Oct. 14, 1952 H. E. GARDNER, JR 2,613,403

REMOVABLE WINDOW SASH MOUNTING

Filed July 13, 1950 2 SHEETS--SHEET 1

Fig. 1.

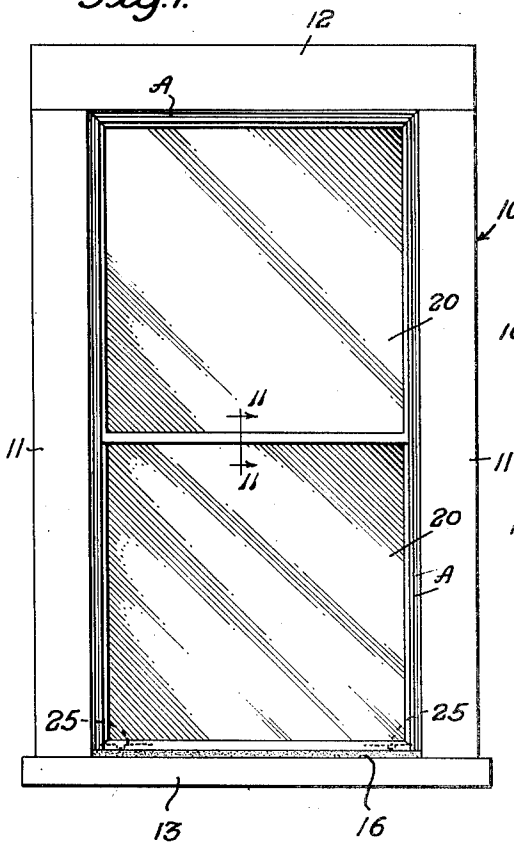


Fig. 2.

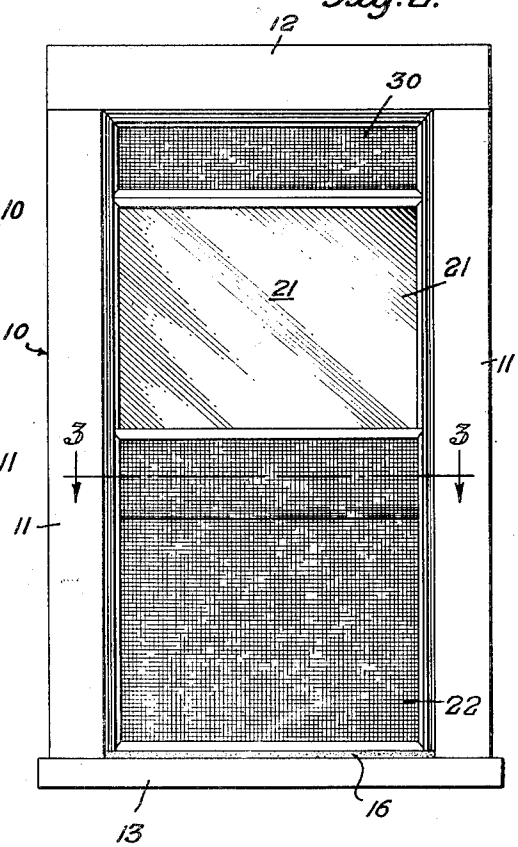
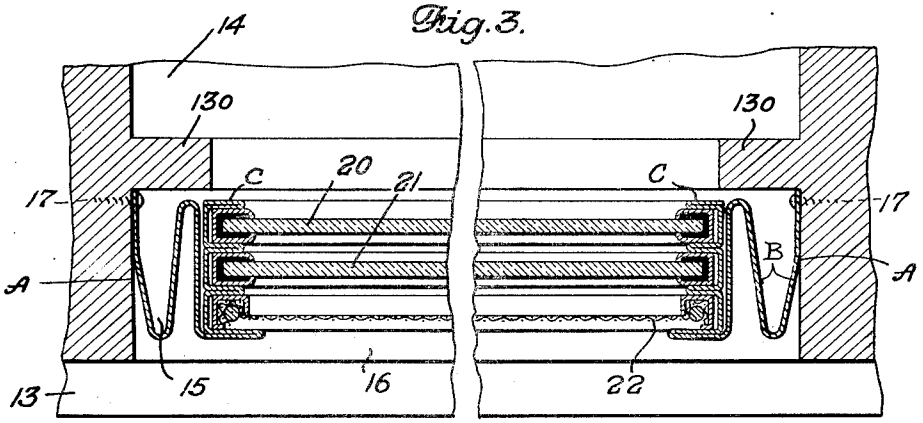


Fig. 3.



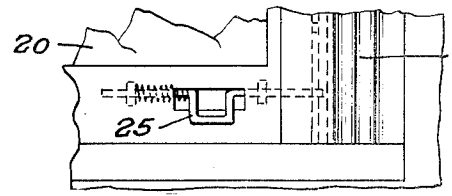


Fig. 4.

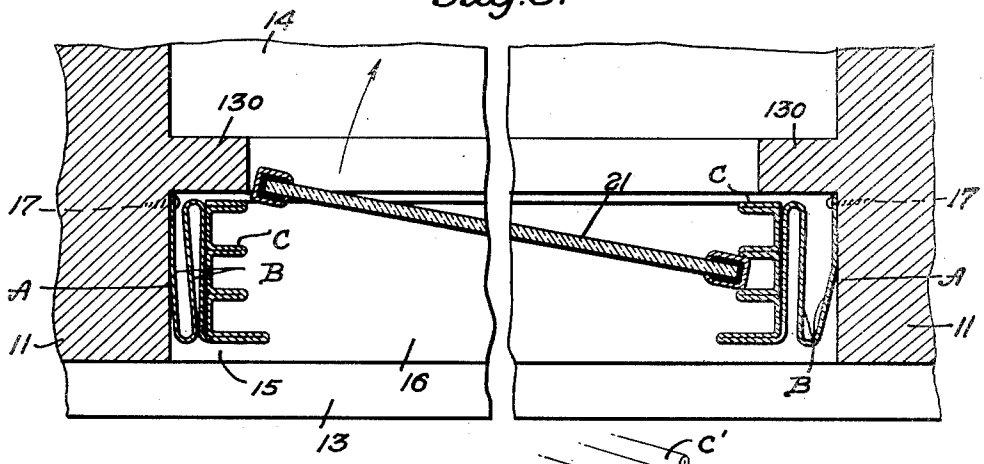
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REMOVABLE WINDOW SASH MOUNTING

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Fig. 5.



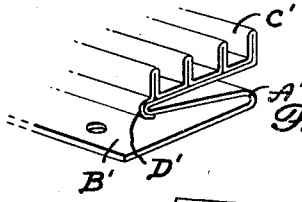


Fig. 8.

Fig. 6.

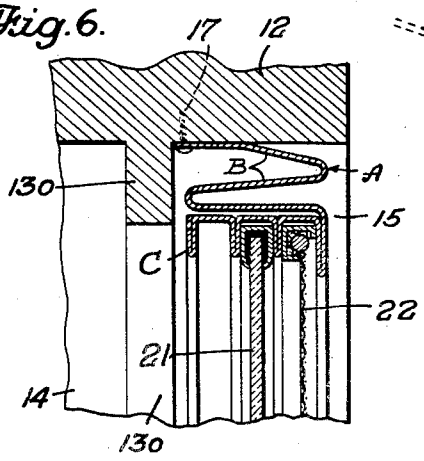


Fig. 9.

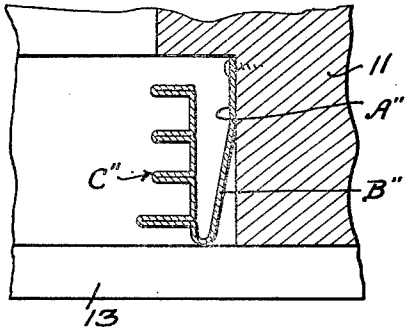


Fig. 7.

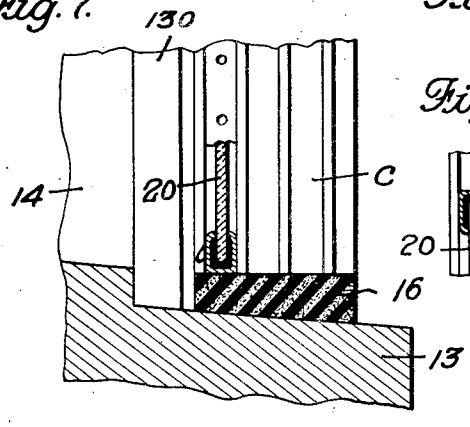
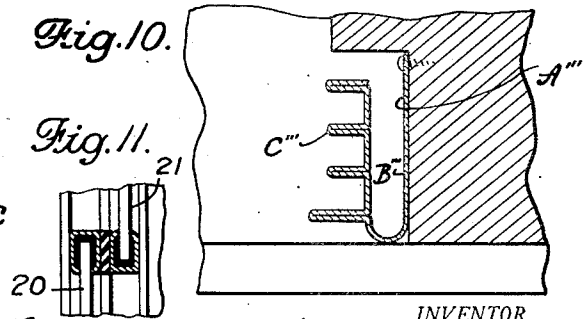


Fig. 10.

Fig. 11.



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REMOVABLE WINDOW SASH MOUNTING

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2 Claims. (Cl. 20—55)

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The invention relates to means for removably and resiliently mounting window sashes and the like, particularly supplementary sashes such as storm windows and screens.

One of the objects of the invention is to provide for ready removability and replacement of the sashes.

Another object of the invention is to provide a snug fit for the sashes and to prevent rattling.

Another object is to allow or compensate for installation of this sash in a window casing that is out of plumb or not precisely square.

Another object is, by proper arrangement of fly-screens, to provide ventilation at top and bottom.

These and other objects I attain by the use of resilient channel strips which may be inserted in a window frame, which strips include a compressible leaf spring portion adapted to be secured at one edge only to the window frame, and a channel portion preferably formed integral with the leaf portion and yieldingly spaced therefrom and adapted to receive any desired number of sashes, screens or the like.

The invention will be more readily understood by reference to the accompanying drawings and the following detailed description, in which are set forth specific embodiments of the invention by way of illustration rather than by way of limitation, it being obvious that numerous modifications and variations may be resorted to without departing from the spirit of the invention.

In the drawings:

Fig. 1 is a front view showing the storm window assembly resiliently mounted in a window frame in accordance with my invention;

Fig. 2 is a similar view showing a combination storm window and screen assembly removably mounted in accordance with my invention;

Fig. 3 is a horizontal section on line 3—3 of Fig. 2 on a larger scale;

Fig. 4 is a fragmentary detail view showing latching means for one of the storm windows, the view being taken at the lower right hand corner of Fig. 1 but being shown on a larger scale;

Fig. 5 is a view similar to Fig. 3, but illustrating the method by which a sash may be removed or applied to the window frame by the use of my improved flexible window strip;

Figs. 6 and 7 are enlarged vertical sections of the top and bottom portions, respectively, of the window frame showing an arrangement of slidable storm and screen sashes, the view being on a larger scale than Figs. 1 and 2;

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Fig. 8 is a fragmentary perspective view showing a modified form of resilient channel strip;

Fig. 9 is a fragmentary view showing a further modification of the strip applied to the side of a window frame;

Fig. 10 is a similar view of a further modification of the resilient strip shown applied to a window frame; and

Fig. 11 is a section on line 11—11 of Fig. 1.

Referring particularly to Figs. 1 and 2, 10 denotes generally a window frame having side walls 11, a top wall 12 and a bottom wall or sill 13.

As shown in Figs. 3 and 6 the window frame includes a parting rib 130 which extends vertically along the sides of the frame and horizontally along the top of the frame, which rib separates the space 14 in the rear thereof in which the usual windows (not shown) may be mounted from the space 15 in front of the rib in which storm windows and/or screens are adapted to be removably mounted by means of resilient metal channel strips A herein shown as extending vertically along the sides of the frame and horizontally along the top thereof. As shown, a pad 16 of sponge rubber or other suitable material is secured along the window sill 13 to provide a waterproof seal at this point and to provide a cushion when the sashes are lowered. If desired the strips A may extend only along the two sides of the window frame or they may be used along the sides, top and bottom.

As illustrated, the strip A comprises a leaf portion B which provides flexibility and resilience and a channel portion C preferably integral with the leaf portion and which may be provided with any desired number of channels adapted to releasably receive suitable window frames or screens. The strip A may be made of any suitable material, preferably resilient sheet metal. The strip A may be suitably secured to the window frame by means of screws 17 extending through the outer edge of the leaf portion B of the strip into the window frame.

Any desired number of sash receiving channels may be provided in the channel portion C of the resilient strip A, designed to receive any desired number or arrangement of storm window sashes or screens.

As shown in Fig. 3, three such channels are provided, storm windows 20 and 21 being shown slidably mounted in the inner and intermediate channel, and a window screen sash 22 being shown slidably mounted in the outer channel. The manner in which the respective sashes, whether storm or a screen, are inserted or re-

moved from the channel is indicated in Fig. 5, it being apparent that it is only necessary to compress the leaf spring portion B at one or both sides of the window frame to permit removal or insertion of the desired storm window or screen. Any suitable combination of storm windows and/or screens may be employed without departing from the spirit of the invention in its broadest aspects.

In Fig. 1 two storm sashes only are shown, the screen being omitted in this figure. The lower sash is provided with a suitable spring latch 25 shown in detail in Fig. 4, whereby the sash may be releasably secured in its lowered position. Either sash may be raised or lowered either part way or the entire length of the respective channel in which it is mounted. If desired both sashes may be provided with spring latches which may be employed to latch either or both sashes in any desired position.

Screen sashes of any desired height within the limits of the size of the window frame may be employed in conjunction with or in lieu of storm windows. In Fig. 2 two screens are shown, the screen 22 being located in the outer channel and a similar screen 30 being located at the top of the window above the storm sash 21, which is lowered partially to receive such screen.

In Figs. 6 and 7 two storm windows 20 and 21 are disclosed, together with a screen 22, which is shown in raised position. Obviously the screens and storm sashes may be moved in various relations one with another, each of the sashes being slidably and removably mounted in the channels of the flexible mounting strip A.

In Fig. 8 a slightly modified form of the resilient strip is indicated at A' wherein the end of the channel portion C' is turned over the leaf portion B' at D'.

In Fig. 9 the strip A'' is shown as provided with a single leaf spring portion B'', the leaf portion B'' being shown connected to the channel portion C'' by a sharp bend.

In Fig. 10 a view similar to Fig. 9 is shown excepting that the leaf portion B''' is shown connected to the channel portion by a rounded groove.

Numerous modifications and variations of the leaf spring and channel may be resorted to without departing from the spirit of my invention, and also various arrangements of the storm windows and screens. Also, any suitable fastening means may be employed for holding any or all of the sashes in any desired adjusted position.

The invention has been described in detail for the purpose of illustration but it will be obvious that numerous other modifications and variations may be resorted to without departing from the spirit of the invention.

I claim:

1. In combination with a window frame, a window sash slidable therein, and means for resiliently and removably mounting said sash comprising a pair of channel strips extending vertically along the sides of the frame for the full extent thereof, each strip comprising a leaf portion secured along one edge only to a side of the frame, and a sash receiving channel member normally spaced from and resiliently connected to the leaf portion, said channel member including a base portion substantially parallel to the side of the frame, and being normally spaced a substantial distance from the side of the window frame, whereby ready removal of the sash from the frame is permitted by forcing a channel member toward one side of the frame.

2. Means for resiliently and removably mounting a window sash in a window frame, comprising an elongated sash receiving strip including an attaching leaf portion adapted to be secured in vertical position to a side of the window frame along one edge only of the leaf and having a reverse bend at the opposite edge of the leaf from the attaching edge, and a channel member having a flat base portion spaced from and substantially parallel to the leaf portion, and resiliently connected thereto through said reverse bend, to permit ready removal of a window sash when the channel member is forced toward the leaf portion.

HARVE E. GARDNER, JR.

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