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A. K. ANDERSON

WINDOW SCREEN CLAMP

Filed June 28, 1927

Fig. 1,

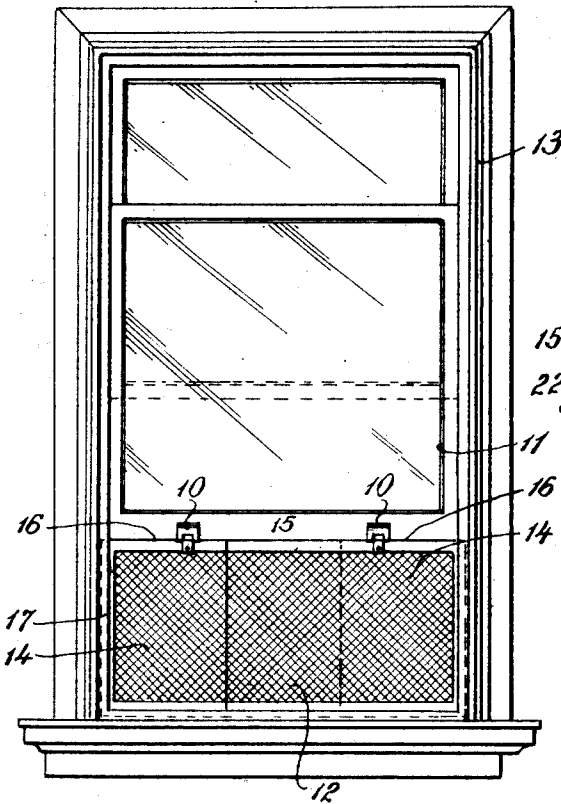


Fig. 2,

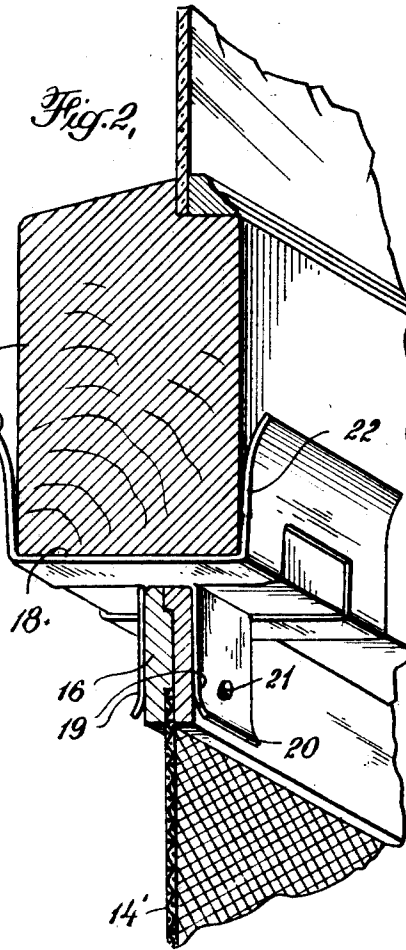


Fig. 3,

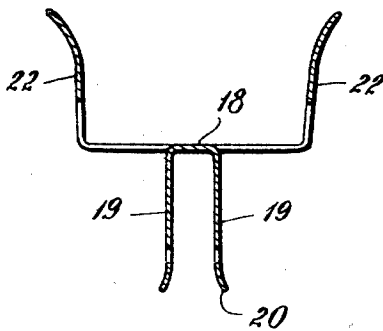
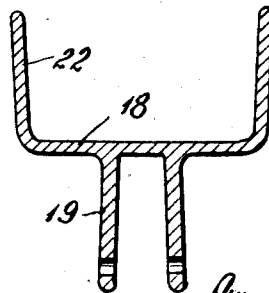


Fig. 4,



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WINDOW-SCREEN CLAMP.

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This invention relates to a holding device or clamp for securing a pair of objects against relative movement; more particularly, the invention is concerned with a clamp especially adapted for use with a window screen, by which the screen can be held firmly in position with reference to the window sash.

Window screens of the removable type ordinarily consist of a pair of frames carrying wire mesh or the like and relatively adjustable so that they may be used in windows of different widths. Such a screen is placed in position by raising the lower window sash, placing the screen on the bottom rail of the frame in the channel for this sash, and then lowering the sash to rest upon the top bar of the screen. When thus placed, the screen has a considerable freedom of movement, since the bars of the screen are not as thick as the rails of the sash and fit loosely in the shallow, vertical channels in the frame in which the sash slides and also fit loosely in the bottom channel. Also, the screen is held in position primarily by the weight of the sash and as the sash is counterweighted, it does not exert any considerable pressure. The consequence is that the screen is likely to rattle and be noisy in a wind, and as the screen is not of rigid construction, only a slight force is necessary to bend the screen frame to an extent sufficient to force the screen out of position. In a playroom or nursery children are thus liable to force the screen out of place and it is dangerous to use an ordinary screen in such a room.

The object of the present invention is to provide a holding device or clamp which is of light, strong construction and may readily be mounted in place to hold the screen securely in position relative to the sash. This clamp which, if desired, may be mounted as a fixed part of the screen in no way interferes with the mounting of the screen in position, or its removal, but when in use, it holds the screen tightly, prevents its accidental removal and likewise prevents its rattling.

My new clamp for this purpose is placed on the top rail of the screen in such position as to lie between the screen and the sash when the latter is lowered, and it includes a pair of gripping members which grasp the screen rail and hold it tightly. If desired, these members may be permanently attached to the screen rail so that the clamp forms an

integral part thereof, though this is not necessary and the clamp will operate quite as well if held in place only by its resilient gripping jaws. The main body of the clamp takes the form of a flat seat wide enough to receive the lower sash rail, and the seat is provided, preferably at its ends, with upright clamping jaws which bear against the sides of the rail. These pairs of jaws engaging the screen rail and sash rail respectively, hold the screen and sash against side wise movement and when the sash is lowered against the screen, so that the clamp is effective, the screen is held securely in position, although the sash and screen may be readily disengaged by raising the sash.

For a better understanding of the invention, reference may be made to the accompanying drawings, in which

Fig. 1 is a view of a window frame in elevation, showing the screen clamp in operative position,

Fig. 2 is a perspective view illustrating the manner in which the clamp operates,

Fig. 3 is a vertical sectional view through the preferred form of clamp, and

Fig. 4 is a similar view through a clamp of modified form.

Referring now to the drawings, the clamp 10 is shown in use with a window sash 11 and screen 12. The sash is the lower sash of the usual pair mounted in vertical channels in a frame 13, and the screen is of the double frame type, the frames 14 overlapping and being capable of relative adjustment so that the screen may be used in windows of different widths. Each frame is provided with the usual wire mesh 14'.

The sash has a lower rail 15 of considerably greater thickness than the upper frame members 16 and when the screen is in position, as shown in Fig. 1, and the sash lowered upon it, it is apparent that the screen is held in position mainly by the weight of the sash, and the vertical members 17 of the screen which are similar to the members 16 in size fit only loosely in the vertical frame channels. As the sash is counterbalanced, it cannot exert any considerable pressure on the screen, and the latter is thus likely to move in the channels and rattle in a wind. Also as the overlapping members 14 of the screen must be free to slide relatively to each other and are not rigidly secured together, the screen can readily be bent to an extent sufficient to free

its vertical side members 17 from the shallow channels in which they lie and thus be forced free of the window frame.

To overcome the noisiness of the screen and the danger of its being forced out, I provide the clamp shown at 10 in Fig. 1. This clamp is preferably made of light resilient metal and includes a flat seat portion 18 which is slightly wider than the thickness of a sash rail of ordinary size. Extending downwardly from the lower face of this seat are clamping members or jaws 19 which are placed relatively close together and arranged to receive and grip the upper rail 16 of the screen between them. These jaws 19 are resilient so that they may be bent open to receive rails of different sizes and grip these rails firmly. To facilitate such use, the free ends of the jaws are flared apart slightly as indicated at 20. The jaws are provided with apertures 21 by which they may be nailed or otherwise secured to the screen rail so that the clamp forms an integral part thereof if desired.

At each end of the seat 18, the latter is provided with gripping members or jaws 22 extending in a direction opposite to that of the jaws 19, the jaws 22 being also slightly flared. The jaws 22 are arranged to receive and grip the sash rail 15, grasping it firmly. These jaws 22 are also resilient so that they may receive rails of different sizes.

In the use of the new clamp, the screen is placed in position in the ordinary way, and then one or a pair of the clamps are attached to the upper screen rail 16 by means of the gripping jaws 19. The sash is now lowered until its lower rail enters between jaws 22, the lower sash rail finally resting on the seat 18 and being gripped firmly by the jaws 22. The screen is now held rigidly in position with reference to the sash so that noisiness is prevented and the screen cannot be accidentally forced out of position. While the clamp grips the sash securely, it does not prevent the sash from being raised when desired to remove the screen and as the clamp is made of thin metal, the thickness of the seat portion interposed between the screen and sash rails is not sufficiently great to make an opening through which insects can enter.

Preferably the new clamp is made of thin

sheet metal by a stamping operation, the metal being slit around three sides of the jaws 19, so that the latter may be bent out of the plane of the metal, as illustrated in Fig. 2. Such a construction is relatively cheap, although strong enough for the desired purpose. If desired, however, the new clamp may be made by a casing operation, then taking the form as illustrated in Fig. 4. Also, I contemplate that the new clamp may be made in two pieces instead of one, the halves being secured to the top screen rail on each face thereof.

I claim:

1. A clamping device for holding a window screen and sash against relative movement, and for like purposes, which comprises a flat seating member, a pair of spaced members extending from the lower face of the member for detachably receiving and gripping a frame member of the screen by engagement with the sides thereof, and spaced members extending from the upper face of the member and arranged to receive a sash rail between them.

2. A clamping device for holding a window screen and sash against relative movement, and for like purposes, which comprises a thin seating member terminating at its ends in a pair of resilient clamping jaws arranged to receive the lower sash rail between them and to grip said rail, and a pair of resilient tongues struck from the seating member and extending in a direction opposite to that in which the gripping members extend, the tongues lying parallel to one another and serving as clamping members to receive the upper frame member of the screen.

3. A clamping device for holding a window screen and sash against relative movement, and for like purposes, which comprises a substantially flat seating member, means carried by the member at one side thereof adapted to bear against the side of the frame member of the screen and to be attached to said side to hold said seating member between the frame member and a rail of the sash and in engagement with an edge of the sash rail and of the frame member, and spaced members carried by the seating member and arranged to receive said rail between them.

In testimony whereof I affix my signature.

ANNA KIRSTINE ANDERSON.