

Dec. 4, 1934.

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1,983,299

WINDOW CONSTRUCTION

Filed July 28, 1934

2 Sheets-Sheet 1

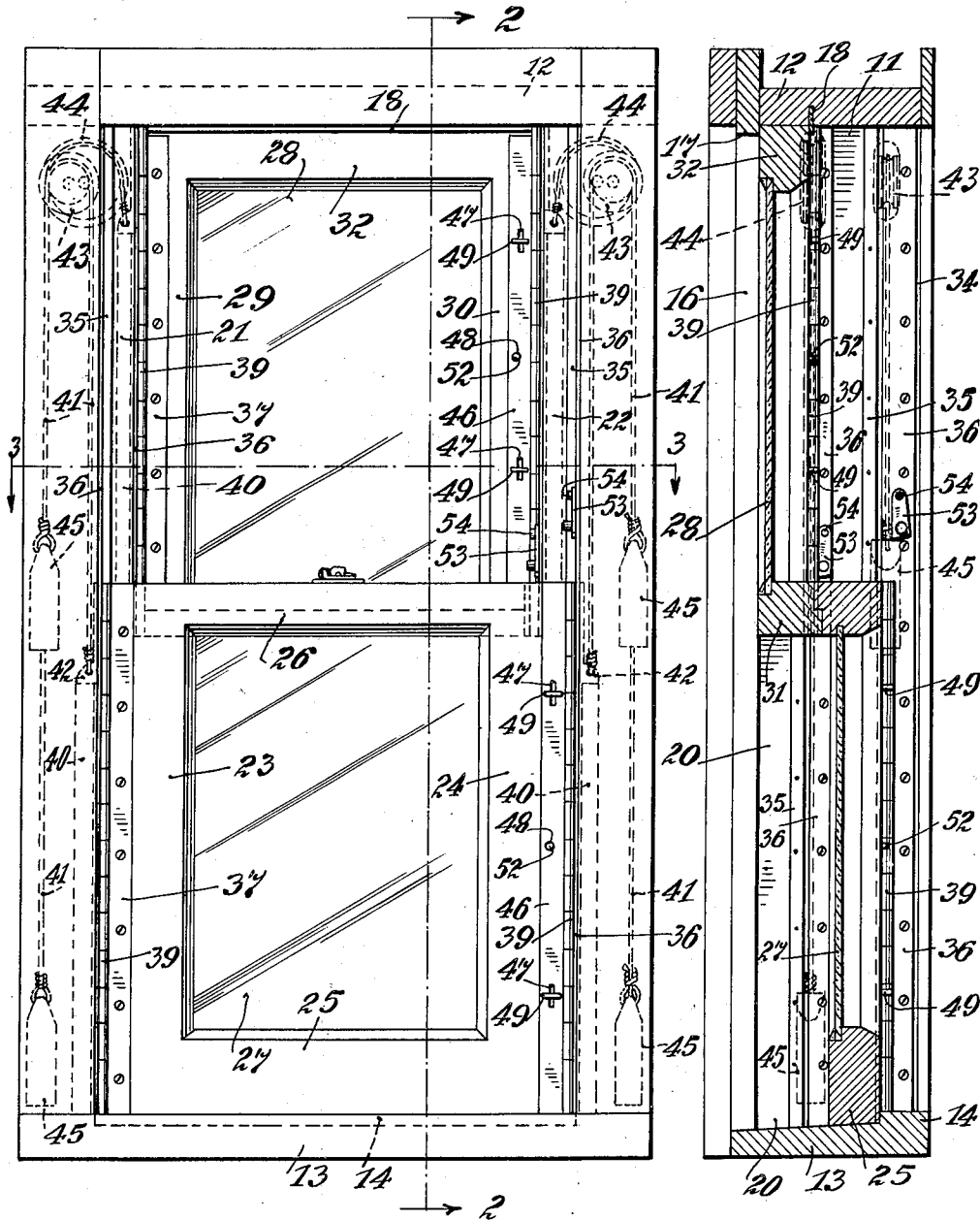


Fig. 1.

Fig. 2.

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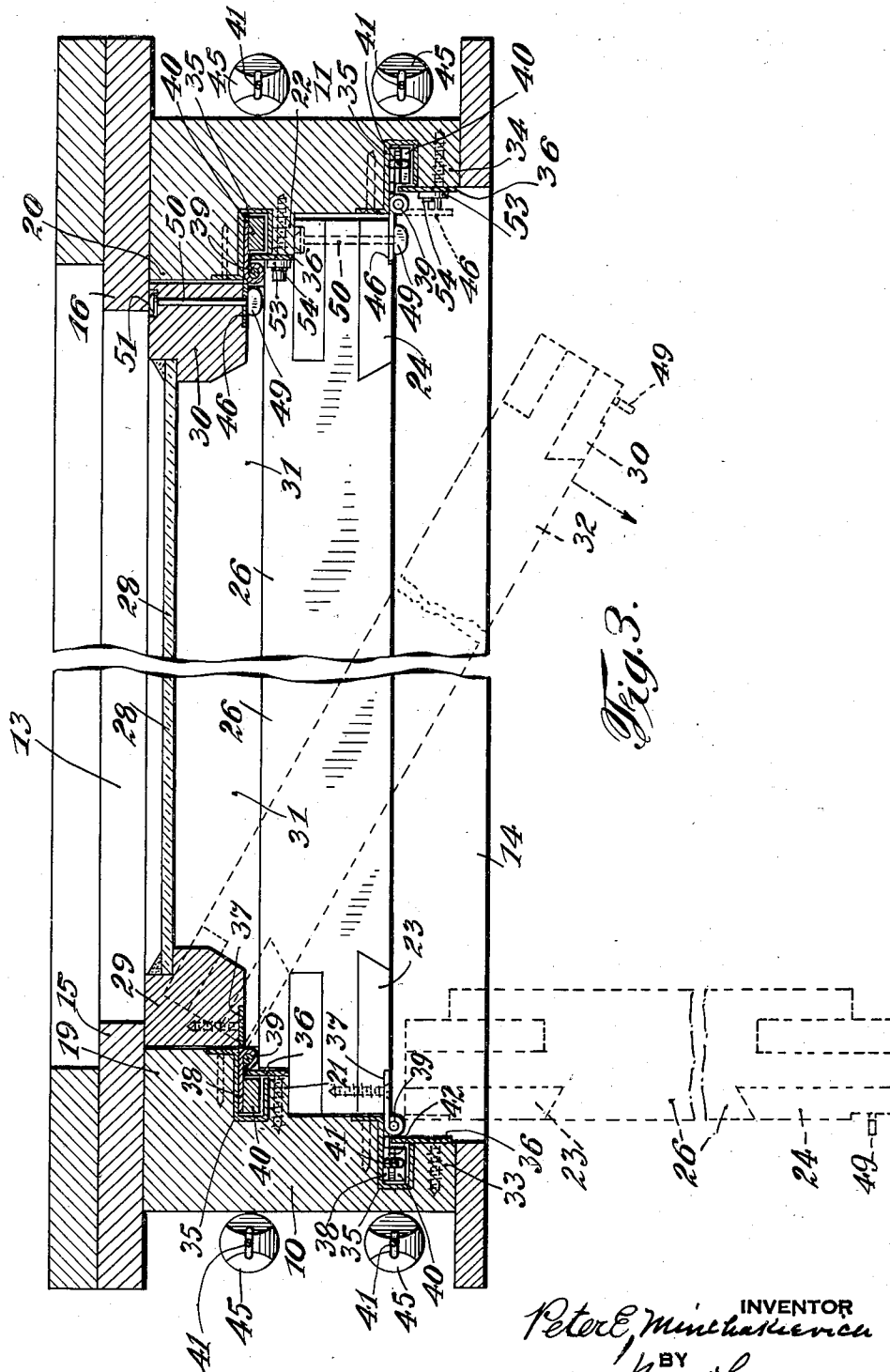
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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

1,983,299

WINDOW CONSTRUCTION

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Application July 28, 1934, Serial No. 737,349

10 Claims. (Cl. 20—50)

My invention relates to window constructions and refers particularly to window sash mounting devices, especially adapted for windows of that type in which the window sashes are mounted in the window frame for vertical sliding movement and are also hinged to swing inwardly on vertical pivotal axes.

Prior proposed constructions of this kind have commonly been complicated, expensive, inconvenient, ineffective, weak, undependable, and in general unreliable and impractical.

Also usually with such prior devices a plurality of substantially unsealed joint cracks or crevices are present which prevent the effective exclusion of cold winds, with too much ventilation in stormy weather.

By reason of these as well as numerous other objections, windows of this combined sliding and swinging type have not come into use, so far as I am at present aware, regardless of the numerous constructions proposed, and also in spite of the decided advantages of a window of this kind, such as the safety and convenience in washing the outer sides of the window glass and its sash, as well as also enabling free ventilation through the entire window opening of the window frame.

The device of my invention is free from the mentioned and other troublesome defects, as well as presenting other valuable attributes, as will be clear from the following particular description taken in connection with the accompanying drawings illustrating one form of the device of my invention and in which similar parts are designated by similar numerals.

Figure 1 is an inside elevation showing a front view of a window embodying my invention.

Figure 2 is a vertical section on the line 2—2 of Figure 1.

Figure 3 is an enlarged broken horizontal section on the line 3—3 of Figure 1, broken lines showing the lower sash as swung open and the upper sash as swung partly open.

The form of the device of my invention shown in the accompanying drawings has a window frame comprising similar jambs 10 and 11, a lintel 12 and a sill 13, provided with an inner ledge 14. This frame further comprises outer vertical stops 15 and 16, an upper outer stop 17 and an upper stop strip 18 carried by the lintel 12 and spaced forwardly from the upper stop 17.

Each of the jambs 10 and 11 is inwardly thickened at its outer portion, thus providing inner shoulders 19 and 20 upon the respective jambs 10 and 11, by which the window opening through

the frame, between the opposed jamb faces, is rendered narrower between the opposed inner faces of these shoulders, while the spacing between the opposed inner faces of the inner part of the jamb 10 and 11 is greater. These jambs 10 and 11 respectively carry intermediate vertical stop strips 21 and 22, which extend into the window opening to a less extent than the respective shoulders 19 and 20 and which are shown as formed in the same piece with the jambs but could as well be separate strip pieces attached to the jambs, if so desired, as could also the jamb shoulder portions 19 and 20.

A wider lower inner sash disposed between the inner more widely spaced jamb face portions is of substantially usual construction, consisting of stiles 23 and 24, a lower sash rail 25, a meeting rail 26 and a glass pane 27. A narrower upper outer sash disposed between the more closely spaced jamb portions provided by the jamb shoulders 19 and 20, has a glass pane 28 enclosed and held by stiles 29 and 30, a meeting rail 31 and a top rail 32.

Each of the jambs 10 and 11 is provided with two concealed slideways corresponding respectively to the lower and upper sashes. Since all of these slideways are alike, the description of one of them will suffice for all, with the same numerals applied thereto throughout. It has been noted that the intermediate stop strips 21—22 do not extend into the window opening to as great an extent as do the jamb shoulders 19 and 20. Similarly, the jambs 10 and 11 respectively have rabbeted inner portions 33 and 34, which therefore do not extend into the window opening to as great an extent as do the faces of the jambs between which the lower sash is disposed.

The mentioned slideways are each shown as formed by means of a transversely bent strip 35, having a U-shaped portion sunk into the inner side of the respective jambs 10 and 11, and with a flange of such strip overlapped upon and countersunk into the inner face of the jamb, being shown as secured thereto by means of a series of screws. The channel thus formed by the U-shaped portion of this bent strip 35, is for the most part closed by a flat cover strip 36, two of which are shown as secured respectively by means of a series of screws to the inner faces of the intermediate stop strips 21 and 22, with the two others similarly respectively secured to the inner faces of the inner rabbeted jamb portions 33 and 34.

The strips 35 and 36 extend the full length

of the jambs 10 and 11, from the lintel 12 down to the sill 13. A longitudinal slot is formed between the inner edge of the cover strip 36 and the adjacent wider flat wall of the substantially U-shaped strip 35. The rabbet space formed by the cover strip 36 provides space inwardly of the exposed face of each of the jambs 10 and 11 for the accommodation of the knuckles of a hinge, to be described later.

At the left side of the window opening two similar hinges are provided which are respectively cooperative with the sash stiles 23 and 29 of the lower and upper sashes. These hinges are of the piano type and each of them is shown as being of the same length as the corresponding sash. Each such hinge has two hinge leaves 37 and 38, with hinge knuckles formed thereon which are pivotally connected together by a hinge pin 39. The hinge leaf 37 is shown as countersunk into the inner exposed face of the adjacent sash stile and is shown as rigidly fixed thereto by means of a vertical series of screws.

The other hinge leaf 38 passes through the longitudinal slot between the strips 35 and 36 and into the slideway formed by these strips. The upper end portion of this latter hinge leaf is partly cut away, as shown in the drawings, while the remaining lower portion of this hinge leaf is fixed, such as by means of welding or riveting, to a slide 40 forming, together with this hinge leaf 38, a guide member which is slidably housed within the concealed slideway shown as formed by the strips 35 and 36.

A substantially usual window cord 41 has one of its ends attached to an ear 42 on the upper end of the slide 40, from which it extends upwardly within the slideway. This cord, for the lower window sash, passes over a pulley 43 which is carried by the upper end portion of the jamb 10 adjacent the lintel 12, while the cord 41 for the upper sash similarly there passes over a somewhat larger pulley 44. The other end of each of these cords carries a counterbalance weight 45.

The construction at the right side of the window is similar to that just described at its left side excepting that the hinges are different and are attached in a different way to the sash stiles 24 and 30. The same reference numerals at the right of the window as at the left have been applied where the parts and elements have not been changed.

At this right side of the window, manually operable means are provided adapted for fixedly, but at the same time releasably and detachably, attaching the respective sash stiles 24 and 30 respectively to similar leaves 46—46 of hinges, each of which, except as to its leaf 46 is similar to the hinges already described. These hinge leaves 46—46 respectively overlap upon the exposed inner faces of the sash stiles 24 and 30 and are shown as countersunk therein.

Each hinge leaf 46 has a plurality, shown as two, vertically spaced vertically slotted openings 47—47 through it and also has an aperture 48 through it. Each of the sash stiles 24 and 30 has a plurality of vertically spaced buttons 49—49 rotatively mounted upon it to project from its inner face and corresponding in number and position to the slotted openings 47—47, through which these buttons are adapted to pass and be rotated, for thereby releasably and detachably attaching together the hinge leaf 46 and the adjacent sash stile. Each of these buttons 49—49 is shown as having a shank 50 passing through the

sash stile and retained by a head 51 at the outer side of the stile, 24 or 30.

An anchor pin or aligning stud 52 projects inwardly from the face of each of the sash stiles 24 and 30 and is adapted to have the hole 48 in the hinge leaf 46 removably engaged thereover. This stud 52 prevents relative longitudinal sliding movement between the hinge leaf 46 and the sash stile 24 or 30, which otherwise could take place by reason of the button shanks 50—50 being in the vertically slotted openings 47—47 in the hinge leaf 46. Without this stud 52, the pull of the weight 45 would be likely to shift the slots 47—47 upwardly on the button shanks 50—50, so that then the buttons 49—49 could not pass through these slots for disengaging the hinge leaf 46 from the sash stile 24 or 30.

A pair of similar manually operable stop members 53—53 are movably mounted upon the jamb 11 and are adapted to be moved respectively into and out of the path of the upper ends of the hinges having the hinge leaves 46—46. Each such stop member is shown as a swinging arm 53 pivoted at its upper end on the exposed face of the cover strip 36 by means of a stud 54.

The stop member 53 associated with the lower sash is positioned so as to allow this sash, and therefore the lower end of the hinge leaf 46, to be raised above the sill ledge 14 before the upper end of this hinge will strike against this stop member after the latter has been moved into its path. The other stop member 53 is positioned so as to be shifted into the path of movement of the upper end of the hinge when the upper sash is at a lowered position.

These stop members 53—53 prevent the weights 45—45 from raising the hinges to the top of the jamb 11 when the hinge leaves 46—46 have been disconnected from the sash stiles 24 and 30. At the same time, each of the sashes will stay at its convenient lowered position, by reason of the fact that it overbalances its remaining single connected weight 45, at the left side of the window. Two of these weights 45—45 form a counterpoise for the corresponding sash, as is usual.

The operation of the above described device of my invention is as follows:—

With both of the window sashes in closed position, as shown in full lines throughout the drawings, it will be noted that the outer or rear face of the meeting rail 26 of the lower sash is in overlapping relation with the inner or front face of the meeting rail 31 of the upper sash in substantially a usual manner. The lower sash may be slid up or the upper sash slid down in the usual way with ordinary sliding sashes. This of course increases the extent of the overlapped relation between these two sashes. At this time the sash stiles 24 and 30 are securely and firmly locked to the respective hinge leaves 46—46 by reason of the rotatable buttons 49—49 being turned transversely to the hinge leaf slots 47—47 as shown in the drawings.

Should it be desired to swing the lower sash inwardly, the stop member 53 for this sash is swung outwardly or rearwardly over the top end of the right hinge, the leaf 46 of which is still attached to the sash stile 24 by means of the buttons 49—49. These buttons are now turned into alignment with the hinge leaf slots 47—47 and this lower sash is lifted clear of the sill ledge 14. The hinge leaf 46 is then swung inwardly from the full line position thereof shown in Figure 3, to the dotted line position there shown.

The lower sash may be then freely swung in-

wardly on its left hinge, the leaf 37 of which is secured to the sash stile 23. This lower sash may be thus swung to or beyond the broken line position thereof shown in Figure 3. The engaged stop member 53 will now prevent the hinge at the right from being carried up, by the corresponding weight 45, to the top of the jamb 11 after its leaf 46 has thus been disengaged from the sash stile 24. The sash will have a tendency to remain down because of its own weight.

After the lower sash has been thus swung open, the upper sash may be, in like manner, swung open to the inside. For this purpose, it is more convenient first to slide this upper sash down to its lowermost position and move its stop member 53 to engaged position above the upper end of the hinge, the leaf 46 of which is still firmly attached to the sash stile 30.

The hinge leaf 46 may then be disengaged from the sash stile 30 and swung inward in the same manner as described with reference to the lower sash. Then this upper sash may be swung freely inward into overlapping relation with and until it comes into engagement with the inwardly swung lower sash, which will be considerably beyond the broken line position of this upper sash shown in Figure 3.

At the inwardly swung position of the respective sashes, their outer sides, inclusive of their glass panes 27 and 28, may be conveniently cleaned. Also it is evident that these sashes may be thus swung open in order to provide more ventilation through the window opening than could be obtained by the sliding movement of the sashes.

These two sashes, after having been swung open, may be swung to and locked at their closed positions merely by reversing the operations by which they were swung open, which therefore do not need to be described.

It is only necessary to remove a face plate or cover strip 36 in order to detach and remove a hinge from the jamb 10 or 11, together with the slide 40 carried by the hinge leaf 38.

It is evident that hinges like those having the hinge leaves 46—46 disconnectible from the sashes could also be employed for these sashes at the other or left side of the window, that is to say, at both sides of the window. However, the simpler construction shown in the accompanying drawings will adequately serve every practical purpose.

With the sashes thus detachably connected to their hinges at both sides of the window, it will be seen that either of these sashes could then be swung open in either direction, that is, toward the left as shown, as well as also towards the right. Also, the sashes could be readily removed from the window.

It is evident that both of the sashes, if so desired or required in any particular installation, could be mounted to swing towards the right instead of towards the left as shown. Similarly, the two sashes could be mounted to swing in opposite directions relatively to each other. In either case the operation would be substantially the same as in the illustrated construction.

It is now evident that the window sash mounting device of my invention possesses many advantages and valuable attributes, among which a few may be mentioned. It will be noted that, with the sashes closed, a good seal is provided between the stiles of these sashes and the jambs of the window frame. Thus there can be no drafts of air passing in either direction between the sashes and jambs. In this important respect it may be

further noted that my device provides a better seal in this respect than with the ordinary sliding sashes and also better than in proposed window constructions having sashes which are adapted to have both sliding and swinging movement.

In the window construction of my invention, the sashes are so well guided that they slide easily, with no tendency to bind or stick, these being well known faults with sliding sashes. In use, the sashes may be very easily and conveniently opened or closed and securely locked with respect to their swinging movements. Furthermore, the entire construction embodying my invention is simple, strong, durable, inexpensive, reliable, and effective.

It is obvious that various modifications may be made in the construction shown in the drawings and above particularly described, within the principle and scope of my invention as defined in the appended claims.

I do not limit myself to particular details of construction such as illustrated and described, nor to material, size, shape, or a particular relationship of parts, these being given simply as a means for clearly describing the device of my invention.

What I claim is:—

1. In a window construction, in combination, a window frame having jambs, a window sash having stiles and normally disposed between said jambs, means cooperative with one of said stiles and said frame comprising mounting means whereby said sash is carried by said frame for pivotal movement on a vertical axis and is guided to slide vertically, means cooperative with the other said sash stile and the adjacent frame jamb comprising a stationary concealed slideway embodied in the latter jamb and extending longitudinally thereof with a longitudinal slot opening from said slideway to the exposed face of this jamb, a slide forming a guide member slidably housed and thereby retained within said stationary slideway, a rotatively stationary slidable element fixed to said guide member to slide therewith and extending out through said slot, said slotted stationary slideway being adapted to prevent rotative movement of said slidable element, and manually operable connecting means adapted for disconnectibly connecting the latter sash stile to said slidable element to slide therewith and to prevent swinging movement of said sash on its said mounting means while also being adapted to be operated so as then to provide for such swinging movement of said sash.

2. In a window construction, in combination, a window frame having jambs, a window sash having stiles and normally disposed between said jambs, means cooperative with one of said stiles and said frame comprising mounting means whereby said sash is carried by said frame for pivotal movement on a vertical axis and is guided to slide vertically, means cooperative with the other said sash stile and the adjacent frame jamb comprising a stationary concealed slideway embodied in the latter jamb and extending longitudinally thereof with a longitudinal slot opening from said slideway to the exposed face of this jamb, a slide forming a guide member slidably housed and thereby retained within said stationary slideway, a slidable hinge having a rotatively stationary slidable hinge leaf extending through said slot and fixed to said guide member to slide therewith, said slotted stationary slideway being adapted to prevent rotative movement of said hinge leaf, said hinge having a swinging hinge

leaf pivotally connected with said rotatively stationary hinge leaf to swing thereon on a vertical axis and to slide therewith, said swinging hinge leaf being overlapped upon the exposed face of the adjacent said other sash stile, and manually operable attaching means including a manipulatable fastener adapted for detachably fixedly attaching together said overlapped swinging hinge leaf and the adjacent said other sash stile for unitary sliding movement therewith, and to prevent swinging movement of said sash on its said mounting means while also being adapted to be manipulated for detaching said latter sash stile from said overlapped swinging hinge leaf thereby to provide for such swinging movement of said sash.

3. In a window construction, in combination, a window frame having jambs, a window sash having stiles and normally disposed between said jambs, means cooperative with one of said stiles and said frame comprising mounting means whereby said sash is carried by said frame for pivotal movement on a vertical axis and is guided to slide vertically, means cooperative with the other said sash stile and the adjacent frame jamb comprising a stationary concealed slideway embodied in the latter jamb and extending longitudinally thereof with a longitudinal slot opening from said slideway to the exposed face of this jamb, a slide forming a guide member slidably housed and thereby retained within said stationary slideway, a slidable hinge having a rotatively stationary slidable hinge leaf extending through said slot and fixed to said guide member to slide therewith, said slotted stationary slideway being adapted to prevent rotative movement of said hinge leaf, said hinge having a swinging hinge leaf pivotally connected with said rotatively stationary hinge leaf to swing thereon on a vertical axis and to slide therewith, said swinging hinge leaf being overlapped upon the exposed face of the adjacent said other sash stile, said overlapped swinging hinge leaf being in the form of a vertical strip and having a plurality of vertically spaced vertically slotted button-receiving openings through it and also having an aligning hole through it, a plurality of vertically spaced attaching buttons rotatively mounted upon the adjacent said other sash stile and corresponding in number to the number of said slotted openings through which said buttons are adapted to pass and be rotated for thereby detachably attaching together said overlapped swinging hinge leaf and the adjacent said other sash stile and thereby being adapted to prevent swinging movement of said sash on its said mounting means while also being adapted for detaching said latter sash stile from said overlapped swinging hinge leaf thereby to provide for such swinging movement of said sash, and an aligning stud projecting from the adjacent said other sash stile and adapted to have said aligning hole through said overlapped swinging hinge leaf removably passed over it and thereby being adapted to prevent sliding movement of said buttons in said vertically slotted openings.

4. In a window construction, in combination, a window frame having jambs, a window sash having stiles and normally disposed between said jambs, a stationary concealed slideway for each of said jambs embodied therein and extending longitudinally thereof with a longitudinal slot opening from said slideway to the exposed face of said jamb, a slide for each of said stationary slideways forming a guide member slidably housed

and thereby retained within said stationary slideway, a slidable hinge for each of said slideways with each of said hinges having a rotatively stationary slidable hinge leaf extending through the adjacent said slot and fixed to the corresponding said guide member to slide therewith, each of said slotted stationary slideways being adapted to prevent rotative movement of said hinge leaf belonging to the corresponding said hinge, each of the said hinges having a swinging hinge leaf pivotally connected with said rotatively stationary hinge leaf to swing thereon on a vertical axis and to slide therewith, each of said swinging hinge leaves being overlapped upon the exposed face of the adjacent sash stile, and attaching means for each of said overlapped swinging hinge leaves by which it is adapted to be fixedly attached to said adjacent sash stile for unitary sliding movement therewith, said attaching means for at least one of said slidable hinges including a manipulatable fastener adapted for detachably fixedly attaching said overlapped swinging hinge leaf of this said hinge to said adjacent sash stile and thereby being adapted to prevent swinging movement of said sash on its said other hinge while also being adapted to be manipulated for detaching said overlapped swinging hinge leaf from said adjacent sash stile thereby to provide for such swinging movement of said sash on its said other hinge.

5. In a window construction, in combination, a window frame having jambs, a window sash having stiles and normally disposed between said jambs, a stationary concealed slideway embodied in at least one of said jambs and extending longitudinally thereof with a longitudinal slot opening from said slideway to the exposed face of said jamb, a slide forming a guide member slidably housed and thereby retained within said stationary slideway, a slidable hinge having a rotatively stationary slidable hinge leaf extending through said slot and fixed to said guide member to slide therewith, said slotted stationary slideway being adapted to prevent rotative movement of said hinge leaf, said hinge having a swinging hinge leaf pivotally connected with said rotatively stationary hinge leaf to swing thereon on a vertical axis and to slide therewith, said swinging hinge leaf being overlapped upon the exposed face of the adjacent sash stile, and manually operable attaching means including a manipulatable fastener adapted for detachably fixedly attaching said overlapped swinging hinge leaf to said adjacent sash stile for unitary sliding movement therewith while also being adapted to be manipulated for detaching said overlapped swinging hinge leaf from said latter sash stile thereby to provide for horizontal movement of said sash.

6. In a window construction, in combination, a window frame having jambs, a window sash having stiles and normally disposed between said jambs, means cooperative with one of said stiles and said frame comprising mounting means whereby said sash is carried by said frame for pivotal movement on a vertical axis and is guided to slide vertically, means cooperative with the other said sash stile and the adjacent frame jamb comprising a stationary concealed slideway embodied in the latter jamb and extending longitudinally thereof with a longitudinal slot opening from said slideway to the exposed face of this jamb, a slide forming a guide member slidably housed and thereby retained within said stationary slideway, a rotatively stationary slid-

able element fixed to said guide member to slide therewith and extending out through said slot, said slotted stationary slideway being adapted to prevent rotative movement of said slidable element, manually operable connecting means adapted for disconnectibly connecting the latter sash stile to said slidable element to slide therewith and to prevent swinging movement of said sash on its said mounting means while also being adapted to be operated so as then to provide for such swinging movement of said sash, a counterpoise for said sash adapted to act upon said slidable element with a tendency to slide the latter upwardly, and a manipulatable stop member movably mounted upon said jamb which is adjacent to said slidable element and adapted to be moved into the path of the upper end of said slidable element thereby to prevent upward movement of the latter and adapted to be moved out of the path of the upper end of said slidable element thereby to provide for upward sliding movement of the latter.

7. In a window construction, in combination, a window frame having jambs, a window sash having stiles and normally disposed between said jambs, means cooperative with one of said stiles and said frame comprising mounting means whereby said sash is carried by said frame for pivotal movement on a vertical axis and is guided to slide vertically, means cooperative with the other said sash stile and the adjacent frame jamb comprising a stationary concealed slideway embodied in the latter jamb and extending longitudinally thereof with a longitudinal slot opening from said slideway to the exposed face of this jamb, a slide forming a guide member slidably housed and thereby retained within said stationary slideway, a slidable hinge having a rotatively stationary slidable hinge leaf extending through said slot and fixed to said guide member to slide therewith, said slotted stationary slideway being adapted to prevent rotative movement of said hinge leaf, said hinge having a swinging hinge leaf pivotally connected with said rotatively stationary hinge leaf to swing thereon on a vertical axis and to slide therewith, said swinging hinge leaf being overlapped upon the exposed face of the adjacent said other sash stile, manually operable attaching means including a manipulatable fastener adapted for detachably fixedly attaching together said overlapped swinging hinge leaf and the adjacent said other sash stile for unitary sliding movement therewith and to prevent swinging movement of said sash on its said mounting means while also being adapted to be manipulated for detaching said latter sash stile from said overlapped swinging hinge leaf thereby to provide for such swinging movement of said sash, a counterpoise for said sash adapted to act upon said slidable hinge with a tendency to move the latter upwardly, and a manipulatable stop member movably mounted upon said jamb which is adjacent to said hinge and adapted to be moved into the path of the upper end of this hinge thereby to prevent upward movement of the latter and adapted to be moved out of the path of the upper end of this hinge thereby to provide for upward movement of the latter.

8. In a window construction, in combination, a window frame having jambs, a window sash having stiles and normally disposed between said jambs, means cooperative with one of said stiles and said frame comprising mounting means whereby said sash is carried by said frame for pivotal movement on a vertical axis and is guided

to slide vertically, means cooperative with the other said sash stile and the adjacent frame jamb comprising a stationary concealed slideway embodied in the latter jamb and extending longitudinally thereof with a longitudinal slot opening from said slideway to the exposed face of this jamb, a slide forming a guide member slidably housed and thereby retained within said stationary slideway, a slidable hinge having a rotatively stationary slidable hinge leaf extending through said slot and fixed to said guide member to slide therewith, said slotted stationary slideway being adapted to prevent rotative movement of said hinge leaf, said hinge having a swinging hinge leaf pivotally connected with said rotatively stationary hinge leaf to swing thereon on a vertical axis and to slide therewith, said swinging hinge leaf being overlapped upon the exposed face of the adjacent said other sash stile, said overlapped swinging hinge leaf being in the form of a vertical strip and having a plurality of vertically spaced vertically slotted button-receiving openings through it and also having an aligning hole through it, a plurality of vertically spaced attaching buttons rotatively mounted upon the adjacent said other sash stile and corresponding in number to the number of said slotted openings through which said buttons are adapted to pass and be rotated for thereby detachably attaching together said overlapped swinging hinge leaf and the adjacent said other sash stile and thereby being adapted to prevent swinging movement of said sash on its said mounting means while also being adapted for detaching said latter sash stile from said overlapped swinging hinge leaf thereby to provide for such swinging movement of said sash, an aligning stud projecting from the adjacent said other sash stile and adapted to have said aligning hole through said overlapped swinging hinge leaf removably passed over it and thereby being adapted to prevent sliding movement of said buttons in said vertically slotted openings, a counterpoise for said sash adapted to act upon said slidable hinge with a tendency to move the latter upwardly, and a manipulatable stop member movably mounted upon said jamb which is adjacent to said hinge and adapted to be moved into the path of the upper end of this hinge thereby to prevent upward movement of the latter and adapted to be moved out of the path of the upper end of this hinge thereby to provide for upward movement of the latter.

9. In a window construction, in combination, a window frame having jambs, a window sash having stiles and normally disposed between said jambs, a stationary concealed slideway for each of said jambs embodied therein and extending longitudinally thereof with a longitudinal slot opening from said slideway to the exposed face of said jamb, a slide for each of said stationary slideways forming a guide member slidably housed and thereby retained within said stationary slideway, a slidable hinge for each of said slideways with each of said hinges having a rotatively stationary slideable hinge leaf extending through the adjacent said slot and fixed to the corresponding said guide member to slide therewith, each of said slotted stationary slideways being adapted to prevent rotative movement of said hinge leaf belonging to the corresponding said hinge, each of the said hinges having a swinging hinge leaf pivotally connected with said rotatively stationary hinge leaf to swing thereon on a vertical axis and to slide therewith, each of said

swinging hinge leaves being overlapped upon the exposed face of the adjacent sash stile, attaching means for each of said overlapped swinging hinge leaves by which it is adapted to be fixedly attached to said adjacent sash stile for unitary sliding movement therewith, said attaching means for at least one of said slidable hinges including a manipulatable fastener adapted for detachably fixedly attaching said overlapped swinging hinge leaf of this said hinge to said adjacent sash stile, and thereby being adapted to prevent swinging movement of said sash on its said other hinge while also being adapted to be manipulated for detaching said overlapped swinging hinge leaf from said adjacent sash stile thereby to provide for such swinging movement of said sash on its said other hinge, a counterpoise for said sash adapted to act upon said slidable hinge which has said detachable overlapped swinging hinge leaf and having a tendency to move the latter hinge upwardly, and a manipulatable stop member movably mounted upon said jamb which is adjacent to said latter hinge and adapted to be moved into the path of the upper end of said latter hinge thereby to prevent upward movement of the latter and adapted to be moved out of the path of the upper end of this hinge thereby to provide for the upward movement of the latter.

10. In a window construction, in combination, a window frame having jambs, a window sash having stiles and normally disposed between said jambs, a stationary concealed slideway embodied in at least one of said jambs and extending longitudinally thereof with a longitudinal slot opening from said slideway to the exposed face of said jamb, a slide forming a guide member slidably housed and thereby retained within said stationary slideway, a slidable hinge having a rotatively stationary slidable hinge leaf extending through said slot and fixed to said guide member to slide therewith, said slotted stationary slideway being adapted to prevent rotative movement of said hinge leaf, said hinge having a swinging hinge leaf pivotally connected with said rotatively stationary hinge leaf to swing thereon on a vertical axis and to slide therewith, said swinging hinge leaf being overlapped upon the exposed face of the adjacent sash stile, manually operable attaching means including a manipulatable fastener adapted for detachably fixedly attaching said overlapped swinging hinge leaf to said adjacent sash stile for unitary sliding movement therewith while also being adapted to be manipulated for detaching said overlapped swinging hinge leaf from said latter sash stile thereby to provide for horizontal movement of said sash, a counterpoise for said sash adapted to act upon said slidable hinge with a tendency to move the latter upwardly, and a manipulatable stop member movably mounted upon said jamb which is adjacent to said hinge and adapted to be moved into the path of the upper end of this hinge thereby to prevent upward movement of the latter and adapted to be moved out of the path of the upper end of this hinge thereby to provide for upward movement of the latter.

PETER E. MINCHAKIEVICH.

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