

E. J. STEARNS.
Window Sash-Frames.

No. 150,202.

Patented April 28, 1874.

Fig 1.

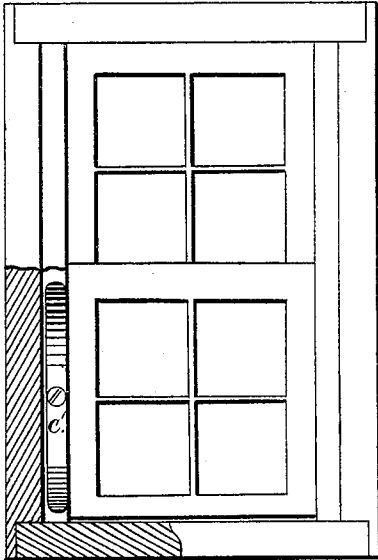


Fig 2.

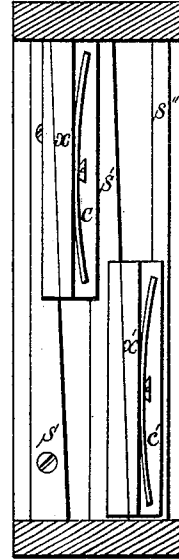


Fig 3.

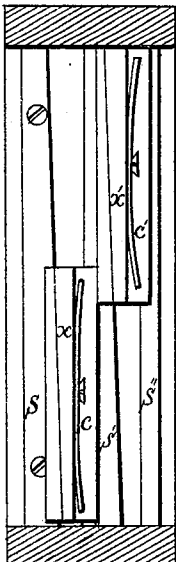
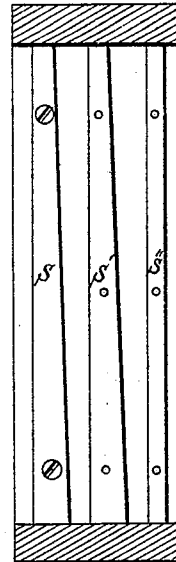


Fig 4.



Witnesses
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IMPROVEMENT IN WINDOW-SASH FRAMES.

Specification forming part of Letters Patent No. **150,202**, dated April 28, 1874; application filed March 11, 1871.

To all whom it may concern:

Be it known that I, EDWARD J. STEARNS, of Elkton, in the county of Cecil, in the State of Maryland, have invented a new and Improved Mode of Supporting Window-Sash; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a front elevation, with a part cut away to show the spring. Fig. 2 is a vertical section through the working parts, showing their relative position when both sashes are closed; Fig. 3, the same, except that both sashes are open—that is to say, the inner sash is up and the outer sash is down. Fig. 4 shows the fixed parts of Figs. 2 and 3 without the movable parts.

The object of my invention is to promote convenience in manipulating windows, by doing away with the disadvantages, while retaining the substantial advantages attendant on the use of weights, catches, or detents, and at the same time to promote comfort and convenience, by rendering the window, when closed, impervious to air, by preventing the sash from rattling in the wind, either when up, partially or wholly, or when down, and by allowing the admission, at pleasure, of an indirect current of air for ventilation.

To enable one skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

The strips S S' , which, respectively, keep the lower and the upper sashes in place, have the edge which is in contact with the sash slanted or beveled, so as to be, say, an inch wider at the bottom than at the top, the other edge being vertical—in other words, parallel to the plane of the window, as are also both edges of S'' . Corresponding to these two strips—that is to say, with a corresponding slant or bevel of the one edge, and a corresponding parallelism of the other—are the smaller strips x x' . Each of these strips has attached to its vertical edge a spring or springs, c c' . The extremities of these springs, when in position, press against the vertical edges of S' S'' with a force sufficient to keep the beveled edges of the smaller and the larger strips not merely in contact, (unless all that is sought is to keep the sash from rattling,) but in so close contact as to counteract gravity.

The mode of operation is as follows: The window being closed, the outer surface of the

upper rail of the lower sash is in close contact with the inner surface of the lower rail of the upper sash, thereby excluding the air. If, now, the lower or inner sash be raised, it will move inward as it moves upward with a motion analogous to that of the draftsman's triangle when used as a parallel ruler; hence, preserving all the while its parallelism with the upper or outer sash, and when it has reached its extreme height there will be between the two sashes a clear space of half an inch, more or less, according to the bevel of the strips. If, now, the outer sash be lowered to its full extent, it will have moved outward, in like manner, a corresponding half an inch, and there will be between the overlapping rails of the two sashes a corresponding clear space of an inch, securing ventilation without a direct draft. If both sashes be down, their relative position will be the same as when both are up—that is to say, there will be the same space between them. Where there is but one sash to a window, indirect ventilation, of course, cannot be secured.

Sashes arranged to move in this way—to wit, with an inward or outward lateral motion accompanying the vertical motion—require no lip where they overlap, though they may have one if it is desired.

The strip S' , Fig. 4, must be three-quarters of an inch wide at the top, so as to allow half an inch between the sashes when up, and an eighth of an inch on each side for their overlapping.

Instead of x being a separate strip fastened to the sash, it may be formed on the sash as a projecting tongue. The springs, too, may be of any form, and of any material that will answer the purpose.

In railroad-cars and other vehicles, where the sash is very thin, it may be found more convenient, in practice, so to construct and arrange the working parts that the lateral motion shall be to the right or to the left in a plane parallel to that of the window, instead of at right angles with it.

I claim—

The beveled strips or parts x' S' , pressed the one against the other by the spring c , or its equivalent, in the manner substantially and for the purposes above described.

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Witnesses:

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