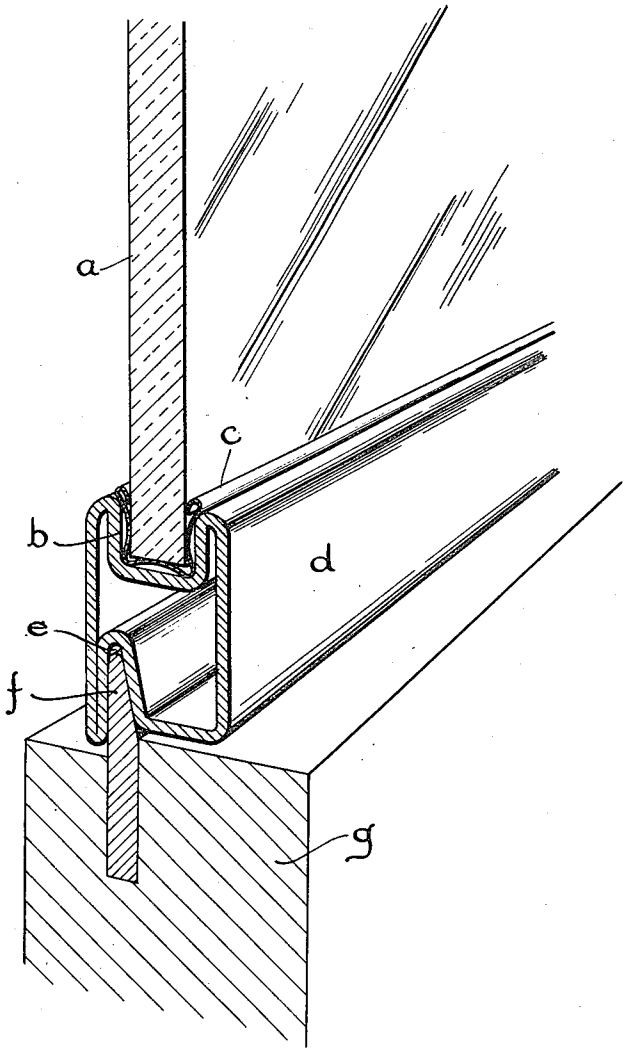
J. T. ALLMAND.

METAL WINDOW SASH.

APPLICATION FILED DEC. 15, 1913.

1,147,836. Patented July 27, 1915.



WITNESSES

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METAL WINDOW-SASH.

1,147,836. Specification of Letters Patent. Patented July 27, 1915.

Application filed December 15, 1913. Serial No. 806,710.

To all whom it may concern:

Be it known that I, JOHN T. ALLMAND, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Metal Window-Sashes, and declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to metal window sashes used in conjunction with a fence upon the window frame.

It has for its object a metal sash bar provided with a groove that has a wedging engagement with the fence so as to act as a perfect weather excluder and as an anti-rattler.

In the drawings the figure is a sectional perspective.

A slab of glass *a* is supported in the groove *b* of a metal sash bar. A strip of resilient metal *c* cushions the glass and prevents breaking.

The hollow sash rail *d* is made of drawn metal which is drawn out to form sides bridged at the tops by the top wall which has forced therein the glass-supporting groove *b* and the sides are joined at their bottoms by the bottom wall provided with the deep and narrow fence groove *e*. The groove *e* is wedge-shape in cross-section or provided with an inclined wall so that the fence *f* which is wedge-shape in cross-section or provided with a beveled face and, preferably, steel may engage with the wedge-shaped walls of the fence groove in a tight fit.

It will be noticed from the drawing that the bevel face of the fence *f* is comparatively wide and that the inclined wall of the fence groove *e* is comparatively deep, both the inclination and bevel of the groove and fence respectively are gradual. The fence groove extends almost, if not half way, into the sash bar *b;* the width of the bevel face and the depth of the inclined wall furnish a large area for frictional engagement. This frictional engagement is materially enhanced by reason of the resilience which is necessarily present in sheet metal construction. The side walls of the groove are free to spread at their lower edges and at points inwardly therefrom, for it is apparent there is no substantial resisting agent except the side walls of the sash bar and inasmuch as these are sheet metal they will permit a certain amount of spreading. This form of construction affords a groove with elastic walls, and it is quite apparent that a structure of this type fits very much tighter over the fence than would a solid structure or one that had a groove whose side walls could not spread.

The fence *f* is a solid bar and is inserted in the window frame bar or sill *g*. The horizontal surface of this bar or sill on one side of the fence is somewhat higher than on the other side of the fence. One wall of the fence groove continues down somewhat below the lower horizontal wall of the sash bar so as to extend slightly below the horizontal surface of the frame bar on the opposite side. The extended wall of the fence groove and the extended wall of the metal sash bar lie against each other so as to form a double strip of metal at this side.

The construction shown in the drawings has its chief use in automobile body construction. A "fence" in automobile body construction is something more than a weather strip. The fence serves to hold in closed position a window, wind-shield or ventilator which is capable of both lifting and swinging movement. In ordinary window construction the vertical guides at the side of the window frame hold the window in its vertical position, but where the window not only lifts but swings, as is usually necessary in automobile bodies, it is not convenient to use such vertical fixed guides; the consequence is that some other member must be used to hold the sash in vertical position; this other member is the strip shown in the drawings and which is ordinarily called the "fence."

The advantage of my invention is that not only an effective weather excluder is provided and the fence is completely concealed when the sash is down over it, but also the sash and fence engage so tightly that there is absolutely no rattle whatever; in fact, they can be made to engage so tightly that it requires mechanical means to lift them apart. This structure also does away with the old form of seating a window in grooves cut in the lower horizontal frame bar. This required cushioning of the window to pre-

vent rattling by inserting rubber in the sides and in the bottom of the groove.

What I claim is:—

1. The combination with a horizontal frame bar, a fence vertically disposed in said frame bar and having an inverted wedge-shaped cross-section, the said frame bar having a horizontal surface on one side of the fence that is higher than the horizontal surface on the other side of the fence, of a metal frame bar constructed of sheet metal that is bent into a somewhat rectangular shape in cross-section and at the bottom is bent to form a wedge shaped groove, one wall of the groove extending down and below the horizontal bottom wall of the sash and the adjacent wall of the sash doubling back upon the said wall of the groove, substantially as described.

2. The combination with a sill and a fence in the form of a narrow rigid strip projecting upwardly from the sill and gradually tapering toward its upper edge, of a hollow metal sash rail comprising a single strip of sheet metal formed into two side walls bridged at their tops by a top wall having a glass-retaining groove forced inwardly therein, and said side walls joined at their bottoms by a bottom wall having a portion forced inwardly and upwardly to form a narrow and deep fence-groove, which gradually narrows toward its bottom in correspondence with the taper of the fence, the size of the groove being calculated so that when the fence enters the groove the walls of the groove are spread slightlv so as to tightly engage the fence.

3. The combination with a fence tapering toward its upper edge, of a hollow drawn-metal sash bar having on one side a glass-retaining groove forced therein and at the opposite side a fence-groove forced therein, the said fence-groove being wedge shaped in cross section and constructed to fit tightly over the fence.

In testimony whereof, I sign this specification in the presence of two witnesses.

JOHN T. ALLMAND.

Witnesses:
HERBERT HIE,
STUART C. BARNES.