

April 18, 1944.

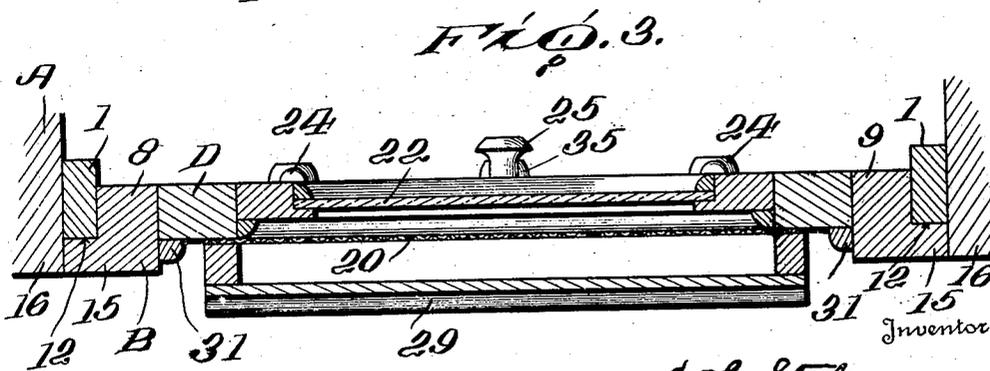
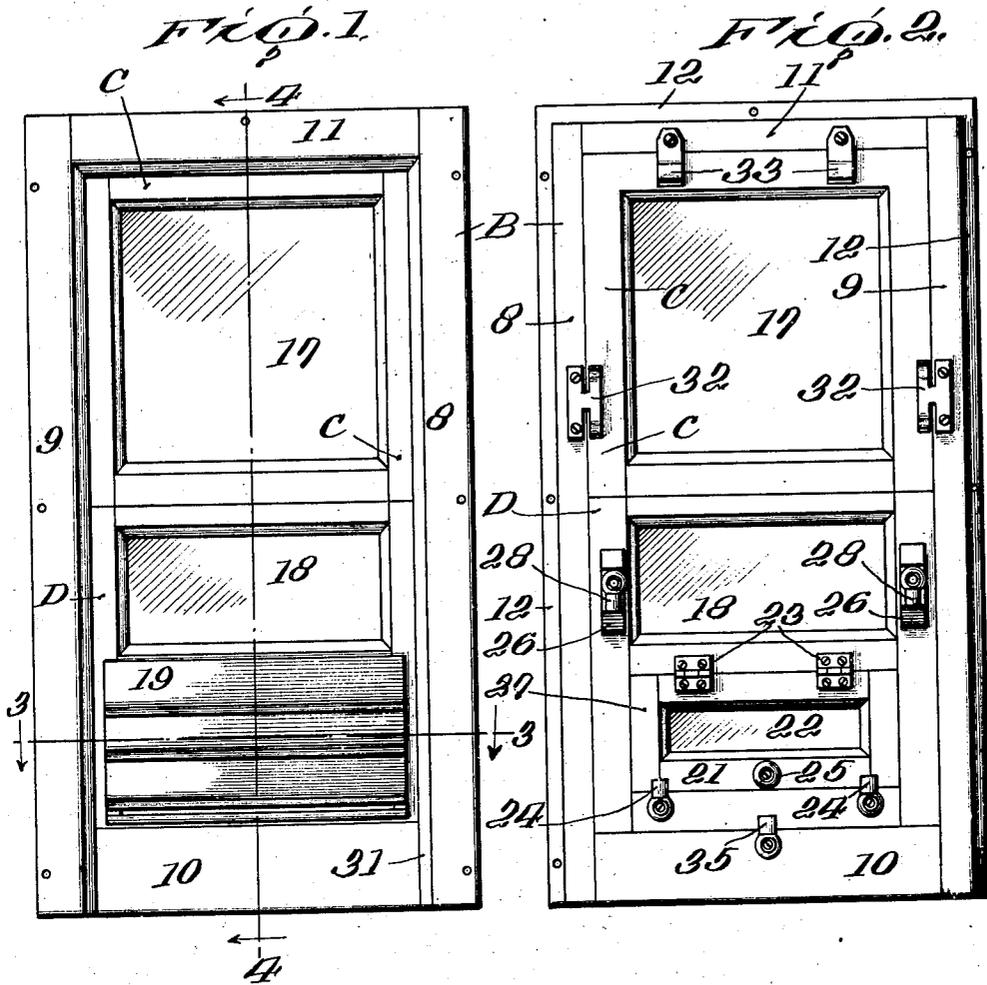
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STORM WINDOW

Filed May 13, 1943

2 Sheets-Sheet 1



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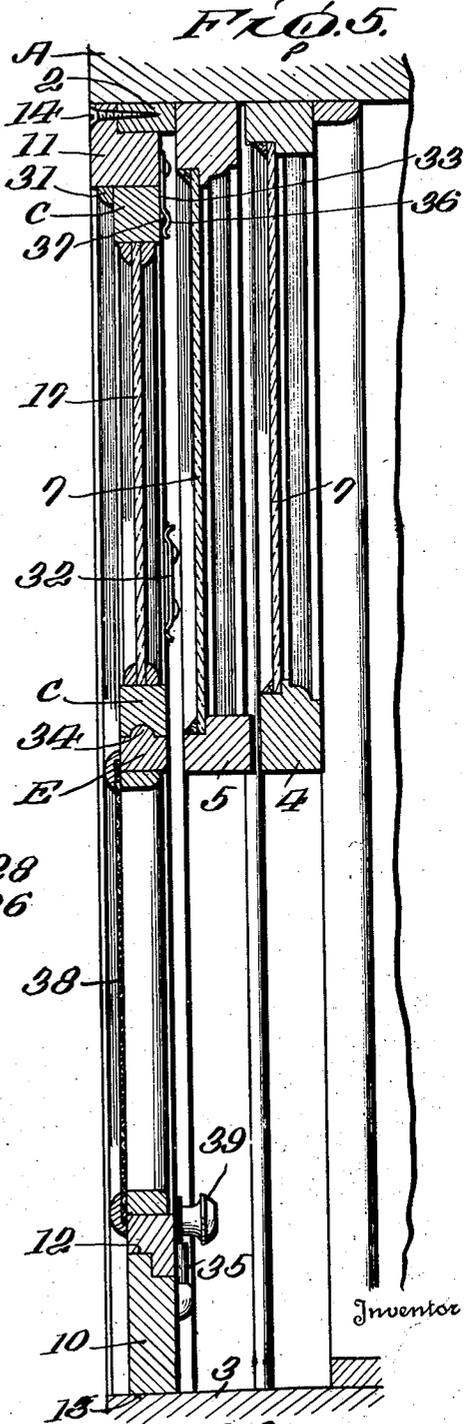
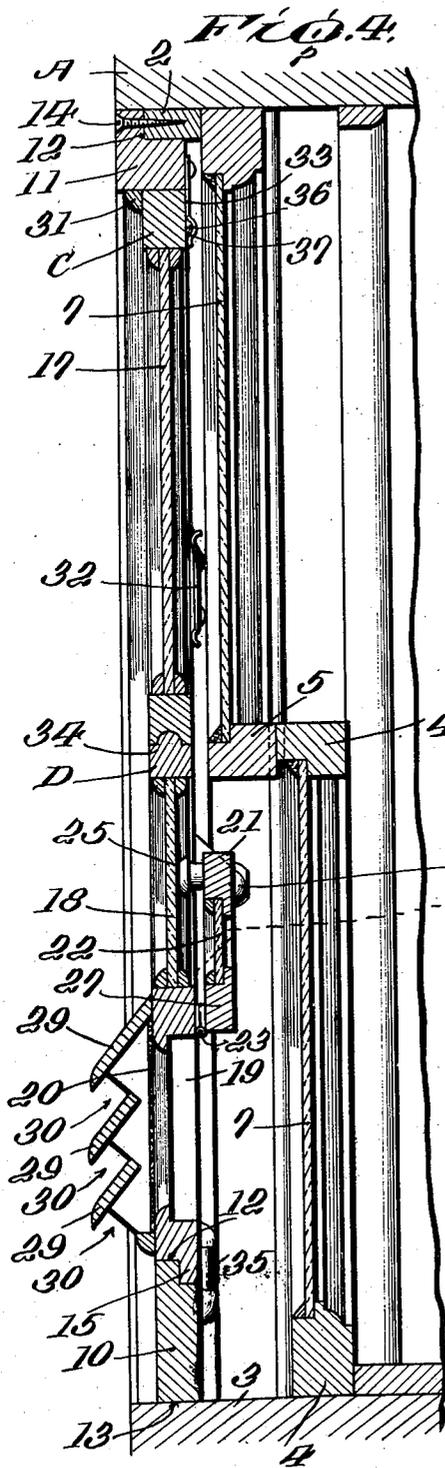
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UNITED STATES PATENT OFFICE

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STORM WINDOW

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Application May 13, 1943, Serial No. 486,751

3 Claims. (Cl. 160-91)

This invention relates to a storm window and more particularly to a combined storm window and screen.

The invention has as its primary object the provision of a storm window having a removable sash so as to make the window suitable for both summer and winter use, whereby the storm window frame may be permanently secured in a window or door frame to obviate the necessity of putting in and taking out the storm window at the beginning and ending of the winter season.

A further object of the invention is the provision of a storm window which is weather-tight and which when used in the winter embodies convenient means for ventilating the room and a window which can be quickly and conveniently converted for summer use.

A still further object of the invention is the provision of a storm window having the foregoing attributes which is cheap and simple of construction, highly efficient in operation, and which can be comparatively quickly permanently installed.

Further objects, novel features of construction and improved results of the invention will appear from a reading of the following description in the light of the accompanying drawings.

In the drawings:

Fig. 1 is a front outside view of the winter form of the storm window.

Fig. 2 is an inside or rear view of the window appearing in Fig. 1.

Fig. 3 is a horizontal sectional view taken on the line 3-3 of Fig. 1.

Fig. 4 is a vertical sectional view on the line 4-4 of Fig. 1.

Fig. 5 is a vertical sectional view similar to Fig. 4 illustrating the summer form of the storm window.

It is well known that it has long been common practice to provide storm windows but in the past it has generally been the practice to put such windows up at the beginning and take the windows down at the ending of the winter season. This requires considerable trouble, time and labor and has the further disadvantage of making it difficult, if not impossible, to provide a weather-proof joint between the storm window frame and the window opening with which the storm window is used.

My invention provides a storm window the frame of which remains permanently in place and by utilizing caulking, which can be used because the storm window frame is not seasonally removed, a weather-tight connection between the

storm window and the window opening with which it is used can be obtained.

Describing the invention in detail and referring to the accompanying drawings in which like parts are designated by similar reference numerals and characters throughout the description, and specifically to Figs. 3 and 4 of the drawings, A designates an ordinary and conventional frame provided with a window opening in a residence or other building. Such frames have their opposing vertical side faces provided with blind stops 1 and across their tops or heads with a blind stop 2 while a sill or stool 3 extends across their bottoms.

These conventional window frames are provided with ordinary windows which are usually in the form of a double sash so as to provide a lower sash 4 and an upper sash 5 each of which is provided with the usual pane of glass 7.

It is to be understood that the present storm window does not call for an ordinary window frame of any particular type or construction and is illustrated for convenience only in combination with a window frame of the usual and conventional type.

Describing the storm window itself and referring to Figs. 1 to 4, inclusive, of the drawings, B designates the storm window frame made up of vertical side members 8 and 9, a cross base member 10 and a cross head member 11.

At their inner or rear sides the vertical members 8 and 9 and the head member 11 are cut out to form a continuous rabbet 12, which when the storm window is positioned in the conventional window frame receives and abuts the blind stops 1 and 2, as appears in Fig. 3 of the drawings, while the cross base member 10 of the frame rests upon a window sill 3, as indicated at 13 in Fig. 4 of the drawings.

The storm window frame is secured permanently and tightly in position by suitable screws 14 or the like, and as has been previously mentioned it is intended that the joints between the storm window frame and the conventional window frame be caulked.

When the storm window is in place the outer face 15 of its frame is flush with the front face 16 of the conventional frame A. This provides an installation of pleasing appearance and one which will not detract from the appearance of the building with which the storm window is used.

The storm window is provided with an upper sash C carrying a pane of glass 17 and a lower sash D. In the upper portion of the lower sash there is a pane of glass 18 while in the lower portion an opening 19 is provided with a screen

20. This opening is for the purpose of ventilation and is normally closed by a swinging door 21 provided with a pane of glass 22.

The door 21 is mounted on suitable hinges 23. Suitable rotary fasteners 24 hold the door in a closed position. When these fasteners are released the door can be swung upwardly by its handle 25 into the position illustrated in Fig. 4 of the drawings so that it will lie between the inwardly extending blocks 26. The tops of these blocks are flush with the inner face 27 of the door frame 21 which enables the swinging fasteners 28 to be moved over the inner face of the door, as appears in Fig. 4 of the drawings, to hold the door in an elevated position.

Exteriorly the opening 19 beyond the screen 20 is provided with a series of outwardly and downwardly extending louvres 29 to provide a series of openings 30 for the admission of air through the screen and opening. These louvres permit the ventilating door 22 to be safely opened during rainy or snowy weather.

The upper and lower sashes C and D are positioned within the storm window frame B and are retained against a suitable bead or rabbet 31. The retaining means in respect to the upper sash are the side spring members 32 and the top spring fingers 33. The lower sash abuts the upper sash and is held in position by reason of the tongue and groove connection 34 between its head and the bottom of the upper sash and the rotatable fastener 35 carried by the frame base 10 and which is movable over the inner lower end of the lower sash, as is illustrated in Fig. 2 of the drawings. When it is desired to remove either the lower or upper storm sash this is easily done by merely rotating the fastener 35 to disengage it from the lower sash. The lower end of the lower sash can then be moved inwardly and the sash pulled downwardly to disengage its tongue and groove connection with the upper sash. The lower sash can then be freely lifted from the storm frame. If it is desired to remove the upper sash this can be quickly and easily done by sliding the upper sash downwardly until it is disengaged from its spring retainers 32 and 33. When the upper sash is so disengaged it can be lifted freely from the storm frame B. To make the spring fingers 33 more effective as a holding means they are provided with a crimp 36 which engages a screw head 37 or some suitable like extension provided on the inner side of the upper storm sash C.

It will be understood that the provision of the louvres is optional. They are not essential but are a desirable feature. Where a room has several windows sufficient ventilation can in all probability be obtained through one or at most two windows, and consequently the storm sash in the remaining windows would not be provided with the ventilating opening 19. That is to say, a storm window would be provided in which the lower sash is identical to the upper sash in that it would carry nothing but a pane of glass throughout its whole area.

The tongue and groove connection 34 provides a weather-tight joint between the upper and lower storm sashes in addition to functioning as a means for assisting in retaining the lower storm sash in place in the storm window frame.

Fig. 5 illustrates the installation as it would preferably be used in the summer season. Like parts are designated by similar reference numerals in this figure of the drawings. Here the

lower sash is designated as E and is a sash which has been substituted for the winter sash D. The lower sash in this instance constitutes a screen 38. This sash for the purposes of convenience is provided with a handle 39 and has the same tongue and groove connection 34 at its upper edge with the lower end of the upper sash. The same fastener 35 engages the lower end of the sash to hold it in position in the frame. Obviously if it should prove desirable the whole storm frame could be made into a screen by removing the upper window carrying sash C and substituting for it a sash carrying a screen in place of the window glass. This would be done should a full length rather than a half length window screen be desired.

With a storm window constructed in accord with the present invention it will be seen that full and adequate additional weathering protection is obtained in the winter season yet there is provision for ventilation when the same is desired. When the summer season arrives the storm window is converted to summer use by merely removing the lower storm window sash and substituting therefor the lower sash E provided with the screen 38 or substituting a pair of such sashes E for both of the winter sashes C and D if a full length screen is desired. With this construction a weather-tight and weather-proof storm window can be obtained because the frame remains permanently in place and can be not only securely fastened in position but can be caulked to assure against the possibility of any weather leakage. The conversion from winter to summer use and vice versa can be readily, quickly and easily effected.

It has been found that this storm window enhances rather than detracts from the appearance of the building with which it is used, and its use results in winter in a large saving of fuel and in greater heating comfort.

The invention is to be limited only within the scope of the hereinafter appended claims, as small constructional changes can be made in the window without departing from the spirit of the invention.

I claim:

1. A storm window comprising, a frame having an opening therein, said frame having at its outer edges a continuous outwardly extending shoulder at its sides and top, said frame opening having a continuous shoulder adjacent its front edge, an upper sash and a lower sash, said sashes being of a combined size to fit within and close said frame opening, said sashes having their outer faces abutting said frame opening shoulder and their inner faces flush with the inner face of said frame, resilient means carried by the inner face of said frame and extending over said frame opening and engaging the inner face of said upper sash, said resilient means holding said upper sash against horizontal displacement and resiliently retaining said upper sash against vertical movement in response to gravity, said lower sash having its upper end in abutting and interlocking connection with the lower end of said upper sash, said connection holding said lower sash against inward horizontal movement from said frame, means carried by said frame and extending over the inner face of the lower end of said lower sash and locking the lower end of said sash against inward horizontal movement, and said lock being movably operable to an unlocked position in respect to said sash.

2. A storm window structure comprising, a

frame, a two-part sash in said frame, one of said sashes provided with an opening, a screen over said opening, a movable door for closing said sash opening, a series of downwardly and outwardly extending louvres exterior of said sash opening, and said louvres extending from side to side of said opening.

3. A storm window structure comprising, a frame, a two-part sash in said frame, one of said sashes provided with an opening, a screen over said opening, a movable door for closing said sash

opening, inwardly extending door holder carrying members at the inner side of said frame and at opposite sides of said sash opening, means on said members for extending over and engaging the outer face of said door when the door is moved to its fullest open position, a series of downwardly and outwardly extending louvres exterior of said sash opening, and said louvres extending from side to side of said opening.

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