

F. M. CAMPBELL.
Metallic Window-Sashes.

No. 141,204.

Patented July 29, 1873.

Fig. 1.

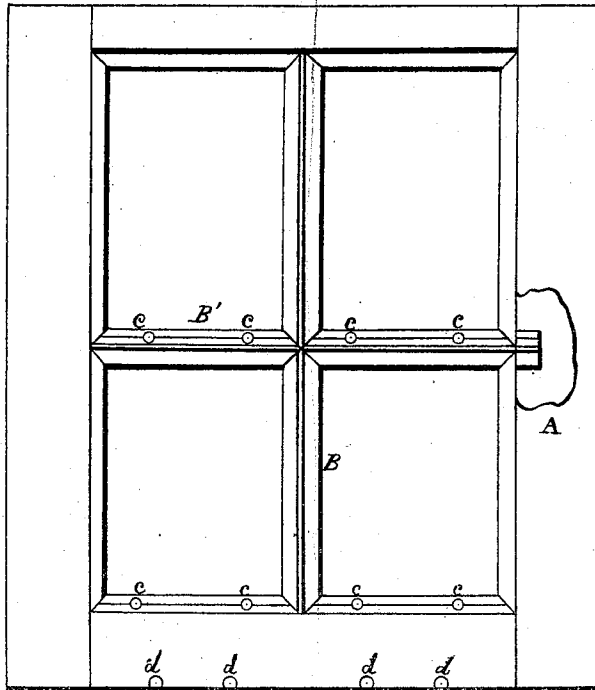
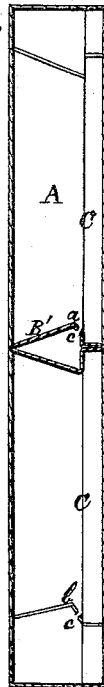


Fig. 2.



Witnesses.

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FRANK M. CAMPBELL, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN METALLIC WINDOW-SASHES.

Specification forming part of Letters Patent No. **141,204**, dated July 29, 1873; application filed June 25, 1873.

To all whom it may concern:

Be it known that I, FRANK M. CAMPBELL, of St. Louis, in the county of St. Louis and State of Missouri, have invented a certain new and Improved Sheet-Metal Window-Sash, of which the following is a full and complete description, reference being had to the accompanying drawings making part of the same.

Figure 1 is a side view of the sash. Fig. 2 is a vertical transverse section.

Like letters of reference refer to like parts in the several views.

The nature of this invention relates to a hollow window-sash constructed of sheet metal; and the object thereof is to provide a way of escape for the water resulting from melted frost, condensed steam, and moisture on the panes of glass.

The following is a more full description of the invention:

A in the drawing represents the sash, which may be of any size and of any desirable style. Said sash is made of sheet metal, and both the frame-mullions and bars B' are hollow, as shown in Fig. 2. A portion of the frame in Fig. 1 is shown as broken away in order to show its hollow character. It will be observed that the upper edge of the rabbet of the cross-bar B' is beveled back from the glass C, as shown at *a*, Fig. 2, thereby forming a groove along the edge of the bar and pane, of which groove said pane forms one side. So, also, along the upper edge of the lower side of the frame of the sash, is formed a groove in the same way, as will be seen at *b*, Fig. 2, the purpose of which will presently be shown. Along in the sash side

of the grooves referred to are made a series of holes, *c*. Similar holes are also made in the lower edge of the sash-frame, as seen at *d*. The several holes in the bars of the sash, and those in the upper side of the frame, are all on the inside of the glass, which is set with putty in the usual way, whereas the holes *d* in the frame are outside of the glass.

A sash constructed as above described, in consequence of being hollow, is much lighter and stronger than an ordinary wooden sash of the same size, and therefore more durable. The construction also prevents the water which condenses upon the frame from flowing down the sash into the room, as the water will run down the glass into the grooves, and escape therefrom through the holes therein to the inside of the bars; thence down to the lower edge of the sash-frame; and thence to the outside of the window through the holes *d*, thereby keeping the inside of the window and the sills from being flooded with condensed vapor or water from melting frost.

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

A window-sash the frame and bars of which are hollow and constructed of sheet metal, having the upper edge of the bars and the upper edge of the lower part of the frame beveled, as described, to form the specified grooves *a b*, and having holes *c d*, substantially in the manner as and for the purpose set forth.

FRANK M. CAMPBELL.

Witnesses:

BATES DALY,
EDWARD McDONALD.