

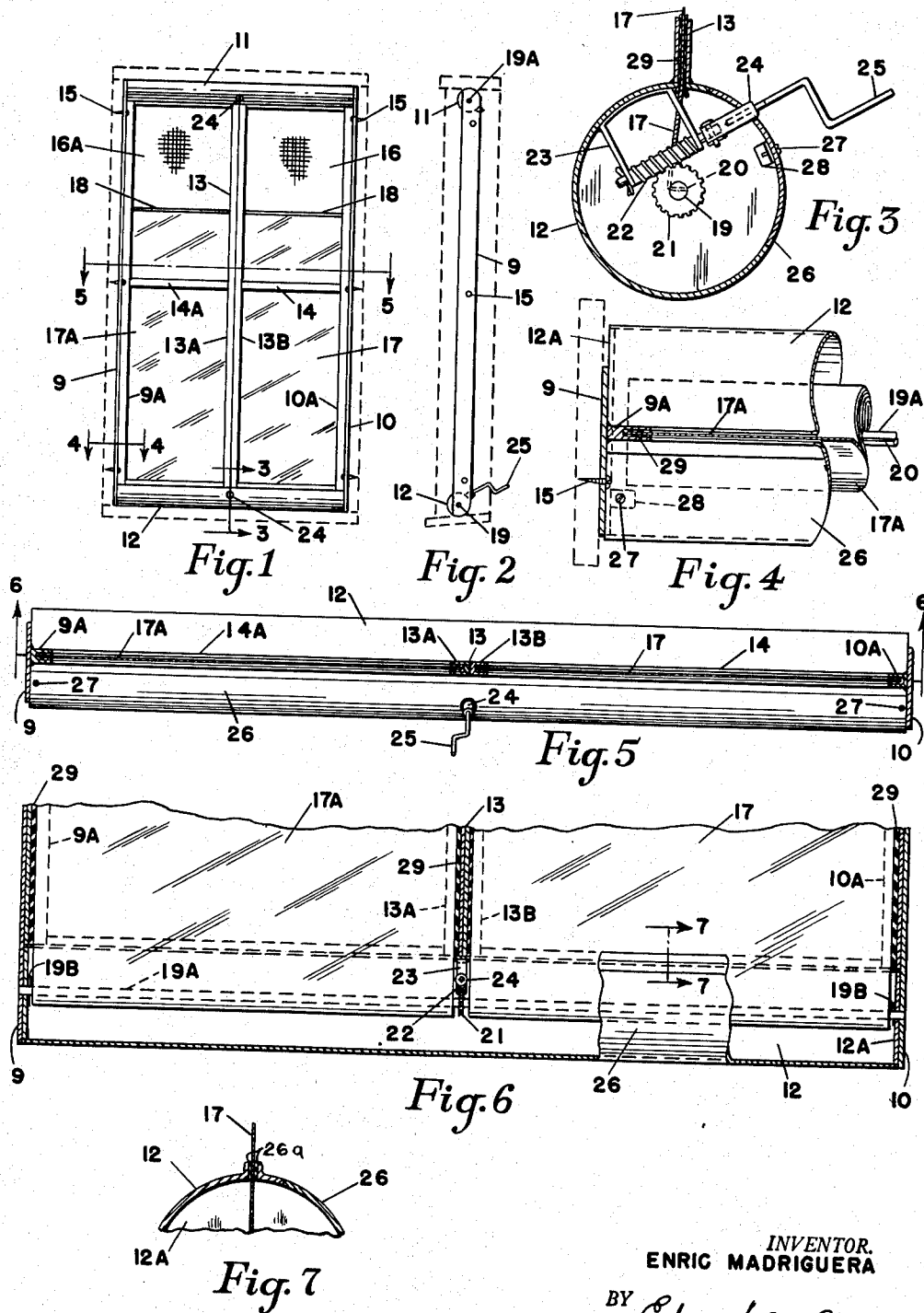
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COMBINATION SCREEN AND STORM WINDOW

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COMBINATION SCREEN AND STORM WINDOW

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6 Claims. (Cl. 160-25)

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This invention relates to building structures, and has particular reference to a combination screen and storm window.

An object of the invention is the provision of a device of the character indicated, which is efficient in operation, simple in construction, economical to manufacture, and easy to install.

Another object of the invention is the provision of a combination screen and storm window which, when once installed, may be left in position throughout the year.

Another object of the invention is the provision of a combined screen and storm window which may be permanently installed in a window opening, and which may be changed from a screen to a storm window, and vice versa, by a simple mechanical operation effected from the interior of the building.

Another object of the invention is the provision of a device of the character referred to, which may be readily installed on the outside of a window opening, and which is constructed and arranged in such manner that, when serving as a screen, the storm window is concealed, and, when serving as a storm window, the screen is concealed.

The foregoing and other objects and advantages of the invention will become more apparent as the description proceeds, reference being made from time to time to the accompanying drawings forming part of the within disclosure, in which drawings:

Fig. 1 is a front elevational view of a device embodying my invention shown in position in a conventional window frame of a building.

Fig. 2 is a side elevational view of the device illustrated in Fig. 1.

Fig. 3 is an enlarged sectional view taken substantially on the line 3-3 of Fig. 1.

Fig. 4 is an enlarged sectional view taken substantially on the line 4-4 of Fig. 1.

Fig. 5 is an enlarged horizontal section taken substantially on the line 5-5 of Fig. 1.

Fig. 6 is a vertical section, with parts broken away, taken substantially on the line 6-6 of Fig. 5.

Fig. 7 is a section taken substantially on the line 7-7 of Fig. 6.

Referring now more particularly to the drawings, it will be understood that in the embodiment herein disclosed, my improved device con-

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sists of a frame comprising side members 9 and 10, upper and lower members 11 and 12, and reinforcing cross members 13, 14, and 14A, all of which may be made of metal, plastic, or other suitable material, and secured together by any suitable means.

The frame just described is preferably installed in a conventional window frame as shown in Fig. 1, and may be secured to the window frame by any suitable means such as screws 15.

It is also within the contemplation of the invention to hinge the top member 11 to the window frame so that the frame 9, 10, 11, and 12 may be swung outwardly in the event that it is desired to put anything through the window opening.

The upper member 11 and lower member 12 are tubular members as shown in Figs. 2 and 3, and are adapted to house the screens 16 and 16A and flexible transparent materials 17 and 17A when they are rolled as hereinafter described.

The screens 16 and 16A may be made of metal or plastic, and the flexible transparent materials 17 and 17A are preferably a plastic material.

The screen 16 and the transparent material 17 and the screen 16A and the transparent material 17A are jointed together at their ends as at 18 in any suitable manner so that they form two continuous lengths of flexible material which may be rolled at either end as hereinafter described, and housed in the members 11 and 12.

The side members 9 and 10 are provided with guides 9A and 10A (Fig. 1), and the vertical central member 13 is formed to provide guides 13A and 13B (Fig. 5), and the cross members 14 and 14A are split as shown in Fig. 5 to provide horizontal guides for the screens 16 and 16A and transparent materials 17 and 17A, so that the continuous lengths of screens and flexible transparent materials are supported vertically as well as transversely at all times along their edges and intermediate their ends.

The flexible elements 16 and 16A and 17 and 17A are adapted to be rolled at either end on bars 19 and 19A, which are split as at 20 to accommodate the ends of the flexible elements, which are extended therethrough.

The rods 19 and 19A are supported in suitable apertures formed in the members 9 and 10, and are held against lateral displacement by means of pins 19B. The bars 19 are provided with centrally positioned gears 21 which are adapted to

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be driven by a worm 22 (Fig. 3), carried on a bracket 23 supported on the inside of each of the tubular members 11 and 12. The worm 22 is connected to a socket 24 which is adapted to be rotated by means of the crank 25.

Each of the tubular members 11 and 12 (Fig. 3) is provided with a removable cover member 26, which is normally secured in place by means of screws 27 engaging lugs 28 formed on the ends of the member 12A of the members 11 and 12.

Interposed between the guides 9A, 10A, 13A, 13B, 14A, and 14B are suitable gaskets 29 which are adapted to prevent the entrance of moisture and to hold the parts in adjusted position. Interposed between the respective members 12 and 26 and the transparent material 17 (Fig. 7) is a weather sealing element 26-a.

When the assembly is installed as shown in Fig. 1, the screens 16 and 16A or the flexible transparent materials 17 and 17A may be moved into operating positions by rolling the same either about one or the other of the rods 19 and 19A by means of the cranks 25.

It will thus be seen that I have provided a unique combination of screen and storm window which may be left in place throughout the year.

Having described my invention, what I claim and desire to secure by Letters Patent is:

1. In a device of the character described, the combination of a frame, guide members on said frame, upper and lower rollers adapted to accommodate a length of flexible material, one half of which comprises a screen and the other half of which comprises a window.

2. The combination defined in claim 1, including means for actuating said rollers, whereby said flexible material may be moved from one roller to the other.

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3. In a device of the character described, the combination of a frame adapted to be permanently installed in a window opening, upper and lower housing members on said frame, a roller in each housing, lengths of flexible material each supported at its respective ends by said rollers, said lengths of flexible material each consisting, one half of a fine mesh screen, and the other half of a wind and weather-proof transparent substance.

4. The combination defined in claim 3, including centrally positioned vertical and transverse guide members for said lengths of flexible material.

5. The combination defined in claim 3, including vertical and transverse guide members for said lengths of flexible material, certain of said guide members comprising median reinforcing elements for said frame.

6. The combination defined in claim 3, in which each housing is provided with a weather sealed slot adapted to slidably accommodate the flexible material, and means within each housing and controllable from without said housing, for rotating the roller in said housing, whereby said flexible material may be moved through said slot.

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