Sept. 22, 1936. B. HANSEN 2,055,348

SCREEN HANGER

Filed Sept. 28, 1935

Fig. 1.

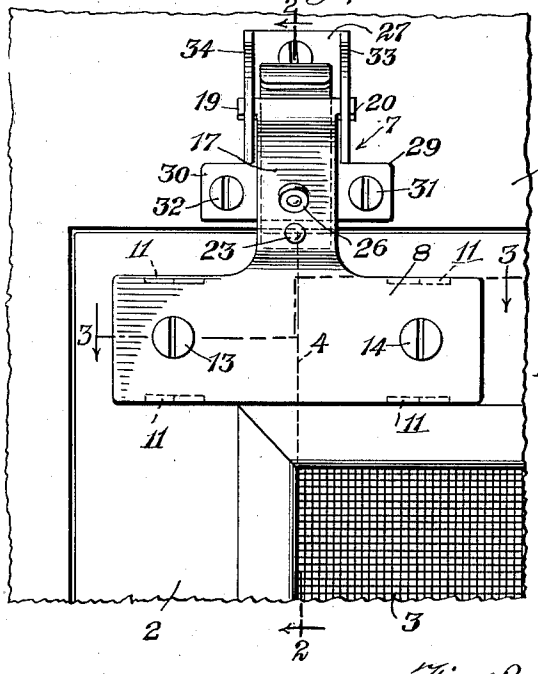


Fig. 3.

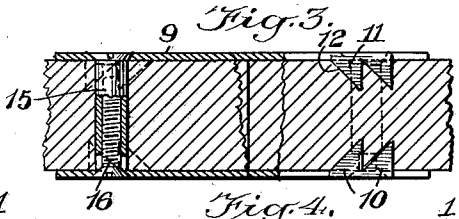


Fig. 4.

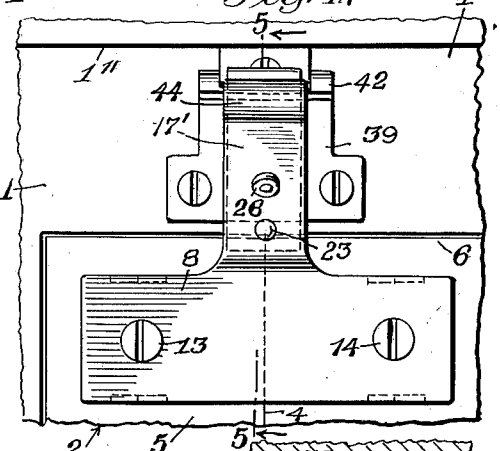


Fig. 2.

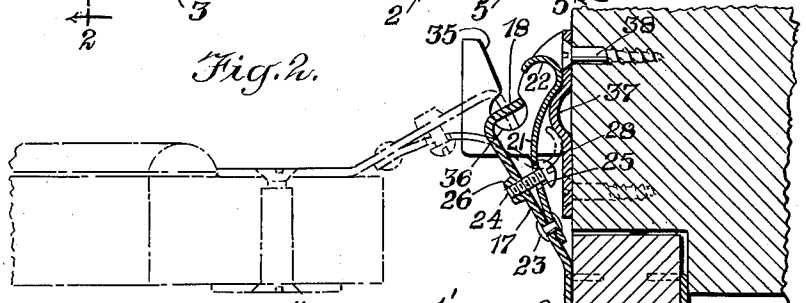


Fig. 5.

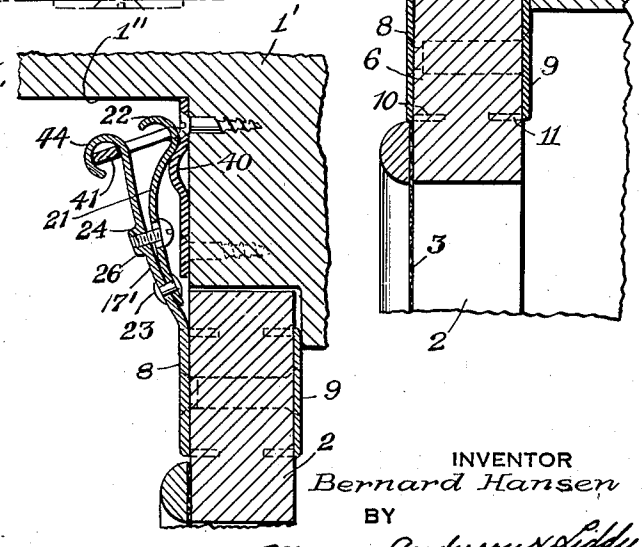
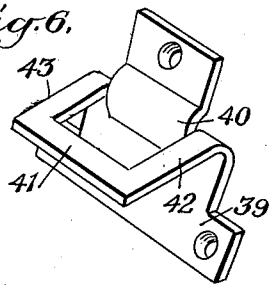


Fig. 6.



WITNESSES

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SCREEN HANGER

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7 Claims. (Cl. 156—14)

This invention relates to hangers for screens, storm windows or similar devices, the object being to provide a construction which will normally hold the screen or other device in proper position but which may be swung outwardly and held at an angle to its normal position.

Another object of the invention is to provide a hanger for screens and the like wherein a structure is such that the supported member may be held vertical or at an angle to the vertical with the parts arranged to be readily engaged or disengaged.

A further object of the invention is to provide a hanger which may be applied from above or beneath and yet function to properly support a screen frame or other device in place or at an angle to its normal position.

A further and more specific object is to provide a hanger provided with a base plate and associated plate having spurs with inclined or cam faces adapted to be driven into the screen frame or other article to draw the parts tightly together and at the same time present anchoring means.

In the accompanying drawing—

Figure 1 is an elevation of a hanger embodying the invention, the same being shown in connection with a portion of a wall or window frame and a portion of a window screen;

Figure 2 is a sectional view through Figure 1 approximately on line 2—2;

Figure 3 is a fragmentary horizontal sectional view through Figure 1 on line 3—3;

Figure 4 is a view similar to Figure 1, but showing a slightly modified construction;

Figure 5 is a sectional view through Figure 4 approximately on line 5—5;

Figure 6 is a perspective view of the supporting plate forming part of the hanger illustrated in Figure 5.

Referring to the accompanying drawing by numeral, 1 indicates a window frame or wall and 2 a frame having a suitable screen member 3. In forming the frame 2, the same is usually formed from comparatively small light strips of wood with the strips positioned in abutting relation at the corners. In Figure 4, the line 4 indicates how the upright 5 fits against the abutting end of the top strip 6. Ordinarily, these two pieces are held together by a nail or two or some other means. Quite often, the means for holding the parts of the frame together are such that the frame becomes loosened. In forming a hanger embodying the invention, means have been provided which will not only act as a support for the screen frame but act as means for holding the parts of the frame together tightly. As shown particuladly in Figures 1 and 3, the hanger 7 is provided with a plate 8 which coacts with plate 9 for drawing the members 5 and 6 toward each other. As indicated in Figure 3, plate 8 is provided with a pair of spurs 10 positioned at each end while plate 9 is also provided with a pair of spurs 11 adjacent each end. All these spurs are formed with cam faces 12 which coact with each other and with the wood for causing the end of the strip 6 of the frame 2 to be pressed tightly against the vertical upright 5. In order to hold these plates in place during the functioning of the hanger suitable screws 13 and 14 are used. These screws are identical and are formed as shown in Figure 3, wherein there is provided a female section 15 coacting with the male section 16 to form a clamp which really is in the nature of a bolt. By reason of the construction just described, the parts of the screen frame are held tightly and in addition part of the hanger is rigidly secured to the screen frame.

Plate 8 preferably merges in an integral manner into an arm 17 which is bent at a slight angle to plate 8 and which at the upper end is bent over to form what may be termed a hook section 18 having laterally extending journal ears 19 and 20. A comparatively stiff spring 21 having a rounded end 22 is secured to the arm 17 in any suitable manner, as, for instance, by rivets 23. The spring 21 is normally in the position illustrated in Figure 2 as far as arm 17 is concerned. This gives a certain resilient action, but if it is desired to make the spring function more stiffly the screw 24 extending through slot 25 into the threaded tubular portion 26, is actuated or screwed down somewhat so as to draw the spring toward arm 17. This will cause the spring to act as a stronger spring or rather more stiffly so as to take care of heavier frames carried by the hanger.

Coacting with the arm 17 and associated parts is a bracket 27 formed preferably from a single piece of metal stamped out and bent into a desired form. This bracket has a body 28 from which radiates the ears 29 and 30, said ears accommodating the respective screws 31 and 32. Upstanding from body 28 are side plates 33 and 34, each of which is formed with a notch 35 merging into a rounded portion 36. The body 28 is provided with a pressed up boss 37 opposite the center of the round portion 36 whereby a stop or abutment is provided. The body 28 is also provided with an aperture for accommodating the retaining screw 38.

When the parts have been formed as just described and mounted on the screen frame and window frame respectively the screen frame may be readily applied or removed at any time. When applying the screen frame, the parts are moved to the dotted position shown in Figure 2 whereupon the journal ears 19 and 20 may freely drop downwardly into the rounded end portion 36 of notch 35. When this occurs, the rounded end 22 of spring 21 will be positioned beneath the boss 37. The window screen frame 2 may be left in this position if desired which is a horizontal position or almost a horizontal position but by a downwardly swinging movement caused by pulling the screen, the parts may be moved to the full line position shown in Figure 2 whereupon the window screen and its frame is in proper position for screening the window. When this occurs the spring 21 will slip by the abutment 37 and move the position above the same where it will resist any outward swinging of the frame but will not prevent said outward movement. It will be noted that in this form of the invention, the ears 19 and 20 are moved to a position above the bracket 27 and then dropped down into position. However, in some buildings that need screens or storm windows there is not ample space for this action. When this is the case, a slightly modified form of hanger is used as shown in Figures 4, 5, and 6. As illustrated, particularly in Figure 5, the window frame 1' is provided with an overhanging portion 1'' which will prevent a use of the structure shown in Figure 2. However, by using the modified form, the frame 2 may be properly supported. As illustrated in Figure 6, this hanger is provided with a base plate 39 having suitable openings for securing screws, with a projecting portion 40 acting as an abutment similar to abutment 37 in the preferred form and a supporting bar 41 formed from a portion of the plate 39. The bar 41 is spaced from the base plate 39 by the arms 42 and 43 which are integral with plate 39. The plate 8 in this form of the invention is provided with an arm 17' similar to the arm 17 shown in Figure 2, but the outer end is formed with a curled hook portion 44 adapted to hook over the bar 41. When the device is in use the spring 21 is adapted to function the same as in the preferred form of the invention. When the parts have been properly mounted the screen frame may be swung back and forth as desired and may be mounted and dismounted. To mount the screen frame in the proper position, it is moved to almost horizontal position and then the parts raised until the opening of the hook 44 is opposite bar 41 after which the parts are moved slightly outwardly or away from the frame 1'. The parts then may be swung downwardly to the position shown in Figure 5. If preferred, instead of using the screw 24, a rivet could be provided and the spring permanently clamped in position. This arrangement would of course be satisfactory if the spring was made of a proper length to support the desired article. However, where the device is to be used to support a comparatively light screen frame and also a comparatively heavy storm window a screw is preferably used as set forth so that the tension of the spring may be varied to take care of either the light or the heavy structure.

I claim:

1. A hanger for screens and the like comprising a bracket adapted to be connected with a window frame and a plate adapted to be connected with a screen frame, means extending from said plate adapted to pivotally interlock said bracket and a spring carried by said means acting to resiliently hold the frame supported by the hanger in either of two positions.

2. A hanger of the character described including interlocking structures pivotally connected together, one being adapted to be connected to a window frame and the other to a screen frame, and means for connecting one of the interlocking structures to a screen frame, said last mentioned means including a pair of plates adapted to fit flatwise on opposite sides of said screen frame, each of said plates having a plurality of spurs adapted to project into said screen frame, each of said spurs having inclined cam faces positioned to draw parts of the screen frame together when the spurs are forced into the screen frame.

3. In a hanger for a frame formed of separate parts, a pair of plates positioned to extend across portions of adjacent parts, each plate being formed with a spur adjacent each end, each of said spurs having an inclined surface positioned to act as a cam when entering the parts of said frame for drawing the parts of the frame together when the spurs are driven therein.

4. A hanger for screens, including a bracket adapted to be connected with a window frame and a member adapted to be connected to a screen frame, one of said members having an arm formed with a pair of journal ears, an arc-shaped flat spring secured at one end to said arm, said spring having a curled free end, means for varying the tension of said spring, said bracket having a pair of spaced notches for receiving said ears and an abutment positioned to coact with the round end of said spring for resiliently holding said frame in either of two positions.

5. A hanger of the character described, including a bracket adapted to be connected with a window frame, and a bracket adapted to be connected with a frame to be supported, said last mentioned bracket having an arm provided with laterally extending ears, the first mentioned bracket being provided with a pair of upstanding flanges, each flange having a notch merging into a rounded portion, said ears being adapted to be moved into said notches for swingably connecting the brackets together.

6. A hanger for screens comprising a pair of disengageable brackets, said brackets being formed respectively with journal ears and sockets which coact to swingably connect the brackets together and spring means acting on the respective brackets for holding the screen to be supported yieldingly in a vertical position or in a position at an angle to the vertical.

7. A screen hanger comprising a bracket formed with a body having arms extending therefrom and a supporting bar connecting said arms, said bar being spaced from said body, a plate having a supporting arm coacting with said bracket, said supporting arm having a curled hook shaped end adapted to fit over said bar, and spring means acting respectively on said bracket and said plate for holding the article to be supported yieldingly in a vertical position or in a position at right angles to the vertical.

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