(No Model.)

A. R. LONGSHORE.

WINDOW FRAME AND SASH.

No. 348,526. Patented Aug. 31, 1886.

Fig. 1

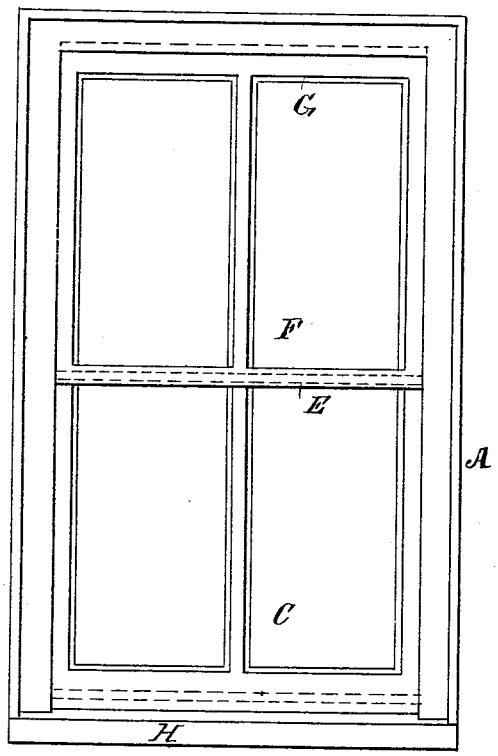
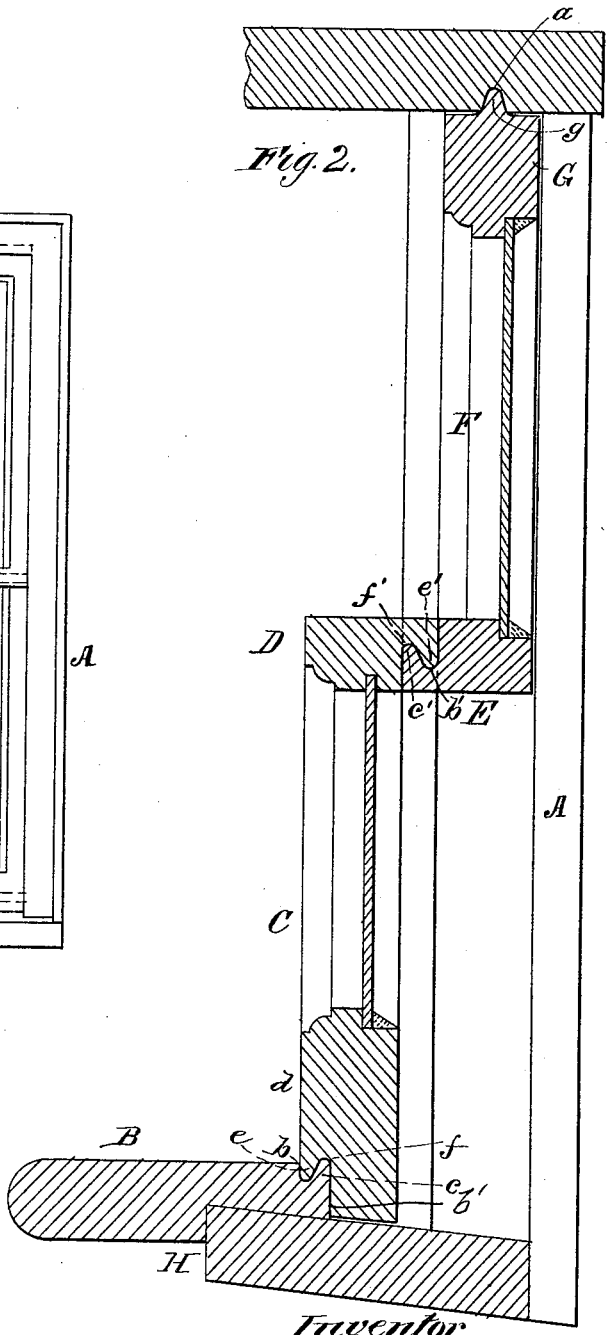


Fig. 2.



Witnesses.
V. F. Parker.
H. B. Hagen.

Inventor:
A. R. Longshore,
By Geo. M. Hopkins,
Atty

UNITED STATES PATENT OFFICE.

ALFRED R. LONGSHORE, OF HAZLETON, PENNSYLVANIA.

WINDOW FRAME AND SASH.

SPECIFICATION forming part of Letters Patent No. 348,526, dated August 31, 1886.

Application filed April 10, 1885. Serial No. 161,806. (No model.)

To all whom it may concern:

Be it known that I, ALFRED R. LONGSHORE, of Hazleton, in the county of Luzerne and State of Pennsylvania, have invented a new and useful Improvement in Window Frames and Sashes, of which the following is a specification, reference being had to the annexed drawings, forming a part hereof, in which—

Figure 1 is a front elevation of a window constructed according to my improvement, and Fig. 2 is an enlarged vertical transverse section.

Similar letters of reference indicate like parts in both the figures of the drawings.

The object of my invention is to provide efficient means for preventing the entrance of wind, snow, rain, or dust above and below the upper and lower rails of the sash and between the meeting-rails.

My invention consists in providing at the joints of the sashes, between the sashes themselves and between the sashes and window-casing, tongues and grooves of approximately semi-elliptical section, which are adapted to each other and arranged to form tight joints when the window is closed.

The window-frame A is made in the usual form, except that the head of the frame is provided with a groove, *a*, of approximately semi-elliptical section, and the window-stool B is formed with a similar groove, *b*, near its outer edge, with its outer wall more inclined than its inner wall, and terminating in a tongue, *c*, also of approximately semi-elliptical section. The lower rail, *d*, of the lower sash, C, is rabbeted and provided with a tongue, *e*, and groove *f*, which are complementary to the groove *b* and the tongue *c* of the window-stool B, the tongue *e* of the sash-rail *d* being adapted to fit into the groove *b* in the window-stool, and the groove *f* in the rail *d* being adapted to receive the tongue *c* of the window-stool when the lower sash, C, is closed. The meeting-rail D of the sash C is provided with a tongue, *e'*, and with a groove, *f'*, like those described in connection with the lower rail, *d*, and the meeting-rail E of the upper sash, F, is provided with a tongue, *e'*, and groove *b'*, which are complementary to the tongue *e'* and groove *f'* of the meeting-rail D, so that the tongue of one meeting-rail fits into the groove of the other, forming a dust and air tight joint. The top rail, G, of the upper sash, F, is provided along its upper surface, at the middle of its width, with a semi-elliptical tongue, *g*, adapted to fit the groove *a* in the head of the window-casing, and form an effectual stop against the entrance of wind or dust at the top of the window when the upper sash is closed. The contiguous faces of the tongues *e e* and *e' e'* are inclined, so that when the sashes are closed the lower sash, C, will be drawn against the window-stool B, and the meeting-rails D E will be drawn toward each other, forming a tight joint between the sashes, and also drawing the sashes against the window-stops, so as to effectually prevent any rattling of the window. The tongue and groove forming a joint between the lower rail, *d*, and the window-stool B are elevated sufficiently above the bottom of the window frame or sill H to prevent them from being reached by rain or sleet, thus avoiding the necessity of ever being obliged to free the tongues or grooves from ice or snow.

I am aware that an English patent has been granted for centrally-pivoted sashes, which, when closed, interlock with their bearings above and below. I am also aware that in an English patent vertically-moving sashes have been provided with interlocking or engaging tongues and grooves. These features, broadly, I do not seek to cover in this application.

I deem it important that the stool B rests upon the lower sill, H, of the frame, and that it provides a very considerable bearing-face, as seen at *b'*, for the vertical cut-away portion of the lower rail of the lower sash. This bearing extends below the plane of the engaging parts *b e* and *e f*, and forms an efficient weather-protection. The upper rail of the upper sash also interlocks by the parts *a g* with the upper portion of the frame.

What I claim as new is—

The combination, with the stool B, having groove *b* and tongue *c*, arranged in relation to the sill H to provide a vertical bear-

ing-face, b', and the upper frame having groove a, of the sashes C F, having their adjacent rails D E tongued and grooved to interlock, as shown, and the lower rail having a tongue and groove, $e f$, to correspond with the parts $b c$, respectively, a bearing-face to correspond with the face b', and a tongue, g, upon the rail G, to engage the groove a, all arranged for joint operation as set forth.

ALFRED R. LONGSHORE.

Witnesses:
C. W. KLINE,
JACOB GRIMEWALT.