Dec. 26, 1933. L. R. GOLLNICK 1,940,796

STORM WINDOW

Filed Feb. 27, 1931 2 Sheets-Sheet 1

Fig. 1.

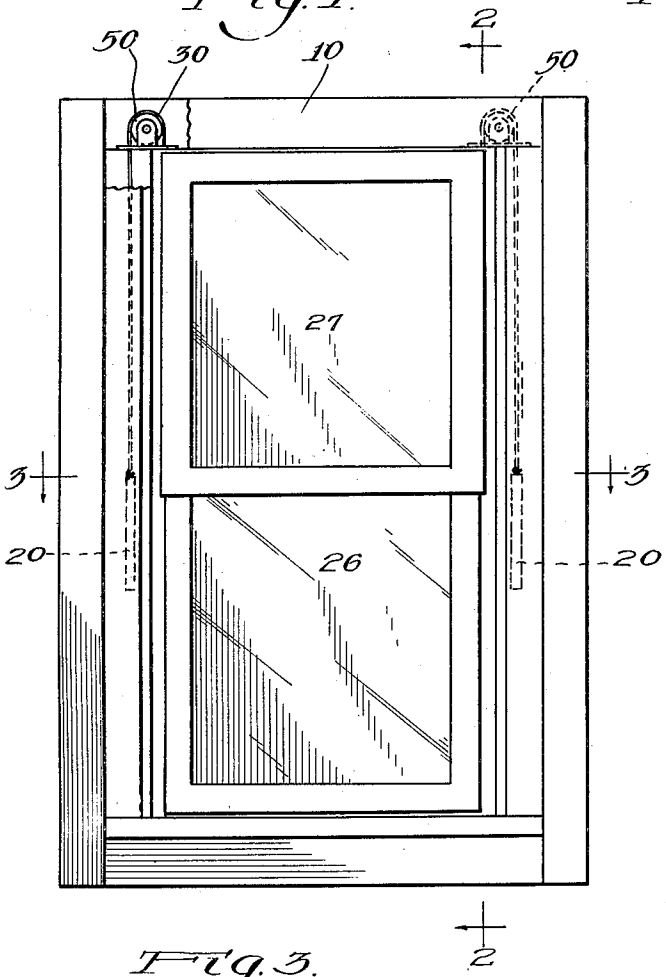


Fig. 2.

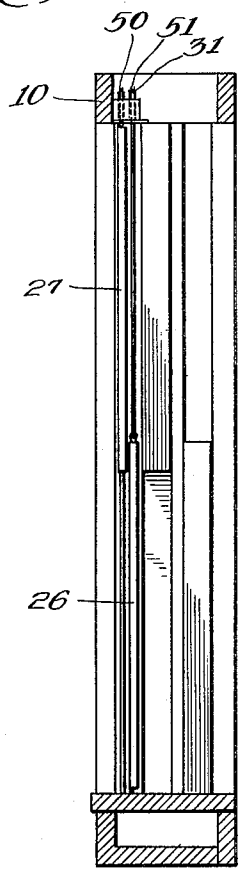
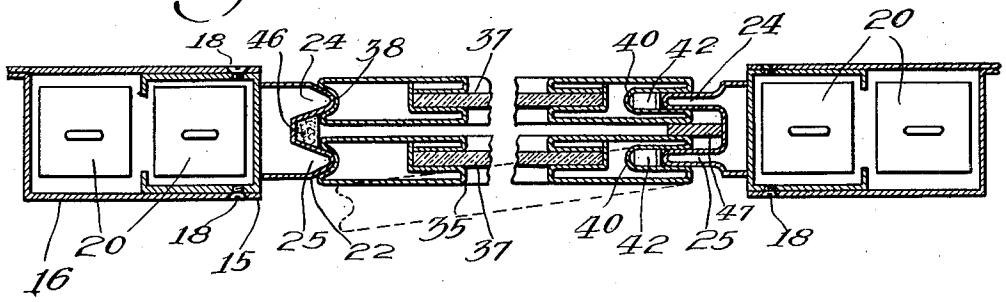


Fig. 3.



Inventor:
Louis R. Gollnick
By Dyer, Goth, Lee, Chritton & Wilt
Atty's.

Dec. 26, 1933. L. R. GOLLNICK 1,940,796

STORM WINDOW

Filed Feb. 27, 1931 2 Sheets-Sheet 2

Fig. 4.

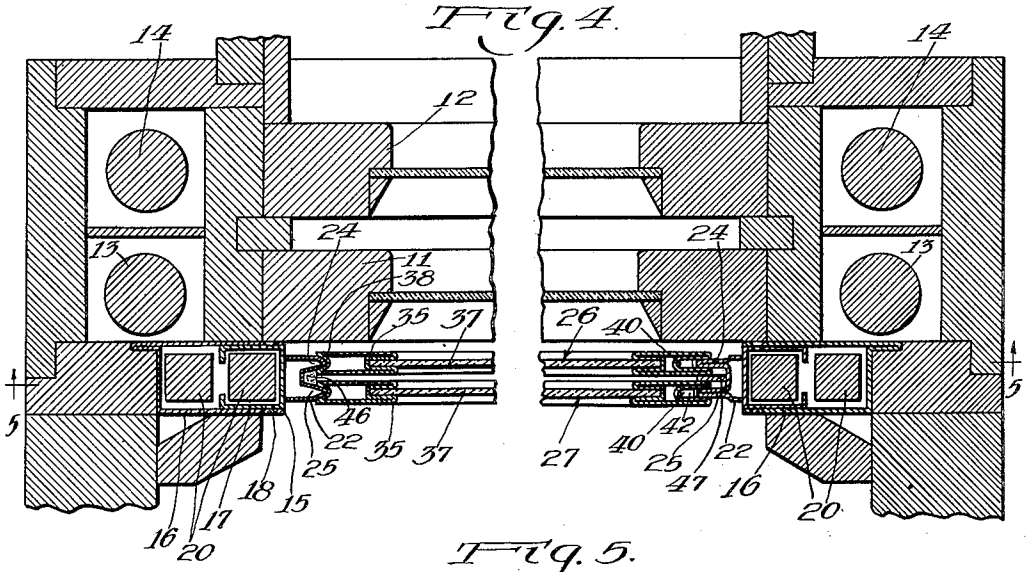
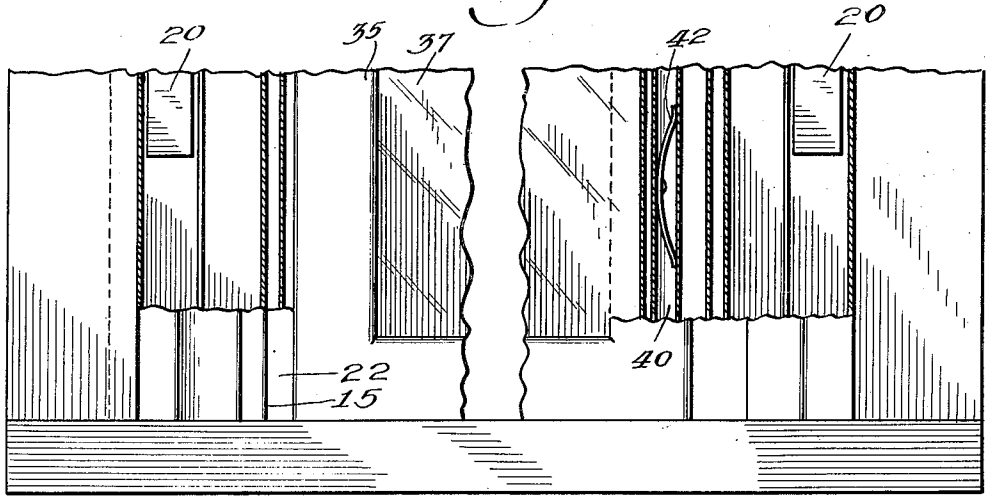


Fig. 5.



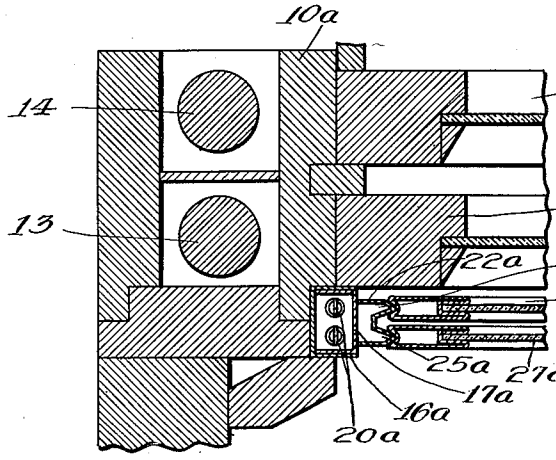


Fig. 6.

Inventor:
Louis R. Gollnick,
By Dyrenforth, Lee, Chritton & Wilt
Atty's:

Patented Dec. 26, 1933

1,940,796

UNITED STATES PATENT OFFICE

1,940,796

STORM WINDOW

Louis R. Gollnick, Chicago, Ill., assignor of one-half to R. Kurt Neukranz, Wilmette, Ill.

Application February 27, 1931. Serial No. 518,821

8 Claims. (Cl. 20—55)

The invention relates to storm windows, and has as its primary object the provision of improved storm windows having sashes which may be opened for the purpose of ventilation, etc., and which may be easily replaced with screens during the warm weather.

One form of the invention is embodied in a storm window which comprises upper and lower sashes, the sashes being counterbalanced by weights, or springs, so that they may be opened or closed as desired. The counterbalancing weights, or springs, are disposed in housings which replace the outer blind stops on the usual window with which the improved storm window is associated. The housings assume the functions of the blind stops and the construction thereof is such that the counterbalancing means is readily accessible for repairs, etc.

Other objects and advantages will become apparent as the following detailed description progresses, reference being had to the accompanying drawings, wherein:

Figure 1 is an elevation, partly broken away, of a storm window which embodies the invention, the storm window being shown associated with a window of any usual or desired construction.

Fig. 2 is a section taken on line 2—2 of Fig. 1.

Fig. 3 is an enlarged section taken on line 3—3 of Fig. 1, the storm window being shown by itself detached from the other window.

Fig. 4 is a section which is also taken on line 3—3 of Fig. 1.

Fig. 5 is a section taken on line 5—5 of Fig. 4, and

Fig. 6 is a fragmentary horizontal section taken through a storm window which embodies another form of the invention, the storm window being shown in connection with a window of conventional construction.

Referring for the present to Figs. 1 to 5, inclusive, wherein a preferred form of the invention is illustrated, the reference character 10 designates generally a window frame of conventional construction which has upper and lower window sashes 11 and 12, respectively, the sashes 11 and 12 being counterbalanced by weights 13 and 14 which are suspended in the side members of the frame 10 (see Fig. 4).

As best shown in Fig. 4, the usual stop members on the outer side of the window frame 10 have been replaced by metallic housings 15 which are slidably engaged by the upper sash 11. The housings 15 are preferably rectangular in cross-section and are preferably formed from sheet metal. As shown, each housing 15 comprises a member 16, which is approximately U-shape in cross-section, and has its open side closed by a second U-shaped member 17 which is secured to the member 16 by screws 18, or the equivalent for the purpose. Suspended in the members 16 and 17 are weights 20, the purpose of which will presently appear.

Upon the opposed outer surfaces of the members 17 are guides 22 which may be formed from any suitable material. In this instance, they are shown constructed from sheet metal, and each guide is formed with a pair of vertically extending rails 24 and 25, the rails 24 and 25 of one guide 22 being alined with the rails 24 and 25 of the other guide 22. Slidably mounted to ride on the rails 24 is a lower sash 26 and slidably mounted on the rails 25 is an upper sash 27.

The housing members 15, together with the guide members and the sashes 26 and 27 constitute a storm window of such construction that the sashes may be opened or closed as desired for the purpose of ventilation, etc.

The upper sash 27 is connected by cables 30 to a pair of the counterbalancing weights 20, the lower sash 26 being connected to the other pair of counterbalancing weights 20 by cables 31. The cables 30 and 31 are trained over sheaves 50 and 51, respectively, mounted at the upper ends of the housing members 16.

The sashes 26 and 27 are preferably identical in construction, and in this instance each of them comprises a metallic frame 35 which is preferably formed from sheet metal and holds the glass 37. It will be noticed that the left-hand (Fig. 4) vertical edges of the frame 35 have grooves 38 which receive the rails 24 and 25. The right-hand (Fig. 4) vertical edges of the frame 35 have deep grooves 40 into which the rails 24 and 25 project. Disposed in the grooves 40 and secured to the frame 35 are spring members 42 which ride upon the outer edges of the associated rails 24 and 25 for yieldingly holding the surfaces of the grooves 38 in engagement with the rails 24 and 25 provided on the left-hand guide 22.

It will be readily understood that when the sashes 26 and 27 are to be removed, it is only necessary to urge them to the right (Fig. 4) against the action of the springs 42 until the grooves 38 can be disengaged from the rails 24 and 25 normally engaging them. The sashes may then be withdrawn and replaced with screens if it is so desired. The manner in which the sash 27 may be withdrawn from its position between the two guides 22 is illustrated in dotted lines in Fig. 3.

To prevent drafts of air through the improved

storm window, a strip of felt 46 is secured to the left-hand (Fig. 4) guide 22 between its rails 24 and 25 so that the vertical edges of the sashes may engage it. A parting strip 47 is preferably formed from sheet metal which projects from and is secured to the right-hand (Fig. 4) guide 22 and is slidably engaged by the frames 35. Obviously, the felt strip 46 and the parting strip 47 co-operate with the sashes 26 and 27 to form relatively air-tight joints.

In Fig. 6, a modified form of the invention is illustrated. A window frame 10*a* of conventional construction has upper and lower sashes 11*a* and 12*a*, respectively. The usual blind stops at the outer side of the frame 10*a* are replaced by metallic housings, one of which is shown at 16*a*. The metallic housing 16*a* is preferably U-shaped in cross-section and its open side is closed by a second U-shaped member or strip 17*a*. Secured to the outer surface of each member 17*a* is a guide 22*a* which is identical in construction with the guide 22, described above, and is provided with rails 24*a* and 25*a*. Sashes 26*a* and 27*a* ride upon the rails 24*a* and 25*a*, respectively, and are substantially identical in construction with the sashes 26 and 27, described above. Disposed within the housing member 16*a* and 17*a* are springs 20*a* which are secured by cables (not shown) to the sashes 26*a* and 27*a*. The springs 20*a* have the same functions as the weights 20 described above, and counterbalance the window sashes 26*a* and 27*a*.

While I have shown and described certain embodiments of my invention, it is to be understood that it is capable of many modifications. Changes, therefore, in the construction and arrangement may be made without departing from the spirit and scope of the invention as disclosed in the appended claims, in which it is my intention to claim all novelty inherent in my invention as broadly as possible, in view of the prior art.

What I claim as new, and desire to secure by Letters Patent, is:

1. A storm window comprising tubular side members forming stops for the window with which said storm window is associated, a sash movably mounted intermediate said side members, and means in said side members for counterbalancing the sash.

2. A storm window comprising tubular housings forming stops for the window with which said storm window is associated, guiding means on said housings, sashes slidably mounted on said guiding means, and counterbalancing means for said sashes, said counterbalancing means being disposed in said housings.

3. A storm window comprising tubular housings forming stops for the window with which said storm window is associated, sashes slidably mounted between said tubular housings, and counterbalancing means for said sashes, said counterbalancing means being disposed in said housings.

4. A storm window comprising tubular housings forming stops for the window with which said storm window is associated, each of said tubular housings comprising a pair of U-shaped members, sashes slidably mounted intermediate said housings, and counterbalancing means for said sashes, said counterbalancing means being disposed in said housings.

5. A storm window comprising tubular housings adapted to be attached to a window frame, sashes slidably mounted intermediate said housings, and counterbalancing means for said sashes, said counterbalancing means being disposed in said housings.

6. A storm window comprising tubular housings adapted to be attached to a window frame, guiding means on said housings, a plurality of sashes slidably mounted on said guiding means and quickly detachable therefrom, and counterbalancing means for said sashes, said counterbalancing means being disposed in said housings.

7. A storm window comprising tubular housings forming stops for the window with which said storm window is associated, guiding means on said housings, a plurality of sashes slidably mounted on said guiding means and quickly detachable therefrom, and counterbalancing means for said sashes, said counterbalancing means being disposed in said housings.

8. A storm window comprising vertical guide members, a plurality of sashes slidably mounted on said guide members and quickly detachable therefrom, and weights for counterbalancing said sashes, said weights being disposed in back of said guide members approximately in the planes of said sashes.

LOUIS R. GOLLNICK.