Dec. 18, 1928. 1,695,903

F. McM. SAWYER

WINDOW CONSTRUCTION

Filed Nov. 8, 1924

Fig. 1.

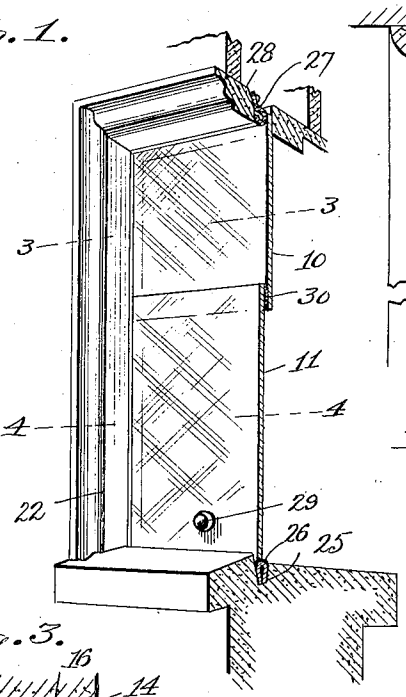


Fig. 2.

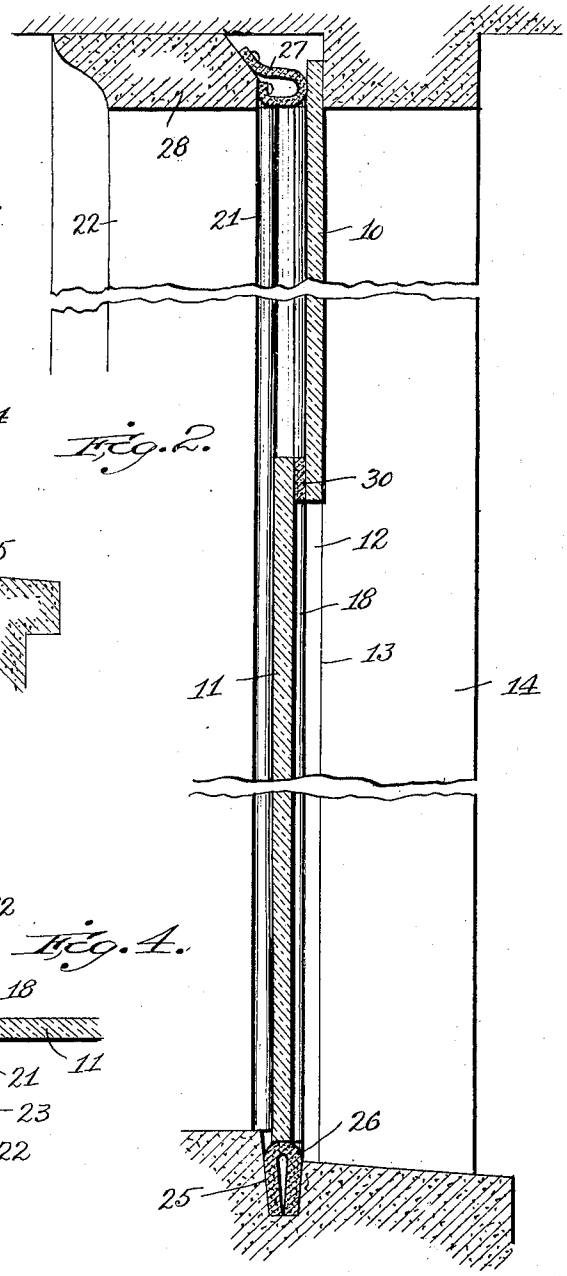


Fig. 3.

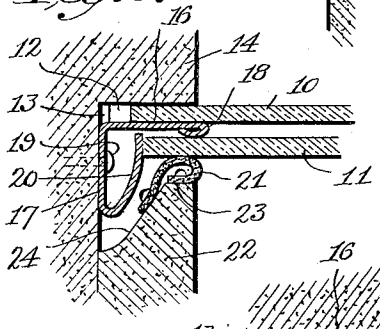
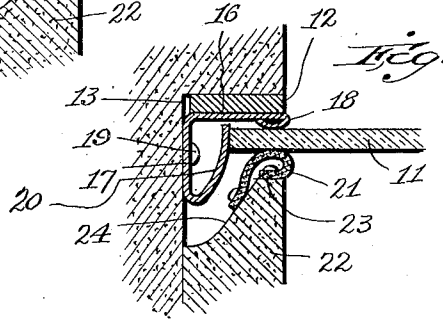


Fig. 4.



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UNITED STATES PATENT OFFICE.

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WINDOW CONSTRUCTION.

Application filed November 8, 1924. Serial No. 748,665.

This invention relates to improvements in fireproof windows especially adapted for concrete or sheet-metal framing and has for its objects to provide a simple and efficient construction wherein the window will move freely to an up or down position and be frictionally held in any desired position.

These and other objects hereinafter set forth are attained by the means illustrated in the accompanying drawing, in which:

Figure 1 is a perspective view of a portion of the improved window.

Figure 2 is a vertical sectional view of the same.

Figure 3 is a transverse sectional view taken on the line 3—3 of Figure 1; and

Figure 4 is a view similar to Figure 3 taken on the line 4—4 of Figure 1.

Similar reference numerals in all of the figures of the drawing designate like parts.

Referring to the drawing, it will be seen that the improved window comprises an upper pane 10, and a lower pane 11, the upper pane being preferably fixed in position in any suitable manner and having its lower edge supported upon a filling strip 12, inserted in a recess 13 formed in the sides of the window frame 14, which is preferably constructed of concrete and precast prior to its mounting within the walls of the building.

The lower pane 11 is mounted to slide freely up and down to various positions, and its vertical edges engage the free ends of spring-guide members secured in position within the recesses 13 at both sides of the window and extending approximately the full length of the window and preferably constructed of spring-brass material. Each of the spring-guide members is constructed of sheet-metal and is bent to form legs 16 and 17 arranged at right-angles with respect to each other, the guiding legs 16 extending parallel with the panes, and has its free end bent back upon itself to form a rib or spacing guide 18 extending the full length of the guide and adapted to lie between the upper and lower panes to space them apart from each other. Attaching leg 17 is adapted to be fixed to the side wall of the frame by suitable fastening means 19, and its free end is bent backwardly and spaced from the main portion of the leg to form a spring-tongue 20 adapted to frictionally engage the adjacent vertical edge of the lower pane.

Pane 11 is also frictionally held in place against the spring-guides 18 by suitable pads 21, (preferably formed of felt), secured to the rear faces of the window-frame stops 22, each stop preferably having its rear face formed with a portion 23 adapted to lie approximately parallel to the panes and a remaining portion 24 inclined from said parallel portion 23 to provide a widened space forming part of the recess 13 and into which is adapted to extend the leg 17 of the spring-guide. The felt pads 21 have one end secured to said parallel portions of the stops 22, and are bent backwardly over said secured ends on the parallel portions, and then each has its other end secured to the said inclined portion of the stop.

Stops 22 are preferably formed of concrete and precast before assembly, as is the frames or jambs heretofore described.

In the sill of the window, also preferably formed of concrete, is formed a groove 25 in which is located a sill-pad 26 of felt, against and upon which the lower edge of the lower pane 11 contacts and rests when said lower pane is down or in its closed position, and at the top of the window is arranged a pad 27 fixed to a horizontal stop member 28 and adapted to extend across the path of the lower pane and engage the front face of the upper pane adjacent to its upper edge. It is understood that the vertical removable stops 22 and the horizontal stop 28 can be cast together as a unit, or separately, as desired.

Lower pane 11 is preferably provided with a knob or knobs 29 adjacent to its lower edge with which the pane can be raised or lowered as desired. These knobs can be secured to the glass in any suitable manner, preferably by cement.

To assemble the parts of the window, the upper pane is first fixed in position upon the filler strips 12, then the spring-guides are placed and fixed in position with their guiding legs 16 bearing flat against the surface of upper pane, and pressing it against abutment formed by the recess in the window-frame; next the lower pane is positioned with its lower edge resting on the pad 26 and its upper edge overlapping the lower edge of the upper pane, and its vertical edges engaging the spring-tongues 20 of the spring-guide; and finally the stops 22 and 28, having the pads secured thereto, are fixed in position, with the pads engaging against the

panes, the side pads 21 bearing against the lower pane with a proper tension to hold the pane securely and still permit a free up and down movement. The spring-guides retain the lower pane in alinement and adds sufficient friction to hold the pane stationary at any raised position desired.

Where the edges of the upper and lower panes overlap, or at their meeting edges, a felt rubbing strip 30 is interposed, the same being preferably cemented to the face of the upper pane adjacent its lower edge and of a thickness necessary to rub against the lower pane, thereby making a weather-proof joint at this point.

From the above description, it will be observed that wooden sashes and attendant hardware are eliminated, thereby making a perfectly practical fire-proof window, and constructing the spring-guide to bear against the full length of the lower pane at its edges and providing a cushion in the window-sill, all danger of breakage by contraction or jarring is eliminated.

These windows are especially adapted for use in fire-proof constructions having precast jambs and window-stops, and more especially in all windows of standard narrow designs where an overweight of the glass will not be an objection.

As illustrated herewith, the upper pane is shown of less length than the lower pane, and the upward movement of the lower pane is limited by the upper pad 27, but it is understood, that if desired, the upper edge of the lower pane can be made to slide into a pocket at the top side of the window.

If necessary, especially where a heavy sliding pane is used, window locks can be used at the sides thereof to hold the same in adjusted positions.

The special formation shown of the spring-guides is essential, in that the spring-tongue is unhampered, and its angular shape and folded front edge make the remaining part substantially rigid.

Having fully described the invention, what is claimed, is:

1. In a window construction for concrete structures, an upper sashless pane fixed in position against movement, a lower sashless pane which extends into recesses at the sides of the window frame, a guide at each side of the window extending continuously the full height thereof and provided with a leg adapted to engage one face of the upper pane and press it against an abutment of the precast frame and said leg being also provided with a spring-tongue adapted to engage the full length of the adjacent vertical edge of the lower pane at all times, and precast side stops having flexible pads for engaging the face of the lower pane adjacent its vertical edges to retain the same in position.

2. In a window construction for concrete structures, an upper sashless pane fixed in position against movement, a lower sashless pane which extends into recesses at the sides of the window frame, a guide at each side of the window extending continuously the full height thereof and provided with a leg adapted to engage one face of the upper pane and press it against an abutment of the precast frame and having a turned-back free edge to form a rigid spacing-guide for the lower frame, and said leg being also provided with a spring-tongue adapted to engage the full length of the adjacent vertical edge of the lower pane at all times, and precast side stops having flexible pads for engaging the face of the lower pane adjacent its vertical edges to retain the same in position.

In testimony whereof I affix my signature.

FRANK McMURRAY SAWYER.