M. Nutting

Sash Holder.

No. 9,306. Patented Oct. 5, 1852.

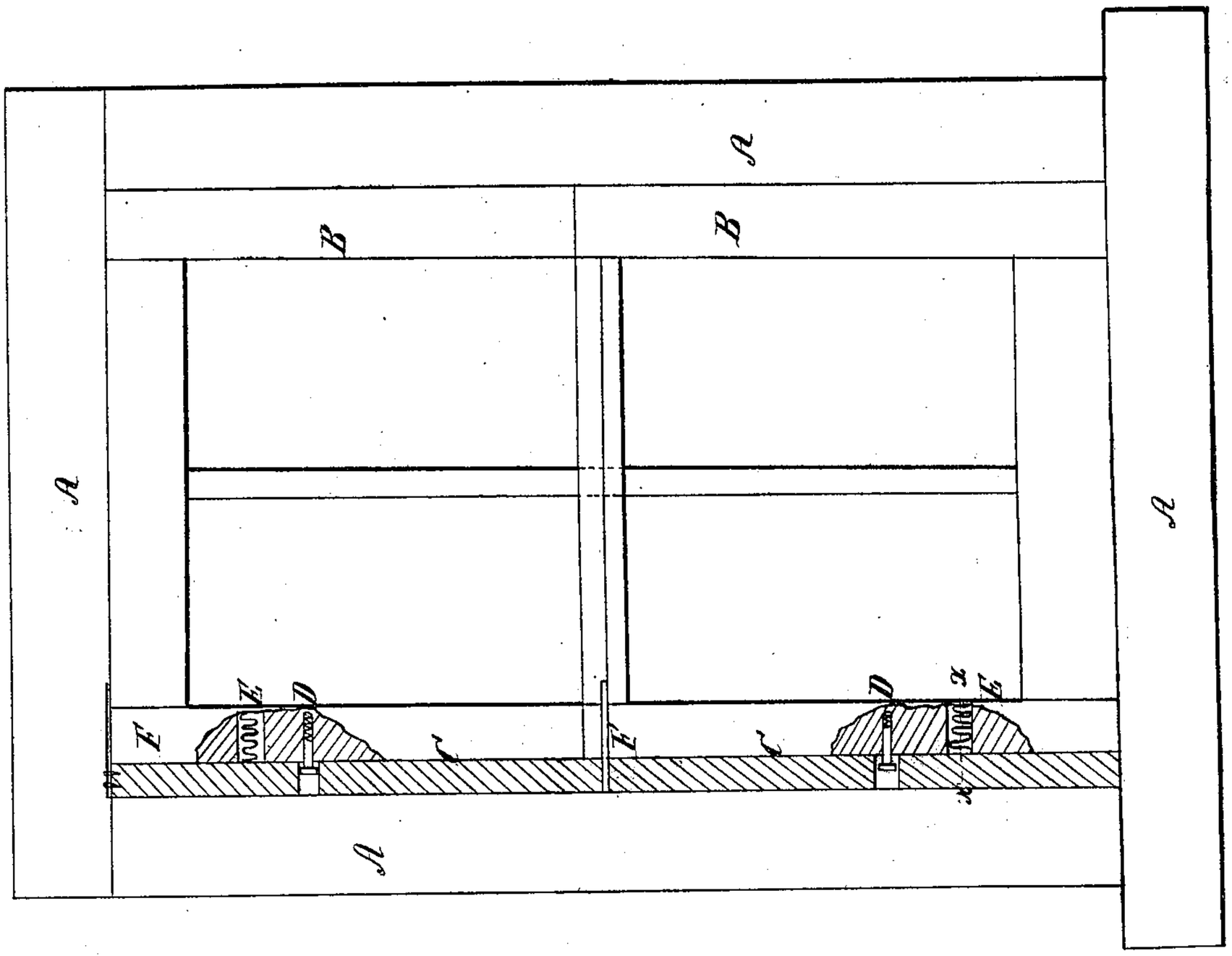

Fig. 2.

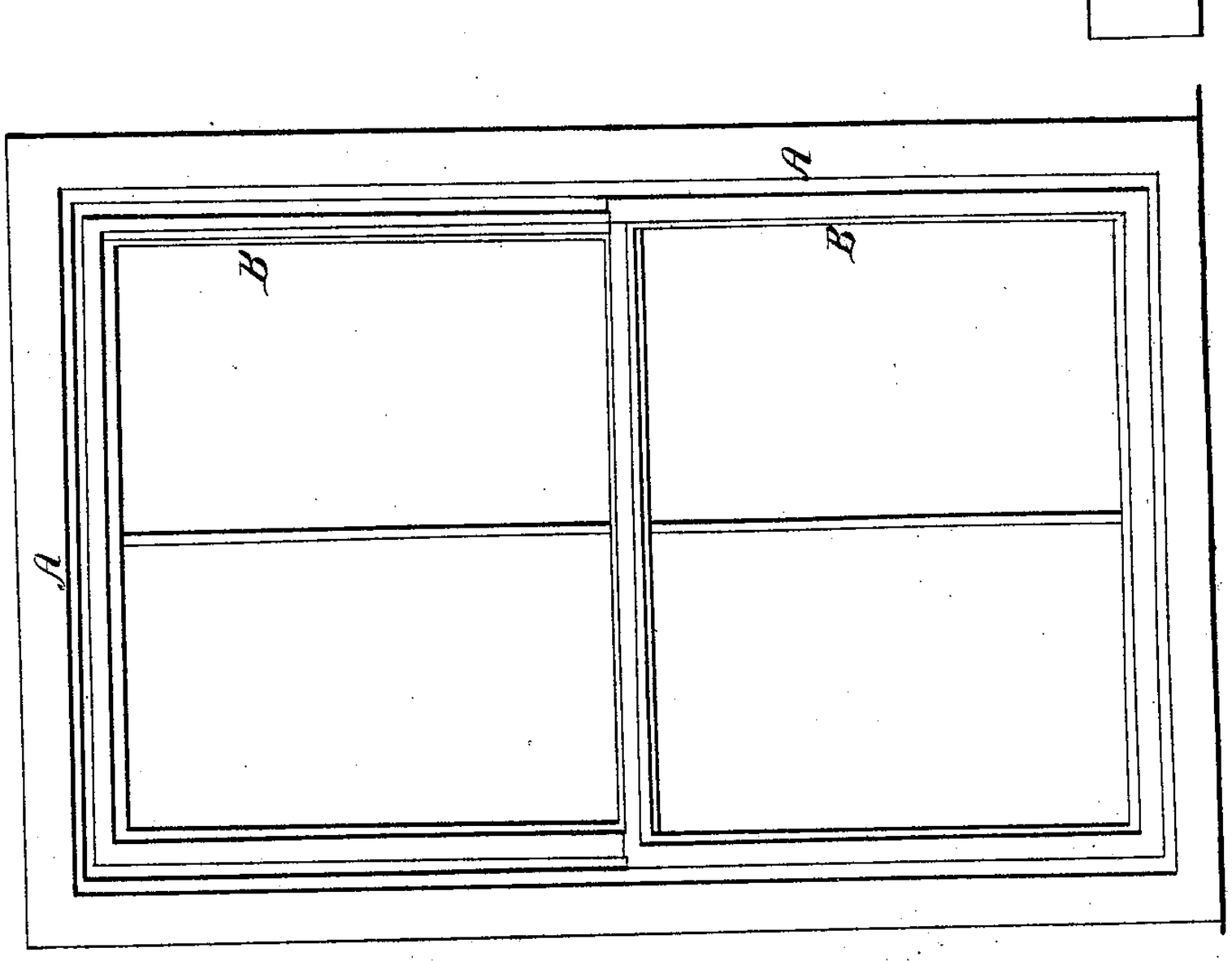

Fig. 1.

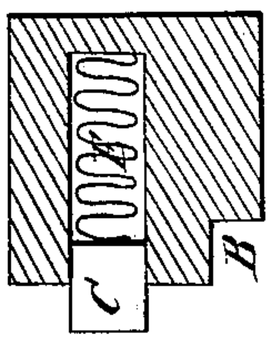

Fig. 3.

UNITED STATES PATENT OFFICE.

MIGHILL NUTTING, OF PORTLAND, MAINE.

EXPANDING WINDOW-SASH.

Specification of Letters Patent No. 9,306, dated October 5, 1852.

To all whom it may concern:

Be it known that I, MIGHILL NUTTING, of Portland, in the county of Cumberland and State of Maine, have invented a new and useful Improvement in Windows, which I denominate Nutting's Expanding-Sash, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing of the same, making part of this specification, and in which—

Figure 1 is a front elevation of a window having my improvements applied thereto; Fig. 2 is also a front elevation, showing a portion of the internal structure of the sash; and Fig. 3 is a cross section of the side of the sash at the line *x x*, of Fig. 2.

It is well known that common window frames when made for sashes of a given number of lights of any size, usually vary in width to such an extent that if the sashes were made narrow enough to enter the smallest, they would fit so loosely into the largest, as to be in danger of falling out, hence it is the practice to make the sashes of a width equal to the widest frames, and then plane down each sash where fitted into the frame to the proper size to fit the particular place to which it may be assigned. This method of fitting the sash involves considerable labor and expense, and when done is but a partial remedy for the difficulties that occur, for not only are different frames of unequal width, but the width of the same frame often varies between the top and bottom, and it being necessary that the sash must be reduced to the width of the narrowest part in order that it may slide freely up and down, it often happens that a wide, open joint must be left at one end of the sash, or the other, which can only be stopped by patching an additional thickness of stop strip upon the frame. It is also well known that in wet weather the frame and sash will swell, and in dry weather they will shrink, so that at one time the sashes fit so tight that they are frequently broken by the great amount of force required to remove them, and at other times are so open as to allow the wind and rain to beat in. In addition to these defects in the fitting of the common sash, there is another quite as serious, attendant upon its use. It is, as is well known, frequently necessary for the purposes of cleansing and repairs, to take window sashes out of their frames, and this can only be done by withdrawing the nails of the stop strips, and taking out the latter, which being light and slender pieces, are often broken by the operation, and they almost invariably get loosened and crooked, by frequent taking down and putting up, so that they will not make a tight joint with the sash, and allow it to rattle and the wind, and rain and snow to beat in, which are very serious disadvantages.

The object for which I have contrived my invention, is to remedy all these difficulties in common window sashes and frames, without discarding them, and making new ones, which would involve a great waste of property, but by simply modifying them by the addition of some parts and varying the construction of others at slight expense. The essential part of my invention consisting in making a portion of one, or both sides of the sash movable, and connecting the movable part or parts with the rest by springs, or by dividing the sash up and down and inserting springs between the parts in such manner that the width of the sash can be contracted at either, or both ends, to an extent sufficient to compensate for inequalities in the width of the frames, say from one quarter to three-quarters of an inch, which is also sufficient to admit of the contraction of the sash to introduce it into the window, without removing the stop-strip, and when in place, to permit it to expand sufficiently to fill and fit the frame, whether the jambs of the frame be parallel or otherwise.

In the accompanying drawings the frame A, and the sashes B, B, are in their general construction and arrangement made in the usual manner, and therefore in these particulars I shall omit any minute description, and shall confine the specification of details to the parts which are new.

On one side of each sash a groove is formed for the reception of a narrow tongue or strip C, as represented in Figs. 2 and 3. These strips fit loosely into the grooves so as to admit of free lateral movement. Each strip is confined in its groove by means of pins D, passing through it, on which the strip is free to slide in and out; each of these pins is fitted with a head which acts as a stop to limit the range of motion of the strip in such manner that while it is allowed

to move freely inward and outward within the groove, it shall not be permitted to pass entirely out of the same. The strips are constantly pressed outward by means of springs E, let into holes bored in the edge of the sash behind the strip; by the pressure of these springs, the edges of the sash will be kept constantly in contact with the sides of the jambs, so as to prevent the sash from chattering when the wind blows, and also so as to make the joints tight. In order that the joint at the upper edge of the lower sash, where the upper end of the movable side strip terminates, may always remain tight, whether the strip be in, or out, of the groove, the top of the strip is fitted with a thin cap F, whose edges adjacent to the upper sash and to the jamb of the frame are fitted to the same, respectively. That side of the jamb next which the movable side of the sash is placed, has a stop strip, fitted to it rather wider than usual to conceal the movable side piece; the stop-strip at the other side of the frame is of the usual thickness. With the sash and frame, thus constructed and arranged, when it is required to insert the sash into the frame, the former fitted with the movable piece, is inserted into the groove in the jamb of the frame, behind the thick stop-strip, and by the application of pressure to the opposite edge of the sash, the movable strip, and the adjacent surface of the sash, are brought together compressing the springs behind the strip, and contracting the width of the sash, so that the edge at which the pressure is applied will pass over the thin stop-strip on the opposite jamb of the frame, and when passed over the same the sash will, by the action of the springs behind the strip expand, until both its edges are in contact with the frame, and making a tight joint therewith. To remove the sash from the frame it is simply necessary to press it toward that edge on which the movable strip is placed, until its width is contracted sufficiently to allow its opposite edge to be drawn over the stop-strip of the opposite side of the frame, when by slightly turning it inward and drawing out the movable edge from the groove, the thing is done, the sash is out.

It will be seen that the common sash of any window may be taken out, have one of its edges planed down, a groove formed therein, and a movable spring edge-piece fitted thereto, and a wide stop-strip attached to that side of the frame adjacent to the movable side of the sash, when the ordinary window will be converted into one of the most approved arrangement of my improved window.

It is not necessary that the sash should be made to expand and contract by making a strip on one of its sides movable, as the same end can be attained by dividing the sash up and down anywhere between its two edges, and inserting springs, weights, or the equivalent thereof in any manner between the two parts to cause them to tend to separate, but as the several methods of constructing and arranging the two parts of the sash, so as to render the same capable of expansion and contraction, are so obvious when once suggested, I deem a particular description of them unnecessary. It is not necessary that the stop-strips on the frame should be of unequal thickness, even to conceal the movable strip, as other means may be resorted to, to conceal it, or it may be left unconcealed just as the taste or wishes of the constructor may dictate, provided the edges of the sash is kept at a proper thickness to fit the groove between the stop-strips to prevent it from being loose, and shaking in the groove.

I am aware that window-sashes wide enough to fill the window-frames for which they were designed and which therefore could not be put in or taken out without removing the stop-strips have had grooves made in their edges to receive spring packing to make their joints tight. I am also aware, that grooves have been made in window-frames and fitted with spring packing to press against the edges of the sash to make the joints tight. I am also aware that expanding window-frames have been made and the sashes fitted to them in such manner that the ordinary stop-strip is not required and that these frames expand to allow the sash to be taken out and contract to hold the sash in place after it is reinserted. I am also aware that this mode of allowing the sash to be put in and taken out is objectionable because of its cost and its inapplicability to windows of the common construction now in houses, which could not be modified so as to embrace it without great inconvenience or damage to the plaster of the walls, &c. To none of the foregoing contrivances do I lay any claim; neither would I patent or use them if I were the first who invented them, because of the superior simplicity, cheapness, and utility of the window herein described, in which—

I claim as my invention, and desire to secure by Letters Patent—

The sash constructed in two pieces so that both when brought together shall be narrower than the distance between the bottoms of the grooves in the jambs of the frame in which the sash is designed to be placed, by at least the thickness of one of the stop-strips of the frame, and connecting these two pieces of the sash in such manner that one will slide past or into the other so that the sash can be constracted or expanded as may be required to make it fit different window-frames and to adapt itself to the varying width of the same frame, and also

to admit of its being put into and taken out of the frame without removing the stop-strips therefrom, the two parts of the sash thus moving toward and from each other, having springs or the equivalent thereof adapted to them, so as to give them a constant tendency to diverge from each other, that the sash may at all times expand promptly and fill the frame to hold itself firmly in place substantially as herein described.

In testimony whereof I have hereunto subscribed my name.

MIGHILL NUTTING.

Witnesses:
P. H. WATSON,
E. L. RENWICK.