

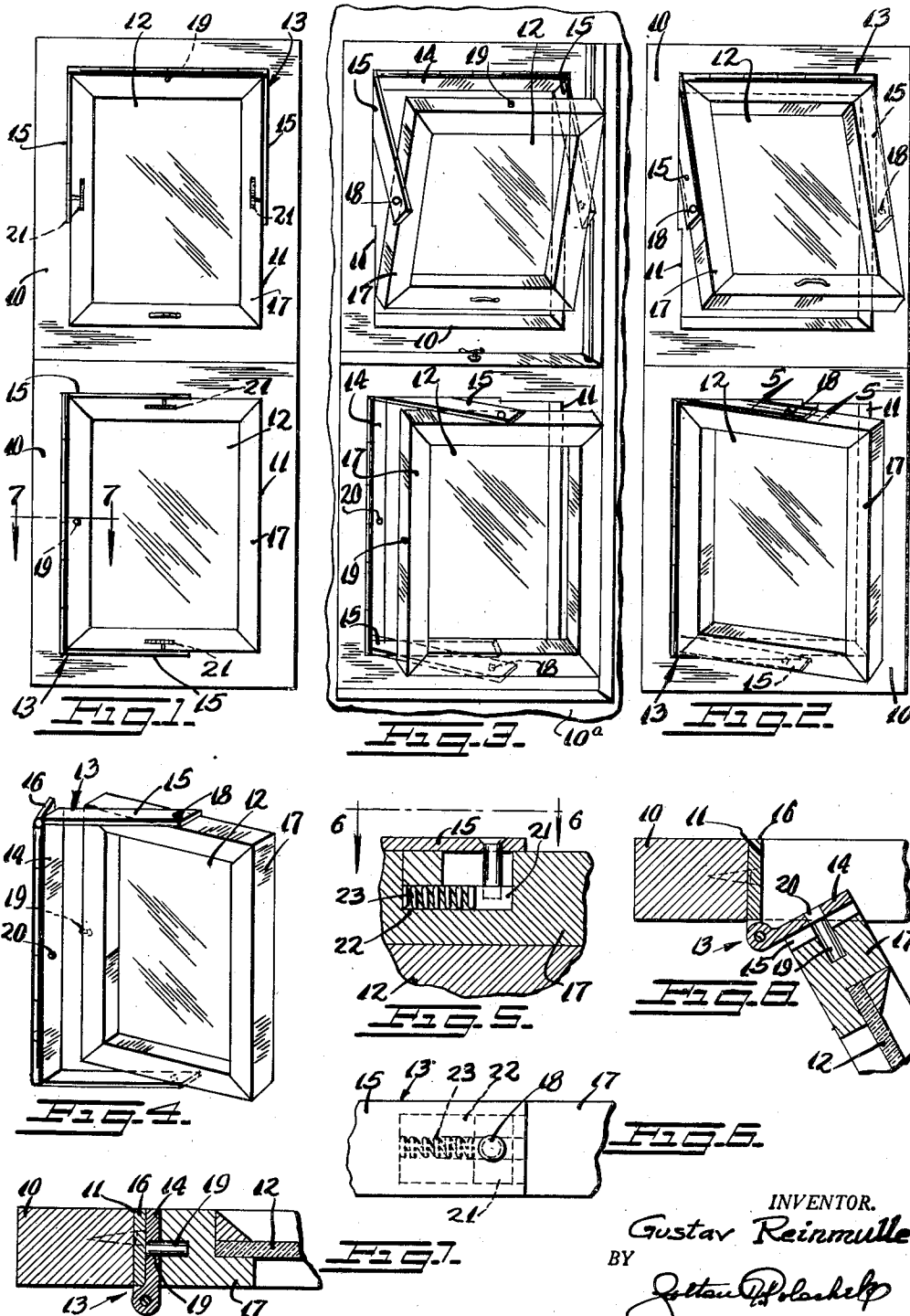
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REVERSIBLE WINDOW

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REVERSIBLE WINDOW

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This invention relates to new and useful improvements in a reversible window pane with a window sash.

More specifically, the invention proposes the novel construction of a window sash having a window pane reversibly supported within the window frame to permit the outside thereof to be extended inwards when desired to permit cleaning the windows without requiring projecting any portion of the body to the outside of the building structure.

A further object of the invention proposes characterizing the sash member by a rectangular opening within which a U-shaped bracket is pivotally supported along its back side with its arms extending freely therefrom to pivotally support a frame enclosing a window pane to permit the frame enclosing the pane to be pulled out of its position in the rectangular opening to be pivoted relative to the arms.

Still another object of the invention proposes arranging the U-shaped bracket in a manner to pivot either vertically or horizontally depending upon the direction in which it is desired to have the frame enclosing the window pane move.

Still another object of the invention proposes arranging a novel means for retaining the frame enclosing the window pane against pivoting relative to the U-shaped bracket until such time as the locking means has been freed permitting such pivoting.

It is a further object of this invention to construct a reversible window pane within a window sash, which is simple and durable and which may be manufactured to be applied to a window structure at a reasonable cost.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawing forming a material part of this disclosure:

Fig. 1 is a front elevational view of a pair of superimposed window sashes provided with reversible window panes constructed in accordance with this invention.

Fig. 2 is a perspective view similar to Fig. 1 but illustrating a partially opened position of the window panes.

Fig. 3 is a view similar to Fig. 2 but illustrating the sashes mounted in an outer frame and still further open position of the window panes.

Fig. 4 is a perspective view of one of the rever-

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sible window panes and its supporting U-shaped bracket.

Fig. 5 is a partial vertical sectional view taken on the line 5—5 of Fig. 2.

Fig. 6 is a plan view of Fig. 5 looking to the direction of line 6—6 of Fig. 5.

Fig. 7 is an enlarged partial horizontal sectional view taken on the line 7—7 of Fig. 1.

Fig. 8 is a view similar to Fig. 7 but illustrating an unlocked position of the parts.

The reversible window, according to this invention, includes a sash member 10 having a rectangular opening for a window pane 12 mounted in a suitable frame 17. On the drawings the window is characterized by a pair of window sashes constructed in the conventional manner to slide vertically in an outer frame shown partially at 10a in Fig. 3. Each of the sashes is alike in construction and differs merely in the manner of supporting the window frame 17.

The frame 17 of the lower sash 10 is arranged to pivot horizontally while the frame 17 in the upper sash is arranged to pivot vertically. In view of these similarities in construction the details of one of the frames 17 will be given in this specification and it should be understood that the details likewise apply to the other frame 17.

A U-shaped bracket 13 has its back 14 extending along one side of the rectangular opening 11 and its arms 15 extending along the adjacent sides of the rectangular opening. A hinge plate 16 extends along the back 14 of the U-shaped bracket 13 and the adjacent edges of the hinge plate 16 and the back 14 are pivotally connected together to provide a pivotal support for the U-shaped bracket 13. The hinge plate 16 is securely attached to the material of the sash 10 adjacent the side of the rectangular opening 11 and provides a hinge permitting the bracket 13 to be turned to extend its arms 15 from the rectangular opening as shown in Figs. 2 and 3.

The frame 17 is set into the rectangular opening 11 and into the U-shaped bracket 13. Pins 18 turnably connect the free ends of the arms 15 to the sides of the frame 17 to pivotally support the frame 17 and the window pane 12.

Means is provided for restraining the frame 17 against being pivoted relative to the arms 15 except when the U-shaped bracket 15 is pivoted to the position illustrated in Fig. 2. This means comprises a pin 19, mounted on the frame 17, which is adapted to engage in a complementary opening 20 formed in the back 14 of the U-shaped bracket 13 to hold the frame against pivoting.

Means is provided for slightly laterally slidably

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supporting the frame 17 relative to the bracket 13 to permit movement to the position illustrated in Fig. 8 to disengage the pin 19 from the opening 20 to free the frame 17 to pivot.

To accomplish this the pivot pins 18 are turnably extended through the arms 15 of the U-shaped bracket 13 and have their inner ends fixedly attached to blocks 21 slidably mounted within a complementary recess 22 formed in the frame 17. An expansion spring 23 is also mounted within the recess 22 to operate between the block 21 and the end wall of the recess 22 to urge the frame 17 into a position in which the pin 19 will retain an engaged position with the opening 20. However, when the frame is pivoted to the position shown in Fig. 2 it may be moved slightly laterally of the U-shaped bracket 13 to disengage the pin 19 from the opening 20 as illustrated in Fig. 8. This lateral movement will free the frame 17 to be pivoted relative to the U-shaped bracket 13 and into the position illustrated in Fig. 3. To return the frame 17 to its engaged position with the U-shaped bracket 13 it is merely necessary to reverse the above procedure. It is to be understood that each side of the supporting frame 17 must be slidably mounted in a manner outlined to permit the disengagement of the pin 19 from the opening 20.

While I have illustrated and described the preferred embodiment of my invention, it is to be understood that I do not limit myself to the precise constructions herein disclosed and the right is reserved to all changes and modifications coming within the scope of the invention as defined in the appended claims.

Having thus described my invention, what I claim as new, and desire to secure by United States Letters Patent is:

1. A reversible window construction comprising a sash member formed with a rectangular opening for a window frame including a window pane, a U-shaped bracket having its back formed with an opening intermediate of its ends and extended along one side of said rectangular opening and its side arms extended along the adjacent sides of said rectangular opening, a hinge pivotally connecting the back of said U-shaped bracket to the material of said sash member at the adjacent side of said rectangular opening permitting said U-shaped bracket to be pivoted to extend the free ends of its side arms from said rectangular opening, a window frame including a window pane set into said rectangular opening and into said U-shaped bracket, blocks slidably mounted within openings formed in the sides of said frame adjacent the side arms of said brackets to move in a plane parallel to the plane of said frame, pivot pins rotatively engaging the free ends of the side arms of said U-shaped bracket and having their free ends extended into said openings of said frame and connected to said blocks for pivotally and slidably supporting said frame on said U-shaped bracket, and a pin extending from the side of said frame adjacent the back of said U-shaped bracket and engaging said opening of said back to hold said frame against pivoting when said back and the adjacent side of said frame are in facial contact, whereby said pin may be disengaged from said opening of said back freeing said frame to be pivoted relative to said U-shaped bracket by sliding said frame relative to said blocks in a direction to separate said back and the adjacent side of said frame after said U-shaped bracket has

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been pivoted to extend its side arms from said rectangular opening.

2. A reversible window construction comprising a sash member formed with a rectangular opening for a window frame including a window pane, a U-shaped bracket having its back formed with an opening intermediate of its ends and extended along one side of said rectangular opening and its side arms extended along the adjacent sides of said rectangular opening, a hinge pivotally connecting the back of said U-shaped bracket to the material of said sash member at the adjacent side of said rectangular opening permitting said U-shaped bracket to be pivoted to extend the free ends of its side arms from said rectangular opening, a window frame including a window pane set into said rectangular opening and into said U-shaped bracket, blocks slidably mounted within openings formed in the sides of said frame adjacent the side arms of said brackets to move in a plane parallel to the plane of said frame, pivot pins rotatively engaging the free ends of the side arms of said U-shaped bracket and having their free ends extended into said openings of said frame and connected to said blocks for pivotally and slidably supporting said frame on said U-shaped bracket, and a pin extending from the side of said frame adjacent the back of said U-shaped bracket and engaging said opening of said back to hold said frame against pivoting when said back and the adjacent side of said frame are in facial contact, whereby said pin may be disengaged from said opening of said back freeing said frame to be pivoted relative to said U-shaped bracket by sliding said frame relative to said blocks in a direction to separate said back and the adjacent side of said frame after said U-shaped bracket has been pivoted to extend its side arms from said rectangular opening, and resilient means urging said frame into a position in which said pin engages the opening of the back of said U-shaped bracket.

3. A reversible window construction comprising a sash member formed with a rectangular opening for a window frame including a window pane, a U-shaped bracket having its back formed with an opening intermediate of its ends and extended along one side of said rectangular opening and its side arms extended along the adjacent sides of said rectangular opening, a hinge pivotally connecting the back of said U-shaped bracket to the material of said sash member at the adjacent side of said rectangular opening permitting said U-shaped bracket to be pivoted to extend the free ends of its side arms from said rectangular opening, a window frame including a window pane set into said rectangular opening and into said U-shaped bracket, blocks slidably mounted within openings formed in the sides of said frame adjacent the side arms of said brackets to move in a plane parallel to the plane of said frame, pivot pins rotatively engaging the free ends of the side arms of said U-shaped bracket and having their free ends extended into said openings of said frame and connected to said blocks for pivotally and slidably supporting said frame on said U-shaped bracket, and a pin extending from the side of said frame adjacent the back of said U-shaped bracket and engaging said opening of said back to hold said frame against pivoting when said back and the adjacent side of said frame are in facial contact, whereby said pin may be disengaged from said opening of said back freeing said

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frame to be pivoted relative to said U-shaped bracket by sliding said frame relative to said blocks in a direction to separate said back and the adjacent side of said frame after said U-shaped bracket has been pivoted to extend its side arms from said rectangular opening, and resilient means urging said frame into a position in which said pin engages the opening of the back of said U-shaped bracket, said resilient means comprises expansion springs in said 10 openings of said frame and operating between the end walls of said openings adjacent the side of said frame provided with said pin and the adjacent ends of said blocks.

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