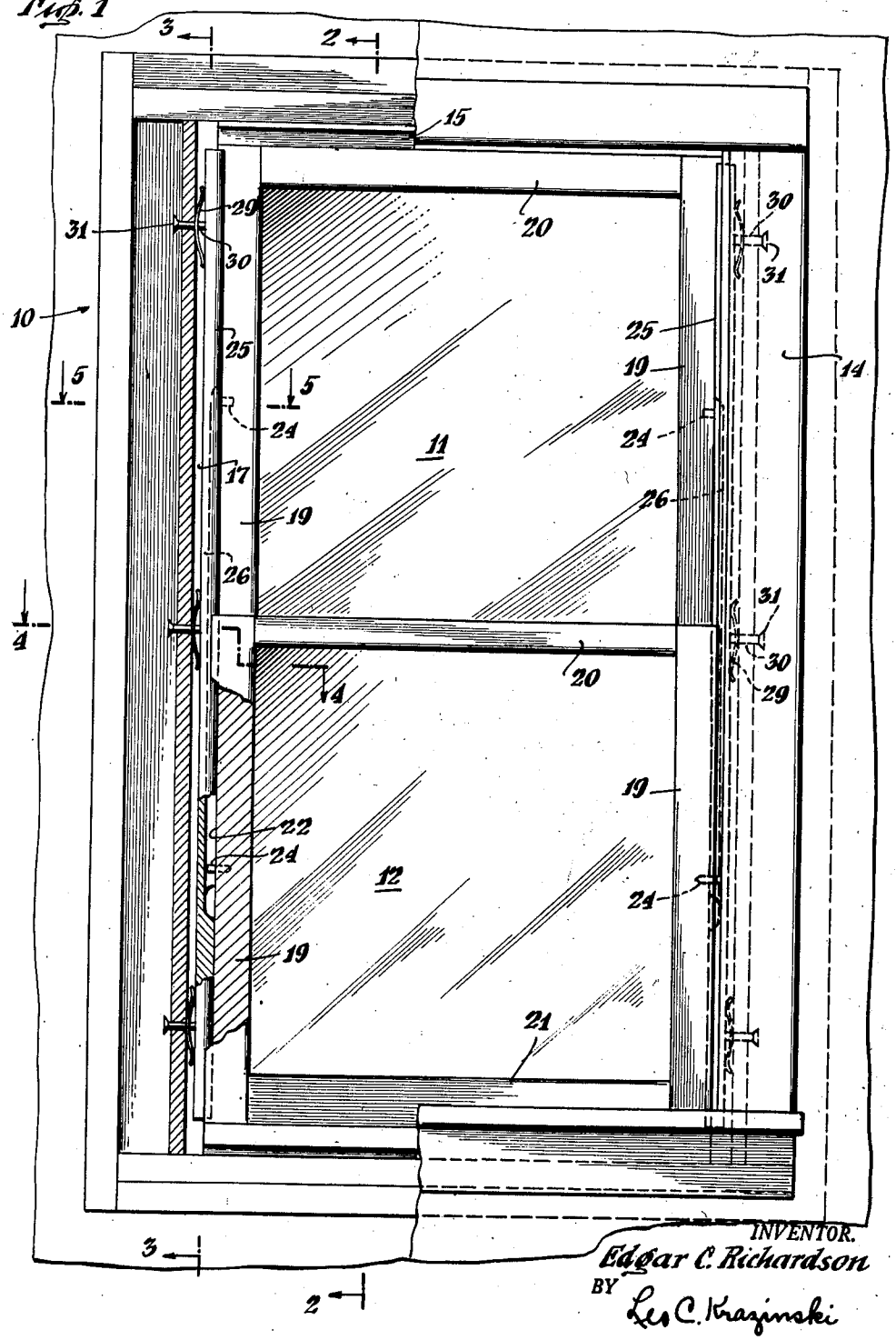
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WINDOW CONSTRUCTION

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Fig. 1



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Fig. 2

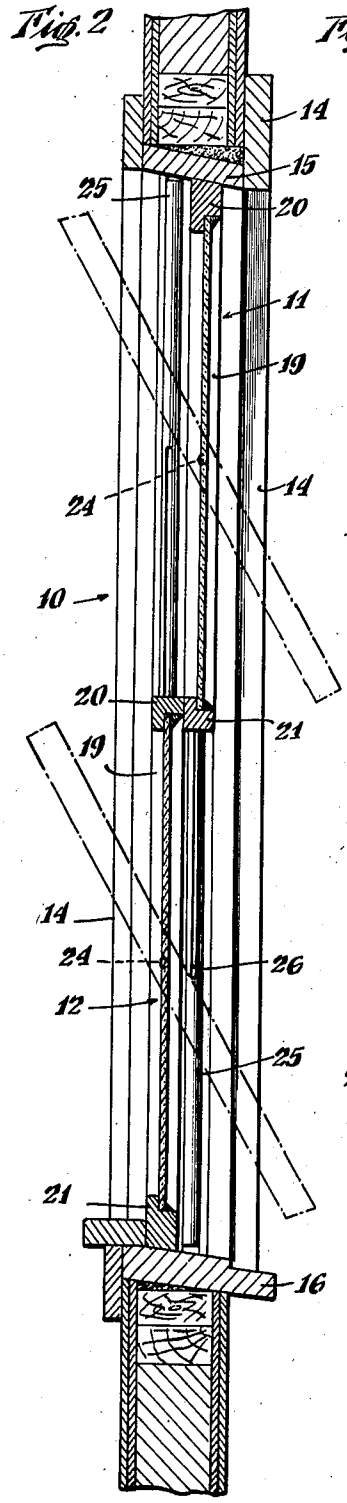


Fig. 3

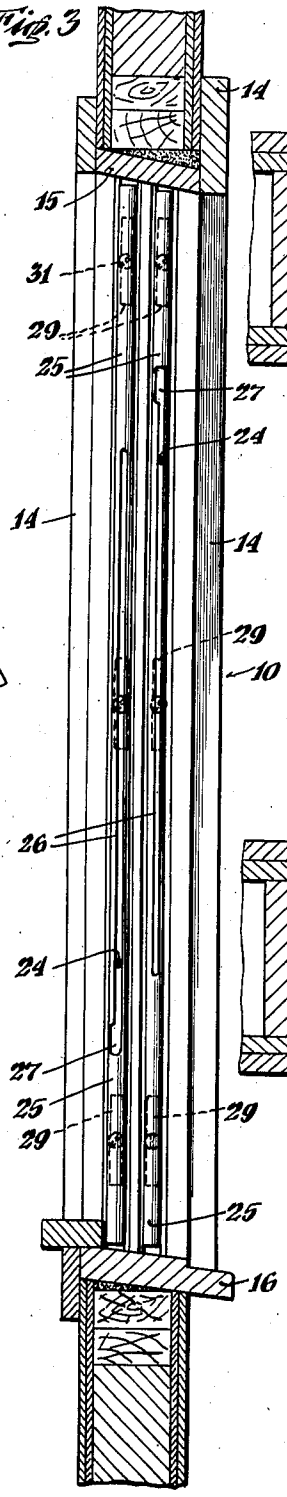


Fig. 4

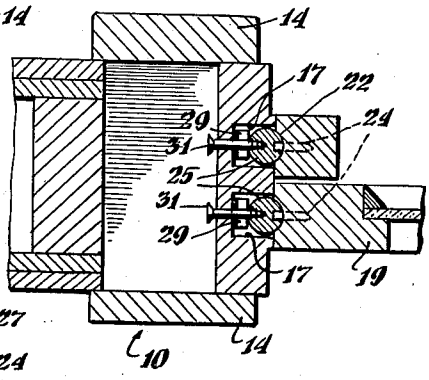
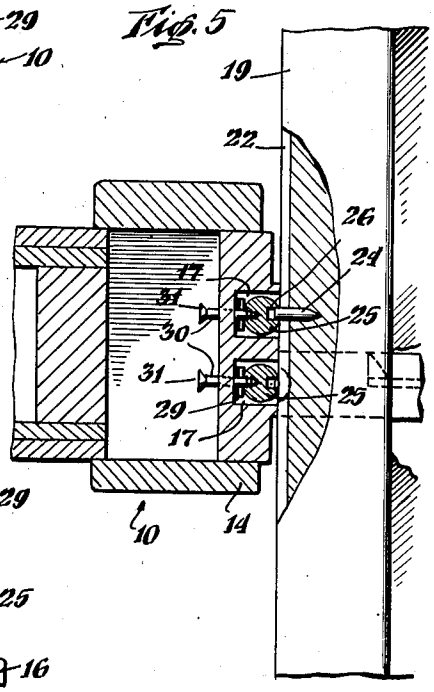


Fig. 5



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WINDOW CONSTRUCTION

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2 Claims. (Cl. 20—12)

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The present invention relates to window constructions and the like, and, more particularly, relates to window constructions of the type mounted for slidable and pivotal movement.

Heretofore numerous window constructions of the foregoing type have been proposed but none of these, as far as applicant is aware, ever was commercially successful because of the difficulty and expense to manufacture and install the same.

Accordingly, an object of the present invention is to provide a simple window construction of the type described which is economical to manufacture and which is easily installed.

Another object is to provide such a window construction which comprises a minimum number of relatively simple parts.

Another object is to provide such a window construction which is as readily installed as any standard window construction of the slidable sash type.

Another object is to provide such a window construction which eliminates the necessity of sash weights, pulleys and cords and other parts which require replacement or repair from time to time.

Another object is to provide such a window construction which is safe in operation and is securely held in its desired slidably or pivotally adjusted position.

A further object is to provide such a window construction which is adapted for use in standard window frames simply by replacing or modifying the jambs whereby the invention may be utilized in existing or newly constructed buildings.

Other and further objects will be obvious upon an understanding of the illustrative embodiment about to be described, or will be indicated in the appended claims, and various advantages not referred to herein will occur to one skilled in the art upon employment of the invention in practice.

In accordance with the invention, the foregoing objects are accomplished by providing a window construction comprising a member for each side of the window frame adapted for assembly in the jamb and having a lengthwise extending slot therein, a sash having a groove at each side thereof for slidably receiving one of the members, and a laterally extending pin at each side of the sash each extending into a slot of one of the members. Resilient means are provided for urging the members into the grooves and the members are operatively mounted on the jamb for limited movement with respect thereto. The slots are formed with portions which facilitate insertion and removal of the pins whereby the

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sash is easily mounted in the frame or removed therefrom.

A preferred embodiment of the invention has been chosen for purposes of illustration and description and is shown in the accompanying drawing, forming a part of the specification, wherein:

Fig. 1 is an elevational view of a window construction in accordance with the invention as viewed from the interior of a building, with parts broken away to illustrate details thereof.

Fig. 2 is a sectional view taken along the line 2—2 on Fig. 1 the sashes being shown in vertical and inclined positions.

Fig. 3 is a sectional view taken along the line 3—3 on Fig. 1.

Fig. 4 is a sectional view taken along the line 4—4 on Fig. 1.

Fig. 5 is a sectional view taken substantially along the line 5—5 on Fig. 1, the upper sash being shown in inclined position and the lower sash being shown in vertical position.

Referring to the drawings in detail, there is shown a window construction of the type wherein upper and lower sashes are mounted for slidable and pivotal movement; however, it will be appreciated that one of the sashes could be mounted for slidable movement only or could be fixed in the frame as is customary in certain types of window constructions.

Generally described, the window construction shown comprises a frame 10, an upper sash 11, a lower sash 12 and elements for slidably and pivotally mounting the sash, as will be explained in detail hereinafter.

The frame comprises a pair of parallel upright side members 14 known as jambs, a header 15 and a sill 16, the header and sill being inclined outwardly and downwardly, as shown in Figs. 2 and 3, for the purpose made apparent hereinafter. Each jamb has a pair of parallel, spaced apart rectangular cross-sectioned recesses 17 (Figs. 4 and 5) which extend along the length of the jamb and face inwardly of the frame.

The sashes 11 and 12, as shown, are rectangular, and comprise a pair of side members 19, an upper cross-member 20 and a lower cross-member 21. The side members have an arcuate cross-sectioned groove 22 (Figure 4) at the outer surface thereof and extending along the length thereof. The upper cross-member 20 of the upper sash and the lower cross-member 21 of the lower sash are inclined outwardly and downwardly at substantially the same angle as the header 15 and the sill 16, respectively, whereby

these cross-members cooperate with the header and sill to form a weather tight joint (Fig. 2). The lower cross-member 21 of the upper sash and the upper cross-member 20 of the lower sash are in horizontal alignment, when the sashes are positioned to close the window, and are adapted to be secured together by any suitable window locking device (not shown). Each side member 19 has a horizontal cylindrical pin 24 extending laterally outwardly from the groove 22 substantially at the midpoint between the upper and lower ends.

A rod, tube, or bar 25 or the equivalent is movably mounted in the recess 17 of the jamb 14 and extends along the length thereof. The rods are circular in cross-section and extend into the grooves 22 of the sashes (Fig. 4) to mount the sashes for slidable movement. However, it will be appreciated that the grooves and rods could have other cooperating shapes. Each rod has a lengthwise extending slot 26 therein for pivotally and slidably receiving a pin 24 (Figs. 4 and 5). As shown in Fig. 3, the upper and lower ends of the slots are spaced from the respective ends of the rods. More specifically, the slots of the inner rods, i. e., for the lower sash, have their upper ends spaced from the upper end of the rod about half the height of the lower sash, and the slots of the outer rods for the upper sash have their lower ends spaced from the lower end of the rod about half the height of the upper sash. The lower ends of the slots of the inner rods and the upper ends of the slots of the outer rods are spaced from the lower and upper ends, respectively, of the rods a distance less than half of the height of the respective sashes, and are formed with enlarged portions 27. These portions serve in effect as a bayonet joint construction for inserting and removing the pins from the slots to thereby facilitate installing and removing the sashes.

Each rod 25 is urged outwardly of its recess 17 by a plurality of spaced apart spring elements 29 (Fig. 1), herein shown as leaf type springs. Each of the springs is connected to the rod by a screw or bolt 30 which extends through an aperture in the jamb and an aperture in the spring, and is threaded or otherwise secured in the rod. Each of the screws or bolts has a head 31 or other suitable enlargement which will not pass through the aperture of the jamb, whereby movement of the rod outwardly of its recess is limited. In this manner the rods are retained in connection with the jamb when the sash is removed.

When the sashes are in vertical position, as shown in full lines in Fig. 2 and in Fig. 4, the springs 29 urge the rods 25 into the grooves 22 of the sashes and the pins 24 are positioned in the slots 26. The sashes may thus be raised and lowered while in their vertical position, and are adapted to be retained in any desired position by the friction between the rods and the surface forming groove. This friction is sufficient to so retain the sashes because of the force exerted by the springs.

When it is desired to tilt or incline the sashes, as shown in broken lines in Fig. 2 and in Fig. 5, the lower end of the sash is pushed outwardly. This causes the groove surface to be moved out of engagement with the rod 25 upon overcoming the force of the springs 29 whereby the pin 24 pivots in the slot 26. The surfaces of the sash adjacent the sides of the groove now extend diagonally across the rod and are frictionally

held by the spring urged rod to retain the sash in such inclined position.

In order to return the sash to its vertical position, the upper end thereof is pushed outwardly whereby the rod springs back into the sash groove again.

When it is desired to remove a sash, the sash is first inclined and is then slid to a position whereby its pins are disposed in the enlarged slot portions 27. This permits the pins to be moved out of the slots upon moving the sash horizontally in an inward direction with respect to the window frame.

From the foregoing description, it will be seen that the present invention provides an improved window construction of the type indicated herein which is extremely simple and rugged in construction, is safe and reliable in operation and is economical to fabricate.

As various changes may be made in the form, construction and arrangement of the parts herein, without departing from the spirit and scope of the invention and without sacrificing any of its advantages, it is to be understood that all matters are to be interpreted as illustrative and not in any limiting sense.

What is claimed is:

1. In a window construction of the class described including a frame, the combination of a jamb for each side of the frame having a vertical recess and spaced transverse openings therein, a cylindrical rod having spaced transverse openings movably mounted in each of said recesses having a vertical slot therein, a sash having a semi-cylindrical groove at each side thereof for slidably receiving one of said rods, said slot and groove being in alignment when said sash is in a closed position, a laterally extending pin centrally disposed at each side of said sash extending into a slot of said rod to slidably and pivotally mount said sash between said rods, said pin being rigidly secured to the sash, a plurality of leaf springs for urging said rods outwardly of said recesses and into said grooves of said sash, each of said springs having a transverse opening therethrough, and adjustable means passing through said jamb, spring and rod openings for adjusting tension of said springs and limiting the outward movement of said rods.

2. A window construction in accordance with claim 1 in which said slot is formed with a bayonet joint at one end.

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