. HUBBARD.