L. LANDEKER.

WINDOW-SASHES.

No. 190,225. Patented May 1, 1877.

Fig. 1.

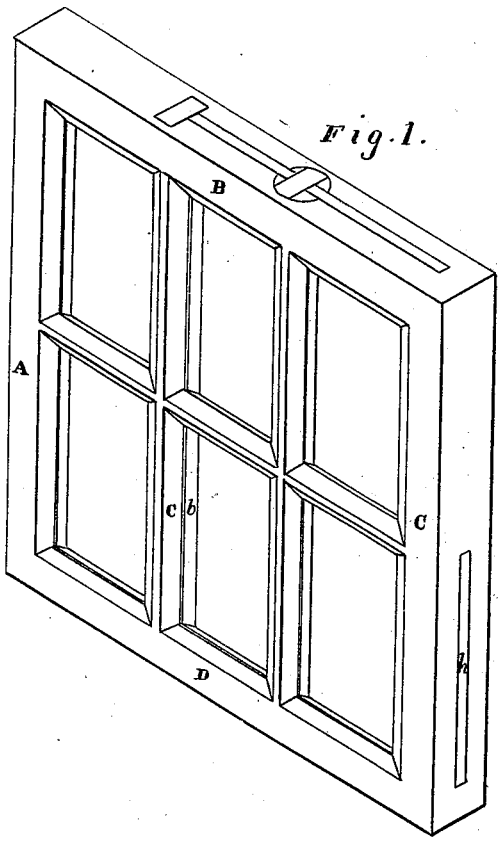
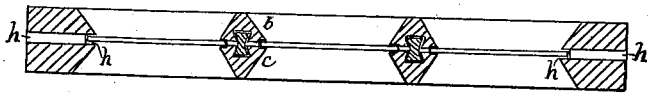


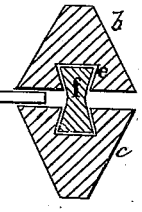
Fig. 2.



Witnesses

Geo. H. Strong

Jno. L. Boone



Inventor

Lazare Landeker

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Attys

UNITED STATES PATENT OFFICE.

LAZARE LANDEKER, OF SAN LUIS OBISPO, CALIFORNIA.

IMPROVEMENT IN WINDOW-SASHES.

Specification forming part of Letters Patent No. **190,225**, dated May 1, 1877; application filed March 15, 1877.

To all whom it may concern:

Be it known that I, LAZARE LANDEKER, of the town and county of San Luis Obispo, and State of California, have invented Improvements in Window-Sashes; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings.

The object of my invention is to provide such a construction of window-sashes that the panes of glass can be secured in place, and removed and replaced, whenever desired, by any ordinary person, thus avoiding the necessity of employing a glazier to do the work. My improvement also enables me to construct window-sashes so that they can be taken apart and compactly packed for shipping, after the manner known in commerce as "knock-down" articles. I can thus pack the woodwork in one package, and the glass in another, saving expense not only in the cost of shipping, but also reducing the liability of breaking the glass.

The invention consists in the construction and arrangement of parts, as will be hereinafter fully described.

Referring to the accompanying drawings, Figure 1 is a perspective view of a window-sash. Fig. 2 is a horizontal section of the same.

Let A B C D represent the four rails of a window-sash frame, each of which will be referred to in the specification by reference to the letter A.

In constructing the mullions which separate the panes of glass I make them in two parts, *b c* one of which parts, *b*, forms the outside portion, while the other, *c*, forms the inside portion. The outside parts of the mullion I joint together in the usual manner, and secure them permanently across the sash-frame. The parts *c*, which are secured upon opposite sides of the window, I make in short sections, each of which is as long as the panes of glass used, so that when they are fitted and jointed together they can be secured to the fixed or stationary part by means of devices, hereinafter described.

I make a dovetail groove, *e*, in the meeting faces of the inner and outer parts of the mullion, and opposite each other, so that when the parts are in place a metallic or other bar, *f*, (the opposite edges of which are thickened to correspond with the grooves in the mullion-strips,) can be run through a hole in the sash-frame, opposite the grooves, and then passed entirely through the mullion, thus connecting the two halves firmly together, and, at the same time, serving as a strip to separate the edges of the glass panes.

It is evident that when these sectional halves of the mullion on the inside of the sash are removed, the panes of glass can be simply placed in position, after which the sections of the mullions can be arranged and secured by the double-headed bar *f*, so as to confine them in place, and, at the same time, complete the finishing of the sash.

Ordinarily, however, I shall make a longitudinal slot, *h*, in the edge of the outside rails A B C D, opposite the grooves in the mullions, through which the panes can be slipped in the manner of a drawer until they are properly placed. I then place a strip, *j*, of wood or other filling in each slot, and secure it in place by screws or otherwise.

When a pane is to be removed and replaced after the sash has been once set up, I shall simply remove this filling-strip, and remove and replace the glass through the slot; but in the original setting up of the frame, before the sectional mullions on the inside of the sash are fitted and secured in place, I will place the glass directly in position, and afterward secure them by fitting and securing the sections.

Either of the above-described devices can be used independent of the other for removing or replacing the glass panes in the spaces, and when the sash is not intended to be knocked down I shall only use the slots in the edges of the side rails of the frames; but when the sash is intended to knock down I shall probably use both devices, although the slot in the edge could be dispensed with.

Various methods of constructing a sectional mullion could be devised for accomplishing the above-mentioned objects; but the one I have represented is cheap, simple, and quite effective.

By taking the mullions apart and knocking out the pins which fasten the corners of the

sash-frame, I can pack all the parts in a very small compass for transportation, and ship the glass panes in a separate package. Any person of ordinary skill can then put the parts together, insert the panes of glass, and complete the window. If the panes of glass should rattle, a very small quantity of putty inserted in the groove will render them tight.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

The combination, with the side rails of the frame A B C D, provided with a slot or slots, *h*, of the dovetailed grooved mullions *b c* and double-headed bars *f*, substantially as and for the purpose specified.

In witness whereof I have hereunto set my hand and seal.

LAZARE LANDEKER. [L. S.]

Witnesses:

GEO. H. STRONG,

FRANK A. BROOKS.