D. A. MacASKILL.

WINDOW.

APPLICATION FILED JAN. 3, 1921.

1,429,897.

Patented Sept. 19, 1922.

3 SHEETS-SHEET 1.

Fig. 1.

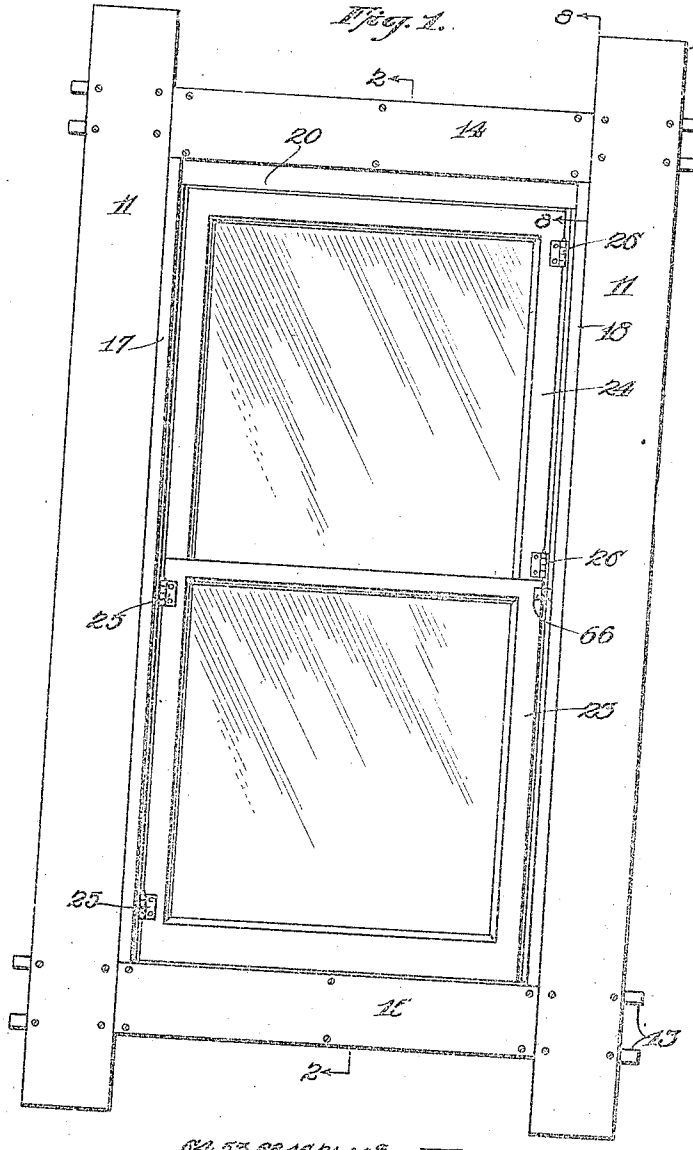


Fig. 2.

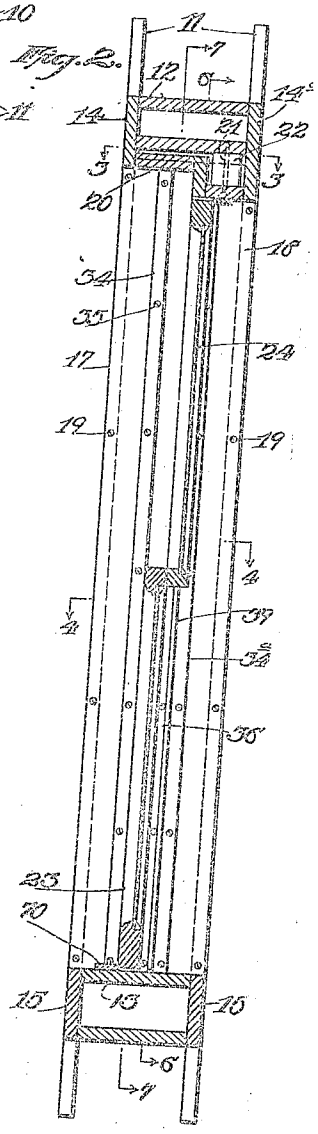
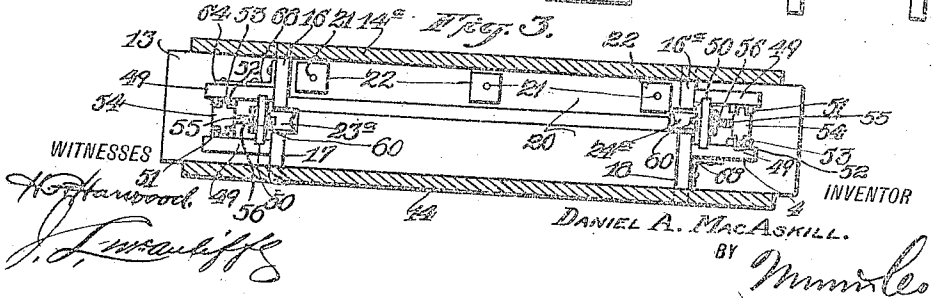


Fig. 3.



WITNESSES

H. G. Harwood.

J. L. Innerkofler

INVENTOR

DANIEL A. MacASKILL.

BY Munn & Co

ATTORNEYS

D. A. MacASKILL.

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3 SHEETS—SHEET 2.

Fig. 4.

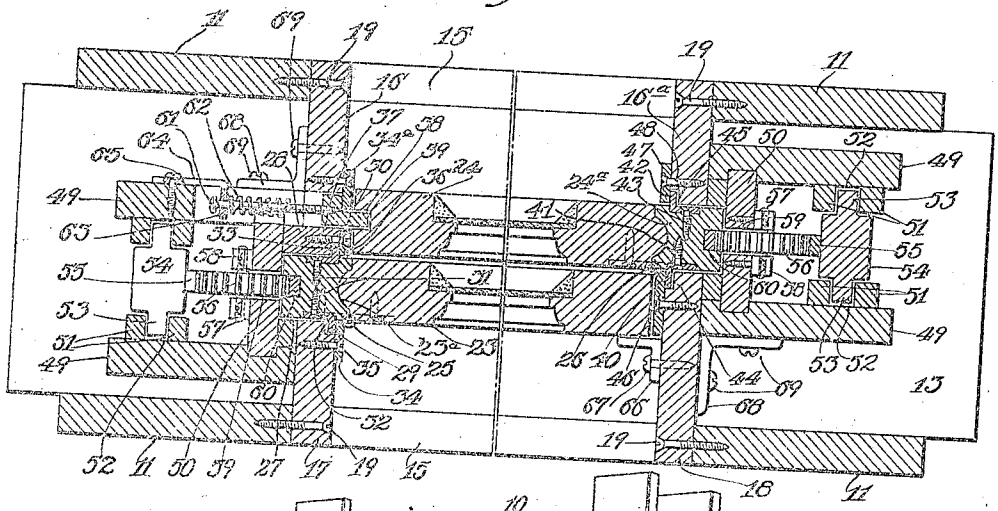


Fig. 5.

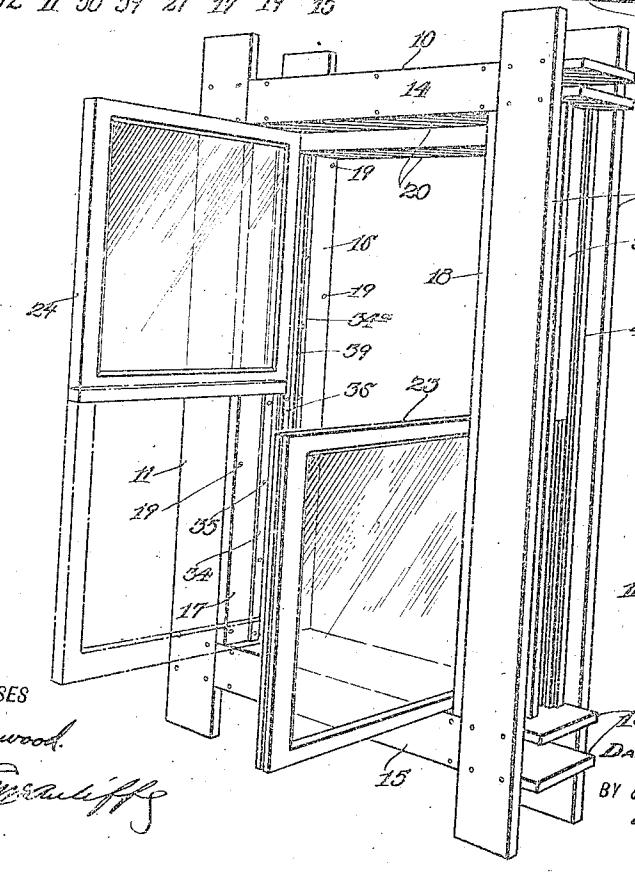
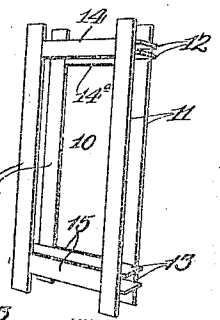


Fig. 5a.



WITNESSES

H. E. Harwood.

J. L. Mescall

INVENTOR

DANIEL A. MacASKILL.

BY Munn & Co

ATTORNEYS.

D. A. MacASKILL.

WINDOW.

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3 SHEETS—SHEET 3.

Fig. 6.

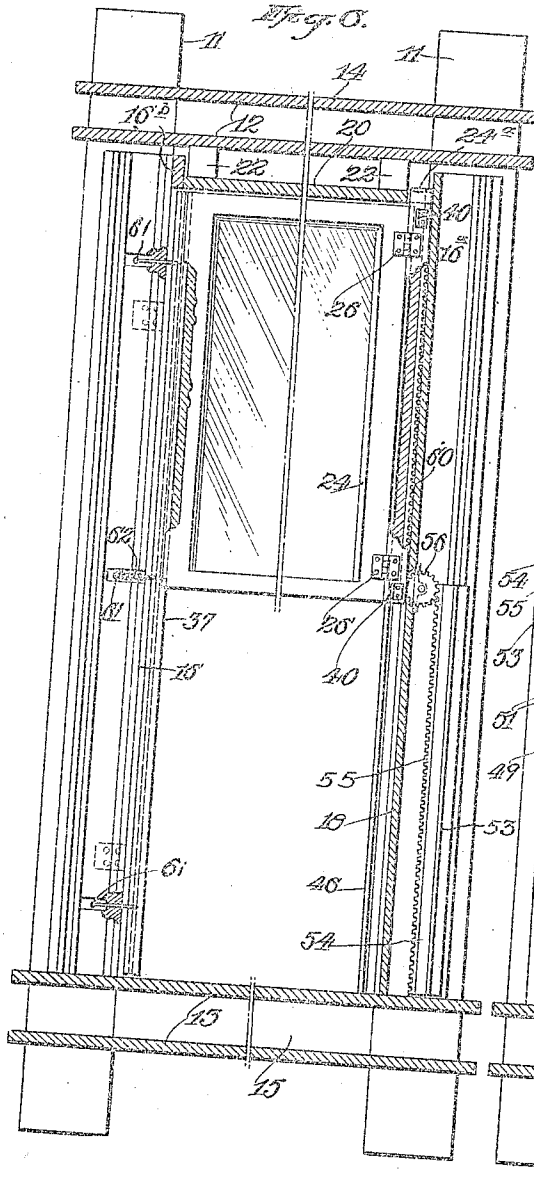


Fig. 7.

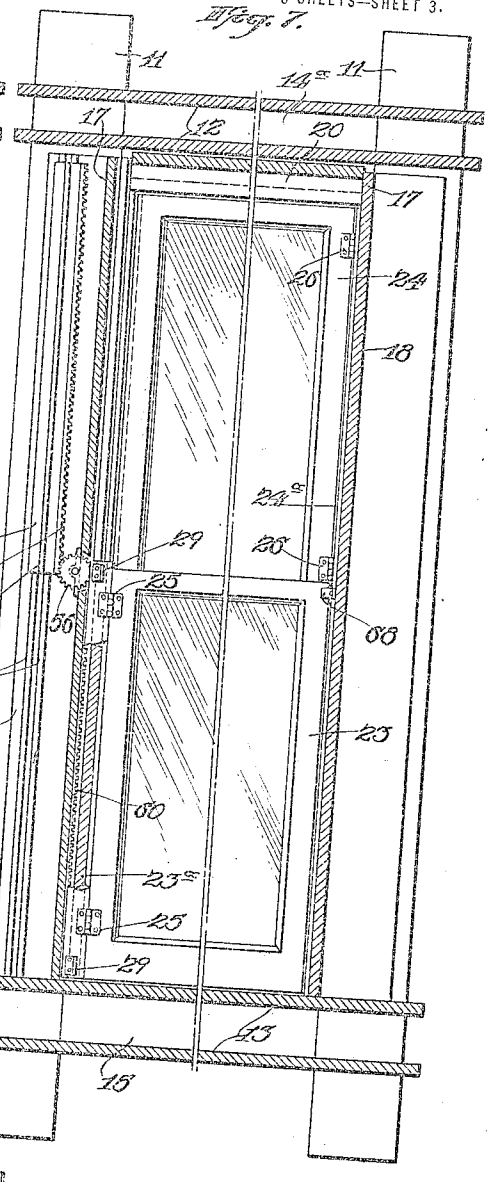
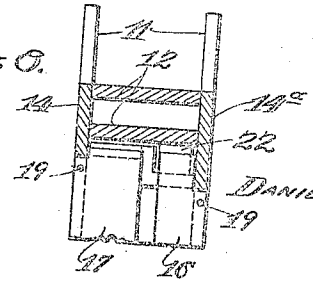


Fig. 8.



WITNESSES

INVENTOR

DANIEL A. MacASKILL.

BY Munn & Co

ATTORNEYS

Patented Sept. 19, 1922.

1,429,897

UNITED STATES PATENT OFFICE.

DANIEL A. MacASKILL, OF BROOKLYN, NEW YORK, ASSIGNOR OF ONE-THIRD TO JOSEPH A. IZZO AND ONE-THIRD TO ANGELO PACELLI, BOTH OF BROOKLYN, NEW YORK.

WINDOW.

Application filed January 3, 1921. Serial No. 434,557.

To all whom it may concern:

Be it known that I, DANIEL A. MacASKILL, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Window, of which the following is a description.

My invention relates to a window in which sliding sashes are arranged to have swinging movement inwardly for the convenient washing of the window or for ventilation.

The general object of my invention is to provide a window of the indicated type improved in various particulars with a view to provide a novel construction and arrangement of the sashes and their guide means as well as to provide a convenient frame assemblage, whereby to permit of the convenient assembling of the various elements entering into the window and the convenient removal of the sashes, frame parts, balancing means, etc., as may be required for repair or otherwise.

Reference is to be had to the accompanying drawings forming a part of this specification, it being understood that the drawings are merely illustrative of one example of the invention.

Figure 1 is a front view of a window embodying my invention;

Figure 2 is a transverse vertical section on the line 2—2, Figure 1;

Figure 3 is a horizontal section on the line 3—3, Figure 2;

Figure 4 is an enlarged horizontal section on the irregular line 4—4, Figure 2;

Figure 5 is a perspective view of the assembled window showing the sashes swung to the open position;

Figure 5ª is a separate perspective view of the fixed frame of the window;

Figure 6 is a sectional front view, the section being taken in a plane outward of the lower sash, and parts being broken out; the section being indicated by line 6—6, Figure 2;

Figure 7 is a sectional front view taken in a plane in front of the lower sash, parts being broken out; the section being indicated by the line 7—7, Figure 2;

Figure 8 is a detail in vertical section at the top of the frame at one side, the view being given to illustrate a removable jamb element and its relation to the relatively fixed frame, the section being indicated by the line 8—8, Figure 1.

In constructing a window in accordance with my invention I provide a frame designated generally by the numeral 10 and best shown in Figures 5 and 5ª, adapted to be permanently set in the building. Said frame includes vertical side strips 11 at the back and front, as well as a head structure and sill structure, the head structure being of box-like form, and (see Figure 8) including horizontal vertically spaced head boards 12, a front or facing strip 14 and a wider back strip 14ª. Similarly, the sill structure includes horizontal boards 13 and front and back strips 15.

In connection with the fixed frame 10 I employ removable jambs comprising a novel arrangement of guides and retaining means for the sashes. The removable jambs furthermore carry thereon sash-balancing means and a supporting structure therefor, the arrangement being such that the sashes may be readily removed when desired and similarly the jamb elements may be conveniently and quickly removed and with them the sash guiding members and the sash-balancing means. The jambs include outer jamb strips or vertical boards 16, 16ª at opposite sides of the window and inner jamb strips 17, 18 at the respective sides, said jamb strips being secured by suitable removable fasteners such as screws indicated at 19.

Also, I employ a removable head 20, best shown in Figures 2 and 3 which advantageously is Z-shaped in vertical section, the front portion being at a higher plane than the rear portion so that the lower sash when fully raised may extend above the top bar of the upper sash. Said head 20 is removably held by any suitable means, such as screws 21 (Figures 2 and 3), there being blocks 22 above the outer portion of said head between the same and the lowermost head board 12 of the fixed frame 10.

The numeral 23 indicates the lower sliding sash and 24, the upper sliding sash. The lower sash 23 includes at one side a hinged side bar section 23ª hingedly secured to the main side bar of the sash by any suitable hinge means 25, and similarly the upper sash 24 includes a side bar section 24ª secured to the adjacent main side bar of said

sash by a suitable hinge conection 26. The hinged side bar sections 23^a, 24^a of the respective sashes are guided in the opposite jambs of the window so that the sashes 23, 24 may swing in opposite directions, that is to say, the one toward the one window jamb and the other toward the other window jamb. Both sashes, however, swing inwardly that they may be swung into the room. In the example given for illustration, the hinged sash section 23^a is accommodated in a vertical guideway 27 formed between the outer edge of the adjacent inner jamb strip 17 and a vertical guide strip 28 appurtenant to the jamb assemblage and disposed at the outside of said hinged sash section 23^a. On the hinged section 23^a at the inside and outside faces thereof are vertically disposed angle pieces 29, 30, one flange of each of which is secured by screws 31 or equivalent fasteners while the other flanges have guided engagement in rabbets 32, 33 respectively in the inner jamb strip 17 and the opposite guide strip 28. A retaining stop 34 is secured by screws 35 or the like to the inner jamb strip 17 to overlap the rabbet 32 and the inner angle piece 29 of the hinged sash rail section 23^a to guidingly retain the latter. A vertical stop 36 is secured to the guide strip 28 to be disposed substantially in the plane of the outer sash 24 and to overlap the rabbet 33 and the angle piece 30 at the outer face of the inner hinged section 23^a, said stop 36 being suitably secured as by screws 37. The free edge of the outer sash 24 has a vertical groove or recess 38 which receives a guide strip 39 to hold the sash 24 against swinging movement on its hinge 26. The guide strip 39 is yieldably maintained in position engaging the free edge of sash 24 and said guide strip may be depressed out of engagement with the sash 24 to permit swinging of the latter as hereinafter further referred to. A stop 34^a similar to stop 34 is applied to the face of the outer jamb strip 16 to overlap the guide strip 39 which is rabbeted for the purpose as clearly seen in Figure 4.

The hinged sash section 24^a of the upper sash is retained and guided as follows: On said hinged section 24^a at the inner face thereof are vertically disposed angle pieces 40 secured by screws 41 or the like and on the outer face of said hinged sash section 24^a are vertically disposed angle pieces 42 secured by screws 43 or equivalent means. A flange of each angle piece 40 at right angles or approximately so to the inner face of hinged sash section 24^a is accommodated in a rabbet 44 in the removable jamb strip 18. Similarly, a flange of each angle piece 42 projecting at right angles to the outer face of hinged sash section 24^a is accomodated in a rabbet 45 in the adjacent outer jamb strip 16^a. To guidingly retain the angle pieces 40 a plate 46 is applied to the face of the adjacent jamb strip 18 to overlap said angle piece and the rabbet 44. In a similar manner an outer stop strip 47 is applied to the face of the adjacent outer jamb strip 16^a and secured by screws 48, said strip 47 overlapping the angle pieces 42 and rabbet 45. Thus, the angle pieces 40 and 42 on the hinged section 24^a correspond with the angle pieces 29 and 30 of the hinged sash section 23^a and are similarly retained and guided.

Sash balancing means and a frame therefor are provided on the back of one removable jamb (16, 17) for balancing the inner sash 23 by engagement with the hinged section 23^a thereof. Balancing means and supporting and guiding frame therefor are carried on the back of the opposite removable jamb (16^a, 18) for the outer sash 24 and engaging the hinged section 24^a thereof. Each frame at the back of the jambs comprises vertical spaced sides 49 disposed in the general plane of the window, that is to say, substantially at right angles to the jamb. Said sides 49 are united by a vertical frame member 50 slightly spaced from the back of the jamb. On the opposed surfaces of the sides 49 appurtenant to each jamb, the elements 51 are applied in pairs and spaced to provide opposed vertical guide grooves 52 which receive the reduced side edges or tongues 53 on vertical elongated balance weights 54. Said sash weights 54 have vertical racks 55 thereon each in mesh with a pinion 56 fixed on an axle 57 turning in bearings 58 on the frame member 50. Said frame member 50 is slotted as at 59 to receive the pinion 56. The pinions 56 at their diametrically opposite sides mesh with racks 60 on the respective sash sections 23^a, 24^a.

As previously mentioned the guide member 39 normally engaging in the vertical recess 38 in the free edge of the upper sash 24 is yieldable inwardly to release said sash for which purpose in the illustrated form of the invention horizontal pins 61 are provided, screwed or otherwise secured to the backs of the guide strip 39. On one or more of the pins 61 is coiled a spring 62, one end of the spring being fast to the pin and the other end exerting its pressure against a suitable abutment here shown as the inturned end 63 of a bracket 64 secured by a screw 65 to the adjacent side 49. It will be obvious that by depressing the guide strip 39 out of engagement with the free edge of the upper sash 24 said sash is free to be swung inwardly. The lower sash 23 is ordinarily held against swinging inwardly by an angle bracket 66 applied to the adjacent jamb strip 18 and detachably held by any suitable means such as a screw 67, it being understood that more than one of said brackets may be employed if desired. The

described frame members 49, 50 are secured in any suitable manner to the respective jamb strips 16, 16ª, 17, 18, the securing means advantageously in practice including angle brackets 68 through which screws 69 pass respectively into the adjacent sides 49 and into the adjacent removable jamb strips 16, 18.

With the bracket 66 removed and the strip 39 depressed both sashes are free to swing inwardly on their hinges 25, 26. The several retaining and guiding elements of the lower sash are carried by the jamb composed of removable strips 16, 17, as well as the sash-balancing means and the frame for the latter so that with the removal of the bracket 66 and the disegagement of the guide strip, 39, from sash 24, and the sashes swung on their hinges, the jamb composed of the strips 16, 17 may be removed and with it the several sash guiding and retaining members appurtenant to the lower sash, as well as the sash-balancing means and the frame of the latter. Similarly, the removal of the opposite removable jamb composed of the strips 16ª, 18 serves to remove at the same time the upper sash and with it the sash-guiding and retaining means as well as the balancing means for said upper sash and the framework for said balancing means. The construction at the same time permits of either sash being readily removed by removing one or more of the parts 34, 34ª, 46, 47 and 66.

If desired, a weather strip 70 may be applied to the sill (see Figure 2) in front of the lower sash.

I would state in conclusion that while the illustrated example constitutes a practical embodiment of my invention, I do not limit myself strictly to the mechanical details herein illustrated since manifestly the same can be considerably varied without departure from the spirit of the invention as defined in the appended claims.

Having thus described my invention, I claim:

1. In a window structure, a frame comprising a pair of parallel, vertical, spaced apart strips; a sash slidable in said frame; a counterbalance operatively connected to said sash, and vertically movable in said frame; and means for slidably receiving and guiding one side of said sash and the counterbalance therefor, comprising a pair of jamb forming strips, each member thereof connected to one of the parallel vertical strips and extending toward, but spaced apart from the other member of the pair to form a groove for slidably receiving a side of said sash, and means straddling the rear of said groove and connecting the respective jamb forming strips and maintaining the side of the sash and the counterbalance in parallel operative relation; the sash, the counterbalance and the means for slidably receiving the same being removable as a unit from the frame.

2. In a window structure, a frame comprising a pair of parallel, vertical, spaced apart strips at each side thereof; an inner and an outer swinging sash each including a pivoted side bar and vertically movable in said frame; a counterbalance operatively connected to each of said side bars and vertically movable in said frame; and means at each side of said frame for slidably receiving and guiding the respective side bar and counterweight, and comprising a pair of jamb forming strips, each member thereof secured to one of the adjacent parallel vertical strips and extending towards, but spaced apart from the other member of the pair to form a guide groove for slidably receiving the side bar of the respective sash, and means straddling the groove at the back thereof and connecting the jamb forming strips and maintaining the respective side bar and counterbalance in parallel operative relation, and means associated with each pair of jamb forming strips for guiding the adjacent side of the other sash and disengageable therefrom; each sash and its counterbalance and the means for slidably receiving and guiding the same being removable as a unit from the frame.

3. In a window, a frame including outer and inner vertically disposed strips, outer and inner jambs transversely and removably secured to the vertically disposed strips of the frame, said jambs extending toward each other and forming therebetween a groove, means straddling the rear of said groove connecting said jambs together, a sash sliding in said frame between said jambs, each of said jambs presenting a rabbet adjacent its inner end, guide means on both sides of the sash fitting in said rabbets, and a counterweight associated with said straddling means and connected to said sash; said jambs, said straddling means and said counterweight being removable as a unit from said frame.

4. A window including sliding sashes, separate inner and outer jamb strips, members projecting from the inner and outer faces of both sashes and having guided engagement with said jamb strips and removable retaining means on the jamb strips overlapping said members of the sashes to guidingly engage the same.

5. In a window, a fixed frame, jambs thereon, inner and outer overlapping sashes so disposed that one sash extends through one jamb and the other sash extends through the other jamb, sash-guiding strips on the face of one jamb and disposed at the inner and outer faces of the outer sash, the outer sash having a hinged side bar section disposed between said inner and outer strips on

which the main body of the sash may swing, sash-guiding strips on the opposite jamb at the inner and outer faces of the inner sash, the inner sash having a hinged side bar section disposed between said last-mentioned strips, and members on said hinged sections entering recessed portions at the inner ends of said jambs and coacting with said strips to slidably guide said sections.

6. In a window structure, a frame comprising a pair of parallel, vertical, spaced apart strips at each side thereof, an inner and outer swinging sash each including a pivoted side bar vertically movable in said frame, a counterbalance operatively connected to each of said side bars and vertically movable in said frame, means at each side of said frame for slidably receiving and guiding the respective side bar and counterweight, and comprising a pair of jamb forming strips, each member of which is secured to one of the adjacent parallel vertical strips and extending towards, but spaced apart from the other forming therebetween a guide groove for receiving the side bar of the respective sash, and means straddling the groove of the back thereof and connecting the jamb forming strips to maintain the respective side bar and counterbalance in parallel operative relation, means depressible within one of said jamb strips engaging the free edge of one of said sashes, and means on one of the opposite jambs to releasably retain the free edge of the other sash, each sash and its counterbalance and the means for guiding the same being removable from the frame as a unit.

DANIEL A. MacASKILL.