Nov. 4 , 1924. 1,514,115

V. J. WHITNEY

WINDOW SUPPORT

Filed Sept. 26. 1923 2 Sheets-Sheet 1

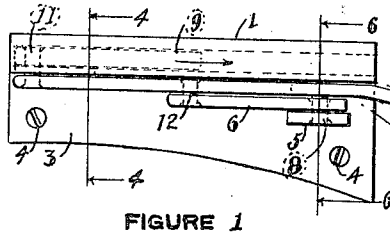


FIGURE 1

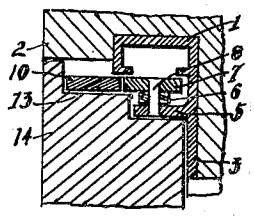


FIGURE 6

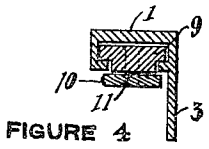


FIGURE 4

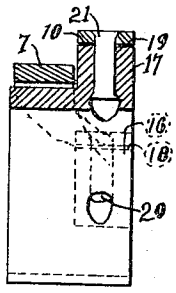
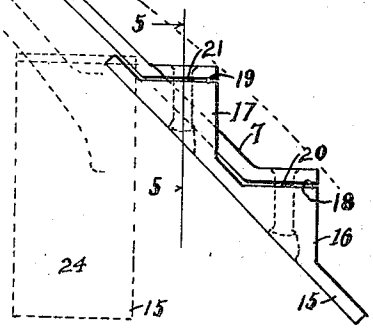


FIGURE 5



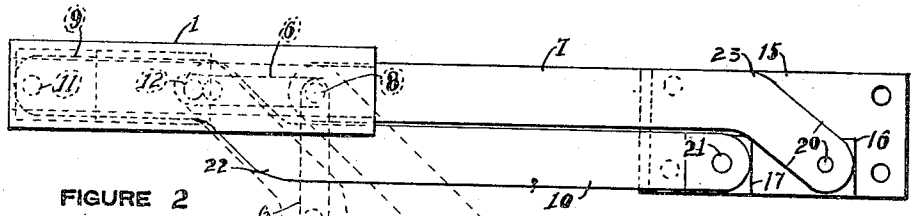


FIGURE 2

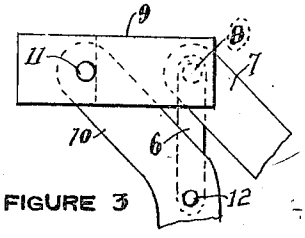
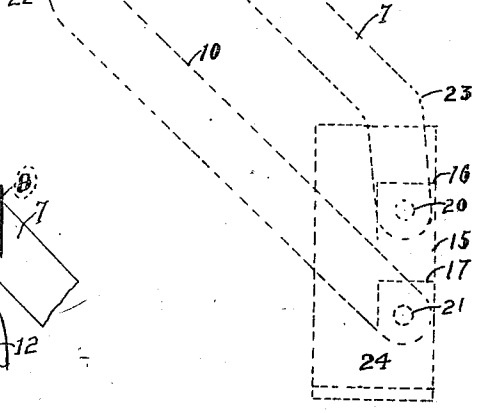


FIGURE 3



INVENTOR

Vincent J. Whitney

BY John A. Ainsworth

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Nov. 4 , 1924.

1,514,115

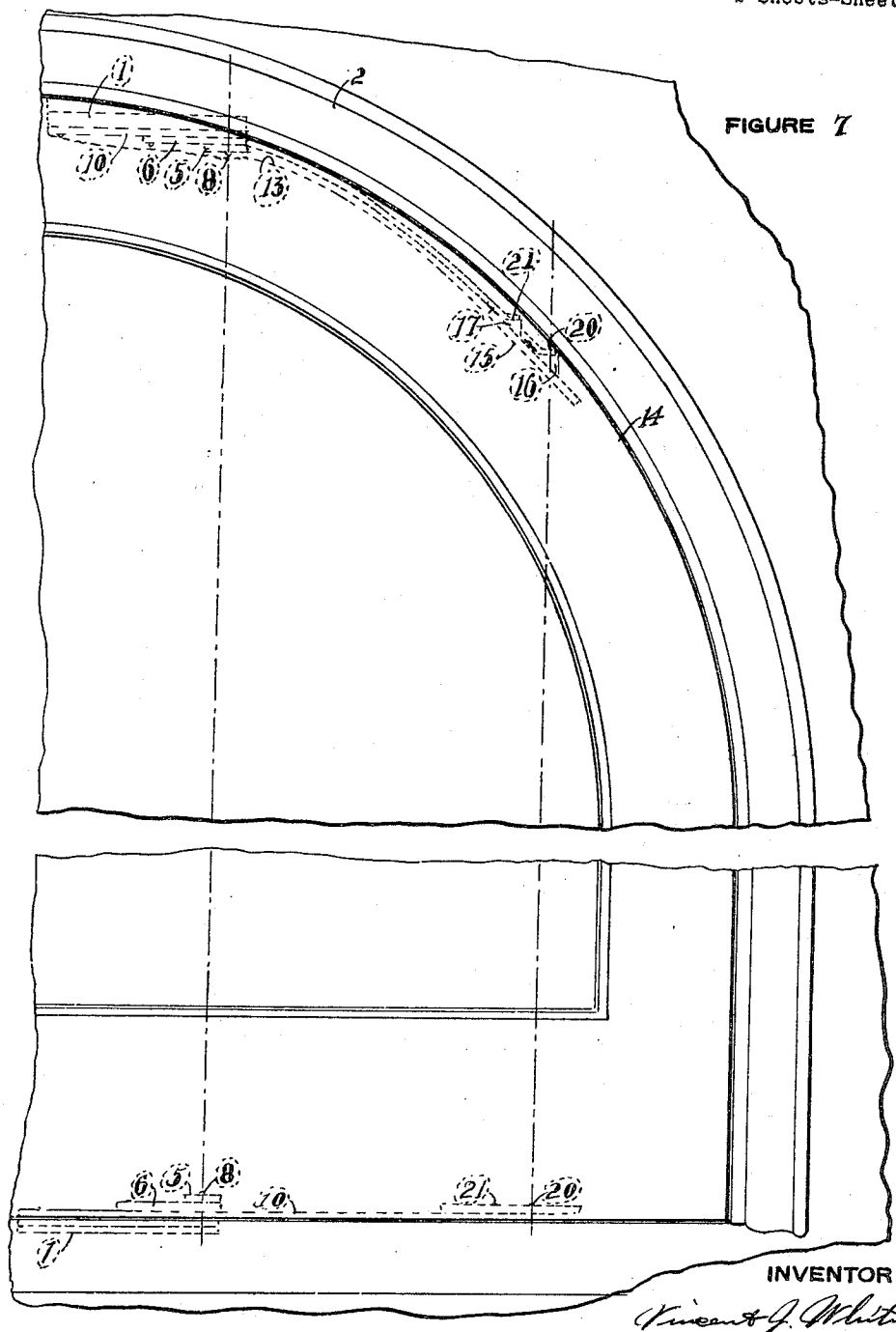
V. J. WHITNEY

WINDOW SUPPORT

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FIGURE 7



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UNITED STATES PATENT OFFICE.

VINCENT J. WHITNEY, OF SAN FRANCISCO, CALIFORNIA.

WINDOW SUPPORT.

Application filed September 26, 1923. Serial No. 664,919.

To all whom it may concern:

Be it known that I, VINCENT J. WHITNEY, a citizen of the United States, and resident of San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Window Supports, of which the following is a specification.

My invention relates to that type of window supports which permits the swinging of the window about a shiftable vertical axis whereby to render both sides of the window available for cleaning from the interior of the building in which it is placed.

It is the object of my invention to provide a window support of the character indicated, which may be adapted for use on other than square top windows.

In the drawing:—

Figure 1 is a front elevation of the device.

Figure 2 is a plan view of the same.

Figure 3 is a plan view of the sliding shoe and part of the sash supporting arms in extended position.

Figure 4 is a section on line 4—4 of Figure 1.

Figure 5 is a section on line 5—5 of Figure 1.

Figure 6 is a section on line 6—6 of Figure 1.

Figure 7 is an elevation of a window embodying my invention, parts being broken away.

Referring more particularly to the drawing, I show at 1 a track proportioned to be mounted horizontally on the soffit of a window frame 2 recessed to receive the same and carrying a vertical supporting plate 3 by means of which, in the present case, the track 1 is secured in position by screws 4.

Plate 3 carries a bracket 5 near one end thereof, and on the upper side of bracket 5 are positioned first a link 6 and then an arm 7, the said link and arm being pivotally connected to each other and bracket 5 by pin 8.

Slidably mounted in track 1 is a shoe 9 to which is pivotally attached an arm 10 by means of a pin 11. The link 6 is also pivotally connected to arm 10 by means of a pin 12.

Set in recess 13 in the curved head of window sash 14 is a plate 15 having bosses 16 and 17 formed on its upper surface, the said bosses being so formed and positioned that when the plate 15 is secured in recess 13 the upper surfaces 18—19 respectively thereof lie in spaced horizontal planes along the inner edge of said plate.

Arm 7 is pivotally connected to boss 16 by means of a pin 20 passing vertically therethrough, and arm 10 is pivotally connected to boss 17 by means of a pin 21 passing vertically therethrough.

Assuming the casing to have a curved head as shown, and sash 14 to be similarly curved and in a closed position therein, the parts described are invisible since the arms 10 and 7 lie in recess 13 and have the same clearance between their upper ends and track 1 that obtains between the sash and frame. In this position arms 10 and 7 are parallel but are bent at their opposite ends as at 22 and 23 so that the pivotal points 20 and 21 lie in the same vertical plane bisecting arm 10 longitudinally and pivotal points 11—12 and 8 lie in the vertical plane bisecting arm 7 longitudinally. In order that the device will operate as hereafter set forth it is necessary that pivotal points 20 and 21 be spaced apart exactly the same distance as pivotal points 12 and 8. The distance between points 11 and 12 must be such as to permit free sliding of shoe 9 for the distance necessary to allow swinging of arms 10 and 7 through the desired arcs.

Since the bottom of the sash is flat and operates in conjunction with a flat surface, any suitable form of supporting arm may be used if the two pivotal points of the arm are exactly the same distance apart as the horizontal distance between the pivotal points 8 and 20 and in vertical alignment therewith. The structure described is shown as the bottom support of the window, but since the arms 7 and 10 are flat they are shortened so that the pivotal points will align therewith as required.

In operation, after the parts have been assembled as hereinbefore set forth, a pivotal movement of the sash exerts a pulling strain upon arm 10 and causes shoe 9 to slide along track 1 in the direction indicated by the arrow, the plate 15 and link 6 maintaining a parallel relation with each other in so far as their vertical projections are concerned. A continued movement causes plate 15 to assume a position as shown in dotted lines at 24 at right angles to its normal position but without changing its position with relation to a given horizontal plane.

It should be clear from the foregoing that I have provided a device that can be formed and proportioned for attachment to a window sash of any conformation and yet it will not only securely support the sash but will permit its swinging about a vertical axis in such a manner as to render both sides of the sash freely accessible for cleaning.

It is to be understood of course, that while I have herein shown and described one specific embodiment of my invention, changes in form, construction and method of operation may be made within the scope of the appended claims.

I claim:—

1. The combination with a window sash and frame having similarly curved contiguous edges, of a curved supporting arm pivotally mounted at one end on a fixed vertical axis on said frame, and pivotally mounted at its other end on a fixed vertical axis on said sash, said axes being spaced a substantial distance apart and the curvature of said arm conforming substantially to the curvature of the window sash.

2. A window support comprising a track arranged for horizontal mounting on a window casing, a shoe slidably mounted in said track, an arm pivotally mounted at a fixed point adjacent to one end of said track, a link pivotally mounted at said fixed point, a second arm pivotally mounted on said shoe, a pivotal connection between said link and second arm, a plate mountable upon a window sash, and a vertical pivotal connection between each of said arms and said plate, the spacing of said last mentioned pivotal connections being the same as the spacing of the pivotal connections of said link.

3. The combination with a window sash and frame having similarly curved contiguous upper edges and contiguous flat bottom edges, and a supporting arm pivotally connected at either end to the bottom edges of said sash and frame said pivotal connections being spaced a substantial distance apart, of a supporting arm pivotally connected to the upper edge of said frame in vertical alignment with the pivotal connection of the lower arm to the bottom edge of said frame, thence following the general curvature of said sash and pivotally connected thereto in vertical alignment with the pivotal connection of the lower arm to the bottom edge of the sash.

4. A window support adapted to support a sash having a curved rail comprising a track, a shoe slidably mounted therein, an arm pivotally mounted on said shoe and extending a distance in parallel relation thereto then offset laterally a distance and bent to follow the general curvature of the curved rail and terminating in a horizontal end portion, a sash plate spaced a substantial distance from said shoe, a vertical pivotal connection between said horizontal end portion and said plate, a second arm pivotally mounted adjacent to said track in alignment with the pivotal connection of said first arm to said shoe then bent in parallel relation to said first arm and terminating in a horizontal end portion, a vertical pivotal connection between the last mentioned end portion and said plate, and a link pivotally connecting the second arm to the pivotal mounting of the first arm adjacent said track, the spacing of said link connections being the same as the spacing of the pivotal connections of said arms to said plate.

VINCENT J. WHITNEY.