J. V. EDWARDS.

WINDOW SASH.

APPLICATION FILED AUG. 10, 1909.

962,501.

Patented June 28, 1910.

2 SHEETS—SHEET 1.

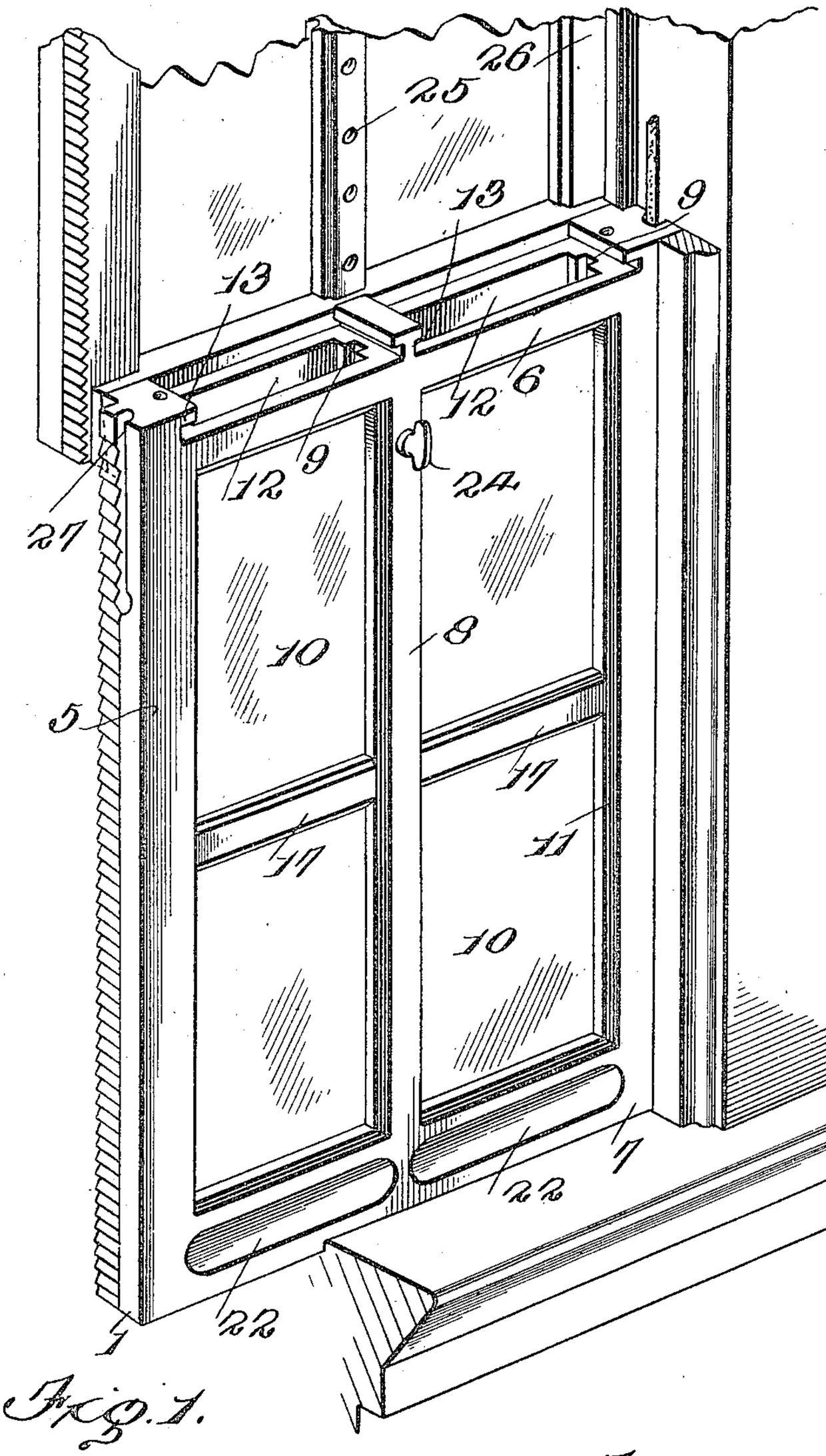

Fig. 1.

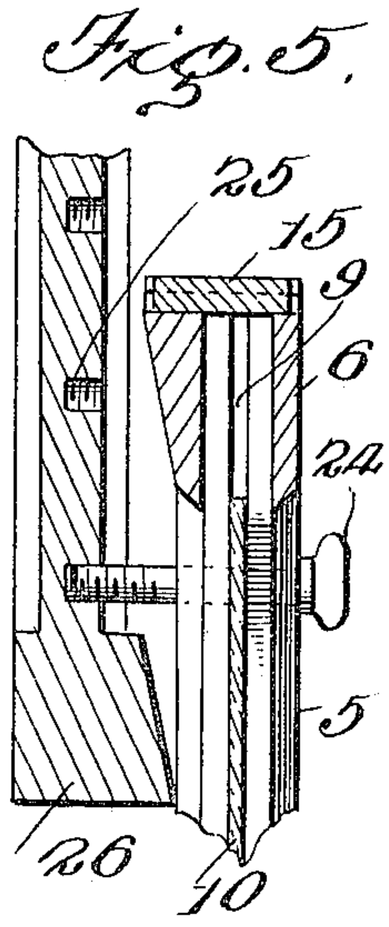

Fig. 5.

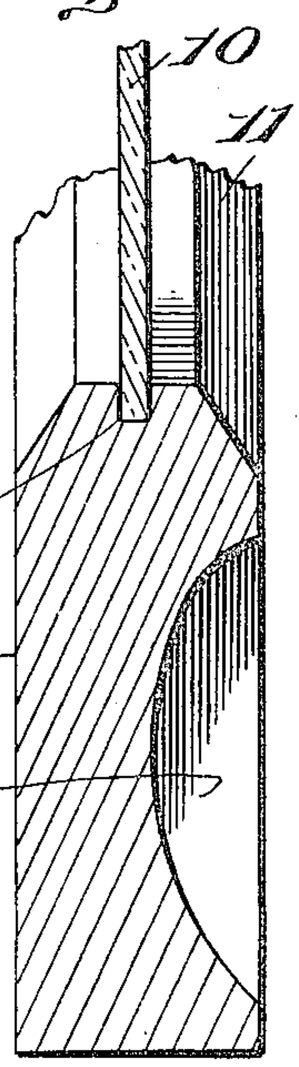

Fig. 4.

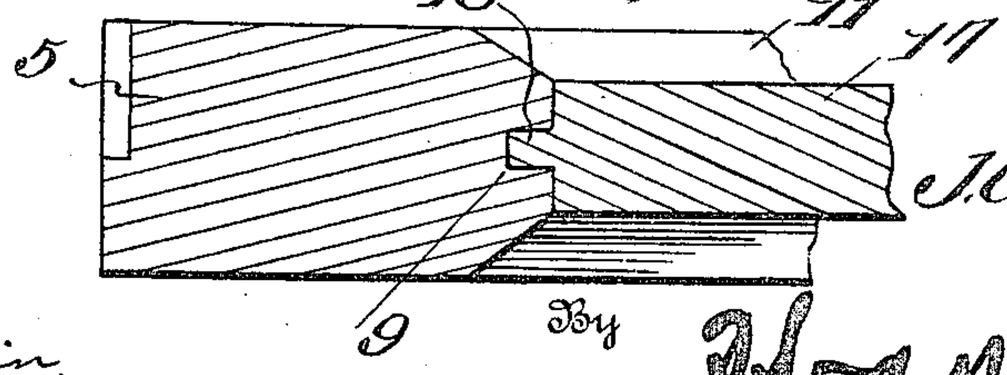

Fig. 3.

Witnesses

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2 SHEETS—SHEET 2.

Fig. 2.

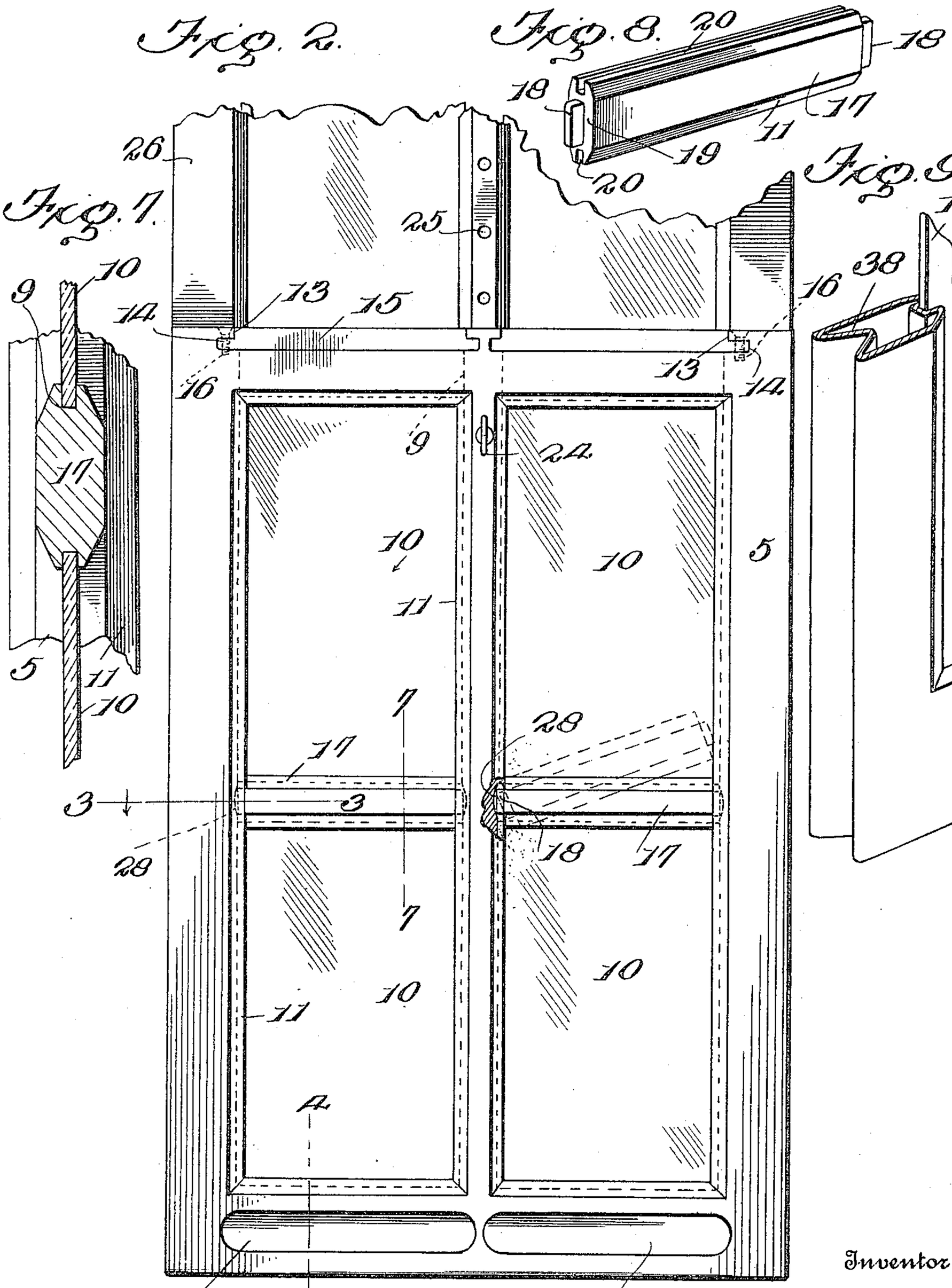

Fig. 8.

Fig. 9.

Fig. 6.

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UNITED STATES PATENT OFFICE.

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WINDOW-SASH.

962,501. Specification of Letters Patent. Patented June 28, 1910.

Application filed August 10, 1909. Serial No. 512,149.

To all whom it may concern:

Be it known that I, JESSIE V. EDWARDS, citizen of the United States, residing at Clifton, in the county of Bosque and State of Texas, have invented certain new and useful Improvements in Window-Sashes, of which the following is a specification.

This invention relates to window sashes and has for its object to provide a strong, durable and thoroughly efficient device of this character, the construction of which is such that broken panes of glass may be readily removed from the sash and new ones inserted and secured in position therein without the employment of putty, glaziers' points and similar fastening devices.

A further object of the invention is to provide a window sash, the vertical stiles and central division bars of which are provided with seating grooves for the reception of the panes of glass, there being an opening formed in the top rail of the sash to permit the insertion and removal of said panes of glass.

A further object is to form the transverse division bars of the sash with oppositely disposed lugs adapted to enter the guiding grooves in the stiles and central partition bar respectively, said transverse division bars being formed with grooves for the reception of the edges of the adjacent panes of glass, thus to maintain said panes of glass in proper spaced relation.

A still further object is generally to improve this class of devices so as to increase their utility, durability and efficiency, and reduce the cost of manufacture.

For a full understanding of the invention reference is to be had to the following description and accompanying drawings, in which:—

Figure 1 is a perspective view of a window sash constructed in accordance with my invention, a portion of the frame and bar being broken, and the upper fastening strips removed in order to more clearly show the construction of the sash. Fig. 2 is a plan view of the same. Fig. 3 is a transverse sectional view on the line 3—3 of Fig. 2. Fig. 4 is a vertical sectional view taken on the line 4—4 of Fig. 2. Fig. 5 is a detailed vertical sectional view showing the manner of locking the upper and lower sashes in adjusted position. Fig. 6 is a detailed perspective view of one of the fastening strips detached. Fig. 7 is a detailed vertical section taken on the line 7—7 of Fig. 2. Fig. 8 is a detailed perspective view of one of the transverse partition bars detached. Fig. 9 is a detailed perspective view of the lower portion of the sash illustrating a modified form of the invention.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The improved window sash forming the subject-matter of the present invention may be constructed of wood, metal, or other suitable material, but it is preferably formed of aluminum, in order to render the same as light as possible, and thus permit the sash to be readily moved to raised and lowered positions without undue exertion on the part of the operator. The sash comprises spaced vertical stiles 5 connected by upper and lower rails 6 and 7, said sash being provided with a centrally disposed vertical partition or bar 8, preferably extending the entire height of the sash and intersecting the upper and lower rails thereof, as shown.

Formed in the inner faces of the vertical stiles 5 and partition bar 8 are vertically disposed seating grooves 9 adapted to receive the panes of glass indicated at 10. The grooves 9 extend the entire height of the sash while the outer edges of the stiles 5 and bar 8 are preferably inclined or beveled at 11 in order to impart a neat ornamental appearance to the sash.

Formed in the upper rail 6 of the sash are spaced vertically disposed slots 12 which communicate with the adjacent seating grooves 9 and through which the panes of glass are introduced within or removed from the sash. The end walls of the slots 12 are undercut to form overhanging lips 13 adapted to receive correspondingly shaped lips 14 on fastening strips 15. The fastening strips 15 are adapted to form closures for the openings 12 in the upper rail 6, said strips being secured in position on the rail by screws or similar fastening devices 16, which latter extend through registering openings in the lips 13 and 14 of said strips, as shown.

Slidably mounted in the seating grooves 9 of the strips 5 and central bar 8 are transverse division bars 17, the latter being also preferably formed of aluminum and having their opposite ends reduced to form guiding lugs 18 adapted to enter the adjacent grooves 9. The opposite ends of the transverse bars

17 at the grooves 9 are provided with square shoulders 19 adapted to bear against the inner faces of the stiles 9 and central bar 8 respectively, thus to assist in preventing accidental displacement of the transverse division bars 17 when the latter are positioned in the sash. Thus it will be seen that should one of the panes of glass in the upper portion of the sash become broken or cracked, the same may be readily removed by releasing the fastening devices or screws 16 and detaching the fastening strips 15, thus exposing the adjacent slot 12 and allowing the glass to be withdrawn from the sash through said slot. In order to remove a broken pane of glass in the lower portion of the sash, it is merely necessary to first withdraw the upper pane of glass and then slide the adjacent transverse bar 17 through the opening 12 in the upper rail 6, after which a new pane of glass is inserted in the seating grooves 9 and lowered into position. After the glass has been placed in position in the lower portion of the sash the transverse bar 17 is introduced through the opening 12 in the top rail 6 and lowered until it comes in contact with the lower pane of glass, the upper pane of glass being subsequently introduced through the opening 12 and held in position by means of the fastening strip 15, as before described.

It will here be noted that the upper and lower longitudinal edges of the transverse bars 17 are formed with seating grooves 20 adapted to receive the adjacent transverse edges of the upper and lower panes of glass, there being similar seating grooves 21 formed in the lower rail 7 to assist in anchoring the lower ends of the panes of glass.

It will of course be understood that the fastening strips 15 may be formed in sections, or extending entirely across the top rail 6, if desired, according to the style of window sash upon which the device is used. It will also be understood that when more than four panes of glass are used in the sash, each transverse partition bar will be provided with seating grooves for the reception of the adjacent panes of glass, and also provided with terminal lugs adapted to enter the guiding grooves in the sash.

The lower rail 7 is preferably formed with spaced depressions 22 so that the operator may conveniently grasp the sash when raising and lowering the same. The upper portion of the central division bar 8 is provided with a threaded opening for the reception of a clamping screw 24, the terminal of which is adapted to enter one end of a series of openings or sockets 25 formed in the central rail 8 of the mating sash 26 for the purpose of holding the sash in any desired position when adjusted. The outer faces of the stiles 5 are preferably formed with grooves 27 for the reception of sash cords, the grooves 27 also serving to lighten the sash. The transverse bars 17 may be removed from the sash through the slots 12 or by tilting one end of the bar upwardly, as indicated by dotted lines in Fig. 2 of the drawing, the grooves 9 being provided with curved walls of depressions 28 at said bars to facilitate the removal of the same.

In Fig. 9 is illustrated a modified form of the invention in which the window sash is shown constructed of sheet metal stamped into the proper form, the outer edges of the vertical sills being pressed inwardly to form recesses or depressions 38 for the reception of the sash cords.

Having thus described the invention what is claimed as new is:—

1. A window sash including spaced stiles having a seating groove formed therein and extending the entire height of the window sash, a top rail connecting the stiles and having a slot formed therein and registering with the seating grooves, said slot opening through the top and opposite side faces of the top rail and having its end walls undercut, a transverse division bar slidably mounted in said seating grooves, and a strip forming a closure for the slot in the top rail and provided with terminal lips adapted to engage the undercut walls of the slot.

2. A window sash including spaced vertical stiles having seating grooves formed therein and connected by top and bottom rails, one of which is provided with a slot communicating with said seating grooves, and opening through the top and opposite sides of the top rail, said slot having its end walls undercut, a vertically disposed division bar having corresponding seating grooves formed therein, transverse division bars slidably mounted in the sash and provided with oppositely disposed lugs engaging the seating grooves of the vertical division bar and stiles, respectively, and a strip forming a closure for the slot of the top rail of the sash and provided with terminal lips adapted to engage the undercut walls of the slot.

3. A window sash including spaced vertical stiles having seating grooves formed therein and connected by upper and lower rails, one of which is provided with spaced slots opening through the top and opposite side faces thereof and communicating with the seating grooves, said slots having their end walls undercut, a centrally disposed division bar having corresponding seating grooves formed therein, transverse division bars having oppositely disposed lugs slidably mounted in the seating grooves of the central division bar and vertical stiles respectively, and fastening strips having terminal lips engaging the undercut walls of the slots and forming closures for said slots in said top rail.

4. A window sash including spaced vertical stiles having seating grooves formed therein and connected by top and bottom rails, one of which is provided with a slot opening through the top and opposite side faces of the top rail and communicating with the adjacent seating grooves, the opposite end walls of the slots being undercut, a fastening strip having terminal lips adapted to engage the undercut walls of the slot and fastening devices extending through said lips and undercut walls of the slot for locking the strip in position on the top rail.

5. A window sash including spaced vertical stiles having seating grooves formed therein and connected by upper and lower transverse rails also provided with seating grooves, a longitudinal grooved central partition bar connecting the upper and lower rails, transverse division bars slidably mounted in the sash and having oppositely disposed guiding lugs adapted to engage the grooves in the central partition bar and vertical stiles respectively, said transverse partition bars having their opposite longitudinal edges provided with seating grooves, there being segmental depressions formed in the stiles and central partition, respectively, at the transverse bars.

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

JESSIE V. EDWARDS. [L. S.]

Witnesses:
J. M. BROOKS,
I. A. HOLLINGSWORTH.