My invention relates generally to window constructions and specifically to windows which may be constructed to replace damaged or deteriorated windows without disturbing the old pane or windows to be used in a new structure.

It is among the objects of my invention to provide a construction which may be assembled in such a manner that it will fill a variety of different sized openings. It is another object of my invention to provide a draft and weatherproof window construction.

A still further object of my invention is to provide a window construction in which the sashes are readily removable for cleaning or glazing.

A still further object of my invention is to provide sash guides which may be inserted into an old frame to provide channels for new sashes.

Another object of my invention is to provide a window construction which eliminates sash weights and cords.

Still another object of my invention is to provide a unique double channel for sashes to ride in.

Among the other objects of my invention is to provide a window construction which is durable, inexpensive, easy to install and replaces a wide variety of different size windows.

Further objects and advantages will appear from a consideration of the following description of a specific embodiment of the invention and the accompanying drawings in which:

Figure 1 is a front elevational view of the window construction;

Figure 2 is a view in perspective showing the sashes pivoted outwardly;

Figure 3 is a view in perspective of the sash guide or channelled member;

Figure 4 is a view in perspective of a sash carrier;

Figure 5 is a view in perspective of a top corner of a sash;

Figure 6 is a view of a latch;

Figure 7 is a cross-sectional view of the assemblage;

Figure 8 is a view of a latch spring;

Figure 9 is a view of a circular member; and

Figure 10 is a bottom view of a sash.

Referring now to the drawings in detail, there has been illustrated a double-hung window with two sashes. The inner sash 11 is a conventional rectangular frame with the ordinary provisions for glazing the central opening. Imbedded in recesses in the sash 11 at the bottom thereof and on each side thereof, a pair of circular members 12, are attached to the sash 11 and extend laterally therefrom. These circular members 12, serve to pivotally (see Figure 2) connect the sash to the sash carriers 14 heretofore referred to in detail.

Both side edges of the sash 11 have a strip 15 attached thereto on the inner face. This strip 15 extends around the side of the sash 11, then forwardly to the outer face of the sash 11. At this point, it is bent inwardly upon itself and at point 17, it is bent outwardly at a slight angle. The double bend defines an interlock seat to engage the sash guides or channelled members 18 that will hereafter be referred to in detail.

The outer edge of the window has a strip 19 on both side edges that extends around the side of the sash 11 and then rearwardly a brief distance to overlap the strip 15.

Each of the strips 15 has a latch 20 disposed underneath it near the top thereof. These latches 20 have a tongue 21 which protrudes through an opening 22 in the side of the strip 15. The latch 20 also has a bent over portion 23 at the top which lies along the top of the sash 11. A retainer 24 keeps the portion 23 in the position shown by the solid lines in Figure 5. When the portion 23 is moved to the position shown by the dotted lines in Figure 5, the tongue 21 pivots inwardly and no longer extends beyond the opening 22 as shown in Figure 5. A flat spring 25 is attached to the tongue 21 and normally urges it outwardly to the position shown in Figure 5. This spring 25 is clamped between the folds of strip 15 adjacent to point 16. This is the construction of the inner or lower sash 11. The upper or outer sash 26 is formed in the same manner.

The window frame 27 is made of four pieces 28, 29, 30, 31 which may be cut to fit the opening. Specially formed double channelled members (sash guides) may be cut to conform to the height of the opening and then attached to the frame by screws passing through the holes 32. These sash guides 18 have a pair of channels 33 disposed on their faces. The open face of the channel is partially enclosed at one side by a flange 34 which acts as a retainer to keep the sash carrier 14 in the channel. The sash carrier 14 is a U-shaped piece having an opening 13 at the bottom to receive the circular members 12. These sash carriers 14 ride in the channels 33. Inside each of the sash carriers 14, a spring 35 is attached and extends upwardly. Normally, this spring is of somewhat lesser length than sash carrier 14. Attached to channelled members at the top of each channel is a pulley 36. A cord 37 attached to the end of each of the springs 35 extends upwardly and over the pulleys 36. From the pulleys, the cord passes downwardly into a central enclosed space 38 between the channels 33, 35 in the guide 18. The end of the cords 37 are again connected to springs 39, the ends 40 of which springs 39 are fastened to the interior of the member 15 in the space 38 at the bottom thereof.

Since, as has been noted, the primary purpose of this window is to act as a replacement for old windows which are not standard size, and are not readily subject to replacement, the procedure for the installation and use of my window is as follows: The old rotten, or decayed window sashes are removed. Aluminum sash guides or channelled members 18 are cut to fit the opening. The springs 39 are attached in the open space 38 between the channels 33. The cords or cables 37 connected to these springs are introduced over the pulleys 36, 38 and down into the channels 33. Then the springs 35 in the sash carriers 14 are attached to the remaining cords 37 and the carriers 14 are inserted in the channels 33. The guides 18 are now moved into position in the frame 27 and secured in place by screws. In this condition, the sash carriers 14 will, by stretching the springs 39, 35, be movable up and down in the channels 33. The outer and inner sashes are now inserted. The outer sash is fitted sideways and the end of the circular member 12 on one side is inserted in the hole 13 of one sash carrier. The same is done to the opposite circular member 12 in the hole 13 of the opposite sash carrier 14. The sash is then raised to vertical position until the tongue 21 engages the edge of the channel 33 in the sash guide 18. The sash 11 is then held firmly in place in the channel.
3 and may be raised or lowered. The springs 37, 39 are tensioned to hold the window at any particular point to which it is moved. Frictional engagement of the various parts of the sash will easily permit this. Having fitted the outer sash in place, the inner sash is also fitted in place in the exact same manner.

As has already been noted, the primary purpose of the present window construction is to permit the construction of a replacement window in situ. There are certain collateral advantages. When a pane of glass is broken and has to be replaced, it is easy to remove the sash for that purpose. It is also obvious that the cleaning of the glass, both inside and outside may be easily and conveniently effected. When one desires to pivot the sashes inwardly for any purpose, the bent over portion of the latch 23 is moved from the position shown by the solid lines in Figure 5 to the position shown therein by the dotted lines. This disengages the tongue 21 from the edge of the channel 33 in the sash guide 18, and the window swings outward as shown in Figure 2.

It is also to be noted that the engagement of the strip 15 with the flanges 34 provides excellent weatherstripping against the entry of drafts and moisture.

The foregoing description is merely intended to illustrate an embodiment of the invention. The component parts have been shown and described. They each may have substitutes which may perform a substantially similar function; such substitutes may be known as proper substitutes for the said components and may have actually been known or invented before the present invention; these substitutes are contemplated as being within the scope of the appended claim, although they are not specifically catalogued herein.

I claim:

A replacement window construction comprising a pair of sash guides each having a pair of channels in their outer-face, and a channel in their inner-face lying between the outer-face channels, a flange extending from the back of each outer-face channel toward the front thereof, sash carriers slidably disposed in each of the outer face channels, sashes positioned between the sash guides, members extending laterally from each of the sashes at the bottom thereof and entering holes in the sash carriers, strips attached to each of the sashes and bent to slidably engage the corresponding flange on two sides, pulleys disposed at the top of each of the outer-face channels and extending into the inner-face channel, cords running over the pulleys, spring attached to the sash guides and to the cords in each inner-face channel, springs attached to each of the sashes and to the ends of the cords in the outer-face channels, spring pressed latches extending from the sides of the sashes and engaging the front edge of each of the channels, and an extended portion of each of the latches disposed on the top of each sash.

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