July 7, 1936. F. W. STEPHENS 2,047,086

COMBINATION WINDOW SCREEN AND STORM SASH

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Fig. 1

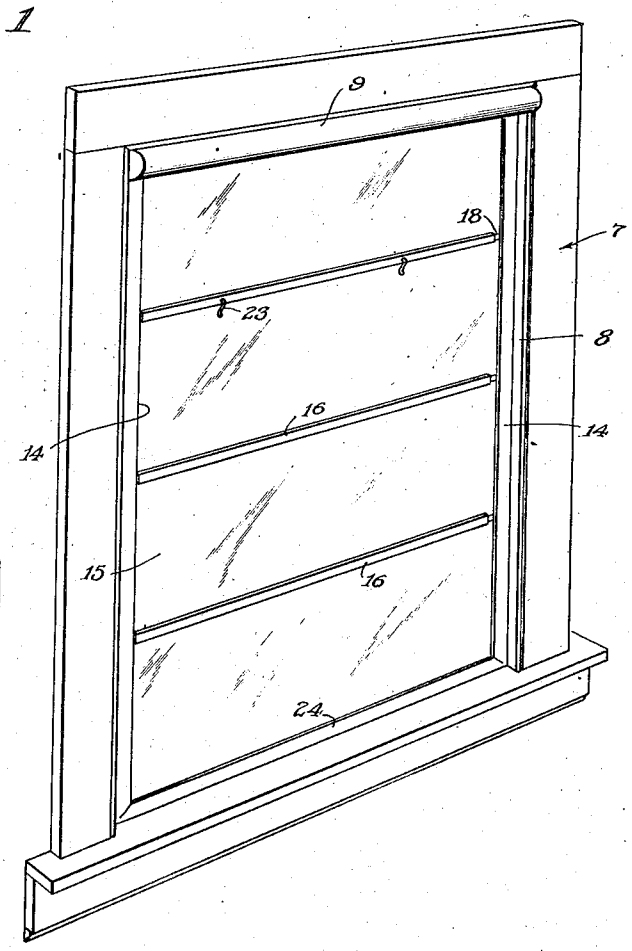


Fig. 6

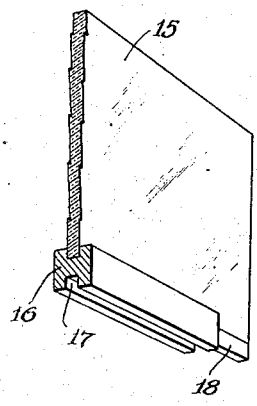
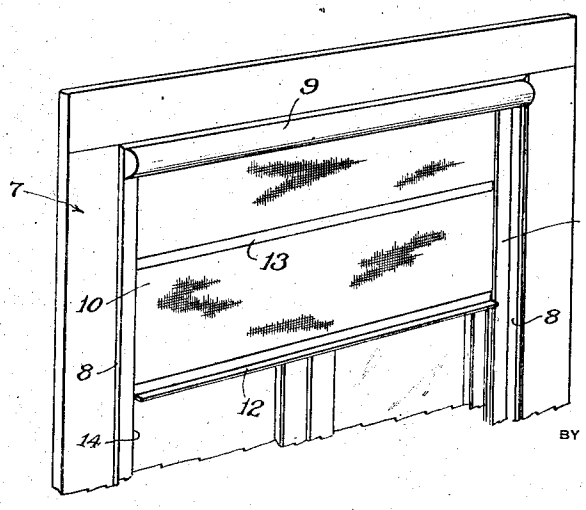


Fig. 2



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Fig. 3

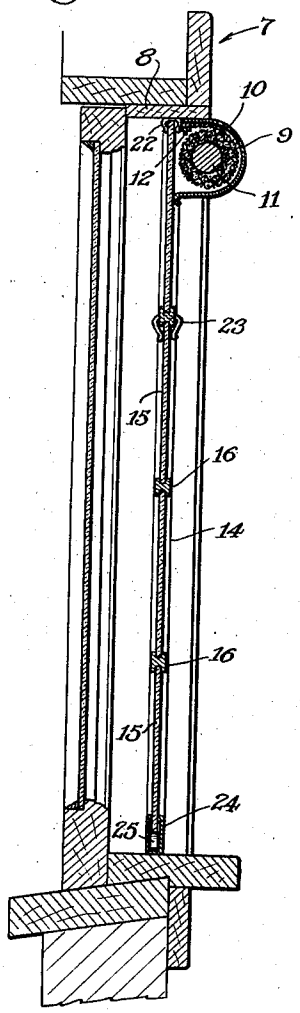


Fig. 4

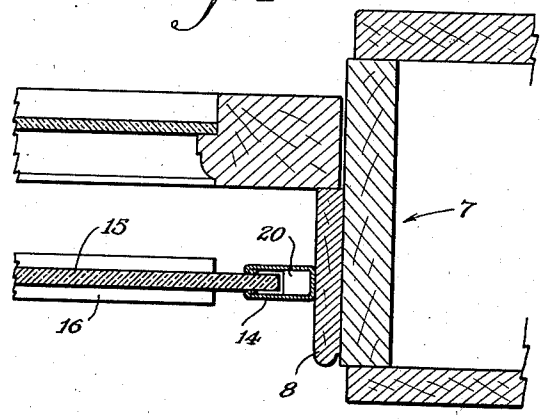
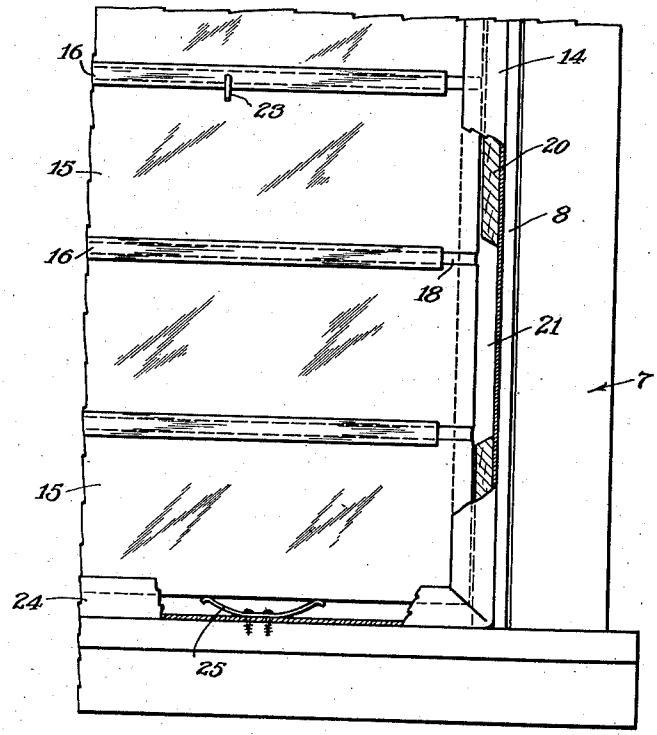


Fig. 5



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UNITED STATES PATENT OFFICE

2,047,086

COMBINATION WINDOW SCREEN AND STORM SASH

Fred W. Stephens, Park Ridge, N. J.

Application May 22, 1935, Serial No. 22,851

6 Claims. (Cl. 20—55)

This invention relates to window construction adapted to be equipped with either a storm sash or screen closure.

The primary object of my invention is to provide a window equipped with a roller screen of a novel arrangement and structure of which the slide members are adapted to receive the component sections of a storm sash, thus to facilitate the conversion of the window from the screen equipment to that of storm sash with comparative ease.

Another object of my invention is to provide, on a window frame, a storm sash which may be easily installed or removed without the use of tools and which may be readily collapsed to occupy only a minimum of space in storage.

A further object of my invention is to provide a novel arrangement of storm sash which is particularly adapted for use in conjunction with the casement type of window in that the construction and general appearance of my storm sash permits of its installation upon the inner side of the window frame where it will not interfere with the opening of the casement sash.

The invention will be fully and comprehensively understood from a consideration of the following detailed description when read in connection with the accompanying drawings which form part of the application, with the understanding, however, that the improvement is capable of extended application and is not confined to the exact showing of the drawings nor to the precise construction described and, therefore, such changes and modifications may be made therein as do not affect the spirit of the invention nor exceed the scope thereof as expressed in the appended claims.

In the drawings:

Fig. 1 is a perspective view of a typical window equipped with a roller screen and showing my storm sash installed on same.

Fig. 2 is a view similar to Fig. 1 but showing the window with the roller screen thereof partly lowered.

Fig. 3 is a vertical sectional view thru the window as shown in Fig. 1.

Fig. 4 is a fragmentary horizontal sectional view thru the window frame and showing my storm sash in place.

Fig. 5 is a fragmentary front elevational view, with parts broken away, of the window equipped with the storm sash; and

Fig. 6 is a fragmentary perspective view of a typical panel of my storm sash.

Before considering the details of the storm sash equipment of the window frame attention is directed to Figs. 2 and 3 for a description of the roller screen arrangement. The window frame indicated by numeral 7 is provided with the usual vertical stop moldings 8 against which the sash of the window abut. Onto these stop moldings or to other portions of the window frame adjacent the top a roller screen casing 9 is secured. The casing 9 houses a suitable spring actuated roller screen 10, the roller 11 of which is rotatably secured on ends of the casing 9. The free end of the screen 10 is secured to a binding strip 12 the remainder of the screen being provided with reinforcing strips 13 disposed laterally of the screen and secured to the mesh at even intervals. The extended portion of the screen 10 is held in place on the window by having its vertical edges engaged in channel guideways 14 in which the screen is free to slide.

It is to be noted here that the channel guideways 14 are of such formation as to serve as a retaining means for the storm sash of my invention. When the protection afforded by the storm sash is required the roller screen is completely rolled up so that its binding strip 12 is within the casing 9, as shown in Fig. 3, whence the guideways 14 are ready to receive the component sections of my storm sash.

Reference to Fig. 6 will illustrate the typical construction of one of the storm sash panels which comprises a rectangular pane of glass 15 at one longitudinal edge of which is secured, as by cementing, a joining strip 16 which is rectangular in cross-section and provided with opposed longitudinal grooves 17 adapted to receive the glass 15. The glass 15 is cemented into the upper groove 17 while the lower groove is adapted to removably receive the upper edge of an adjacent storm sash panel. One end of each strip 16 is cut away as shown at 18 to permit the insertion of the panel into the guideways 14 as hereinafter described.

Into the bottom of each of the channel guideways 14 is installed a spacer block 20 which in one channel is continuous from top to bottom while in the channel on the opposite side of the window the spacer block 20 is omitted to form the recess 21. The recess 21 is of a length adequate to receive the end of one of the storm sash panels and is disposed preferably opposite the second panel of the sash.

The installation of the panels into the guideways 14 is as follows. The right end of the

first panel is inserted in the right groove so as to recede into the recess 21, whence the left end of the panel is inserted in the opposite guideway 14, with the joining strip 16 at the bottom of the panel. It is of course required that the glass 15 is to be of such length as to permit this insertion into the guideways 14. The panel is then raised in the guideways to the top of the window until its upper edge is engaged in spring clips 22 which grip the panel to hold it in place. The second panel is likewise inserted into the guideways 14 adjacent the recess 21 and is then raised until its upper edge is engaged by the spring clips 23 which are secured to the joining strip 16 of the top panel. The lowermost panel, which is not equipped with a joining strip, is then inserted and lowered into place.

It is to be noted here that a channel member 24 similar in formation to the guideways 14 is secured to the window sill and has its ends adjoining the lower ends of the guideways 14. Into the channel member 24 is secured resilient means, such as the leaf springs 25, the resilience of which will normally support the two lowermost panels but which may be compressed sufficiently to permit the insertion of the last panel. When all but one of the panels are installed the last panel is inserted into the guideways 14 similarly as were the previous panels and to allow the placement of the joining strip 17 the lowermost panel is depressed into the channel 24 against the springs 25. Upon release of the lowermost panel the springs 25 cause the upper edge of the panel to recede into the adjacent groove 17.

It will be apparent from the foregoing detailed description that I have provided a novel window arrangement adapted to receive a roller screen closure and likewise adapted to retain the component panels of a storm sash, the latter being installed in a convenient manner without the use of any tools.

What is claimed as new is:

1. The combination, with a window frame having opposed vertical guideways adjoining one of which there is a lateral recess, of a storm sash comprising a vertical series of adjoining sections having opposite end portions in said guideways, said recess being adapted to receive end portions of said sections when the latter are being assembled in, and removed from, said frame, depressible resilient means at the bottom of said frame and under the lowermost section of said sash whereby the latter may be depressed below its normal position, said resilient means normally exerting an upward pressure on said series of sections.

2. The combination, with a window frame having opposed vertical guideways adjoining one of which there is a lateral recess, of a storm sash comprising a vertical series of adjoining sections having opposite end portions in said guideways, said recess being adapted to receive end portions of said sections when the latter are being assembled in, and removed from, said frame, and spring clips adapted to hold in place sections disposed above said recess.

3. The combination, with a window frame having opposed vertical guideways adjoining one of which there is a lateral recess, of a storm sash comprising a vertical series of adjoining sections having opposite end portions in said guideways, said recess being adapted to receive end portions of said sections when the latter are being assembled in, and removed from, said frame, depressible resilient means at the bottom of said frame and under the lowermost section of said sash whereby the latter may be depressed below its normal position, said resilient means normally exerting an upward pressure on said series of sections, and spring clips adapted to hold in place sections disposed above said recess.

4. The combination, with a window frame having opposed vertical guideways, of a storm sash comprising a vertical series of adjoining sections having opposite ends in said guideways, depressible resilient means at the bottom of said frame and under the lowermost section of said sash whereby the latter may be depressed below its normal position, said resilient means normally exerting an upward pressure on said series of sections.

5. The combination, with a window frame having opposed vertical guideways, of a storm sash comprising a vertical series of adjoining sections having opposite ends in said guideways, depressible resilient means at the bottom of said frame and under the lowermost section of said sash whereby the latter may be depressed below its normal position and resilient means normally exerting an upward pressure on said series of sections, and spring clips adapted to hold in place sections disposed above said recess.

6. The combination, with a window frame having opposed vertical guideways, of a storm sash comprising a vertical series of adjoining sections having opposite ends in said guideways, depressible resilient means at the bottom of said frame and under the lowermost section of said sash whereby the latter may be depressed below its normal position, said resilient means normally exerting an upward pressure on said series of sections, and means adapted to hold in place sections disposed above said recess.

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