F. E. Sessions.

Window.

No. 16,578. Patented Aug. 19, 1856.

Fig. 2.

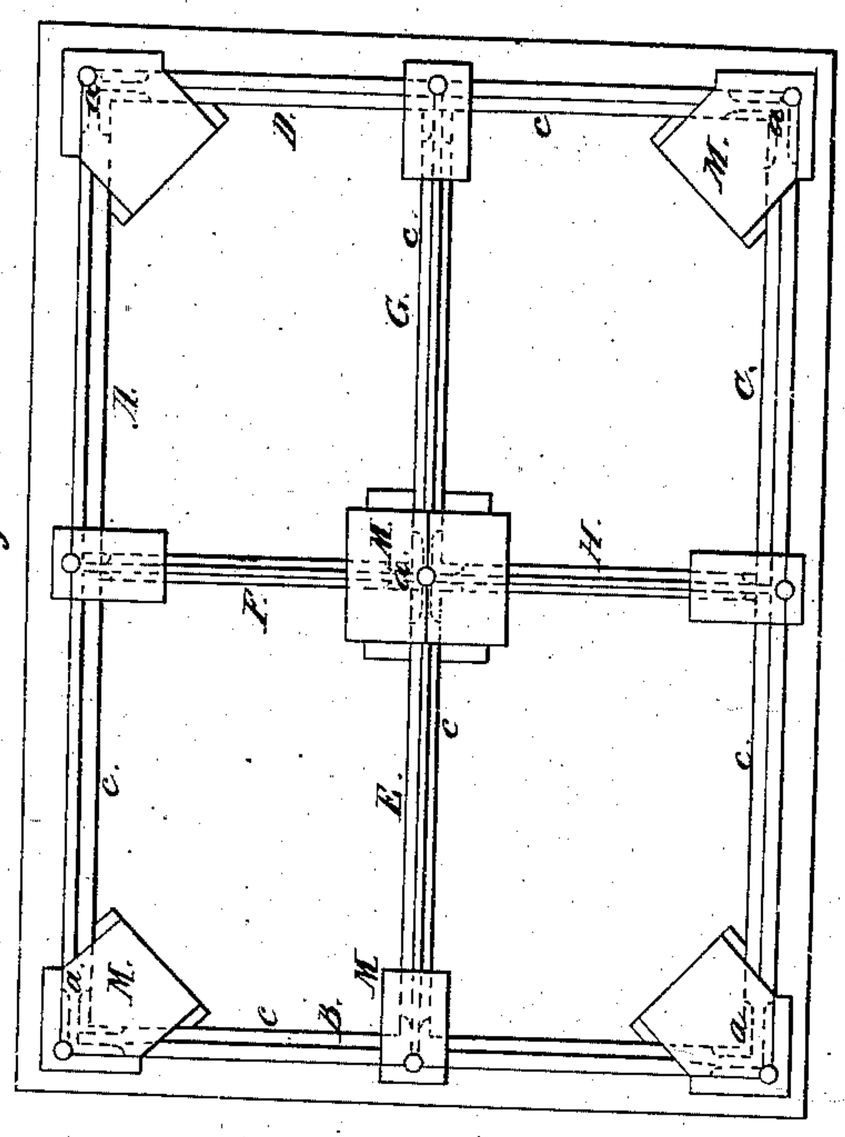


Fig. 5.

Fig. 6.

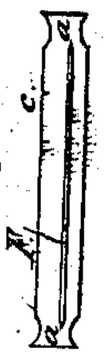


Fig. 1.

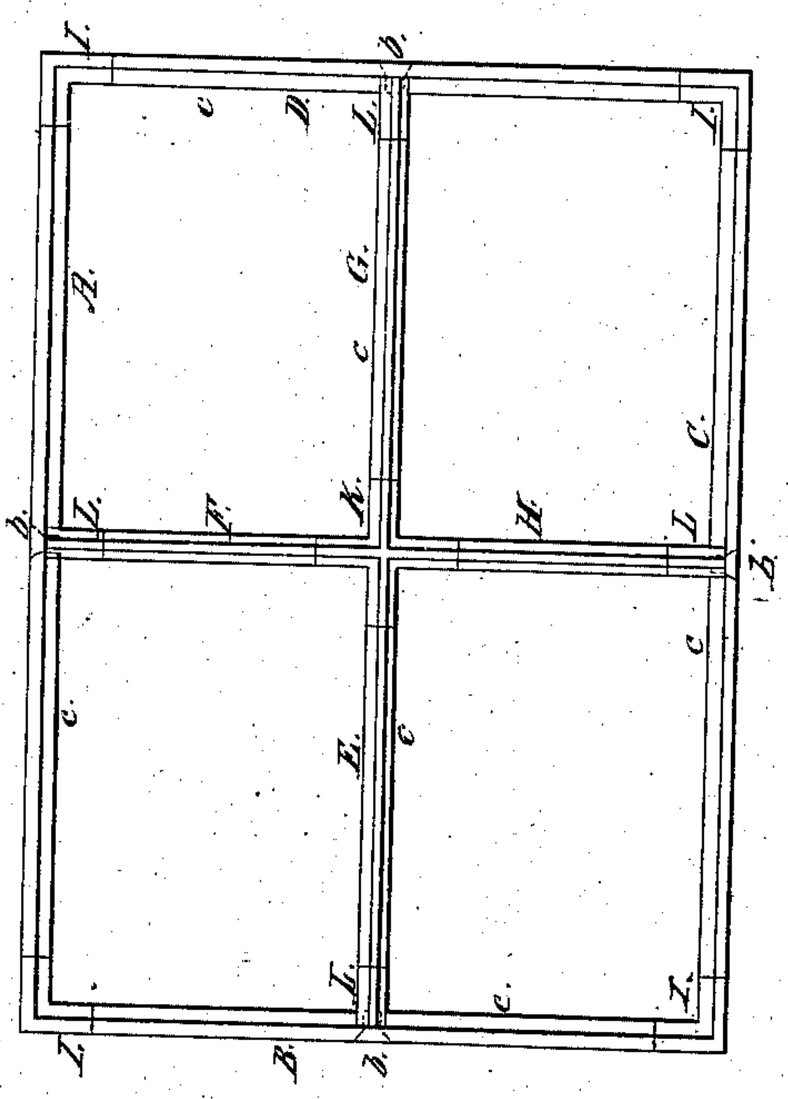
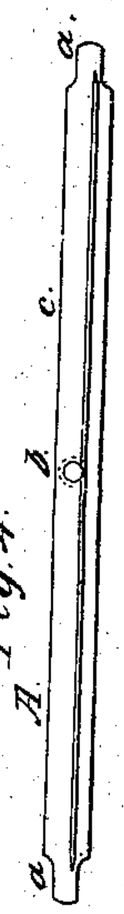


Fig. 3

Fig. 4.



UNITED STATES PATENT OFFICE.

FRANCIS E. SESSIONS, OF WORCESTER, MASSACHUSETTS.

WINDOW-SASH.

Specification of Letters Patent No. 15,578, dated August 19, 1856.

To all whom it may concern:

Be it known that I, FRANCIS E. SESSIONS, of Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in the Manufacture of Window-Sashes of Metal; and I do hereby declare that the same is fully described and represented in the following specification and the accompanying drawings, of which—

Figure 1, is a top view of one of my improved sashes, the main bars of the sash being of one color, while their rabbeted connections and continuations are exhibited in another, in order that one of them may be clearly distinguished from the other. Fig. 2, exhibits a top view of the several bars and the arrangement of mold for forming their rabbeted connections. Fig. 3, is a top view of one of the side bars. Fig. 4, an inner side view of one of the said bars. Fig. 5, is a top view of one of the main cross bars. and, Fig. 6, a side view of the same.

In constructing a window sash I make it of side bars A, B, C, D, and transverse bars E, F, G, H, there being constructed on each end of each of said bars, a tenon or dovetailed connection *a*, (or its equivalent) and besides said tenon, I usually form each of the side bars with a countersunk hole *b*, extending through its middle, the countersinking of the hole being done on the outer side of the bar. These bars so made are intended to be joined by what I term continued rabbeted connections, such being shown at I, I, I, I: K: L L, L, L, in Fig. 1. Each of these rabbeted connections I cast in a mold and upon the tenon, tenons, or bars to be connected. And for this purpose, I arrange the several molds, M, M, as seen in Fig. 2, forming each of them so that it may not only embrace the bars to be conjoined by molten metal, poured into said mold, but with a matrix sufficient to enable me to cast a rabbeted continuation or continuations such as shown at I, I, I, I: K and L, L, L, L, the rabbets *c*, of the main bars and the mold being such as to enable panes of glass to be inserted and puttied or cemented into the sash frame. After the sash bars and molds have been so arranged, melted or fusible metal is to be poured into the sprue hole of each mold until the matrix of the mold is filled with such metal.

When either of the transverse bars is to be joined to a side bar, the metal is to extend through the hole made in the side bar as hereinbefore mentioned, the same serving to strengthen the connection of the two. When the fusible metal has become cold in the mold, it will form rabbeted continuations of or additions to the several bars.

This mode of manufacturing a metallic sash, has many advantages over other molds in use; and it differs essentially therefrom; for with them, the sash bars are generally connected by making each one in an entire piece, and either riveting, brazing or soldering them together, or by casting the whole sash in one entire piece—each of which modes are not only expensive but liable to some peculiar objection. My improved sash differs from them inasmuch as its bars are formed in what may be termed "three distinct" pieces two of which are made by casting them on the other, and each not only serves to join the third to another bar but to form a rabbeted continuation of said third bar.

The main and transverse bars, I generally make of rolled wrought iron and cut their tenons by machinery. In this way a sash may be made of any desirable size with one set of molds, they varying in number in accordance with the number of the bars in the sash.

I do not claim the principle of connecting two pieces of metal by casting metal on both, while they are in a mold; nor do I claim making a window of separate bars united by brazing, soldering or riveting them together where they abut against one another but

What I claim as my invention, is—

The above described new or improved combination or manufacture of window sash as made not only of rabbeted and tenoned side and cross bars, but of separate rabbeted corner pieces or continuations cast in manner as specified on the tenoned ends of said bars, and not only constituting rabbeted angular continuations thereto so as with said bars to complete the sash frame, but serving to connect the bars together in manner as explained.

In testimony whereof I have hereunto set my signature this twenty-ninth day of May A. D. 1856.

FRANCIS E. SESSIONS.

Witnesses:

J. HENRY HILL,

GEO. F. HOAR.