



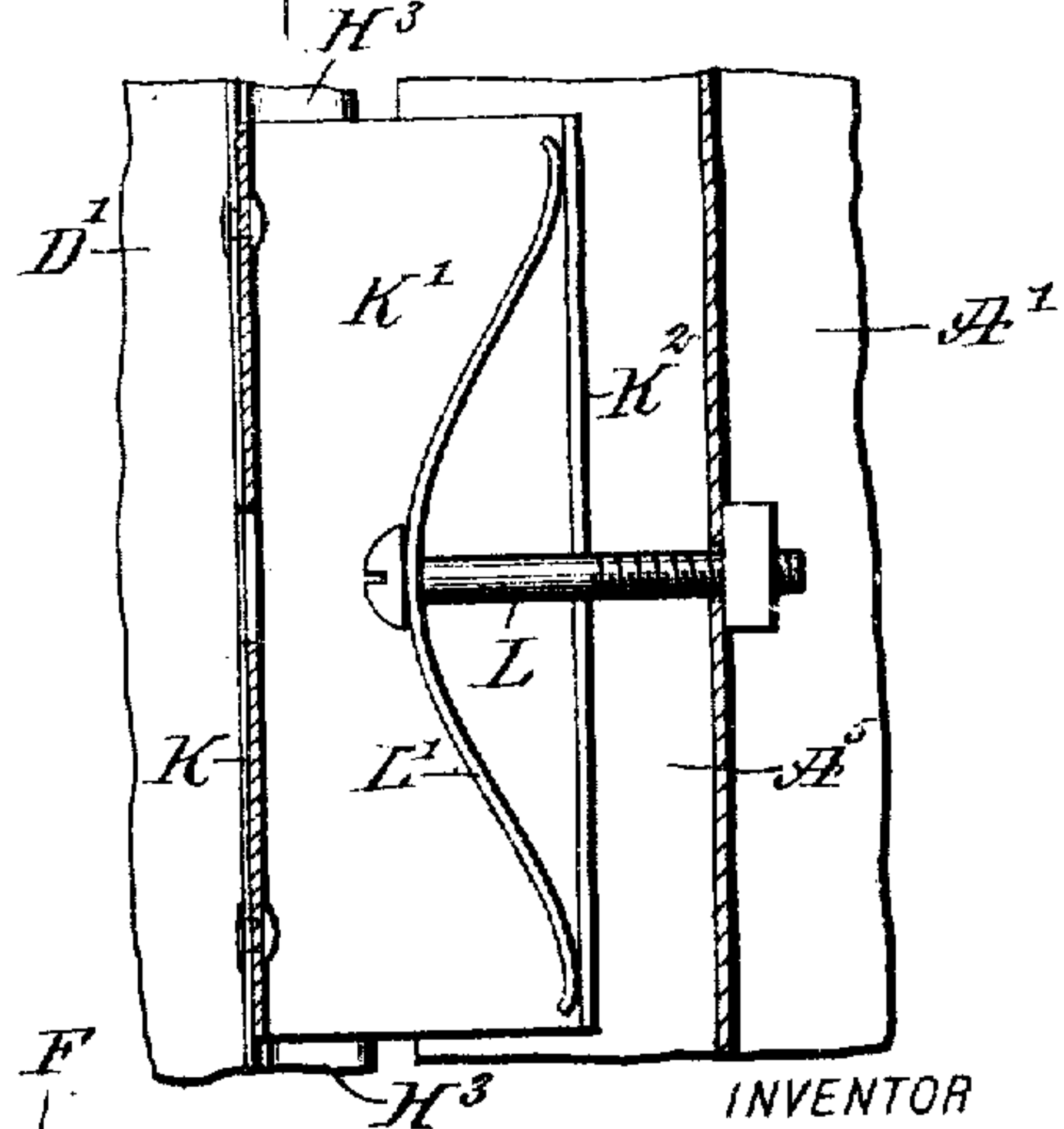
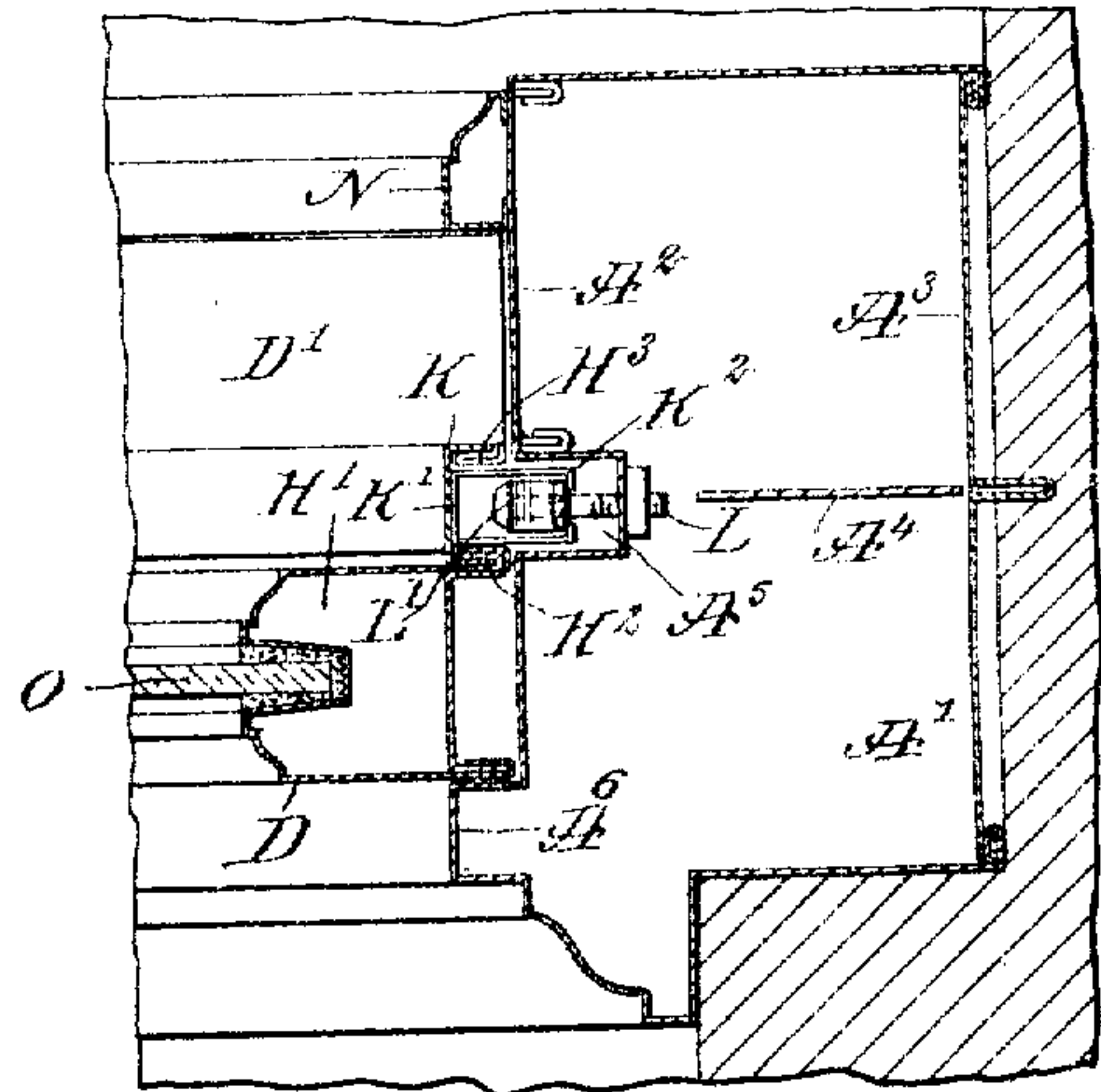
WINDOW.

APPLIOATION FILED MAR. 4, 1908.

Patented Nov. 10, 1908.

2 SHEETS—SHEET 2.

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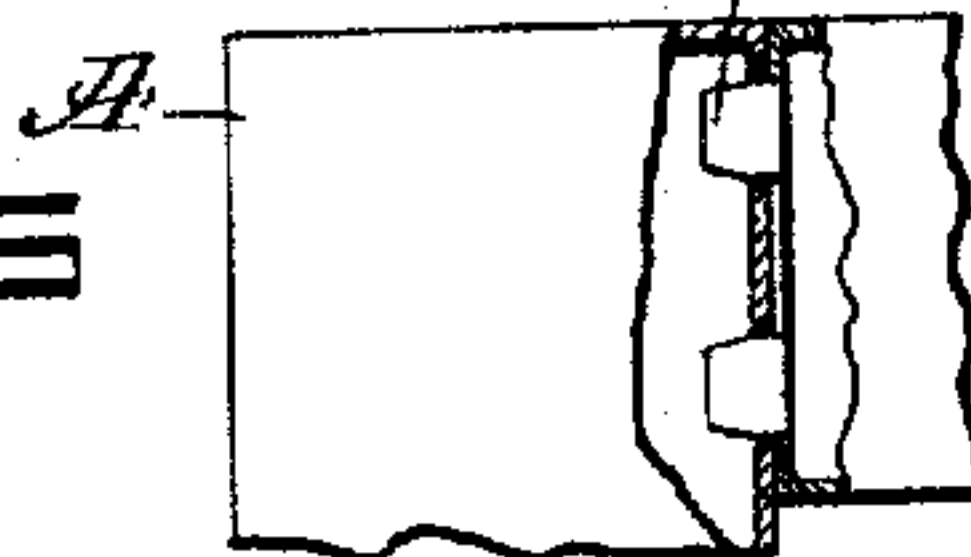


WITNESSES

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**Fig. 6**



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# UNITED STATES PATENT OFFICE.

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## WINDOW.

No. 903,706.

Specification of Letters Patent.

Patented Nov. 10, 1908.

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*To all whom it may concern:*

Be it known that I, ALVIN CARROLL GODDARD, a citizen of the United States, and a resident of the city of New York, Long Island City, Borough of Queens, in the county of Queens and State of New York, have invented a new and Improved Window, of which the following is a full, clear, and exact description.

10 The object of the invention is to provide certain new and useful improvements in metallic windows, whereby the window is rendered dust and moisture proof and the sashes are effectively held against rattling.

15 The invention consists of novel features and parts and combinations of the same, which will be more fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

20 Figure 1 is a face view of the improvement as applied; Fig. 2 is an enlarged transverse section of the same, on the line 2—2 of Fig. 1; Fig. 3 is an enlarged sectional plan view of the same on the line 3—3 of Fig. 1; Fig. 4 is an enlarged sectional plan view of the muntin, the section being on the line 4—4 of Fig. 1; Fig. 5 is an enlarged sectional side elevation of the spring-pressed parting strip in the jamb; and Fig. 6 is a sectional side elevation of the means for interlocking a  
35 jamb with the head or sill.

The window frame or casing consists of jambs A, A', connected with each other at the top by the head B and at the bottom by the sill C, the said parts of the window frame or casing being made of sheet metal bent into hollow or tubular form, the sill C being filled with concrete or other suitable plastic material capable of setting and hardening. The jambs A and A' are provided  
45 with guideways for the upper sash D and the lower sash D' to slide in, the said sashes being preferably provided with muntins E, as plainly indicated in Figs. 1 and 4.

Each of the jambs A and A' is made of  
50 two pieces A<sup>2</sup>, A<sup>3</sup> (see Fig. 3), of which the piece A<sup>2</sup> is bent to form the two sides and the inner face of the jamb, while the piece A<sup>3</sup> is the outer face and connects the sides with each other by a double seam, as indi-

cated in Fig. 3. A division plate A<sup>4</sup> is at- 55  
tached to the head B and extends in each jamb, so as to hold the weights for counterbalancing the sashes D and D', spaced from each other in the hollow jambs A and A'. The head B is made of two pieces B' and B<sup>2</sup>, 60  
similar to the jambs A and A', as plainly indicated in Fig. 2, and the sill C is made of one piece bent to form the top and sides with inwardly-extending flanges at the bottom, to safely retain the concrete filling. The jambs 65  
A and A' are connected with the head B and the sill C by tenons F (see Figs. 1 and 6) integral on the head B and the sill C, and passing into mortises formed in the corresponding inner faces of the jambs A and A', 70  
the tenons F being clenched or bent over at the inside of the jambs A and A' to securely fasten the jambs, head and sill together. The inside and outside faces of the jambs extend over the head B and sill C, and the 75  
parts are fastened together by rivets G, as indicated in Fig. 2. The sashes D and D' have the stiles H, H' and H', H', connected with each other by the end rails I, I' and the meeting rails J, J', and the stiles of the 80  
upper and lower sashes are held apart by spring-pressed parting strips K. The stiles and rails are hollow and made of sheet metal, and each stile is made of one piece and each rail is formed of two pieces lock-seamed to- 85  
gether, and each parting strip K is made of sheet metal bent into U-shape form, as plainly indicated in Fig. 3. The end members of each parting strip K form guides and are engaged by flanges H<sup>2</sup>, H<sup>3</sup> (see Fig. 90  
3), formed on the stiles H, H' of the upper and lower sashes D, D'.

To the inner face of each parting strip K are riveted or otherwise secured at intervals, the bearings K', each made approximately 95  
U-shape in cross section, the sides terminating in flanges K<sup>2</sup> extending towards each other and spaced apart, to form a vertically-disposed slot for the passage of a bolt L, as shown in Figs. 3 and 5. The bolt L en- 100  
gages the middle portion of an elliptical spring L' arranged within the bearing K' and resting with its ends on the flanges K<sup>2</sup>, to press the bearing K' and consequently the parting strip K toward the corresponding 105  
jamb A or A'. By the arrangement described the parting strips K are yieldingly mounted, and by engaging the flanges H<sup>2</sup>, H<sup>3</sup> it is



evident that pressure is exerted against the stiles H, H' of the upper and lower sashes D and D', to hold the same firmly in position, but to allow free up and down movement of the sashes. As shown in Fig. 3, the bearings K' extend within a groove A<sup>5</sup> formed in the piece A<sup>2</sup> of the corresponding jamb A or A', and the outer faces of the stiles H and the cap I<sup>4</sup> has its upper edges beaded as shown in Fig. 2, and the edges of the member P' are flanged for engaging below the bead as shown in the same figure end rail I of the upper sash D rests against shoulders A<sup>6</sup> formed integrally on the jambs A, A' and the head B (see Figs. 2 and 3). The inner faces of the stiles H' and the rails I', J' abut against a strip N fastened to the jambs A and A'. The meeting rail J is provided on the top with a short transversely-extending flange J<sup>2</sup> and at the bottom with a long flange J<sup>3</sup>, and a long flange J<sup>4</sup> is formed on the top of the meeting rail J', and a short flange J<sup>5</sup> is formed on the bottom of the said meeting rail J'. Now when the sashes D and D' are in a closed position, as indicated in Fig. 2, the long flange J<sup>4</sup> overlaps the short flange J<sup>2</sup> while the short flange J<sup>5</sup> overlaps the long flange J<sup>3</sup>. Thus the flanges with the adjacent or opposite walls of the meeting rails J and J' form a hollow chamber, as will be readily understood by reference to Fig. 2, and the joints of the meeting rails are rendered completely dust and moisture proof.

The glass panes O are puttied in grooves formed in the stiles and rails of each sash, the grooves being formed by bending the metal of the stiles (see Fig. 3) and the rails J and I' corresponding (see Fig. 2), while the grooves in the rails I and J' are formed by flanges I<sup>2</sup>, J<sup>6</sup> bent up into the rail. The flanges I<sup>2</sup> of the rail I are connected with each other by a connecting cap I<sup>4</sup> engaged by a member P' integrally formed on a reinforcing bar P held within the rail and abutting against the seam I<sup>3</sup> connecting the two surfaces of the rail with each other, the reinforcing bar being secured in place by a screw Q held in the top member of the rail and screwing in the reinforcing bar P, thus holding the parts securely together.

The flanges J<sup>6</sup> are similarly connected by the cap J<sup>7</sup> engaged by the member P<sup>2</sup> of the reinforcing bar P<sup>3</sup> held on the seams within the rail J' and engaged by a screw rod Q'. The bottom piece of the meeting rail J is held locked in place by the screw Q<sup>2</sup> and reinforcing bar P<sup>4</sup> engaging the seams within the rail, and a similar screw Q<sup>3</sup> and bar P<sup>5</sup> hold the bottom piece of the rail I' in place, as shown in Fig. 2.

Each muntin E (see Fig. 4) is formed of the strips E', E<sup>2</sup> bent to form longitudinal flanges E<sup>3</sup>, E<sup>4</sup>, resting on opposite faces of the panes O, and the said flanges are en-

gaged by clamping and reinforcing bars R, R' arranged within the strips E', E<sup>2</sup> and connected with each other by a bolt R<sup>2</sup>, to draw the clamping plates R, R' against the flanges E<sup>3</sup>, E<sup>4</sup>, and the latter against the faces of the panes O, to hold the latter securely in place. The flanges E<sup>4</sup> terminate in lugs E<sup>5</sup>, engaging the edge of the corresponding glass pane O to prevent shifting thereof.

By the arrangement described an exceedingly strong and durable window sash is provided, securely holding the panes in place.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A window having a jamb, a parting strip provided with a supporting arm, a spring pressing the said arm, and a bolt held on the jamb and engaging the said spring.

2. A window having top and bottom sashes provided with meeting rails, each rail having a transversely-extending long flange and a short flange, of which the long flange of one rail overlaps the short flange of the other rail, to form an air chamber on the meeting of the rails.

3. A window having a hollow rail formed of a U-shaped section, having the side member terminating in interior seams, a covering plate within the rail connecting the seams with each other, a cross bar abutting against the inner ends of the seams, and a screw engaging the covering plate and screwing in the said bar.

4. A window having a hollow rail formed of sides terminating at one edge in spaced flanges extending within the rail, to form a recess for the window pane, the other edge terminating in inwardly-extending seams, a covering plate having flanges engaging the said seams, a bar resting on the said seams at the inside of the rail, the bar having members, and a cap connecting the said side flanges with each other and engaged by the said bar members, and means for holding the said bar in place.

5. A window having a hollow rail formed of sides terminating at one edge in spaced flanges extending within the rail to form a recess for the window pane, the other edge terminating in inwardly-extending seams, a covering plate having flanges engaging the said seams, a bar resting on the said seams at the inside of the rail, the bar having members, a cap connecting the said side flanges with each other and engaged by the said bar members, and a screw held on the said covering plate and screwing in the said bar.

6. A window having a muntin, comprising outer members formed with inwardly-extending flanges for engaging opposite faces of the window pane, clamping plates within the members and engaging the flanges there-



of, and a screw held on one member and screwing in the clamping plate of the other member.

7. In a window, a top rail comprising side  
5 members, each provided with an inwardly projecting flange, the flanges co-acting to form a groove for receiving the glass, and a connecting cap for the flanges within the rail, said cap comprising jaws engaging the  
10 outer face of each flange, a reinforcing bar to which the jaws are connected, and a screw for adjusting the cap toward and from the flanges.

8. In a window, a rail comprising side  
15 members, each provided with an inwardly projecting flange, the flanges co-acting to form a groove for receiving the glass, and a connecting cap for the flanges within the

rail, said cap comprising jaws engaging the outer face of each flange, and a screw for 20 adjusting the cap toward and from the flanges.

9. In a window, a rail comprising side members each provided with an inwardly projecting flange, the flanges co-acting to 25 form a groove for receiving the glass, a connecting cap for the flanges within the rail, and means for moving the cap toward and from the flanges.

In testimony whereof I have signed my 30 name to this specification in the presence of two subscribing witnesses.

ALVIN CARROLL GODDARD.

Witnesses:

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EVERARD B. MARSHALL.