March 28, 1939. G. C. LAWSON 2,152,068

VENETIAN SHADE

Filed July 17, 1937

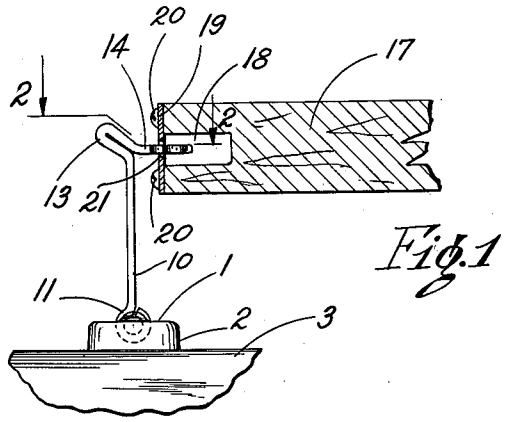


Fig. 1

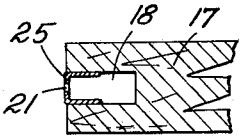


Fig. 6

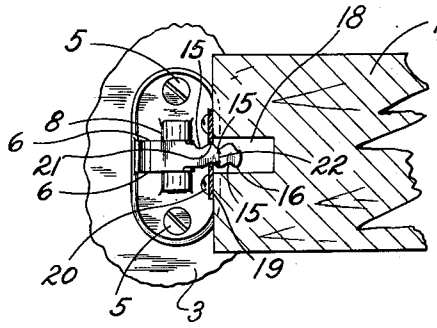


Fig. 2

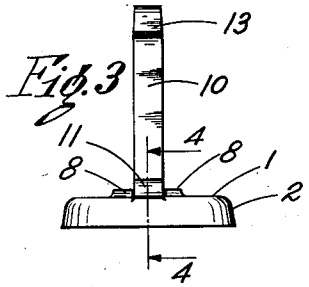


Fig. 3

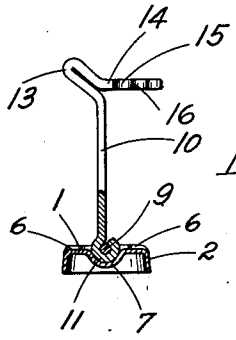


Fig. 4

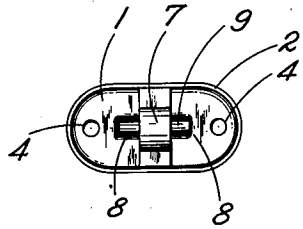


Fig. 5

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Patented Mar. 28, 1939

2,152,068

UNITED STATES PATENT OFFICE

2,152,068

VENETIAN SHADE

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Application July 17, 1937, Serial No. 154,266

14 Claims. (Cl. 156—17)

This invention relates to improvements in Venetian blinds and more particularly to an improved hold-down for said blinds.

When Venetian blinds are not supplied with means to restrain freedom of movement of the lowermost slat, they are prone to swing, due to the action of the wind, and this causes an undesirable rattling. Although ordinary hooks and eyes have been used to hold the blinds down, it is inconvenient to attach such eyes to metallic blinds and furthermore the number of positions in which such hooks may be placed is quite limited.

By my present invention I have provided an improved hold-down which will prevent the rattling of the blind and which may be installed either on the sill or on the sides of the casing, being adaptable to numerous positions of installation. Furthermore when the blind is attached to this hook it is not necessary to stretch the ladder tapes to cause the engagement of the hook with the blind, which stretching in time causes the ladder tapes to become drawn or unduly stretched out of shape.

Still other advantages of the invention and the invention itself will become more apparent from reference to the following description of an embodiment thereof which description is illustrated by the accompanying drawing.

In the drawing:

Fig. 1 is an elevational view of the hook showing the same attached to the sill and showing the bottom rail of the blind in fragmentary vertical section;

Fig. 2 is a plan view thereof taken on the line 2—2 of Fig. 1 with the bottom rail in fragmentary horizontal section;

Fig. 3 is a rear elevational view of the hook, unattached;

Fig. 4 is a section taken on the line 4—4 of Fig. 3;

Fig. 5 is a bottom plan view of the hook; and

Fig. 6 is a fragmentary section of a bottom rail showing a modified form of socket.

Referring now to the drawing throughout which like parts have been designated by like reference characters, the device generally comprises a hollow base of pressed metal to which the hook is secured by a pin disposed in suitable trunnions, the hook being thereby pivotally secured to the base. Friction means is provided to resist the turning action of the hook on the pivot pin and also holds the parts in their assembled position. The slat is provided with a socket which, in the case of wooden slats, is prepared by drilling a hole in the end of the socket and screwing a plate over the hole, the plate having an aperture through which a sinusoidal tongue of the hook is adapted to project. In the case of metallic blinds the lower rail being usually hollow, it is merely necessary to provide an aperture of suitable diameter in the end of the rail.

More specifically a hollow base of generally rectangular formation is provided and comprises a substantially flat top or platform 1 supported by downwardly extending walls 2. The platform is apertured at 4 for the reception of screws 5 which may be used to secure the base to a window sill 3. The mid-portion of the platform is severed transversely thereacross along parallel lines to provide a central strip integral with the base at its ends but separated from the base in its intermediate portions. This strip is upset downwardly as best illustrated in Fig. 4 and shaped into semi-circular form at its mid-portion to provide a saddle 7 which depends below the platform.

Adjacent to and on opposite sides of the saddle strip and along the longitudinal center of the base are two upwardly extending hollow bosses 8 adapted to provide trunnions for the reception of a pivot pin 9.

The base is preferably die stamped in one operation from sheet metal, it thus being possible to form the side walls, trunnions and the saddle portion all in one operation.

The hook comprises a sheet metal stem 10 having the lower end formed with an eye 11 which encircles the pivot pin 9. The periphery of the eye 1 is substantially the same diameter as the inner curved surface of the saddle 7 and is adapted to be frictionally engaged by the saddle 7. The ends of the pin 9 are disposed in the bearings 8 and are held securely therein by pressure of the saddle 7 against the eye 11 of the hook.

The upper end or slat-engaging portion of the hook is provided with a finger-hold 13 formed by doubling the metal over, as best shown in Fig. 1, and an arm 14 extends laterally therefrom. The arm is provided with alternate notches and projections 15 and 16 on each side to form a sinusoidal tongue.

The slat 17, if it is wood, is provided with a bore 18 at its end, over which is secured a cover plate 19 which is secured to the slat by screws 20. The plate 19 has a central aperture 21, the diameter of which is but slightly larger than the diameter of the tongue 14 across an opposed notch and projection as best indicated by the dimension arrows 22 in Fig. 2. The plate may be supplanted by a cup 25 having a press-fit in the

bore 18 of the slat 17. It would also have an aperture 21.

In operation the base 1 is secured to the sill or to the casing of the window by the screws 5. The hook may be pivotally moved about the pin 9, but such pivoting is restrained by the action of the saddle 7 bearing against the periphery of the eye 11. The metal of the base being severed along parallel lines as indicated at 6, the zone containing the saddle 7 is resiliently pressed against the eye 11, and thus not only holds the parts in assembled position, but also has a braking effect on the eye and frictionally resists the turning of the hook on the pin 9. Actually the eye 11 may engage the pin 9 so securely that the pin turns with the eye, revolving in the trunnion 8. By the action described the hook may be placed in any desired angular position and the friction saddle will hold it in that position indefinitely. The resiliency of the saddle 7 permits the hook to be used indefinitely and still retain its original frictional engagement with the eye 11 of the hook.

The sinuous tongue of the hook is inserted in the socket of the blind by moving the same inward and at the same time moving the blind laterally to and fro so as to allow the walls defining the edge of the aperture to follow the hills and dales in the tongue. The sinuous contour prevents the tongue from being disengaged from the socket by accident, it being necessary, in removing the tongue from the socket, to move the blind laterally backward and forward and at the same time pull the hook outwardly. The loop 13 on the hook provides a convenient member for engagement with the fingers for moving the same.

The saddle portion and the zone encompassed thereby to the edge of the base being displaced and lower than the top of the base, and the trunnions being above the base, the axis of the pivot pin is therefore above the base at this point which allows the stem to be rotated so that it may be on a plane parallel to the top of the base or at substantially 90° in either direction from that shown in Fig. 2. This permits the hook to be installed in various places and positions and still be effective to engage the blind.

The frictional engagement of the saddle portion with the eye of the stem retains the hook in any position to which it is moved and prevents the same from rattling, at the same time assures a long period of operation without the parts becoming loose.

The formation of the engaging tongue on the end of the hook, although being such as to allow easy insertion, still prevents accidental displacement after once inserted.

The economies of manufacture will be very apparent from the structure shown. It will also be obvious that certain of the parts may be changed without materially departing from the spirit of the invention and that the embodiment shown is for the purpose of illustration and that it is not my intention to limit my invention other than is expressed in the accompanying claims.

I claim:

1. A device of the class described, a base, a hook connected to said base, a laterally extending blind engaging portion for said hook having staggered notches formed in its opposite edges to resist displacement of the hook from the blind.

2. In combination with a blind having a socket including a thin apertured member, a hook for holding the blind down and including a laterally extending element for engagement in said member and provided with notches to resist disengagement of said hook therefrom.

3. In combination with a Venetian blind having a bottom slat provided with a socket therein, said socket including a thin walled metal portion formed to provide an aperture therein, a hook adapted to be engaged in said aperture for holding down said blind and including a laterally extending portion of sinusoidal formation, the sinusoidal portion adapted to resist removal of the hook from said aperture.

4. In combination with a Venetian blind having a cavity formed in its lower slat, a cover member closing said cavity and provided with an aperture therethrough, a hook having a tongue adapted to be inserted in said aperture and having a plurality of oppositely disposed staggered notches formed therein, said aperture being of a diameter to cause the bottoms of the notches to alternately engage the walls of said member at the aperture.

5. In combination with a Venetian blind having a lower rail, an end plate for said rail formed of thin material and provided with an aperture, a hook having a tongue of sinusoidal conformation adapted to be threaded in said aperture, said aperture being of a size so that it provides a close fitting engagement with said sinusoidal tongue.

6. A device of the class described, a base, a pivot pin carried by the base, a hook disposed on the pivot pin and friction means carried by the base and engaging the hook to resist pivoting of the hook on said pin.

7. A device of the class described comprising a base adapted to be secured to a window casing or the like, a hook member for engagement with the bottom slat of a blind, said hook member being pivotally secured to the base, and friction means engaging the hook member to resist the turning of the hook member on said pivot.

8. A device of the class described, a base formed of metal, a pair of trunnions on said base and a pivot pin disposed in said trunnions, a hook pivotally connected to said pivot pin, friction means carried by the base and engaging the hook concentric to its point of connection with the pivot pin to frictionally resist turning of the hook on said pin.

9. A device of the class described, a hollow base of sheet metal, a pair of trunnions extending above the base and a pivot pin supported therein, a hook engaging said pin, the material of the base being deformed adjacent said pivot pin transversely across the base and adapted to form spring means for frictionally engaging said hook within said base and to resist turning action of the hook on the base.

10. In combination with a Venetian blind having a bottom rail, a socket member for said rail having a thin wall with an aperture therein, a hold-down for engagement with said socket and comprising a hollow base adapted to be secured to the window frame, a pair of trunnions formed in said base and a pivot pin disposed in said trunnions, a hook member disposed on the pivot pin and a spring friction member on said base adapted to engage said hook to resist turning of the hook, said hook having a lateral arm of sinusoidal formation adapted to be engaged in said socket with the sinusoidal portion in engagement with the wall of said aperture to resist removal thereof.

11. In combination with a Venetian blind having a bottom rail, a socket member for said rail having a thin wall with an aperture therein, a hold-down for engagement with said socket and

comprising a hollow base adapted to be secured to the window frame, a pair of trunnions formed integral with said base and a pivot pin disposed in said trunnions, a hook member disposed on the pivot pin and a spring friction member integral with said base adapted to engage said hook to resist turning of the hook, said hook having a lateral arm of sinusoidal formation adapted to be engaged in said socket with the sinusoidal portion in engagement with the wall of said aperture to resist removal thereof.

12. In combination with a Venetian blind having a bottom rail, a socket member for said rail having a thin wall with an aperture therein, a hold-down for engagement with said socket and comprising a hollow base adapted to be secured to the window frame, a pair of trunnions formed integral with said base and a pivot pin disposed in said trunnions, a hook member disposed on the pivot pin, a spring friction member integral with said base and having a saddle adapted to engage said hook concentric to said pin to resist turning of the hook, said hook having a lateral arm of sinusoidal formation adapted to be engaged in said socket with the sinusoidal portion in engagement with the wall of said aperture to resist removal thereof.

13. In combination with a Venetian blind having a bottom rail, a socket member for said rail including a thin wall formed with an aperture therein, a hold-down for engagement with said socket and comprising a hollow base adapted to be secured to the window frame or casing, a pair of trunnions integral with said base and extending above the base, a pivot pin disposed in said trunnions, a hook member disposed on the pivot pin and a spring friction member formed integral with said base by severing the metal in parallel lines across the base and depending the severed portion to form a saddle below the base adapted to engage said hook concentric to the pivot pin to resist turning of the hook on said pin.

14. In combination with a Venetian blind having a bottom rail, a socket member for said rail including a thin wall formed with an aperture therein, a hold-down for engagement with said socket and comprising a hollow base adapted to be secured to the window frame or casing, a pair of trunnions integral with said base and extending above the base, a pivot pin disposed in said trunnions, a hook member disposed on the pivot pin and a spring friction member formed integral with said base and compressed, a strip of metal extending across the base and formed with a saddle below the base adapted to engage said hook concentric to the pivot pin to resist turning of the hook on said pin, said hook having a lateral arm of sinusoidal formation in engagement with the wall of said aperture adapted to resist removal therefrom.

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