No. 656,660. Patented Aug. 28, 1900.

C. D. PRUDEN.

METALLIC WINDOW FRAME AND SASH.

(Application filed Feb. 9, 1900.)

(No Model.)

Fig 1

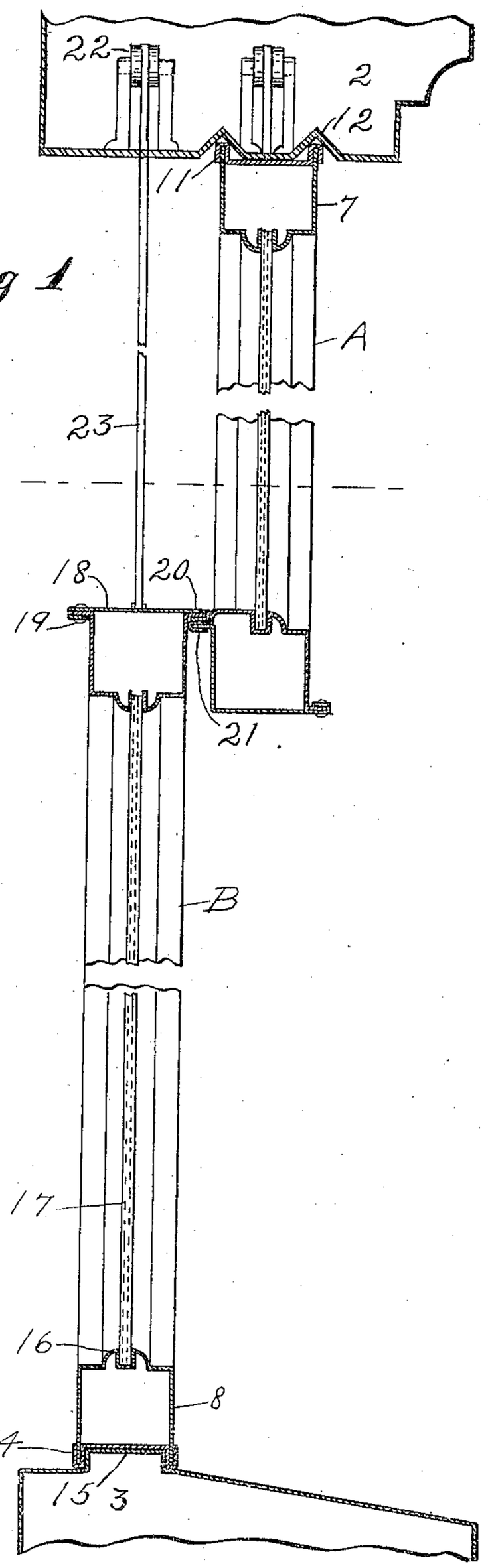


Fig. 3.

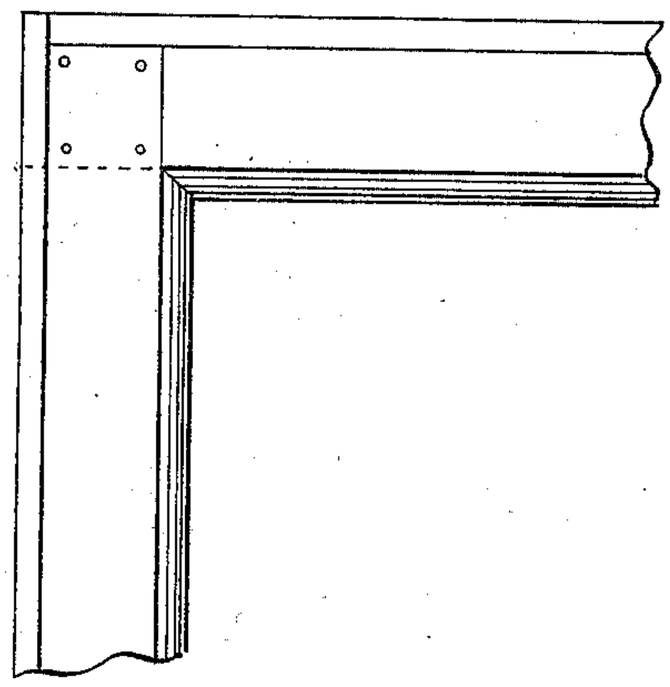
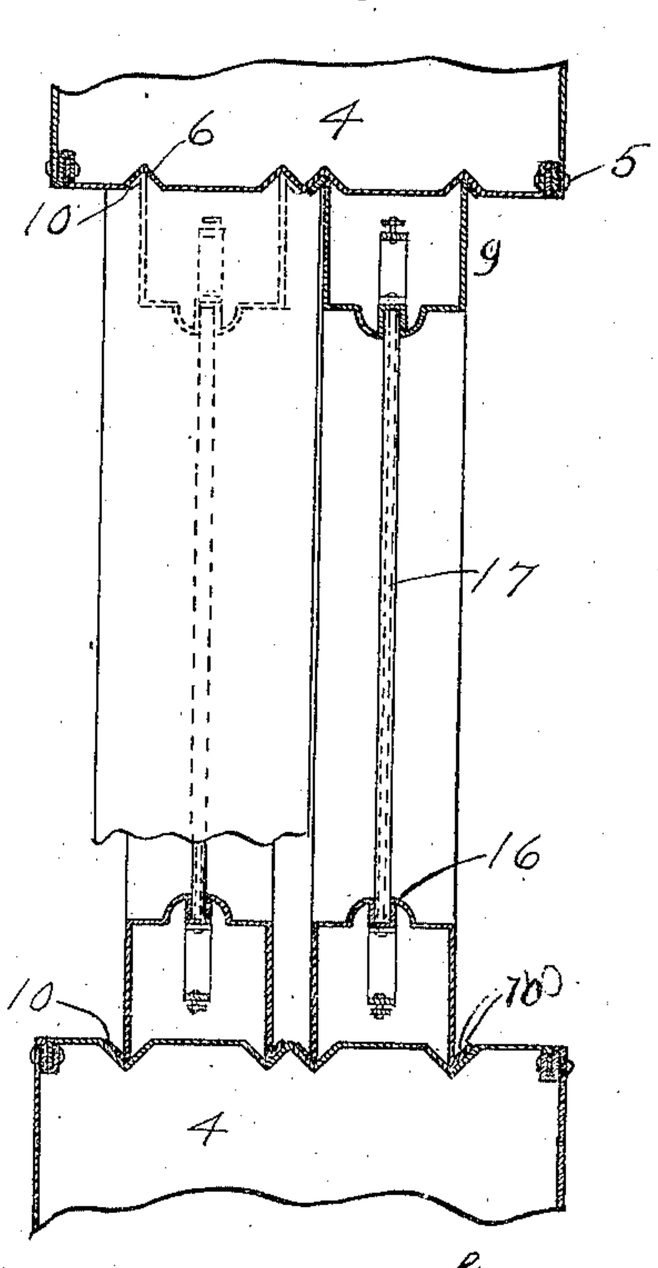


Fig. 2



Witnesses
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UNITED STATES PATENT OFFICE.

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METALLIC WINDOW FRAME AND SASH.

SPECIFICATION forming part of Letters Patent No. 656,660, dated August 28, 1900.

Application filed February 9, 1900. Serial No. 4,593. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE D. PRUDEN, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Metallic Window Frames and Sashes, of which the following is a specification.

My invention relates to improvements in metallic window frames and sashes; and it consists in the features of construction and combination hereinafter specifically described and claimed.

In the accompanying drawings, forming part of this specification, Figure 1 is a vertical section through a window frame and sash embodying my invention. Fig. 2 is a transverse section, and Fig. 3 is a detail, of one corner of the sash.

In the drawings, 2 represents the top of the frame, 3 the bottom, and 4 the sides, formed of sheet metal and suitably joined at the corners. The sides of the frame are preferably each formed of three pieces joined by rivets 5 at the corners. Each of the sides has formed in its face V-shaped grooves 6, constituting guides in which the sash slides, as hereinafter described.

A and B represent the upper and lower sash, formed of sheet metal. As shown in Fig. 2, the side walls of the vertical stiles of the sash are unconnected at their outer edges and are formed with deflected flanges 10, adapted to fit in the grooves 6 and bear against the sides thereof. The upper transverse rail 7 of the sash A has the outer edges of its walls detachably connected by a strip 11, the connected edge of the rail and strip 11 fitting in the grooves 12 of the frame. The lower rail 8 of the sash B has the outer edges of its side walls connected by a strip 14, which is grooved to fit over the strip 15 of the window-sill. The inner sides of the stiles and rails are each formed with a groove 16, in which fits the glass 17, the groove of the upper rail of each sash being open to allow the glass to be slipped into place. As shown in the drawings, the upper rail of the lower sash B is provided with a strip 18, connecting the outer edges of its side walls detachably and secured thereto by bolts 19. The inner edge of said strip and the deflected portion of the side wall project inward to form a flange 20, as shown. The lower rail of the upper sash is formed of two pieces overlapping at the upper inner corner and projecting toward the opposite sash to form a flange 21, which fits underneath the flange 20 of the opposite sash, as shown in Fig. 1, said flanges thus constituting a dust-proof joint. The sashes are preferably held in raised position by springs 22 and connected cables 23 or other suitable means.

Among the advantages of my construction is the means for constituting sliding connection between the sash and window-frame. By having the outer edges of the side walls of the stiles 9 unconnected there is a large saving of material and labor and the connection of the sash-corners is more easily made. By means of the flanges 10 on the stiles which slide in the grooves in the casing a large amount of bearing-surface is secured, and it is easier to maintain a tight joint between the sash and frame than with the ordinary forms of construction. The flanges 10 on the sash-stiles may be turned inward instead of outward and at a different angle from that shown.

I claim—

1. In a window frame and sash, the combination of the vertical stiles, the side walls of each stile being unconnected at their outer edges, and the frame formed with a series of grooves sunken below the general plane of the face of the frame into which grooves the outer edges of said side walls separately fit, and which prevent lateral movement of said walls.

2. In a window sash and frame, the combination of the vertical stiles of the sash, the outer edges of the side walls of the stiles being unconnected, an adjacent frame formed with angular grooves, and flanges upon the outer edges of the side walls of said stiles, fitting in said grooves.

3. The combination of the frame formed with V-shaped grooves, the side walls of the vertical sash-stiles being unconnected at their outer edges and formed with flanges fitting in said grooves.

4. In a window-sash of the class described, the stiles thereof having their side walls un-

connected at their outer edges, and flanges projecting from the outer edges of said walls at an angle therewith.

5. In a window frame and sash, the combination of the vertical stiles, an adjacent frame formed with grooves, and flanges upon the outer edges of the side walls of each stile fitting in said grooves.

6. In a window-sash of the class described, each stile thereof having flanges projecting from the outer edges of its side walls at an angle therewith.

7. In a window frame and sash, the combination of the vertical stiles, the side walls of each stile being unconnected at their outer edges, and the frame formed with a series of grooves sunken below the general plane of the face of the frame shaped to receive the outer edges of the side walls, and into which the edges of said walls project.

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

CLARENCE D. PRUDEN.

Witnesses:

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