

G. L. GEARING.
WINDOW FRAME.
APPLICATION FILED MAY 28, 1912.

1,066,486.

Patented July 8, 1913.

Fig. 2.

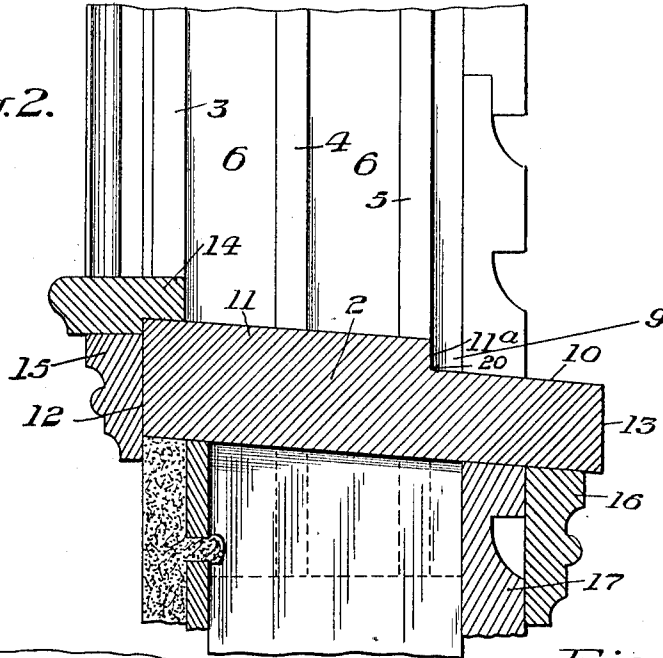


Fig. 1.

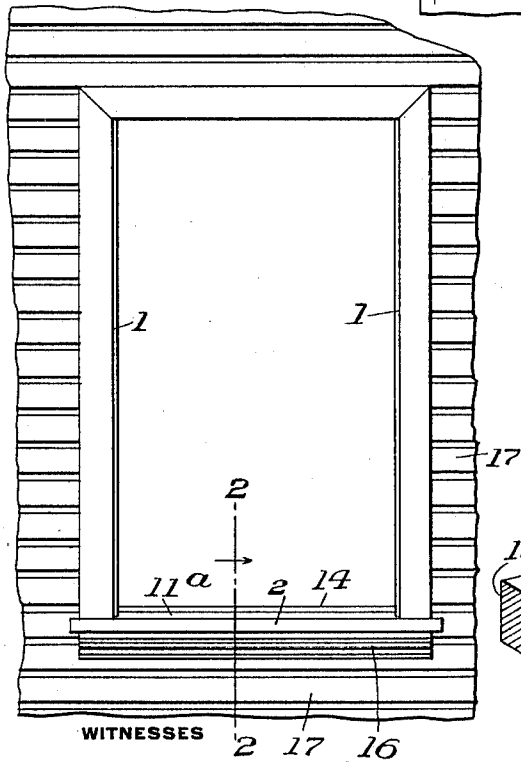


Fig. 3.

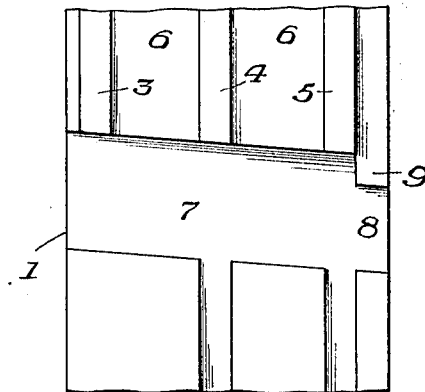
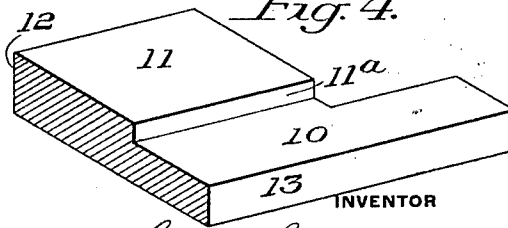


Fig. 4.



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WINDOW-FRAME.

1,066,486.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, GEORGE L. GEARING, a resident of Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Window-Frames, of which the following is a specification.

This invention relates to window frames, and particularly to the construction for securing the sill to the side stiles of the frame.

The object of the invention is to produce a window frame which is more durable and can be made more easily, with less operations and at less expense than prior window frames.

The invention comprises the construction and arrangement of parts hereinafter described and claimed.

In the drawings Figure 1 is an elevation, from the outside, of the lower part of a window frame constructed according to my invention; Fig. 2 is a sectional elevation of the same on the line 2—2, Fig. 1, looking in the direction of the arrows; Fig. 3 is an elevation of the lower end of one of the side stiles, with the sill removed therefrom; and Fig. 4 is a perspective view of one end of the sill.

The window frame shown in the drawings comprises a pair of vertical side stiles 1, connected at their lower ends by a sill 2. The inner faces of the stiles 1 are provided with a vertically disposed inner bead 3, parting bead 4 and outer bead 5, which may be strips nailed or otherwise secured to the smooth faces of the stiles, or may be seated in grooves therein, as preferred, and which form the runways 6 within which slide the inner and outer sashes, as is usual. At its lower end each stile is gained, as at 7, to form a seat inclined slightly to the horizontal and sloping downwardly toward the outside of the frame, in which is secured one end of the sill 2. The outer portions of seats 7 are restricted, as at 8, narrower than their inner portions, as at 9, the outer portion 9 of the stile projecting down beyond the ends of the beads 3, 4 and 5 to narrow the seats 7, as stated.

The sill 2, in cross section, is of the form shown in Fig. 2 and is cut away along the outer portion of its upper surface to form a ledge 10 on the outside of the frame and an inner thicker step 11, which forms a seat against which the lower edges of the sashes abut when lowered, as will be readily un-

derstood. The step 11 is of less width than the sill and its outer vertical surface 11^a is in the same vertical plane with and forms a continuation of the outer face of the outer beads 5, the beads 5 and the outer surface 11^a of the sill forming stops against which the usual window shutters rest when closed. The inner and outer surfaces 12 and 13 and the surface 11^a of the sill are beveled, as shown, so that when the sill is assembled in the frame these surfaces will be vertical and the sill inclined.

Secured to the inner portion of the upper face of the sill 2 is the usual stool 14 which extends across between the side stiles and is supported underneath by an apron 15. An apron 16 is also secured underneath the outer portion 10 of the sill 2 and to the usual weather boarding 17. The sill, at each end, is extended, as at 18, so that its overall length is greater than the width of the frame, said end extensions projecting slightly beyond the edges of the outer facing strips, as is usual.

In all prior constructions of which I am aware it has been the custom to form the window frame with a sill and a sub-sill, which are separate from each other, the sub-sill being superposed upon and secured to the sill. In securing such frames together the side stiles are provided with transverse grooves in which are fitted the end portions of the sub-sill. The sill is then secured in place underneath the sub-sill with its flat end faces directly abutting the inner faces of the side stiles. With such constructions it has been necessary to form the sub-sill separately from the sill. This sub-sill referred to corresponds, in some particulars, to the step 11 of the sill 2 shown. It is necessary to form the same with beveled inner and outer faces, since the sub-sill occupies a horizontally inclined position in the frame. The formation of this sub-sill therefore requires the services of a separate operator and a separate machine in any mill constructing window frames. With my improved construction the sill and sub-sill are one and can be formed by the same operation and on the same machine, thus dispensing with the services of one man and the cost of the extra machine. Furthermore, in securing together a frame according to prior practice, the sub-sill is placed in position between the side stiles and with its end portions in the transverse grooves provided

therefor, and nails are then driven through the side stiles and into the ends of the sub-sill to secure the side stiles to the sub-sill. The sill itself is then placed in position between the flat faces of the side stiles and other nails are driven through the side stiles into the ends of the sill itself. Additional nails are then driven through the sub-sill and into the sill to secure these parts together.

With my improved construction, the end portions of the sill fit the seats 7. To secure the frame together the end portions of the sill are placed in position within their seats and nails are then driven through the side stiles and into the ends of the sill. This finishes the construction of this part of the frame and dispenses with the separate attachment of the sub-sill, and the securing of the sub-sill to the sill, and the nails required for this purpose. The labor of assembling the sill is therefore materially simplified. Moreover, window frames are usually shipped from place to place in knockdown condition and the lessening of the number of parts of the frame decreases the number of parts to be handled in packing and the checking of these parts when received. It will also be observed that when the combined sill and sub-sill is assembled in the window frame and the nails driven through the side stiles into the ends thereof, that the sill is locked in position and is positively prevented from moving horizontally either inwardly or outwardly. Outward movement of the sill is prevented at each end by the abutment of the ends of the faces 11^a against the downwardly projecting outer portions 9 of the inner faces of the stiles, while inward movement of the sill is prevented by the end extensions 18 which project beyond the side stiles beyond the outer facing strips.

With prior constructions, where the sub-sill has been separate from the sill, it is found in practice that rain and moisture unavoidably creep in from the outside of the frame between the sub-sill and the sill. It is impossible to avoid the occurrence of an open crack between these parts allowing entrance of moisture from the outside. The moisture thus creeping in causes the sill to rot away and soften, since it is impracticable to paint the meeting surfaces of the sub-

sill and sill. In practice it is found that with a separate sill and sub-sill which have weathered a short time, it is usually possible to force a tool or implement into the sill itself because of its rotting away, along the line indicated by the arrow marked "20" in Fig. 2. The present construction avoids the open crack in prior window frames and prevents the entrance of moisture or water into the frame. The frame is therefore more durable and lasting.

What I claim is:

1. A window frame comprising a pair of side stiles, a one-piece sill and sub-sill between said stiles and having a lower plane surface and cut away on its upper surface along one edge to form an outer ledge and an inner step, said stiles being narrower than said sill and wider than the step thereof and being gained to provide seats formed to fit and receive the ends of the inner step and outer ledge of said sill and sub-sill and in which the same is secured.

2. A window frame comprising a pair of side stiles having inner, parting and outer beads, a one-piece sill and sub-sill between said stiles having a lower plane surface and an inner step on its upper surface, said stiles being gained to provide seats having wide portions to fit the inner step of said sill and sub-sill and with narrower portions to fit the thicker outer portion thereof, said beads at their lower ends abutting the upper surface of the step of said sill and sub-sill.

3. A window frame comprising a pair of side stiles having inner, parting, and outer beads, a one-piece sill and sub-sill between said stiles having a lower plane surface and an inner step on its upper surface and provided with end extensions, said stiles being gained to provide seats to fit and receive the ends of said sill and sub-sill, the outer portions of the inner faces of the stiles projecting down below the inner portions thereof to form shoulders, said shoulders and said end extensions preventing both inward and outward movement of the sill and sub-sill when the frame is assembled.

In testimony whereof, I have hereunto set my hand.

GEORGE L. GEARING.

Witnesses:

ELBERT L. HYDE,
MARY E. CAHOON.