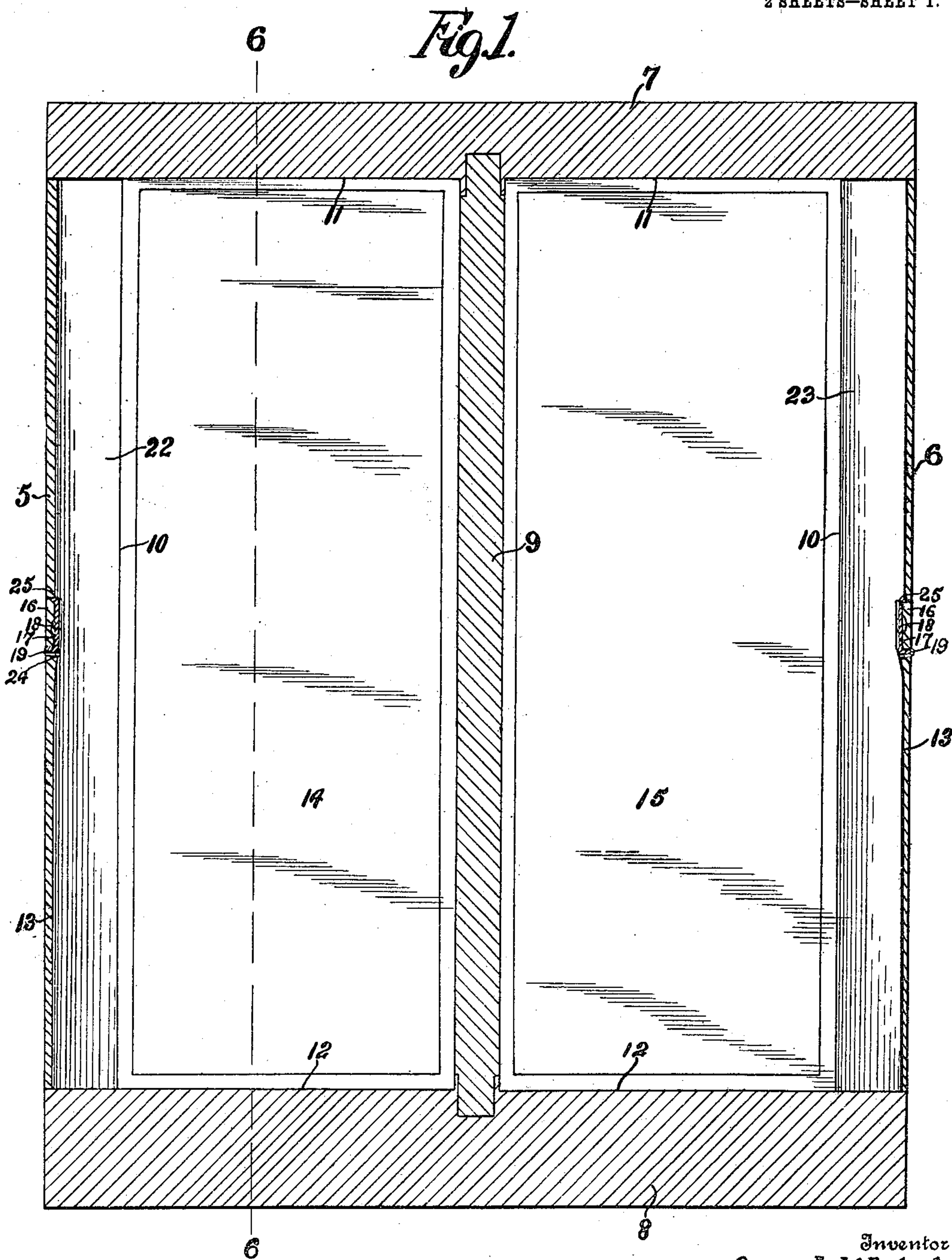


G. L. WHITEAKER.
WINDOW SASH.
APPLICATION FILED JULY 16, 1909.

961,919.

Patented June 21, 1910.

2 SHEETS—SHEET 1.



Inventor
George L. Whiteaker

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J. R. Woodworth
John A. Donaghy

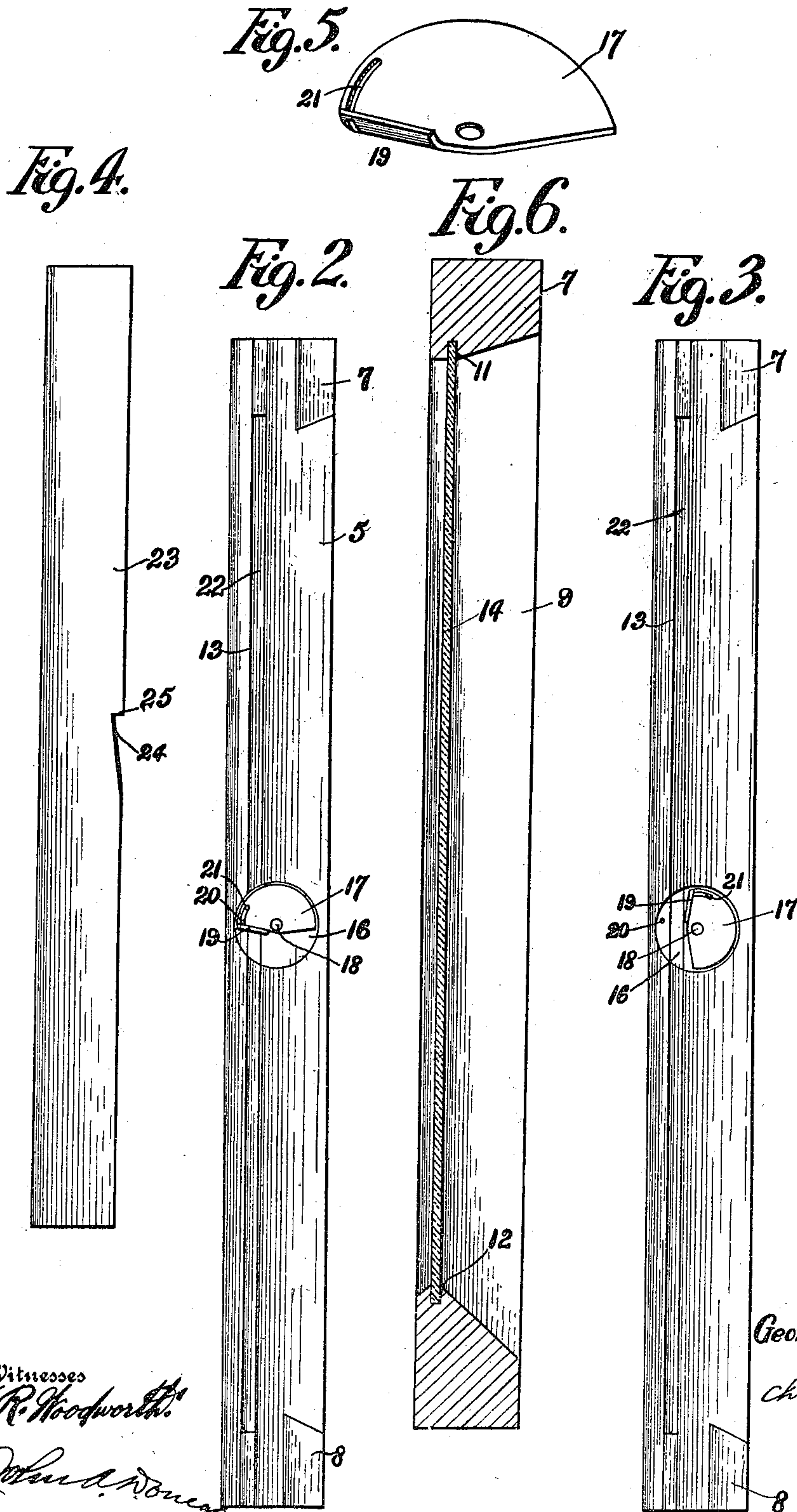
By *Charles C. Canale*
Attorney

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UNITED STATES PATENT OFFICE.

GEORGE L. WHITEAKER, OF STEUBEN, WISCONSIN.

WINDOW-SASH.

961,919.

Specification of Letters Patent. Patented June 21, 1910.

Application filed July 16, 1909. Serial No. 507,977.

To all whom it may concern:

Be it known that I, GEORGE L. WHITEAKER, a citizen of the United States, residing at Steuben, in the county of Crawford, State of Wisconsin, have invented certain new and useful Improvements in Window-Sashes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in window sashes and more particularly to the means for holding the panes thereof in place without the use of putty.

One object of the invention is the provision of a window sash provided with a recess in the side rails through which a pane may be inserted to enter the grooves in the side and end rails.

Another object is the provision of a packing strip adapted to be inserted in the recess and bear on the edge of the pane sufficiently tight to prevent the latter from excessive vibration.

A further object is the provision of an improved form of keeper for maintaining the packing strip in engagement with the pane.

With these and other objects in view as will more fully hereinafter appear, the present invention consists in certain novel details of construction and arrangement of parts, hereinafter fully described, illustrated in the accompanying drawings and more particularly pointed out in the appended claim; it being understood that various changes in the form, proportion, size and minor details of the device may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings forming part of the specification:—Figure 1 is a sectional plan view of a window sash provided with the device. Fig. 2 is a side elevation showing the keeper bearing on the packing strip. Fig. 3 is a similar view but showing the keeper disengaged from the packing strip. Fig. 4 is a detailed side elevation of the packing strip. Fig. 5 is a detailed perspective of the keeper. Fig. 6 is a longitudinal sectional view on the line 6—6 of Fig. 1.

Similar numerals of reference are employed to designate corresponding parts throughout.

The side rails are designated by the numerals 5 and 6 and at their opposite ends are connected by the end rails 7 and 8. The latter may be mortised or otherwise secured in the side rails 5 and 6. The center rail is designated by the numeral 9, and it may be here stated that the employment of the center rail is not absolutely necessary in order to carry out the idea of the present construction, since it can be readily seen, from what will appear later, how a pane corresponding to the area between the side and end rails might be equally as well secured without the aid of a center rail.

The inner face of each side rail is provided with a longitudinal groove 10 to aline with a similar groove formed in the center rail 9 when the latter is employed, and formed in the inner faces of the end rails 7 and 8 are grooves 11 and 12 arranged to cooperate with the grooves in the side and center rails to maintain the panes in position.

Formed in the outer face of the side rails is a longitudinal slot 13, which corresponds in length and width to the groove of the side rail and communicates with the latter as clearly shown in Fig. 1. The ends of the slots are in alinement with the floors of the grooves 11 and 12 formed in the end rails 7 and 8.

The panes are designated by the numerals 14 and 15 and are fitted in the frame upon opposite sides of the center rail by slipping them through the slots 13 and thence into the grooves.

By referring now to Figs. 2 and 3 it will be seen that each side rail is provided on its outer face and at its intermediate portion with a circular countersunk seat 16, which extends through the slot 13. Pivotaly mounted within the seat 16 is what will subsequently be termed a keeper, which is arranged to span the slot 13 when turned in one direction. The keeper is preferably formed of a single piece of sheet metal and in outline corresponds to a semi-circle, or substantially so. The keeper is designated by the numeral 17 and adjacent to the central portion of its straight side is provided with an orifice for the reception of a pivot bolt 18. The thickness of the keeper is considerably less than the depth of the countersunk portion or seat 16 and is provided on its straight side with a lateral extension or lug 19 which extends outwardly to a point substantially in a plane with the

outer face of the side rail. An arcuate slot or opening is formed in the body of the keeper adjacent to its periphery and extends through the lower half of the lug 19, and
5 secured in the depression or seat and on that side of the slot opposite to the keeper is a pin 20. The pin 20 is arranged in the path of movement of the keeper and projects outwardly sufficiently far to enter the recess
10 21 of the latter so that when the keeper is turned sufficiently far to bring the inner end of the slot in engagement with the pin, the latter will form a positive stop for the keeper.

15 In order to insure a tight fit of the pane in the grooves of the sash packing strips 22 and 23 are employed. Each of these members is preferably formed of a single piece of wood, the length of which corresponds to the length of the slot 13 and is of
20 sufficient width when the panes are in position as shown in the drawings to extend from the outer longitudinal edge of each pane to nearly the outer face of the side
25 rail. Formed in the outer edge of each of the packing strips is a notch 24. The notch 24 is positioned in alinement with the depression or seat 16 and inclines inwardly from one end, its opposite end 25 being
30 formed with an oblique face which coincides with the curve of the seat 16.

In the position of the parts, and after the panes have been inserted, as before described, the packing strips are inserted in
35 the slots with their oblique ends disposed

adjacent to that side of the keepers on which the lugs are formed. When the parts are so positioned the keepers are then turned until the pins enter the recesses 20. It will be observed that during this movement of
40 each keeper its lower flat face will bear on the lower inclined floor of the notch 24 and tend to force the strip into closer engagement with the pane, thus insuring a tight
45 fit of the panes whereby excessive vibration of the latter will be prevented.

From the foregoing it can be seen that I have provided a device which is comparatively simple in structure and inexpensive
50 to manufacture, embodying few parts and these so arranged that the danger of derangement will be reduced to a minimum.

Having thus described my invention what is claimed as new, is:—

A window frame embodying top, bottom
55 and side rails having grooves to receive a window pane, one side rail having a slot to permit the insertion of a window pane into said grooves, a filling strip in said slot having a cam surface, and a keeper pivoted
60 upon said side rail and turnable into engagement with the cam surface of the filling strip to hold the filling strip against the window pane.

In testimony whereof, I affix my signature, in presence of two witnesses.

GEORGE L. WHITEAKER.

Witnesses:

ALICE SHIELDS,

JENA L. HURLBUT.