No. 828,102. PATENTED AUG. 7, 1906.

O. A. ESSIG.

PIVOTED WINDOW.

APPLICATION FILED MAY 11, 1905.

Fig. 1.

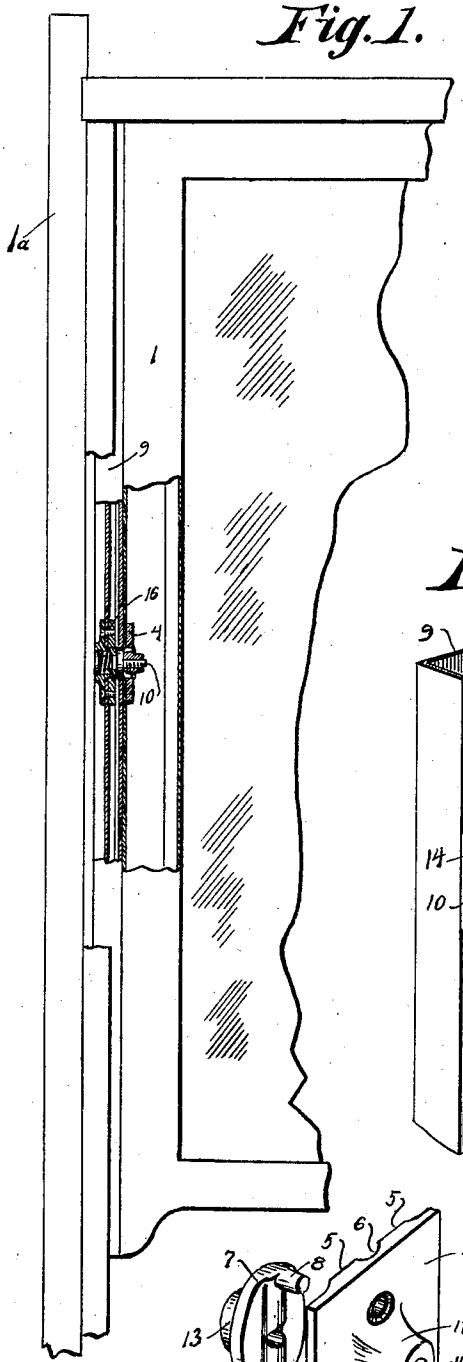


Fig. 2.

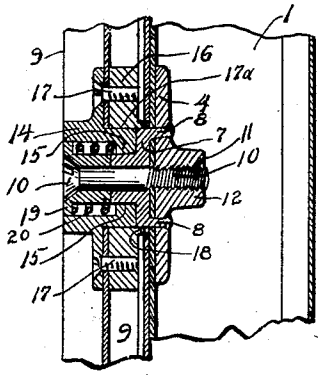
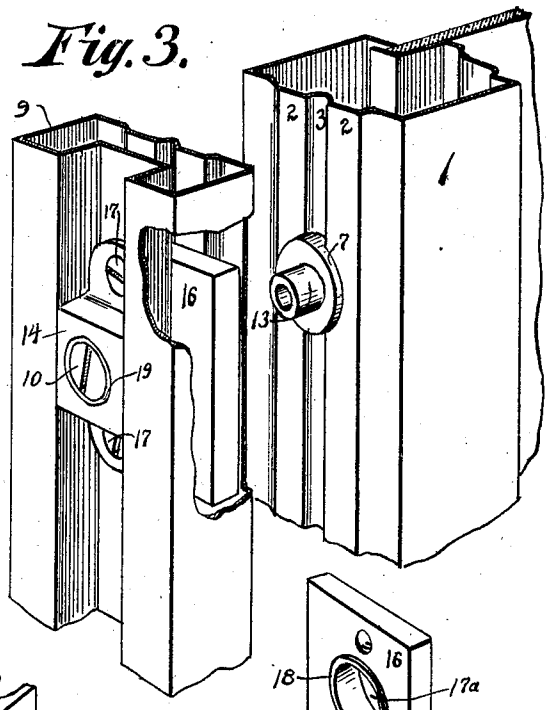


Fig. 3.



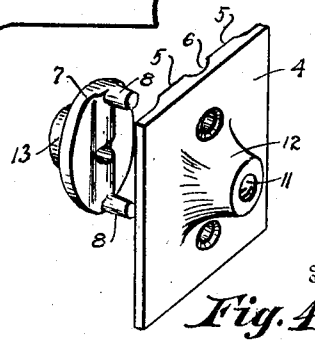


Fig. 4.

Fig. 5.

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PIVOTED WINDOW.

No. 828,102. Specification of Letters Patent. Patented Aug. 7, 1906.

Application filed May 11, 1905. Serial No. 260,046.

To all whom it may concern:

Be it known that I, OZIA A. ESSIG, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Pivoted Windows; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the figures of reference marked thereon, in which—

Figure 1 is a view showing a portion of a window frame and sash and illustrating the different members of the pivot in relative position therewith. Fig. 2 is an enlarged view of the pivot members, showing portions of one of the vertical sash-rails and strips. Fig. 3 is a view showing portions of the sash-rail strips and illustrating the pivot members detached. Fig. 4 is a view showing the sash-rail-clamping plates detached. Fig. 5 is a detached view of the pivot filling and connecting block or plate.

The present invention has relation to pivot-windows, and has relation to metal window-sash and strips; and this invention has special reference to the pivoting of the window-sash wherein sheet metal instead of wood is employed.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

In the accompanying drawings, 1ª represents the window-frame, which is provided with suitable guideways adapted to guide the window-sash frame or frames in the usual manner. The sash-rails 1 are the vertical rails of the window-sash and are formed of sheet metal and substantially of the form illustrated in the drawings. It will be understood that the top and bottom rails of the sash-frame are to be formed substantially the same and connected to the vertical rails in any convenient and well-known manner. The outer vertical edges of the sash-rails 1 are provided with the ridges 2 and the groove 3, which groove and ridges are substantially of the form shown and are for the purpose hereinafter described. To the vertical sash-rails 1 are attached blocks or clamping-plates 4, the outer face of which is provided with the ridges 5 and the groove 6, which correspond in form with the ridges and groove formed in the sash-rail 1. The clamping-plates 4 are located upon the inner side of the rigid and grooved portion of the sash-rails 1 and the ridges and groove seated in the ridges and groove of the sash-rails 1, by which arrangement the clamping-plate will be fixed to and held in close contact with the sash-rail proper, as hereinafter described. Upon the opposite side of the sash-rails 1 from that to which the clamping-plate 4 is attached is located the clamping-plate 7, which clamping-plate is provided with the rivet-tangs 8, which rivet-tangs are passed through apertures formed in the sash-rails and in the clamping-plate 4, which rivet-tangs are swaged down upon the faces of the clamping-plates 4, thereby securely clamping the metal plate of the sash-rail between the outer and inner clamping-plates 4 and 7. It will be understood that in order to properly connect the clamping-plates just above mentioned the sash-rail should be in an open condition, and after said plates have been properly connected the sash-rail is closed or brought into the position illustrated in Fig. 3, except that in Fig. 3 a portion of the window-glass is illustrated. For the purpose of connecting the strips 9, which strips are normally seated in the guideways of the window-frame, and their sash-rail, contact-faces are provided with ridges and grooves corresponding in shape with the ridges and grooves of the sash-rails. For the purpose of providing a means for holding the strips and sash-rails in proper relative position with each other screw-bolts 10 are provided, which screw-bolts are connected to the plates 4 by means of the screw-threaded aperture 11, and for the purpose of providing a screw-threaded aperture of sufficient length the plates 4 are provided with the lateral projections 12, thereby providing sufficient metal and the desired number of screw-threaded convolutions to receive the convolutions of the screw-threads upon the screw-bolts 10.

The clamping-plates 7 are provided with the bearings 13, and upon which bearings are loosely mounted the socket-plates 14, which socket-plates are provided with the bearing-flanges 15, which bearing-flanges are so formed that they will fit upon the bearing-flanges 13 in such a manner that the window-sash frame can be turned out of alinement with the strips 9. For the purpose of providing a rigid pivotal connection the blocks 16 are provided, which blocks are located substantially as shown in Figs. 1 and 2, said blocks being provided with apertures 17ª, which apertures are for the purpose of receiv-

ing and holding the socket-plates 14. The blocks 16 are securely connected to the strips 9 by means of suitable rivets or screws 17, which rivets or screws are located substantially as shown in Fig. 2. For the purpose of preventing any lateral movement or relative movement between the sash-rails and strips the blocks 16 are provided with the flanges 18, which flanges abut against the faces of the sash-rails 1 and surround the flange of the clamping-plates 7. For the purpose hereinafter described the flanged caps 19 are provided, which caps are mounted upon the screw-bolts 10 and are countersunk to receive the heads of said screw-bolts. Between the outer peripheries of the caps 19 and the inner peripheries of the socket formed in the socket-plates 14 are located the springs 20, which springs are for the purpose of holding the contact-faces of the strips 9 and the sash-rails 1 in close contact with each other, but are so arranged that there will be sufficient lateral movement as between the strips 9 and the sash-rails 1 to allow the ridges and grooves to become unseated and permit the sash-frame to revolve, and when the sash-frame is brought into its normal position and the ridges and groove in proper alinement with each other said springs will act to force the contact-faces of the strips and grooves in close relationship with each other.

The object of providing ribs and grooves upon the contact-faces of the vertical sash-rails and strips is to provide dust-proof joints, said ribs and grooves being so formed that when the window is rotated the ribs will become unseated from the grooves, this being accomplished by giving the ribs and grooves the proper inclined edges. When the sash-frame is turned out of alinement with the strips 9, the socket-plates move laterally upon the bearings 13 of the clamping-plates 7 and over and upon the caps 19 a sufficient distance to allow the ribs to be detached from the grooves, at which time the spring 20 is compressed; but when the sash is brought into alinement with the strips the ribs are forced into the grooves by the reaction of the spring 20.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of a window-sash, strips movable laterally to and from the vertical edges of the window-sash rails, said strips and sash-rails formed of metal and their contact-faces provided with ridges and grooves, clamping-plates secured to the sash-rails, screw-bolts secured to one of the clamping-plates, and caps located upon the screw-bolts, socket-plates rotatably mounted upon one of the clamping-plates, and apertured blocks mounted upon the screw-bolts and secured to the strips, and springs located around the screw-bolts and within the socket-plate, substantially as and for the purpose specified.

2. The combination of a window-sash, strips movable laterally to and from the vertical edges of the window-sash rails, socket-plates secured to the strips, and blocks located in the strips and held in fixed relationship therewith, screw-bolts adapted to pivotally connect the sash-rails to the strips, springs located in the socket-plates, and caps mounted upon the screw-bolts and located within the socket-plates, clamping-plates secured to the sash-rails and upon opposite faces thereof, one of said clamping-plates provided with a bearing for the socket-plate, substantially as and for the purpose specified.

3. In a window, a pivoted window-sash, strips adapted to move to and from the vertical edges of the sash-rails, said strips and window-sash formed of metal and the strips having secured thereto blocks, said blocks provided with apertures and the apertures provided with flanges, and the flanges adapted to abut against the contact-face of the sash-rails, screw-bolts adapted to pivotally connect the window-sash and strips together, and caps mounted upon the screw-bolts, socket-plates mounted upon the caps and clamping-plates secured to the sash-rails, and the screw-bolts secured to one of the clamping-plates, substantially as and for the purpose specified.

4. The combination of a window-sash, and strips formed of metal, said strips located against the outer faces of the vertical sash-rails, clamping-plates secured to the sash-rails, said clamping-plates located upon opposite faces of the inner or contact portion of the sash-rails, pivot screw-bolts secured to one of the clamping-plates and loosely connected to the other clamping-plate, socket-plates and springs located in the socket-plates, said springs adapted to force the contact-faces of the strips and sash-rails together, substantially as and for the purpose specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

OZIA A. ESSIG.

Witnesses:
F. W. BOND,
L. M. BOND.