

May 24, 1932.

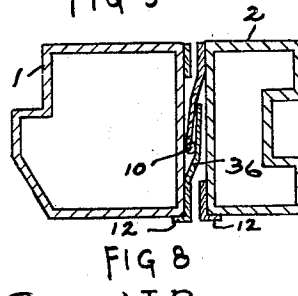
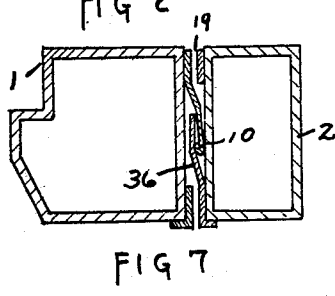
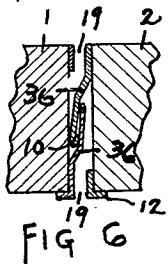
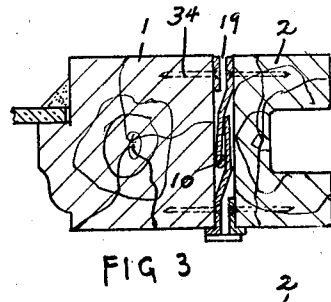
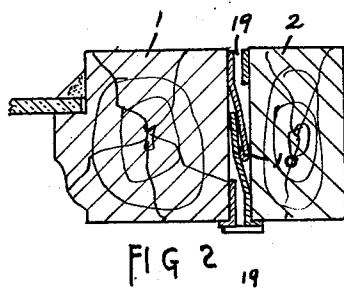
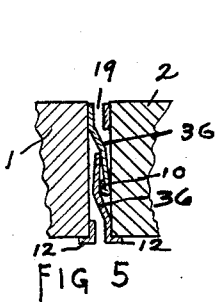
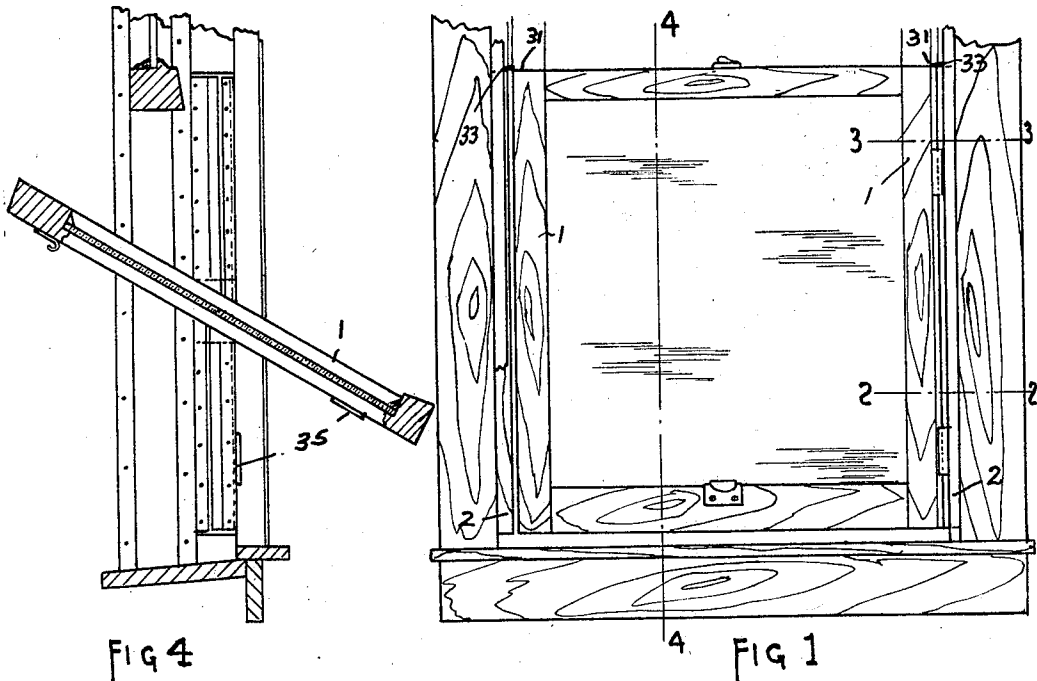
S. I. BAER

1,859,491

TILTING WINDOW DEVICE

Filed Feb. 26, 1931

4 Sheets-Sheet 1



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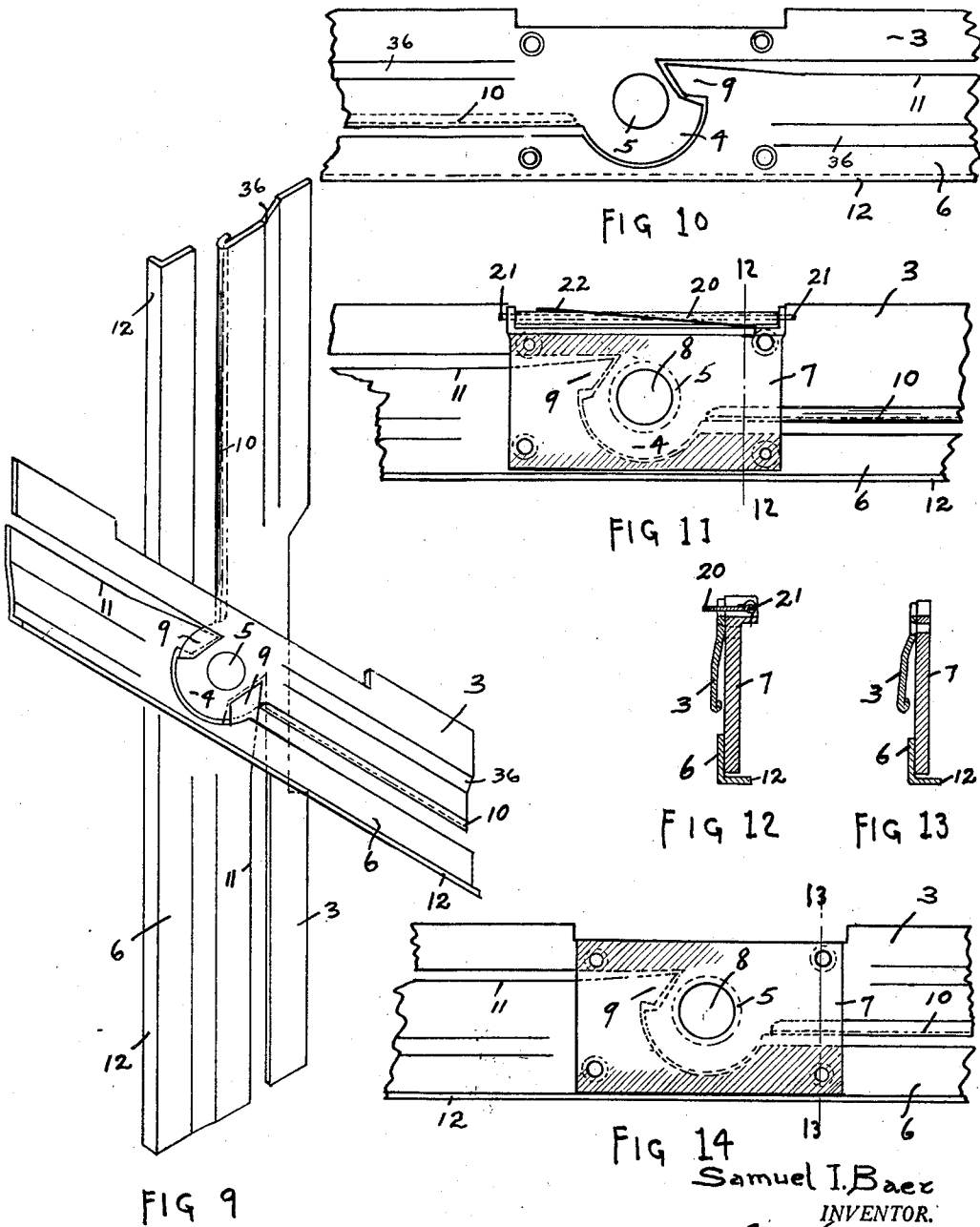
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TILTING WINDOW DEVICE

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4 Sheets-Sheet 2



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4 Sheets-Sheet 3

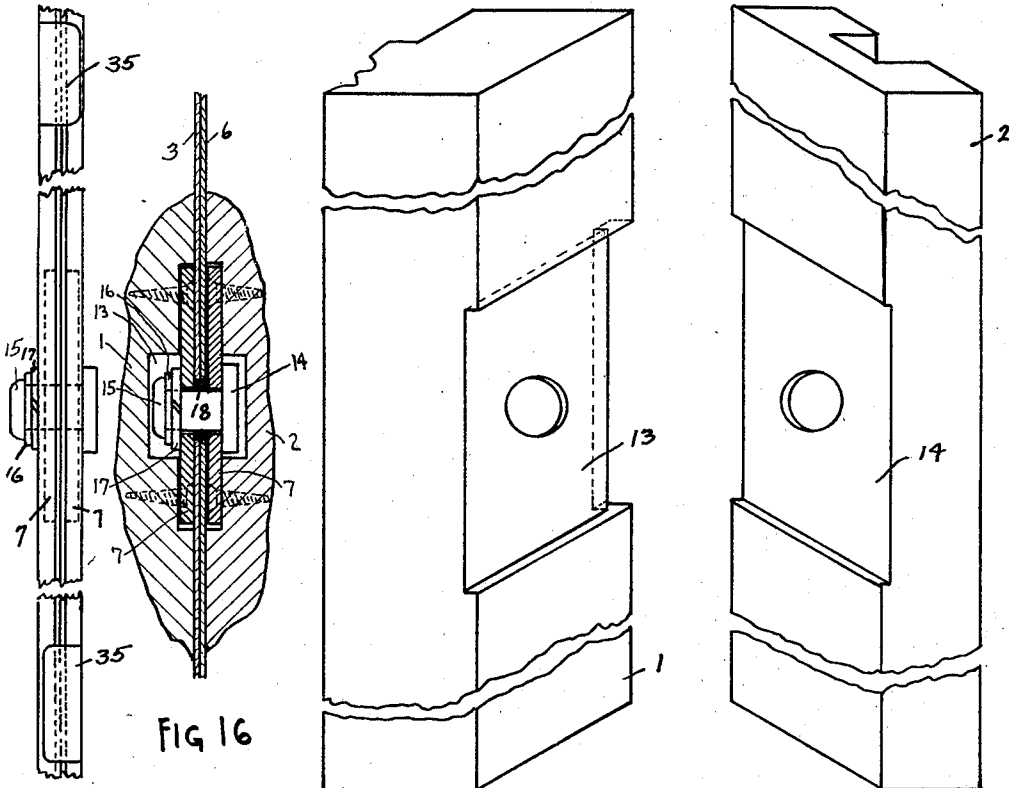


FIG 15

FIG 16

FIG 17

FIG 18

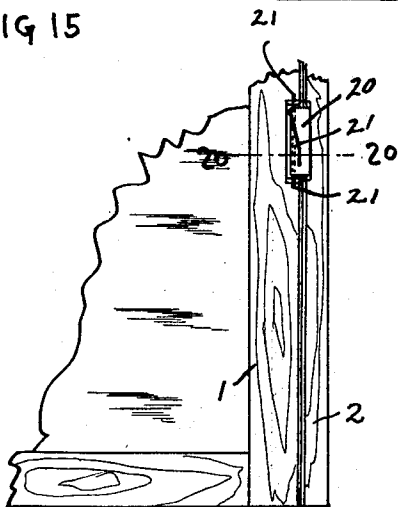


FIG 19

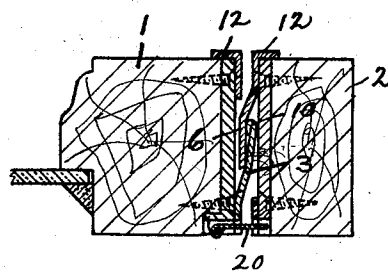


FIG 20

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4 Sheets-Sheet 4

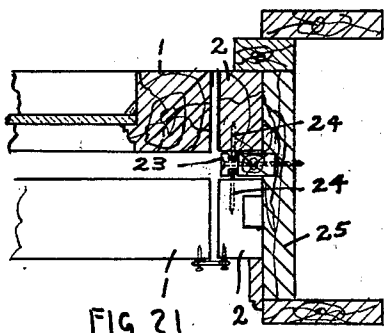


FIG 21

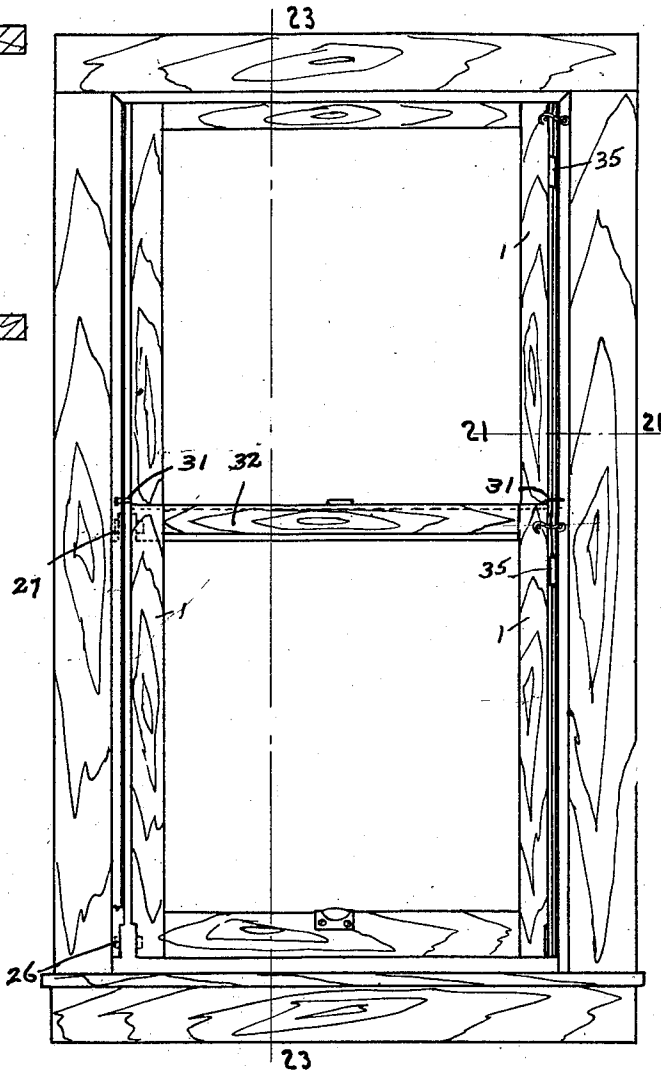


FIG 22

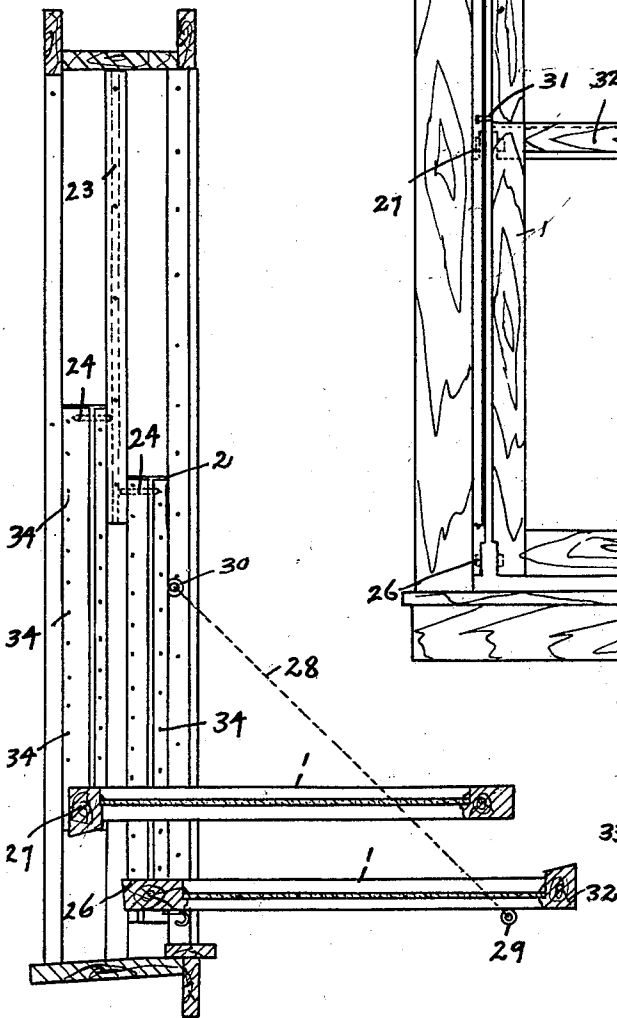


FIG 23

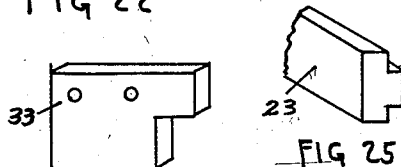


FIG 24

FIG 25

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UNITED STATES PATENT OFFICE

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TILTING WINDOW DEVICE

Application filed February 26, 1931. Serial No. 518,430.

The object of my invention is to provide a new and improved metal device to be placed between each outer vertical edge of a window sash stile and a slidable support strip forming an extension of said stiles, in order that the window sash may be tilted inward for the purpose of cleaning the outside without subjecting the person cleaning the same to danger in performing the work.

Another object of the invention is to provide a metal device that may be installed on sashes already installed in windows or on sashes which are manufactured with the metal device already placed and secured in proper position for installation of a sash.

A further object of the invention is to provide a metal device of this nature which may be used upon various sash materials, such as wood, metal, and the like.

A further object of the invention is to provide means of holding the sash in a perpendicular closed position or in varying tilted positions.

A still further object of the invention is to provide means for preventing any air, moisture, or foreign material from passing through the metal device which allows for the tilting of the sash of the vertical sash edges or the slidable support strip.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, can be made within the scope of what is claimed, without departing from the spirit of the invention.

The invention is illustrated in the accompanying drawings, wherein:—

Figure 1 is a front elevation of a portion of a window showing a sash mounted in a window frame showing one of the metal devices installed.

Figure 2 is a cross section taken on line 2—2 of Figure 1.

Figure 3 is a cross section taken on line 3—3 of Figure 1.

Figure 4 is a cross section taken on line

4—4 of Figure 1 showing the sash in a tilted position.

Figure 5 is a cross section taken at same position as Figure 2 when the same is secured to metal in place of a wood construction.

Figure 6 is a cross section taken at same position as Figure 3 when the same is secured to metal in place of a wood construction.

Figure 7 is a cross section taken at same position as Figure 2 secured to a sash of hollow metal construction.

Figure 8 is a cross section taken at same position as Figure 3 secured to a sash of hollow metal construction.

Figure 9 is a perspective detail of Figure 1 showing the principal parts of the metal device before being secured to window sash parts.

Figure 10 is a partial top plan view showing one of the principal parts of the metal device.

Figure 11 is a top plan view of Figure 10 when the same has been turned over so that the bottom side is up and ends of the same are in reversed position, together with a pivot plate secured thereto and a joint shutter attached to said pivot plate.

Figure 12 is a cross section taken on line 12—12 of Figure 11.

Figure 13 is a cross section taken on line 13—13 of Figure 14.

Figure 14 is a partial top plan view of one of the principal parts showing a pivot plate attached thereto.

Figure 15 is a partial vertical view showing an edge of the metal device completely assembled and in a closed position.

Figure 16 is a detail view showing a vertical cross section of Figure 15 and portions of sash parts to which the metal device is attached.

Figure 17 is a perspective view showing a stile of the sash before the metal device is placed in position.

Figure 18 is a perspective view of the slideable support strip before the metal device has been installed.

Figure 19 is an outside vertical view show-

ing a portion of the metal device in an installed position.

Figure 20 is a cross section taken on line 20—20 of Figure 19.

5 Figure 21 is a cross section taken on line 21—21 of Figure 22.

Figure 22 is an inside vertical view of a window frame and sash, showing one of the metal devices completely assembled.

10 Figure 23 is a cross section taken on line 23—23 of Figure 22, showing an upper and a lower sash in an inwardly tilted position.

Figure 24 is a perspective detail view of Figure 22.

15 Figure 25 is a perspective detail view of Figure 21.

It is obvious that the window sashes may be tilted either from a central pivot point or the same may be tilted from a lower portion 20 of each sash. The advantage, of course, and object of tilting the sash from a lower end portion is to prevent interference with window screens, storm sashes, or protecting parts for a window, when such parts may be in position upon the window frame.

It is also obvious that with this improved metal device, used for the purpose of tilting window sashes, the same may be installed in completed buildings and where the same may 30 have weather strip devices or other attached parts such as a storm window, screen, or grating, without removing the same or in any way interfering with the installation of the new and improved tilted parts.

35 In the drawings it will be seen by referring to Figures 1 and 2 that there is provided a window sash stile 1 and a slideable support strip 2. Figures 5, 6, 7, and 8 show modifications of Figures 2 and 3 where metal 40 or other desirable material is used in place of wood for the parts 1 and 2.

That which has been referred to as the metal device in the preceding description of this invention is more completely and thoroughly 45 described in the following:

By referring more especially to Figures 9, 10, 11, 15, 16, and 20 it will be seen that this particular structure comprises a metal strip 3 which is provided with a central circular 50 segmental flange 4 through which there is provided a circular opening 5. Functioning with this strip 3 there is provided a companion strip 6 which is held in parallel arrangement by means of a pivot plate 7 secured thereto by means of soldering or otherwise. 55 The pivot plate 7 is provided with a central opening 8. This companion strip 6 is provided with a guide fin 9. By referring to Figure 9 there will be shown the companion strip 6 assembled by pairs showing that 60 the fin 9 of one part is guided underneath the central circular segmental flange 4 while the other fin 9 is guided on top of the other central circular segmental flange 4. In this assembly 65 one pair of the strips 3 and compan-

ion strips 6 are in reversed order to the other pair. By referring more especially to Figure 20 it will be seen that when the two pairs, as shown in Figure 9, are in a closed position the strip 3 overlaps the strip 6 forming 70 a close contact. Due to the guide fins 9 this strip 3 and companion strips 6 will always take the same position and close in a scissors-like manner following a rolled edge 10 of the strip 3 and down a straight edge 11 of 75 the companion strip 6, thereby making an air tight contact. It will also be seen that the companion strip 6 is provided with a flange member 12.

By referring to Figures 15 and 16 the assembled parts in a installed position are more 80 clearly shown in which the stile 1 is provided with a recess 13 and the slideable support strip 2 is provided with an oppositely disposed recess 14 in relation to the recess 13. 85 A rivet 15 or other suitable means is utilized for the purpose of pivoting and securing together the strip 3 and the companion strip 6 together with the related parts above described. It will also be seen that this rivet 90 15 passes through a washer 16; a tension washer 17, an opening 8 of each pivot plate 7, and through a central space ring 18. The purpose of this central space ring 18 is to 95 hold the pivot plates 7 apart and parts secured thereto in order that there will be no undesirable frictional contact between the central circular segmental flange and the guide fins 9.

By referring to Figure 2 it will be seen 100 that the rolled edge 10 not only provides an easy means of opening and closing the assembled parts but also provides a tight contact. Further than the functions already stated for the rolled edge 10 it is evident there is provided 105 a slight opening 19 which will prevent the drying and fastening by means of paint or varnish forming between the stile 1 and the slideable support strip 2 and connecting parts.

By referring to Figures 11, 12, and 19 it will be seen that there is provided a joint shutter 20 which functions with the pivot 110 plate 7 and pivoted by means of pivot points 21. The object of this joint shutter 20 is to close the opening between the strip 3 and the companion strip 6 at openings made at their 115 pivot points in proximity of the central circular segmental flange 4 of the guide fin 9. In order that this joint shutter 20 may be held under tension there is provided a tension spring 22 when the sash is in a perpendicular position. 120

By referring to Figures 21, 23, and 25 it will be seen that there is provided a guide 125 strip 23 which is used for the purpose of functioning with guide pins 24 which are secured to the slideable support strips 2. This guide strip 23 and guide pins 24 functioning therein cause the slideable support strip to 130

be held in close alignment with the window frame member 25.

By referring to Figure 23 it will be seen that the device may be applied, as desired, in such a manner that a sash may be tilted in and swung from a bottom point 26 and 27 showing position of upper and lower sash, respectively. It will be seen that there is provided a support chain 28 which holds the lower sash in a tilted position. It is understood that this chain 28 may be secured at point 29 in order to lengthen or shorten the chain as desired in order to provide such ventilation as may be needed. An upper end of the chain 28 is secured to the slideable support strips 2 at point 30. It is obvious that the sashes may be raised and lowered when the chain 28 is holding the same in a tilted position. In order to prevent moisture or air from entering at points 31 where the upper and lower check rails 32 meet there is provided a metal cap member 33. (See Fig. 24.)

By referring to Figures 3, 4, and 23 it will be seen that the metal device is held in position between the stile 1 and the slideable support strip 2 by means of nails or screws 34 when the stile or slideable support strip is made of wood.

By referring to Figure 15 it will be seen that there is provided stops 35 in order to hold the sash and slideable support strip in a closed position and so that the same will not, inclosing, go beyond a vertical plane.

By referring to the drawings it will be seen that there is provided on the strips 3 and 6 an angle section forming an incline plane 36 which causes the metal device to fit closely when the sash is in a closed position.

What I claim is:—

1. In a device of the character described, the combination of a sash element and slidably supporting strip element adjacent the vertical edge of said sash, means between said sash and strip for pivotally connecting the same, and means carried by one of said elements and cooperating with the other adapted to close the opening between said elements at the location of said pivot means.

2. In a device of the character described, the combination of a sash element and a slidably supporting strip element each having intermediate their ends an opposed recess in their facing sides, means mounted in said recesses for pivotally connecting said sash and supporting strip, and means carried by one of said elements and cooperating with the other adapted to close the opening between said elements at the location of said recesses.

3. In a device of the character described, the combination of a sash element and a slidably supporting strip element each having intermediate their ends an opposed recess in their facing sides, means mounted in said recesses for pivotally connecting said sash and

supporting strip, a pivoted vertical plate carried by one of said elements and cooperating with the other, said plate being mounted adjacent the opening between said sash and supporting strip at the location of said recesses and adapted to close said opening, and a spring acting upon said plate to force the same toward said frame and supporting strip.

4. A device of the character described, the combination of a sash, a supporting strip adjacent the vertical edge of said sash, each having intermediate their ends and opposed recess in their facing sides, a metal strip attached to the facing surfaces of each said sash and supporting strip adapted to close the space therebetween, reinforcing metal plates attached to said sash and supporting strip at the point of said recesses and engaging the outer sides of said metal strips in opposed relation, a pivot pin carried transversely of said plates within said recesses for pivotally connecting said sash and supporting strip, tension means acting upon said plates to force them together, and means carried by said sash adapted to close the opening between said sash and supporting strip at the location of said recesses.

In testimony whereof I affix my signature.
SAMUEL I. BAER.

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