Nov. 20, 1923.

1,474,521

J. W. FOLGERT

WINDOW STRUCTURE

Filed June 24. 1922

2 Sheets-Sheet 1

Fig. 1

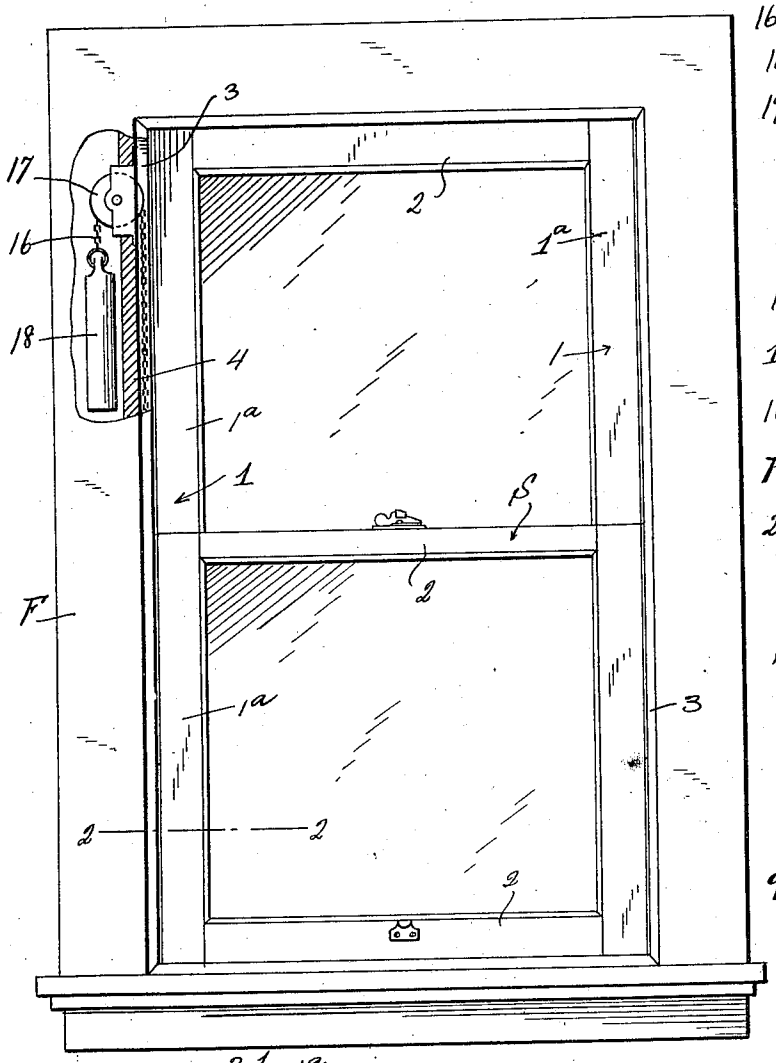


Fig. 3

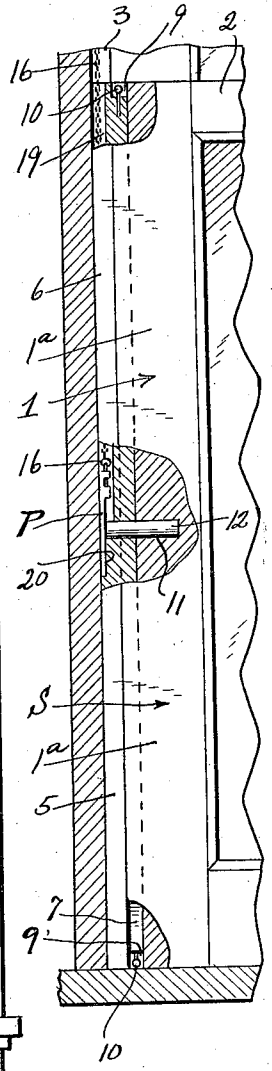
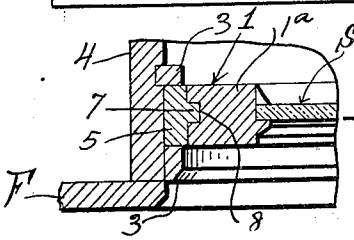


Fig. 2



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Fig. 4.

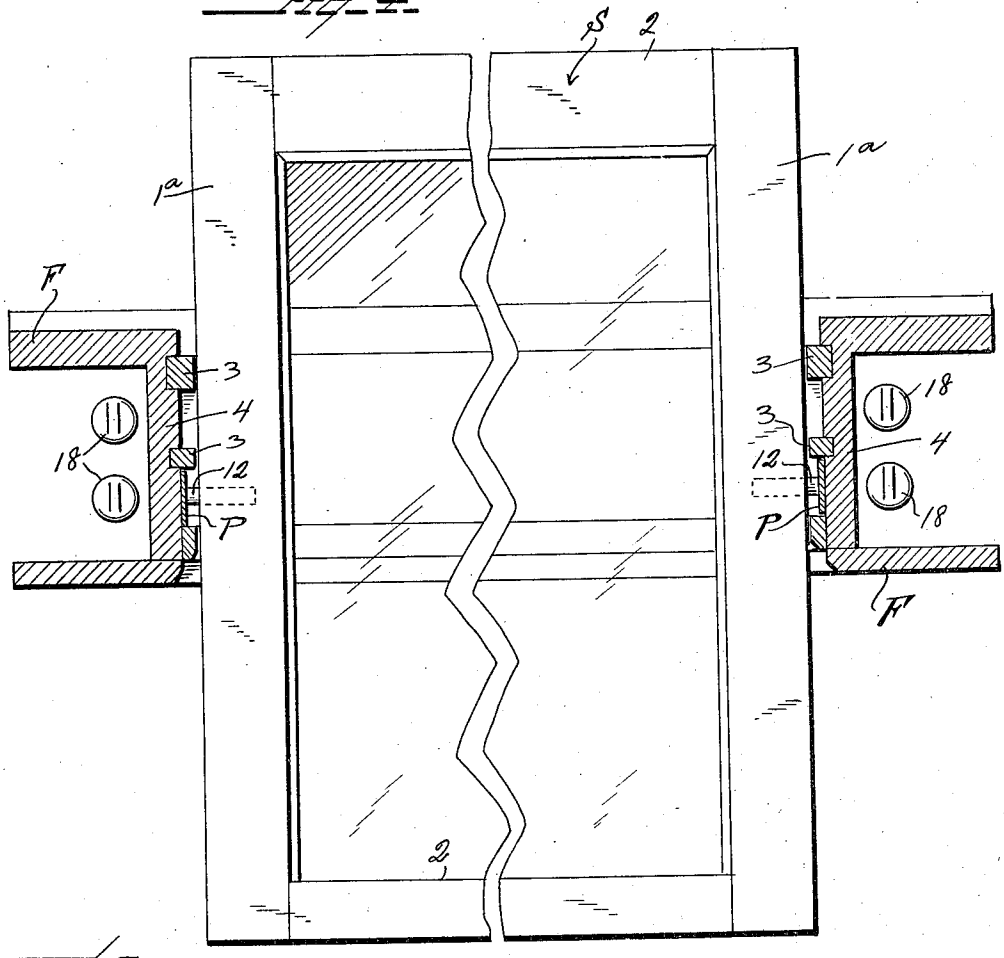


Fig. 5.

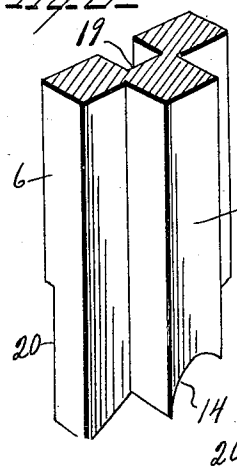


Fig. 6.

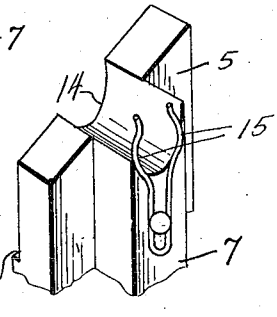
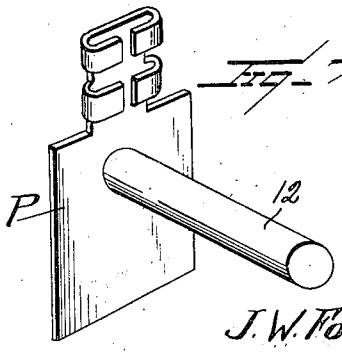


Fig. 7.



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Patented Nov. 20, 1923. 1,474,521

UNITED STATES PATENT OFFICE.

JOSEPH W. FOLGERT, OF PHILLIPS, WISCONSIN, ASSIGNOR OF ONE-SIXTH TO ISAAC BRAZELTON, ONE-SIXTH TO CHARLES HICKS, ONE-SIXTH TO NORMAN L. KNEELAND, ONE-SIXTH TO HORACE J. BLANCHARD, AND ONE-SIXTH TO MARTIN HEINDL, ALL OF PHILLIPS, WISCONSIN.

WINDOW STRUCTURE.

Application filed June 24, 1922. Serial No. 570,603.

To all whom it may concern:

Be it known that I, JOSEPH W. FOLGERT, a citizen of the United States, residing at Phillips, in the county of Price and State of Wisconsin, have invented certain new and useful Improvements in Window Structures, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to certain improvements in window structures and has relation more particularly to a structure of this general character embodying a reversible window, and it is an object of the invention to provide a structure of this kind with novel and improved means whereby either or both of the sashes of the window may be reversed so that both sides of the glass may be thoroughly and effectively cleansed from within a building.

Another object of the invention is to provide a structure of this general character having novel and improved means whereby each of the sashes is normally supported for sliding movement within the frame, said means being of a character that by proper manipulation the sash may be swung and reversed within the frame to facilitate cleansing the opposite faces of the glass.

An additional object of the invention is to provide a novel and improved structure of this general character wherein each of the sashes has plates pivotally engaged with the side rails thereof and with which plates are operatively engaged the balance weights, the connection of the plates with the sash permitting the same to be readily and conveniently reversed after the sash has been swung within the frame.

The invention consists in the details of construction and in the combination and arrangement of the several parts of my improved window structure whereby certain important advantages are attained and the device rendered simpler, less expensive and otherwise more convenient and advantageous for use, as will be hereinafter more fully set forth.

The novel features of my invention will hereinafter be definitely claimed.

In order that my invention may be the better understood, I will now proceed to describe the same with reference to the accompanying drawings, wherein:

Figure 1 is a view partly in elevation and partly in section illustrating a window structure arranged in accordance with an embodiment of my invention;

Figure 2 is an enlarged fragmentary sectional view taken substantially on the line 2—2 of Figure 1;

Figure 3 is an enlarged fragmentary view partly in section and partly in elevation illustrating in detail certain features of my invention as herein disclosed;

Figure 4 is a view partly in section and partly in top plan illustrating a window sash in swung position;

Figure 5 is a fragmentary view of the lower end portion of an upper removable strip;

Figure 6 is a view in perspective of the upper end portion of a lower removable strip; and

Figure 7 is a view in perspective of one of the plates and coacting trunnions associated with the sash.

As disclosed in the accompanying drawings, F denotes a window frame of conventional structure in which are normally arranged for sliding movement the upper and lower sashes S. The sashes S are of substantially duplicate construction, each comprising the stiles 1 and the upper and lower rails 2. Each of the sashes S operates in a conventional manner between a pair of strips or beads 3 secured to the sides 4 of the window frame or casing.

Each stile 1 includes a major portion 1^a and two similar removable strips 5 and 6 each of which is formed with a tenon 7 seating within a mortise 8 in the outer face or edge of the adjacent stile portion 1^a. The outer end of each of the tenons 7 terminates inwardly of the adjacent outer end of the strip 5 or 6 so that when said strip is placed in proper or operative position, a pocket or chamber 9 is provided to house a knob 10 which is provided to facilitate the removal of the strip 5 or 6, as will be hereinafter more particularly referred to.

Each of the strips 5 and 6 is of a thickness slightly greater than the thickness of the beads or strips 3 so that either of the sashes

S, upon removal of the strips 5 and 6, may be readily swung from normal position within the frame into a position such as shown in Figure 4 whereby to facilitate the cleansing of the opposite faces of the glass of the sash from within the building.

The outer faces of the stiles 1 of each of the sashes S at substantially the longitudinal center thereof or as otherwise preferred are provided with the horizontally alined sockets 11 to receive the trunnions 12. Each of the trunnions 12 extends laterally from the central portion of a plate P, said plate being positioned and riding between a pair of adjacent strips or beads 3. The strips or members 5 and 6 are provided in their opposed ends with the recesses or notches 14 which, when said strips or members 5 and 6 are applied, provide an opening through which a trunnion 12 extends.

The inner end portion of the lower member or strip 5 is provided with the spring jaws 15 which engage the adjacent trunnion 12 so that said strip or member 5 is held against accidental displacement during the normal operation of the sash. It is also preferred that the meeting ends of the members or strips 5 and 6 be correspondingly beveled so that a lap joint will be afforded when said members or strips 5 and 6 are in applied or working position.

Secured to the upper portion of each of the plates P is a flexible sash member 16, herein disclosed as a chain. These flexible members extend upwardly and over the pulleys 17 and are suitably connected to the balance weights 18 working in a conventional manner.

When it is desired to reverse a sash S so that the outer face of the glass may be properly cleansed from within the building, the members or strips 5 and 6 forming a part of the stiles 1 of such sash are pulled downwardly and upwardly, respectively, such removal being facilitated by the knobs 10. The removal of the strips or members 5 and 6 may be readily and conveniently effected by changing the position of the sash. After the members or strips 5 and 6 have been removed, the sash may be readily swung about the trunnions 12 so that the position of the sash will be reversed. After the glass has been properly cleansed, the sash is returned to its normal position and the members or strips 5 and 6 applied.

The outer faces of the upper members or strips 6 are grooved, as at 19, to receive the flexible sash members or chains 16 and the meeting end portions of each pair of strips 5 and 6 are reduced in thickness, as at 20, to receive the adjacent plate P. By this means, the plates P and the flexible sash members 16 offer no hindrance or obstruction to the desired application of the members or strips 5 and 6.

From the foregoing description it is thought to be obvious that a window structure constructed in accordance with my invention is particularly well adapted for use by reason of the convenience and facility with which it may be assembled and operated, and it will also be obvious that my invention is susceptible of some change and modification without departing from the principles and spirit thereof and for this reason I do not wish to be understood as limiting myself to the precise arrangement and formation of the several parts herein shown in carrying out my invention in practice except as hereinafter claimed.

I claim:

1. In combination with a window frame, a sash mounted therein, the edge faces of the stiles of the sash having mortises extending longitudinally thereof and open at their opposite ends, removable members provided with tenons engaging within the mortises of the stiles of the sash when the members are applied, each of said members comprising separable sections, and spring gripping means coacting with one of the sections of each of the members for holding the same in applied position.

2. In combination with a window frame, a sash mounted therein, the edge faces of the stiles of the sash having mortises extending longitudinally thereof and open at their opposite ends, removable members provided with tenons engaging within the mortises of the stiles of the sash when the members are applied, each of said members comprising separable sections disposed one above the other, means coacting with the lower section of each of the members for holding the sections in applied position, and sash cord attaching members slidable along the frame and pivotally connected with the sash.

3. In combination with a window frame provided on its inner sides with guide strips, a sash mounted in the frame and of a width less than the distance between the inner faces of the strips at opposite sides of the frame, plate members slidable along the frame between said guides and constituting sash cord attaching means, trunnions projecting from said plates and permanently engaged with the sash for pivoting the same, and members slidably engaged upon the outer edges of the sash and slidably engaged between said guide strips, said members being removable to permit swinging of the sash.

4. In combination with a window frame provided on its inner sides with guide strips, a sash mounted in the frame and of a width less than the distance between the inner faces of the strips at opposite sides of the frame, plate members slidable along the frame between said guides and constituting sash cord attaching means, trunnions projecting from said plates and permanently engaged with

the sash for pivoting the same, and members slidably engaged upon the outer edges of the sash and slidably engaged between said guide strips, said members being removable to permit swinging of the sash, each of said members being formed of separable sections with the joint between the same located at the adjacent trunnion.

5. In combination with a window frame provided on its inner sides with guide strips, a sash mounted in the frame and of a width less than the distance between the inner faces of the strips at opposite sides of the frame, plate members slidable along the frame between said guides and constituting sash cord attaching means, trunnions projecting from said plates and permanently engaged with the sash for pivoting the same, and members slidably engaged upon the outer edges of the sash and slidably engaged between said guide strips, said members being removable to permit swinging of the sash, each of said members being formed of separable sections with the joint between the same located at the adjacent trunnion, the meeting ends of the sections being recessed for the accommodation of the trunnion.

6. In combination with a window frame provided on its inner sides with guide strips, a sash mounted in the frame and of a width less than the distance between the inner faces of the strips at opposite sides of the frame, plate members slidable along the frame between said guides and constituting sash cord attaching means, trunnions projecting from said plates and permanently engaged with the sash for pivoting the same, and members slidably engaged upon the outer edges of the sash and slidably engaged between said guide strips, said members being formed of upper and lower sections slidably removable to permit swinging of the sash, and a spring member on each lower section frictionally engaging about the adjacent trunnion for holding the lower section against downward movement when the sash is raised.

7. In combination with a window frame provided at its confronting sides with guide strips, a sash mounted within the frame and having a width less than the distance between the inner edges of said strips whereby to be capable of swinging movement, plates located at opposite sides of the frame and slidable between said strips, said plates constituting means for attachment of sash cords, trunnions projecting from said plates and rotatably engaged within the opposite side rails of the sash, said sash rails being formed with grooves extending from top to bottom, and sectional members having mortised engagement within each groove and engaging between said guide strips, said members being formed in sections with the joint located at the adjacent trunnion whereby the sections may be removed by pulling in opposite directions and freed from the sash whereby the sash may be swung.

In testimony whereof I hereunto affix my signature.

JOSEPH W. FOLGERT.