

No. 670,488.

Patented Mar. 26, 1901.

C. H. WILLITS.

WINDOW.

(Application filed May 10, 1900.)

(No Model.)

Fig. 1.

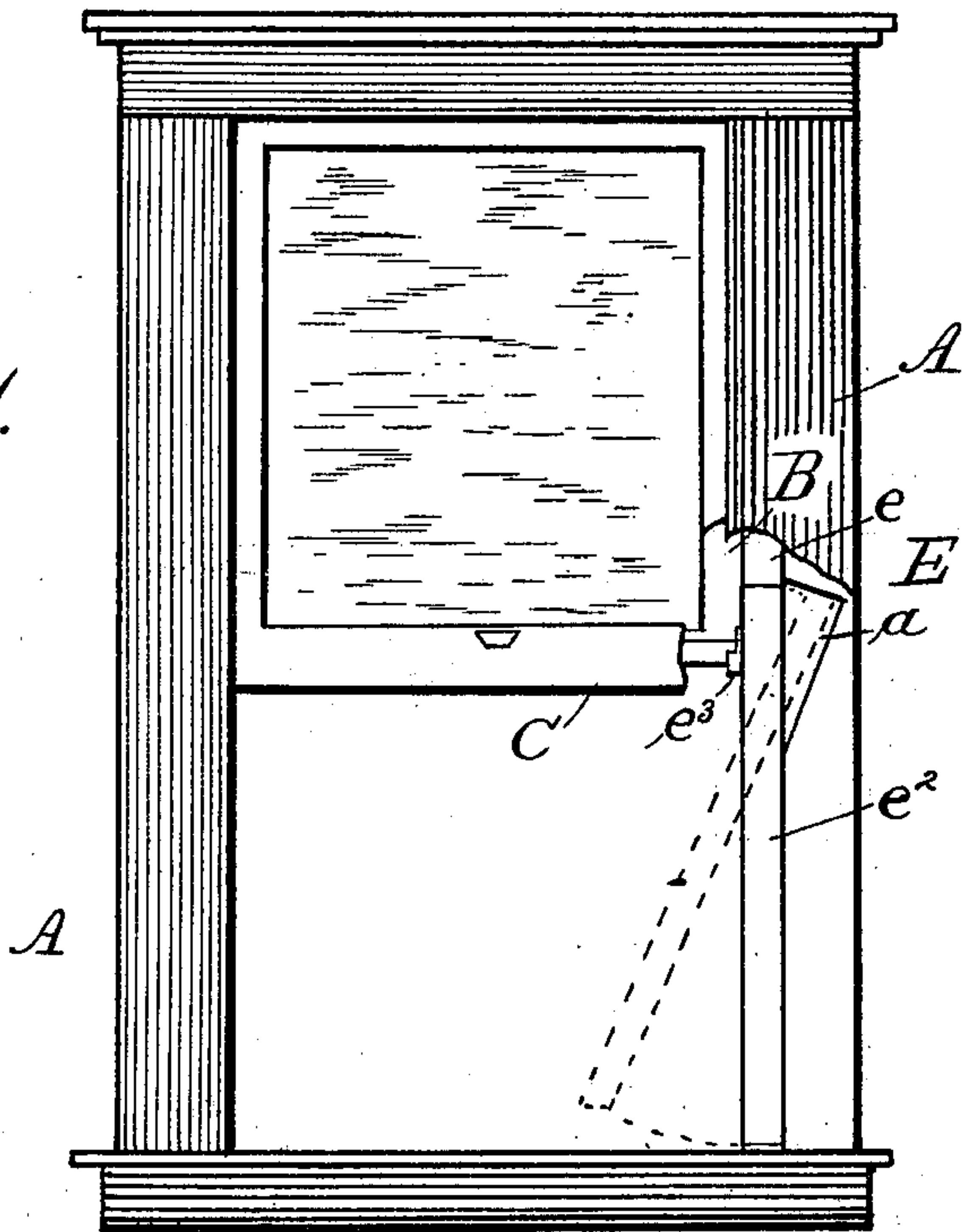


Fig. 2.

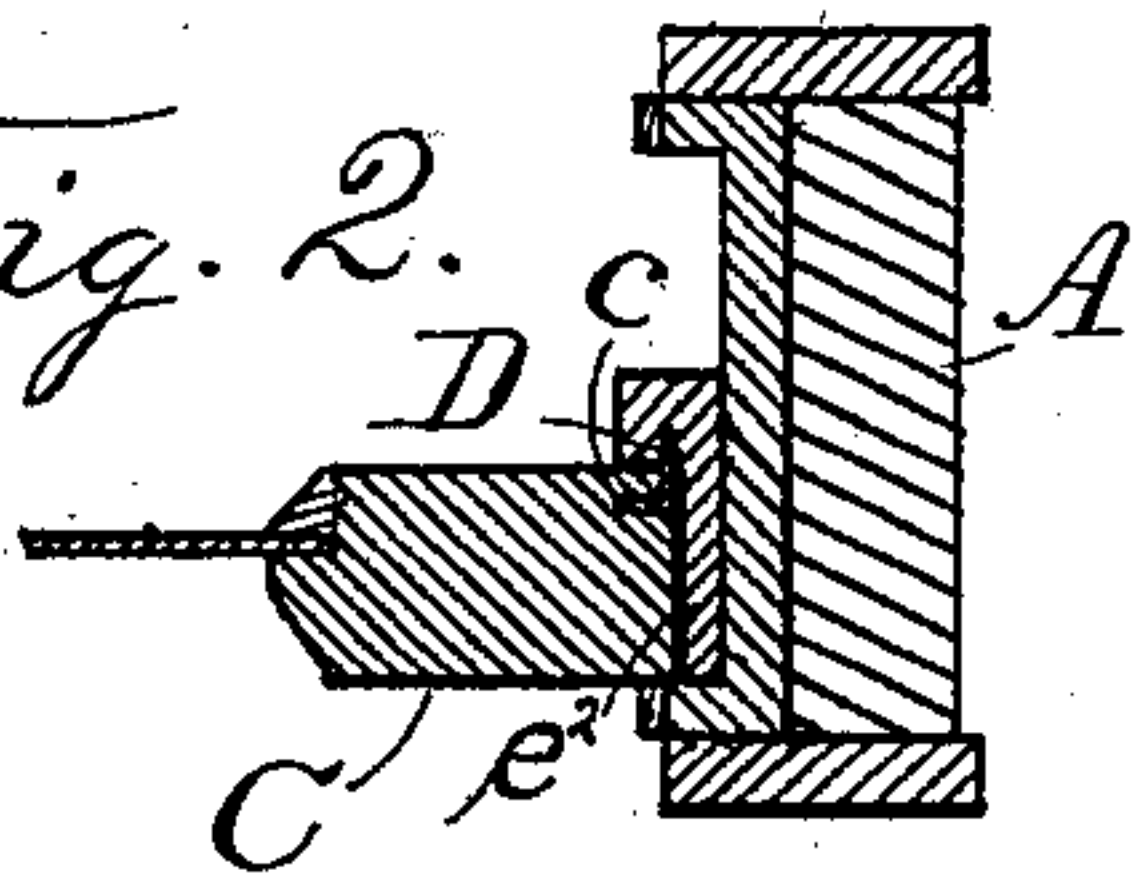


Fig. 3.

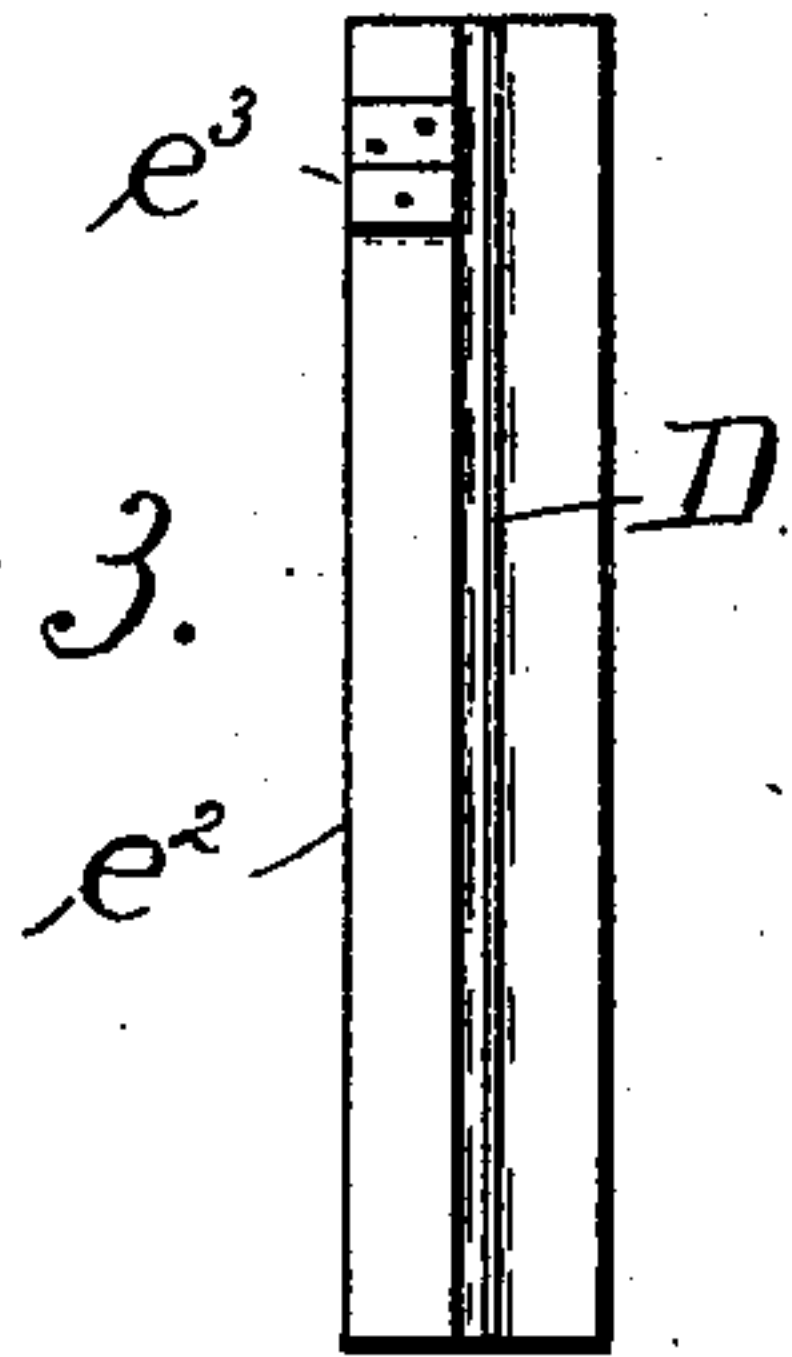


Fig. 4.

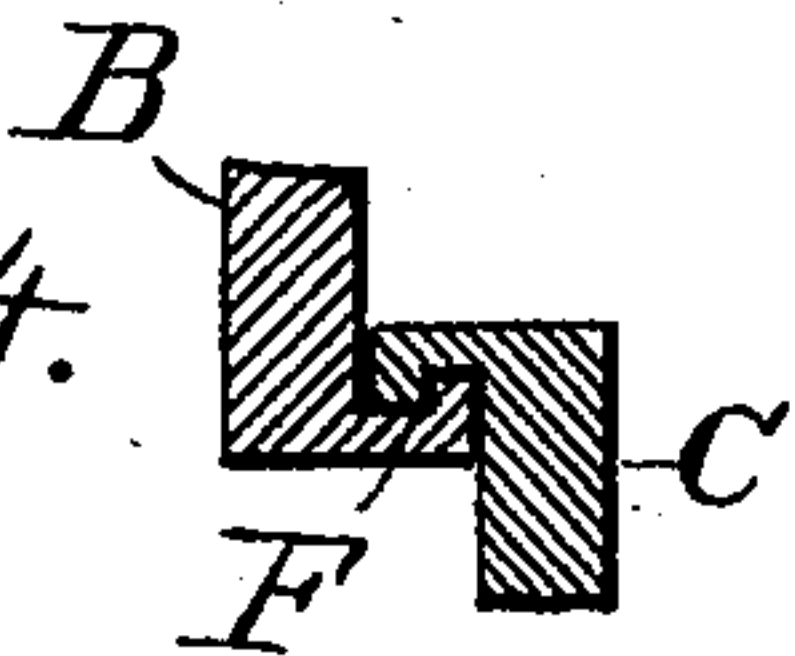
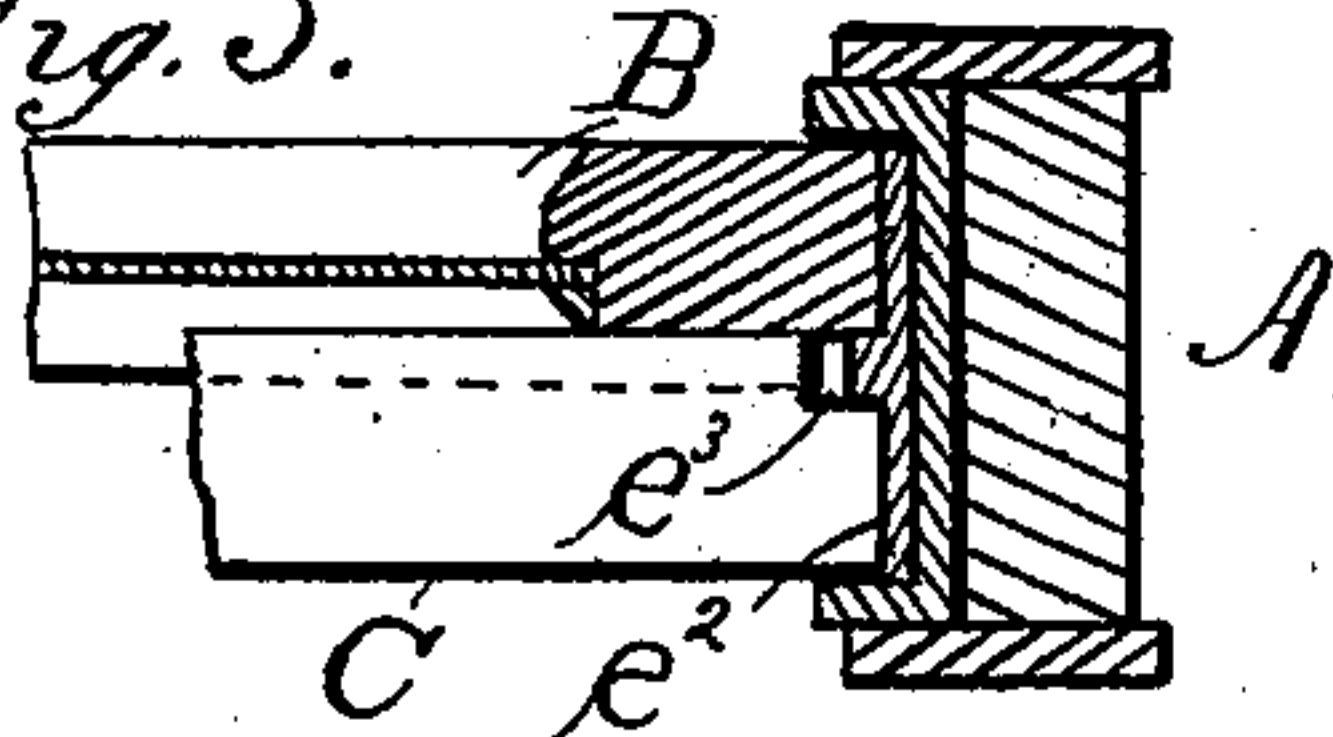


Fig. 5.



WITNESSES:

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WINDOW.

SPECIFICATION forming part of Letters Patent No. 670,488, dated March 26, 1901.

Application filed May 10, 1900. Serial No. 16,220. (No model.)

To all whom it may concern:

Be it known that I, CLINTON HOMER WILLITS, a citizen of the United States, residing at Davenport, in the county of Scott and State of Iowa, have invented certain new and useful Improvements in Windows; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The special object of the invention is to make a window-joint closely with its frame, so as to exclude dust or cold air and prevent rattling; also, to make the lower sash conveniently removable without marring the inside finish.

Figure 1 of the drawings is a front elevation, with frame partly broken away, showing one of the concavities *a* in the frame; Fig. 2, a horizontal cross-section of one side of the window; Fig. 3, a face elevation of one of the detachable beads; Fig. 4, a fragmentary vertical cross-section of the sashes, showing the meeting-bar joint. Fig. 5 is a detail view in vertical section.

In the drawings, A represents the window-frame, and B C the sashes, the former being constructed with the usual outer and continuous fixed beads, but with a middle bead E in two sections, one fixed and the other removable. The upper portion *e* is fixed, while the lower part of bead (marked *e*²) is loosely held in place by the lower sash C at all times, even after the lower sash has been moved up to the limit of its motion. The bead-section *e*² extends above the line on which the rails meet, so as to be held by the sash even after it has been raised to a maximum, and the frame-grooves *a* are exactly opposite to the upper ends of the bead to allow the upper

end of beads to turn into them when the lower end is pulled out. In the frame are made the concavities *a a*, in which the upper end of bead E may turn when the lower end is pulled out, this being done after the lower sash has been pushed up.

D is a metal angle-strip in which I make the sashes run by means of the grooves *c* therein, the said strip and grooves forming a close joint, so as to exclude both air and dust, while rattling is entirely prevented.

The metal strips for the two sashes are between the outer and middle beads, but in different grooves. It will be seen that the beads E are provided on the inside, near the top, with a block *e*³, which fits into the angle-groove at the ends of the meeting-rail of the upper sash, while these meeting-rails interlap horizontally, so as to form a tight joint F. Thus it will be seen that I have made a window that will not rattle, while cold drafts of air, as well as dust, are effectually excluded.

What I claim as new is—

1. The sashes B C of a window provided with the joint F of the meeting-rails and having terminal angle-grooves in said rails, in combination with the beads *e*² having enlargements *e*³ which fit against the ends of said rails, to produce a tight joint thereat as shown and described.

2. The combination with the frame and outer beads of a window and the fixed upper bead-sections *e*², of sashes provided with the meeting-rail joint F and bead-sections *e*² having the enlargements *e*³, and, fastened thereto, the sash-track and weather-strip D as shown and described.

In testimony whereof I have affixed my signature in presence of two witnesses.

CLINTON HOMER WILLITS.

Witnesses:

GEO. E. HUBBELL,
LOUIS HERMAN.