

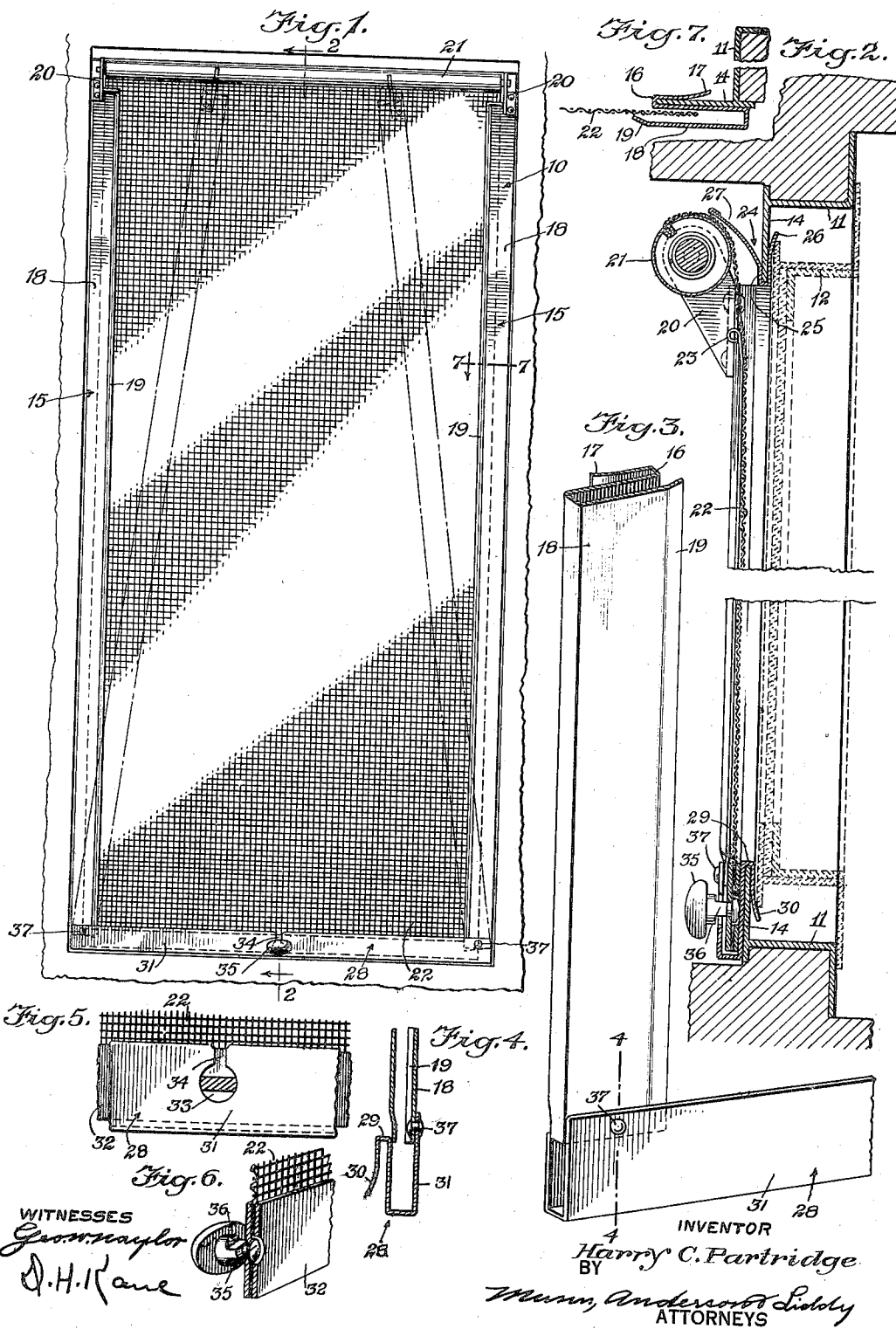
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H. C. PARTRIDGE

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SCREEN RETAINER

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SCREEN RETAINER

Harry C. Partridge, West Nyack, N. Y.

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3 Claims. (Cl. 156—39)

This invention relates to a combined screen retainer and weather strip to be used in association with windows.

An object of this invention is to provide an improved guide or retainer for a window screen which when installed on the window will provide a weather strip for the joint between the sash and frame.

A further object of the invention is the provision of a guide or retainer for a screen having an attaching clamp frictionally engaging the frame of a window particularly a metal window with the outer portion of the clamp forming a spring type weather stripping and the inner portion of the clamp forming a channel to hold the screen or screen frame in the proper position.

Another object of the invention is the provision of an improved screen guide or retainer of simple and economical construction which may be attached to or removed from a window frame in a simple and convenient manner without the use of special tools and without the necessity of employing a skilled mechanic and which may, if desired, also serve as a weather stripping to seal the joint between the sash and window frame.

Among other objects is the provision of an improved screen guide and retainer of the above character which is especially suited for use in connection with roll screens, which provides a tight connection between the edges of the screen and the screen guide so as to prevent insects from entering at these points, and which is provided with an improved roll screen mounting and also releasable locking mechanism whereby the roll screen may be releasably held in lowered position.

For a fuller understanding of the invention reference should be had to the accompanying drawing in which—

Fig. 1 is a front elevation of a screen retainer embodying my invention showing it in assembled relationship attached to a window frame;

Fig. 2 is a sectional view in elevation in the direction of the arrows on the line 2—2 of Fig. 1;

Fig. 3 is an enlarged detailed view of a portion of the screen retainer;

Fig. 4 is a sectional view on the line 4—4 of Fig. 3;

Figs. 5 and 6 are detailed views of the locking mechanism whereby the screen is releasably held in lowered position; and

Fig. 7 is a sectional view in the direction of the arrows on the line 7—7 of Fig. 1.

In the accompanying drawing my improved

screen retainer which is indicated generally at 10 is illustrated as applied to the metal frame 11 of a casement window in which the sash is indicated by numeral 12. While my invention is particularly adapted for use in connection with steel frame windows of the casement type it should be understood that it may be used in connection with sliding or pivoted windows made either of wood or metal. However, in this connection the window frame should be provided with an inwardly projecting flange known as a weathering as indicated at 14 as in the preferred embodiment of my invention the screen retainer is held in position by being clamped to the weathering.

My screen retainer is preferably formed of metal and is provided with two similar parallel vertically disposed side members 15 adapted to be positioned on opposite sides of the window frame and each having a channel shaped clamping portion 16 which is resilient in construction and of proper size to tightly engage the weathering 14 and thereby retain the device in position. The outer side of the channel shaped clamping member is curved outwardly as indicated at 17 and is made of spring metal and is of such a length as to tightly engage the sash when in closed position thereby serving as a weather strip to provide a tight seal between the sash and frame.

On the inner or opposite side each member 15 is preferably formed as shown into a channel portion 18 which faces the window opening and serves as a guide and retainer for the lateral edges of the screen. The free end of the channel portion 18 is preferably bent towards the clamping portion as shown so as to insure a relatively close fit between the screen and channel thereby preventing insects from entering along the edges.

The two members 15 are of similar construction but are arranged in opposite confronting relationship as shown, the clamps 16 being attached to the weathering on the two sides of the frame with the weather strips 17 disposed on the outside and the channel guides 18 disposed on the inside. When used in connection with a roll screen the roller should be mounted in some suitable manner adjacent the upper ends of the two members 15. Thus I may provide a bracket 20 at the upper end of each member 15 and in which the spring roller 21 is mounted in conventional manner, the spring roller serving to support the roll screen 22.

The brackets 20 are of sufficient resilience to permit insertion and removal of roller. When

the roller is in position it will be appreciated that it will effectively retain the upper portion of the respective clamps 16 in engagement with their weathering flanges and protect the members 15 from accidental displacement. So as to facilitate the introduction of the screen into the guide channel 18 I preferably terminate the inner wall of the channel a short distance from the top of each member 15, bend it outwardly at a slight angle, and roll the upper edge thereof as indicated at 23 thereby reducing friction and wear at this point.

As shown most clearly in Figs. 1 and 2 the screen is of sufficient width to extend into both channel members 18. The lower end of the screen is introduced into the top of the channels and is then pulled downwardly to its lowermost position. It will be appreciated that the side edges of the screen are effectively guided and retained in position by the channel portion 18 and due to the relatively small clearance at these points insects cannot enter around the side edges.

Across the top of the window frame I provide a suitable member indicated generally by the numeral 24 for preventing undue clearance at this point and also for providing a weather strip between the sash and frame. The member 24 consists of a channel shaped clamping portion 25 somewhat similar to the clamping portion 16 and having a spring metal outwardly curved weather strip 26 similar to the weather strip 17 and adapted to engage the upper edge of the window sash and seal the space between the sash and frame. The inner side of the clamp 25 is provided with a spring metal inwardly bent strip 27 which engages the roll 21 so as to prevent insects from entering over the top of the screen.

At the lower portion of the window I provide a member 28 somewhat similar in construction to the members 15 and adapted to prevent the lower ends of the members 15 from accidentally shifting inwardly and also providing a weather strip and suitable releasable locking means for releasably holding the screen in its lowermost position. The member 28 is provided with a channel shaped clamp 29 engaging the weathering flange 14 at the bottom of the window frame and is formed with an inwardly curved spring metal weather strip 30 similar to the weather strip 17 and adapted to engage the sash when in closed position. On its inner side the member 28 is provided with an enlarged upwardly facing channel portion 31 which is adapted to receive the bound lower edge of the screen 32 when it is in lowermost position. At its central portion the front wall of the channel member 31 is provided with a circular aperture 33 having a restricted throat 34 communicating with the upper edge. Adapted to cooperate with the aperture and throat 33 at 34 is the handle member 35 formed on the end of stem 36 pivotally mounted on the lower portion 32 of the roll screen. It will be seen that stem 36 is of elongated cross sectional construction so as to be of greater dimension in one direction than another. By turning the handle 35 so that the dimension of greater length is disposed in vertical position the stem may be inserted through throat 34 into aperture 33 then by turning the handle through an arc of 90 degrees the stem is prevented from accidentally releasing from the aperture. In this way the roll screen can effectively be retained in its lowermost position.

As a convenience in assembling my improved screen retainer I prefer to pivotally connect the

member 28 adjacent its two ends to the lower portion of the two members 15 as by means of pins 37. Thus the two side members and the lower member 28 form one unit which may be readily assembled on the window by first pivoting the upper ends of the members 15 inwardly as shown in dotted lines in Fig. 1 then attaching the channel clamp 29 to the weathering at the bottom of the window frame then pivoting the two members 15 outwardly to vertical position with the channel clamps 16 in engagement with the weathering flanges at the two sides of the frame. The member 24 at the top of the frame may be placed in position either before or after the members 15 and 28 have been assembled as described. Thereafter the roller 21 with the screen mounted thereon is mounted in the brackets 20 and the screen may be lowered and raised as desired.

It will be seen that the roller 21 prevents the upper ends of the members 15 from accidentally shifting inwardly and the member 28 prevents the lower ends of the members 15 from accidentally shifting inwardly. It will also be seen that there is no substantial clearance between the sides, top and bottom of the screen and the screen retainer when the screen is in lowermost position. It will also be seen that my improved weather strip will form an effective seal between the sides, top and bottom of the sash and the window frame.

It should of course be understood that many modifications may be made in the illustrated and described embodiment of my invention. Thus the screen retainer may be used in association with other types of screen and may also be applied to different types of windows. It should also be understood that different releasable locking mechanism for releasably locking the screen in lowermost position may be utilized and that different types of mountings for the screen roller may be provided.

I claim—

1. A screen retainer for use with a window comprising a pair of guide members adapted to be attached to opposite sides of a window frame and each comprising a clamping portion adapted to engage the window frame and retain the guide member in position and a channel portion facing towards the other side of the window adapted to accommodate a side edge of the screen, a clamping member adapted to engage the bottom of the window frame and having connection at its two ends with the lower portions of the guide members, at least one of said connections being pivotal, resilient brackets fixedly mounted adjacent the upper ends of the guide members in registry with each other and a roller having a roll screen disposed thereon and extending between and resiliently supported by the brackets so as to hold the clamping portions of the guide members in engagement with the sides of the window frame so as to prevent accidental displacement thereof.

2. A screen retainer for use with a window having a weathering flange projecting from the frame comprising a pair of guide members adapted to be attached to opposite sides of the window frame and each comprising a channel shaped clamping portion adapted to engage the weathering flange on one side of the frame, one side of the clamping portion being made of spring metal and being curved outwardly into a weather strip so as to engage the sash of the window when it is in closed position and the opposite side of the clamping portion being formed into a channel portion facing towards the other side of the win-

dow and adapted to accommodate the side edge of a screen, a pair of resilient brackets fixedly mounted on the upper ends of the guide members in registry with each other, a roller having a screen disposed thereon extending between the brackets and adapted to hold the clamping portions of the guide members in engagement with the sides of the frame, a clamping member adapted to engage the weathering flange at the top of the frame and having a resilient portion extending into engagement with the roller so as to close the space between the roller and the

5 frame at the top of the window, and a clamping member pivotally connected between the lower ends of the guide members and adapted to engage the weathering flange at the bottom of the window frame, and having an upwardly facing channel portion adapted to accommodate the lower edge of the screen when it is in lowered position.

10 3. A screen retainer as set forth in claim 2 in which cooperating locking mechanism is provided on the screen and clamping member for releaseably holding the screen in lowered position.

HARRY C. PARTRIDGE.