May 11, 1926. 1,584,664

A. A. SEBASTIAN

WINDOW CONSTRUCTION

Filed Dec. 22, 1923 2 Sheets-Sheet 1

Fig. 1.

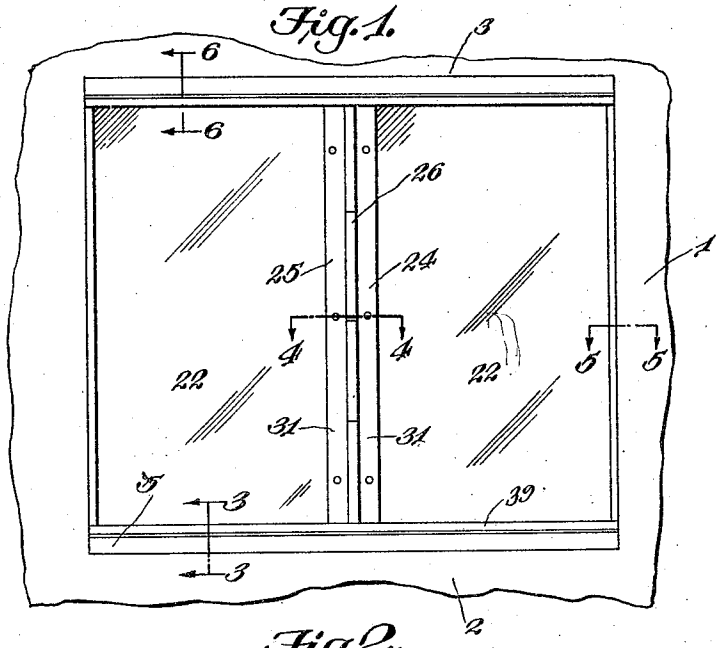


Fig. 2.

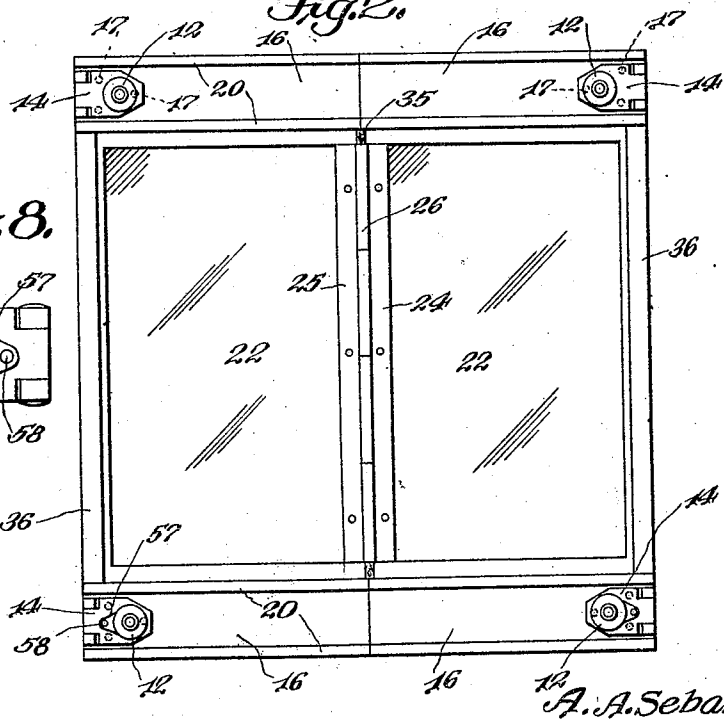
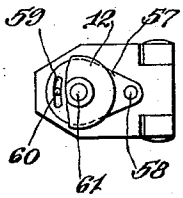


Fig. 3.



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Fig. 3.

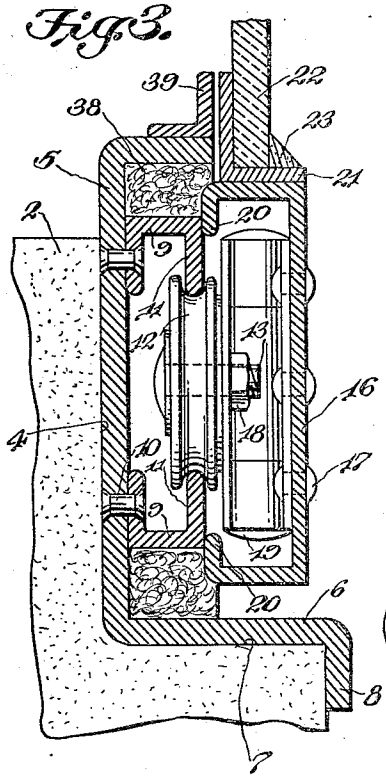


Fig. 5.

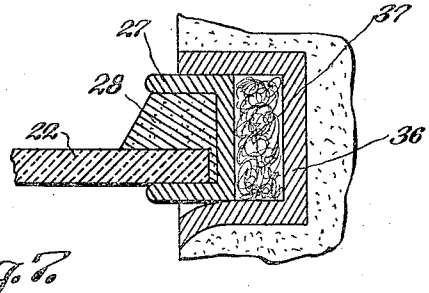


Fig. 7.

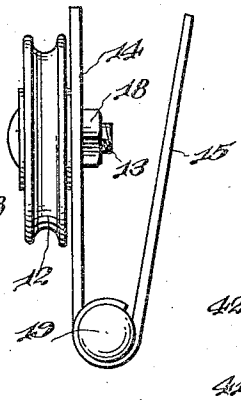


Fig. 9.

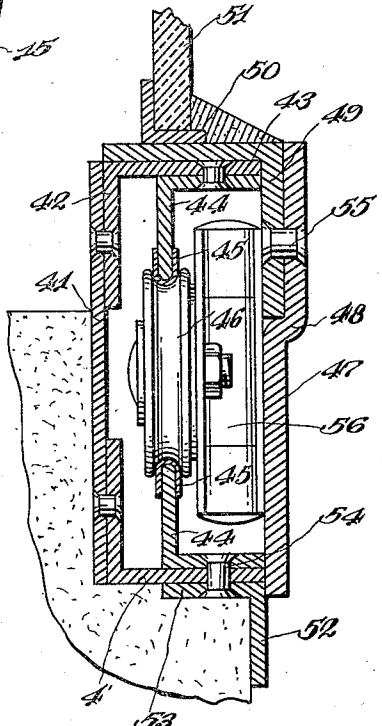


Fig. 4.

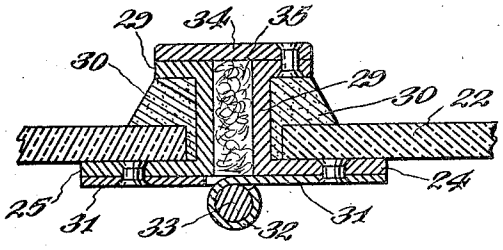
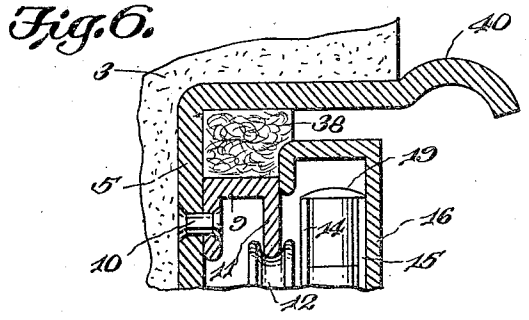


Fig. 6.



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Patented May 11, 1926. 1,584,664

UNITED STATES PATENT OFFICE.

ALPHONSE A. SEBASTIAN, OF CHICAGO, ILLINOIS.

WINDOW CONSTRUCTION.

Application filed December 22, 1923. Serial No. 682,274.

This invention relates to new and useful improvements in window construction and more particularly to an improved form of swinging and sliding window. The main object of the present invention is the provision of an improved type of window construction which will permit the window to swing outwardly out of the window casing and also to provide means whereby the window when open, may be slidably moved across the window casing to any desired position without frictional resistance.

Another object of my invention is the provision of an improved window construction entirely of metal which will provide a stronger construction and improve the wearing qualities of the parts that make up the construction, but at the same time is provided with means for eliminating all unnecessary noise during the operation of opening and closing the window.

A further object of my invention is the provision of novel means for mounting a swinging and sliding window with respect to the window casing and wherein said means includes cushioning members so positioned as to partially deaden the sound of contact of the metal parts coming together so as to reduce to a minimum the noise created through the cooperation of the several metal parts of the device, and act as weather strips.

With the above and other objects in view the invention consists in the novel features in construction, the combination and arrangement of parts hereinafter more fully set forth, pointed out in the claims and shown in the accompanying drawings in which:—

Fig. 1 is a front elevation of a window construction made in accordance with my invention.

Fig. 2 is a similar view, parts of the same being removed.

Fig. 3 is a detail transverse section taken on the line 3—3 of Fig. 1.

Fig. 4 is a detail transverse section taken on the line 4—4 of Fig. 1.

Fig. 5 is a detail section taken on the line 5—5 of Fig. 1.

Fig. 6 is a detail section taken on the line 6—6 of Fig. 1.

Fig. 7 is an edge view of the spring hinge which supports the rollers.

Fig. 8 is a detail elevation of one type of roller mounting.

Fig. 9 is a detail transverse section illustrating a slightly modified form of the invention.

Referring now more particularly to the drawings, the numeral 1 indicates the side portions of a window casing, 2 the sill and 3 the top frame member. The sill 2 and top portion 3 are cut away as indicated at 4 to form a recess in which the substantially U shaped supporting plate 5 is positioned, the lower horizontal portion 6 of the plate resting upon the shoulder 7 formed by the cut away portion 4 and in order to securely position the plate within the cut away portion a down turned flange 8 is formed integral with the horizontal portion 6 and embraces the outer face of the sill and the top portion of the window casing.

Arranged at the intermediate portion of the plate 5 is a trackway which comprises two opposed U shaped members 9 each having one of their side portions riveted or otherwise secured to the body of the plate 5 as clearly shown in Fig. 3. While I have illustrated the use of the rivets 10 for positioning the track members with respect to the plate 5, it will be apparent that screw bolts or other similar fastening means may be employed. The outer side portions 11 of the U members 9 are disposed in alignment as shown in Fig. 3 to form a guide or trackway for the rollers 12. These rollers 12 are mounted upon suitable stub shafts 13 carried by the plate 14 of a suitable hinge member, the opposite plate 15 of which is secured to the channel bar 16. In placing the hinge member in position, it will be noted that it is arranged longitudinal of the window casing and suitable rivets 17 are employed to secure the plate 15 of the hinge member to the channel bar 16 and the stub shaft 13 is retained in position with respect to the plate 14 by means of a nut 18 threaded upon one end thereof. The two plates 14 and 15 of the hinge member are each provided with hinge sleeves disposed in alignment and having a pintle 19 inserted therethrough for pivotally connecting the two plates 14 and 15.

The channel bar 16 as illustrated is U-shaped in cross section with inturned flanges 20 formed upon the side walls of the channel bar, said flanges having portions thereof engaged with the side portions 11 of the U members 9 when the window is in a closed position. The channel bar 16 carries the

angular frame 21 in which the glass 22 is fitted and retained in position by means of putty or other similar fastening means, said fastening means being indicated at 23. These angular members 21 are extended across the top and bottom portions of the window and secured in any suitable manner to the channel bar 16.

The two frames which comprise a single window include the two frame portions 24 and 25 which are hingedly connected at 26 or preferably at a point central of the two sides of the window thus leaving the frames 24 and 25 of the same size upon opposite sides of the center. These two frames 24 and 25 which include top and bottom channel bars 16 with a hinge member at their outer ends carrying a roller 12 which bears upon the outer portions of the U members 9 and also include the outer U shaped channel members 27 in which the outer side edges of the glass 22 is fitted and retained in position by means of the filler 28. The inner side or adjacent edges of the glass 22 is fitted into the U shaped bars 29 which are provided with the fillers 30 for retaining the glass in position within the bars. The two U bars 29 and the inner longitudinal edges of the glass member 22 are hingedly connected by having a plate 31 secured to one of the side portions of the U bars 29 with their inner edges formed with aligned sleeve members 32 having a pintle 33 extending therethrough to pivotally connect the two plates 31 thus hingedly connecting the two frames 24 and 25. In order to limit the swinging movement of the frame in one direction, a stop plate 34 is secured to one of the inner side walls of one of the members 29 and is adapted to extend over onto the inner side portion of the opposite member 29 to limit the inward swinging movement of the two frames 24 and 25.

Arranged between the two members 29, which are in spaced relation as shown in Fig. 4 is a suitable packing 35 which may be of felt or any similar material and which is secured in any suitable manner to the intermediate portion of one of the members 29 so that when the members are moved toward each other to a closed position as shown in Fig. 4, this packing or filler will serve as a buffer and tend to reduce the noise arising from the closing of the window frames.

When the frames 24 and 25 are moved to a closed position the U bars 27 at the longitudinal edges of the glass 22 are fitted within suitable channel members 36 arranged within the side portions of the window casing and disposed within these channel members 36 is a fabric filler 37 against which the U shaped members 27 abut when being positioned within the channel bars 36 so as to form a cushion for the positioning of the U members 27 and eliminate all unnecessary noise during the closing movement of the window frames.

Attention is directed to Fig. 3 wherein it will be noted that the U members 9 are arranged in spaced relation with the side portions of the plate 5 and arranged within the spaces between the U members and the side portions of the plate are packing members 38 which extend beyond the side portions 11 of the U members 9 as shown in Fig. 3 so that when the channel bars 16 are moved inwardly toward a closed position, the flanges 20 on the channel bars 16 will strike the outer ends of the fillers 30 and reduce the contact between the flanges 20 and the members 11 thus eliminating the noise resulting from the contact of these two members.

In order to provide a suitable buffer for the vertically disposed portions of the angular members 21 a buffer plate 39 is arranged transversely across one of the side portions of the plate 5 as shown in Fig. 3 with one side of the member 39 terminating on a level with the inner edge of the angular member 21.

In Fig. 6 I have illustrated in particular the construction of the plate 5 which is arranged in the cut away portion at the top of the window casing and it will be noted that the upper side portion of the plate 5 in this instance is formed with an arcuate shaped extension 40 which projects beyond the outer face of the window casing and provides a suitable shed to protect the operating parts of the window to a certain extent from the rain and weather.

From the foregoing it will be apparent that when it is desired to open the window frames 24 and 25 with respect to the casing, the central portion of the window is moved outwardly away from the casing resulting in drawing the U members 27 from out of the channel members 36 and permitting the frames carried by the channel bars 16 to swing outwardly away from the casing and as the two outer side edges move inwardly toward the center of the casing, the rollers 12 will ride upon the track portions carried by the plate 5 and in view of the fact that the channel members 16 are hinged to the rollers it will permit outward swinging movement of the window frames 24 and 25 and at the same time permit them to slide toward each other or toward the center point of the window casing. If so desired, however, one of the window frames may be moved toward the center of the casing with the other frame remaining in a nearly normal closed position or both of the frames may be moved to one side of the casing if so desired.

In Fig. 9 I have illustrated a slightly modified form of the invention and in the

construction of this form a back plate 41 is arranged within the cut away portion formed in the top and bottom of the casing and suitable angular plates 42 are connected to this back plate 41 with their horizontal portions extending outwardly and arranged parallel with the horizontal shoulders of the cut away portions 4'. Arranged upon the inner side of the horizontal portions 43 of the plates 42 are the angular trackways 44, the vertically disposed portions of which are arranged in opposed relation and their bearing edges provided with U shaped bearing members 45 upon which the roller 46 rides. In this construction instead of using the U shaped channel member as in the main form of the invention for supporting the roller 46, a plate 47 is provided the inner edge of which is off set as at 48 and arranged in the off set portion is an angular plate 49 the horizontal portion of which abuts the horizontal portion 43 of one of the angular plates 42 and supports the angular bar 50 which in turn supports the glass 51. The outer edge of the plate 47 projects beyond the horizontal portion of the opposite plate 42 and engages an angular guard plate 52 which fits over the outer corner of the cut away portion 4' with its horizontal portion 53 countersunk within the shoulder 4' so as to provide a smooth bearing surface on the horizontal portion of one of the plates 42. The plates 44, 52 and 42 are riveted together as at 54 so as to provide a substantial construction at this point and prevent movement of the several plates with respect to each other. The off set portion 48 of the plate 47 and the vertical portion of the member 49 are secured together by means of rivets 55 although other similar fastening means may be employed.

The roller 46 is hingedly connected to the plate 47 through the hinge member 56 so as to permit the window frames to be swung outwardly away from the casing when opening or closing the same. In this form of the invention it is noted that the packing members carried by the stationary parts are eliminated as the movable parts and stationary parts having sliding connection with each other when brought together to eliminate all unnecessary noise.

In Fig. 8 I have illustrated in detail the manner in which I prefer to have the rollers 12 at the bottom of the sash mounted so that they may move laterally with respect to the hinge plate to accommodate the roller 12 to the irregularities which might occur in the construction of the casing or fitting of the frame within the casing. In this construction a supporting plate 57 is pivotally connected to the hinge plate as at 58 and is provided with an arcuate slot 59 in which the pin 60, carried by the hinge plate is arranged so as to limit the swinging movement of the plate 57 with respect to the hinge plate. The roller 12 is mounted upon the stub shaft 61 carried by the plate 57 and is engaged by the trackways carried by the casing in the usual manner.

While I have shown and described the preferred form of my invention I wish it to be understood that various changes and alterations may be carried out during the manufacture of the same without departing from the spirit of the invention or the scope of the appended claims.

Having thus described my invention what I claim is:—

1. In a window construction, a casing, having cut away portions at the top and bottom thereof, a U shaped supporting plate fitted into said cut away portions, opposed track members carried by said plate and in spaced relation with the side portions of the plate, U shaped channel bars, hinged members carried by the channel bars, flanged rollers carried by the hinges and disposed between the opposed track members, and packing members arranged between the track members and side portions of the plate.

2. In a window construction, a window casing having cut away portions, a supporting plate arranged within said cut away portions, opposed track members carried by said supporting plate, a movable bar, hinged means each having one of their leaf portions secured to said bar, and a grooved roller carried by each of the other leaf portions and adapted to be engaged between the opposed track members.

3. In a window construction, a casing having cut away portions at the top and bottom thereof, U shaped opposed members carried by said plate and arranged in spaced relation with the side portions thereof, means connecting one of the side portions of the U members with the plate, channel bars U shaped in cross section, hinged members within the channel bars each having one of the leaf portions secured to the channel bar, a guide roller carried by the other leaf portion and fitted between the outer side portions of the opposed U members, and packing members arranged between the U members and the side portions of the plate.

4. In a window construction, U bars arranged in spaced relation and faced in opposite directions, window panes having their longitudinal edges arranged within said U bars, filling material within the U bars engaging the panes, means hingedly connecting said U bars, means hingedly connecting the U bars to permit swinging movement of the window panes, and means carried by one of the U bars and engaging the other bar for limiting the swinging movement of the window panes in one direction.

5. In a window construction, U bars ar-

ranged in spaced relation and extending in opposite directions, window panes each having one of their longitudinal edges fitted into the U bars, a filler in the U bars and engaging the edges of the window pane to retain the same in position, plates secured to one side portion of the U bars, aligned sleeves formed on the inner edges of said plates, a pintle extending through the sleeves for hingedly connecting the U bars to permit swinging movement of the window panes, and a stop plate carried by the opposite side portion of one of the U bars and adapted to extend over for engagement with the other U bar for limiting the swinging movement of said bars in one direction.

6. In a window construction, a casing, U shaped channels fitted into the side portions of said casing, packing means arranged within said channels, a second channel bar adapted to be fitted into the first channel bar and brought into contact with the packing, a window pane having one of its longitudinal edges arranged in the second channel bar, and filling material within the second channel bar for retaining the window pane in position therein.

7. In a window construction, a casing, having cut away portions at the top and bottom thereof, a U shaped supporting plate fitted into said cut away portions, opposed track members carried by said plate and in spaced relation with the side portions of the plate, U shaped channel bars, hinged members carried by the channel bars, and flanged rollers carried by the hinges and disposed between the opposed track members.

8. In a window construction, U-shaped bars arranged in spaced relation and faced in opposite directions, window panes having their adjacent edges arranged within said U-shaped bars, filling material within the U bars engaging the panes and means hingedly connecting the U bars to permit swinging movement of the window panes.

9. In a window construction, a casing, U shaped channels fitted into the side portions of said casing, packing means arranged within said channels, a second channel bar adapted to be fitted into the first channel bar and brought into contact with the packing, a window pane having one of its longitudinal edges arranged in the second channel bar.

In testimony whereof I affix my signature.

ALPHONSE A. SEBASTIAN.