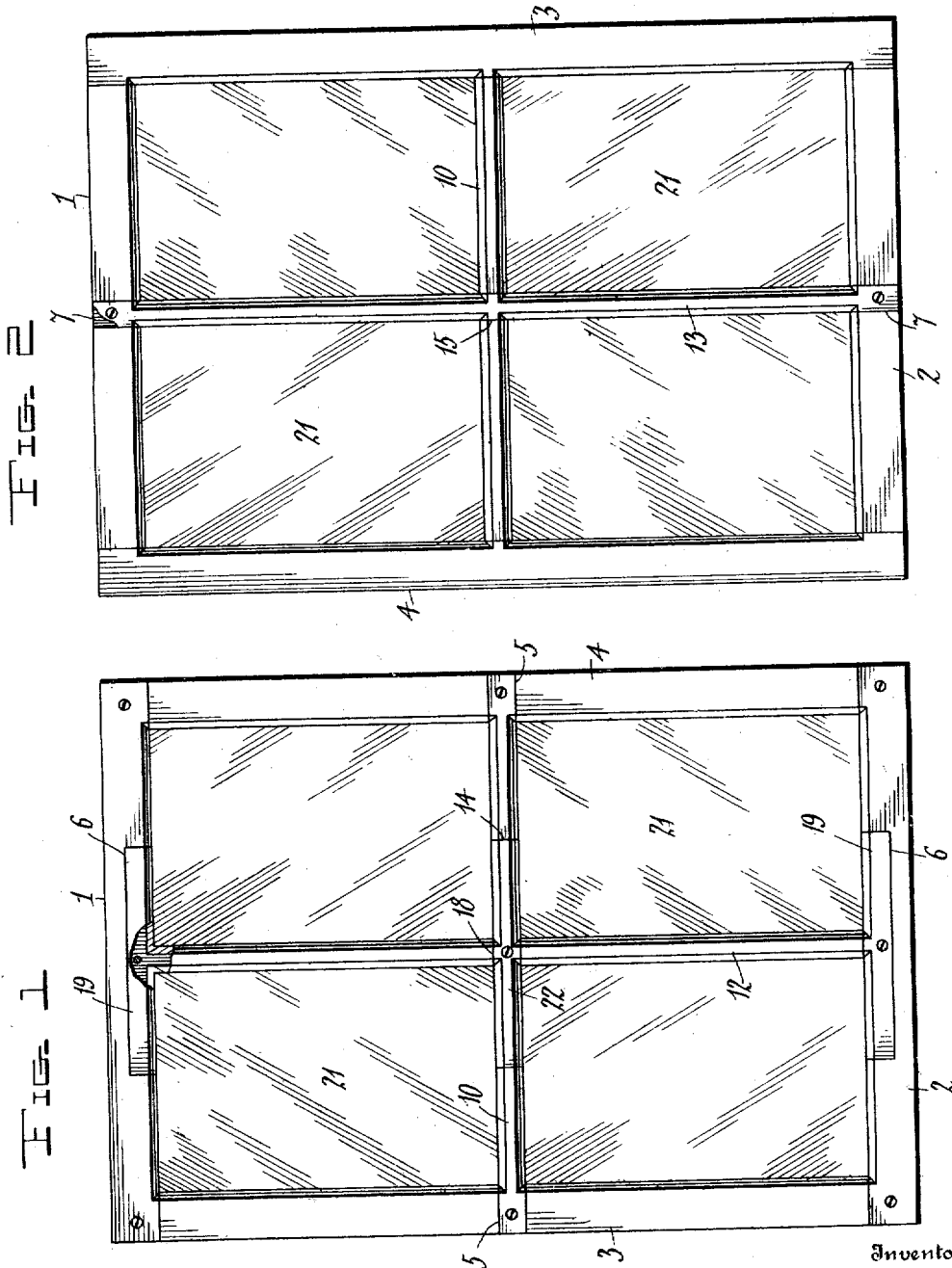


W. P. PERKINS.
WINDOW SASH.
APPLICATION FILED MAR. 9, 1909.

Patented Apr. 5, 1910.
2 SHEETS—SHEET 1.

954,003.



Inventor

Wallace P. Perkins

Witnesses

W. Perkins
J. C. McCarty

384 *[Signature]*

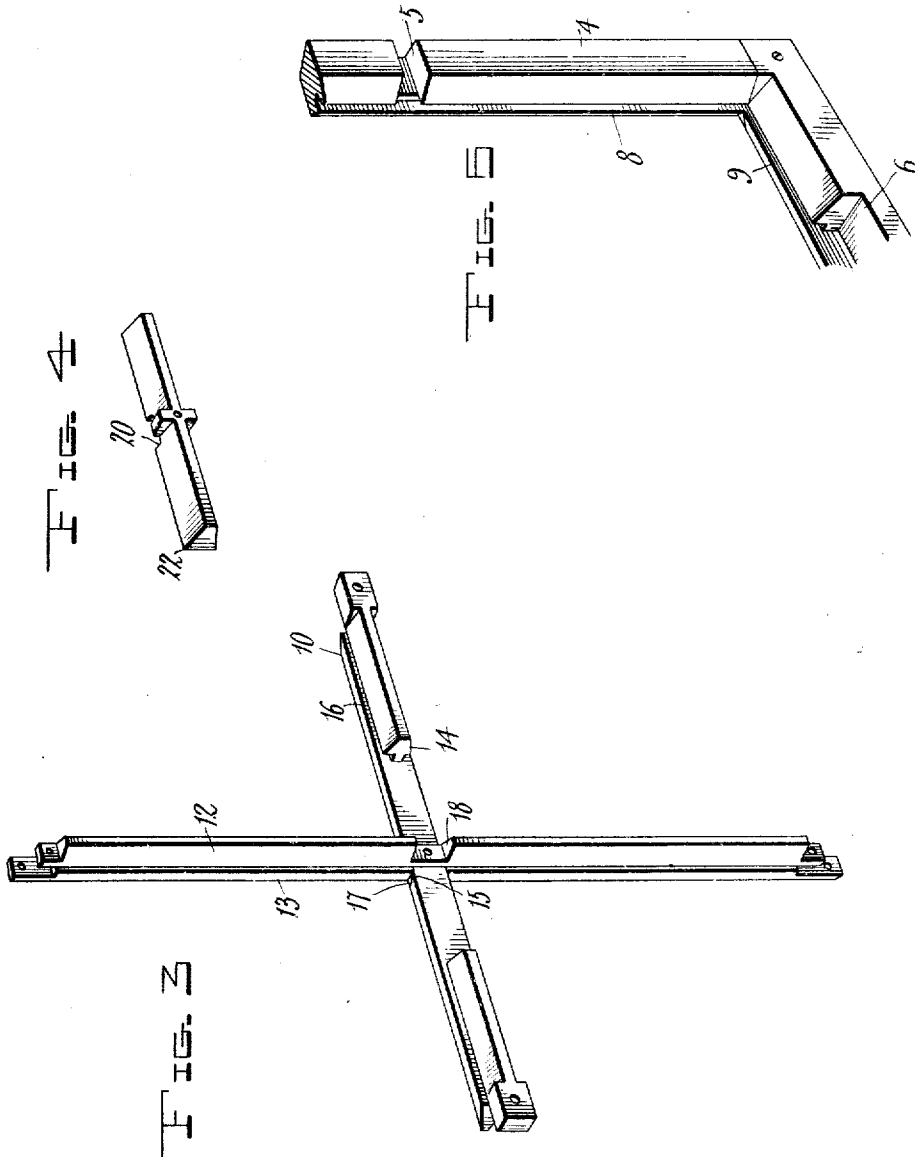
Attorneys

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UNITED STATES PATENT OFFICE.

WALLACE P. PERKINS, OF WILLIS, TEXAS.

WINDOW-SASH.

954,003.

Specification of Letters Patent.

Patented Apr. 5, 1910.

Application filed March 9, 1909. Serial No. 482,279.

To all whom it may concern:

Be it known that I, WALLACE P. PERKINS, a citizen of the United States, residing at Willis, in the county of Montgomery, State of Texas, 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.

The present invention relates to improvements in window sashes, and it has for its principal object the production of an extremely simple and inexpensive device of that nature in which the panes of glass may be readily positioned and held in place without necessitating the use of putty, and may be removed therefrom with equal readiness when broken. To this end, the top, bottom, and outer side edges of the panes are arranged to fit in longitudinal grooves formed in the inner side faces of the main sash rails, and in similar grooves formed in the side faces of one of the two cross rails with which the sash is provided, the tenoned ends of the latter rails fitting in mortises formed in the main rails and in a pair of fastening plates employed, the plates themselves fitting in seats formed in the main rails, the cross-rails and fastening plates being detachably fastened to each other and to the main rails, so as to permit the panes to be inserted in place and subsequently removed when necessary.

It is in the particular construction of the cross-rails above referred to that the invention chiefly resides.

The preferred embodiment of the invention is illustrated in the accompanying drawings, in which corresponding parts are designated by the same reference characters throughout the several views, wherein,

Figure 1 is a front elevation of the improved sash. Fig. 2 is a rear elevation thereof. Fig. 3 is a perspective view of the two cross-rails in superposed position, illustrating the two members of the vertical rail. Fig. 4 is a perspective view of one of the fastening plates. Fig. 5 is a fragmental perspective view of one of the corners of the sash, illustrating the grooves formed in the inner side faces of the main sash rails.

In Figs. 1 and 2, the tenoned ends of the

cross-rails are partly broken away, to illustrate the seats and mortises formed in the main rails.

Referring more particularly to the drawings, 1 and 2 designate, respectively, the top and bottom main rails of the sash, and 3 and 4 the left and right hand side rails, the various rails having their mutually adjacent ends fastened together in any preferred manner.

The main side rails have the front faces thereof provided with centrally located transverse mortises 5, while the top and bottom or end rails have longitudinal seats 6 formed in their front faces, and centrally located mortises 7 formed in their rear faces. The seats above referred to open throughout their entire length through the inner side faces of the rails in which they are formed and terminate at their ends short of the adjacent side rail. The mortises 7 are likewise formed transversely of the end rails.

The inner side edges of the side rails 3 and 4 are formed with longitudinal glass-receiving grooves 8, which extend from end to end thereof and intersect the mortises 5, as shown in Fig. 5. In like manner the corresponding edges of the two end rails are formed with similar grooves 9 which, intermediate their ends, intersect the seats 6, and at their ends intersect those of the first-mentioned grooves. These two pairs of grooves occupy a common plane.

The two side rails are connected by a single solid cross rail 10 arranged horizontally of the sash, while the two end rails are in turn connected by a vertical cross rail comprising front and rear juxtaposed members 12 and 13, which intersect the first-named cross rail at right angles. The horizontal cross rail 10 has the central portion of its front face cut away to form a longitudinal seat 14, whose dimensions are the same as those of the above mentioned seats 6, while in the rear face of this rail there is formed a mortise 15 which aligns with the mortises 7. The side faces of the rail in question are formed with longitudinal grooves 16 which, when said rail is positioned, as hereinafter described, intersect the grooves 8 formed in the side rails and occupy a common plane therewith and with the grooves 9. The tenoned ends of the rail 10 are arranged to fit in the mortises 5. The

rear member 13 of the vertical cross rail has its tenoned ends arranged to fit in the mortises 7, the inner face of this rail member being provided with a centrally located transverse mortise 17 which aligns with the mortises 5. The ends of the front member 12 of said cross rail are likewise tenoned and are arranged to project into the two seats 6. This rail member is also provided with a centrally located transverse mortise 18 which likewise aligns with the mortises 5 and is thus disposed directly in front of the mortise 17.

The two seats 6 are arranged to receive the fastening plates 19. Each of these plates is provided with a transverse mortise in which the adjacent tenoned end of the cross rail member 12 is arranged to fit.

In assembling the parts of the sash, the main rails are connected together at their ends in the ordinary manner, whereafter the rear member 13 of the vertical cross rail is arranged in place, with its tenoned ends fitting in the mortises 7, screws or other preferred fastening devices being subsequently employed for retaining said ends in place, as shown in Fig. 2. When this has been done, the horizontal cross rail 10 is then arranged in place with its tenoned ends fitting in the mortises 5, the mortised portion 15 of said rail being engaged with the similar portion 17 of the member 13. The sash is then in condition for receiving the panes of glass 21, four of which are employed, as will be apparent.

The panes employed have a length approximately equal to the distance between the bottom walls of the adjacent grooves 9 and 16, and therefore can be placed upon either the upper or the lower portion of the rail member 13 and moved toward either main side rail, so as to cause their top and bottom edges to enter said grooves, the movement of the pane being continued until those side edges thereof which are adjacent the side rails are received in the grooves 8, the bottom walls of the seats 6 and 14 cooperating with the rail member 13 in forming a support for the panes during the positioning of the latter. When all four panes have been arranged in place in the above mentioned manner, the front member 12 is engaged with the two fastening plates 19 by fitting its tenoned ends in corresponding mortises in the plates, and said rail member and plates then positioned, the two plates fitting in the seat 6. The assembling of the parts of the sash is completed by fitting a third fastening plate 22 in the seat 14 in the horizontal cross rails, this last mentioned plate having a central mortised portion 20 which is arranged for engagement with the mortised portion 18 of the front member 12 of the vertical cross rail. The several fastening plates are held against accidental dis-

placement by screws or similar devices which are passed through the mortised portions thereof and of the cross rails, as shown in Fig. 2.

From the foregoing, it will be apparent that the panes of glass may be readily and quickly positioned in the sash, and removed therefrom with equal readiness when broken. When in place, the panes are prevented from rattling by means of the fastening plates and the front member of the vertical cross rail, it being possible to tighten these members against the panes to the desired extent by means of the screws or other devices employed. Furthermore, this position of the edges of the panes in the grooves will effectively prevent the passage of air around said edges.

The sash can obviously be made in various sizes and can be constructed of any preferred material.

What is claimed is:

1. In a window sash, the combination of connected pairs of main, side and end rails having longitudinal glass receiving grooves formed in their inner side faces; and intersecting cross rails having their ends detachably connected with the main rails, one of the cross rails having its central portion cut away and its side faces formed with longitudinal glass receiving grooves for cooperation with the first named grooves, whereby the panes may be inserted centrally of the sash in a plane with the glass receiving grooves and moved outwardly into correct position.

2. In a window sash, the combination of connecting pairs of main, side and end rails having longitudinal glass receiving grooves formed in their inner side faces and intersecting cross rails, one of which has its side face formed with longitudinal glass receiving grooves for cooperation with the first named grooves, said intersecting cross rails having a portion cut away so that panes may be inserted centrally of the sash in the plane with the glass receiving grooves and moved outwardly into correct position in said grooves.

3. In a window-sash, the combination of connected pairs of main side and end rails having longitudinal glass-receiving grooves formed in their inner side edges, one of said pairs having mortises formed in the front faces of the members thereof, and the other pair having the front faces of its members formed with seats and the rear faces with mortises; a pair of intersecting cross-rails, one of which comprises a pair of superposed members, one of said members having its ends disposed in the seats formed in the second named pair of main rails and the other member having its ends disposed in the mortises in said second named pair, the other cross-rail having its ends disposed in the

mortises formed in the first-named pair of main rails and its side faces formed with longitudinal glass-receiving grooves designed for coöperation with the first-named
5 grooves; and fastening plates fitted in said seats and having the ends of the first named cross-rail member engaged therewith.

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

WALLACE P. PERKINS.

Witnesses:

LIZZIE THOMASEN,
VICTORA CULPEPER.