A. C. SOULE.

WINDOW SASH MOUNTING.

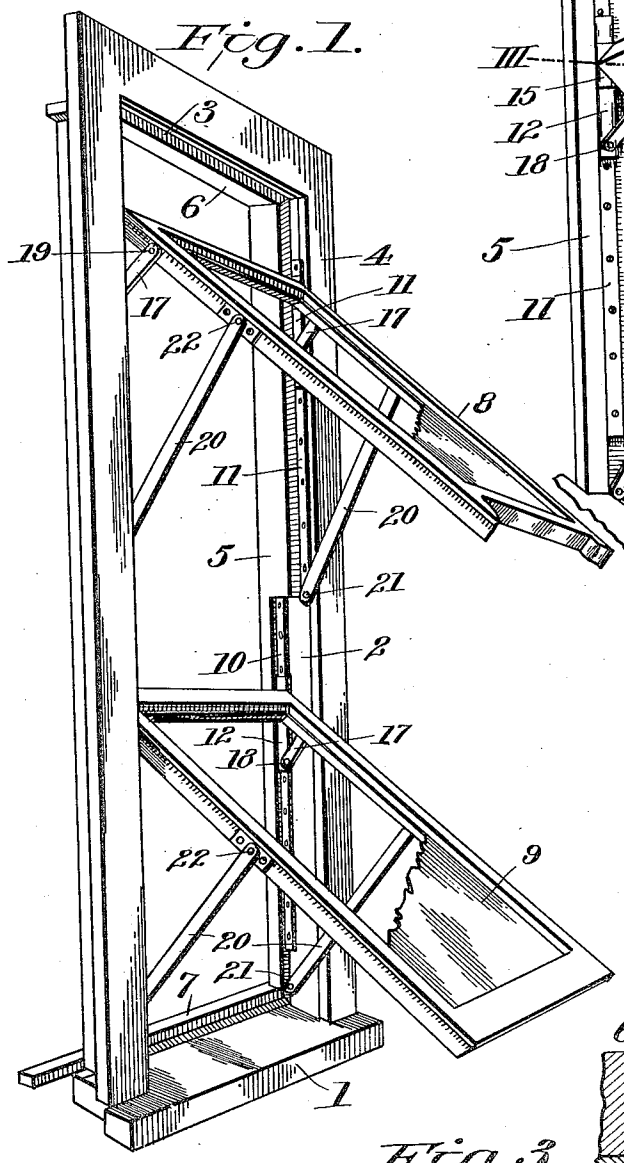
APPLICATION FILED FEB. 9, 1917.

1,271,380.

Patented July 2, 1918.

2 SHEETS—SHEET 1.

Fig. 1.



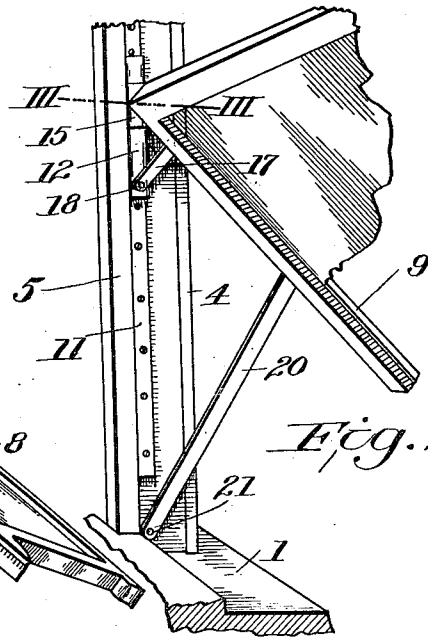
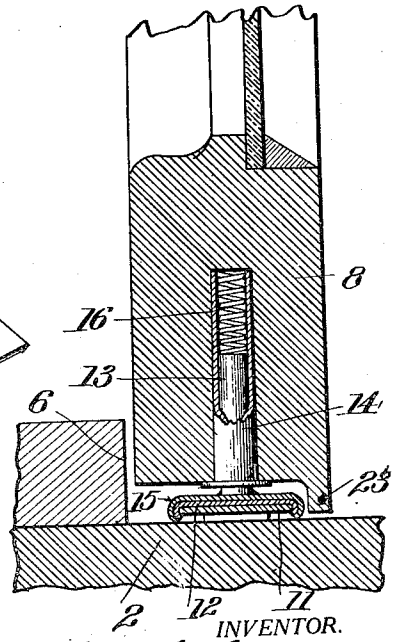


Fig. 2.

Fig. 3.



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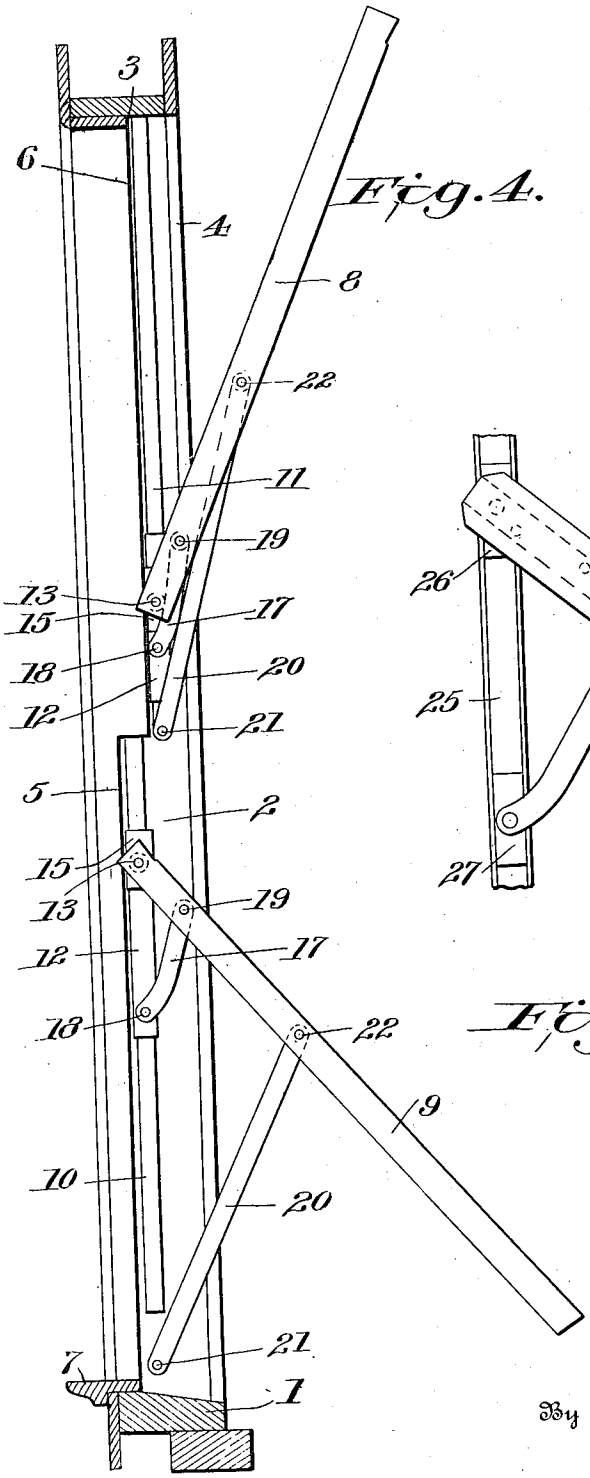


Fig. 4.

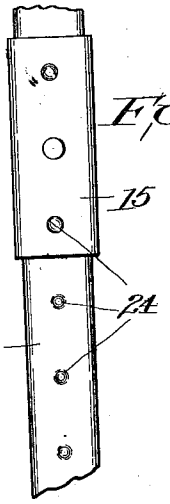


Fig. 5.

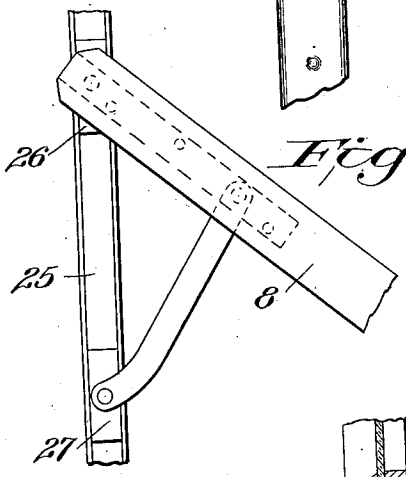


Fig. 6.

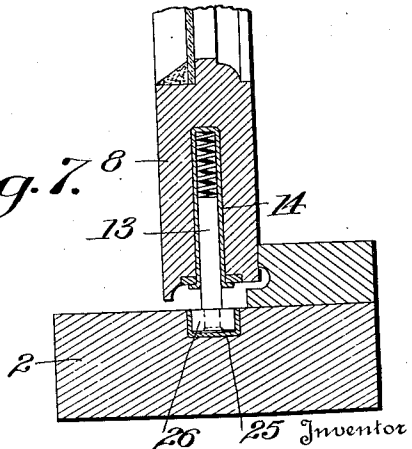


Fig. 7.

Inventor

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WINDOW-SASH MOUNTING.

1,271,380. Specification of Letters Patent. Patented July 2, 1918.

Application filed February 9, 1917. Serial No. 147,676.

To all whom it may concern:

Be it known that I, ARTHUR C. SOULE, a citizen of the United States, and a resident of the city and county of San Francisco, State of California, have made a new and useful Invention in Window-Sash Mountings; and I do hereby declare the following to be a full, clear, concise, and exact description of the same.

The invention relates more particularly to a support mounting for frictionally controlling the operation of tilting sashes.

Among the objects of the invention are to provide a mounting that will hold the sash at any desired inclination and of such construction that it may be easily applied to the window structure.

In this specification and the annexed drawing is illustrated the invention in the form that is considered to be the best but it is to be understood that said invention is not limited to such form because the same may be embodied in other forms, and it is also to be understood that in and by the claims following the description it is desired to cover the invention in whatever form it may be embodied.

In the accompanying drawings:—

Figure 1 is a perspective view of a window casement having sashes mounted therein in accordance with this invention, the view being taken from the outside of the window. Fig. 2 is an enlarged detail in perspective, viewed from the inside of the window illustrating the fixture of the window mounting. Fig. 3 is a fragmentary enlarged detail in cross section taken on the line III—III, Fig. 2, of the frictional pivotal element on the sash. Fig. 4 is a longitudinal sectional view illustrating the positions assumed by the parts when the sash is reversed. Fig. 5 is a detail illustrating one of the shoes. Fig. 6 is a detail view in side elevation illustrating a slight modification. Fig. 7 is a detail sectional view thereof.

This invention with slight modifications is adaptable to the various kinds of window casements and sashes at present in use.

In detail, the construction illustrated in the drawings includes a casement comprising a sill 1, the side jambs 2, 2 and the lintel 3. This main frame is provided with the exterior trim 4 and the interior stops 5 and 6 and the stool 7. The window opening thus framed is closed by the upper and lower sashes 8 and 9.

The guides or tracks 10 and 11 are fixed to the side jambs 2, 2 and guide the vertical separation of the sashes. The friction shoes 12 are crimped onto the respective guides or tracks 10 and 11, as best illustrated in Fig. 3, the shoe sliding freely the full length of the guide or track. The upper end of the sash swings on the pivot 13, slidable in the sleeve 14, fixed in the sash. The sash pivot is provided with the shoe 15, pivoted thereon and embracing and bearing against the shoe 12, against which it is forced by the tension of the spring 16, inclosed within the sleeve 14, behind the pivot 13. The sliding of the pivot shoe 15, on the shoe 12 is controlled by the control arm 17, pivoted at 18, to the slide 12, and at 19 to the side of the sash. The weight of the sash is supported by the arm 20, pivoted at 21 to the window casing and at 22 to the side of the sashes, the pivots 22 acting as the fulcrum upon which the sash moves in assuming the various angles of inclination to which it may be adjusted by the operator. The various mechanisms above described are duplicated upon opposite sides of the window opening and the sashes, each sash within the casement being similarly mounted, and one detailed description is therefore deemed sufficient.

The sash is operated substantially as follows:—

When the bottom of either sash is pushed outwardly, as illustrated in Figs. 1 and 4, the support arms 20 assume a proportionate angle, the pivots 22 causing the upper rail of the sash to slide downwardly, the arms 17 causing the shoes 12 to slide on the guides or tracks, with the retard caused by the friction between the shoe 12 and the guide induced by the expansion of the spring 16, behind the pivots in the sash. The interposition of the arms 17, results in a differential action between the shoes 12, and the upper stile of the sash, causing the shoes 16, to slide on the shoe 12, introducing a secondary friction. The toggles formed between the centers 13, 18 and 19 resist the opening and closing movement of the toggles represented by the centers 13, 21 and 22. The resistance of this larger toggle is easily overcome by the operator grasping the lower rail of the window and pulling it inwardly or pushing

outwardly, because of the greater leverage in favor of the operator. On the other hand such natural forces as wind, and gravitation, acting as they do on the whole glazed surface of the sash, are equalized by the position of the pivots 22, and by the resistance of the smaller toggles which are locked in position by the friction of the shoes 15 on the shoes 12, and these in turn exert a binding friction on the guides or rails 10, effectually holding the sash against the action of the elements at any desired angle. This arrangement of levers and supports and the application of friction in the manner described, provides means for effectively holding the sash in any desired position, such resistance however, being easily overcome by the operator who has a greater leverage in his favor. If it is desired to increase the friction between shoe 15 and the shoe 12, said shoes may be provided with complemental bosses 24, as illustrated in Fig. 5.

Attention is directed to the fact that the whole mounting mechanism may be assembled upon the sash ready for installation within the window casement by merely attaching the guides or tracks 10 and 11 to the side jambs of the casement. This is best illustrated in the upper sash in Fig. 1, in which the pivots 21 are attached to the track 11. The same construction could be carried out with regard to the lower sash if desired. This mounting is similar in every way to the upper one with the exception that the pivots 21 are placed directly on the jambs of the casing, it being unnecessary to extend the track the full depth of the window opening. The sashes are completely reversible within the window opening by moving them into the positions shown in Fig. 1, and then moving the upper rail of each sash downwardly to the limit of its movement, as illustrated in Fig. 4. As illustrated in Fig. 1 the meeting rails of the sashes overlap as in common in the slide type of window. It is obvious, however, that the two sashes may hang in vertical alinement, the upper rail of the lower sash engaging into the under side of the lower rail of the upper sash. In lieu of providing guides 10 and 11 of the form illustrated in Figs. 1, 2 and 3, the same may be made in the form of grooved members 25, and the shoes 26 and 27, connected with the sash and the arms 17, respectively, shaped to enter the same, see Figs. 6 and 7.

Having thus described this invention, I claim:—

1. A window mounting comprising a casement provided with guides, slide shoes engaging said guides, a sash, pivot shoes movably connected with said sash and slidable upon said slide shoes, and arms movably connected with said slide shoes and with said sash.

2. A window mounting comprising a casement provided with guides, slide shoes engaging said guides, a sash, pivot shoes movably connected with said sash and slidable upon said slide shoes, arms movably connected with said slide shoes and with said sash, and support arms movably connected with said sash and with said casement.

3. A window mounting comprising a casement, having shoe guiding means, slide shoes movably engaging said guiding means, a sash, pivot shoes movably connected with said sash and guided by said slide shoes, and arms movably connected with said slide shoes and with said sash.

4. A window mounting comprising a casement having shoe guiding means, slide shoes movably engaging said guiding means, a sash, spring pressed pivot shoes movably connected to said sash near the upper corners thereof, and guided by said slide shoes, and arms movably connected with said slide shoes and with said sash.

5. A window mounting comprising a casement having shoe guiding means, slide shoes movably engaging said guiding means, a sash, spring pressed pivot shoes movably connected to said sash near the upper corners thereof and guided by said slide shoes, arms movably connected with said slide shoe and with said sash, and support arms pivoted to the edge of said sash near the middle thereof, and to said casement near the position assumed by the lower end of the sash when in closed position.

In testimony whereof, I have hereunto set my hand at Washington, D. C., this 8th day of August, 1916.

ARTHUR C. SOULE.